

WebSphere Message Broker

Start / Stop Message Flow Node

Installation and Usage Guide

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1. Introduction

These nodes are intended to be used to start and stop a Message Flow or more than one Message Flows in an Execution Group from other WeSphere Message Broker Message Flow. A developer can add this node in his Message Flow and can start / stop another Flow. A developer can start / stop a message flow on remote broker by providing its hostname / IP address.

These nodes best suite situation where current assets are required to be controlled dynamically. A Message Broker developer can dynamically start / stop message flow depending on numerous conditions.

Following are the possible cases where it can be used:

1. During a batch process when all or specific message flow(s) are required to be Stopped / Started so that a batch process can be executed.
2. Conditional Processing, when depending on the successful execution of a specific condition, a message flow is required to be executed. For example, Stop Order Entry Message Flow, if database is down.
3. Non-working hours / Off Time implementation when a service (for example, order management service) is required to be stopped during non-working hours.

1.1 Solution Design

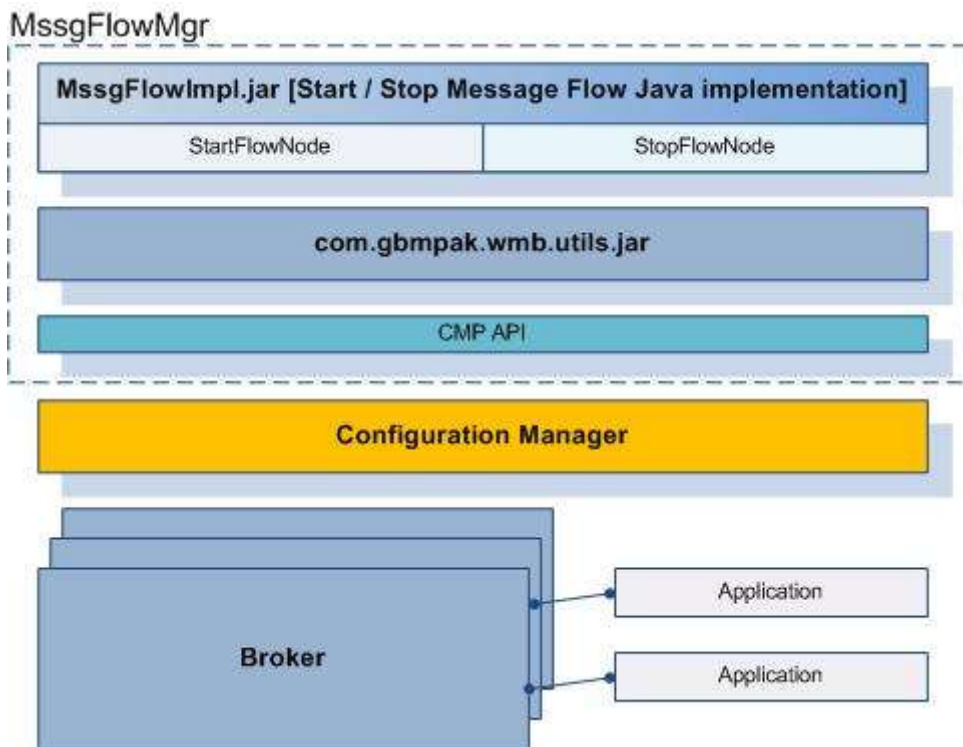


Figure 1: Solution Design



Whole solution is divided into following main components:

1.1.1 MssgFlowMgr

MssgFlowMgr contains WMB Toolkit Message broker Node project having message flow nodes java implementation and node definition files for WMB toolkit.

1.1.2 MssgFlowImpl.jar

This java library contains implementation for StartFlow and StopFlow message nodes. In-order to let broker load java class corresponding to the message flow nodes, java classes are named as StartFlowNode.java and StopFlowNode.java.

NOTE: Source code of the implementation can be found in MssgFlowMgr/src.

1.1.3 com.gbmpak.wmb.utils.jar

This java library contains procedure which communicates with Configuration Manager using CMP API.

NOTE: Please refer to Appendix A for details on importing the source code.

1.2 Support Pac Contents File Contents

File	Description
io04.zip/jplugin/ com.gbmpak.wmb.utils_1.1b2.jar	Java Custom library containing implementation for communicating with Configuration Manager / Broker
io04.zip/jplugin/ MssgFlowMgrImpl.jar	Start / Stop node implementation in Java
io04.zip/plugins/MssgFlowMgr_1.0.1.jar	Start / Stop node plugin for WMB Toolkit
io04.zip/src/com.gbmpak.wmb.utils.zip	Java Custom library source
io04.zip/src/StartStopMssgFlow.zip	Start / Stop message flow node source

1.3 Pre-Requisites

This support pack uses WebSphere Message Broker version 6.1 libraries. For a normal user, no other tool / libraries are required.

