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**AIX 4.3
Quick Beginnings**

AIX

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AIX

Software

Suggestions and criticisms concerning the form, content, and presentation of this book are invited. A form is provided at the end of this book for this purpose.

To order additional copies of this book or other Bull Technical Publications, you are invited to use the Ordering Form also provided at the end of this book.

Trademarks and Acknowledgements

Year 2000

The product documented in this manual is Year 2000 Ready.

About This Book: AIX 4.3 Quick Beginnings

This book contains information for first–time users who have little or no experience with the AIX operating system. Topics covered include basic system commands for tasks such as starting and stopping the system; using a keyboard or mouse; logging in and out; identifying and using the various user interfaces (web–based, AIX Common Desktop Environment, AIXwindows, command line, shell); and running basic file commands. In addition, it covers different strategies for obtaining online help and using a web browser to view the online documentation.

Users interested in learning more about AIX base commands should read the *AIX 4.3 System User's Guide: Operating System and Devices*, 86 A2 97HX. Users in a networked environment who are interested in learning more about AIX communications commands should read the *AIX 4.3 System User's Guide: Communications and Networks*, 86 A2 98HX.

Note: You can find the online version of this book, which has been designed for viewing with a Version 3.2 HTML–compatible web browser, on the "Hypertext Library for AIX 4.3" CD-ROM.

Who Should Use This Book

This book is for all system users.

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.
Italics	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.

ISO 9000

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

Related Publications

For a complete listing of documentation available in the product library for the AIX operating system, see *AIX and Related Products Documentation Overview*, Order Number 86 A2 71WE.

The following books contain information about or related to using AIX products:

Product Library

Order Number	Bibliography
86 A2 71WE	*AIX and Related Products Documentation Overview*
86 A2 55AP	*AIX Quick Reference*
86 A2 43GX	*AIX 4.3 Installation Guide*
86 A2 97HX	*AIX 4.3 System User's Guide: Operating System and Devices*
86 A2 98HX	*AIX 4.3 System User's Guide: Communications and Networks*
86 A2 99HX	*AIX 4.3 System Management Guide: Operating System and Devices*
86 A2 38JX to 86 A2 43JX	*AIX Commands Reference*
86 A2 79AP	*AIX Files Reference*

Industry Documentation

Quercia, Valerie, and Tim O'Reilly. *The Definitive Guides to the X Window System: Volume 3, X Window System User's Guide, Motif Edition*. O'Reilly & Associates, 1993.

Todino, Grace, and John Strang. *Learning the UNIX Operating System*. Sebastopol, CA: O'Reilly & Associates, 1993.

Gilly, Daniel. *UNIX in a Nutshell: A Desktop Quick Reference for System V and Solaris 2.0*. Sebastopol, CA: O'Reilly & Associates, 1992.

Ordering Publications

You can order publications from your sales representative or from your point of sale. To order additional copies of this book, use order number 86 A2 75HX.

See *AIX and Related Products Documentation Overview* for information on related publications and how to obtain them.

Contents

Chapter 1. Computer Systems Fundamentals

How your system is set up and which hardware and software components are available determine the tasks you can do and the way you perform those tasks. This section provides you with the background you need to understand and recognize the components and the setup of your AIX system.

The AIX system is a powerful and flexible system made up of hardware and software components. Hardware components, also known as *devices*, are the physical parts of the computer system. Software components, which are the instructions that the computer follows, are the *programs* available on the computer system. As the computer follows the instructions, we say that it *runs* the program.

Hardware and software are complementary. They work together to make the computer system perform the tasks you want. Computer hardware and software require a specific program to administer all their components. The AIX *operating system* performs this task.

Of all the characteristics of the AIX operating system, the most valuable are that it is *multitasking* and *multiuser*. Multitasking lets AIX run more than one independent program on the system at the same time. The advantage of a multiprocessing system is that it can perform processing tasks while you simultaneously run other programs. This is known as *background processing*. Without it you would have to wait for a program to complete before going on to any other task. Multiuser means AIX can have more than one person working on the system at a time. The advantage of a multiuser system is that many users can share system hardware and programs. The disadvantage is that the system slows down as more and more users log in.

Your system can be set up so that you share your system with others, or it can be set up to be used just by yourself. A shared or multiuser system is also known as a *time–sharing* system. A single–user system (not on a network or used as a host) is known as a *standalone* system. A computer system (on a network or not) that operates all by itself, because it has its own CPU, is known as a *workstation*.

This chapter covers the following:

- System Setup, on page 1-3
    - Host Connection
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- System Hardware Components, on page 1-5
    - Terminals
    - Keyboards
    - Mouse
- System Software Components, on page 1-13
    - Application Programs
    - Device Drivers
    - Operating Systems
    - Root–User Processes
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    - Web–Based User Interfaces

- – Graphical User Interfaces
- – X Window System
- – Command Line
- – CDE Desktop
- – AIXwindows

System Setup

An important factor in your system setup is whether your system is a *standalone system* or a multiuser system that is connected to a *host* or to a *network* and is dependent on them.

In a network with many users, one person is usually assigned the responsibility of managing the operation of the computers. This individual, called the *system administrator*, takes care of starting up and shutting down the computer; connecting terminals, printers, disks, tapes, and modems; backing up files; getting new users started; protecting the system from unauthorized entry; and so on. On a large system, this is often a full–time job in itself, requiring a qualified professional. In general, a UNIX system needs more system administration than a DOS system because of its complexity.

You have a standalone system if it can perform tasks without being connected to a server or host system and if you do not share your system with other users. On a standalone system, you may have to become your own system administrator. If you do, then you must do more than log in and log off when you use your system. Refer to the *AIX 4.3 System Management Guide: Operating System and Devices* for more information.

You have a dependent system if it must be connected to a host or a server to perform any tasks. This kind of system is typically found in a multiuser or network environment. In this environment, if the server or host stops functioning, your system also stops functioning.

Host Connection

In a multiuser system, there is one main computer, the *host*, which is shared by everyone. A host computer is the primary or controlling computer that serves the terminals that are connected to it. To use your system, you need to start a *session* on the host computer. To start a session, you *log in*.

The main terminal connected to the host is known as the *console*. The system administrator uses the console to manage the system. The following illustration shows a host system.
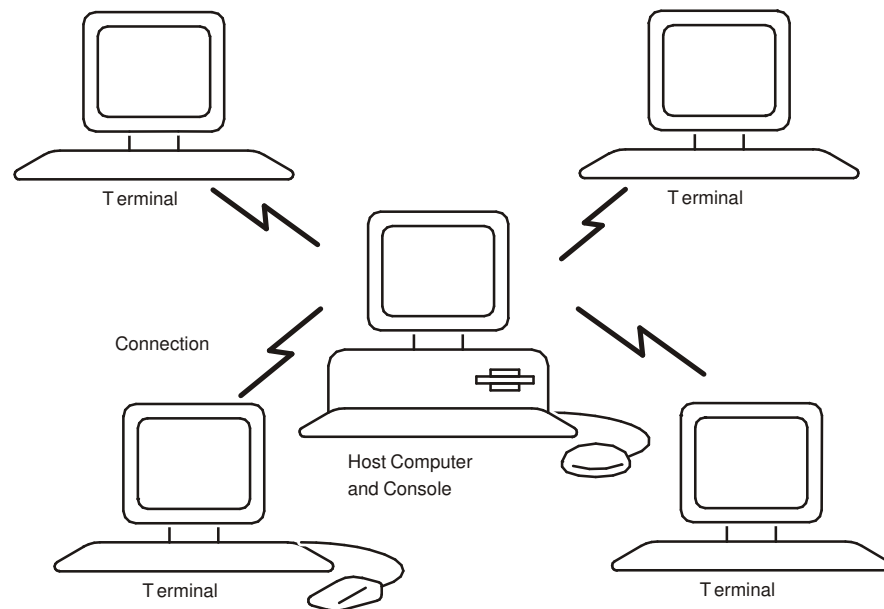
Terminals Connected to a Host System

Network Connection

A *network* is a system with computers connected to other computers. Within a network, every computer is called a *node*. Every node in a system has its own address. In a network, computers play one of two roles: *server* or *client*. In some instances, a computer can act as a client to one computer and as a server to another.

Server

A computer on a network that shares its resources or provides a service throughout the network is known as a *server*. The following are types of servers:

file server	Provides file storage to the other computers on the network
print server	Provides printer facilities to the other computers on the network
communications server	Provides access to and from computers outside the network

Client

A computer that uses shared resources is known as a *client*. For example, you may have a UNIX system with its own disk storage where you save some of your files. You, the client, use the file server, which has greater storage capacity, to store other files. If someone on another computer needs to use the files on your computer, they are the client and your system is the server. This is a typical client/server relationship. The following illustration shows a typical client/server network.

Client/Server Network
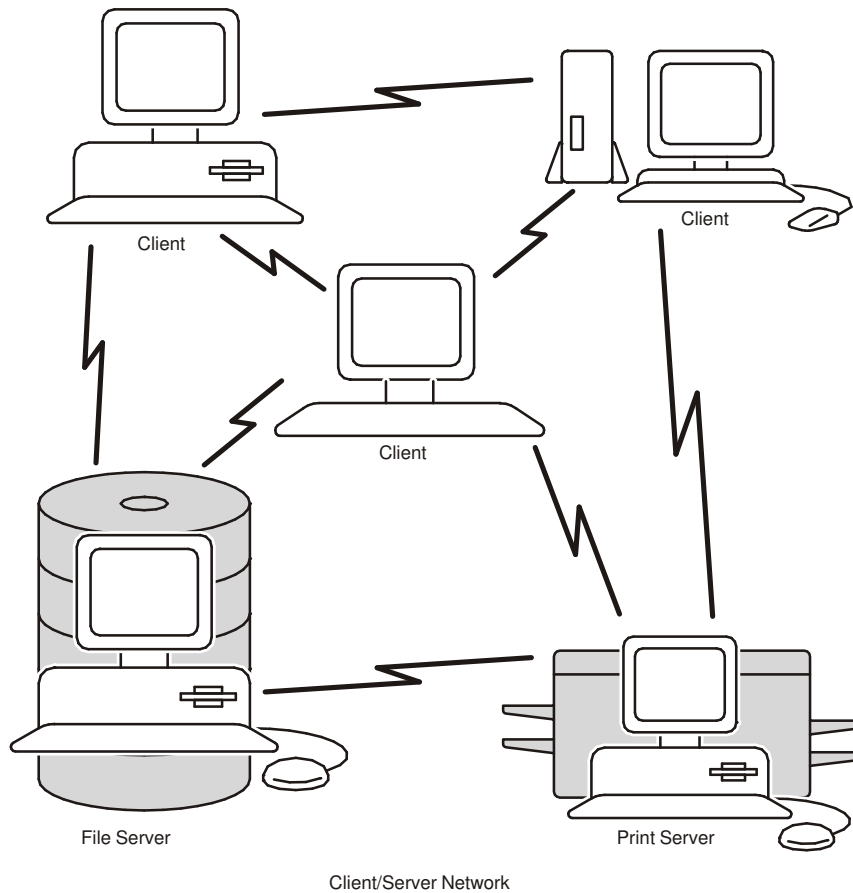
System Hardware Components

Your system can have a display, keyboard, and mouse attached to it, in addition to a wide range of other available options. Examples of these options are tape drives, printers, terminals, and plotters. Such items are called *devices*. The operating system controls the devices attached to your system.

This section discusses the following:

- Terminals
- Keyboards
- Mouse

The Typical Computer System Arrangement illustration shows one possible office arrangement.
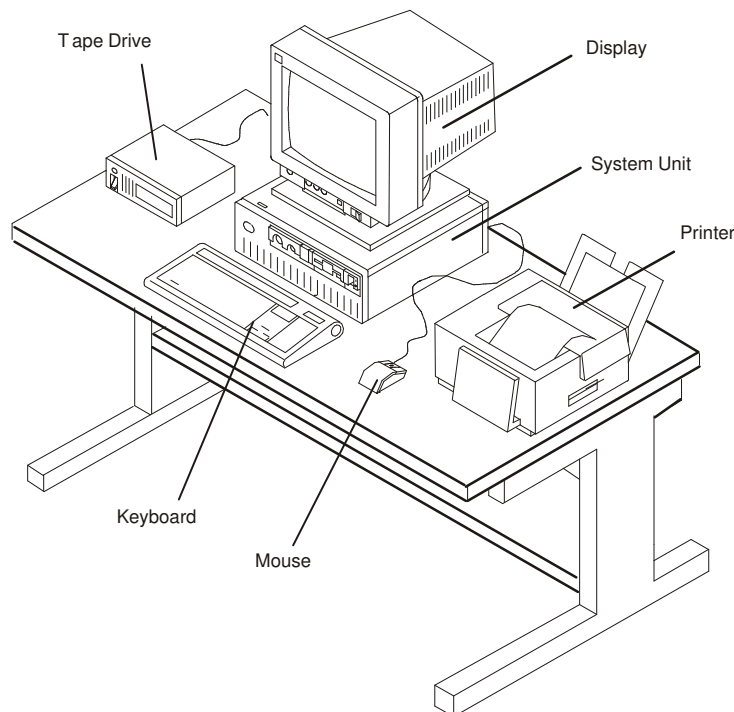
Typical Computer System Arrangement

Note: Your system may not look exactly like any of the illustrations given in this guide.

The System Unit Features illustration shows some system features.
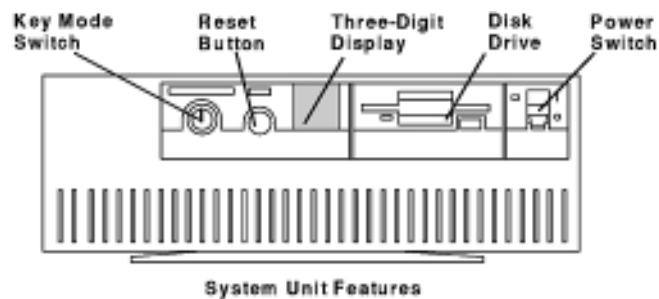
System Unit Features

If you are on a network, you may not have a system unit on your desk. In this case, you probably have a terminal that only has a power switch.

