

WebSphere MQ Everyplace for Multiplatforms Server Support Installation Guide: Version 2.0.2.0

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Take note

Before using this report be sure to read the general information under "Appendix A: Notices" on page 25.

License warning

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First Edition, August 2004

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Summary of amendments

Date	Changes
1 August 2004	Initial release
29 September 2006	For Microsoft Windows 32-bit platforms the WebSphere MQ Everyplace Server Support installation is upgraded to include IBM JRE 1.4.2 SR6 from IBM JRE 1.4.1 SR2.

Preface

The WebSphere MQ Everyplace Server Support provides the tooling necessary to create and manage a network of WebSphere MQ Everyplace (MQe) queue managers and their optional interconnections to an IBM WebSphere MQ network. This SupportPac contains the following tools:

- *MQe_Explorer* – a tool for MQe local queue manager creation, and for local or remote queue manager administration. It presents the information through a graphical user interface. *MQe_Explorer* also supports the launch of one or more applications against MQe queue managers and provides control and debugging facilities. For more information see the *MQe_Explorer User Guide* in this SupportPac.
- *MQe_MiniCertServer* – a tool for the issue and renewal of WLTSS certificates to queue managers and queues, used for certificate-based authentication. Both a scriptable (command console) and a graphical interface are available. For more information see the *MQe_MiniCertServer User Guide* in this SupportPac.
- *MQe_Script* – a tool for MQe local queue manager creation, and for local or remote queue manager administration. It presents the information through a console and is fully scriptable, making it ideal for repetitive administrative tasks. For more information see the *MQe_Script User Guide* in this SupportPac.
- *MQe_Service* – a wizard-based tool for MQe local queue manager creation. Additionally it provides for the automated set-up of MQe gateway and MQ queue managers where messages are designed to pass between MQe and MQ networks. Queue managers and gateways created by *MQe_Service* can be managed by *MQe_Explorer* and/or *MQe_Script*. On certain operating systems, *MQe_Service* allows queue managers to run as a background service. For more information see the *MQe_Service User Guide* in this SupportPac.

MQe_Explorer, *MQe_Script* and *MQe_MiniCertServer* were previously shipped as separate SupportPacs (ES02, ES04 and ES03 respectively). This SupportPac replaces all these previous versions.

Bibliography

- *WebSphere MQ Everyplace: Introduction*, IBM Corporation, SC34-6277.
- *WebSphere MQ Everyplace Application Programming Guide*, IBM Corporation, SC34-6278
- *WebSphere MQ Everyplace Java™ Programming Reference*, IBM Corporation, SC34-6279
- *WebSphere MQ Everyplace Configuration Guide*, IBM Corporation, SC34-6283

Related material

- *WebSphere MQ SupportPac MA88: WebSphere MQ Classes for Java.*
- *WebSphere MQ SupportPac MS0B: WebSphere MQ Java Classes for PCF.*
- *WebSphere MQ Everyplace: MQe_Explorer User Guide (in this SupportPac).*
- *WebSphere MQ Everyplace: MQe_Script User Guide (in this SupportPac).*
- *WebSphere MQ Everyplace: MQe_Service User Guide (in this SupportPac).*
- *WebSphere MQ Everyplace: MQe_MiniCertServer User Guide (in this SupportPac).*

Web references

The following URLs provide useful resources:

- TCL and Jacl: <http://www.tcl.activestate.com/doc>
- Eclipse Foundation (Eclipse & SWT): <http://www.elipse.org>

1 Introduction

The WebSphere MQ Everyplace Server Support provides the tooling necessary to create and manage a network of WebSphere MQ Everyplace (MQe) queue managers and their interconnection to an IBM WebSphere MQ network. This SupportPac contains four tools:

- *MQe_Explorer* – a GUI tool for MQe local queue manager creation, and for local or remote queue manager administration. For more information see the *MQe_Explorer User Guide* in this SupportPac.
- *MQe_MiniCertServer* – a GUI and/or scriptable tool for the issue and renewal of WLTS certificates to queue managers and queues, used for certificate-based authentication. For more information see the *MQe_MiniCertServer User Guide* in this SupportPac.
- *MQe_Script* – a scriptable tool for MQe local queue manager creation, and for local or remote queue manager administration. For more information see the *MQe_Script User Guide* in this SupportPac.
- *MQe_Service* – a wizard-based tool for MQe local server queue manager creation and automated set-up of MQe gateway and MQ queue managers. For more information see the *MQe_Service User Guide* in this SupportPac.

For late changes and updates to the SupportPac please see the *Read Me* document. On Microsoft Windows systems it is accessible from the Start Menu; on other platforms its location in the file system is given in *File locations* on page 22.

