

IBM Parallel Environment Developer Edition
Eclipse Client for AIX and Linux
Version 1 Release 3

Installation Guide



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Note

Before using this information and the product it supports, read the information in “Notices” on page 29.

This edition applies to version 1, release 3, modification 0 of the IBM PE Developer Edition Eclipse Client for AIX and Linux (product numbers 5725-G61, 5725-M46, 5641-PD1, 5641-PD3, 5765-PED, and 5765-PDP) and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this information

This information applies to the Parallel Tools Platform (PTP) component of IBM® PE Developer Edition Version 1.3.

Attention:

In this information unit, IBM PE Developer Edition Eclipse client and IBM PE Developer Edition Workbench are synonymous and can be used interchangeably.

Who should read this information

This information is intended for system administrators and end users who are responsible for installing the Eclipse client and related components. It assumes that the administrators have a working knowledge of the AIX® and Linux operating systems.

Conventions and terminology used in this information

Table 1 shows the conventions used in this information:

Table 1. Conventions

Convention	Usage
bold	Bold words or characters represent system elements that you must use literally, such as commands, flags, path names, directories, file names, values, and selected menu options.
<u>bold underlined</u>	<u>bold underlined</u> keywords are defaults. These take effect if you do not specify a different keyword.
constant width	Examples and information that the system displays appear in constant-width typeface.
<i>italic</i>	<i>Italic</i> words or characters represent variable values that you must supply. <i>Italics</i> are also used for information unit titles, for the first use of a glossary term, and for general emphasis in text.
<key>	Angle brackets (less-than and greater-than) enclose the name of a key on the keyboard. For example, <Enter> refers to the key on your terminal or workstation that is labeled with the word <i>Enter</i> .
\	In command examples, a backslash indicates that the command or coding example continues on the next line. For example: mkcondition -r IBM.FileSystem -e "PercentTotUsed > 90" \ -E "PercentTotUsed < 85" -m d "FileSystem space used"
{item}	Braces enclose a list from which you must choose an item in format and syntax descriptions.
[item]	Brackets enclose optional items in format and syntax descriptions.
<Ctrl-x>	The notation <Ctrl-x> indicates a control character sequence. For example, <Ctrl-c> means that you hold down the control key while pressing <c>.
item...	Ellipses indicate that you can repeat the preceding item one or more times.

Table 1. Conventions (continued)

Convention	Usage
	• In <i>syntax</i> statements, vertical lines separate a list of choices. In other words, a vertical line means <i>Or</i>. • In the margin of the document, vertical lines indicate technical changes to the information.

Prerequisite and related information

IBM Parallel Environment Runtime Edition

The IBM Parallel Environment Runtime Edition library consists of:

- *IBM Parallel Environment Runtime Edition: Installation*, SC23-6780
- *IBM Parallel Environment Runtime Edition: LAPI Programming Guide*, SA23-2272
- *IBM Parallel Environment Runtime Edition: Messages*, SC23-6782
- *IBM Parallel Environment Runtime Edition: MPI Programming Guide*, SC23-6783
- *IBM Parallel Environment Runtime Edition: MPI Subroutine Reference*, SC23-6784
- *IBM Parallel Environment Runtime Edition: NRT API Programming Guide*, SC23-6785
- *IBM Parallel Environment Runtime Edition: Operation and Use*, SC23-6781
- *IBM Parallel Environment Runtime Edition: PAMI Programming Guide*, SA23-2273

In addition, see the *IBM Parallel Environment Developer Edition: High Performance Computing Toolkit Installation and Usage Guide*, SC23-6940.

To access the most recent IBM PE Runtime Edition or IBM PE Developer Edition documentation in PDF and HTML format, refer to the IBM Cluster Information Center (<http://publib.boulder.ibm.com/infocenter/clresctr/vrx/index.jsp>).

The current IBM PE Runtime Edition or IBM PE Developer Edition documentation is also available in PDF format from the IBM Publications Center (<http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss>).

To easily locate a book in the IBM Publications Center, supply the book's publication number. The publication number for each of the Parallel Environment books is listed after the book title in the preceding lists.

