

MQPut

MQPut is a command program to put a message on a queue. Also JMS Messages can be send!
It makes use of IBM® MQ classes amqmdnet.dll and IBM.XMS.dll. See license text at the end of this document. All required DLL's are embedded within the executable, so MQPut is a single executable file.

However, for sending JMS messages with the XMS library the IBM MQ client software needs to be installed. The program will also check or edit the registry, so admin rights are probably required.

If this is a problem, please use v1.2. No other dependencies or installments are required for this program. However, the error handling is limited and the size is much larger.

The program is used with the commandline arguments: "**MQPut SettingsFile MessageFile**".

The message text can also be included in the *SettingsFile*, making the *MessageFile* argument optional.

This is however not recommended, due to possible changes during serialization.

The *MessageFile* argument provides the filename (and path) of the message that will be put on a queue.

Examples of a *SettingsFile* are:

```
<MQ>
  <HostName>188.43.61.12</HostName>
  <Channel>C1.SYS.01.CL</Channel>
  <Port>1414</Port>
  <Manager>ABCL02</Manager>
  <QueueName>C1.SYS.CORE_IN_Q</QueueName>
</MQ>
```

Setting 1 Simple MQ String message

```
<JMS>
  <HostName>ab99999y9.is.abccorp.net</HostName>
  <Channel>I9.TESTMNGT.99.AB</Channel>
  <Port>1414</Port>
  <Manager>ABCD04</Manager>
  <QueueName>C1.ESB.DOCUONL.SNOT.01.QA</QueueName>
  <MessageProperties>
    <PropValue>
      <key>SOAPJMS_soapaction</key>
      <value>http://www.bus.com/..Send..ScheduleChange-v1/Snot</value>
      <type>STRING</type>
    </PropValue>
    <PropValue>
      <key>SOAPJMS_contenttype</key> www.bus.com
      <value>text/xml; charset=utf-8</value>
      <type>STRING</type>
    </PropValue>
    <PropValue>
      <key>SoapAction</key>
      <value> http://www.bus.com/..Send..ScheduleChange-v1/Snot</value>
      <type>STRING</type>
    </PropValue>
    <PropValue>
      <key>Content_Type</key>
      <value>text/xml; charset=utf-8</value>
      <type>STRING</type>
    </PropValue>
  </MessageProperties>
</JMS>
```

Setting 2 Settingsfile for JMS Message

```

<JMS>
  <MessageProperties>
    <PropValue>
      <key>JMSTYPE</key>
      <value>jms_bytes</value>
      <type>STRING</type>
    </PropValue>
    <PropValue>
      <key>SOAPJMS_soapaction</key>
      <value>http://www.bus.com/./Send..ScheduleChange-v1/Snot</value>
      <type>STRING</type>
    </PropValue>
    <PropValue>
      <key>SOAPJMS_contenttype</key> www.bus.com
      <value>text/xml; charset=utf-8</value>
      <type>STRING</type>
    </PropValue>
    <PropValue>
      <key>SoapAction</key>
      <value> http://www.bus.com/./Send..ScheduleChange-v1/Snot</value>
      <type>STRING</type>
    </PropValue>
    <PropValue>
      <key>Content_Type</key>
      <value>text/xml; charset=utf-8</value>
      <type>STRING</type>
    </PropValue>
  </MessageProperties>
  <ConnectionProperties />
  <PassWord />
  <UserID />
  <HostName>ab99999y9.is.abccorp.net</HostName>
  <Channel>I9.TESTMNGT.99.AB</Channel>
  <Port>1414</Port>
  <Manager>ABCD04</Manager>
  <QueueName>C1.ESB.DOCUONL.SNOT.01.QA</QueueName>
  <Message>&lt;?xml version="1.0" encoding="UTF-8"?&gt;
&lt;S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/"&gt;
  &lt;S:Header&gt;
  ..
  &lt;/S:Header&gt;
  &lt;S:Body&gt;
    &lt;ODS xmlns="http://www.bus.com/services/SnotEvent/xsd"&gt;
      &lt;PublicationGeneralInformation&gt;
        &lt;MessageType&gt;DEF&lt;/MessageType&gt;
        &lt;ServiceName&gt;XYZ&lt;/ServiceName&gt;
        &lt;TimeMode&gt;UTC&lt;/TimeMode&gt;
        &lt;ProviderInformation&gt;
          &lt;SystemName&gt;SNOT&lt;/SystemName&gt;
          &lt;SystemAddress&gt;ABCD&lt;/SystemAddress&gt;
          &lt;SystemAddressType&gt;TELEX&lt;/SystemAddressType&gt;
        &lt;/ProviderInformation&gt;
        &lt;CreatorReference&gt;ABC&lt;/CreatorReference&gt;
      &lt;/PublicationGeneralInformation&gt;
      &lt;FlightSIList&gt;
      &lt;/FlightMutation&gt;
    ..
    &lt;/ODS&gt;
  &lt;/S:Body&gt;
&lt;/S:Envelope&gt;</Message>
</JMS>

