

PowerShell for IBM WebSphere MQ

Version 2.0

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Take Note!

Before using this report be sure to read the general information under "Notices".

First Edition ,December 2007

Second Edition, September 25, 2011

Third Edition, January 2015

This edition applies to Version 2.0 of PowerShell for IBM WebSphere MQ and to all subsequent releases and modifications unless otherwise indicated in new editions.

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- MQ

Summary of Amendments

Date	Changes
7 th January 2015	Support for MQ v7.1,v7.5 and v8.0.0.2 releases
25 September 2011	Support for Topic and Sub objects. Updated Queue objects.
27 February 2008	Support for using with WebSphere MQ Client installed introduced
21 January 2008	Support for browsing messages non-destructively introduced
15 January 2008	Improvements to reduce connections made to queue managers
6 January 2008	Support for remote queue managers (distributed-only) introduced
16 December 2007	Support for status objects (queue, channel, listener) introduced
2 December 2007	Initial release

Preface

Abstract

This SupportPac extends the ability of Windows PowerShell to allow for WebSphere MQ administration.

Possible Uses

This SupportPac is designed for people who want to use Windows PowerShell for WebSphere MQ administration – such as system administrators already familiar with PowerShell who are new to WebSphere MQ, or WebSphere MQ administrators who have sys admin responsibilities for other products with PowerShell interfaces.

Approach

Version 1.0 is an update to the earlier demonstration of the potential of PowerShell for WebSphere MQ. There is more work to do, and it is likely that updates will follow.

Remaining work includes:

- Completing support for z/OS administration
- Adding support for accessing runtime objects, such as connections

Feedback is welcome as development progresses. A shortcut to a forum where development will be discussed is included in the package. Any comments for new cmdlets, new features to the provided cmdlet set, or other improvements are very welcome.

Chapter 1. Installation Instructions

If you already use PowerShell

“PowerShell for WebSphere MQ” is available as a PowerShell snap-in. This is a DLL which can be added to your existing PowerShell profile.

This has the benefit that you can keep any existing preferences or customizations you have made to your console.

To add the WebSphere MQ snap-in to PowerShell:

Refer to the formal documentation on registering Cmdlets at MSDN:
<http://msdn2.microsoft.com/en-us/library/ms714644.aspx>

Unpack the mo74.zip package and put the contents of the “manual install” directory together in the same permanent location. The DLL files provide the PowerShell snap-in, and the XML file provides the online documentation.

In summary:

- 1) Use **installutil.exe** – part of the Microsoft .NET Framework SDK to register the provided DLL