Parallel Tools Platform component

For information about how to use the Eclipse client Parallel Tools Platform (PTP) component, go to <http://help.eclipse.org/kepler/index.jsp> (<http://help.eclipse.org/kepler/index.jsp>) and search for these documents:

- *Parallel Development User Guide*
- *Photran User's Guide*
- *Remote Development Tools User Guide*

These documents are available both on the web and as online Help that can be accessed through the Eclipse user interface.

To access the most recent Eclipse client PTP component installation documentation in PDF and HTML format, refer to the IBM Cluster Information Center (<http://publib.boulder.ibm.com/infocenter/clresctr/vxrx/index.jsp>):

- *IBM PE Developer Edition Eclipse Client for AIX and Linux: Installation Guide*, SC23-7030

The current Eclipse client PTP component installation book is also available in PDF format from the IBM Publications Center (<http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss>). To easily locate a book in the IBM Publications Center, supply the book's publication number.

How to send your comments

Your feedback is important in helping us to produce accurate, high-quality information. If you have any comments about this book or any other IBM High Performance Computing Toolkit documentation, send your comments by e-mail to:

mhvrdfs@us.ibm.com

Include the book title and order number, and, if applicable, the specific location of the information you have comments on (for example, a page number or a table number).

For technical information and to exchange ideas related to high performance computing, go to:

- HPC Central (<https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/Welcome%20to%20High%20Performance%20Computing%20%28HPC%29%20Central>)
- HPC Central Technical Forum (<https://www.ibm.com/developerworks/community/forums/html/forum?id=11111111-0000-0000-0000-000000001056>)

Summary of changes

The following summarizes changes to the IBM Parallel Environment (PE) Developer Edition Version 1 Release 3 product and library.

Within each information unit in the library, a vertical line in the margin next to text and illustrations indicates technical changes or additions made to the previous edition of the information.

Attention:

In this information unit, IBM PE Developer Edition Eclipse client and IBM PE Developer Edition Workbench are synonymous and can be used interchangeably.

New information

- Support for POWER7+™ hardware counters and Intel's Ivy Bridge microarchitecture hardware counters has been added.
- A new, streamlined sequence to instrument and launch the application has been added.
- Updates to the plug-in Help have been incorporated to describe the new features.
- Enhancements to the Parallel Tools Platform (PTP) developer workflow have been added.
- Enhancements to the integration of module's support in PTP have been made.
- Support for MPICH2 on AIX has been added, but is restricted to the level of the MPICH2 library provided by IBM PE Runtime Edition on AIX.
- The two HPC Toolkit installation images have different license names to distinguish them from each other. It is important to not mix installation images with the different licenses.
- For Linux on POWER® and Linux on x86, installation images for both platform-specific and multiplatform licenses are available as xCAT kit packages for installation on an xCAT cluster. Follow the xCAT procedures for installing HPC Toolkit kit packages found on the IBM HPC Software Kits web site (http://sourceforge.net/apps/mediawiki/xcat/index.php?title=IBM_HPC_Software_Kits).
- Prebuilt Scalable Debug Manager (SDM) binaries for AIX, Linux on POWER and Linux on x86 are now available with the IBM PE Developer Edition Workbench for automatic deployment of SDM for debug sessions.
- Support for submitting batch background application jobs to the LSF® job scheduler from the Parallel Tools Platform has been added. Monitoring and controlling the execution status of those jobs is done by using a PTP GUI interface.

Deleted information

- Information about HFA and CAU counters has been removed.
- The IBM Power® 775 is not supported with version 1.3 of the IBM HPC Toolkit, so references to it have been removed.

Chapter 1. Introduction

IBM Parallel Environment Developer Edition is a complete state of the art integrated development environment based on the Eclipse workbench with additional open source and proprietary components for parallel application development.

IBM PE Developer Edition includes Parallel Tools Platform (PTP) as one of its components. PTP is a set of Eclipse plug-ins that provide an integrated development environment where you can edit, compile, debug, and run your HPC applications on your HPC cluster. PTP also provides tools to help with editing and analyzing your source code from within the same environment.

IBM PE Developer Edition adds the ability to instrument, visualize, and analyze the performance of your application using IBM HPC Toolkit. In addition, it enables compiler optimization reports to be easily viewed, and provides tools to assist with parallel programming modes, such as PAMI.