2 Environments

2.1 Implementation

The tools of this SupportPac are implemented, as far as possible, in 100% pure Java to ensure platform independence. Deviations are:

- MQe_Explorer and MQe_MiniCertServer
 - Eclipse SWT services are used to provide the graphical user interface. Eclipse uses native platform function for high performance interactivity with a native look and feel.
- MQe_Service
 - Eclipse JFACE and SWT services are used to provide the graphical user interface. Eclipse uses native platform function for high performance interactivity with a native look and feel. Additionally, the components unique to Microsoft Windows use native code to implement their platform-specific function.

2.2 Pre-requisite software

The installer for this SupportPac requires that the *IBM WebSphere MQ Everyplace Version 2* product be already installed on the target system¹.

Additionally, if the following functions are required:

- Using MQe_Explorer and/or MQe_Script
 - Creation of an MQe gateway queue manager.
 - Management of the gateway features of the hosting MQe queue manager.
- Using MQe_Service
 - Communication with either a local or remote IBM WebSphere MQ queue manager.

then the *IBM WebSphere MQ Java Support*² must have been previously installed on the target system. If added later then, on Microsoft Windows platforms only, the affected features must be re-installed, in order to add the extra functionality.

On all platforms except Microsoft Windows 32-bit, a suitable Java virtual machine must be available; this must provide the J2 runtime environment Standard Edition (J2SE) at version 1.3.1 or above. On Microsoft Windows 32-bit platforms a Java virtual machine is included in the install.

All other pre-requisite software for MQe_Explorer, MQe_Script, MQe_Service and MQe_MiniCertServer is supplied in this SupportPac and is installed as required.

¹ The documentation only may be installed without MQe v2 present.

² The *IBM WebSphere MQ Java Support* is shipped as a component of the *IBM WebSphere MQ* product.

2.3 IBM service levels

The tools available and the IBM service levels for this SupportPac depend upon the runtime platform:

Platform	Tools	Service level
AIX (PPC/Motif)	MQe_Explorer MQe_Script MQe_Service MQe_MiniCertServer	Category 2
HP-UX (HP9000/Motif)	MQe_Explorer MQe_Script MQe_Service MQe_MiniCertServer	Category 2
HP-UX (IA64/Motif)	MQe_Script MQe_MiniCertServer*	Category 2
Linux (x86/GTK)	MQe_Explorer MQe_Script MQe_Service MQe_MiniCertServer	Category 3
Linux (x86/Motif)	MQe_Explorer MQe_Script MQe_Service MQe_MiniCertServer	Category 2
Solaris 8 (SPARC/Motif)	MQe_Explorer MQe_Script MQe_Service MQe_MiniCertServer	Category 3
Solaris 8 (x86/Motif)	MQe_Script MQe_MiniCertServer*	Category 2
Microsoft Windows (x86) 2000/XP	MQe_Explorer MQe_Script MQe_Service MQe_MiniCertServer	Category 3
Microsoft Windows (x86) 95/98/ME	MQe_Explorer MQe_Script MQe_Service (subset)	Category 3

	MQe_MinicertServer	
Microsoft Windows (IA64) XP	MQe_Explorer MQe_Script MQe_Service MQe_MinicertServer	Category 2 Runs in 32-bit mode
Note * Scriptable version of MQe_MinicertServer only		

Figure 2-1: SupportPac tools and service levels

Category 2 SupportPacs are freeware, provided AS-IS and the license agreement that accompanies them DOES NOT provide for defect correction.

Category 3 SupportPacs are product extensions, supplied under the terms and conditions of a program license agreement, and provide for defect correction until a defined end-of-service date. To obtain service, customers must be running on the latest level of the SupportPac. In this case the base product is *WebSphere MQ Everyplace Version 2* and the Category 3 end-of-service date for this SupportPac is defined to be the same as the end-of-service date applicable to the base product.

2.4 License terms

The license terms applicable to this installation of the SupportPac are provided in license files copied on to the target machine during installation; their location is given in *File locations* on page 22.

3 Installation and invocation

3.1 Overview

The SupportPac is installed by running either a platform-specific install executable or a cross-platform *.jar* file. The following are provided:

Executable	Description
<i>setup.jar</i>	Cross-platform installation <i>.jar</i> file (not for use on Microsoft Windows platforms)
<i>setupAIX.bin</i>	AIX PPC specific installation executable.
<i>setupHP11.bin</i>	HPUX 11x specific installation executable.
<i>setupLinux.bin</i>	Linux x86 specific installation executable.
<i>setupSolaris.bin</i>	Solaris Sparc specific installation executable.
<i>setupSolarisx86.bin</i>	Solaris Intel x86 specific installation executable.
<i>setupUNIX.sh</i>	Generic UNIX specific installation executable.
<i>setup.exe</i>	Microsoft Windows specific installation executable (for 32 & 64 bit platforms).