Please refer to Appendix A for more details on the tools required to compile and use the source code.

1.4 Supported Platform

All platforms supported by IBM WebSphere Message Broker. For more detail, please refer to the [info center](#).

2. The Installation Process

Installation procedure of the custom nodes is divided into two simple steps.

2.1 STEP#1: Installing plug-in nodes on Broker

1. Make sure that you are logged in to the system using the Broker Service user and have issued ***mqsiprofile*** command.
2. Extract the zip file, io04.zip to a temporary location (we will refer to this location as <EXTRACTED_ZIP>)
3. Copy all files from <EXTRACTED_ZIP>/jplugin/ to <MQSI_FILEPATH>/jplugin (two files should be copied).
Where <MQSI_FILEPATH> is the installation location (for exp; in Linux it is /opt/ibm/mqsi/6.1/). You can print the environment variable MQSI_FILEPATH to find out the installation path.

NOTE: Make sure that the files copied have read and execute rights for the Broker service user

4. Restart the Broker Engine by issuing following commands:
 - a. ***mqsistop*** <BROKER_NAME>
 - b. ***mqsistart*** <BROKER_NAME>
5. Verify if Broker is started successfully. View the log for errors in-case Broker does not start successfully.

2.2 STEP#2: Integrating plug-in-node on WMB Toolkit

1. Close Message Broker Toolkit if it is already running.
2. Copy all files from <EXTRACTED_ZIP>/plugins to <WMB_TOOLKIT_HOME>/plugins folder
Where <WMB_TOOLKIT_HOME> on windows can be D:\Program Files\IBM\WMBT610\plugins
3. Start WebSphere Message Broker toolkit.
4. Switch to broker development mode and look at the Tools Palette You should view a new tab and two nodes like in following screen:

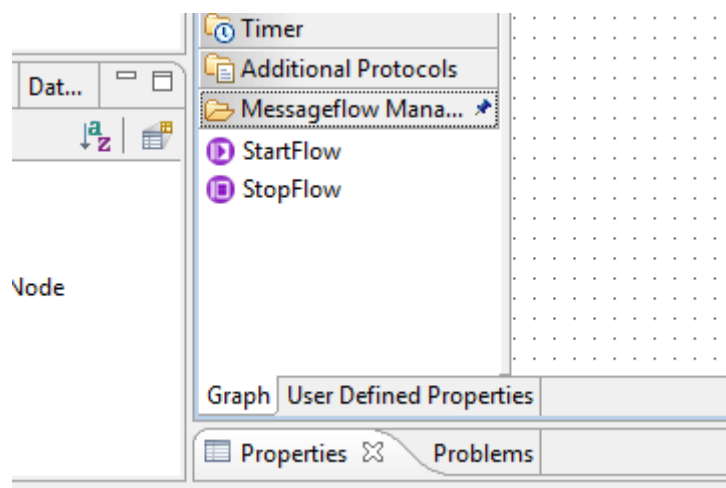


Figure 2: Plug-in installed on WMB Toolkit

3. Using Start / Stop Node in Message Flow

Start / Stop Message flow node is developed keeping in mind ease of use and traceability of errors in case of any issue.

3.1 Configuring Node Properties

3.1.1 StartFlow Node

Figure 3: StartFlow Node properties

Property	Required (Y/N)	Description
Host Name / IP Address	Y	Hostname or IP address of the machine where broker resides
WebSphere MQ Listener Port	Y	Listener port of WMQ Queue Manager. Typically it is 1414
Execution Group	Y	Name of the Execution Group where message flow(s) are running
Broker Name	Y	Name of the message broker
Message Flow Name	N	Name of the message flow to stop. If left empty; all message flows in Execution Group will stop