This needs to be done for all of the shipped DLLs and only needs to be done once.

```
C:\>InstallUtil webSphereMQ.dll

Microsoft (R) .NET Framework Installation utility Version 2.0.50727.832
Copyright (c) Microsoft Corporation. All rights reserved.

Running a transacted installation.

Beginning the Install phase of the installation.
See the contents of the log file for the 'C:\Documents and Settings\Administrator\My Documents\Visual
Studio 2005\Projects\PowerShell\webSphereMQ\webSphereMQ\bin\Release\webSphereMQ.dll assembly's prog
ress.
The file is located at C:\Documents and Settings\Administrator\My Documents\Visual Studio 2005\Proje
cts\PowerShell\webSphereMQ\webSphereMQ\bin\Release\webSphereMQ.InstallLog.
Installing assembly 'C:\Documents and Settings\Administrator\My Documents\Visual Studio 2005\Project
s\PowerShell\webSphereMQ\webSphereMQ\bin\Release\webSphereMQ.dll'.
Affected parameters are:
  logtoconsole =
  assemblypath = C:\Documents and Settings\Administrator\My Documents\Visual Studio 2005\Projects\P
owerShell\webSphereMQ\webSphereMQ\bin\Release\webSphereMQ.dll
  logfile = C:\Documents and Settings\Administrator\My Documents\Visual Studio 2005\Projects\PowerS
hell\webSphereMQ\webSphereMQ\bin\Release\webSphereMQ.InstallLog

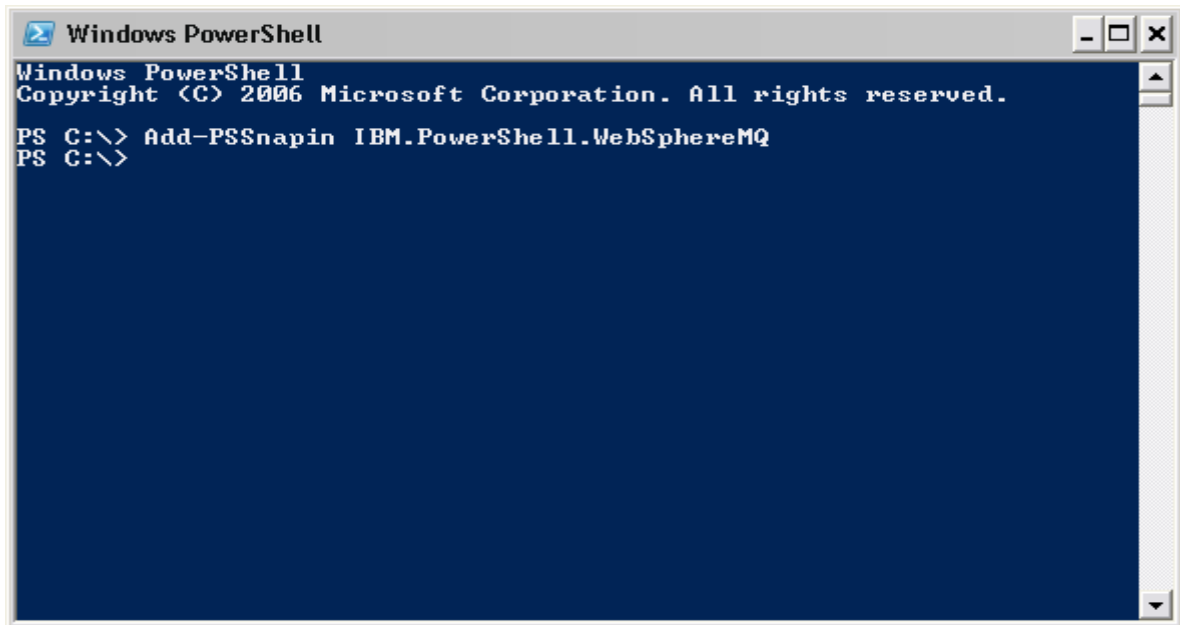
The Install phase completed successfully, and the Commit phase is beginning.
See the contents of the log file for the 'C:\Documents and Settings\Administrator\My Documents\Visual
Studio 2005\Projects\PowerShell\webSphereMQ\webSphereMQ\bin\Release\webSphereMQ.dll assembly's prog
ress.
The file is located at C:\Documents and Settings\Administrator\My Documents\Visual Studio 2005\Proje
cts\PowerShell\webSphereMQ\webSphereMQ\bin\Release\webSphereMQ.InstallLog.
Committing assembly 'C:\Documents and Settings\Administrator\My Documents\Visual Studio 2005\Project
s\PowerShell\webSphereMQ\webSphereMQ\bin\Release\webSphereMQ.dll'.
Affected parameters are:
  logtoconsole =
  assemblypath = C:\Documents and Settings\Administrator\My Documents\Visual Studio 2005\Projects\P
owerShell\webSphereMQ\webSphereMQ\bin\Release\webSphereMQ.dll
  logfile = C:\Documents and Settings\Administrator\My Documents\Visual Studio 2005\Projects\PowerS
hell\webSphereMQ\webSphereMQ\bin\Release\webSphereMQ.InstallLog

The Commit phase completed successfully.

The transacted install has completed.

C:\>
```

- 2) In a PowerShell command window, use **Add-PSSnapin** to add the Cmdlets to your console. This needs to be done for every PowerShell window that you open.



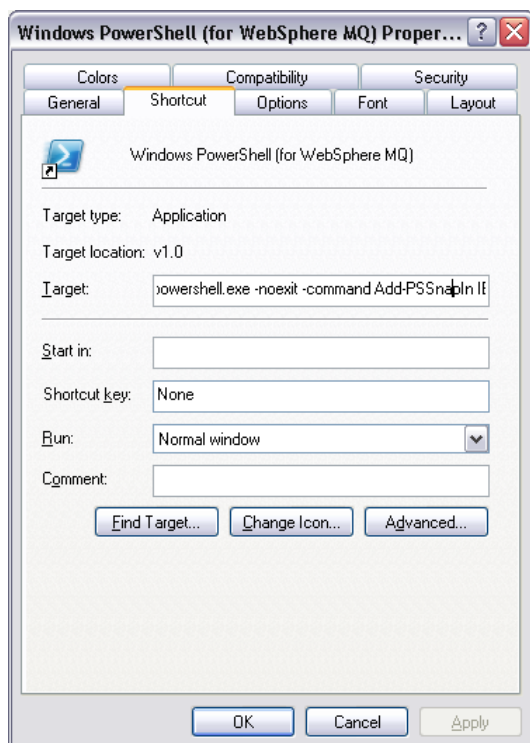
Tip:

To save typing this every time, you can create a shortcut to powershell.exe, modifying the target to:

```
%SystemRoot%\SysWOW64\WindowsPowerShell\v1.0\powershell.exe  
-noexit -command Add-PSSnapIn IBM.PowerShell.WebSphereMQ
```

If the Operating System is 32 bit then modify the target path as

```
%SystemRoot%\system32\WindowsPowerShell\v1.0\powershell.exe  
-noexit -command Add-PSSnapIn IBM.PowerShell.WebSphereMQ
```



If you are new to PowerShell

If you do not have any existing PowerShell customization that you mind losing, you can use the provided installer which carries out the install for you.

(This is also useful if you do not have the .NET Framework SDK).

Run **setup.exe** and follow the provided instructions.



A shortcut will be added to the Start Menu for launching PowerShell with the WebSphere MQ snap-in enabled.

Note: You need to install Windows PowerShell before running setup.exe. If PowerShell is not installed, setup.exe will direct you to where you can download a copy of PowerShell for your system.

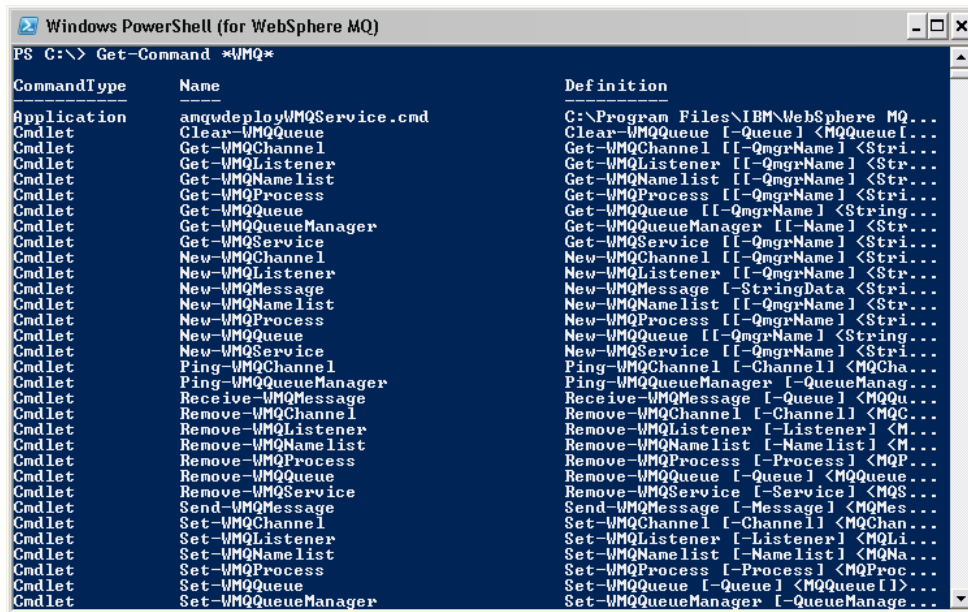
Chapter 2. Getting started

If you already use PowerShell

The WebSphere MQ cmdlets are documented in the standard PowerShell way. For example:

```
Get-Command *WMQ*
```