Figure 3-1: Installation executables

By default, panels are displayed to guide you through the installation. In order to run the installation you must have administrator privileges, i.e. you are logged on as a user with those privileges.

If this is a re-installation, ensure that all tools/wizards from the previous installation have been closed before starting the install. Features may be selectively installed and uninstalled as required.

The install checks the target system for previously installed software; these checks vary according to the operating system:

- *Microsoft Windows operating systems*
 - WebSphere MQe Everyplace V2 must be present for the Microsoft Windows executables to be installed. These use registry settings created when a trial or full version of MQe is correctly installed. The executables provide a convenient method of launching the programs without having to change your environment.

If MQe is not installed the MQe_Service, Add and Remove Service wizards are not installed.

- WebSphere MQ is located. If not present, the MQe_Service *Connect To MQ* wizard and its pre-requisites are not installed unless MQe is also not installed then the java classes are installed but without the executable to run the wizard.
- *Other operating systems*
 - There is no check for the presence of WebSphere MQe Everyplace V2. However, if not present, none of the installed software can be executed until this product is installed.
 - In the case of AIX, Solaris and HP-UX it is assumed that the Motif desktop is installed – no other desktops are supported on these operating systems. For Linux the user is asked to identify the desktop; the choice is between GTK and Motif – any other desktop is not supported.
 - It is assumed that WebSphere MQ is available. All the relevant features, their associated wizards and pre-requisites are installed. If necessary, WebSphere MQ can be installed later.

The results of the installation depend upon the target operating system:

- *Microsoft Windows operating systems (with a correct installation of MQe)*
 - The installation installs all the selected features and configures them for immediate use. The Start menu contains shortcuts to all the tools and documentation. For the tools MQe_Explorer, MQe_Script, MQe_Service and MQe_MiniCertServer, executable (.exe) files are created to provide easy access.
- *Other operating systems (and Microsoft Windows without a correct installation of MQe)*
 - The installation installs all the selected features and pre-requisite software but does not provide executables, shortcuts or batch files ready for immediate use. Program and data directories are created and populated as required. The tools must be invoked from a command prompt, which can be embedded in a script, macro or batch file for improved usability. The documentation is stored in the file system.

Errors occurring during the installation are normally summarized to the user in an error message with full details logged in a file; for log file location details see *File locations* on page 22.

MQe_Script and MQe_MiniCertServer provide sample scripts; for the location of these scripts see *File locations* on page 22.

3.2 Instructions

To install WebSphere MQ Everyplace Server Support:

1. Insert the product CD into your CD-ROM drive.
2. Start the installation either from the platform specific launcher, or from the *setup.jar* file:

Installing from the platform-specific launcher:

- a. Execute the platform specific launcher at a command prompt.
- b. If you see a message box with the text 'No matching JVM was found', the installer was unable to find a Java environment to use. In this case you need to use the *setup.jar* file for installation.
- c. To tell the launcher to use a specific JVM, use the **-is:javahome** launcher flag followed by the directory location of the JVM executable, e.g.

```
setup.exe -is:javahome c:\jdk1.3
```

- d. To tell the launcher to use a specific directory to store temporary files, use the **-is:tempdir** launcher flag followed by the directory path, e.g.

```
setup.exe -is:tempdir c:\mytempdir
```

From the *setup.jar* file:

- a. At a command prompt change the current directory to the directory where the *setup.jar* is stored, and run the installation program using the Java command on your computer. This command is typically **java** (IBM JVM) or **jre** (Sun JVM). For example:

On Linux, AIX, Solaris, and HPUX 11x:

```
CLASSPATH=./setup.jar:$CLASSPATH
```

```
export CLASSPATH
```

```
java run      (or jre run)
```

3. On the Welcome screen, confirm that you want to install the WebSphere MQ Everyplace Server Support program by clicking the **Next** button and then follow the prompts to complete your installation.

3.3 Microsoft Windows operating systems (with a correct installation of MQe)

Running the tools

After the install completes the Start menu provides access to all documentation and SupportPac tools. To invoke a tool, select the appropriate icon from the menu; for further instructions see the appropriate *User Guide*.

Executable (.exe) files have been created to allow the Java programs to be launched as normal Microsoft Windows programs. In these executables the Java classpath (i.e. the access instructions to the Java classes) has been pre-set to meet all normal requirements. The various executables do *not* use the classpath settings maintained by Microsoft Windows (neither the *system* nor the *user* classpath settings). If you wish to change the classpath in force there are two approaches:

1. Directly change the classpath passed to the executables (described below).
2. Follow the instructions for *All operating systems* on page 10 and launch the Java virtual machine directly.

All executables are configured to use the Java virtual machine included in the install. If a different virtual machine is required then follow the invocation instructions for *All operating systems* on page 10.