The IBM PE Developer Edition client (also known as the IBM PE Developer Edition Workbench) software is delivered in two packages:

1. An all-in-one bundle with Eclipse basics, plus the IBM PE Developer Edition additions
2. An Eclipse update site archive where you can add the client additions to your own version of Eclipse (if it meets the prerequisites)

Chapter 2. Supported software levels

The IBM PE Developer Edition client is supported on these software levels:

- Red Hat 6.3 and Red Hat 6.4 64-bit mode
- Red Hat 6.3 and Red Hat 6.4 with 32-bit executables and libraries
- Microsoft Windows XP 32-bit mode
- Microsoft Windows 7 32-bit mode
- Microsoft Windows 7 64-bit mode
- Apple Mac OS X 10.6 64-bit

In general, the IBM PE Developer Edition Workbench can be used on any of the platforms supported by the Eclipse framework. For a list of those platforms and for more information, see Target Environments (http://www.eclipse.org/projects/project-plan.php?projectid=eclipse#target_environments).

Additional requirements

The following additional requirements are necessary to enable certain features in IBM PE Developer Edition:

- The Time/HiRes Perl module must be installed on any login node where jobs will be submitted using IBM PE Developer Edition. The Time/HiRes Perl module can be obtained from CPAN (<http://search.cpan.org/search?query=time-hires&mode=all>).
- To use the synchronized projects feature, Git is required on the login nodes. Git is included as part of your Linux distribution.
- To use the remote projects feature, Java™ is required on the login nodes. A copy of the required Java Runtime is included in the distribution media.

IBM PE Developer Editions supports the following:

- IBM Parallel Runtime Edition 1.3.0.6 or later
- LoadLeveler® 5.1.0.16 or later
- IBM Platform LSF 9.1.1 or later

Chapter 3. Installation media contents

The installation media for IBM Developer Edition contains installation images for the Eclipse client software (including PTP), and IBM proprietary software as described in Chapter 1, “Introduction,” on page 1.

For platform-specific licensing for the IBM PE Developer Edition Workbench as shown in Table 2 on page 6, the files for each platform are distributed on one DVD. The Workbench install images and the update install image are located in the directory called **Workbench**. The JRE install images are located in a directory called **JRE**. The directory structure on the DVD is:

```
/Workbench
/Workbench/ppedev-1.3.0-0-linux-gtk.tar.gz
/Workbench/ppedev-1.3.0-0-linux-gtk-x86_64.tar.gz
/Workbench/ppedev-1.3.0-0-macosx-cocoa-x86_64.tar.gz
/Workbench/ppedev-1.3.0-0-win32.zip
/Workbench/ppedev-1.3.0-0-win64.zip
/Workbench/ppedev_update-1.3.0-0.zip
/JRE
/JRE/ibm-java-i386-jre-7.0-5.0.i386.rpm
/JRE/ibm-java-jre-70-win-i386.exe
/JRE/ibm-java-jre-70-win-x86_64.exe
/JRE/ibm-java-ppc64-jre-7.0-5.0.ppc64.rpm
/JRE/ibm-java-x86_64-jre-7.0-5.0.x86_64.rpm
/JRE/jre764redist.tar.gz
```