Terminals

The terminal is the device you use to interact with your computer system. It is composed of a display (or monitor), a keyboard, and sometimes a mouse. There are several types of terminals: dumb terminals, smart terminals, and graphics terminals. The Terminal Setup illustration shows a typical terminal setup.
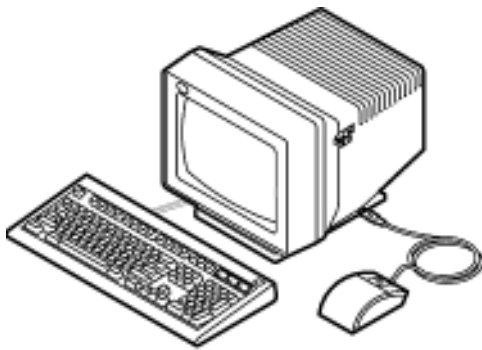
Terminal Setup

Dumb Terminal	A dumb terminal (or *nonprogrammable terminal*) cannot do any processing on its own. This means the terminal itself cannot run programs but has another computer do its processing while it displays the results. This type of terminal is common in multiuser or networked systems.
Smart Terminal	A smart terminal (or *programmable terminal*) does some processing on its own and sometimes has a device (a disk drive, for example) for reading and writing files. This type of terminal is also common in multiuser or networked systems.
Graphics Terminal	A graphics terminal is a smart terminal with special hardware that allows it to display pictures. If you work in a windows interface, you need a special type of graphics terminal known as an *X terminal*.

Keyboards

The various keys on the keyboard allow you to enter data and control the cursor location. Keyboards for different countries can have their keys engraved with their character set. Some keyboards also have more keys. There are several kinds of keyboard designs. This section explains how keyboards work in general, and discusses the various keys and their use. The Typical Keyboard illustration shows a possible keyboard layout.
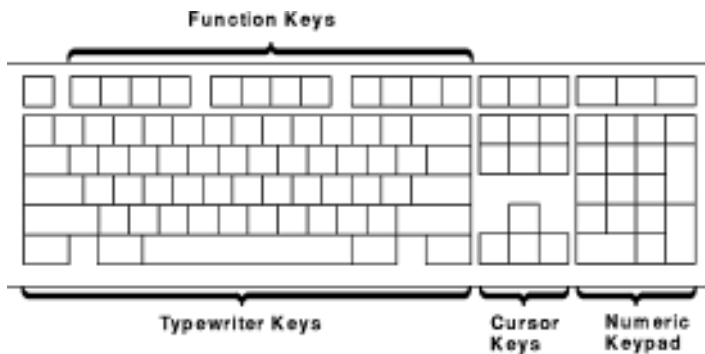
Typical Keyboard

The keyboard has four sections:

function keys	The operating system controls these multipurpose keys.
typewriter keys	The software, usually a keyboard driver, controls these keys, which are similar to those on a standard typewriter.
cursor keys	These keys move the cursor on the screen and do programmed control functions. The application program that you use controls their movement and functions.
numeric keypad	Similar to a calculator, the keypad is used to enter numbers.

The functions of each keyboard depend on the software you use.

Special Keys

Certain keys or combinations of keys make working in a command line interface easier.

Key	Function
Enter key	Use the Enter key to tell the system that you have finished entering text and that it can start running the command. You can correct the command line any time before you press the Enter key.
Spacebar	Use the Spacebar to add spaces to the command line when needed.
Tab key	Use the Tab key to insert up to eight spaces until the next tab stop.
Backspace key	Use the Backspace key to erase the character preceding the cursor on the command line.

Control Key Combinations

The control (Ctrl) key is used in combination with other keys to make control characters. You press and hold the Ctrl key, and then quickly press another key. Some control keys appear on the display; others are invisible.

The following is a list of useful key sequences and their functions:

Key	Function
Ctrl–C	Interrupts most programs. You will see ^C on the screen.
Ctrl–Z	Suspends most programs. You will see ^Z on the screen.
Ctrl–D	End–of–file character used for logging out and for terminating file input. You will see ^D on the screen.
Ctrl–	Quits program and creates a file named **core** that is used for debugging. You will see ^\ on the screen.
Ctrl–W	Erases the word preceding the cursor.
Ctrl–U	Erases the entire command line.
Ctrl–S	Stops the output of a program from running off the bottom of the screen.
Ctrl–Q	Resumes the output of a program stopped by Ctrl–S.

Escape Key Combinations

Though rarely used, in some instances the escape (Esc) key is also used in combination with other keys to make control characters. You press and release the Esc key, and then press another key.

Key Nicknames

Some characters on your keyboard are referred to by more than one name. The following is
a list of some key names with their nicknames:

Key	Names
!	Exclamation mark, bang
#	Pound sign, crosshatch
*	Asterisk, star, splat
–	Hyphen, minus, minus sign
.	Period, dot
/	Slash, forward slash
\	Backslash
<	Less–than sign, left angled bracket
>	Greater–than sign, right angled bracket
_	Underscore, underline
|	Vertical bar, vertical line, pipe
?	Question mark, hook
,	Single quote, tick
'	Backquote, back tick
~	Tilde, accent

Mouse

The mouse allows you to move the pointer quickly to all areas of your screen. You use the
mouse to tell the CDE Desktop or AIXwindows what you want to do. The mouse allows you
to manipulate icons, menus, and windows. The Three Button and Two Button Mouse
illustration shows a three–button and a two–button mouse.
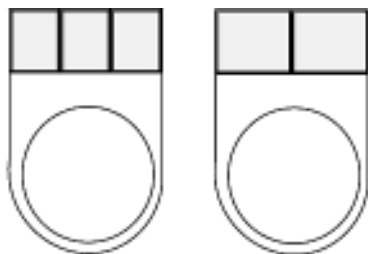
Three-Button and Two-Button Mouse

Mouse Buttons

The mouse most commonly used with AIX has three buttons. Each button provides a
different function. If you have a two–button mouse, pressing both buttons at the same time
is equivalent to pressing the middle button on a three–button mouse.

Button	Function
left	Use the left mouse button for selecting and activating default actions and copying and pasting text.
middle	Use the middle mouse button for customized application programs.
right	Use the right mouse button for customized application programs.

Mouse–Button Actions

When you perform a command with the mouse, first point and then do one of the following: press and hold, click, double–click, drag, drag and drop, or rubber–band with the mouse buttons.

Note: The specific mouse button to use depends on the application in which it is used.

Point

To point to an object, move the mouse until the tip of the mouse pointer is on the object (icon, menu, window, or window selection).

Press–and–Hold

To press and hold, point to the object (icon, menu, or window), and then hold down the mouse button without moving the mouse.

Click

To click, point to the object (icon, menu, window, or window selection), and then press and quickly release the mouse button without moving the mouse.

Double–Click

To double–click, point to the object (icon), and then quickly press the mouse button twice without moving the mouse.

Drag

A drag usually refers to moving windows and selecting menu options.

To drag a menu selection, point to the menu you want to display, and press and hold the mouse button. Slide (drag) the pointer to highlight the desired menu option, and release the button.

Drag–and–Drop

Drag–and–drop usually refers to icons. This action only functions in some applications.

To drag and drop, point to the icon, hold down the mouse button, and move (drag) the pointer (while still holding down the mouse button) in the direction you want to move the object. When the object is where you want it, release (drop) the mouse button.

Rubber–Band

Rubber–banding usually refers to *toggling* (also referred to as *selecting* and *deselecting*) an icon's selection state and is used for manipulating a group of icons. Toggling refers to selecting an icon if it is currently unselected or deselcting an icon if it is currently selected. This action only functions in some applications.

To rubber–band, point to a position near the icon or icons to toggle (not touching any part of the icon or its title). Press and hold the mouse button, and drag the pointer. A rubber–band box is displayed, which you "stretch" to enclose the icons you want. When you release the mouse button, all icons inside or touching the rubber–band are toggled.

The example of Rubber–Banding illustration shows rubber–banding.
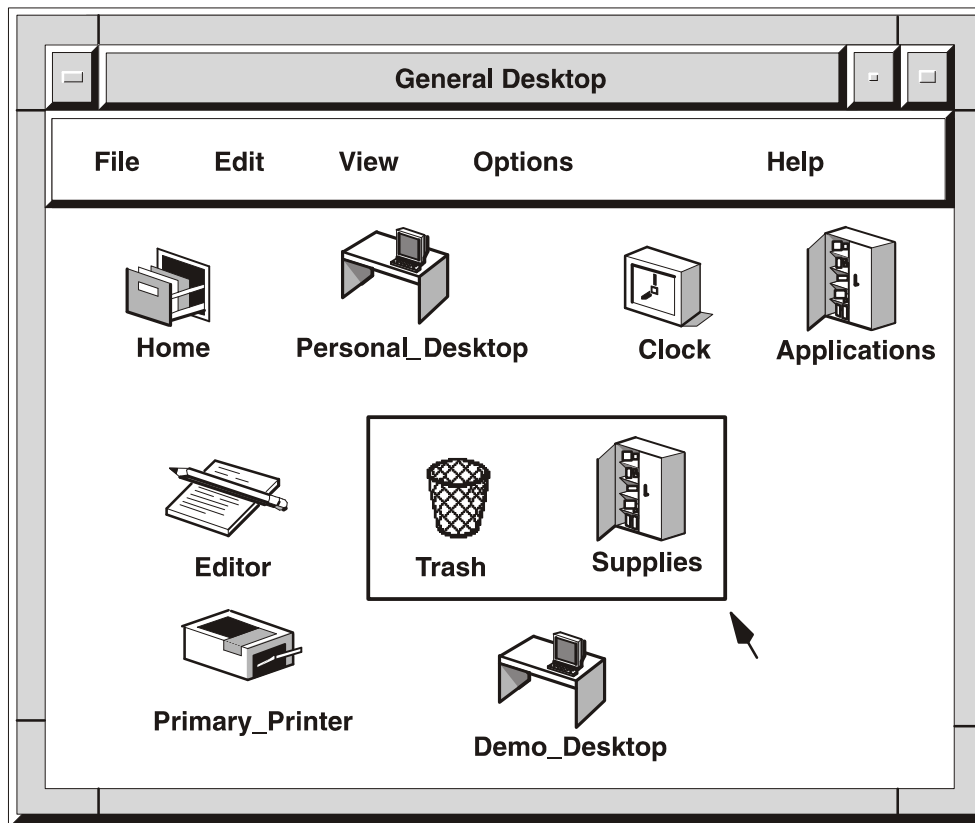
Example of Rubber-Banding

Mouse Pointer Shapes

When AIXwindows starts, an X–shaped pointer appears at the center of the screen. As you move the mouse on your desktop, the pointer on the screen moves correspondingly.

The pointer shape changes according to its location. For example, when the pointer is directly over the root window (the backdrop behind all windows), the pointer has an X shape. When the mouse points inside a terminal window, the pointer changes to an I shape. A description and illustration of pointer shapes follows.

Arrow Pointer

An arrow pointing to the upper–left corner is the general–purpose pointer used in most window areas for single–object selection and activation.

An arrow pointing to the upper–right corner indicates a pending menu action. This shape indicates that a menu is popped up or pulled down and waiting for a menu item to be activated or the menu to be removed.

Caution Pointer
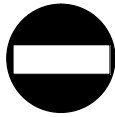
The *caution pointer* indicates action is expected in another area before input can be given to the current area and that the pointer has no effect in the area where the caution pointer appears. While the caution pointer is active, all mouse button and keyboard events are ignored in the current area.

Four–Directional Arrow Pointer

The *four–directional arrow pointer* indicates a move operation is in progress. During a move operation, the object, or an outline of the object, should move to track the location of the pointer.

Hourglass Pointer

The *hourglass pointer*, a working pointer, indicates that an action is in progress in the area and that the pointer has no effect in that area. While the hourglass pointer is active, all mouse–button and keyboard events are ignored in the area. The hourglass pointer can be used interchangeably with the watch pointer.

I–beam Pointer

The *I–beam pointer* performs actions on the text and changes the location of the text–insertion cursor.

Resize Pointer

The *resize pointer* indicates a resizing position. The direction of the arrow in the pointer indicates the direction of increasing size. The horizontal and vertical pointers indicate that the window is changed in either the horizontal or vertical direction. The diagonal pointers indicate that the window is changed in both the horizontal and vertical directions simultaneously. The pointer that appears depends on the resize operation you do.

Sighting Pointer

The *sighting pointer* is used to make precise position selections. For example, in a drawing program, it may be used to indicate a pixel to fill or the connecting points of lines.

Watch Pointer

The *watch pointer*, also called a working pointer, indicates that an action is in progress in the area and that the pointer has no effect in that area. While the watch pointer is active, all mouse–button and keyboard events are ignored in the area. The watch pointer can be used interchangeably with the hourglass pointer.

X pointer

The *X pointer* indicates when the pointer is outside any application area.

System Software Components

Your system has three basic types of software: application programs, device drivers, and operating systems. Each type of software performs a completely different job, but all three work closely together to serve useful functions. While some special–purpose programs do not fit neatly into any of these classes, most software does. Programs run in the memory portion of the system. While running, programs are known as *processes* or *jobs*. The Computer System Software Relationships illustration shows the relationship between the different software programs and the hardware.

Computer System Software Relationship
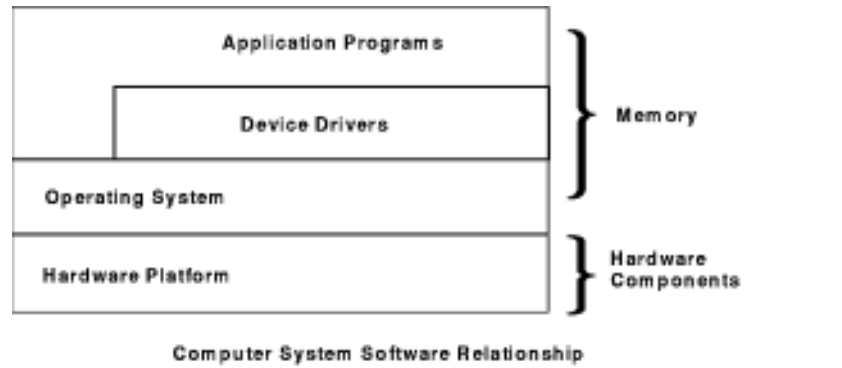
Application Programs

Application programs are the top software layer. You can perform specific tasks with these programs, such as using a word processor for writing, a spreadsheet for accounting, or a computer–aided design program for drawing. The other two layers, device drivers and the operating system, play important support roles. Your system might run one application program at a time, or it might run many simultaneously.