```

Setting 3 Settingsfile for JMS with Message included.

The settingsfile contains an xml with the appropriate queue settings.

QUEUE Settings

Tag	Description
MQ, MQSTR or JMS	The root tag determines if a simple string is send or a JMS message. MQSTR is the same as MQ, only the message format is set to STRING instead of NONE.
HostName	Contains the Host name or IP address of the queue.
Channel	Contains the name of the channel
Port	Default value is 1414
QueueName	Contains the name of the queue where the message is send to.
PassWord	Optional, default = ""
UserID	Optional, default = ""
Message	Optional field. If used, the Message file is not required. However an XML message needs to be adjusted. Also serialization takes place which could effect the message. It is therefore not recommended to use this option.
ConnectionProperties	This can be used to set the properties of a JMS Connection Factory or MQ Queue. The properties are set via a key, value and type, e.g.: <pre><PropValue> <key>Content_Type</key> <value>text/xml; charset=utf-8</value> <type>STRING</type> </PropValue></pre>
MessageProperties	This can be used to set properties of a JMS or MQ message. The properties are set via a key, value and type, e.g.: <pre><PropValue> <key>Content_Type</key> <value>text/xml; charset=utf-8</value> <type>STRING</type> </PropValue></pre>

ExitCodes

The program provides the following exitcodes for success or fail:

Exitcode	Status
-1	No arguments provided or settings file does not exists or is empty.
-2	The provided message file does not exist or is empty.
-3	An error has occurred while loading the settings file (check the content for correct tagnames).
-99	An error has occurred in the main program.
0	The message has not been send correctly.
1	The message have been successfully send

MQ Connection Properties

If needed, some connection properties can be set. The specific properties can be set by providing the key, value and type. The following table shows all the properties that can be set for MQ and MQSTR connections

Key	Value	Type	Description
OPENOPTIONS	any integer value	N.A.	Sets the Open Options, default is MQOO_OUTPUT (16). Normally, this should not be changed.
CLOSEOPTIONS	any integer value	N.A.	Sets the Close options. Default is not set, but determined by the system.
ALTERNATEUSERID	Any string value	N.A.	Default "". Normally, this should not be changed.
INHIBIT	any integer value	N.A.	NO INFO! Normally, this should not be changed.
TRIGGERCONTROL	any integer value	N.A.	NO INFO! Normally, this should not be changed.
TRIGGERDATA	any string value	N.A.	NO INFO! Normally, this should not be changed.
TRIGGERDEPTH	any integer value	N.A.	NO INFO! Normally, this should not be changed.
TRIGGERMESSAGEPRIORITY	any integer value	N.A.	NO INFO! Normally, this should not be changed.
TRiggertype	any integer value	N.A.	NO INFO! Normally, this should not be changed.

MQ Message Properties

MQ Messages contain some standard properties and some specific properties per application.

If needed, these properties can be set. The specific properties can be set by providing the key, value and type. Type can be either "STRING", "CHAR" (is treated as a string), "DOUBLE", "FLOAT", "INT", "LONG", "SHORT", "BOOLEAN" or "BYTE".

Apart from these Message properties, some standard properties can be set as shown in the following table.