Table 2. Platform-specific file names for the IBM PE Developer Edition Workbench

Purpose	Platform/where installed
Eclipse client, PTP, and IBM proprietary tools	Windows: • Workbench and plug-ins for Microsoft Windows XP/7 32-bit: – ppedev-1.3.0-0-win32.zip • Workbench and plug-ins for Microsoft Windows 7 64-bit: – ppedev-1.3.0-0-win64.zip • JRE for Microsoft Windows XP/7 32-bit: – ibm-java-jre-70-win-i386.exe • JRE for Microsoft Windows 7 64-bit: – ibm-java-jre-70-win-x86_64.exe For Windows, the software is installed on the user's local workstation (desktop or laptop). X86 Linux: • Workbench and plug-ins for Red Hat 6.3 and Red Hat 6.4 32-bit Linux: – ppedev-1.3.0-0-linux-gtk.tar.gz • Workbench and plug-ins for Red Hat 6.3 and Red Hat 6.4 64-bit Linux: – ppedev-1.3.0-0-linux-gtk-x86_64.tar.gz • JRE for Red Hat 6.3 and Red Hat 6.4 32-bit Linux: – ibm-java-i386-jre-7.0-5.0.i386.rpm • JRE for Red Hat 6.3 and Red Hat 6.4 64-bit Linux: – ibm-java-x86_64-jre-7.0-5.0.x86_64.rpm For x86 Linux, the software is installed on the user's local workstation and optionally, when using remote projects, installed on the login node for the cluster. Mac OS: • Workbench and plug-ins for Mac OS X 64-bit: – ppedev-1.3.0-0-macosx-cocoa-x86_64.tar.gz For the Mac OS, the software is installed on the user's local workstation (desktop or laptop). All other operating systems: • For installation of PTP and IBM PE Developer Edition plug-ins into an existing Eclipse Kepler release installation for all platforms: – ppedev_update-1.3.0-0.zip The ppedev_update update site archive is installed on the user's local workstation. • Power Linux: – ibm-java-ppc64-jre-7.0-5.0.ppc64.rpm • AIX: – jre764redist.tar.gz For AIX and Power Linux, the software is installed on the login node. There is a possibility that it could be installed on a user's local workstation.

For multiplatform licensing for the IBM PE Developer Edition Workbench as shown in Table 3 on page 7, the files for each platform are available for individual download from the IBM Passport Advantage® web site (http://www-01.ibm.com/software/lotus/passportadvantage/pao_customer.html) or are distributed on one DVD. The Workbench install images and the update install image are located in the directory called **Workbench**. The JRE install images are located in a directory called **JRE**. The directory structure on the DVD is:

```

/Workbench
/Workbench/ppedev_pa_update-1.3.0-0.zip
/Workbench/ppedev_pa-1.3.0-0-win64.zip
/Workbench/ppedev_pa-1.3.0-0-linux-gtk-x86_64.tar.gz
/Workbench/ppedev_pa-1.3.0-0-win32.zip

```

```

/Workbench/ppedev_pa-1.3.0-0-linux-gtk.tar.gz
/Workbench/ppedev_pa-1.3.0-0-macosx-cocoa-x86_64.tar.gz
/JRE
/JRE/ibm-java-i386-jre-7.0-5.0.i386.rpm
/JRE/ibm-java-jre-70-win-i386.exe
/JRE/ibm-java-jre-70-win-x86_64.exe
/JRE/ibm-java-ppc64-jre-7.0-5.0.ppc64.rpm
/JRE/ibm-java-x86_64-jre-7.0-5.0.x86_64.rpm
/JRE/jre764redist.tar.gz

```

Table 3. Multiplatform file names for the IBM PE Developer Edition Workbench

Purpose	Platform/where installed
Eclipse client, PTP, and IBM proprietary tools	Windows: • Workbench and plug-ins for Microsoft Windows XP/7 32-bit: – ppedev_pa-1.3.0-0-win32.zip • Workbench and plug-ins for Microsoft Windows 7 64-bit: – ppedev_pa-1.3.0-0-win64.zip • JRE for Microsoft Windows XP/7 32-bit: – ibm-java-jre-70-win-i386.exe • JRE for Microsoft Windows 7 64-bit: – ibm-java-jre-70-win-x86_64.exe For Windows, the software is installed on the user's local workstation (desktop or laptop). X86 Linux: • Workbench and plug-ins for Red Hat 6.3 and Red Hat 6.4 32-bit Linux: – ppedev_pa-1.3.0-0-linux-gtk.tar.gz • Workbench and plug-ins for Red Hat 6.3 and Red Hat 6.4 64-bit Linux: – ppedev_pa-1.3.0-0-linux-gtk-x86_64.tar.gz • JRE for Red Hat 6.3 and Red Hat 6.4 32-bit Linux: – ibm-java-i386-jre-7.0-5.0.i386.rpm • JRE for Red Hat 6.3 and Red Hat 6.4 64-bit Linux: – ibm-java-x86_64-jre-7.0-5.0.x86_64.rpm For x86 Linux, the software is installed on the user's local workstation and optionally, when using remote projects, installed on the login node for the cluster. Mac OS: • Workbench and plug-ins for Mac OS X 64-bit: – ppedev_pa-1.3.0-0-macosx-cocoa-x86_64.tar.gz For the Mac OS, the software is installed on the user's local workstation (desktop or laptop). All other operating systems: • For installation of PTP and IBM PE Developer Edition plug-ins into an existing Eclipse Kepler release installation for all platforms: – ppedev_pa_update-1.3.0-0.zip The ppedev_update update site archive is installed on the user's local workstation. • Power Linux: – ibm-java-ppc64-jre-7.0-5.0.ppc64.rpm • AIX: – jre764redist.tar.gz For AIX and Power Linux, the software is installed on the login node. There is a possibility that it could be installed on a user's local workstation.