3.1.2 StopFlow Node

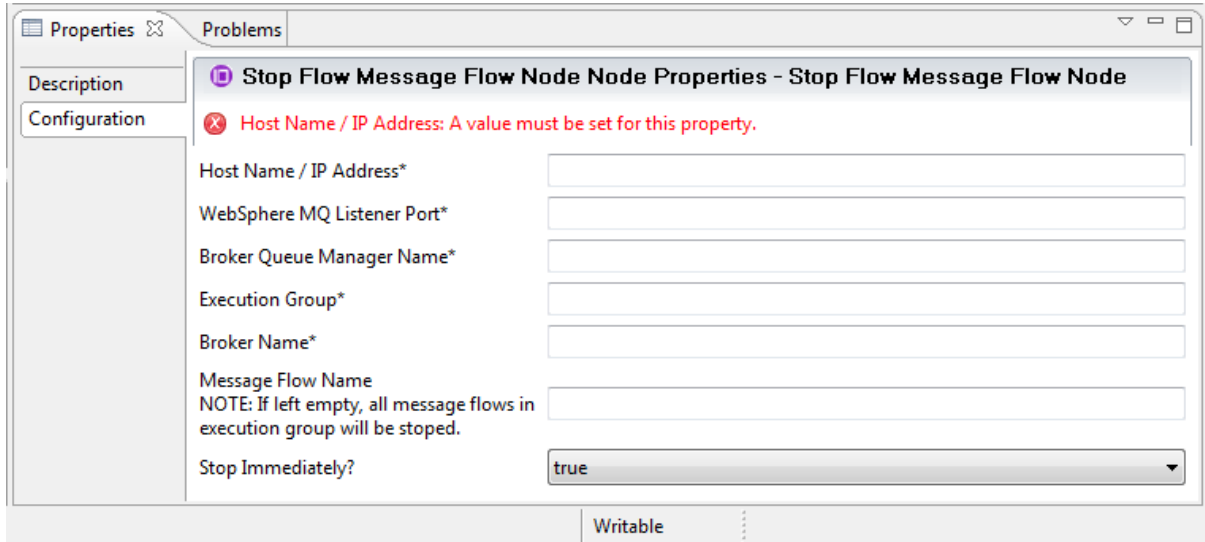


Figure 4: StopFlow Node Properties

Property	Required (Y/N)	Description
Host Name / IP Address	Y	Hostname or IP address of the machine where broker resides
WebSphere MQ Listener Port	Y	Listener port of WMQ Queue Manager. Typically it is 1414
Execution Group	Y	Name of the Execution Group where message flow(s) are running
Broker Name	Y	Name of the message broker
Message Flow Name	N	Name of the message flow to stop. If left empty; all message flows in Execution Group will stop
Stop Immediately?	N (Default to true)	If set to false, message flows will stop when idle.

3.2 Terminal Properties

Terminal	Description
in	The input terminal that accepts a message. The message is passed As-Is to output node.
out	Output node to which message is propagated for other nodes when processing is completed.
error	The output terminal to which the input message is routed if a exception occurs during the process.

APPENDIX A: Importing Source

Start / Stop Message Flow node is implemented on J2EE 1.5 JDK. The whole project is divided into two components:

- Library Project (com.gbmpak.wmb.utils) containing Java wrapper implementation on CMP API.
- MssgFlowMgr node project containing node definition files for Broker Toolkit and Java implementation for pulling properties set by the user and calling java library.

Required tools and Environment

- WebSphere Message Broker version 6.1 or above
- WebSphere Message Broker toolkit version 6.1 or above
- IBM Java 1.5

Importing MssgFlowMgr plug-in node project in WMB Toolkit

MssgFlowMgr plug-in node project is exported in project inter-change format. This project can be imported by clicking File -> Import -> Other (tab) -> Project Interchange.

Libraries required for Compiling MssgFlowImpl.jar

Library	Description
Jplugin2.jar	This library can be found from: WMB_Installation_Root/classes

Compilation Notes

As mentioned above, MssgFlowMgr project contains two entities, plug-in node for the toolkit and plug-in node implementation in java for WMB Server. In-order to compile the implementation code in Java, right click the project, click Export , in Java tab select JAR file.

For packaging the node, right click the project, click Export, in Plug-in Development select Deployable plug-ins and fragments. Provide input accordingly.

Importing com.gbmpak.wmb.utils

com.gbmpak.wmb.util.zip file contains Java wrapper classes for CMP API. It is developed using IBM Development toolkit available from [here](#).

IBM Development Package for Eclipse contains a ready-to-run Java development environment consisting of the Eclipse IDE and the IBM Java runtime. It is based on eclipse 3.2 platform with ready to compile development environment.

Although the library is developed in IBM Development Package for eclipse, it can be imported on WMB Toolkit. In both cases, project can be imported by:

1. Extract the zip file
2. Click File -> Import -> General -> Existing Projects into Workspace
3. Click Next
4. Provide location of the folder and all other required information

Above steps can be followed on every eclipse base tool.

NOTE: IBM Java 1.5 JDK is required for compiling the application.



Libraries required for compiling com.gbmpak.wmb.utils

Following libraries are required for compiling com.gbmpak.wmb.utils:

Library	Description
com.ibm.mq.jar	This library can be found from: WebSphere_MQ_Installation_Path/java/lib
configManagerProxy.jar	These libraries can be found from: WMB_Installation_Root/classes
configutil.jar	
connector.jar	
JUnit-4.8.2.jar	(OPTIONAL) Required to compile unit test case assets. Download it from http://junit.org/

NOTE: Broker can fail to start if you package the junit class file and copy the package on jplugin.

Compilation Notes

Compiling these libraries required IBM Java 1.5.

It is recommended that junit test class files in com.gbmpak.wmb.utils.unittest package are not packaged in the jar file. If packaged, you will be required to copy junit jar files to broker jplugin directory.

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