Key	Value	Type	Description
EXPIRATION	UNLIMITED (-1) Or any integer value	N. A.	Sets the expiry time for a message. Default is UNLIMITED (value = -1).
TYPE	Any integer value	N. A.	Sets the message type. Default value is 8
DELIVERYMODE	PERSISTANT (1) PER (1) NONPERSISTANT (0) NON (0) Or any integer value	N. A.	Sets the deliverymode for a message.
MESSAGEID	Any string value	N. A.	Sets the message ID.
PRIORITY	Any integer value	N. A.	Sets the priority. This is a number from 0 to 9 with 9 being the highest priority. Default value is 4.
CORRELATIONID	Any string value	N. A.	Sets the correlation ID of the message.
REPLYTO	Any string value	QUEUEMANAGER QUEUE (default)	Sets the ReplyTo property. This can be a Queuemanager or Queue with the provided name.
FORMAT	Any string value	STRING, MQSTR, MQFMT_STRING NONE, MQFMT_NONE	Sets the FORMAT property. Default is " " via MQ or "MQSTR " via MQSTR. Any other type name will set the format to the provided value.
CHARACTERSET CHARSET CCSID	Any integer value	N. A.	Sets the character set or CCSID property. Default is 1208 for MQSTR.
APPLIDDATA APPLICATIONIDDATA	Any string value	N. A.	Sets the application ID Data property.
APPORGDATA APPLICATIONORIGINDATA	Any string value	N. A.	Sets the application Origin Data property.
BACKOUTCOUNT	Any integer value	N. A.	Sets the BackoutCount property.
ENCODING ENC	Any integer value	N. A.	Sets the Encoding property. Is default 273 for MQSTR
FEEDBACK	Any integer value	N. A.	Sets the Feedback property.
MSGFLAGS MESSAGEFLAGS	Any integer value	N. A.	Sets the MessageFlags property.
MSGSEQNR MESSAGESEQUENCENUMBER	Any integer value	N. A.	Sets the Message Sequence Number property.
OFFSET	Any integer value	N. A.	Sets the Offset property.

JMS Message Properties

JMS Messages contain some standard properties and some specific properties per application.

If needed, these properties can be set. The specific properties can be set by providing the key, value and type. Type can be either "STRING", "CHAR" (is treated as a string), "DOUBLE", "FLOAT", "INT", "LONG", "SHORT", "BOOLEAN" or "BYTE".

Apart from the JMS Message properties that are depending on the JMS application (e.g. the property "SoapAction"), some standard properties can be set as shown in the following table.

Key	Value	Type	Description
JMSEXPIRATION EXPIRATION	UNLIMITED (0) APP (2) Or any long value	N. A.	Sets the expiry time for a message. Default is UNLIMITED (value = 0).
JMSTYPE TYPE	Any string value	N. A.	Sets the message type. Default value is "jms_bytes"
JMSDELIVERYMODE DELIVERYMODE	PERSISTANT (1) PER (1) NONPERSISTANT (2) NON (2) Or any long value	N. A.	Sets the deliverymode for a message.
JMSMSGID MESSAGEID	Any string value	N. A.	Sets the message ID.
JMSPRIORITY PRIORITY	Any integer value	N. A.	Sets the priority. This is a number from 0 to 9 with 9 being the highest priority. Default value is 4.
JMSCORRELATIONID	Any string value	N. A.	Sets the correlation ID of the JMS message.
JMSREPLYTO	Any string value	TOPIC TEMPORARYQUEUE TEMPORARYTOPIC QUEUE (default)	Sets the ReplyTo property. This can be a Topic or Queue with the provided name. The value is not used when the type is a temporary Queue or topic.
JMSDESTINATION	Any string value	TOPIC TEMPORARYQUEUE TEMPORARYTOPIC QUEUE (default)	Sets the JMSDestination property. This can be a Topic or Queue with the provided name. The value is not used when the type is a temporary Queue or topic. This is normally not used, because the destination Queue is set already via the session producer.
JMSTIMESTAMP	Any long value	N. A.	Sets the timestamp of the message. Normally this is set automatically.
JMSREDELIVERED	True/False	N. A.	Sets the redelivered property.