The IBM PE Developer Edition Workbench packaging consists of the following:

- Copies of the Eclipse Workbench (installation images or archives) for the client platform
- Copies of the Java Runtime (JRE) required for a supported IBM PE Developer Edition Workbench installation on Microsoft Windows and on the Red Hat Linux desktop or laptop (client) systems and copies of the JRE for the AIX and Linux on POWER (required by the use of remote projects)
- A copy of the PTP plug-ins and the IBM High Performance Computing Toolkit plug-ins for installation in an existing Eclipse 4.3 (Kepler) installation

Note: IBM PE Developer Edition does not provide a JRE for Mac systems. Any user using a Mac system should use the JRE provided with that system.

Chapter 4. Space planning

The IBM PE Developer Edition Workbench is a collection of installation images for the Eclipse client, the plug-in update site, and also a collection of JRE installation images for the supported platforms. These installation images are used by end users to install the IBM PE Developer Edition Workbench on their client machines.

You must determine how to make these images available to an end user. One solution is to copy the installation images into a directory in a shared file system from which end users can either copy or download them to their client machines. You only need to make the installation images available for the platforms in use at your site, which reduces the amount of disk space required to store those images.

The disk space required by the installation images can easily be calculated by listing the content of the distribution DVD or when downloading from the Passport Advantage web site (http://www-01.ibm.com/software/lotus/passportadvantage/pao_customer.html).

The JRE installation images for AIX and Linux on POWER are provided to support remote projects on the back end and they are usually installed on the HPC cluster's login nodes.

Chapter 5. Java installation on the front end or login node

Note: Installing Java on front end or login nodes is usually a system administrator activity.

The remote projects feature in IBM PE Developer Edition requires a copy of the Java Runtime Environment (JRE) to be installed on the login nodes or front end nodes that contain the application source code. For a supported IBM PE Developer installation, you must either have the IBM JRE 7.0.0 or later installed on your system or install the copy included with IBM PE Developer Edition.

The IBM PE Developer Edition distribution DVD contains a copy of IBM JRE 7.0.0 for the following operating systems:

- AIX
- Linux on POWER
- x86 Linux

These images must be made available on the front end or login node where they will be installed.

Installing the JRE on a Linux node

To install the JRE on a Linux node, change the current directory to where the JRE installation images are located and use the **rpm** command as follows:

- For Linux on POWER:
`/bin/rpm -i ibm-java-ppc64-jre-7.0-5.0.ppc64.rpm`
- For x86 Linux:
`/bin/rpm -i ibm-java-x86_64-jre-7.0-5.0.x86_64.rpm`

Ensure that the directory is in the default PATH for your users:

- For Linux on POWER:
`/opt/ibm/java-ppc64-70/jre/bin`
- For x86 Linux:
`/opt/ibm/java-x86_64-70/jre/bin`

Installing the JRE on an AIX node

To install the JRE on AIX, do the following:

1. Uncompress the following file in your home directory:
`jre764redist.tar.gz`
2. Create a directory by entering the following command:
`mkdir -p /opt/ibm/java-7-0-5.0`
3. Change the directory by entering the following command:
`cd /opt/ibm/java-7-0-5.0`
4. Enter this command:
`tar -xf ~/jre764redist.tar`
5. Make sure the following is in your path:
`/opt/ibm/java-7-0-5.0/jre/bin`

Chapter 6. IBM PE Developer Edition Eclipse client installation

Note: The steps listed in this topic and those that follow are normally performed by end users, but can be performed by a system administrator who administers a node shared by multiple users.

