

IBM XL Fortran Enterprise Edition for AIX, V11.1



# Installation Guide



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# Installation Guide

**Note!**

Before using this information and the product it supports, be sure to read the general information under “Notices” on page 29.

**First Edition**

This edition applies to IBM XL Fortran Enterprise Edition for AIX, V11.1 (Program number 5724-S72) and to all subsequent releases and modifications until otherwise indicated in new editions. Make sure you are using the correct edition for the level of the product.

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## About this document

This guide provides detailed installation instructions for IBM® XL Fortran Enterprise Edition for AIX®, V11.1. It guides you through multiple ways to perform tasks and directs you to reference information in cases requiring atypical installations. It also shows you how to test the installation, launch remotely-accessible HTML help, and enable and view different types of documentation. Please read it carefully before installing. Please also read the README file in the root directory of your installation media, which contains current information about the compiler.

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## Who should read this document

This document is intended for anyone responsible for installing IBM XL Fortran Enterprise Edition for AIX, V11.1.

The basic installation methods detailed in this document address the needs of the majority of users. *Basic examples* are tailored to reflect, as much as possible, the steps required to perform a basic installation.

The advanced installation method addresses the needs of users who require a customized installation for various purposes, such as maintaining more than one version of XL Fortran on a single system. These are users who are familiar with compiler installations and with the file structures of the versions of the compiler products installed on the system. In this document, you are referred to as an *advanced user*.

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## How to use this document

This document provides procedures for three main installation scenarios:

### "Basic" installation

This scenario allows you to install a single version of XL Fortran to a default location. This scenario is applicable to the majority of users, and is the recommended method of installation.

For an overview of the steps that you need to follow to perform a basic installation, refer to "Tasks for basic installation" on page 4.

### "Advanced" installation

This scenario allows you to maintain multiple versions of XL Fortran on a single system, or to install the compiler to a non-default location. This scenario is only applicable to advanced users who have specialized needs, and is not recommended for the majority of users.

For an overview of the steps that you need to follow to perform an advanced installation, refer to "Tasks for advanced installation" on page 5.

### "Update" installation

This scenario applies to users who have obtained a Program Temporary Fix (PTF) package for an existing XL Fortran V11.1 installation.

For an overview of the steps required to install a PTF, refer to “Tasks for basic installation” on page 4 or “Tasks for advanced installation” on page 5 depending on the type of installation you need to update.

For highly specialized installation scenarios that are outside the scope of this document, refer to the Technotes at <http://www.ibm.com/software/awdtools/fortran/xlfortran/support>.

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## How this document is organized

This book is organized to reflect the pre-installation, installation, post-installation, and troubleshooting phases of an XL Fortran installation.

*Table 1. Phases of an XL Fortran installation*

Phase	Chapters	User segment
Pre-installation	Chapter 1, “Before installing XL Fortran,” on page 1	All users
Installation	“Tasks for basic installation” on page 4	Users who: <ul style="list-style-type: none"><li>• Want to use the simplest, most direct installation process</li><li>• Do not have any special requirements, such as the use of multiple versions of the compiler.</li></ul>
	“Tasks for advanced installation” on page 5	Users who: <ul style="list-style-type: none"><li>• Want to install the compiler in a non-default location</li><li>• Want to have multiple versions of the compiler on the same system</li></ul>
Post-installation	Chapter 4, “Update installation,” on page 17	Users who want to update XL Fortran V11.1 to the next fix level
	Chapter 5, “After installing XL Fortran,” on page 21	All users
Product removal	Chapter 6, “Uninstalling XL Fortran,” on page 27	Any user who needs to remove an XL Fortran compiler from the system

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## Conventions used in this document

### Typographical conventions

The following table explains the typographical conventions used in this document.

*Table 2. Typographical conventions*

Typeface	Indicates	Example
<b>bold</b>	Lowercase commands, executable names, compiler options and directives.	If you specify <b>-O3</b> , the compiler assumes <b>-qhot=level=0</b> . To prevent all HOT optimizations with <b>-O3</b> , you must specify <b>-qnohot</b> .
<i>italics</i>	Parameters or variables whose actual names or values are to be supplied by the user. Italics are also used to introduce new terms.	The maximum length of the <i>trigger_constant</i> in fixed source form is 4 for directives that are continued on one or more lines.



Table 2. *Typographical conventions (continued)*

Typeface	Indicates	Example
monospace	Examples of program code, command strings, or user-defined names.	Also, specify the following runtime options before running the program, with a command similar to the following: <code>export XLFRTEOPTS="err_recovery=no:langlvl=90std"</code>

## Syntax diagrams

Throughout this document, diagrams illustrate XL Fortran syntax. This section will help you to interpret and use those diagrams.

- Read the syntax diagrams from left to right, from top to bottom, following the path of the line.

The **▶▶**— symbol indicates the beginning of a command, directive, or statement.

The —**▶** symbol indicates that the command, directive, or statement syntax is continued on the next line.

The **▶**— symbol indicates that a command, directive, or statement is continued from the previous line.

The —**▶◀** symbol indicates the end of a command, directive, or statement.

Fragments, which are diagrams of syntactical units other than complete commands, directives, or statements, start with the **|**— symbol and end with the —**|** symbol.

IBM XL Fortran extensions are marked by a number in the syntax diagram with an explanatory note immediately following the diagram.

Program units, procedures, constructs, interface blocks and derived-type definitions consist of several individual statements. For such items, a box encloses the syntax representation, and individual syntax diagrams show the required order for the equivalent Fortran statements.

- Required items are shown on the horizontal line (the main path):

**▶▶**—keyword—*required\_argument*—**▶◀**

- Optional items are shown below the main path:

**▶▶**—keyword—*optional\_argument*—**▶◀**

**Note:** Optional items (not in syntax diagrams) are enclosed by square brackets ([ and ]). For example, [UNIT=]u

- If you can choose from two or more items, they are shown vertically, in a stack. If you *must* choose one of the items, one item of the stack is shown on the main path.

**▶▶**—keyword—*required\_argument1*  
*required\_argument2*—**▶◀**

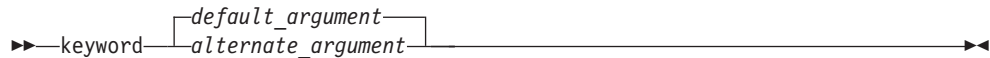
If choosing one of the items is optional, the entire stack is shown below the main path.



