

AIX 5L Operating System Installation

Getting Started

AIX



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ESCALA

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Getting Started

AIX

Software

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About This Book

This book provides system administrators with information about how to install and configure the AIX operating system on a standalone system using a CD-ROM device. This publication is also available on the "Hypertext Library for AIX 5.3" CD-ROM that is shipped with the operating system.

Content of This Book

This edition of this book contains no technical changes. The content is identical to the previous edition.

Highlighting

The following highlighting conventions are used in this book:

Bold	Identifies commands, subroutines, keywords, files, structures, directories, and other items whose names are predefined by the system. Also identifies graphical objects such as buttons, labels, and icons that the user selects.
<i>Italics</i>	Identifies parameters whose actual names or values are to be supplied by the user.
Monospace	Identifies examples of specific data values, examples of text similar to what you might see displayed, examples of portions of program code similar to what you might write as a programmer, messages from the system, or information you should actually type.

Case-Sensitivity in AIX

Everything in the AIX operating system is case-sensitive, which means that it distinguishes between uppercase and lowercase letters. For example, you can use the **ls** command to list files. If you type `LS`, the system responds that the command is "not found." Likewise, **FILEA**, **FiLea**, and **filea** are three distinct file names, even if they reside in the same directory. To avoid causing undesirable actions to be performed, always ensure that you use the correct case.

ISO 9000

ISO 9000 registered quality systems were used in the development and manufacturing of this product.

Related Publications

The following publications will help you administer your AIX environment:

- *AIX 5L Version 5.3 Installation Guide and Reference*
- *AIX 5L Version 5.3 Security Guide*
- *AIX 5L Version 5.3 System Management Concepts: Operating System and Devices*
- *AIX 5L Version 5.3 System Management Guide: Operating System and Devices*
- *AIX 5L Version 5.3 System Management Guide: Communications and Networks*
- *AIX 5L Version 5.3 General Programming Concepts: Writing and Debugging Programs*
- *AIX 5L Version 5.3 Communications Programming Concepts*
- *AIX 5L Version 5.3 Performance Management Guide*
- *Performance Toolbox 1.2 and 2.1 for AIX: User's Guide*
- *AIX 5L Version 5.3 Commands Reference*
- *AIX 5L Version 5.3 Files Reference*
- *AIX 5L Version 5.3 Glossary*
- *AIX 5L Version 5.3 System User's Guide: Operating System and Devices*
- *AIX 5L Version 5.3 System User's Guide: Communications and Networks*

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Chapter 1. Introduction to Base Operating System Installation

This guide provides an overview of the necessary steps to complete an installation of the AIX 5.3 Base Operating System (BOS).

The BOS installation program first restores the run-time **bos** image, then installs the appropriate filesets, depending on whether you are installing from a graphical or an ASCII system. The installation program automatically installs required message filesets and devices filesets, according to the language you choose and the hardware configuration of the installed machine.

You can use the following methods for installing AIX:

New and Complete Overwrite

This method installs AIX 5.3 on a new machine or completely overwrites any BOS version that exists on your system.

Migration

This method upgrades from AIX 4.2 or later versions of the BOS to AIX 5.3. A migration installation preserves most file systems, including the root volume group, logical volumes, and system configuration files. It overwrites the **/tmp** filesystem.

Preservation

This method replaces an earlier version of the BOS but retains the root volume group, the user-created logical volumes, and the **/home** file system. It overwrites the **/usr**, **/var**, **/tmp**, and **/** (root) file systems. Product (application) files and configuration data are lost. For information about preservation installation, see the *AIX 5L Version 5.3 Installation Guide and Reference*.

The table below shows the differences in the installation steps between the new and complete overwrite installation and the migration methods.

Table 1. AIX BOS Installation Methods

Installation Steps	New and Complete Overwrite	Migration
Make rootvg	Yes	No
Make filesystem /, /usr, /var	Yes	No
Make filesystem /home	Yes	No
Save Configuration	No	Yes
Restore BOS	Yes	Yes
Install Additional Filesets	Yes	Yes
Restore Configuration	No	Yes

Electronic License Agreements

AIX 5.3 ships with software license agreements and are viewable electronically. If a product has an electronic license agreement, it must be accepted before software installation can continue. In the case of initial BOS installation, you can view and accept license agreements in a license agreement dialog after the installation has occurred, but before the system is available for use as part of Configuration Assistant (graphical consoles) or Installation Assistant (ASCII consoles).

The Base Operating System (BOS) has a license agreement, but not all software packages do. When you agree to the license agreement for BOS installation, you are also accepting all license agreements for any software installed automatically with the BOS. Some software, such as the GNOME or KDE desktops, can be optionally installed during BOS installation; the appropriate licensing information for such software is displayed separately.

For more information on license manipulation, see the *AIX 5L Version 5.3 Installation Guide and Reference*.