The IBM PE Developer Edition client installation consists of the following three phases:

1. Copying client images on a cluster server node that is accessible to users
2. Downloading client images to a user's desktop or laptop machine
3. Installing client software on a user's desktop or laptop machine

Chapter 7. Download client images to the client system

To install the Eclipse client, you must download or copy the necessary installation images for your desktop or laptop client platform from the location where they were made available in the previous step. Installation images are provided for new installations on your systems and for installation of IBM PE Developer Edition plug-ins in an existing Eclipse 4.3 (Kepler) installation.

To download the installation images, follow these steps:

1. Create a directory (folder) with write permissions on your client system.
2. Copy or download the images that you need from the location where you made them available, as listed in Table 4 or Table 5:

Table 4. Platform-specific download images

Purpose	Image name
Workbench and plug-ins for Microsoft Windows XP/7 32-bit	ppedev-1.3.0-0-win32.zip
Workbench and plug-ins for Microsoft Windows 7 64-bit	ppedev-1.3.0-0-win64.zip
JRE for Microsoft Windows XP/7 32-bit	ibm-java-jre-70-win-i386.exe
JRE for Microsoft Windows 7 64-bit	ibm-java-jre-70-win-x86_64.exe
Workbench and plug-ins for Red Hat 6.3 and Red Hat 6.4 32-bit Linux	ppedev-1.3.0-0-linux-gtk.tar.gz
Workbench and plug-ins for Red Hat 6.3 and Red Hat 6.4 64-bit Linux	ppedev-1.3.0-0-linux-gtk-x86_64.tar.gz
JRE for Red Hat 6.3 and Red Hat 6.4 32-bit Linux	ibm-java-i386-jre-7.0-5.0.i386.rpm
JRE for Red Hat 6.3 and Red Hat 6.4 64-bit Linux	ibm-java-x86_64-jre-7.0-5.0.x86_64.rpm
Workbench and plug-ins for Mac OS X 64-bit	ppedev-1.3.0-0-macosx-cocoa-x86_64.tar.gz
IBM PE Developer Edition plug-ins for an existing Eclipse 4.3 installation	ppedev_update-1.3.0-0.zip
Power Linux	ibm-java-ppc64-jre-7.0-5.0.ppc64.rpm
AIX	jre764redist.tar.gz
Note: These images are available for individual downloading from Passport Advantage (http://www.ibm.com/software/lotus/passportadvantage/) and are also available on the distribution media.	

Table 5. Multiplatform download images

Purpose	Image name
Workbench and plug-ins for Microsoft Windows XP/7 32-bit	ppedev_pa-1.3.0-0-win32.zip
Workbench and plug-ins for Microsoft Windows 7 64-bit	ppedev_pa-1.3.0-0-win64.zip
JRE for Microsoft Windows XP/7 32-bit	ibm-java-jre-70-win-i386.exe
JRE for Microsoft Windows 7 64-bit	ibm-java-jre-70-win-x86_64.exe

Table 5. Multiplatform download images (continued)

Purpose	Image name
Workbench and plug-ins for Red Hat 6.3 and Red Hat 6.4 32-bit Linux	ppedev_pa-1.3.0-0-linux-gtk.tar.gz
Workbench and plug-ins for Red Hat 6.3 and Red Hat 6.4 64-bit Linux	ppedev_pa-1.3.0-0-linux-gtk-x86_64.tar.gz
JRE for Red Hat 6.3 and Red Hat 6.4 32-bit Linux	ibm-java-i386-jre-7.0-5.0.i386.rpm
JRE for Red Hat 6.3 and Red Hat 6.4 64-bit Linux	ibm-java-x86_64-jre-7.0-5.0.x86_64.rpm
Workbench and plug-ins for Mac OS X 64-bit	ppedev_pa-1.3.0-0-macosx-cocoa-x86_64.tar.gz
IBM PE Developer Edition plug-ins for an existing Eclipse 4.3 installation	ppedev_pa_update-1.3.0-0.zip
Power Linux	ibm-java-ppc64-jre-7.0-5.0.ppc64.rpm
AIX	jre764redist.tar.gz
Note: These images are available for individual downloading from Passport Advantage (http://www.ibm.com/software/lotus/passportadvantage/) and are also available on the distribution media.	

Chapter 8. Installation on client systems

Once images have been downloaded to your system, the next step is to install the required software.

If your Red Hat Enterprise Linux 6.3 or 6.4 or Microsoft Windows system does not have the IBM Java Runtime version 7.0.0 or later installed, you must install the Java Runtime provided with IBM PE Developer Edition for a supported installation.