Running as a Microsoft Windows service (MQe_Service)

MQe queue managers installed by MQe_Service and configured to run as Microsoft Windows services must be stopped and started using the standard services administrative tools.

The SupportPac install modifies the system environment variable **Path** to give Microsoft Windows services access to the installed Java virtual machine. It does this by appending the location of the installed java.exe file and its associated .dlls, to the existing variable value. If a different virtual machine is required then this appended value should be updated. Note that if the Path variable already provided access to a virtual machine, then the queue manager (when running as a service) will use this other virtual machine.

Changing the classpath for the Microsoft Windows executables

The classpath setting used by the executables can be modified at runtime by providing additional runtime settings in one or more files that are automatically checked at run time. Each of these files must be in the *same directory* as the executable itself, and must have the same name as the executable, but with a different extension. The files checked for are listed below:

Extension	Description
.cp	There should be one entry per line with no classpath separators. If an entry includes any spaces, then it should be enclosed in double quotes, i.e. ".....". These classpath entries are added to the classpath after any classpath entries required by the Java virtual machine itself, but before the classpath entries required for the application being launched.
.cp1	As for the .cp file above, except that the classpath entries that it contains are pre-pended to beginning of the classpath, before the classpath entries required by the Java virtual machine itself.
.cp2	As for the .cp file above, except that the classpath entries that it contains are appended to end of the classpath.

Figure 3-2: Microsoft Windows executable supplementary classpath files

Changing Java virtual machine parameters for the Microsoft Windows executables

Java virtual machine parameters used by the executables can be modified in a similar manner to that given above for the classpath. The relevant file extensions are:

Extension	Description
.ja	This file contains Java virtual machine arguments to be included in the launch command, one argument per line.
.sp	This file contains system properties to be included in the Java virtual machine launch command. There should be one per line of the format <i>propertyName=propertyValue</i> . The command line switch (e.g. -D) should not be included. Settings are appended to the pre-defined setting list. For more details of the <i>propertyName</i> and <i>propertyValue</i> see <i>Java system properties</i> on page 16.

Figure 3-3: Microsoft Windows executable Java virtual machine parameter files

Passing run time arguments

Run time arguments can be given to the tools by supplying them as run time arguments to the executables instead. For example, to pass the filter parameter and value (**-filter 1**) to the MQe_Service Run QMgr. tool, use:

```
MQe_ServiceRQM -filter 1
```

since the tool executable is the file: MQe_ServiceRQM.exe.

Tools that take run time arguments are identified in the section *Arguments* on page 18.

3.4 All operating systems

After the install completes, all tools, pre-requisites (excepting WebSphere MQe and optionally WebSphere MQ) and documentation have been copied to the target system. The location of these files is given in the chapter *File locations* on page 22. To invoke a tool, follow the instructions below; for further instructions on using that tool see the appropriate *User Guide*.

Invoking a tool from the command prompt

Tools are invoked from a command line, using the syntax:

```
java    [options]           toolClass    [args]
```

where **java** invokes the Java virtual machine (assuming an IBM implementation; for Sun implementations use **jre**).

where **options** includes:

```
-cp    classpath    (search path for application classes/resources).  
-D<name>=<value>  (set a Java system property).
```

where **toolClass** identifies the initial class of the tool to be invoked.

where **args** are parameters to be passed to the tool.

Tool class

The **tool class** is to be taken from the following table:

Tool	Element	Tool class
MQe_Explorer		com.ibm.mqe.mqe_explorer.Explorer
MQe_Minicert Server	GUI	com.ibm.mqe.mqe_minicertserver.MinicertServer
MQe_Minicert Server	Script	com.ibm.mqe.mqe_minicertserver.CommandConsole
MQe_Script		com.ibm.mqe.mqe_script.tclexension.CommandConsole
MQe_Service	Create Server QMgr.	com.ibm.mqe.mqe_service.wizard.RunCreateQMWizard
MQe_Service	Connect To MQ**	com.ibm.mqe.mqe_service.wizard.RunGatewayQMWizard
MQe_Service	Run QMgr.	com.ibm.mqe.mqe_service.control.CommandConsole
MQe_Service	Add Service*	com.ibm.mqe.mqe_service.wizard.RunCreateServiceQMWizard
MQe_Service	Remove Service*	com.ibm.mqe.mqe_service.wizard.RunDeleteServiceQMWizard
<p><i>Note</i> * <i>Microsoft Windows only where a correct installation of MQe is present</i> ** <i>Only if WebSphere MQ installed</i></p>		

Figure 3-4: Tool classes

Classpath

The **classpath** must provide access to all the classes and resources required by the tool. The table below identifies these requirements.