Device Drivers

Device drivers are a set of highly specialized programs. Device drivers help application programs and the operating system do their tasks. Device drivers (in particular, adapters), do not interact with you. They interact directly with computer hardware elements and shield the application programs from the hardware specifics of computers.

Operating System

An *operating system* is a collection of programs that controls the running of programs and organizes the resources of a computer system. These resources are the hardware components of the system, such as keyboards, printers, monitors, and disk drives. Your AIX operating system comes with programs, called *commands* or *utilities*, that maintain your files, send and receive messages, provide miscellaneous information about your system, and so on.

An application program relies on the operating system to perform many detailed tasks associated with the internal workings of the computer. The operating system also accepts commands directly from you to manage files and security. There are many extensions to the AIX operating system that allow you to customize your environment.

Root–User Processes

Root–user processes are programs that can be run only by a user with *root authority*. A system administrator has root authority for all processes.

Root–user processes include:

- Read or write any object
- Call any system function

- Perform certain subsystem–control operations

When you are not allowed to run a command, the system displays a message saying you do not have the correct permissions or you are not allowed to run that command. The system administrator may be the only person who can log in as root on your system. The system administrator can also set you up to use particular commands, giving you some control over processes.

Note: This guide assumes that the system is already set up and that you are ready to begin using it but without root–user authority. Ask your system administrator for more information.

User Interfaces

How you interact with the operating system depends on your *user interface*. Your keyboard and display form an interface between you and your system's hardware. The user interface is between you and the programs you use. An application's user interface determines its appearance and behavior. There are several types of user interfaces, which include web–based, graphical, and command line interfaces.

Determining Your User Interface

The way you work with the system depends on your user interface. When you log in, the terminal displays one of the following:

*   CDE Desktop (CDE)
*   AIXwindows
*   Command line (shell)

The appearance of each interface is distinct. The interface that appears when you log in does not imply that you do not have access to the other interfaces. The CDE interface is the default interface on many AIX systems.

Web–based User Interfaces

Web–based user interfaces provide a way to access graphical information and applications from remote computers using the Internet or intranets. Web–based user applications are often platform–independent, allowing applications residing on a particular type of computer and operating system to be accessed and operated from other types of computers and operating systems.

Many web–based user interfaces are presented in the form of web pages that you view with a web browser. Web pages can contain text, graphical user interface controls, graphics, sound, and animation. These web pages are written using HyperText Markup Language (HTML). HTML allows the web browser to determine the exact form of presenting information. You can change many characteristics such as layout, text size, color, and font independently of how the information was originally written.

User interfaces can be developed with Java that have all the features of graphical user interfaces. Java programs can be developed as applications that run locally on a computer or as applets that can be accessed and downloaded automatically using a web browser. Applets can be included in HTML web pages or they can appear in their own windows.

Web-based System Manager is a web–based user interface. You can run it as a local application on an AIX Version 4.3 system or access it remotely from a personal computer through a web browser.

Graphical User Interfaces

When a user interface has graphical objects, such as windows and menus, it is called a *graphical user interface (GUI)*. CDE Desktop and AIXwindows provide interfaces between you and your computer.

The graphical *window system*, which is part of the graphical user interface, organizes graphics output on the display and does basic text and graphics drawing functions.

CDE Desktop is a graphical user interface that allows you to access networked devices and tools without having to be aware of their location. You can exchange data across applications simply by dragging and dropping objects.

AIXwindows is a *window manager*, another part of the graphical user interface, that lets you move windows around and resize them. It is also responsible for the appearance of the windows because it adds a frame to the windows.

X Window System

The X Window System, also known as X, manages the desktop. It includes a server, which controls your display; a window manager, which manages objects on your display and integrates the mouse and keyboard; a font library; widget libraries for adding things like buttons and pointers; and a set of X–clients that gives you everything from bouncing balls to graphical editors. X is not a graphical user interface. It is a network window system. The actual means of user interaction is left to the graphical user interface, which is based on the X Window System and managed by AIXwindows.

Advantages of X Window System

- You can run multiple processes.

- Each process has its own window.

- All windows can be visible at the same time.

- Size and placement of windows can be used to show importance.

- A window can run on a remote system.

X operates using the client/server model. This means that the server controls the actual hardware used for input and output, and the clients make requests of the server. This allows client programs to be independent of the hardware.

In X terminology, the display server is called either the server or the display. The actual hardware is called the screen.

Clients are the application programs that make requests of the display server. AIXwindows Window Manager is an example of a client.

Command Line Interface

The *command line interface* is also known as the *shell*. This interface is character–based. The screen displays a system prompt, and the commands you type from the keyboard appear next to the prompt.

CDE Desktop

If your screen looks like the AIX Common Desktop Environment Startup illustration, you are in the CDE graphical interface.

The AIX Common Desktop Environment Startup
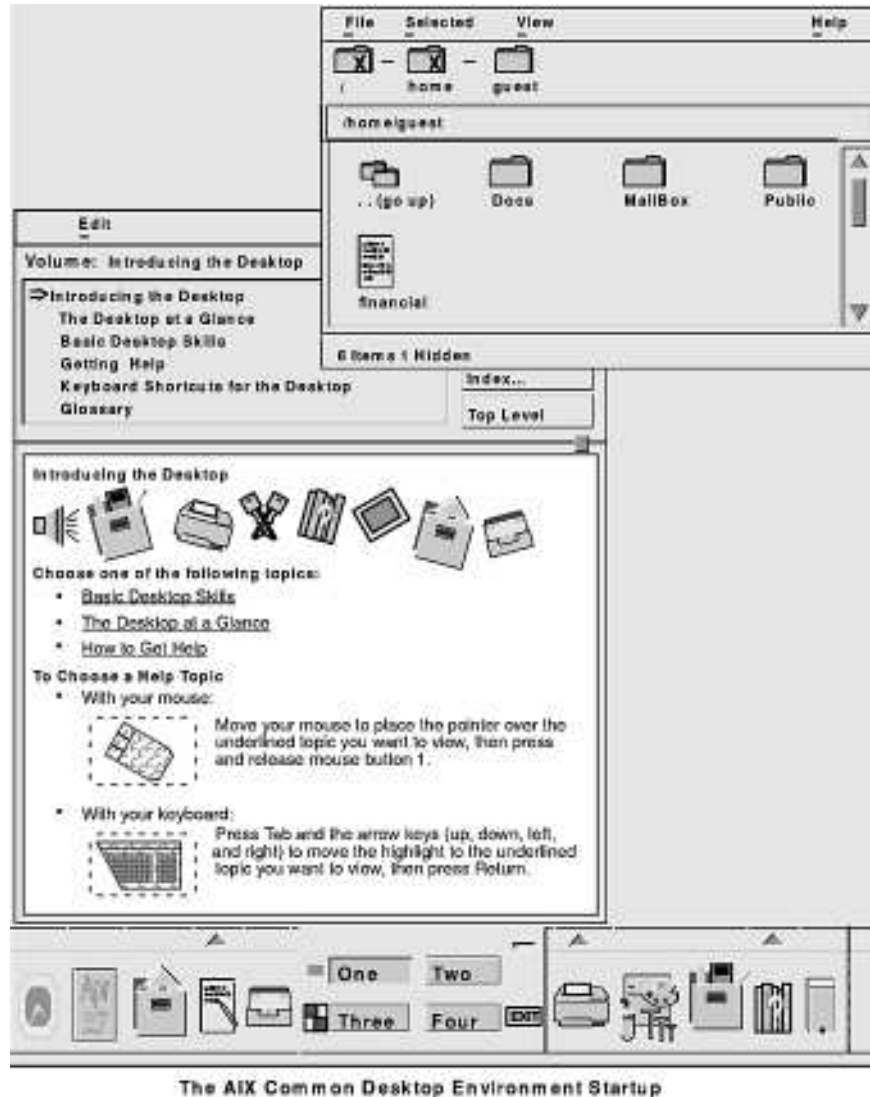
The CDE Desktop also depends on AIXwindows. CDE Desktop provides a graphical user interface that makes your screen seem like an electronic desktop. The CDE Desktop displays icons that represent various functions such as files, directories, and programs. You control these icons with a mouse. By opening windows on the desktop, you can simultaneously view and easily move among several activities. CDE Desktop helps you manage your work and use the operating system to perform various tasks.

See Using AIX Common Desktop Environment, on page 3-4 for more information on working in this interface. The *Common Desktop Environment 1.0: User's Guide* provides detailed information about using the CDE Desktop interface. For information about enhancements to CDE, select the CDE Help Manager icon, then select the Common Desktop Environment help volume; new features are described in the "Enhancements to AIX CDE" section.

AIXwindows

If your screen looks like the Windows Graphical Interface illustration, you are in the AIXwindows graphical interface.
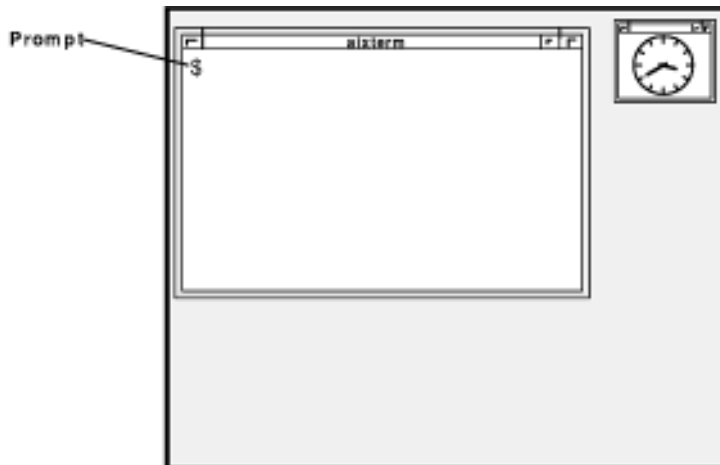
Windows Graphical Interface

The AIXwindows graphical interface allows applications to run separately and appear simultaneously in different windows on the same screen. Graphical interfaces divide your physical display screen into regions called *windows*, where the output of these different applications appears. Multiple displays seem to be working at the same time.

AIXwindows, a window manager, controls interactions among windows from various clients on the display. You need a window manager to control the placement and size of each window. If there is no window manager, there is no way to change a window's location or alter its size. Many applications available for your computer, such as Smart Suite and Netscape Navigator Hypermedia Browser, make use of AIXwindows.

You enter commands at the command line prompt in the *aixterm* window.

See Using the AIXwindows Interface, on page 4-1 for more information on working in this interface.

Command Line

If your screen looks like the Command Line Screen illustration, you are in a command line interface.
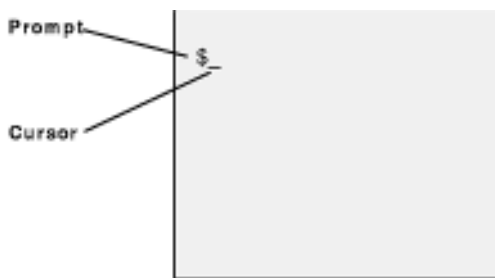
Command Line Screen

Most people are familiar with the command line interface, also known as a shell interface. It is a blank screen with a system prompt. Commands you type from the keyboard appear next to the prompt.

The system prompt informs you that the system is ready and waiting for you to enter commands. The common system prompts used are $ and % . Your system prompt may be different because your system administrator may have set up a word, such as your name, as the prompt rather than one character.

The cursor is a visible mark used to indicate where entered text will appear. It may be represented by an underscore symbol or a block symbol.

See "Using the Command Line Interface", on page 5-1 for more information on working in this interface.

Chapter 2. System Startup, Logging In, Shutting Down, and Rebooting

This chapter introduces you to the AIX operating system. You should be able to start up your system and log in after reading this section. You should also be able to shut down and reboot your system.

Note:

1. This section assumes an installed operating system and that you already have a user ID and password.

2. The illustrations used in this section may not be identical to your system, since machine types vary in their physical characteristics.

This section discusses:

*   Starting Your System, on page 2-2

*   Logging In to Your System, on page 2-5

*   Shutting Down Your System, on page 2-7

*   Rebooting Your System, on page 2-9

Starting Your System

Starting a session on your system is the first step in doing work on your system. After your system is turned on, just log in to the system to begin a session. To end your session, just log off the system. Logging–off procedures are detailed in the specific interface sections.

This section describes the following tasks:

- Determining if Your System is On

- Starting Your System

- Checking the Display Screen

- Logging In to Your System

Determining If Your System Is On

The system is on if the power–on light is glowing and the power switch is set to On (**I**). The System and Display Power Switches illustration shows some possible locations of the power switches

System and Display Power Switches
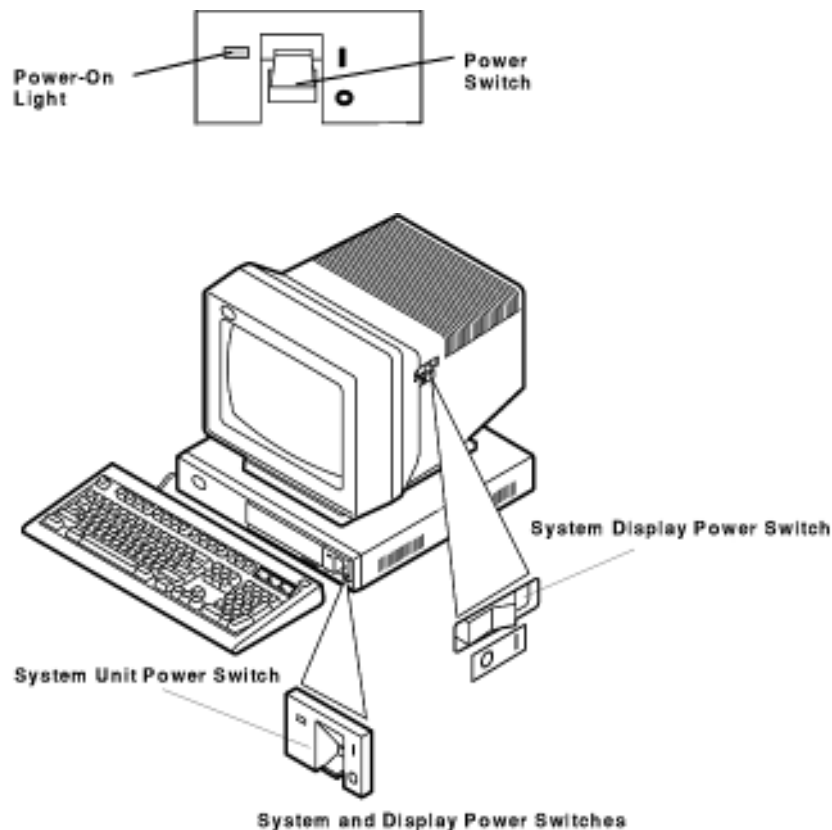
If the system unit's power–on light is on, proceed to Checking the Display Screen, on page 2-4.