For Mac OS X users, no Java Runtime is provided with IBM PE Developer Edition, and you should use the Java Runtime provided with your system.

If you do not already have Eclipse 4.3 installed, you should install the Eclipse client software all-in-one bundle, which includes the IBM PE Developer Edition plug-ins listed in Table 4 on page 15.

If you have an existing Eclipse 4.3 installation, you can install just the IBM PE Developer Edition plug-ins into your existing Eclipse.

Note: You can have multiple versions of Eclipse on your laptop or workstation. If in doubt, install the all-in-one bundle of the IBM PE Developer Edition Eclipse client.

Chapter 9. Java Runtime installation

Java Runtime images for Linux are provided in RPM format. Installation of the Java Runtime images will require **root** user privilege.

Java Runtime images for Microsoft Windows are provided in a Windows installer format. To install the Java Runtime, you might require an account with administrator privileges.

Installing Java Runtime images for Linux

To install Java Runtime images for Linux, do the following:

1. Issue **su** to **root** and issue the command:

```
rpm -i path to java runtime RPM
```

For example:

```
rpm -i ~/images/ibm-java-i386-jre-7.0-5.0.i386.rpm
```

2. Alternatively, issue the following command without switching to **root**:

```
sudo rpm -i path to java runtime RPM
```

Note: Using the **sudo** command requires a system administrator to set up the user in **/etc/sudoers**.

Installing Java Runtime for Microsoft Windows

To install Java Runtime for 32-bit or 64-bit Microsoft Windows, do the following and then follow the prompts in the installation dialog:

1. For 32-bit systems, invoke:

```
ibm-java-jre-70-win-i386.exe
```

2. For 64-bit systems, invoke:

```
ibm-java-jre-70-win-x86_64.exe
```

Chapter 10. New Eclipse and plug-ins installation

Eclipse images are packaged as compressed tar files for Linux and Mac OS X systems and as zip files for Microsoft Windows systems. For all systems, Eclipse can be installed in a directory for use by all users on the system or can be installed in a directory only accessible by the user installing it. Multiple Eclipse instances can be installed on the same system in different locations.

If you are installing Eclipse into a publicly accessible directory, you will require **root** or system administrator privileges. If you are installing Eclipse into your private directory, then no privileges are required other than having write access to that directory.

Note: If you install Eclipse as **root**, updates made by using the **Check For Updates** or **Install New Software...** options under the Help menu, should be made as **root**, not as an ordinary user.

Follow these steps to install Eclipse:

1. Create the directory where the Eclipse-based Workbench will be installed, if the directory does not already exist. This directory can be any location that you choose on your system. If the system is a shared access system, then consider a shared directory location, for example:

/usr/local/

Note: Verify that there is no directory named **eclipse** in the location of choice, because the Eclipse-based Workbench files will be extracted to a directory with that name.

2. Unpack the Eclipse image into the directory you created.

Once you have unpacked the Eclipse image, add the directory where the Eclipse image is located to your **PATH** environment variable settings. If you are installing Eclipse as **root** so it can be shared by multiple users, add the directory where the Eclipse executable is located to the system **PATH** environment variable.

For example, if your installation directory is **/usr/local**, then the Eclipse executable will be located in the **/usr/local/IBM_PEDE** directory.

3. On Microsoft Windows and Mac OS X systems, use the archive tools available on your system to perform the installation.

On Windows systems, once you have unpacked the Eclipse image, you can create a shortcut to the Eclipse executable and you can place this shortcut on your desktop.

For example, on a Windows XP system where you unpacked the Eclipse image into **C:\Program Files**, the directory where the Eclipse executable is located will be **C:\Program Files\IBM_PEDE**.

To create the shortcut, navigate to this directory in Windows Explorer and right click on the **eclipse.exe** icon and in the pop-up menu, click **Create shortcut**. Then, you can drag the shortcut icon to your desktop. You can also change the name of the shortcut by right-clicking over the shortcut icon, clicking **Rename** in the pop-up menu, typing the new name, and pressing **Enter**.

4. For Linux systems, **su** to **root** if necessary, then enter **cd** to change to the installation directory you chose in step 1.