Tool	Element	Classes and resources
MQe_Explorer		Eclipse user interface classes MQ classes and resources (optionally – see below) MQe classes (full) MQe_Explorer classes
MQe_MiniCert Server	GUI	Eclipse user interface classes MQe classes (basic) MQe_MiniCertServer properties MQe_MiniCertServer classes
MQe_MiniCert Server	Script	Eclipse user interface classes MQe classes (basic) MQe_MiniCertServer classes MQe_MiniCertServer properties TCL classes
MQe_Script		MQ classes and resources (optionally – see below) MQe classes (full)** MQe_Script classes MQe_Script properties TCL classes
MQe_Service	Create Server QMgr.	Eclipse user interface classes MQe classes (basic) MQe_Service classes MQe_Service properties
MQe_Service	Connect to MQ**	Eclipse user interface classes MQ classes and resources MQe classes (full) MQe_Service classes MQe_Service properties PCF classes
MQe_Service	Run QMgr.	MQe classes (full) MQe_Service classes MQe_Service properties
MQe_Service	Add Service*	Eclipse user interface classes MQe classes (basic) MQe_Service classes

		MQe_ServiceWin classes MQe_Service properties
MQe_Service	Remove Service*	Eclipse user interface classes MQe classes (basic) MQe_Service classes MQe_ServiceWin classes MQe_Service properties
<p><i>Note</i> * <i>Microsoft Windows only where a correct installation of MQe is present</i></p> <p> ** <i>Only if WebSphere MQ installed</i></p> <p> *** <i>MQe_Script can run with an embedded version of MQe where only the MQeBundle.jar is available. However when run in this environment the bridge capabilities are disabled. See the relevant documentation for your product for where to find this jar file.</i></p>		

Figure 3-5: Tool classpath requirements

MQe_Explorer and MQe_Script may optionally have the *MQ classes and resources* on the classpath. If present the local MQe queue manager (i.e. the queue hosting MQe_Explorer/MQe_Script) will be deemed to be 'bridge-capable' and may be configured as bridge between an MQe and an MQ network. Remote MQe queue managers likewise need the MQ classes and resources to be present in their own local environment in order to be bridge-capable. Note however that neither MQe_Explorer nor MQe_Script require these classes to be present on the local (i.e. hosting) queue manager if the requirement is only to configure bridge resources on remote MQe queue managers.

The classpath specification itself has the format:

classpathElement[<path separator> *classpathElement*]

where <path separator> is a semicolon character on Microsoft Windows platforms and a colon character on Unix platforms

The values for *classpathElement* are given in the table below

The classpath elements are one or more of the following:

- Fully qualified directory names, containing classes or resources.
- Fully qualified *.jar* file specifications (containing classes and/or resources).
- Fully qualified *.properties* file specifications (containing resources)

The classpath elements are shown in the following table, using the following string identifiers:

<MQe>	Selected installation directory in the MQe install.
<SSP>	Selected installation directory in the MQe_ServerSupport install.
<MQ>	Microsoft Windows platforms: MQ installation directory. AIX platform: /usr/mqm. All other supported platforms: /opt/mqm.

Classes & resources	Classpath element(s)
Eclipse user interface classes	<SSP>/eclipse/jars/runtime.jar* <SSP>/eclipse/jars/workbench.jar* <SSP>/eclipse/jars/jface.jar* <SSP>/eclipse/jars/swt.jar <SSP>/eclipse/jars/swt-pi.jar**
MQ classes & resources	<MQ>/java/lib/com.ibm.mq.jar <MQ>/java/lib/com.ibm.mqbind.jar*** <MQ>/java/lib/connector.jar <MQ>/tools/java/base/ <MQ>/java/lib/jta.jar****
MQe classes (full)	<MQe>/Java/Jars/MQeGateway.jar <MQe>/Java/Jars/MQeJMS.jar <MQe>/Java/Jars/MQeJMSAdmin.jar <MQe>/Java/Jars/MQeJMSSQL.jar
MQe classes (basic)	<MQe>/Java/Jars/MQeGateway.jar
MQe_Explorer classes	<SSP>/mqe_explorer/jars/mqe_explorer.jar

Classes & resources	Classpath element(s)
MQe_MiniCertServer classes	<SSP>/mqe_minicertserver/jars/mqe_minicertserver.jar
MQe_MiniCertServer properties	<SSP>/mqe_minicertserver/properties
MQe_Script classes	<SSP>/mqe_script/jars/mqe_script.jar
MQe_Script properties	<SSP>/mqe_script/properties
MQe_Service classes	<SSP>/mqe_service/jars/mqe_service.jar
MQe_ServiceWin classes	<SSP>/mqe_service/jars/mqe_servicewin.jar
MQe_Service properties	<SSP>/mqe_service/properties
PCF classes	<SSP>/mq/pcf/jars/com.ibm.mq.pcf.jar
TCL classes	<SSP>/tcl/jars/jacl.jar <SSP>/tcl/jars/tcljava.jar
<i>Note</i>	<ul style="list-style-type: none"> * <i>Not needed by MQe_Explorer or MQe_MiniCertServer</i> ** <i>Only required on Linux GTK platforms</i> *** <i>Deprecated – only needed if explicit MQ application dependency</i> **** <i>Only required on Microsoft Windows platforms</i>

Figure 3-6: Tool classpath elements

If the classpath element value contains blanks, then it must be surrounded by double quotes.