- An arrow returning to the left above the main line (a repeat arrow) indicates that you can make more than one choice from the stacked items or repeat an item. The separator character, if it is other than a blank, is also indicated:



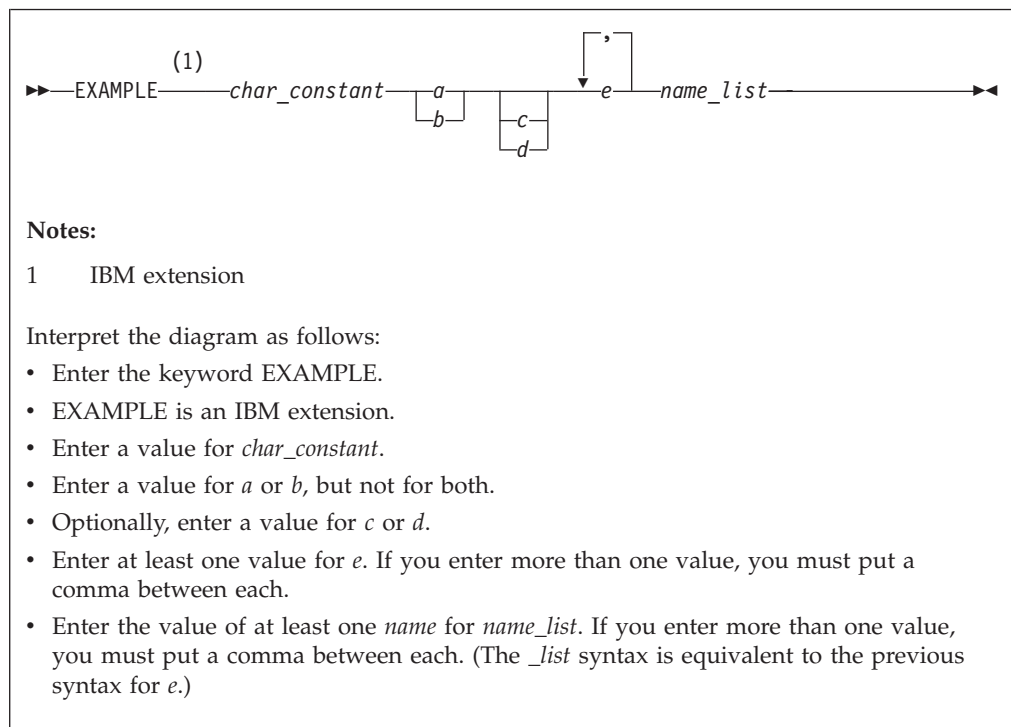
- The item that is the default is shown above the main path.



- Keywords are shown in nonitalic letters and should be entered exactly as shown.
- Variables are shown in italicized lowercase letters. They represent user-supplied names or values. If a variable or user-specified name ends in *\_list*, you can provide a list of these terms separated by commas.
- If punctuation marks, parentheses, arithmetic operators, or other such symbols are shown, you must enter them as part of the syntax.

### Sample syntax diagram

The following is an example of a syntax diagram with an interpretation:



### Examples and basic examples

The examples in this document are labelled as either “Example” or “Basic example”. *Basic examples* are intended to document a procedure as it would be performed during a basic installation, with little or no modification.

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## Related information

The following sections provide information on documentation related to XL Fortran:

- “IBM XL Fortran publications”
- “Other IBM publications” on page x

### IBM XL Fortran publications

XL Fortran provides product documentation in the following formats:

- README files  
README files contain late-breaking information, including changes and corrections to the product documentation. README files are located by default in the XL Fortran directory and in the root directory of the installation CD.
- Installable man pages  
Man pages are provided for the compiler invocations and all command-line utilities provided with the product. Instructions for installing and accessing the man pages are provided in this document.
- Information center  
The information center of searchable HTML files can be launched on a network and accessed remotely or locally. Instructions for installing and accessing the online information center are provided in this document. The information center is also viewable on the Web at <http://publib.boulder.ibm.com/infocenter/comphelp/v9v111/index.jsp>.
- PDF documents  
PDF documents are located by default in the `/usr/lpp/xlf/doc/LANG/pdf/` directory, where *LANG* is one of `en_US` or `ja_JP`. The PDF files are also available on the Web at <http://www.ibm.com/software/awdtools/fortran/xlfortran/library>.

The following files comprise the full set of XL Fortran product manuals:

*Table 3. XL Fortran PDF files*

Document title	PDF file name	Description
<i>IBM XL Fortran Enterprise Edition for AIX, V11.1 Installation Guide</i> , GC23-5834-00	install.pdf	Contains information for installing XL Fortran and configuring your environment for basic compilation and program execution.
<i>Getting Started with IBM XL Fortran Enterprise Edition for AIX, V11.1</i> , GC23-5835-00	getstart.pdf	Contains an introduction to the XL Fortran product, with information on setting up and configuring your environment, compiling and linking programs, and troubleshooting compilation errors.
<i>IBM XL Fortran Enterprise Edition for AIX, V11.1 Compiler Reference</i> , SC23-5833-00	cr.pdf	Contains information about the various compiler options and environment variables.

Table 3. XL Fortran PDF files (continued)

Document title	PDF file name	Description
IBM XL Fortran Enterprise Edition for AIX, V11.1 Language Reference, SC23-5832-00	lr.pdf	Contains information about the Fortran programming language as supported by IBM, including language extensions for portability and conformance to non-proprietary standards, compiler directives and intrinsic procedures.
IBM XL Fortran Enterprise Edition for AIX, V11.1 Optimization and Programming Guide, SC23-5836-00	opg.pdf	Contains information on advanced programming topics, such as application porting, interlanguage calls, floating-point operations, input/output, application optimization and parallelization, and the XL Fortran high-performance libraries.

To read a PDF file, use the Adobe® Reader. If you do not have the Adobe Reader, you can download it (subject to license terms) from the Adobe Web site at <http://www.adobe.com>.

More documentation related to XL Fortran including redbooks, white papers, tutorials, and other articles, is available on the Web at:

<http://www.ibm.com/software/awdtools/fortran/xlfortran/library>

## Other IBM publications

- *AIX Commands Reference, Volumes 1 - 6*, SC23-4888
- *AIX Technical Reference: Base Operating System and Extensions, Volumes 1 & 2*, SC23-4913
- *AIX National Language Support Guide and Reference*, SC23-4902
- *AIX General Programming Concepts: Writing and Debugging Programs*, SC23-4896
- *AIX Assembler Language Reference*, SC23-4923

All AIX documentation is available at <http://publib.boulder.ibm.com/infocenter/pseries/v5r3/index.jsp>.

- *ESSL for AIX V4.2 Guide and Reference*, SA22-7904, available at <http://publib.boulder.ibm.com/infocenter/clresctr/index.jsp>

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## Technical support

Additional technical support is available from the XL Fortran Support page at <http://www.ibm.com/software/awdtools/fortran/xlfortran/support>. This page provides a portal with search capabilities to a large selection of technical support FAQs and other support documents.

If you cannot find what you need, you can send e-mail to [compinfo@ca.ibm.com](mailto:compinfo@ca.ibm.com).

For the latest information about XL Fortran, visit the product information site at <http://www.ibm.com/software/awdtools/fortran/xlfortran>.

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## How to send your comments

Your feedback is important in helping to provide accurate and high-quality information. If you have any comments about this document or any other XL Fortran documentation, send your comments by e-mail to [compinfo@ca.ibm.com](mailto:compinfo@ca.ibm.com).

Be sure to include the name of the document, the part number of the document, the version of XL Fortran, and, if applicable, the specific location of the text you are commenting on (for example, a page number or table number).



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## Chapter 1. Before installing XL Fortran

Before you install IBM XL Fortran Enterprise Edition for AIX, V11.1:

- Familiarize yourself with the installation image, which contains the installable compiler filesets.
- Determine the tasks you need to perform, depending on your installation requirements.
- Become either the root user or a user with administrator privileges.
- Ensure that system prerequisites such as disk space and operating system are met.