Chapter 2. New and Complete Overwrite Installation

Use the following steps to perform a new and complete overwrite installation of AIX 5.3.

- Step 1. Prepare Your System on page 2-1
- Step 2. Boot from the AIX Product CD on page 2-2
- Step 3. Set and Verify Installation Settings on page 2-2
- Step 4. Configure the System after Installation on page 2-4

For more information on new and complete overwrite installation, refer to the Introduction to the Base Operating System section in the *AIX 5L Version 5.3 Installation Guide and Reference*.

Refer to the Network Installation Management (NIM) section in the *AIX 5L Version 5.3 Installation Guide and Reference*, if you are performing a network installation of AIX.

Step 1. Prepare Your System

1. There must be adequate disk space and memory available. AIX 5.3 requires 128 MB of memory and 2.2 GB of physical disk space. For additional release information, see the *AIX 5L Release Notes*.
2. Make sure your hardware installation is complete, including all external devices. See the documentation that came with your system unit for installation instructions.
3. If the system is currently installed, make a backup copy of your system software and data if you are installing over an existing version of AIX. For instructions on how to create a system backup, refer to the Creating System Backups section in the *AIX 5L Version 5.3 Installation Guide and Reference*.
4. If your system needs to communicate with other systems and access their resources, make sure you have the following information before proceeding with installation:

Table 2. Network Configuration Information Worksheet

Network Interface Adapter	The interface is created on the adapter.
Host Name	
IP Address	_____._____._____._____
Network Mask	_____._____._____._____
Nameserver	_____._____._____._____
Domain Name	
Gateway	_____._____._____._____

Step 2. Boot from the AIX Product CD

1. Insert the *AIX Volume 1* CD into the CD-ROM device.
2. Make sure all external devices attached to the system (such as CD-ROM drives, tape drives, DVD drives, and terminals) are turned on. Only the CD-ROM drive from which you will install AIX should contain the installation media.
3. Power on the system.
4. When the system beeps twice, press F5 on the keyboard (or 5 on an ASCII terminal). If you have a graphics display, you will see the keyboard icon on the screen when the beeps occur. If you have an ASCII terminal (also called a tty terminal), you will see the word `keyboard` when the beeps occur. The system will now boot from the installation media.

Note:: If your system does not boot using the F5 key (or the 5 key on an ASCII terminal), refer to your hardware documentation for information on how to get your system to boot from an AIX product CD.

5. Select the system console by pressing F1 (or 1 on an ASCII terminal) and press Enter. If you have more than one display or terminal, follow the instructions on the display or terminal to select one as the console.
6. Select the language for the BOS Installation menus by typing the corresponding number in the **Choice** field. Press Enter to open the Welcome to Base Operating System Installation and Maintenance screen.
7. Type 2 to select **2 Change/Show Installation Settings and Install** in the **Choice** field and press Enter.

```
Welcome to Base Operating System
Installation and Maintenance
```

```
Type the number of your choice and press Enter. Choice is indicated by
>>>.
```

```
1 Start Install Now with Default Settings
    >>> 2 Change/Show Installation Settings and Install
3 Start Maintenance Mode for System Recovery
```

```
88 Help ?
99 Previous Menu
>>> Choice [1]: 2
```

Step 3. Set and Verify Installation Settings

1. In the Installation and Settings screen, verify the installation settings are correct by checking the method of installation (**New and Complete Overwrite**), the disk or disks you want to install, the primary language environment settings, and the installation options.

A summary of selected options displays. Confirm your selections and press Enter to begin the BOS installation. The system automatically reboots after installation is complete. Go to Step 4. Configure the System after Installation on page 2-4.

Otherwise, go to sub-step 2.

2. To change the **System Settings**, which includes the method of installation and disk where you want to install, type 1 in the **Choice** field and press Enter.

Installation and Settings

Either type 0 and press Enter to install with current settings, or type the number of the setting you want to change and press Enter.

1 System Settings:

Method of Installation.....New and Complete Overwrite
Disk Where You Want to Install.....hdisk0

>>> Choice [0]: 1

3. Type 1 for New and Complete Overwrite in the **Choice** field and press Enter. The Change Disk(s) Where You Want to Install screen now displays.

Change Disk(s) Where You Want to Install

Type one or more numbers for the disk(s) to be used for installation and press Enter. To cancel a choice, type the corresponding number and Press Enter. At least one bootable disk must be selected. The current choice is indicated by >>>.