Java system properties

The **Java system properties** supply information to the Java virtual machine at startup time. The table below identifies the requirements.

Tool	Element	Java system property elements
MQe_Explorer		Eclipse library MQ library**
MQe_MiniCert Server	GUI	Eclipse library
MQe_MiniCert Server	Command	<i>No system properties required</i>
MQe_Script		MQ library**
MQe_Service	Create Server QMgr.	Eclipse library
MQe_Service	Connect To MQ**	Eclipse library MQ library
MQe_Service	Run QMgr.	MQ library**
MQe_Service	Add Service*	Eclipse library MQe_Service library
MQe_Service	Remove Service*	Eclipse library MQe_Service library
<i>Note</i>	* **	<i>Microsoft Windows only where a correct installation of MQe is present Only if WebSphere MQ installed</i>

Figure 3-7: Tool system properties

The system property specification itself has the format:

`java.library.path=propertyElement[<path separator>propertyElement]`

where <path separator> is a semicolon character on Microsoft Windows platforms and a colon character on Unix platforms

The values for *propertyElement* are given in the table below

The Java system property elements are fully qualified directory names containing library routines or executables. The values are shown in the following table, using the following string identifiers:

<SSP>

Selected installation directory in the MQe_ServerSupport install.

Elements	Java system property element(s)
Eclipse library	<SSP>/eclipse/lib
MQ library	<MQ>/java/lib
MQe_Service library	<SSP>/mqe_service/lib

Figure 3-8: System property elements

If the property element value contains blanks, then it must be surrounded by double quotes.

Arguments

The **arguments** supply information to the tool at run time. Those tools supporting arguments are:

Tool	Element	Arguments
MQe_Explorer		Optional arguments – for details see the <i>User Guide</i>
MQe_MinicertServer	GUI	No arguments supported
MQe_MinicertServer	Command	Optional arguments – for details see the <i>User Guide</i>
MQe_Script		Optional arguments – for details see the <i>User Guide</i>
MQe_Service	Create Server QMgr.	No arguments supported
MQe_Service	Connect To MQ**	No arguments supported
MQe_Service	Run QMgr.	Optional arguments – for details see the <i>User Guide</i>
MQe_Service	Add Service*	No arguments supported
MQe_Service	Remove Service*	No arguments supported
<i>Note</i>	* **	<i>Microsoft Windows only where a correct installation of MQe is present Only if WebSphere MQ installed</i>

Figure 3-9: Tool arguments

Examples

The examples below are for the Microsoft Windows operating systems, assuming MQ installed, and based on the following defaults:

```
<MQe>   C:\Program Files\MQe
<MQ>    C:\Program Files\IBM\WebSphere MQ
<SSP>   C:\Program Files\IBM\WebSphere MQe\ServerSupport
```

Note – the lines have been broken at the path separator (;) for clarity – blanks must not be present inside the classpath value (except as part of a file or directory name – in which case that classpath element must be surrounded by double quotes), likewise for the system property setting.

MQe_Explorer:

```
Java -cp "C:\Program Files\IBM\WebSphere MQe\ServerSupport\mqe_explorer\
        jars\mqe_explorer.jar";
        "C:\Program Files\IBM\WebSphere MQe\ServerSupport\eclipse\jars\swt.jar";
        "C:\Program Files\MQe\Java\Jars\MQeGateway.jar";
        "C:\Program Files\MQe\Java\Jars\MQeJMS.jar";
        "C:\Program Files\MQe\Java\Jars\MQeJMSAdmin.jar";
        "C:\Program Files\MQe\Java\Jars\MQeJMSSQL.jar";
        "C:\Program Files\IBM\WebSphere MQ\java\lib\com.ibm.mq.jar";
        "C:\Program Files\IBM\WebSphere MQ\java\lib\connector.jar";
        "C:\Program Files\IBM\WebSphere MQ\java\lib\jta.jar";
        "C:\Program Files\IBM\WebSphere MQ\tools\java\base"
        -Djava.library.path="C:\Program Files\IBM\WebSphere MQe\
        ServerSupport\eclipse\lib";
        "C:\Program Files\IBM\WebSphere MQ\java\lib"
        com.ibm.mqe.mqe_explorer.Explorer
```