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### The installation image and filesets

The installation image for XL Fortran is available physically on an installation CD and electronically on the `xlf.11.1.0.aix.GM.tar.Z` installation package, in the `/usr/sys/inst.images` directory.

The image includes filesets for the following compiler components:

- XL Fortran compiler 11.1
- XL Fortran runtime environment 11.1
- XL Fortran compiler online help
- Mathematical Acceleration Subsystem (MASS) libraries 4.4
- Shared-memory parallelism (SMP) runtime environment 1.7
- Runtime debug memory routine 5.3

### Filesets

The following tables list the filesets included in the installation image and the default directories to which the fileset contents are installed during a basic installation. You may optionally install all available filesets, or only the ones you want. If you select specific filesets for installation, you may also choose to automatically install any prerequisite filesets required by your selections.

When fileset names differ only by the locale code, you can choose to install only the filesets relevant to your desired language and location. The `LANG` environment variable determines which message catalogs are used. The `en_US` (English) message catalogs are installed by default. If `LANG` is not defined or is assigned an unsupported locale, `en_US` message catalogs are used. See “National language support” on page 3 for a list of available locales.

### XL Fortran compiler filesets

*Table 4. XL Fortran compiler filesets and default installation locations*

Fileset name	Fileset description	Default installation locations
xlfcmp	XL Fortran compiler	/etc/ /usr/include/ /usr/lpp/xlf/ /usr/lpp/xlf/bin/ /usr/lpp/xlf/bin/default_msg/ /usr/lpp/xlf/include/ /usr/lpp/xlf/include/include_d7/ /usr/lpp/xlf/samples/
xlf.Bnd	XL Fortran media defined bundles	/usr/sys/inst.data/sys_bundles/

Table 4. XL Fortran compiler filesets and default installation locations (continued)

Fileset name	Fileset description	Default installation locations
xlflc	XL Fortran license files	/usr/lpp/xlf/lib/
xlflcAgreement	XL Fortran electronic license agreement files	/usr/swlag/xlf/111/
xlf.ndi	XL Fortran non-default installation script	/usr/lpp/xlf/bin/
xlfcmp.aix52	XL Fortran libraries for AIX 5.2	/usr/lpp/xlf/lib/aix52/
xlfcmp.html.common	XL Fortran compiler documentation (HTML) - common files	/usr/lpp/xlf/bin/
xlfcmp.html.LANG	XL Fortran compiler documentation (HTML) LANG = [en_US, ja_JP]	/usr/lpp/xlf/eclipse/plugins/ /usr/xlhelp/eclipse/plugins/
xlf.man.LANG	XL Fortran compiler manual pages LANG = [en_US, EN_US, ja_JP, JA_JP, Ja_JP]	/usr/lpp/xlf/man/LANG/man1/
xlfcmp.pdf.LANG	XL Fortran compiler documentation (PDF) LANG = [en_US, ja_JP]	/usr/lpp/xlf/doc/LANG/pdf/
xlfcmp.msg.LANG	XL Fortran compiler messages LANG = [en_US, EN_US, ja_JP, JA_JP, Ja_JP]	/usr/lib/nls/msg/LANG/

## XL Fortran runtime environment filesets

Table 5. XL Fortran runtime environment filesets and default installation locations

Fileset name	Fileset description	Default installation locations
xlfrte	XL Fortran runtime libraries	/usr/lib/ /usr/lpp/xlf/lib/ /usr/lpp/xlfrtemsg/
xlfrte.aix52	XL Fortran runtime environment for AIX 5.2 libraries	/usr/lpp/xlf/lib/aix52/
xlfrte.msg.LANG	XL Fortran runtime messages LANG = [en_US, EN_US, ja_JP, JA_JP, Ja_JP]	/usr/lib/nls/msg/LANG/

## XL Fortran compiler online help filesets

Table 6. XL Fortran compiler online help filesets and default installation locations

Fileset name	Fileset description	Default installation locations
xlhelp.com	XL compiler help system	/usr/xlhelp/eclipse/ /usr/xlhelp/bin/
xlhelp.html.LANG	XL compiler common documentation LANG = [en_US, ja_JP]	/usr/xlhelp/eclipse/plugins/ ibm.com.compilers.aix.doc/

## Runtime debug memory routine filesets

Table 7. Runtime debug memory routine filesets and default installation locations

Fileset name	Fileset description	Default installation locations
memdbg.adt	User heap/memory debug toolkit	/usr/vac/include/ /usr/vac/lib/ /usr/vac/lib/profiled/
memdbg.aix52.adt	User heap/memory debug toolkit for AIX 5.2	/usr/vac/lib/aix52/ /usr/vac/lib/profiled/aix52/
memdbg.msg.LANG	User heap/memory debug messages LANG = [en_US, EN_US, ja_JP, JA_JP, Ja_JP, zh_CN, ZH_CN, Zh_CN]	/usr/lib/nls/msg/LANG

## Shared-memory parallelism (SMP) runtime environment filesets

Table 8. SMP runtime filesets and default installation locations

Fileset name	Fileset description	Default installation locations
xlsmprte	SMP runtime library	/usr/include/ /usr/lpp/xlsmpr/default_msg/



Table 8. SMP runtime filesets and default installation locations (continued)

Fileset name	Fileset description	Default installation locations
xlsmp.msg.LANG.rte	SMP runtime messages LANG = [en_US, EN_US, ja_JP, JA_JP, Ja_JP, zh_CN, ZH_CN, Zh_CN]	/usr/lib/nls/msg/LANG/
xlsmp.aix52.rte	SMP runtime libraries for AIX 5.2	/usr/lpp/xlsmp/aix52/

## Mathematical Acceleration Subsystem (MASS) filesets

Table 9. MASS filesets and default installation locations

Fileset name	Fileset description	Default installation locations
xlmass.adt.include	IBM MASS application development include files	/usr/xlmass/include/
xlmass.lib	IBM MASS libraries	/usr/xlmass/lib/
xlmass.aix52.lib	IBM MASS libraries for AIX 5.2	/usr/xlmass/lib/aix52/

## Preparing the electronic distribution package

If you have downloaded the XL Fortran electronic distribution package, xlf.11.1.0.aix.GM.tar.Z, follow these steps before attempting to install:

**Note:** You must be logged in as root or have superuser authority.

- Uncompress and unpack the downloaded package into an empty directory:
  1. To uncompress the file, use the command  
uncompress xlf.11.1.0.aix.GM.tar.Z
  2. To unpack the resulting tar file, use the command  
tar -xvf xlf.11.1.0.aix.GM.tar
- Use the command **inutoc** *directory\_name* to generate a .toc file in the same directory as the unpacked filesets.

The following example shows the steps to prepare the electronic distribution package, xlf.11.1.0.aix.GM.tar.Z, located in the new directory, /compiler/install/ for installation.

```
cd /compiler/install
uncompress -f xlf.11.1.0.aix.GM.tar.Z
tar -xvf xlf.11.1.0.aix.GM.tar
cd usr/sys/inst.images
inutoc .
```

Refer to “Determining the tasks you need to perform” on page 4 to ensure that system prerequisites are met and install the compiler using one of the methods described in that section.