JMS Connection Properties

Normally the default properties for the connectionFactory are used. If needed, these properties can be set. The property type can be either "STRING", "CHAR", "DOUBLE", "FLOAT", "INT", "LONG", "SHORT", "BOOLEAN" or "BYTE".

Default set by MQPut:

```
"XMSC_WMQ_CONNECTION_MODE" = 1 ("WMQ_CM_CLIENT")
"XMSC_WMQ_HOST_NAME"
"XMSC_WMQ_CHANNEL"
"XMSC_WMQ_PORT"
"XMSC_WMQ_QUEUE_MANAGER"
"XMSC_USERID"
"XMSC_PASSWORD"
```

The properties that can be set, as obtained from

http://www.ibm.com/support/knowledgecenter/SSFKSJ_8.0.0/com.ibm.mq.msc.doc/props_connf.htm:

MQ Message Formats

MQ Messages formats can be any of the following values. It can be setting the format property to the 8 char string. Note that 'b' means a blank space.

MQFMT_NONE	" b b b b b b b b "
MQFMT_ADMIN	" MQADMINb "
MQFMT_CHANNEL_COMPLETED	" MQCHCOMb "
MQFMT_CICS	" MQCICSbb "
MQFMT_COMMAND_1	" MQCMD1bb "
MQFMT_COMMAND_2	" MQCMD2bb "
MQFMT_DEAD_LETTER_HEADER	" MQDEADbb "
MQFMT_DIST_HEADER	" MQHDIStb "
MQFMT_EMBEDDED_PCF	" MQHEPCFb "
MQFMT_EVENT	" MQEVENTb "
MQFMT_IMS	" MQIMSbbb "
MQFMT_IMS_VAR_STRING	" MQIMSVSb "
MQFMT_MD_EXTENSION	" MQHMDEbb "
MQFMT_PCF	" MQPCFbbb "
MQFMT_REF_MSG_HEADER	" MQHREFbb "
MQFMT_RF_HEADER	" MQHRFbbb "
MQFMT_RF_HEADER_1	" MQHRFbbb "
MQFMT_RF_HEADER_2	" MQHRF2bb "
MQFMT_STRING	" MQSTRbbb "
MQFMT_TRIGGER	" MQTRIGbb "
MQFMT_WORK_INFO_HEADER	" MQHWIHbb "
MQFMT_XMIT_Q_HEADER	" MQXMITb " "

CCSID

CCSID means Coded Character Set Identifiers. The following table shows some used CCSID's.

All values can be found in https://www-01.ibm.com/software/globalization/ccsid/ccsid_registered.html

CCSID (decimal)	CCSID (hex)	Name
37	0025	COM EUROPE EBCDIC
256	0100	NETHERLAND EBCDIC
259	0103	SYMBOLS SET 7
273	0111	AUS/GERM EBCDIC
297	0129	FRENCH EBCDIC
437	01B5	USA PC-DATA
500	01F4	INTL EBCDIC
819	0333	ISO 8859-1 Latin
1200	04B0	UTF-16 BE with IBM PUA
1201	04B1	UTF-16 BE
1202	04B2	UTF-16 LE with IBM PUA
1203	04B3	UTF-16 LE
1204	04B4	UTF-16 with IBM PUA
1205	04B5	UTF-16
1208	04B8	UTF-8 with IBM PUA
1209	04B9	UTF-8
1210	04BA	UTF-EBCDIC with IBM PUA
1211	04BB	UTF-EBCDIC
1232	04D0	UTF-32 BE with IBM PUA
1233	04D1	UTF-32 BE
1234	04D2	UTF-32 LE with IBM PUA
1235	04D3	UTF-32 LE
1236	04D4	UTF-32 with IBM PUA
1237	04D5	UTF-32

ENCODING

The encoding property is an integer that can be set. Options can be found at

https://www.ibm.com/support/knowledgecenter/SSFKSJ_7.5.0/com.ibm.mq.ref.dev.doc/q091390_.htm

Default for MQSTR is set to 273 (Unix systems), for MQ this is set by the system and would likely be 546 (Windows).

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