Starting Your System

The following describes how to start a workstation. If you work at a terminal, the only feature you probably have is the power–on switch.

1. Set the power switches of each attached device (except for the system unit) to **On**.

2. Set the key mode switch (if your system has one) on the system unit to **Normal** as shown in the Key Mode Switch illustration.
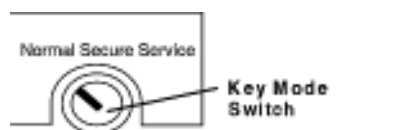
The key mode switch (if your system has one) controls the type of initial program started. Setting the mode to Normal permits the operating system to load. To learn more about the key mode switch, refer to the operator's guide for your system unit.

3. Start the system unit by setting the power switch to **On** (**I**).

When you set the power switch to On, the power–on light comes on, and the system starts an internal power–on self–test (POST).

If the power–on light does not come on, check the power cord located at the back of the system unit. It may not be plugged into a working electrical outlet. If this does not solve the problem, refer to the *AIX Version 4.3 Problem Solving Guide and Reference.*

4. Look at the three–digit display, as shown in the Three–Digit Display illustration.

The three–digit display on the operator panel has the following functions:

– Tracks the progress of the system unit self–tests and configuration program

– Displays codes when the operating system comes to an abnormal end

– Displays diagnostic program messages when the display console is not working correctly

Note: Not all system units have a three–digit display; instead, some system units use status messages and error logs to report the progress of the unit. If your system unit does not have a three–digit display, refer to your unit's user guide for more information about errors and recovery.

During the POST, the code displayed shows the progress of the testing. When the self–tests complete without error, the three–digit display is blank.

If an error that requires attention occurs, a three–digit code remains, and the system unit stops. Consult your system administrator or refer to the *AIX Version 4.3 Problem Solving Guide and Reference* for more information about error codes and recovery.

Note: In some systems, if you start with the key mode switch in the Secure position, the power–on light does not come on, and the three–digit display remains blank. If this happens to you, just move the key to the Normal position and press the Reset button.

The following list explains the uses of the key mode switch positions. Your system unit may not have a key mode switch.

Normal	Use this position for attended operation. It is the usual or normal placement of the key mode switch when an operator is present and in control of operation at the system unit.
Secure	Use this position for unattended operation in an open environment. This prevents a passerby from accidentally pressing the Reset button and causing a loss of data. In the Secure position, the Reset button is not active.
Service	Use this position for attended operation when hardware or software service is conducted. The Service position starts operating system keyboard sequences that support error determination and storage printout.

If there is a problem with the system unit, refer to the *AIX Version 4.3 Problem Solving Guide and Reference* before setting the mode switch in the Service position or pressing the Reset button.

Checking the Display Screen

The display or monitor is on if its power–on light is glowing. If the display is on and its screen is dark, adjust the brightness control. If you have a screen saver program running, just press any key or move your mouse. Usually, you can locate the power switches and controls below or to the side of the screen. The Computer System Display or Terminal illustration shows the switches on a display. Your display may not necessarily look like this one.

Computer System Display or Terminal
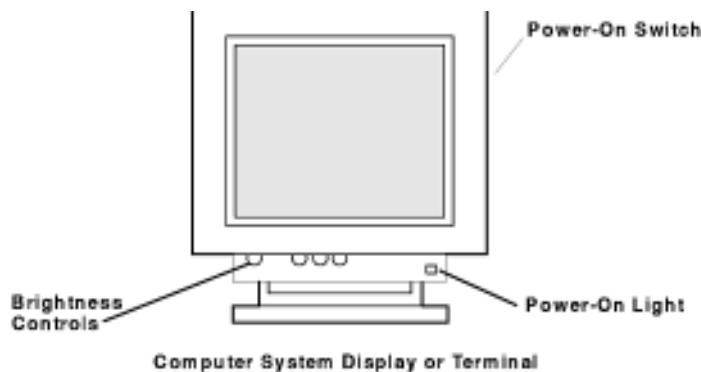
Display Powered On

If your display is off, set the display power switch to **On**, and adjust the controls if necessary.

Your display may have a tilt feature that lets you position the screen at a comfortable viewing angle. While working at your display, adjust the controls so that the screen image is easily viewable. For more information, see your display operator's guide.

Logging In to Your System

After you turn the power on to your display, a login prompt appears on your screen. See the Computer System Display with Login Prompt illustration for an example.
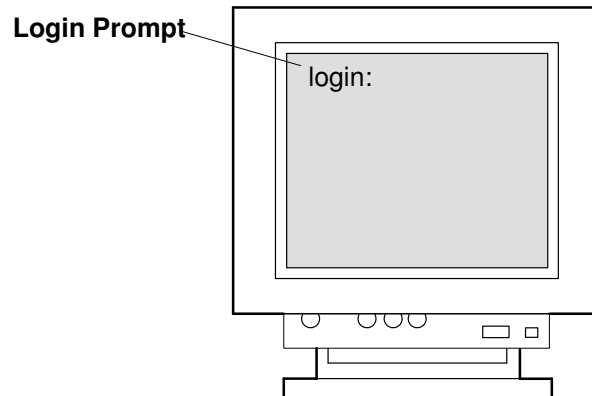
Login Prompt

login:

Computer System Display with Login Prompt

Note: It may take a few minutes for your login prompt to appear. Do not press any keys while you are waiting, as this may cause unexpected results.

If the login prompt does not display, see your system administrator or refer to the "Problem Determination" section in the *AIX Version 4.3 Problem Solving Guide and Reference*.

Note: If you receive an error message on your display screen, refer to Responding to Error Messages, on page 7-1.

To use the system, you must identify yourself to the system as an authorized user by logging in with your login name. A login name is actually a name identifying you to the system. Your login name, as well as the system groups to which your system administrator has assigned you, controls your access to system functions.

Your system may be set up so that you can only log in during certain hours of the day and on certain days of the week. If you attempt to log in at a time other than the time allowed, your access is denied. Your system administrator can verify what your login times are.

To log in:

1. At the `login:` prompt, type your login name, then press Enter.

   `login: LoginName`

   For example, if your login name is denise:

   `login: denise`

2. If the `password:` prompt appears, type your password, then press Enter. (The screen does not display your password as you type it.)

   `password: YourPassword`

   If the password prompt does not appear, you have no password defined and you can begin working on the operating system.

If you don't know your login name or the password assigned to you, see your system administrator.

If the system displays:

   `login incorrect`

Log in again, and enter the correct login name and password. If you still have a problem logging in, see your system administrator.

If the system displays:

```
YOU LOGGED IN USING ALL UPPERCASE CHARACTERS.
          IF YOUR WORKSTATION ALSO SUPPORTS LOWERCASE
          CHARACTERS, LOG OFF, THEN LOG IN AGAIN USING
          LOWERCASE CHARACTERS.
```

Repeat steps 1 and 2 again, making sure the Caps Lock key is off.

After you have logged in and depending on how your system is set up, your system will start up in a graphical interface (CDE Desktop or AIXwindows), or in a command line interface (the shell).

Shutting Down Your System

A system *shutdown* is a shell script that properly prepares a system with multiple users to be turned off or rebooted. An improper shutdown can have undesirable results on the file system. On a single–user system, shut down when your system needs servicing, when you are going to move your computer, or when you cannot reboot.

From the user's viewpoint, shutting down a system is simple, but from the system's viewpoint, the shutdown process actually involves a series of events designed to preserve file integrity.

There are several controlled situations when you may want to shut down your system:

• After you install new software or change the configuration for existing software

• When a hardware problem exists

• When your session is irrevocably frozen

• When you notice that system performance is becoming degraded

• When you notice signs of possible file system corruption

The **shutdown** command is the safest and most thorough way to halt the operating system. When you designate the appropriate flags, this command notifies users that the system is about to stop operations, terminate all existing processes, unmount file systems, and shut down the system.

The steps that take place during a system shutdown depend on how the system was customized. The shutdown described in this section may not appear exactly the same on your system.

Note: You must have root user authority to shut down the system.

To Shut Down and Turn Off the System

1. At the prompt, type:

   ```
   shutdown
   ```

   The system shuts down; the system waits one minute before stopping the user processes and the **init** process. You will see the following message:

   ```
   shutdown completed...
   ```

2. Turn off the system and the devices attached to it.

To Shut Down and Reboot the System

When the **–r** flag is specified with the **shutdown** command, the system reboots after it completes the shutdown.

At the prompt, type:

```
shutdown –r
```

The system shuts down and reboots.

To Shut Down to Single–User Mode

In some cases, you may need to shut down the system and enter single–user mode (also referred to as maintenance or standalone mode) to perform software maintenance and diagnostics.

1. To change to the root directory, at the prompt, type:

```
cd /
```

You must be in the root directory to shut down the system to single–user mode. This ensures that file systems are unmounted cleanly.

2. At the prompt, type:

```
shutdown -m
```

The system shuts down to single–user mode. A system prompt displays, and you can perform maintenance activities.

To Shut Down in an Emergency

You can also use the **shutdown** command to shut down the system under emergency conditions. Use this procedure to stop the system quickly without notifying other users.

At the prompt, type:

```
shutdown -F
```

The **–F** flag instructs the **shutdown** command to bypass sending messages to other users and shut down the system as quickly as possible.

Rebooting Your System

A system *reboot* is a shell script that recopies the operating system from disk to memory and starts it without turning the system completely off. A reboot is also known as a system reset. It reinitializes the operating system by repeating the initial program load (IPL) operation. When the system is first turned on, the operating system is usually booted automatically.

The **reboot** command is used if no other users are logged into the system. Reboot to cause the system to recognize newly installed software, to reset peripheral devices, to perform routine maintenance tasks like checking file systems, or to recover from a frozen system or a system crash. The **shutdown** command is used instead of the **reboot** command when the system is running and multiple users are logged into the system.

Use the **reboot** command to reboot the operating system when it is accessed by only one user. The **reboot** command synchronizes the hard disks and performs some other shutdown activities without halting the system.

The steps that take place during a system reboot depend on how the system was customized. The reboot process described in this section may not be exactly the same on your system.

Note: You must have root user authority to reboot the system.

At the prompt, type:

```
reboot
```

The system reboots.

Related Information

id	Displays the system identification of a specified user
logout	Stops all processes on a port
passwd	Changes a user's password
reboot	Restarts the system
rlogin	Connects a local host with a remote host
shutdown	Ends system operation
su	Changes the user ID associated with a system
telnet	Connects the local host with a remote host, using the Telnet interface
who	Identifies the users currently logged in
whoami	Displays your login name

Chapter 3. Using CDE Desktop

The CDE Desktop, available with the AIX operating system, is based on Common Desktop Environment (CDE) 1.0 technology. Help volumes, online documentation, and manuals may refer to the desktop as CDE Desktop, Common Desktop Environment desktop, the CDE desktop, or the desktop.

With the CDE Desktop, you can access networked devices and tools without having to be aware of their location. You can exchange data across applications by simply using your mouse to drag and drop objects.

You will know that the CDE is set up to start automatically on your system if, when you turn on your display device, you see the login screen shown in the CDE Desktop Login Screen illustration.

Welcome to your system name

Please enter your user name

OK   Start Over   Options   Help

AIX
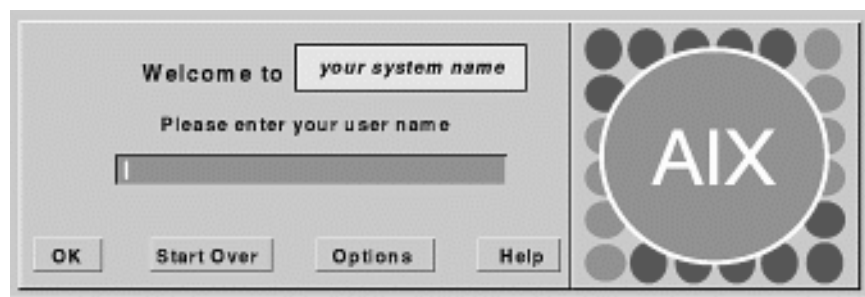
AIX Common Desktop Environment Login Screen

The following sections provide information about getting started with the CDE Desktop:

• Before You Start Using CDE Desktop

• Using Help to Get Familiar with CDE Desktop

For information about how to use a mouse in the CDE Desktop (for example, to click or drag and drop an icon), see Mouse, on page 1-8.

CDE Desktop is easy to use, and you will be able to perform basic tasks right away. For more detailed information on working in this interface, see the *Common Desktop Environment 1.0: User's Guide*.

Before You Start Using CDE Desktop

If CDE Desktop is not set up to start automatically on your system, you can use the following command to start the desktop from an AIX command line:

```
xinit /usr/dt/bin/Xsession
```

Using the **xinit** command starts the desktop without bringing up the whole desktop environment. You will bypass the login screen when you start the desktop, and when you exit you will return to a command line rather than a CDE Desktop login screen. You will, however, use the same desktop applications you would use if you had started the desktop from the welcome screen.