## National language support

The XL Fortran messages support the following language locales:

- en\_US (ISO8859-1)
- EN\_US (UTF-8)
- ja\_JP (IBM-eucJP)
- JA\_JP (UTF-8)
- Ja\_JP (IBM-943)

English (en\_US) is the default national language. Following installation, you can set the NLSPATH so that messages are displayed in a different language. See “Enabling the XL Fortran error messages” on page 23.

## Determining the tasks you need to perform

Before installing the compiler, you should refer to the sections below to determine which installation method is most suited to your requirements. You can use the following tables for instructions on performing new or update installations to either the default or non-default locations.

- Steps for basic installation: new or upgrade installation - Table 10
- Steps for basic installation: update installation - Table 11
- Steps for advanced installation: new or upgrade installation - Table 12 on page 5
- Steps for advanced installation: update installation - Table 13 on page 5

### Tasks for basic installation

It is highly recommended that you use the "basic", or default, method of installation, as long as the following are true:

- You are installing IBM XL Fortran Enterprise Edition for AIX, V11.1 to the default location, /usr/lpp/xlf/.
- You are maintaining a single version of the product on your system, with or without XL C Enterprise Edition V9.0 for AIX or XL C/C++ Enterprise Edition V9.0 for AIX.

If these conditions match your needs, the basic installation is the easiest and fastest method, as it allows you to automatically uninstall previous versions of XL Fortran, install the latest version, and configure the compiler, all through the use of a single installation tool.

If you are installing XL Fortran V11.1 for the first time, follow the steps listed in Table 10. If you are installing an update to XL Fortran V11.1, follow the steps listed in Table 11.

*Table 10. Steps for basic installation: new or upgrade installation*

Task	For more information, see . . .
Become either the root user or a user with administrator privileges.	Documentation supplied with the operating system.
Ensure that all system prerequisites are satisfied.	"System prerequisites" on page 6
Use SMIT or the <b>installp</b> command to install and configure the compiler, using the default paths.	Chapter 2, "Basic installation," on page 9
Confirm that the compiler packages were successfully installed, and test the installation.	"Checking compiler and fileset information" on page 21, "Testing the installation" on page 25
Enable the compiler man pages.	"Enabling the manual pages" on page 23
If your system locale and/or encoding are <i>not</i> en_US, enable the compiler error messages. Otherwise, you can skip this step.	"Enabling the XL Fortran error messages" on page 23

*Table 11. Steps for basic installation: update installation*

Task	For more information, see . . .
Become either the root user or a user with administrator privileges.	Documentation supplied with the operating system.
Ensure that all system prerequisites are satisfied.	"System prerequisites" on page 6

Table 11. Steps for basic installation: update installation (continued)

Task	For more information, see . . .
Use SMIT or the <b>installp</b> command to install PTFs, using the default paths.	Chapter 4, "Update installation," on page 17
Confirm that the compiler packages were successfully installed, and test the installation.	"Checking compiler and fileset information" on page 21, "Testing the installation" on page 25

## Tasks for advanced installation

You will need to use the "advanced" method of installation in the following cases:

- You are maintaining multiple versions of the same product on a single system.
- You are installing the product to a non-default location.
- You are installing on an i5/OS® PASE or OS/400® PASE system.

If any of these conditions are true, you need to follow an "advanced" installation method which requires that you separately install and configure the compiler. You may also need to manually uninstall previous versions of the compiler from your system.

If you are installing XL Fortran V11.1 for the first time, follow the steps listed in Table 12. If you are installing an update to XL Fortran V11.1, follow the steps listed in Table 13.

Table 12. Steps for advanced installation: new or upgrade installation

Task	For more information, see . . .
Become either the root user or a user with administrator privileges.	Documentation supplied with the operating system.
If you do not need to maintain multiple versions of the product on your system, remove any existing versions of XL Fortran for AIX.	Chapter 6, "Uninstalling XL Fortran," on page 27
Ensure that all system prerequisites are satisfied.	"System prerequisites" on page 6
Use the non-default installation script to install the compiler.	Chapter 3, "Advanced installation," on page 13
Confirm that the compiler packages were successfully installed, and test the installation.	"Checking compiler and fileset information" on page 21, "Testing the installation" on page 25
Enable the compiler man pages.	"Enabling the manual pages" on page 23
If your system locale and/or encoding are <i>not</i> en_US, enable the compiler error messages. Otherwise, you can skip this step.	"Enabling the XL Fortran error messages" on page 23

Table 13. Steps for advanced installation: update installation

Task	For more information, see . . .
Become either the root user or a user with administrator privileges.	Documentation supplied with the operating system.
Ensure that all system prerequisites are satisfied.	"System prerequisites" on page 6
Use the non-default installation script to install an update.	Chapter 4, "Update installation," on page 17

Table 13. Steps for advanced installation: update installation (continued)

Task	For more information, see . . .
Confirm that the compiler packages were successfully installed, and test the installation.	“Checking compiler and fileset information” on page 21, “Testing the installation” on page 25

## System prerequisites

- **Operating system:** AIX 5.2 or AIX 5.3
- **Required hard disk space:** 250 MB
- **Required software for documentation:**
  - HTML browser
  - PDF viewer

## Verifying the amount of hard disk space available

You can use the following command to determine the amount of space available in the default installation location (/usr/lpp/xlf/):

```
df -m /usr
```

If you plan to install the compiler to a non-default location, you can use the following command:

```
df -m installation_path
```

where *installation\_path* represents the non-default location.

## Verifying that the required filesets are installed

The following filesets *must* be installed on your system in order to install IBM XL Fortran Enterprise Edition for AIX, V11.1.

Fileset name	Fileset description
bos.adt.include	Base application development include files
bos.adt.lib	Base application development libraries
bos.adt.libm	Base application development math libraries
bos.loc.LANG	Base locale support
bos.loc.pc.LANG	Base system locale PC code set
bos.loc.utf.LANG	Base system locale UTF code set
bos.loc.iso.LANG	Base system locale ISO code set
bos.rte	Base operating system run time
bos.rte.libc	Base application runtime library

You can view information about the installed filesets by using the **lslpp** command.

Use the following command to determine if these items have been installed:

```
lslpp -L bos.adt.include bos.adt.lib bos.adt.libm bos.loc bos.loc.pc  
bos.loc.utf bos.loc.iso bos.rte bos.rte.libc
```

---

## Previewing the installation and license agreements

Before installing IBM XL Fortran Enterprise Edition for AIX, V11.1, you can verify the default installation process, check file sizes and disk space and preview the license agreements.

The terms and conditions for using XL Fortran are specified in the following PDF files, which are located in the root directory of the distribution package:

- LicAgree.pdf
- LicInfo.pdf

After basic installation, the license files can be found in the `/usr/lpp/xlf/` directory with the file names:

- LicenseAgreement.pdf
- license.pdf

## Using SMIT

You can use the System Management Interface Tool (SMIT) to preview the basic XL Fortran installation.

Follow the steps to install the compiler to the default location “Using SMIT” on page 9. When prompted with the SMIT dialog to customize the installation in step 3, set the Preview only? field to **yes**. With this setting enabled, SMIT displays progress messages at each stage of the installation but does not actually install the compiler on your system.

## Using installp

You can also preview the command line installation process and write the output to a log file, using the **installp** command. Follow the steps to install the compiler to the default location “Using installp” on page 10 and specify the **-p** flag to preview the process without installing the compiler.