MQe_MiniCertServer – graphical user interface:

```
Java -cp "C:\Program Files\IBM\WebSphere MQe\ServerSupport\mqe_minicertserver\jars\
        mqe_minicertserver.jar";
        "C:\Program Files\IBM\WebSphere MQe\ServerSupport\mqe_minicertserver\
        properties";
        "C:\Program Files\IBM\WebSphere MQe\ServerSupport\eclipse\jars\swt.jar";
        -Djava.library.path="C:\Program Files\IBM\WebSphere MQe\
        ServerSupport\eclipse\lib"
        com.ibm.mqe.mqe_minicertserver.MiniCertServer
```

MQe_MiniCertServer – command line scripting:

```
Java -cp "C:\Program Files\IBM\WebSphere MQe\ServerSupport\mqe_minicertserver\jars\
        mqe_minicertserver.jar";
        "C:\Program Files\IBM\WebSphere MQe\ServerSupport\mqe_minicertserver\
        properties";
        "C:\Program Files\IBM\WebSphere MQe\ServerSupport\tcl\jars\jacl.jar";
        "C:\Program Files\IBM\WebSphere MQe\ServerSupport\tcl\jars\tcljava.jar";
        com.ibm.mqe.mqe_minicertserver.CommandConsole
```

MQe_Script:

```
Java -cp "C:\Program Files\IBM\WebSphere MQe\ServerSupport\mqe_script\
        jars\mqe_script.jar";
        "C:\Program Files\MQe\Java\Jars\MQeGateway.jar";
        "C:\Program Files\MQe\Java\Jars\MQeJMS.jar";
        "C:\Program Files\MQe\Java\Jars\MQeJMSAdmin.jar";
        "C:\Program Files\MQe\Java\Jars\MQeJMSSQL.jar";
        "C:\Program Files\IBM\WebSphere MQe\ServerSupport\tcl\jars\jacl.jar";
        "C:\Program Files\IBM\WebSphere MQe\ServerSupport\tcl\jars\tcljava.jar";
        "C:\Program Files\IBM\WebSphere MQ\java\lib\com.ibm.mq.jar";
        "C:\Program Files\IBM\WebSphere MQ\java\lib\connector.jar";
        "C:\Program Files\IBM\WebSphere MQ\java\lib\jta.jar";
        "C:\Program Files\IBM\WebSphere MQ\tools\java\base"
        "C:\Program Files\IBM\WebSphere MQe\ServerSupport\mqe_script\properties"
        -Djava.library.path="C:\Program Files\IBM\WebSphere MQ\java\lib"
        com.ibm.mqe.mqe_script.tcextension.CommandConsole
```

MQe_Service – Create Server QMgr. wizard:

```
Java -cp "C:\Program Files\IBM\WebSphere MQe\ServerSupport\mqe_service\
        jars\mqe_service.jar";
        "C:\Program Files\IBM\WebSphere MQe\ServerSupport\eclipse\jars\runtime.jar";
        "C:\Program Files\IBM\WebSphere MQe\ServerSupport\eclipse\jars\
        workbench.jar";
        "C:\Program Files\IBM\WebSphere MQe\ServerSupport\eclipse\jars\swt.jar";
        "C:\Program Files\IBM\WebSphere MQe\ServerSupport\eclipse\jars\jface.jar";
        "C:\Program Files\MQe\Java\Jars\MQeGateway.jar";
        "C:\Program Files\IBM\WebSphere MQe\ServerSupport\mqe_service\properties"
        -Djava.library.path="C:\Program Files\IBM\WebSphere MQe\
        ServerSupport\eclipse\lib"
        com.ibm.mqe.mqe_service.wizard.RunCreateQMWizard
```

MQe_Service – Run QMgr. wizard:

```
Java -cp "C:\Program Files\IBM\WebSphere MQe\ServerSupport\mqe_service\
        jars\mqe_service.jar";
        "C:\Program Files\MQe\Java\Jars\MQeGateway.jar";
        "C:\Program Files\MQe\Java\Jars\MQeJMS.jar";
        "C:\Program Files\MQe\Java\Jars\MQeJMSAdmin.jar";
        "C:\Program Files\MQe\Java\Jars\MQeJMSSQL.jar";
        "C:\Program Files\IBM\WebSphere MQe\ServerSupport\mqe_service\properties"
        -Djava.library.path="C:\Program Files\IBM\WebSphere MQ\java\lib"
        com.ibm.mqe.mqe_service.control.CommandConsole
```

3.5 Un-installation

The SupportPac can be un-installed by running the un-install executable. On Microsoft Windows platforms (where a correct installation of MQe is present) a shortcut is provided in the *Start/Programs* menu or alternatively it is accessible from *Settings/Add and Remove Programs*.