	Name	Location Code	Size (MB)	VG Status	Bootable
1	hdisk0	04-B0-00-2,0	4296	none	Yes
2	hdisk1	04-B0-00-5,0	4296	none	Yes
3	hdisk2	04-B0-00-6,0	12288	none	Yes

>>> 0 Continue with choices indicated above

66 Disks not known to Base Operating System Installation
77 Display More Disk Information
88 Help ?
99 Previous Menu

>>> Choice [0]:

4. Select the disk or disks you want to install by typing the number that corresponds to the hard disk name and pressing Enter. The disk will now be selected as indicated by >>>. Do this for each disk that you want to be part of the AIX root volume group. To unselect the destination disk, type the number again and press Enter.
5. Complete the disk selection by typing a 0 in the **Choice** field and press Enter. The Installation and Settings screen displays with **New and Complete Overwrite** as the method of installation and the user selected disks.
6. To change the **Primary Language Environment Settings**, type 2 in the **Choice** field and press Enter. Type the number that corresponds to the Cultural Convention, Language, and Keyboard for your selection and press Enter.
7. To change the **More Options**, type 3 in the **Choice** field and press Enter. Among the installation options available to you in AIX 5.3, you can:
 - Change the desktop application.
 - Enable or disable the Trusted Computing Base option.
 - Enable or disable the Controlled Access Protection Profile (CAPP) and Evaluation Assurance Level 4+ (EAL4+) option.
 - Enable the 64-bit kernel.
 - Enable the Enhanced Journaled File System (JFS2).
 - Install graphics software.
 - Install the documentation services software.

For more information about the installation options available in AIX 5.3, see the Installation Options section in the *AIX 5L Version 5.3 Installation Guide and Reference*.

8. Verify that the selections are correct in the Overwrite Installation Summary screen, as follows:

```
Overwrite Installation Summary

Disks: hdisk0
Cultural Convention: en_US
Language: en_US
Keyboard: en_US
64 Bit Kernel Enabled: No
JFS2 File Systems Created: No
Desktop: CDE
Enable System Backups to install any system: Yes

Optional Software being installed:

>>> 1 Continue with Install
      88 Help ?
      99 Previous Menu

>>> Choice [1]:
```

9. Press Enter to begin the BOS installation. The system automatically reboots after installation is complete.

Step 4. Configure the System after Installation

1. On systems with a graphics display, after a new and complete overwrite installation, the Configuration Assistant opens. On systems with an ASCII display, after a new and complete overwrite installation, the Installation Assistant opens.
2. Select the **Accept Licenses** option to accept the electronic licenses for the operating system.
3. Set the date and time, set the password for the administrator (root user), and configure network communications (TCP/IP).
Use any other options at this time. You can return to the Configuration Assistant or the Installation Assistant by typing **configassist** or **smitty assist** at the command line.
4. Select **Exit the Configuration Assistant** and select **Next**. Or, press F10 (or ESC+0) to exit the Installation Assistant.
5. If you are in the Configuration Assistant, select **Finishnow, and do not start Configuration Assistant when restarting AIX** and select **Finish**.

At this point, the new and complete overwrite BOS installation is complete and the initial configuration of the system is complete.

Chapter 3. Migration Installation

Use the following steps to migrate your current version of the operating system to AIX 5.3.

- Step 1. Prepare Your System on page 3-1
- Step 2. Boot from the AIX Product CD on page 3-2
- Step 3. Verify Migration Installation Settings and Begin Installation on page 3-2
- Step 4. Verify System Configuration after Installation on page 3-3

For more information on Migration Installation, refer to the Migration Installation section in the *AIX 5L Version 5.3 Installation Guide and Reference*.

Refer to the Network Installation Management (NIM) section in the *AIX 5L Version 5.3 Installation Guide and Reference*, if you are performing a network installation of AIX.

Attention: This procedure requires shutting down and reinstalling the base operating system. Whenever you reinstall any operating system, schedule your downtime when it least impacts your workload to protect yourself from a possible loss of data or functionality. Before you perform a migration installation, ensure you have reliable backups of your data and any customized applications or volume groups. For instructions on how to create a system backup, refer to Creating System Backups in the *AIX 5L Version 5.3 Installation Guide and Reference*.

Step 1. Prepare Your System

1. Ensure that the root user has a primary authentication method of **SYSTEM**. You can check this condition by typing the following command:

```
# lsuser -a auth1 root
```

If needed, change the value by typing the following command:

```
# chuser auth1=SYSTEM root
```

2. Before you begin the installation, other users who have access to your system must be logged off.
3. Verify that your applications will run on AIX 5.3. Also, check if your applications are binary-compatible with AIX 5.3. If your system is an application server, verify that there are no licensing issues. Refer to your application documentation or provider to verify on which levels of AIX your applications are supported and licensed. You can also check the *AIX application availability guide* at the following Web address:
<http://www-1.ibm.com/servers/aix/products/ibmsw/list/>
4. Verify that all currently installed software is correctly entered in the Software Vital Product Database (SWVPD), by using the **lppchk** command. To verify that all filesets have all required requisites and are completely installed, type the following:

```
# lppchk -v
```