The following example previews the installation of all available compiler filesets in the `/cdrom/usr/sys/inst.images` source directory to the default location, `/usr/lpp/xlf/` and writes an installation log file to `/tmp/install.log`.

Example:

```
installp -paXgd /cdrom/usr/sys/inst.images -e /tmp/install.log all
```



---

## Chapter 2. Basic installation

The basic installation methods below, will install XL Fortran to the default directory, `/usr/lpp/xlf/`. If you have root access or a profile with superuser privileges, you can use either the System Management Interface Tool (SMIT) or the **installp** command to install the compiler. You can use the default installation to do any of the following:

- Install XL Fortran V11.1 for AIX on a clean system.
- Install XL Fortran V11.1 for AIX on a system where XL C Enterprise Edition V9.0 for AIX or XL C/C++ Enterprise Edition V9.0 for AIX is already installed. In this case, both compilers will use the SMP and MASS libraries provided with XL Fortran for AIX. (For information about installing XL C V9.0 for AIX or XL C/C++ V9.0 for AIX, refer to the *XL C Enterprise Edition V9.0 for AIX or XL C/C++ Enterprise Edition V9.0 for AIX Installation Guide*.)
- Install an update on a system where XL Fortran V11.1 for AIX has already been installed. In this case, use the procedure in Chapter 4, “Update installation,” on page 17.

You should use the basic installation procedure to install XL Fortran as long as *both* of the following conditions apply:

- You are installing the compiler to the default location, which is `/usr/lpp/xlf/`.
- You agree to remove any previously installed XL Fortran components.

If any of these conditions does not apply, do *not* use basic installation. Instead, see the procedures in Chapter 3, “Advanced installation,” on page 13.

---

## Using SMIT

To install the compiler using the SMIT interface, follow these steps:

1. Run the command:

```
smit install_latest
```

This command invokes the SMIT, which presents a menu-driven user interface for the installation process. It will ask you to specify the INPUT device/directory of the software.

2. Press **F4** to select from a list of suggested devices and directories, or type in the name of the CD-ROM device or the path to the location of the packages. If you want to install over a network you must have a network server installed, and then specify the directory on the client that corresponds to the installation source on the network server.
3. Press **Enter**.

At this stage you are prompted with a list of questions that will help you customize the compiler installation on your system. Verify the default values, or modify them where necessary, to accommodate your preferences.

### Notes:

- a. You can select the SOFTWARE to install field and press **F4** to view the installable filesets on the device or in the directory, then select the filesets to install. Install the runtime libraries first, then install the other filesets in any order. It is recommended that you keep the default setting, `_all_latest`, to install all the filesets.

- b. If you have read the license agreement and agree to its terms, you must select **yes** next to Accept new LICENSE agreements? to continue with the installation.
  - c. To preview the installation process without actually installing the compiler select **yes** next to the Preview only? field.
4. Press **Enter** and then **Enter** again.

**Notes:**

- a. The runtime libraries and compiler filesets are always required.
- b. You do not need all of the compile-time and runtime message catalogs, only those for the national languages that you need for compile-time and runtime messages.
- c. Messages are displayed as each part is successfully installed.
- d. The installation log will be stored to file `/home/smit.log`.

---

## Using installp

To install the compiler and write the installation output to a log file using the **installp** command, follow these steps:

Run the command:

```
installp -aYgd install_images_location -e logfile fileset_names
```

►-----installp-----aYg-----[-p]-----[-X]-----[-d--*install\_images\_location*]-----[-e--*logfile*]-----*fileset\_names*-----►

**-aYg**

Specifies that all the latest installable filesets available in the *install\_images\_location* directory are applied and committed and that the required software license agreement is accepted.

**-P**

Performs a preview of the installation process by running the preinstallation checks. See previewing the installation.

**-X**

Attempts to expand the file system at the default location if there is insufficient space to complete the install.

**-d** *install\_images\_location*

Specifies the directory where the filesets are located. This path may also be a mounted CD-ROM drive.

**-e** *logfile*

Specifies the name and location of the installation log file.

*fileset\_names*

Specifies a list of names of the filesets in *install\_images\_location* that you want to install.

**Note:** The keyword *all* can be used to indicate that all filesets should be attempted during installation.

The following example installs all available compiler filesets in the `/cdrom/usr/sys/inst.images` source directory to the default locations, as specified in “Filesets” on page 1, and writes an installation log file to `/tmp/install.log`.



Example:

```
installp -aXYgd /cdrom/usr/sys/inst.images -e /tmp/install.log all
```



---

## Chapter 3. Advanced installation

You can install IBM XL Fortran Enterprise Edition for AIX, V11.1 to a non-default directory using the `xlfdi` Perl script provided with the installation image. This allows you to run multiple versions of XL Fortran on a single system. The script is packaged in the `xlfdi` fileset. To avoid unexpected behavior during installation, do not modify this script.

---

### Limitations of non-default installation

- The recommended method for installing XL Fortran is installing to the default location. You should only use the `xlfdi` script to install XL Fortran if you are an expert user familiar with the compiler and the standard installation process.
- The `xlfdi` script does not check whether prerequisite packages are installed.
- You cannot use this script to install the product filesets individually.
- You will not be able to use AIX tools (such as `lspp`) to uninstall, or to query installed filesets for version or release level information.
- Service refreshes of the compiler assume a default installation path. For a non-default compiler installation, the `xlfdi` script must be used to apply a service package.
- To run `xlfdi`, you must have the Perl version 5.5.3 or higher, runtime environment, `perl.rte`, installed on your system. This fileset is shipped with the AIX base operating system.

---

### Non-default installation procedure

Follow these steps to install XL Fortran to an alternate location:

1. First use the **installp** command to install the `xlfdi` fileset.

Run the command:

```
installp -aYgd install_images_location -e logfile xlfdi
```

→ installp -aYg [ -p ] [ -X ] [ -d *install\_images\_location* ] [ -e *logfile* ] xlfdi →

#### **-aYg**

Specifies that all the latest installable filesets available in the *install\_images\_location* directory are applied and committed and that the required software license agreement is accepted.

#### **-d** *install\_images\_location*

Specifies the directory where the filesets are located. This path may also be a mounted CD-ROM drive.

#### **-e** *logfile*

Specifies the name and location of the installation log file. By default, the installation log file `xlfdi.log` will be stored in your working directory.

#### **-p**

Performs a preview of the installation process by running the preinstallation checks. See [previewing the installation](#).

**-X**

Attempts to expand the file system at the default location if there is insufficient space to complete the install.

Example:

```
installp -aYgd /cdrom/usr/sys/inst.images -e /tmp/install.log xlf.ndi
```

**Note:** This command automatically installs and accepts the license agreement files, xlf.licAgreement, required to install xlf.ndi.

2. Install XL Fortran by entering the following command:

```
perl /usr/lpp/xlf/bin/xlfndi -d source_path [-e logfile] [-b target_dir] [-rte] [-eval] [-version]
```

```
perl /usr/lpp/xlf/bin/xlfndi -d source_path [-e logfile] [-b target_dir] [-rte] [-eval] [-version]
```

where:

**-d source\_path**

Specifies the directory where the filesets are located. This path may also be a mounted CD-ROM drive.

**-e logfile**

Specifies the name and location of the installation log file. By default, the installation log file xlfndi.log will be stored in your working directory.