For other platforms the un-installer must be run directly; see *File locations* on page 22 for details. In all cases a native executable is provided; an un-install *.jar* file is also available. Uninstall can be used to remove the entire SupportPac or selected features.

Un-installation preserves any queue managers and their data that might have been created through MQe_Explorer, MQe_Script or MQe_Service. Likewise certificate information created by MQe_MinicertServer is retained. If the SupportPac is later re-installed to the same location previous information will become accessible again.

If re-installed to a different location, MQe_Service will require the queue manager location to be changed if it is to access the previous generation of queue managers (for details see the *MQe_Service User Guide*). Similarly MQe_MinicertServer will require the profiles location to be changed (for details see the *MQe_MinicertServer User Guide*).

4 Installed files

4.1 File locations

The installer locates the component files as shown below.

Note that:

- All locations are relative to the chosen installation directory.
- Other files and directories are also present, but can be ignored by users.

Where:

<SSP>

Selected installation directory in the MQe_ServerSupport install.

Component	Type	Location
	License files	<SSP>/licenses
	Install error log	<SSP>/log.txt
Eclipse subset - user interface	.jar files Libraries	<SSP>/eclipse/jars/swt.jar <SSP>/eclipse/jars/swt-pi.jar** <SSP>/eclipse/jars/workbench.jar <SSP>/eclipse/jars/runtime.jar <SSP>/eclipse/jars/jface.jar <SSP>eclipse/lib/(multiple – platform dependent)
General	Read me Install Guide Un-install	<SSP>/docs/read me.htm <SSP>/docs/Install.pdf <SSP>/_uninst/(multiple)
Java virtual machine		<SSP>/_jvm*
MQe_Explorer	Executable User Guide .jar file	<SSP>/mqe_explorer/MQe_Explorer.exe* <SSP>/mqe_explorer/docs/MQe_Explorer.pdf <SSP>/mqe_explorer/jars/mqe_explorer.jar
MQe_Minicert Server	Executable - GUI Executable - cmd User Guide Properties Scripts .jar file	<SSP>/mqe_minicertserver/MQe_MinicertServer.exe* <SSP>/mqe_minicertserver/MQe_MCSScript.exe* <SSP>/mqe_mqe_minicertserver /docs/ MQe_MinicertServer.pdf <SSP>/mqe_minicertserver/properties/(multiple) <SSP>/mqe_minicertserver/scripts/mqe_cert.tcl <SSP>/mqe_mqe_minicertserver /jars/ mqe_minicertserver.jar

Component	Type	Location
MQe_Script	Executable Properties Scripts User Guide .jar file	<SSP>/mqe_script/MQe_Script.exe* <SSP>/mqe_script/properties/(multiple) <SSP>/mqe_script/scripts/(multiple) <SSP>/mqe_script/docs/MQe_Script.pdf <SSP>/mqe_script/jars/mqe_script.jar
MQe_Service	CSQM exe CTMQ exe RQM exe AS wizard exe RS wizard exe Properties User Guide .jar files Libraries Queue managers	<SSP>/mqe_service/MQe_ServiceCSQM.exe* <SSP>/mqe_service/MQe_ServiceCTMQ.exe* ^{***} <SSP>/mqe_service/MQe_ServiceRQM.exe* <SSP>/mqe_service/MQe_ServiceAS.exe* <SSP>/mqe_service/MQe_ServiceRS.exe* <SSP>/mqe_service/properties/(multiple) <SSP>/mqe_service/docs/MQe_Service.pdf <SSP>/mqe_service/jars/mqe_service.jar <SSP>/mqe_service/jars/mqe_servicewin.jar* <SSP>/mqe_service/lib/(multiple)* <SSP>/mqe_service/qmgrs
PCF - MQ admin	.jar files	<SSP>/mq/pcf/jars/com.ibm.mq.pcf.jar ^{***}
TCL - scripting	.jar files	<SSP>/tcl/jars/jacl.jar <SSP>/tcl/jars/tcljava.jar
<i>Note:</i> *	<i>Only present on Microsoft Windows platforms where a correct installation of MQe is present</i>	
**	<i>Only present on Linux GTK platforms</i>	
***	<i>Only present on Microsoft Windows if WebSphere MQ installed</i>	

Figure 4-1: File locations after installation

4.2 Installed Java virtual machines

The Java virtual machines installed are:

Platform	Implementation and version
Microsoft Windows 32-bit	IBM JRE 1.4.2

Figure 4-2: Installed Java virtual machine details

For all other platforms a Java virtual machine must be supplied; these are normally available from the operating system provider. In many cases IBM also supplies suitable implementations; for more information see <http://www-106.ibm.com/developerworks/java/jdk/index.html>.

5 Appendix A: Notices

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