[Broker Wide listener Vs Execution Group listener](http://nraghuvamsi.blogspot.com/2012/09/broker-wide-listener-vs-execution-group.html)

Reference - <http://publib.boulder.ibm.com/infocenter/wmbhelp/v7r0m0/index.jsp?topic=%2Fcom.ibm.etools.mft.doc%2Fbc43700_.htm>

Content -

Decide how you want to configure your broker and execution groups to route HTTP messages between your client applications and the HTTP nodes in your message flows.

Choose between the broker-wide listener and the execution group listener to manage HTTP messages:

* The broker listener (the httplistener component) has an HTTPConnector for handling HTTP messages, and an HTTPSConnector for handling HTTPS (HTTP over SSL) messages.

Each connector has its own assigned port; default values are 7080 for HTTP and 7083 for HTTPS. You can change these port numbers by using the **mqsichangeproperties** command.

By default, all HTTPInput and HTTPReply nodes use the broker-wide listener.

* An embedded listener is part of each execution group. The embedded listener has an HTTPConnector and an HTTPSConnector,

Each connector has its own assigned port, which is allocated from a range of numbers, as required. The default range for the HTTPConnector is 7800 - 7842; the default range for the HTTPSConnector is 7843 -7884. The first execution group to start an embedded listener is allocated port 7800, the second is allocated 7801, and so on.

You can change these port number ranges, and you can allocate a specific port to an execution group, by using the **mqsichangeproperties** command.

You can configure one or more execution groups so that all HTTPInput and HTTPReply that you deploy to that execution group use the embedded listener.

Because the option to use the embedded listener is at the execution group level, you can change your configuration such that some execution groups continue to use the broker-wide listener, while specific execution groups use the embedded listener.

However, if you disable the broker-wide listener, the execution group listeners are used for all HTTP nodes, even if you have not explicitly enabled support for them. Therefore, if you set all relevant broker and execution group properties to false, the execution group listeners handle all HTTP messages.

The HTTPRequest node communicates directly with the HTTP transport, and is therefore unaffected by your choice.

If you change the listener and port that is processing your HTTP or HTTPS messages, you must ensure that you also update your applications to use the updated configuration.

Review the following considerations when making your choice about listeners for HTTP nodes Not all items will apply to your particular configuration; choose the option that best addresses your requirements.

**Broker-wide listener**

**Advantages**

* All inbound and outbound messages are routed through a single port for HTTP, and a second port for HTTPS; HTTP messages can be processed by all message flows in all execution groups.
* If you have large numbers of messages to process, you can deploy multiple copies of the same message flow to different execution groups. The broker assigns inbound messages to one of theHTTPInput nodes if the Web service origin URL address matches the value of the *Path suffix for URL*property of that node in that message flow.
* You can include HTTPInput and HTTPReply nodes in separate message flows, and to separate execution groups, if you choose. Because all flows use a single listener, all inbound and reply messages are sent through the same port.

**Disadvantages**

* Only one listener handles all HTTP and all HTTPS messages sent through two ports on the broker. This single point of processing can cause bottlenecks if high message throughput is required.
* These listeners communicate with the HTTP nodes by using a WebSphere® MQ queue that has the fixed name SYSTEM.BROKER.WS.INPUT. The listeners receive an inbound message from the TCP/IP network, create a WebSphere MQ message, and put it on the queue. They get reply messages from the queue SYSTEM.BROKER.WS.REPLY and deliver them to the HTTP transport network. This configuration results in additional processing for every HTTP or HTTPS message.

**Execution group listener**

**Advantages**

* An execution group listener is always available for both HTTP and HTTPS messages; both listeners are configured initially with a default configuration, and are started by the broker when required.
* These listeners communicate directly with the HTTP transport network; no intermediate queues are required.
* You can deploy message flows to different execution groups so that the HTTP and HTTPS messages can be handled by multiple listeners on multiple ports to meet high throughput requirements.

**Disadvantages**

* You must include both the HTTPInput and HTTPReply nodes in the same message flow, or deploy separate message flows to the same execution group, so that they use the same listener; matching input and reply messages must be processed by the same port.

When you have decided on the configuration you want:

* If you want to use the broker-wide listener for all execution groups, you do not have to change your configuration, unless you want to change one or more parameters in effect for this listener. See the description of the **mqsichangeproperties** command for more information and examples.
* If you want to use the execution group listener for one or more execution groups, follow the instructions in [Switching to the execution group listener](http://publib.boulder.ibm.com/infocenter/wmbhelp/v7r0m0/topic/com.ibm.etools.mft.doc/bc43700_.htm#eglisten).
* If you are currently using the execution group listener for one or more execution groups, and want to switch back to using the broker-wise listener, follow the instructions in [Switching to the broker-wide listener](http://publib.boulder.ibm.com/infocenter/wmbhelp/v7r0m0/topic/com.ibm.etools.mft.doc/bc43700_.htm#blisten)

The commands shown in the examples here are split across multiple lines for ease of reading; when you enter the command, you must use a single line.

**Switching to the execution group listener**

You can change the configuration for one or more execution groups so that HTTP nodes use the embedded listener.

1. Check that the broker is running.
2. If you want all HTTP nodes in all execution groups to use the execution group listener, you can change the broker configuration to disable the broker-wide listener. Run the **mqsichangeproperties** command to change the broker configuration. Do not run this command if you want to keep the broker-wide listener active for at least one of your execution groups.
3. **mqsichangeproperties** MB7BROKER -b httplistener -o HTTPListener

-n startListener -v false

All execution groups detect this change of status, and use the embedded listener when they are restarted, regardless of their own specific configuration. Therefore, you can switch to using embedded listeners for all execution groups by running this single command.

If you disable the broker-wide listener in this way, you can configure an execution group to use the same port or ports that the broker-wide listener was using for HTTP, HTTPS, or both. Reusing the port numbers means that you do not have to change your client applications to send messages to a different port number.

1. To switch to using the embedded listener for a specific execution group, run the **mqsichangeproperties**command to change the execution group configuration. For example:
2. **mqsichangeproperties** MB7BROKER -e exgroup1 -o ExecutionGroup

-n httpNodesUseEmbeddedListener -v true

1. Stop and restart the broker to implement your changes.

For more information about this command, and examples of changing other properties associated with execution groups, see the description of the **mqsichangeproperties** command.

**Switching to the broker-wide listener**

You can change the configuration for the broker so that HTTP nodes use the broker-wide listener.

1. Check that the broker is running.
2. To switch back to using the broker-wide listener from the execution group listener:
   1. If you have disabled the broker-wide listener, run the **mqsichangeproperties** command to restart it.For example:
   2. **mqsichangeproperties** MB7BROKER -b httplistener -o HTTPListener

-n startListener -v true

* 1. Run the **mqsichangeproperties** command to disable the execution group listener for HTTP nodes in one or more execution groups. For example:
  2. **mqsichangeproperties** MB7BROKER -e exgroup1 -o ExecutionGroup

-n httpNodesUseEmbeddedListener -v false

If you want to change the status for all execution groups, you can omit the specific execution group name:

**mqsichangeproperties** MB7BROKER -o ExecutionGroup

-n httpNodesUseEmbeddedListener -v false

This command does not change the status of the listener for SOAP messages processed by SOAP nodes; only messages to and from HTTP nodes are affected.

1. Stop and restart the broker to implement your changes.

For more information about this command, and examples of changing other properties associated with a broker, see the description of the **mqsichangeproperties** command.