Your system administrator can assist you with setting up your system so that the CDE Desktop starts automatically when the system is started.

Special Circumstances

For information about setting up your system under the following circumstances, see your system administrator.

If you are working in an environment where you need to start applications from your workstation on another workstation that is also running the desktop, you may need to do some configuration on both workstations.

Also, if your desktop has one of the following special configurations, you may need to change certain Login Manager files before starting the desktop:

- Your system console is an ASCII terminal.

- Your system is an X terminal or a host for X terminals.

- Your system has more than one display.

Using Help to Get Familiar with CDE Desktop

The first time you log in to CDE Desktop (CDE), a help window introducing the desktop is displayed (see CDE Desktop Help Window illustration). This introduction is a good starting place for new CDE users. It provides quick access to helpful topics including "The Desktop at a Glance," "Basic Desktop Skills," and "Getting Help."

File **Edit** **Search** **Navigate**	**Help**

Volume: Introducing the Desktop

⇒ **Introducing the Desktop**
    The Desktop at a Glance
    Basic Desktop Skills
    Getting Help
    Keyboard Shortcuts for the Desktop
    Glossary

Backtrack
History...
Index...
Top Level

Introducing the Desktop

Choose one of the following topics:

- Basic Desktop Skills
- The Desktop at a Glance
- How to Get Help

To Choose a Help Topic

- With your mouse:

    Move your mouse to place the pointer over the underlined topic

AIX Common Desktop Environment Help Window

- Click the topic **Basic Desktop Skills**. This gives you access to information about using desktop menus and controls and other topics to help you get started using the CDE.

- Click the topic **The Desktop at a Glance** for an introductory review of the types of applications available in the CDE.

- Click the topic **Getting Help** for details about accessing and using the CDE help system.

Accessing CDE Desktop Help Topics

There are a number of ways to access the CDE Desktop online help topics:

Help Key

The quickest way to get help is to press F1, usually known as the help key. When you press F1, the application you are using responds by displaying the help topic most closely related to your current activity.

Some computers have a dedicated Help button on the keyboard, which may take the place of the F1 key.

Application Help Menus

Most applications have a Help menu that contains additional commands for requesting specific kinds of help, such as Introduction, Tasks, and Reference. To learn more about using help windows, click on **Using Help** from the Help menu in any application. Or, you can press F1 while you are in a help window.

Help Manager Icon

To access the extensive CDE Desktop volumes of help, click on the Help Manager icon located on the Front Panel. This opens the CDE help manager (see CDE Desktop Help Manager illustration).

Displays the help manager, which is a hypertext linked list of all of the help volumes that support the desktop. Clicking on the pointer above the icon displays the top level of the hierarchy of help information.

Help Manager

File Edit Search Navigate	Help

Volume: Help – Top Level

⇒ **Welcome to Help Manager**

Common Desktop Environment

Overview and Basic Desktop Skills

Backtrack

History . . .

Index . . .

Top Level

Welcome to Help Manager

Each of the titles listed below represents a *product family* that has installed and registered its online help. Each title (and icon) is a hyperlink that lists the help within the family.

- To display a list of the help available for a product family, choose its title (underlined text) or icon.
- Within a product family, find the help you want to view, then choose its title.
- If you need help while using help windows, press F1.

Common Desktop Environment

Overview and Basic Desktop Skills * Using Help * File Manager * Front Panel * Application Manager * Print Manager * Style Manager * Mailer * Text Editor * Calendar Manager * Icon Editor * Terminal Emulator * Create Action * Login Manager and Environment Variables Help * Migration Tool Help Enhancements to AIX CDE * Welcome to CDE

Overview and Basic Desktop Skills

Overview and Basic Desktop Skills for the Common Desktop Environment.

AIX Common Desktop Environment Help Manager

Click **Common Desktop Environment** to display the list of help volumes that have been installed on your desktop. Browse the list of titles. To open a volume, click its title.

Using the Pointer Above Help Manager Icon

To view the Help subpanel options available, click the arrow pointer above the Help Manager icon.

☐	**Install Icon**
	Help Manager
	Desktop Introduction
	Front Panel Help
	Welcome to AIX CDE 1.0
	On Item Help

Help Subpanel Pop-up

The Help subpanel provides the following:

Install Icon	Allows you to install icons representing applications (actions), files, and directories. You can drag and drop an object on the control to install it into the subpanel.
Help Manager	Displays the help browser help volume, which gives you access to the installed desktop help volumes on the system.
Desktop Introduction	Displays the help volume entitled **Introducing the Desktop**, which contains topics covering basic desktop concepts and skills. This help volume displays automatically the first time a user logs in to the desktop.
Front Panel Help	Displays the help volume for the Front Panel, which contains topics covering how to use and customize the Front Panel.
Welcome to AIX CDE 1.0	Displays the help volume to assist you in migrating from an earlier version of CDE, or from the AIXwindows Desktop, to the CDE Desktop.
On Item Help	Changes the mouse to a question mark that you can drag and drop on desktop objects for specific information.

Double–click the menu button in the upper–left corner to close the Help subpanel.

Chapter 4. Using the AIXwindows Interface

The AIXwindows interface provides features to help you manage the windows on your display screen. For example, you can run several programs at the same time on a single display screen, create multiple windows to meet your specific needs, and personalize your AIXwindows environment. The interface allows you to open, close, move, and resize windows.

AIXwindows runs a terminal emulator called *aixterm* in a *terminal window.* The **aixterm** command provides this terminal emulator for programs that cannot use windows. It emulates either a high–function terminal or VT102 terminal. The **aixterm** command features the capability to cut and paste text between aixterm windows and includes an option, mode, and scrollbar menu that allows you to control various terminal functions.

On window management screens, screens, programs, and messages appear within rectangular areas known as windows. Many windows can appear on the same screen, beside other windows, or overlapping or hiding other windows. You can move between windows by pointing to them or clicking them with your mouse.

You can also represent programs on the screen by icons. When a program is represented by an icon, the program can continue processing. You can convert most windows into icons and then back into windows.

The following sections describe the AIXwindows interface, including menus, icons, and various features often found in AIXwindows applications.

- Starting AIXwindows, on page 4-2
  - AIXwindows Components, on page 4-2
- Basic AIXwindows Tasks, on page 4-4
  - Displaying the Window Menu
  - Selecting a Menu Item
  - Displaying an AIXwindows Application Menu
  - Displaying the Root Menu
  - Moving a Window
  - Opening a New Terminal Window
  - Positioning Windows Above or Below Each Other
  - Changing the Size of a Window
  - Changing Windows into Icons
  - Copying Text Between aixterm Windows
  - Closing a Window
  - Manipulating AIXwindows Icons
  - Getting Help in a Window
  - Running an Application in a Window
  - Exiting and Logging Off from AIXwindows
- Basic aixterm Tasks, on page 4-12
  - Displaying the aixterm Menus
 - Copying Text Between Windows

Starting AIXwindows

When you log in to your system, you start in either the command line interface, AIXwindows, or CDE Desktop, depending on how your system is set up. If you start up in the command line interface, this does not necessarily mean you do not have AIXwindows. Try to start AIXwindows to see if it comes up. If you do not have AIXwindows, an error message displays.

To try starting AIXwindows, at the prompt, enter:

```
xinit
```

If AIXwindows comes up, your display will look like the Default Windows Environment illustration:
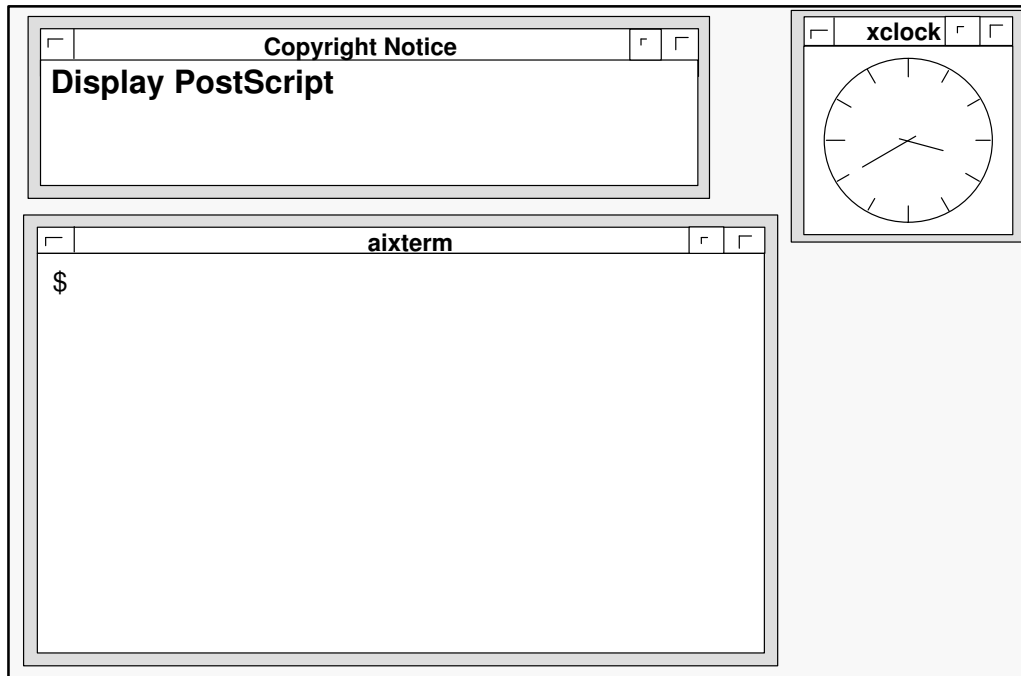
Default Windows Environment

AIXwindows Components

The AIXwindows interface provides a variety of features for managing programs.

Client Area   The center of each window contains the *client area*, in which the input and output of the program take place. If the window is running the **aixterm** command, then the area is known as the *terminal window*.

Root Window   The background area of the screen is known as the *root window*. Other windows are placed on top of the root window and can overlap each other. By pressing the left mouse button on the root window, you can reveal the *root menu*. With the options in this menu, you can position windows above and below each other (shuffle up or down), open new terminal windows, refresh the window, and restart the Window Manager.

Resize Handles

    Resize handles surround the edges of most windows. You can change the size of the windows by moving the mouse pointer to an appropriate border, pressing the left mouse button, and dragging the border to the appropriate size. For example, to make the window taller or shorter, you can drag the top resize handle up or down.

Title Bar The top of most windows, just below the resize borders, contains the *title bar*. The center of the title bar usually displays the title of the program. (The program can also set the title bar to display other information. If the title bar is not given title information, it displays a series of asterisks where the title would be.)

Window Menu Button

The *window menu button* appears at the left of the title bar. If you click the window menu button, the window displays a menu, with which you can move the window, resize it, move it in front of other windows or behind them, or end the program that is running within the window. (If you press the Esc key or click the left mouse button outside the menu while the menu is visible, the menu closes.)

Minimize Button

The *minimize button* appears to the right of the title. If you click this button, the window is converted into an icon. You can restore the window by clicking on the window's icon.

Maximize Button

The *maximize button* appears at the extreme right of the title bar. When you click the maximize button with the left mouse button, the window expands to its maximum size (often the full screen), or, if the window is already at maximum size, contracts to its previous size.

Window Selection

Before a window can receive input, it must be active. To activate or select a window, point to any part of the window, and click the left mouse button. When a window is active, the window frame changes color. Also, characters that you type appear on the command line in the active window. If no window is active, everything you type is lost or ignored.

The Typical Window Layout illustration points out the parts of a window.

A Typical Window Layout
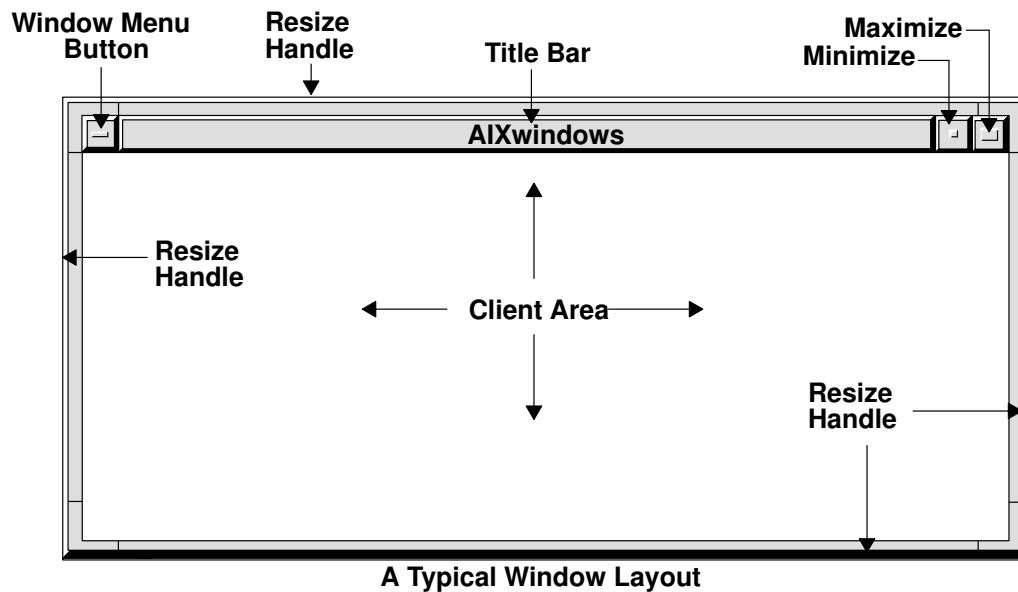
Basic AIXwindows Tasks

A procedure is presented for each of the following tasks:

- Displaying the Window Manager Menu, on page 4-4
- Selecting a Menu Item, on page 4-4
- Displaying an AIXwindows Application Menu, on page 4-6
- Displaying the Root Menu, on page 4-6
- Moving a Window, on page 4-6
- Opening a New Terminal Window, on page 4-7
- Positioning Windows Above or Below Each Other, on page 4-7
- Changing the Size of a Window, on page 4-7
- Closing a Window, on page 4-8
- Manipulating AIXwindows Icons, on page 4-9
- Getting Help in the AIXwindows Interface, on page 4-10
- Running an Application in the AIXwindows Interface, on page 4-10
- Exiting and Logging Off from AIXwindows, on page 4-11

Displaying the Window Manager Menu

Each window has a window menu. Click the window menu button (to the left of the window title bar) or press the Shift–Esc or Alt–spacebar key combination.