5. Check that your hardware microcode is up-to-date.
6. All requisite hardware, including any external devices (such as tape drives or CD/DVD-ROM drives), must be physically connected and powered on. If you need further information, refer to the hardware documentation that accompanied your system.
7. Use the **errpt** command to generate an error report from entries in the system error log. To display a complete detailed report, type the following:

```
# errpt -a
```

8. There must be adequate disk space and memory available. AIX 5.3 requires 128 MB of memory and 2.2 GB of physical disk space. For additional release information, see the *AIX 5.3 Release Notes*.
9. Make a backup copy of your system software and data. For instructions on how to create a system backup, refer to the Creating System Backups section in the *AIX 5L Version 5.3 Installation Guide and Reference*.
10. Turn on attached devices if they are not already on.

Step 2. Boot from the AIX Product CD

1. Insert the *AIX Volume 1* CD into the CD-ROM or DVD-ROM device.
2. Reboot the system by typing the following command:

```
# shutdown -r
```
3. When the system beeps twice, press F5 on the keyboard (or 5 on an ASCII terminal). If you have a graphics display, you will see the keyboard icon on the screen when the beeps occur. If you have an ASCII terminal (also called a tty terminal), you will see the word `keyboard` when the beeps occur.
Note:: If your system does not boot using the F5 key (or the 5 key on an ASCII terminal), refer to your hardware documentation for information on how to get your system to boot from an AIX product CD.
4. Select the system console by pressing F1 (or 1 on an ASCII terminal) and press Enter.
5. Select a language for the BOS Installation menus by typing the corresponding number at the **Choice** prompt and press Enter. The Welcome to Base Operating System Installation and Maintenance menu opens.
6. Type 2 to select **2 Change/Show Installation Settings and Install** in the **Choice** field and press Enter.

```
                Welcome to Base Operating System
                Installation and Maintenance

Type the number of your choice and press Enter.  Choice is indicated by
>>>.

    1 Start Install Now with Default Settings
      2 Change/Show Installation Settings and Install
    3 Start Maintenance Mode for System Recovery

    88 Help ?
    99 Previous Menu
>>> Choice [1]:    2
```

Step 3. Verify Migration Installation Settings and Begin Installation

1. Verify that **Migration** is the method of installation. If **Migration** is not the method of installation, then select it. Select the disk or disks you want to install.

```
    1 System Settings:
      Method of Installation.....Migration
      Disk Where You Want to Install.....hdisk0
```
2. Select **Primary Language Environment Settings (AFTER Install)**.

3. Type **3** to select **More Options** and press Enter. To use the **Help** menu to learn more about the options available during a migration installation, type **88** and press Enter in the **More Options** menu. For more information about the installation options available in AIX 5.3, see the Installation Options section in the *AIX 5L Version 5.3 Installation Guide and Reference*.
4. Verify the selections in the Migration Installation Summary screen and press Enter.
5. When the Migration Confirmation menu displays, follow the menu instructions to list system information or continue with the migration by typing **0** and pressing Enter.

Migration Confirmation

Either type **0** and press Enter to continue the installation, or type the number of your choice and press Enter.

- 1 List the saved Base System configuration files which will not be merged into the system. These files are saved in /tmp/bos.
- 2 List the filesets which will be removed and not replaced.
- 3 List directories which will have all current contents removed.
- 4 Reboot without migrating.

Acceptance of license agreements is required before using system.
You will be prompted to accept after the system reboots.

```
>>> 0 Continue with the migration.
      88 Help ?
```

```
+-----+
-
  WARNING: Selected files, directories, and filesets (installable options)
           from the Base System will be removed. Choose 2 or 3 for more
           information.
```

```
>>> Choice[0]:
```

After migration is complete, access this information from the **/tmp/bos** directory.

Step 4. Verify System Configuration after Installation

After the migration is complete, the system will reboot. Configure the system, as follows:

1. On systems with a graphics display, after a migration installation, the Configuration Assistant opens. On systems with a ASCII display, after a migration installation, the Installation Assistant opens.

For more information on the Configuration Assistant or the Installation Assistant, see the Configuring the Operating System section in the *AIX 5L Version 5.3 Installation Guide and Reference*.

2. Select the **Accept Licenses** option to accept the electronic licenses for the operating system.
3. Verify the administrator (root user) password and network communications (TCP/IP) information.

Use any other options at this time. You can return to the Configuration Assistant or the Installation Assistant by typing **configassist** or **smitty assist** at the command line.

4. Select **Exit the Configuration Assistant** and select **Next**. Or, press F10 (or **ESC+0**) to exit the Installation Assistant.
5. If you are in the Configuration Assistant, select **Finishnow, and do not start Configuration Assistant when restarting AIX** and select **Finish**.

When the login prompt displays, log in as the root user to perform system administration tasks.

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