to get a list of all commands added by the WebSphere MQ snap-in



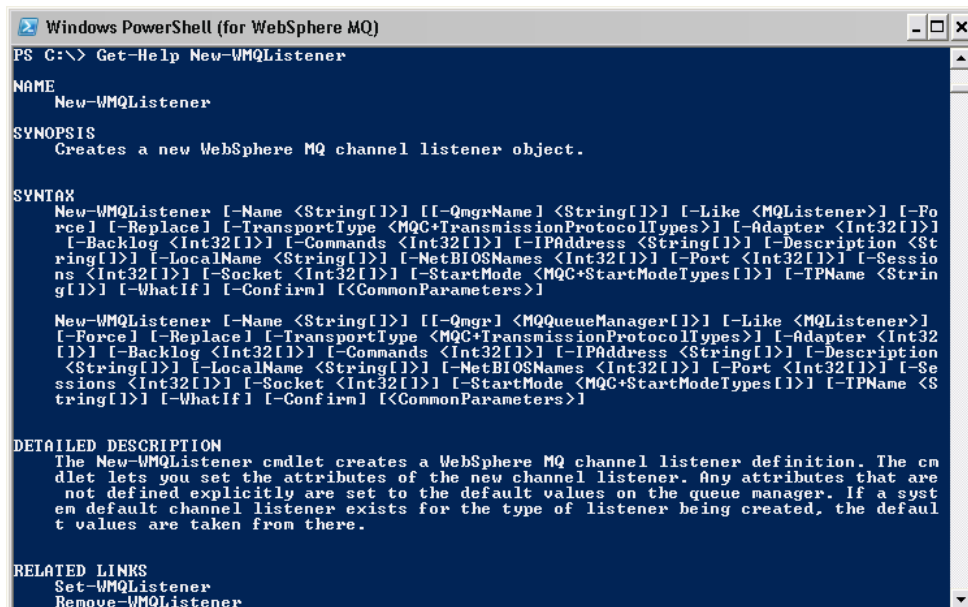
```
Windows PowerShell (for WebSphere MQ)
PS C:\> Get-Command *WMQ*

CommandType      Name                                     Definition
-----
Application      amqwdployWMQService.cmd                C:\Program Files\IBM\WebSphere MQ...
Cmdlet           Clear-WMQQueue                          Clear-WMQQueue [-Queue] <MQQueueI...
Cmdlet           Get-WMQChannel                          Get-WMQChannel [-QmgrName] <Stri...
Cmdlet           Get-WMQListener                         Get-WMQListener [-QmgrName] <Stri...
Cmdlet           Get-WMQNameList                         Get-WMQNameList [-QmgrName] <Stri...
Cmdlet           Get-WMQProcess                          Get-WMQProcess [-QmgrName] <Stri...
Cmdlet           Get-WMQQueue                            Get-WMQQueue [-QmgrName] <String...
Cmdlet           Get-WMQQueueManager                    Get-WMQQueueManager [-Name] <Str...
Cmdlet           Get-WMQService                          Get-WMQService [-QmgrName] <Stri...
Cmdlet           New-WMQChannel                          New-WMQChannel [-QmgrName] <Stri...
Cmdlet           New-WMQListener                         New-WMQListener [-QmgrName] <Stri...
Cmdlet           New-WMQMessage                          New-WMQMessage [-StringData] <Stri...
Cmdlet           New-WMQNameList                         New-WMQNameList [-QmgrName] <Str...
Cmdlet           New-WMQProcess                          New-WMQProcess [-QmgrName] <Stri...
Cmdlet           New-WMQQueue                            New-WMQQueue [-QmgrName] <String...
Cmdlet           New-WMQService                          New-WMQService [-QmgrName] <Stri...
Cmdlet           Ping-WMQChannel                         Ping-WMQChannel [-Channel] <MQCha...
Cmdlet           Ping-WMQQueueManager                   Ping-WMQQueueManager [-QueueManag...
Cmdlet           Receive-WMQMessage                      Receive-WMQMessage [-Queue] <MQQu...
Cmdlet           Remove-WMQChannel                       Remove-WMQChannel [-Channel] <MQC...
Cmdlet           Remove-WMQListener                      Remove-WMQListener [-Listener] <M...
Cmdlet           Remove-WMQNameList                     Remove-WMQNameList [-NameList] <M...
Cmdlet           Remove-WMQProcess                       Remove-WMQProcess [-Process] <MQP...
Cmdlet           Remove-WMQQueue                         Remove-WMQQueue [-Queue] <MQQueue...
Cmdlet           Remove-WMQService                       Remove-WMQService [-Service] <MQS...
Cmdlet           Send-WMQMessage                         Send-WMQMessage [-Message] <MQMes...
Cmdlet           Set-WMQChannel                          Set-WMQChannel [-Channel] <MQChan...
Cmdlet           Set-WMQListener                         Set-WMQListener [-Listener] <MQLi...
Cmdlet           Set-WMQNameList                         Set-WMQNameList [-NameList] <MQNa...
Cmdlet           Set-WMQProcess                          Set-WMQProcess [-Process] <MQProc...
Cmdlet           Set-WMQQueue                            Set-WMQQueue [-Queue] <MQQueueI...
Cmdlet           Set-WMQQueueManager                    Set-WMQQueueManager [-QueueManag...
```