The window menu contains the following choices:

Restore	Restores a window from an icon or to its previous size after it was maximized
Move	Changes the location of the window
Size	Changes the size of a window
Minimize	Shrinks the window to its icon representation
Maximize	Enlarges the window to cover the entire root window
Lower	Sends a window to the back or bottom of the window stack, the position closest to the root window
Close	Immediately stops the process running in the window and makes it disappear

Selecting a Menu Item

After displaying a menu:

- Press the left mouse button and drag the pointer down the menu until the item you want to select is highlighted. Release the mouse button.

   OR

- Use the cursor keys to highlight different options. When the option you want to select is highlighted, press Enter.

To cancel the menu without choosing a selection, press Esc.

Note: When a menu option is inactive, its name is grayed out (color of the text is lighter) and you cannot select it.

Menu Selection Shortcuts

In addition to using a mouse to select menu options, two additional features allow you to quickly select a menu option without using the mouse.

- Your keyboard has accelerator key combinations that directly execute an option in a menu. Accelerators are listed in the menu next to the option names.

- A mnemonic provides a similar capability by allowing you to select from a menu by typing significant letters within the menu. Mnemonics are indicated as underlined characters in the menu.

Accelerator keys allow you to immediately execute an option without displaying the menu. Mnemonics, on the other hand, are simply a way to display menus and select options without using the mouse.

To Select an Option Using Its Mnemonic

Once a menu is displayed, you can use a mnemonic to execute a function by typing the letter that is underlined in the function's name.

In the Window Menu with Options Displayed illustration, for example, pressing the accelerator key combination Alt–F9, or the mnemonic **N**, minimizes the window.

Window Menu with Options Displayed
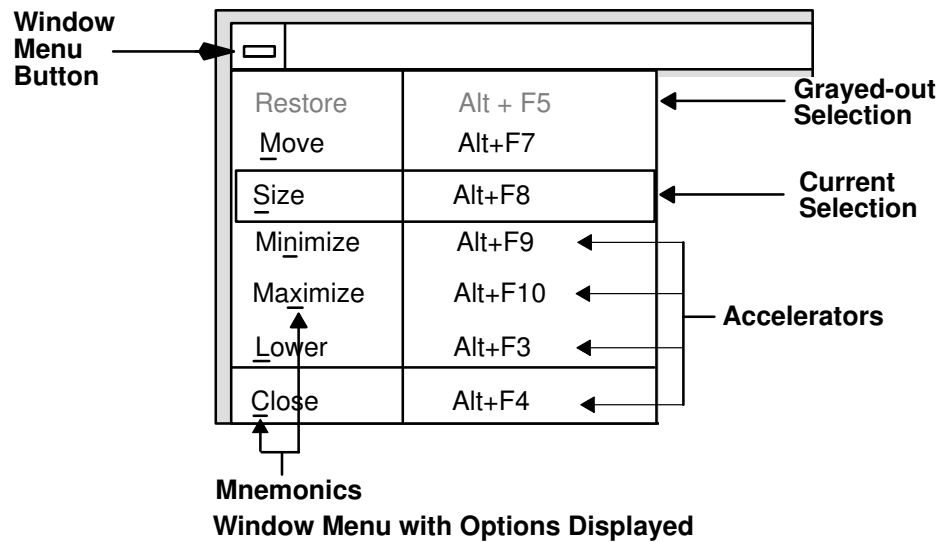
Displaying an AIXwindows Application Menu

Applications inside AIXwindows have their own menus with unique names that appear under the AIXwindows title bar. To display the menu:

- Click the application menu title with the left mouse button.

  OR

- Press the letter that is underlined in the name of the menu you want to select.

In the Edit Menu and Its Options illustration, for example, pressing the mnemonic **E** displays the Edit menu of AIXwindows.
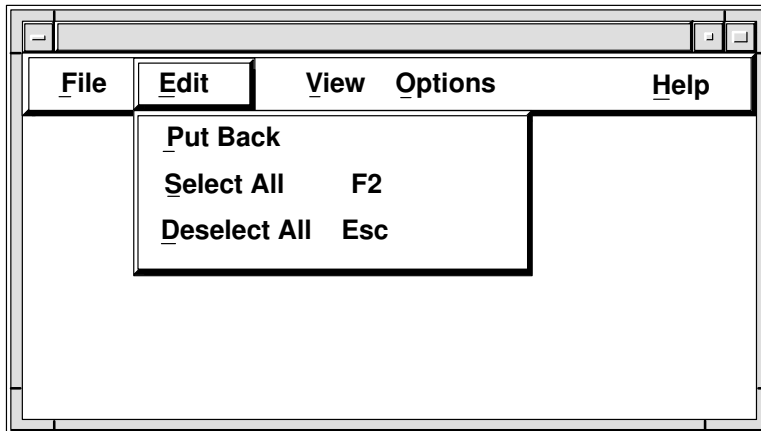
The Edit Menu and Its Options

Displaying the Root Menu

To display the root menu, point to the root window (the backdrop behind all other windows). Press and hold the left mouse button, drag the mouse pointer to the desired option, and release the mouse button.

The root menu is normally customized. The Default Root Menu illustration shows an uncustomized root menu.
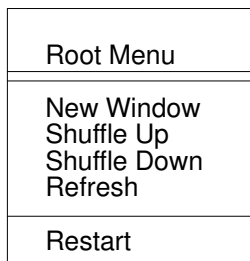
Default Root Menu

Moving a Window

You can move windows using the mouse or the **Move** option on the Window Manager menu.

- Move the mouse pointer to the title bar. When properly positioned, the mouse pointer has an arrowhead shape. Press and hold the left mouse button and drag the window in the direction you want it to go. The outline of the window frame moves as you move the mouse.

  OR

- Select the **Move** menu option and use the arrow keys to move the window.

A counter appears in the center of the screen, showing in pixels the coordinates of the window's upper–right corner, and the outline of a rectangle surrounds the window.

When the rectangle reaches the new location, release the mouse button, press the Enter key, or click any mouse button. The window will move to fill the rectangle outline.

Note: To cancel the move, press the Esc key before you release the mouse button.

Opening a New Terminal Window

You can work with several applications, each in its own window, during a single session of AIXwindows.

- To open a new terminal window, select the **New Window** menu option from the root menu.

    OR

- At the system prompt in a window, enter `aixterm&`.

A new window is displayed, usually 80 characters wide and 25 lines long.

Positioning Windows Above or Below Each Other

The following describes three methods for moving a window on top of or beneath other windows:

- Move the mouse pointer to any visible portion of a window frame and click the left mouse button. If the window is behind other windows, it moves to the front.

- Display the root menu and select the **Shuffle Up** menu option to move the window at the bottom of the window stack to the top, or select the **Shuffle Down** menu option to move the window at the top of the window stack to the bottom.

- Select the **Lower** menu option (or press the L key) from the window's menu, or press the Alt–F3 key combination. This moves the active window behind the other windows.

Changing the Size of a Window

You can change the size of a window using the mouse, the Window Manager menu, or a combination of the mouse and keyboard.

- Move the mouse pointer to an edge or corner of the window frame, then press the left mouse button and drag the mouse pointer in the direction you want the frame to move. Pull the frame outward to expand the window or pull the frame inward to make the window smaller. The outline of a rectangle stretches or contracts as you move the mouse, and a counter appears in the center of the screen, showing the size of the window as it changes.

    OR

- Select the **Size** menu option (or press the mnemonic **I** key) from the window menu, or press the Alt–F8 key combination.

    A counter appears in the center of the screen, showing the size in characters of the window as it changes, and the outline of a rectangle surrounds the window. Use the arrow keys or the mouse to stretch or shrink the window.

- When the window has reached the desired size, release the mouse button, or press the Enter key, or click any mouse button.

Note: To cancel the resizing, press the Esc key before you release the mouse button.

Where you place the mouse pointer on the window frame determines how the window is resized. The following table contains the different places to grab the window frame.

To stretch or shrink the window		Point to
vertically...	from the top	top of the frame, above the title bar
	from the bottom	bottom of the frame
horizontally...	from the right	right side of the frame
	from the left	left side of the frame
diagonally...	from the bottom left	frame's lower–left corner
	from the top left	frame's upper–left corner
	from the top right	frame's upper–right corner
	from the bottom right	frame's lower–right corner

To Maximize a Window

Maximizing a window expands it to the full size of the screen.

- Click the maximize button at the extreme right of the title bar with the left mouse button. If the window is already maximized, this action returns the window to its previous size.

    OR

- Select the **Maximize** window option (or press the mnemonic **X** key) from the window menu, or press the Alt–F10 key combination.

To Return a Window to Its Previous Size

Select the **Restore** menu option (or press the mnemonic **R** key) from the window menu, or press the Alt–F5 key combination.

Closing a Window

When you end the program that is running within a window, the window usually closes and disappears. However, if you must close a window yourself:

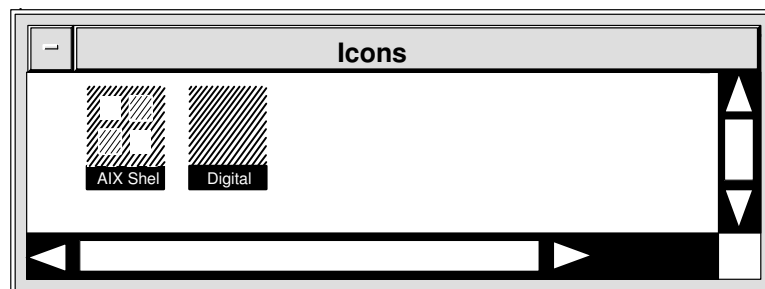- Double–click the window menu button on the left end of the title bar.

    OR

- Select the **Close** menu option from the window menu (or press the mnemonic **S** key), or press the Alt–F4 key combination.

Note: To cancel the menu without choosing a selection, press Esc.

Manipulating AIXwindows Icons

Icons are used to represent windows. This is especially helpful if your screen becomes cluttered with windows. Programs that are running continue, either until they finish or until they halt because they require input from you.

Icons are placed in a window on the screen known as the icon box. Within the box, you can rearrange the icons and convert them back into windows. The Icon Box illustration shows an icon box window.

Icon Box

To Change Windows into Icons

Sometimes when you are working with multiple windows, it is convenient to change a window into an icon. This procedure is called minimizing a window. An icon is a small graphic image easily stored on the root window. A program running in a minimized window continues to run until it finishes or requires additional input.

- Click the minimize button (on the right side of the title bar, but to the left of the maximize button).

   OR

- Select the **Minimize** menu option from the window menu (or press the mnemonic **N** key), or press the Alt–F9 key combination.

In either case, the window disappears, and the icon appears in the icon box.

To Restore a Window from an Icon

- Double–click the icon in the icon box.

   OR

- Select the **Restore** menu option from the icon's window menu (or press the mnemonic **R** key), or press the Alt–F5 key combination.

The window reappears at its previous size and location, and the icon is displayed as a grayed–out silhouette.

To Move an Icon within the Icon Box

Click the icon and drag the mouse pointer to the new location. The outline of the icon moves with the mouse. When you release the mouse button, the icon moves from its original location to the new location.

To Pack Icons

To *pack icons* is to rearrange the icons in the icon box into a neat grid.

Select the **Pack Icons** menu option (or press the P key) from the icon box's window menu, or press the Alt–F12 key combination.

Getting Help in the AIXwindows Interface

There are various tools available to help you when you need more information on commands and the operating system. These tools are:

- The "Hypertext Library for AIX 4.3" CD-ROM, which provides the operating system books in HTML format for viewing in a web browser

- The **help** command, which displays information about basic commands

- The **man** command, which displays information about commands, subroutines, and files

Online Documentation

To access and view the online Documentation, follow the procedure described in the booklet of the "Hypertext Library for AIX 4.3" CD–ROM. See also the "About the Documentation CD–ROM" leaflet.

help Command

The **help** command presents a one–page display of information for new users. At the prompt in an AIX window, type:

```
help
```

The system displays information similar to the following:

```
Look in a printed manual for general help if you can. You should
have someone show you some things and then read "Using and
Managing AIX" manual.

The commands:
    man -k keyword       lists commands relevant to a keyword
    man command          prints out the manual pages for a command
                          are helpful; other basic commands are:

    cat                 - concatenates files (and just prints them
                          out)
    ex                  - text editor
    ls                  - lists contents of directory
    mail                - sends and receives mail
    msgs                - system messages and junk mail
    passwd              - changes login password
    sccshelp            - views information on the Source Code
                          Control System
    smit                - system management interface tool
    tset                - sets terminal modes
    who                 - who is on the system
    write               - writes to another user
You could find programs about mail by the command:    man -k mail

and print out the man command documentation via:      man mail
You can log out by typing "exit".
```

man Command

The **man** command displays information on various reference articles, such as commands, subroutines, and files. To obtain information about a command, at the prompt in an AIX window, type:

```
man CommandName
```

The information that the **man** command provides can also be obtained in the *AIX Commands Reference* (Volumes 1–6) in the "Hypertext Library for AIX 4.3" CD-ROM.

Running an Application in the AIXwindows Interface

Running an application in a window environment is the same as in the command line interface. You enter the application's name at the prompt and press enter.

To run an application, at the prompt enter the application name:

```
ApplicationName
```

The application program then takes over the window in which you issued the command until you exit that program.

Exiting and Logging Off from AIXwindows

Before exiting AIXwindows, the recommended procedure is to exit any application programs and stop any commands that may be running in terminal windows. This avoids the possible loss of data due to improperly stopping a program.

When you exit a program, the command line prompt returns to the terminal window. However, if you started the program automatically or from a menu, exiting also removes the terminal window. Selecting **Close** from the window menu immediately stops any program running in the window. Interrupting a program like this may cause it to lose data. However, you can close the clock, or an idle terminal window (one showing a command line prompt) with no ill effect.