**-b target\_dir**

Specifies the location where the filesets should be copied and expanded. By default, the files will be copied to the xlfndi directory in your working directory. If the directory exists already, you will receive an error message and the installation will stop.

**-rte**

Specifies that only the runtime component is installed.

**-eval**

Specifies that the installation is for the evaluation version of XL Fortran.

**-version**

Displays the version of the non-default installation tool.

The following example uses the xlfndi Perl script to install all available compiler filesets in the /cdrom/usr/sys/inst.images source directory to the non-default location, /compiler/xlf/ and writes the installation log file to /tmp/xlf.ndi.inst.log.

Example:

```
perl /usr/lpp/xlf/bin/xlfndi -d /cdrom/usr/sys/inst.images -b /compiler/xlf/ -e /tmp/xlf.ndi.inst.log
```

## Installing on an i5/OS PASE or OS/400 PASE system

Users installing XL Fortran on an i5/OS PASE or OS/400 PASE system must use the non-default installation method since the AIX SMIT and installp utilities are not supported. For more information about the steps required, search the IBM System i™ information center for keywords 'Install AIX compilers'.

---

## Running XL Fortran from a non-default location

The compiler invocation commands are installed to */target\_dir/usr/lpp/xlf/bin/*, where *target\_dir* is the location of the compiler as set by the **-b** flag during the non-default installation. For example, if you installed XL Fortran to the */compiler/xlf* directory, you can run the compiler using:

```
/compiler/xlf/usr/lpp/xlf/bin/xlf -o hello_f hello.f
```

Alternatively, you can add the location of the compiler invocations, *target\_dir/usr/lpp/xlf/bin/*, to the PATH environment variable.

Example:

```
PATH=$PATH:/compiler/xlf/usr/lpp/xlf/bin/  
export PATH
```



---

## Chapter 4. Update installation

A Program Temporary Fix (PTF) or update of XL Fortran provides a fix or multiple fixes to the product. You can download the latest compiler updates from the support web site: <http://www.ibm.com/software/awdtools/fortran/xlfortran/support>

- If XL Fortran is installed in the default location, updates can be installed by either:
  - “Using SMIT” on page 18 or
  - “Using installp” on page 18
- If XL Fortran is installed in a non-default location, updates can be installed by:
  - “Using xlfndi” on page 19
- If XL Fortran is already installed on your system and you want to install a different version of the product, see “Product version migration” on page 20
- If XL Fortran is already installed on your AIX 5.2 system and you want to migrate to AIX 5.3, see “Operating system migration” on page 20

---

### Preparing the PTF package for installation

Use the following instructions to prepare the update package for installation:

**Note:** You must be logged in as root or have superuser authority.

- Download the desired PTF package (for example `xlf.111.aix.mthyear.ptf.tar.Z`) into an empty directory.
- Restore the compressed file and extract the PTF filesets from the downloaded package:
  1. To uncompress the file, use the command  
`uncompress package_name.tar.Z`
  2. To unpack the resulting tar file, use the command  
`tar -xvf package_name.tar`
- Use the command `inutoc directory_name` to generate a `.toc` file in the same directory as the unpacked filesets.

The following example shows the steps to prepare the package, `xlf.111.aix.mthyear.ptf.tar.Z`, located in the new directory, `/compiler/update/` for installation.

```
cd /compiler/update
uncompress -f xlf.111.aix.mthyear.ptf.tar.Z
tar -xvf xlf.111.aix.mthyear.ptf.tar
inutoc .
```

---

### Updating a basic installation

If you used a basic installation process to install XL Fortran to the default locations, as specified in “Filesets” on page 1, it is recommended that you use SMIT or the **installp** command to install a PTF.

## Using SMIT

To install a PTF using the SMIT interface, follow these steps:

1. Run the command:

```
smit update_all
```

This command invokes the SMIT, which presents a menu-driven user interface for the installation process. When asked to specify the INPUT device/directory of the software, enter the path of the directory where the PTF filesets and .toc are located.

2. Press **Enter**.

At this stage you are prompted with a list of questions that will help you customize the compiler installation on your system. Verify the default values, or modify them where necessary, to accommodate your preferences.

**Note:** You must select **yes** next to Accept new LICENSE agreements? to continue with the installation.

3. Press **Enter** and then **Enter** again.

**Notes:**

- Messages are displayed as each part is successfully installed.
- The installation log will be stored to `/home/smit.log`.

## Using installp

To install a PTF by using the `installp` command and write the output to a log file, follow these steps:

Run the command:

►--installp--aYg--p--X--d--PTF filesets location--e--logfile--fileset\_names►

```
installp -aXYgd PTF_filesets_location -e logfile fileset_names
```

-aYg

Specifies that all the latest installable filesets available in the *PTF\_filesets\_location* directory are applied and committed and that the required software license agreement is accepted.

-p

Performs a preview of the installation process by running the preinstallation checks. See [previewing the installation](#).

**-X**

Attempts to expand the file system at the default location if there is insufficient space to complete the install.

**-d** *PTF\_filesets\_location*

Specifies the directory where the filesets are located. This path may also be a mounted CD-ROM drive.

**-e logfile**

Specifies the name and location of the installation log file.

*fileset\_names*

Specifies a list of names of the filesets in *PTF\_filesets\_location* that you want to install.



**Note:** The keyword *all* can be used to indicate that all filesets should be attempted during installation.

The following example installs all available PTF filesets in the /compiler/update/ source directory to the default locations, as specified in “Filesets” on page 1, and writes an installation log file to /tmp/install.log.

Example:

```
installp -aXYgd /compiler/update/ -e /tmp/install.log all
```

---

## Updating an advanced installation

If you used the advanced installation process to install XL Fortran to a non-default directory, you can use the xlfndi Perl script to install a PTF.

### Using xlfndi

To install a PTF for the XL Fortran compiler installed to a non-default directory, follow these steps:

1. Create a text file listing the PTF filesets you want to install. This text file should contain the name of a single PTF file on each line. You can use the **ls** command to do this:

```
ls source_path > ptf_names_file
```

Example:

```
ls /compiler/update/ > /compiler/update/ptflist
```

2. Use the perl command to run the xlfndi script:

```
▶▶▶perl /usr/lpp/xlf/bin/xlfndi -d source_path -u ptf_names_file ▶▶▶
▶▶▶[ -e logfile ] [ -b target_dir ] [ -rte ] [ -version ] ▶▶▶
```

```
perl /usr/lpp/xlf/bin/xlfndi -d source_path -u ptf_names_file [-e logfile]
-b [target_dir]
```

where:

**-d** *source\_path*

Specifies the directory where the filesets are located. This path may also be a mounted CD-ROM drive.

**-u** *ptf\_names\_file*

Specifies the text file containing the names of PTF filesets you want to install.

**-e** *logfile*

Specifies the name and location of the installation log file. By default, the installation log file xlfndi.log will be stored in your working directory.

**-b** *target\_dir*

Specifies the location where the filesets should be copied and expanded. By default, the files will be copied to the xlfndi directory in your working directory. If the directory exists already, you will receive an error message and the installation will stop.

**-rte**

Specifies that only the runtime component is installed.

**-version**

Displays the version of the non-default installation tool.