and then:

```
Get-Help New-WMQListener
```

to get a brief overview of help for any particular command



```
Windows PowerShell (for WebSphere MQ)
PS C:\> Get-Help New-WMQListener

NAME
----
New-WMQListener

SYNOPSIS
-----
Creates a new WebSphere MQ channel listener object.

SYNTAX
-----
New-WMQListener [-Name <String[]>] [-QmgrName <String[]&;...>] [-Like <MQListener>] [-Fo...
rcel] [-Replace] [-TransportType <MQC*TransmissionProtocolTypes>] [-Adapter <Int32[]>]
[-Backlog <Int32[]>] [-Commands <Int32[]>] [-IPAddress <String[]>] [-Description <St...
ring[]>] [-LocalName <String[]>] [-NetBIOSNames <Int32[]>] [-Port <Int32[]>] [-Sessio...
ns <Int32[]>] [-Socket <Int32[]>] [-StartMode <MQC*StartModeTypes[]>] [-TPName <Strin...
g[]>] [-WhatIf] [-Confirm] [<CommonParameters>]

New-WMQListener [-Name <String[]>] [-Qmgr <MQQueueManager[]>] [-Like <MQListener>]
[-Force] [-Replace] [-TransportType <MQC*TransmissionProtocolTypes>] [-Adapter <Int32...
[]>] [-Backlog <Int32[]>] [-Commands <Int32[]>] [-IPAddress <String[]>] [-Description
<String[]>] [-LocalName <String[]>] [-NetBIOSNames <Int32[]>] [-Port <Int32[]>] [-Se...
ssions <Int32[]>] [-Socket <Int32[]>] [-StartMode <MQC*StartModeTypes[]>] [-TPName <S...
tring[]>] [-WhatIf] [-Confirm] [<CommonParameters>]

DETAILED DESCRIPTION
-----
The New-WMQListener cmdlet creates a WebSphere MQ channel listener definition. The cm...
dlet lets you set the attributes of the new channel listener. Any attributes that are...
not defined explicitly are set to the default values on the queue manager. If a syst...
em default channel listener exists for the type of listener being created, the defaul...
t values are taken from there.

RELATED LINKS
-----
Set-WMQListener
Remove-WMQListener
```

```
Get-Help New-WMQListener -detailed
```

returns more in-depth help for any particular command

If you are new to PowerShell

Learning PowerShell

The WebSphere MQ cmdlets have been written to conform to PowerShell conventions, so any introductions or tutorials to PowerShell will be valuable when learning PowerShell for WebSphere MQ.

Some links to useful PowerShell resources are included below.

A **PowerShell for WebSphere MQ Cookbook** is also included with this package to help get new users started. The aim of this is to demonstrate the sort of commands that are possible.

Recommended resources for beginners

Windows PowerShell Documentation Pack

<http://www.microsoft.com/downloads/details.aspx?FamilyId=B4720B00-9A66-430F-BD56-EC48BFCA154F&displaylang=en>

Windows PowerShell Owner's Manual

<http://www.microsoft.com/technet/scriptcenter/topics/winps/manual/default.aspx>

Next Generation Command Line Scripting (a webcast by the inventor of PowerShell)

<http://msevents.microsoft.com/cui/WebCastEventDetails.aspx?EventID=1032306183&EventCategory=3&culture=en-US&CountryCode=US>

Free Windows PowerShell book available from msdn

<https://blogs.technet.com/chitpro-de/archive/2007/05/10/english-version-of-windows-powershell-course-book-available-for-download.aspx>

What can I do with Windows PowerShell?

<http://www.microsoft.com/technet/scriptcenter/topics/msh/cmdlets/index.aspx>

Mastering PowerShell in your lunchbreak

<http://powershelllive.com/blogs/lunch/default.aspx>

An introduction to Windows PowerShell

<http://www.slideshare.net/dalelane/an-introduction-to-windows-powershell/>

Chapter 3. Uninstalling

If you installed manually

Refer to PowerShell documentation for full details.

In summary, you can use the commands:

```
Remove-PSSnapin IBM.PowerShell.WebSphereMQ
```

and

```
InstallUtil /u webSphereMQ.dll
```

to undo the steps detailed in Chapter 1

If you installed using setup.exe

The SupportPac can be fully removed using the Windows **Add/Remove Programs** feature.

Known Issues

Ping command fails with an Parameter missing exception. This will be fixed in the future releases.