Press the Ctrl–Alt–Backspace key sequence to exit AIXwindows. This ends the graphical interface and one of the following may occur:

- The system displays the `login:` prompt. In this case, you are done.

   OR

- The system displays the command line prompt. In this case, follow the procedure Logging Off from the Command Line, on page 5-9.

Basic aixterm Tasks

A procedure is presented for each of the following tasks:

- Displaying and Changing the aixterm Menus, on page 4-12
- Copying Text between aixterm Windows, on page 4-12

Displaying and Changing the aixterm Menus

Each aixterm menu pops up when you press the correct combination of keys and buttons. Most menus are divided into two sections that are separated by a horizontal line. The top portion contains various modes that can be altered. A check mark is displayed next to a mode that is currently active. Selecting one of these modes reverses its state. The bottom portion of the menu provides the command entries; selecting one of these performs the indicated function.

You can change the options on the aixterm Options Menu, Modes Menu, and Scrollbar Menu.

To set or reset one of the options, you need to:

1. With the mouse pointer anywhere inside the window (or scrollbar), hold down the Ctrl key and then hold down the left mouse button. When the aixterm options menu appears, release the Ctrl key.

2. While still holding down the left mouse button, drag the mouse pointer to the option you want to set or reset, and then release the mouse button.

Copying Text between aixterm Windows

When you create a terminal window, the **aixterm** command allows you to select text and copy it within the same window or other windows by using copy–and–paste button functions. The selected text is highlighted while the button is pressed.

Note: Applications that run in AIXwindows do not always support this copy feature in their windows.

Using the mouse, you can copy text from one window into another window.

1. Have both windows—the window you want to copy from and the window you plan to copy into—open on your desktop.

2. Move the mouse pointer to the beginning of the text you want to copy. Click and hold the left mouse button.

3. Drag the mouse across the text you want to copy and release the mouse button at the end of the text you want to copy. While the mouse button is held down, the text to be copied is highlighted.

4. Move the mouse pointer to the other window where you want the copied text to be inserted. Press the middle mouse button. (Or, on a two–button mouse, press both mouse buttons.) The copied text is inserted at the cursor's position.

Related Information

Command: **aixterm**

Chapter 5. Using the Command Line Interface

In the command line interface, AIX commands are typed one line after another and are run in the order entered. The operating system does not distinguish a command from a program. Both are run after you type their names and press the Enter key. Pressing the Enter key tells the system that you have finished entering text and that it can start running the command. You can correct the command line any time before you press the Enter key.

This section discusses:

* Entering Commands, on page 5-2

* Common Problems When Entering Commands, on page 5-2

  – Misspelled Command

  – Incomplete Command

  – Case–Sensitive Command

* Basic Command Line Tasks, on page 5-4

  – Displaying Your User ID

  – Changing or Creating Your Password

  – Listing Files

  – Displaying Your Working Directory Path Name

  – Changing to Another Directory

  – Getting Help in the Command–Line Interface

  – Logging Off from the Command Line

Entering Commands

In the command line interface, you enter commands to tell the operating system which task you want to perform. When commands are entered, they are read by a command interpreter (also known as a shell) and then processed. You can use three different shells: Korn (also known as POSIX), Bourne, and C.

The *login shell* refers to the shell that is loaded when you log in to the computer system. Initially, the Korn shell is set up as the login shell.

Although some commands can be entered by simply typing one word, other commands use flags and parameters. Each command has a syntax that designates the required and optional flags, files, and parameters.

To enter a command, type in the command name or program name at the prompt:

```
$ CommandName
$ ProgramName
```

Some general rules about commands are:

- Spaces between commands, flags, and file names are important.

- Flags modify the way the command runs. Flags are often single letters preceded by a – (minus sign) and are set off by spaces or tabs.

- Two commands can be entered on the same line by separating the commands with a ; (semicolon). For example:

```
$ CommandOne;CommandTwo
```

  The operating system runs the commands sequentially.

- Commands are case–sensitive. The shell distinguishes between uppercase and lowercase letters. To the shell, `print` is not the same as `PRINT` or `Print`.

- A very long command can be entered on more than one line by using the \ (backslash) character at the end of the line and pressing Enter. A backslash signifies line continuation to the shell. The > (continuation prompt) appears on the next line to indicate that the system is waiting for more input. The following example is one command that spans two lines.

```
$ ls Mail info temp \
> diary
```

Common Problems When Entering Commands

When entering commands, you are likely to encounter one of the following problems: a misspelled command, an incomplete command, or a case–sensitive command.

Misspelled Command

When you enter a misspelled command, the shell may return an error message. For example, if you entered `whiami` instead of `whoami`, the system displays the following on your screen:

```
$ whiami
/bin/ksh: whiami: not found.
$
```

You might get an error message even if it appears that you typed the command correctly. Invisible control characters typed in by mistake usually cause this. Just retype the command when the prompt appears.

Incomplete Command

If an incomplete command is entered, the system waits for the command to be completed and may appear to be frozen (not doing anything). For example, the **cat** command is always used with a file name. If the command you had intended to enter was `cat testfile`, but instead you entered `cat`, the screen appears as follows:

```
$ cat
_
```

If you enter the file name now, the screen appears as in the following example. The file name is repeated (echoed), but the system is still not doing anything.

```
$ cat
testfile
testfile

_
```

To restore operation, press Ctrl–C. This causes the system prompt to return. Your screen appears as in the following example.

```
$ cat
testfile
testfile
^C$
```

Case–Sensitive Command

If you enter a command using the wrong case, the shell may display an error message. For example, if you entered `Ls` instead of `ls` the system displays the following on your screen:

```
$ Ls
/bin/ksh: Ls: not found.
$
```

Basic Command Line Tasks

A procedure is presented for each of the following tasks:

- Displaying Your User ID, on page 5-4
- Changing or Creating Your Password, on page 5-4
- Listing Files, on page 5-5
  - Displaying the Files in Your Current Directory
  - Displaying Hidden Files
  - Displaying the Contents of a File
- Displaying Your Current Directory Path Name, on page 5-7
- Changing to Another Directory, on page 5-7
- Running an Application in the Command Line Interface, on page 5-8
- Getting Help in the Command Line Interface, on page 5-8
- Logging Off from the Command Line, on page 5-9

Displaying Your User ID

The **whoami** command displays your user ID (login name). For example, at the system prompt, type:

```
whoami
```

The system displays your user ID on the next line, and the system prompt returns:

```
denise
$
```

Changing or Creating Your Password

In addition to your user ID, it is also recommended that you have a password. A password verifies your identity to the system and protects your data from unauthorized access. You can set or change a password using the **passwd** command. Your password does not appear on the screen when you type it.

1. At the system prompt, type:

   ```
   passwd
   ```

   If you do not have a password, skip step 2.

2. The following prompt displays:

   ```
   Changing password for userID
   userID's Old password:
   ```

   This request keeps an unauthorized user from changing your password while you are away from your system. Type your current password.

3. The following prompt displays:

   ```
   userID's New password:
   ```

   Type your new password.

4. The following prompt displays:

   ```
   Enter the new password again:
   ```

   This request protects you from setting your password to a mistyped string that you cannot recreate. Type your new password again.

Examples

1. To change the password of the user *denise*, type:

```
passwd
```

The system displays information similar to the following:

```
Changing password for "denise"
denise's Old password:
denise's New password:
Enter the new password again:
$
```

2. The following example shows what occurs when you incorrectly type the current password:

```
$ passwd
Changing password for "denise"
denise's Old password:
Your entry does not match the old password.
You are not authorized to change "denise's" password.
$
```

3. The following example shows what occurs when you incorrectly retype the new password:

```
$ passwd
Changing password for "denise"
denise's Old password:
denise's New password:
Enter the new password again:
The password entry does not match, please try again.
denise's New password:
Enter the new password again:
$
```

Listing Files

You can display the contents of directories to which you have access with the **li** or **ls** commands. The **li** command displays your files and directories in alphabetic order in four columns. The **ls** command also displays your files and directories in alphabetic order but adjusts the number of columns according to the width of your terminal or window.

File system   A file system consists of groups of directories and the files within the directories. The Example File System illustration shows an example of a file system.
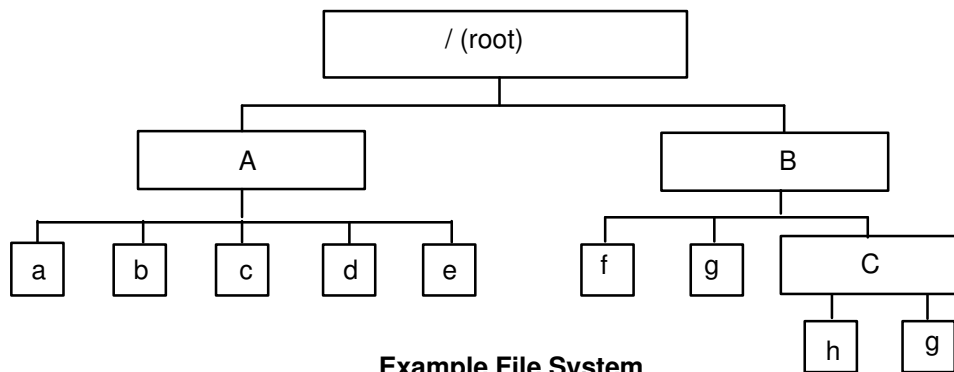
Example File System

A file system is commonly represented as an inverted tree. The root directory, symbolized by a / (slash) symbol, defines a file system and appears at the top of a file–system–tree diagram. Directories branch downward from the root directory in the tree diagram and contain files and subdirectories. Branching creates unique paths through the directory structure to every object in the file system.

Files are typically grouped in a special type of file called a *directory.* Grouping information improves organization, access time, and flexibility. Directories contain files, subdirectories, or a combination of both.

File   A *file* is a collection of data in a format that can be read from or written to. Files contain either ASCII information that users can read or binary information that the system interprets. Executable programs, simple text, software applications, printer definitions, and commands are all stored in files and treated in a uniform fashion by the operating system.

Each directory, except for root, has one *parent directory* and can have one or more *child directories.* In the "Example File System" illustration directory **B** is parent to directory **C** and directory **B** is child to root.

Path name The *path name* for each file and directory in the file system consists of the names of every directory that precedes it in the tree structure.

Since all paths in a file system originate from the root directory, each file in the file system has a unique relationship to the root directory known as the *absolute path name.* Absolute path names begin with the / (slash) symbol. The absolute path name of file **h** within the example file system is /**B**/**c**/**h**. Notice that there are two files named **g**. Because the absolute paths to these files are different, /**B**/**g** and /**B**/**c**/**g**, each file named **g** has a unique name within the system. Every component of a path name is a directory except the final component. The final component of a path name can be a file name.

Another way of writing the path name of a file is the *relative path name.* The relative path name describes a file relative to your current directory. If your current directory is /**B**, to get to file **h** the relative path is **C**/**h**. Relative path names do not begin with the / (slash) symbol.

Displaying the Files in Your Current Directory

When you log in, the system puts you in a directory called your *home directory.* Your home directory is where you keep your personal files. The directory you are currently working in is called your *current* or *working* directory.

To display the files in your current directory, at the prompt, type:

```
ls
```

The system displays information similar to the following:

```
letter.041393
mail
swprint
testfile
```

If the directory listing is very long, the top portion scrolls off the screen. To prevent this from happening, use the **ls** command piped to the **pg** command. At the prompt, type:

```
ls | pg
```

This command prints the contents of the directory one screen at a time. Each screen is followed by a prompt (**:**). If you press the Enter key, another page is displayed.

To display the contents of the current directory and distinguishing program files and directories, use the **ls** command with the **–F** flag. The **–F** flag puts a / (slash) after the name if it is a directory and a * (star) after the name if it is a program. At the prompt, type:

```
ls –F
```

The system displays information similar to the following:

```
letter.041393
mail/
swprint*
testfile
```

In the previous example, `mail` is a directory, `swprint` is a program, and `letter.041393` and `testfile` are other data or text files.

Displaying Hidden Files

Hidden files are files with names that begin with a . (dot). These files are normally used for initialization or control files and they are not listed when using the **ls** command. To list all the files in a directory, use the **ls** command with the **–a** flag.

At the prompt, type:

```
ls –a
```

The system displays information similar to the following:

```
.profile
.xinitrc
barchart.ps
letter.041393
swprint
testfile
```

In the previous example, the files `.profile` and `.xinitrc` are hidden files.

Displaying the Contents of a File

The **pg** command prints the contents of text files one screen at a time. Each screen is followed by a prompt (`:`). If you press the Enter key, another page is displayed.

To display the contents of a short file named `TimeLog,` at the prompt type:

```
pg TimeLog
```

The system displays information similar to the following:

```
Start-up --> Mon Jun  7 08:16:20 CDT 1993
Logout   --> Mon Jun  7 18:25:55 CDT 1993

Start-up --> Tue Jun  8 07:05:46 CDT 1993
Logout   --> Tue Jun  8 15:57:05 CDT 1993

Start-up --> Wed Jun  9 08:06:15 CDT 1993
Logout   --> Wed Jun  9 18:27:16 CDT 1993
$
```

Displaying Your Current Directory Path Name

The **pwd** (present current directory) command prints your current directory path name.

At the prompt, type:

```
pwd
```

The system displays information similar to the following:

```
/u/denise
$
```

In the previous example, `/u/denise` is the current directory.

Changing to Another Directory

The **cd** (change directory) command changes your location in the file system from one directory to another. If you have the proper permissions, you can access any directory in the file system. The format of the **cd** command is:

```
cd PathName
```

The following example uses the **cd** command to change to the directory /**usr**/**bin** followed by the **pwd** command to verify the current directory.

```
$cd /usr/bin
$pwd
/usr/bin
$
```

To go to your home directory from any directory, at the prompt type:

```
cd
```

The following example uses the **cd** command alone:

```
$ pwd
/u/denise/work/93
$ cd
$ pwd
/u/denise
$
```

To go to the parent directory of your current directory, at the prompt type:

```
cd ..
```

The following example uses the **cd ..** command.

```
$ pwd
/u/denise/work/93
$ cd ..
$ pwd
/u/denise/work
$
```

Running an Application in the Command Line Interface

Running an application in the command line interface is the same as entering a command.