The following example uses the `xlfindi` Perl script to install all available PTF filesets in the `/compiler/update/` source directory to the non-default location, `/compiler/xlf/` and writes the installation log file to `/tmp/xlf.ndi.inst.log`.

Example:

```
perl /usr/lpp/xlf/bin/xlfindi -d /compiler/update/ -u /compiler/update/ptflist  
-b /compiler/xlf/ -e /tmp/xlf.ndi.inst.log
```

---

## Product version migration

Before installing IBM XL Fortran Enterprise Edition for AIX, V11.1, any previously installed versions of the compiler should be uninstalled. If you intend to maintain multiple versions of XL Fortran on your system, refer to Chapter 3, “Advanced installation,” on page 13, otherwise see Chapter 6, “Uninstalling XL Fortran,” on page 27.

If you are upgrading to XL Fortran V11.1 using the basic installation, any previous versions of the filesets already installed on your system are automatically detected and migrated to the current version.

Once XL Fortran V11.1 is installed, older compiler versions *cannot* be installed unless V11.1 is uninstalled first.

---

## Operating system migration

The compiler filesets are not OS specific and do not require migration if XL Fortran V11.1 is installed on AIX 5.2 and the operating system is migrated to AIX 5.3. They may also not require migration if the operating system is migrated to a higher AIX 5.x version. If an OS specific fileset is required in the future for a higher level of AIX, it will be identified in a Tech Note tied to the PTF that will add support for that version of AIX.

The compiler determines which OS specific configuration file to use during the compilation time when the `-F` option is not used. The OS specific configuration files are, for example, `xlf.cfg.52` for AIX 5.2 and `xlf.cfg.53` for AIX 5.3.

If you upgrade the operating system and have made modifications in the configuration file for the lower AIX version, you may want to include those changes in the new configuration file.

For example, if you have installed XL Fortran V11.1 on AIX 5.2, customized `/etc/xlf.cfg.52`, and have now upgraded the operating system from AIX 5.2 to AIX 5.3, you can copy the customizations in `/etc/xlf.cfg.52` to `/etc/xlf.cfg.53` after the operating system migration is completed. If no customization to `/etc/xlf.cfg.53` is required, you can run the following command to avoid a compiler warning on the configuration file customization:

```
touch /etc/xlf.cfg.53
```

---

## Chapter 5. After installing XL Fortran

After installing the compiler, there are verification and setup procedures that are further required. These are documented in the following sections:

- “Checking compiler and fileset information”
- “Enabling IBM Tivoli License Compliance Manager (ITLCM)” on page 22
- “Setting environment variables” on page 22
- “Enabling the XL Fortran error messages” on page 23
- “Enabling the manual pages” on page 23
- “Accessing the local documentation” on page 24
- “Testing the installation” on page 25

---

### Checking compiler and fileset information

You can check the versions of the compiler and individual filesets installed by using the following methods.

#### Using **lslpp**

You can view information on the installed filesets by using the **lslpp** command:

**lslpp** *option\_string*

where *option\_string* can be:

**-L** *fileset*

Displays the version and state of the fileset specified

**-f** *fileset*

Displays the files and symbolic links associated with the fileset specified

**-w** *filename*

Indicates which fileset the specified file (*filename*) belongs to

**Note:** **lslpp** does not detect filesets that were not installed using the SMIT or **installp** methods.

#### Using **-qversion**

To get more details on the version, release, and PTF levels of the compiler, you can use the **-qversion** compiler option. For more information, refer to the *XL Fortran Compiler Reference*.

#### Viewing the **.vrmf\_history** file

If you installed XL Fortran to a non-default location, you can view the version information for each fileset installed by viewing the **.vrmf\_history** text file which is installed in the compiler's main directory.

**Note:** This file should not be edited as it may result in unexpected behaviour of the **xlfndi** script.

---

## Enabling IBM Tivoli License Compliance Manager (ITLCM)

IBM Tivoli® License Compliance Manager (ITLCM) is a Web-based solution that can help you manage software usage metering and license allocation services on supported systems. In general, ITLCM recognizes and monitors the products that are installed and in use on your system.

IBM XL Fortran Enterprise Edition for AIX, V11.1 is ITLCM-enabled for inventory support only, which means that ITLCM is able to detect product installation of XL Fortran, but not its usage.

**Note:** ITLCM is not a part of the XL Fortran compiler offering, and must be purchased and installed separately.

Once installed and activated, ITLCM scans your system for product inventory signatures that indicate whether a given product is installed on your system. ITLCM also identifies the version, release, and modification levels of the product. Inventory signature files are not updated after PTF installation.

If XL Fortran is installed in the default location, the signature files are in the `/usr/lpp/xlf/` directory. Otherwise, if XL Fortran is installed in a non-default location, the signature files are in the `/target_dir/usr/lpp/xlf/` directory, where *target\_dir* is the target directory for installation specified by the `-b` option of the non-default installation script. For more information about IBM Tivoli License Compliance Manager Web, see: <http://www.ibm.com/software/tivoli/products/license-mgr/>.

---

## Setting environment variables

Before using the compiler, verify that the environment variables in the following table are set. You can use the **echo** command to determine the current setting of these variables:

```
echo "\n $LANG \n\n $NLSPATH \n\n $MANPATH \n\n $PATH"
```

LANG	Specifies the national language for message and help files. See “National language support” on page 3.  The LANG environment variable can be set to any of the locales provided on the system. See the description of locales in <i>AIX General Programming Concepts</i> for more information.  The national language code for United States English is <b>en_US</b> . If the appropriate message catalogs have been installed on your system, any other valid national language code can be substituted for <b>en_US</b> .
MANPATH	Optionally specifies the directory search path for finding man pages. MANPATH must contain <code>/usr/lpp/xlf/man/LANG</code> before the default man path.
NLSPATH	Specifies the path name of the message and help files.
PATH	Specifies the directory search path for the executable files of the compiler.

**Note:** The LANG and NLSPATH environment variables are initialized when the operating system is installed, and might differ from the ones you want to use.

---

## Enabling the XL Fortran error messages

If your system uses the en\_US locale and encoding, the compiler message catalogs are automatically configured to display correctly, whether you used the basic or advanced method of installation and configuration. However, if your system uses any other supported locale (for a list of supported language locales, see “National language support” on page 3), you must set the NLSPATH environment variable so that the compiler and runtime functions can find the appropriate message catalogs following installation.

For example, to specify the Japanese locale with the IBM\_eucJP code page, use the following commands:

```
LANG=ja_JP
NLSPATH=/usr/lib/nls/msg/%L/%N:/usr/lib/nls/msg/prime/%N
export LANG NLSPATH
```

Substitute any valid national language code for **ja\_JP**, provided the associated message catalogs are installed.

---

## Enabling the manual pages

Manual pages are provided for the compiler invocation commands and other compiler utilities.

Before you can view the manual pages, you must add the manual page directory to the MANPATH environment variable by entering the following on the command line:

```
export MANPATH=/usr/lpp/xlf/man/LANG:$MANPATH
```

where *LANG* may be any one of:

- en\_US
- EN\_US
- ja\_JP
- JA\_JP
- Ja\_JP

For example, to set the language to English, run the command:

```
MANPATH=$MANPATH:/usr/lpp/xlf/man/en_US
export MANPATH
```

Alternatively, you can also run the command:

```
MANPATH=$MANPATH:/usr/lpp/xlf/man/$LANG
```

where \$LANG is set to any of the language locales listed above.