5. Extract the Eclipse software using a command such as:

```
tar -zxf path to Eclipse installation compressed tar file
```

Chapter 11. IBM PE Developer plug-in only installation

The IBM PE Developer Edition plug-ins can be installed into an existing Eclipse 4.3 installation. This installation can be a shared installation or can be a private copy for a single user.

For an Eclipse shared installation, the plug-ins can be installed for all users by logging in as **root** or by obtaining administrator privileges before starting the installation process.

Note: Updating as a user, when the original installation was completed by logging in as **root** can cause unpredictable results.

To install the IBM PE Developer Edition plug-ins, do the following:

1. Invoke the Eclipse 4.3 instance where you want to install the plug-ins.
2. Click **Help** in the Eclipse main menu bar.
3. Click **Install New Software...** in the submenu to open the **Install** dialog.
4. Click the **Add...** button in the **Install** dialog.
5. Enter a name in the **Name** field of the **Add Repository** dialog, such as **IBM PE Developer Edition 1.3.0** and click the **Archive** button.
6. Navigate to the directory containing either the **ppedev_update-1.3.0-0.zip** or **ppedev_pa_update-1.3.0-0.zip** file, depending on which version you downloaded, and select that file.
7. Click the **OK** button in the **Add Repository** dialog. A list of available plug-ins will appear in the **Install** dialog.
8. Click the **Select All** button to install all plug-ins, then click **Next**.
9. Click **Next** in the **Install Details** dialog page.
10. Review the license terms in the **Review Licenses** dialog page and click **I accept the terms of the license agreements** if you agree to the license terms. Next click **Finish** and the plug-in installation will proceed.
11. Restart Eclipse once installation is complete and you receive the prompt.
12. Click the **Restart Now** button. Eclipse will restart and the IBM PE Developer Edition plug-ins will be installed.

After successful completion of these steps, the PTP component installation is complete. Refer to the online help documentation for assistance in using PTP and the other features in IBM PE Developer Edition.

Chapter 12. xCAT kit packages

The xCAT kit packages are shipped with the distribution media or are available for download from the IBM Passport Advantage web site (http://www-01.ibm.com/software/lotus/passportadvantage/pao_customer.html). The system administrator must use the xCAT commands to install these kit packages on the boot image. For more information, see XCAT Commands (http://sourceforge.net/apps/mediawiki/xcat/index.php?title=XCAT_Commands).

Table 6 lists the xCAT kit packages:

Table 6. xCAT kit packages

Licensed platform	xCAT kit package
x86 Linux platform-specific license, shipped on same CD as IBM PE Developer Edition HPC Toolkit for x86 Linux	ppedev-1.3.0-0-x86_64.tar.bz2
Linux on POWER platform-specific license, shipped on same CD as IBM PE Developer Edition HPC Toolkit for Linux on POWER	ppedev-1.3.0-0-ppc64.tar.bz2
x86 Linux and multiplatform license shipped on same DVD as IBM PE Developer Edition HPC Toolkit or available for download from Passport Advantage.	ppedev_pa-1.3.0-0-x86_64.tar.bz2
Linux on POWER multiplatform license, shipped on same DVD as IBM PE Developer Edition HPC Toolkit or available for download from Passport Advantage.	ppedev_pa-1.3.0-0-ppc64.tar.bz2

Note: Once the PE Developer Edition software is installed, the first time you start that Eclipse instance, you will be prompted to accept the license for the PE Developer edition software.

Accessibility features for IBM PE Developer Edition

Accessibility features help users who have a disability, such as restricted mobility or limited vision, to use information technology products successfully.

Accessibility features

The following list includes the major accessibility features in IBM PE Developer Edition:

- Keyboard-only operation
- Interfaces that are commonly used by screen readers

The *IBM Cluster information center*, and its related publications, are accessibility-enabled. The accessibility features of the information center are described in the IBM Cluster information center (<http://publib.boulder.ibm.com/infocenter/clresctr/vxrx/topic/com.ibm.cluster.addinfo.doc/access.html>).

Keyboard navigation

This product uses standard Microsoft Windows navigation keys.

IBM and accessibility

See the IBM Human Ability and Accessibility Center (<http://www.ibm.com/able/>) for more information about the commitment that IBM has to accessibility.

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