---

## Creating shortcuts to the XL Fortran invocation commands

The compiler drivers are not automatically installed in `/usr/bin/`. To invoke the compiler without having to specify the full path, do *one* of the following:

Either

- Create symbolic links for the specific drivers from `/usr/lpp/xlf/bin/` to `/usr/bin/`.

Example:

```
ln -s /usr/lpp/xlf/bin/xlf /usr/bin/xlf
```

or

- Add `/usr/lpp/xlf/bin/` to your `PATH` environment variable.

Example:

```
PATH=$PATH:/usr/lpp/xlf/bin/  
export PATH
```

**Note:** If XL Fortran resides in a non-default location, the drivers are installed to `/target_dir/usr/lpp/xlf/bin` where `target_dir` is the target directory for installation specified by the `-b` option of the non-default installation script.

---

## Accessing the local documentation

Help using IBM XL Fortran Enterprise Edition for AIX, V11.1 is available in both HTML and PDF formats. Manual pages for the compiler invocation commands and other command utilities are also included.

### Viewing the HTML documentation

XL Fortran uses a fully searchable HTML-based information center.

**Note:** You must have root access to launch and shut down the Eclipse server (information center).

Follow these steps to access the help system:

1. Run the command:

```
/usr/xlhelp/bin/xlhelp
```

to launch the Eclipse server. (This may take a few minutes to load completely)

2. You can view the information center either locally or remotely:

- To view locally, run:

```
/usr/lpp/xlf/bin/xlfhelp
```

You need to have Mozilla installed on your machine to run this command.

Otherwise, you can manually go to the following URL in any web browser:

```
http://localhost:9011/help/index.jsp
```

- To view remotely, open the following URL in your web browser:

```
http://machine_name:9011/help/index.jsp
```

where `machine_name` is the name of the computer on which the Eclipse server was launched.

3. To shut down the Eclipse server, run the command:

```
/usr/xlhelp/bin/xlhelp_end
```

## Viewing the PDF documentation

PDF versions of the XL Fortran product manuals are available in the `/doc/LANG/pdf/` directory of the installation media (either product CD or electronic package).

After default installation, the PDF documentation can be found in the `/usr/lpp/xlf/doc/LANG/pdf/` directory. For non-default installations, the PDF documentation is located in the `/target_dir/usr/lpp/xlf/doc/LANG/pdf/` directory, where *target\_dir* is the target directory for installation specified by the `-b` option of the non-default installation script.

*LANG* can be `en_US` or `ja_JP`.

See “Related information” on page ix for a list of IBM XL Fortran publications and descriptions of the PDF files available with the product.

## Viewing the manual pages

Before you can view the manual pages, you must enable them. See “Enabling the manual pages” on page 23 for instructions.

To invoke a manual page, run the command:

```
man command
```

where *command* is any XL Fortran invocation or utility command.

Example:

```
man xlf
```

---

## Testing the installation

To test the product installation and the critical search paths, try building the following Fortran program.

1. Create the following program and name the source file `hello.f`:

```
[hello.f]
PRINT *, "Hello World!"
END
```

2. Compile the test program. For example:

```
xlf hello.f -o hello
```

**Note:** To use shortcuts to the compiler invocation commands, see: “Creating shortcuts to the XL Fortran invocation commands” on page 24. Otherwise, include the full path to the commands to compile the program.

3. Run the program:

```
./hello
```

The expected result is that “Hello World!” is displayed on the screen.

4. Check the exit code of the program:

```
echo $?
```

The result should be zero.





---

## Chapter 6. Uninstalling XL Fortran

This section outlines the steps required to uninstall XL Fortran depending on the installation method used.

### Notes:

1. You must have root user access to uninstall this product.
  2. Some filesets may not be uninstalled if they are required by other installed products. See “Filesets” on page 1 for details about filesets included with IBM XL Fortran Enterprise Edition for AIX, V11.1.
  3. As uninstalling dependent packages automatically may introduce problems, it is recommended that you preview uninstallation to ensure that all dependent filesets are no longer required.
- If XL Fortran is installed in the default location, uninstall by either:
    - “Using SMIT” or
    - “Using installp”
  - If XL Fortran is installed in a non-default location, uninstall by:
    - “Uninstalling an advanced installation” on page 28

---

### Uninstalling a basic installation

As with installation, you have the option to use either **SMIT** or **installp** to remove the compiler filesets. If you attempt to remove a fileset that is required by another installed fileset, the selected fileset will not be removed unless its dependents are also being removed.

#### Using SMIT

The following steps illustrate how to uninstall IBM XL Fortran Enterprise Edition for AIX, V11.1 using the SMIT interface:

- Run the command:

```
smit remove
```
- In the SOFTWARE name field, enter the fileset names (wildcards accepted) separated by a space. If you have XL C V9.0 for AIX or XL C/C++ V9.0 for AIX installed in its default location, you must not remove any filesets which are shared between the compilers. In this case, enter the following in the field:

```
xl f.*
```

Otherwise, enter the following in the field:

```
xl f.* memdbg.* xlhelp.* xlmass.* xlsmp.*
```

In the REMOVE dependent software? field, select **yes**.

To preview the uninstallation, set the PREVIEW only? value to **yes**.

#### Using installp

To uninstall IBM XL Fortran Enterprise Edition for AIX, V11.1 using the **installp** command, enter the following on the command line:

```
installp -ugw filesets
```

where *filesets* is the list of filesets (wildcards accepted) to uninstall.

If you have XL C/C++ installed in its default location, you must not remove any filesets which are shared between the compilers. In this case, *filesets* should be:

```
xlfc.*
```

Otherwise, *filesets* should be:

```
xlfc.* memdbg.* xlhelp.* xlmass.* xlsmp.*
```

---

## Uninstalling an advanced installation

To uninstall the XL Fortran compiler installed to a non-default location, simply delete the compiler directory.

To determine which version of each fileset is installed, refer to “Checking compiler and fileset information” on page 21.

To delete the compiler directory, enter the following on the command line:

```
rm -rf target_dir
```

where *target\_dir* is the target directory for installation specified by the **-b** option of the non-default installation script.

---

## Uninstalling versions of the MASS components downloaded from the Web

If you previously installed the MASS libraries on the system on which you are installing the IBM XL Fortran Enterprise Edition for AIX, V11.1, it is recommended that you uninstall the libraries by removing the directory in which they were installed.

To remove the MASS directory, type:

```
rm -rf mass_directory
```

where *mass\_directory* is the location of the MASS libraries (/usr/lpp/mass/ by default). If you created symbolic links in the /usr/lib/ directory to the libraries in the MASS directory, you should delete them as well. The compiler installation automatically handles the creation of the necessary symbolic links.

---

## Uninstalling the electronic license agreement

To facilitate reinstallation of XL Fortran without requiring another acceptance of the product license, the license agreement text file remains on the system even after the license fileset has been uninstalled.

To remove the license agreement text file, run the commands:

```
ODMDIR=/usr/lib/objrepos; odmdelete -o lag -q "fileset=xlfc.licAgreement"  
rm -rf /usr/swlag/xlfc/111
```

---

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