To run an application, at the prompt type the application name:

```
>ApplicationName
```

The application program then takes over until you exit the program.

Getting Help in the Command Line Interface

There are various tools available to help you when you need more information on commands and the operating system. These tools are:

- "Hypertext Library for AIX 4.3" CD-ROM, which provides the operating system books in HTML format for viewing in a web browser

- The **help** command, which displays information about basic commands

- The **man** command, which displays information about commands, subroutines, and files

Online Documentation

To access and view the online Base Documentation Library with a Version 3.2 HTML–compatible web browser, type the following path:

```
/usr/share/man/info/en_US/a_doc_lib/aixgen/topnav/topnav.htm
```

To access and view the online Extended Documentation Library, type the following path:

```
/usr/share/man/info/en_US/a_doc_lib/aixgen/wxinfnav/topnav.htm
```

help Command

The **help** command presents a one–page display of information for new users.

At the prompt, type:

```
help
```

The system displays information similar to the following:

```
Look in a printed manual for general help if you can. You should
have someone show you some things and then read "Using and
Managing AIX" manual.
The commands:
    man -k keyword      lists commands relevant to a keyword
    man command         prints out the manual pages for a command
                        are helpful; other basic commands are:
    cat         - concatenates files (and just prints them out)
    ex          - text editor
    ls          - lists contents of directory
    mail        - sends and receives mail
    msgs        - system messages and junk mail
    passwd      - changes login password
    sccshelp    - views information on the Source Code Control
                  System
    smit        - system management interface tool
    tset        - sets terminal modes
    who         - who is on the system
    write       - writes to another user
You could find programs about mail by the command:    man -k mail

and print out the man command documentation via:     man mail
You can log out by typing "exit".
```

man Command

The **man** command displays information on various reference articles, such as commands, subroutines, and files.

To obtain information about a command, at the prompt type:

```
man CommandName
```

The information that the **man** command provides can also be obtained from the *AIX Commands Reference* (Volumes 1–6) in the "Hypertext Library for AIX 4.3" CD-ROM.

Logging Off from the Command Line

At the prompt, do one of the following:

• Press the end–of–file control–key sequence (Ctrl–D key).

   OR

• Type `exit` and press Enter.

   OR

• Type `logout` and press Enter.

After you log off, the system displays the `login:` prompt.

Attention: Do not turn the power off to your system. Turning off the system ends all processes running on the system. If other users are working on the system or if jobs are running in the background, data may be lost. Perform proper shutdown procedures before you stop the system. For more information on shutting down or rebooting your system, see System Startup, Logging In, Shutting Down and Rebooting, on page 2-1.

Related Information

For more information about commands and how to read command syntax diagrams, see the Commands Overview in *AIX 4.3 System User's Guide: Operating System and Devices*.

The *AIX Quick Reference* provides a handy guide to the common tasks you perform on the system.

Chapter 6. Using Web-based System Manager

Web-based System Manager is a graphical user interface (GUI) application for managing your work on your system. You can perform such tasks as viewing users and groups, installed software, and printers and devices; managing logical volumes; mounting and unmounting file systems; configuring the network; and numerous other tasks. You can manage systems from a locally attached display or remotely from another AIX system or personal computer equipped with a web browser.

The Web-based System Manager GUI provides point–and–click control of objects, which provides an alternative to learning and using AIX commands.

Web-based System Manager contains the following applications:

Application	Contents
Backups	From Backups, you can create a backup of the operating system (that is, the root volume group), view files in a system image backup, and restore individual files from a system image backup. A system image backup can be used to restore your system to its current state. If you create the backup on tape, the tape is bootable and includes the installation programs needed to install from the backup.
Devices	From Devices, you can perform device management tasks, such as adding or deleting a device. You can also change various device options. Devices include hardware components, such as printers, drives, adapters, buses, and enclosures, as well as pseudo–devices, such as PTY and LFT.
File Systems	From File Systems, you can restore a file system and perform tasks associated with journaled file systems, network file systems, and CD–ROM file systems.
Volumes	From Volumes, you can perform tasks associated with volume Groups, logical volumes, physical volumes, and paging space.
Network	From Network, you can perform tasks associated with TCP/IP protocol configuration, maintenance, and network interfaces; Point–to–Point protocol configuration, interfaces, and authentication; TCP/IP services, subsystems, and access control; Network Information Service; and Network File System.
Printer Queues	From Printer Queues, you can perform tasks associated with local and remote print services, print queues, print processors (full and partial), print devices, and print jobs in queues.
Processes	From Processes, you can perform process management tasks, including showing/changng the properties and priority of a process, binding or unbinding a process, deleting a process, locating defunct processes and processes consuming excessive resource.

Application	Contents
Software	From Software, you can perform software installation and maintenance activities on a managed AIX system. Use Web–based System Manager to install and update software, to commit or reject updates, to remove selected software from the managed system, or to perform NIM client tasks.
Subsystems	From the Subsystems application, you can refresh, start, stop, start tracing, or stop tracing a subsystem, subserver, or subsystem group.
System	From System, you can manage system components, including:

System components:

- Managing the system console and temporary console
- Setting system date, time, and time zone
- Managing operating system configuration
- Managing logon user interface
- Managing system dump for problem analysis
- Managing floating licenses (for AIX) and fixed licenses
- Managing system shutdown
- Sending broadcast messages to logged–on users
- Managing 64–bit application environment (for 64–bit systems only)
- Specifying location of documentation server and default browser
- Managing how text in menus and messages is displayed on your system.

Application	Contents
Users	From Users, you can perform tasks associated with adding and managing users and groups in a managed AIX system.
NIM interface	From NIM (an application for distributing software installation operations across a network), you can administer a NIM environment. Use NIM to manage global aspects of the NIM environment, to manage machines in the environment,to manage resources in the environment, or to install and maintain software.
Registered Application	From Registered Application, you can register web–based applications, such as Netfinity servers, from within Web-based System Manager

For detailed information about functions and applications, see the online help and documentation.

Starting Web-based System Manager

You can start Web-based System Manager in the following ways:

- On an AIX system with a graphics terminal:
  - From the Common Desktop Environment (CDE) Application Manager
  - From a command line terminal window in the AIXwindows environment
  - From a command line terminal in the Common Desktop Environment (CDE)
- On a personal computer, with a Version 3.2 HTML–compatible web browser.

From the Common Desktop Application Manager

To start Web-based System Manager from the Common Desktop Application Manager, select the Application Manager icon on the Front Panel. In the Application Manager window, select **System_Admin**. In the Application Manager – System_Admin window, select the Web-based System Manager icon. Clicking on the icon opens the launch pad.

Note: You can customize your desktop to make the application icons more accessible. For example, you can create a workspace for just your printing applications and place all the icons in that workspace.

From the Command Line

If you are running the AIXwindows environment, open an aixterm window. If you are running the Common Desktop Environment (CDE) environment, open a dtterm window. To start a Web-based System Manager application, type its fast path command at the command line. You can start the following applications with a fast path command:

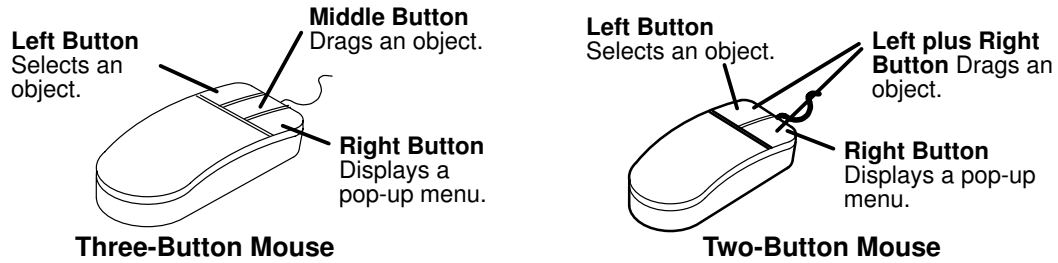| Application	Fast Path
Backups	**wsm backup**
Devices	**wsm devices**
File Systems	**wsm fs**
Network	**wsm network**
NIM interface	**wsm nim**
Printer Queues	**wsm printers**
Processes	**wsm processes**
Registered Application	**wsm register**
Software	**wsm software**
Subsystems	**wsm subsystems**
System	**wsm system**
Users	**wsm users**
Volumes	**wsm lvm**
Web-based System Manager Launch App	**wsm**
Workload Management	**wsm wlm**

From a Web Browser

To open Web-based System Manager from a web browser, type the following in your browser's URL or location field:

```
http://<your server name>/wsm.html
```

This opens the Web-based System Manager launch container. Double–click on the icon of the application that you want to use.

Web-based System Manager Mouse Basics

Before using Web-based System Manager, you should understand standard mouse mappings, shown in the Three–Button Mouse and Two–Button Mouse illustrations:

Left Button
Selects an object.

Middle Button
Drags an object.

Right Button
Displays a pop-up menu.

Three-Button Mouse

Left Button
Selects an object.

Left plus Right Button Drags an object.

Right Button
Displays a pop-up menu.

Two-Button Mouse

The following terms are used throughout the online help information and are related to the mouse actions you can perform in Web-based System Manager:

Point	Slide the mouse to position the pointer (mouse cursor) on an object.
Click or Select	Point to an object, then press and release the left mouse button without moving the pointer. A selected object is emphasized. Once you select an object, actions for that object are available in the Selected menu or from certain tool bar icons.
Double–Click	Point to an object, then quickly click the left mouse button twice. Double–clicking on an object causes it to open. Double–clicking on a container causes it to open to show its contents. Double–clicking on a Task Guide causes it to open to the first panel. Double–clicking on other objects cause them to open into a property notebook dialog box.
Multiselect	Many Web-based System Manager applications support the selection of multiple objects. There are three ways to perform a multiple selection:

- Press and hold down the left mouse button while you drag the mouse pointer across the group of objects you want to select.

- Select one object, then press and hold down the Ctrl button while you select one or more additional objects.

- Click one object, then move the mouse pointer to another object. Press and hold the Shift button while you click on the second object.

Choose	Point to an object or area, then press and hold the right mouse button to display a pop–up menu for the selected object or area. To select a menu item, continue holding the right mouse button, point to the item and release.

Basic Web-based System Manager Interface

Containers

Web-based System Manager components, referred to as applications, can be thought of as container windows that hold objects just as desktop system folders hold files and applications. The container windows have the basic format shown in the illustration of a Web–Based System Manager window.

Menu Bar

The *Menu Bar* lists the actions that can be performed with a particular application. Web-based System Manager has the following menus:

- **Object**: This menu title reflects the most common type of objects in the container, for example, users, software, or devices. The title varies for each container. Items in the menu are applied to the entire container.

- **Selected**: This menu lists actions that are applied to one or more items that have been selected in the view area. Only those actions that apply to the object or objects selected are visible in this menu. If two or more different types of objects with different actions are selected, only those actions that apply to all of the selected objects are shown.

- **View**: This menu lists actions that change the manner in which objects are presented in the view area.

- **Options**: This menu lists items for customizing the user interface.

- **Help**: This menu lists items for extended help, and information about copyrights and the version number of the Web-based System Manager component.

Pop–up Menus

Pop–up menus are a quick way of accessing menu items. Pop–up menus are opened when you press the right mouse button while the mouse pointer is over an object. The opened pop–up menu displays the Selected menu items that apply to that object. If you press the right mouse button when the mouse pointer is over the background of the view area, an object pop–up menu for the application you are in displays.

Tool Bar

The *Tool Bar* contains common and frequently used actions for an application. Actions included in the toolbar are a subset of the actions in the menu bar. Holding the mouse pointer over a toolbar icon for a few seconds causes a label to appear that describes the function of the icon.

Common Actions

The following actions are supported in the containers of most Web-based System Manager applications:

Object Menu :	
Find	Opens a dialog box for search for an object.
Become Administrator	Opens a dialog box for change to another user account by logging on as that user. This menu choice is available only in applet mode.
Close	Closes the currently active Web-based System Manager container window and any dialog boxes opened by that window.
Exit	Exits the Web-based System Manager environment and closes all Web-based System Manager windows.
Selected Menu:	
Open	Opens the selected object in the container view area or starts a selected TaskGuide.
Properties	Opens the properties notebook (dialog box) of a selected object.
Select All	Selects all objects in the container view area.
Deselect All	Removes selection from all objects in the container view area.
View Menu:	
Reload Now	Causes the managed system to reload and redisplay the objects in the container view area to reflect its current view status.
Stop Loading	Stops the loading of icons into the container view area.
Open New Window	Opens a new copy of the current container window.
Large Icons	Display icons in the container view area in the large size.
Small Icons	Display icons in the container view area in the small size.
Icon View	Displays objects in a grid arrangement without detailed properties or hierarchy information. Useful when viewing details of icons are important or when a large number of icons are to be displayed.
Details View	Displays objects and some properties in a tabular arrangement. Objects can be sorted by their displayed properties by clicking on the property column headings.
Tree View	Displays objects according to a hierarchy in the form of one or more trees. Branches of the tree can be contracted by clicking on the (–) symbol or expanded by clicking on the (+) symbol.

Tree–Details View	A combination of Tree and Details views that shows both the hierarchy of objects and some of their properties. Branches of the tree can be contracted by clicking on the (–) symbol or expanded by clicking on the (+) symbol.
Sort	Rearranges the contents of a container displayed in an Icon or Details view by Name, Type (Class), or Property.
Filter	Displays or hides the objects in a container based on their Name, Type (Class), or the value of one or more properties.
Options Menu:	
Menu Bar	When checked, displays the container's Menu Bar. Unchecking this choice hides the Menu Bar. The Menu Bar can be restored by opening the pop–up menu on the container background and selecting the Menu Bar choice.
Tool Bar	When checked, displays the container's Tool Bar. Unchecking this choice hides the Tool Bar and the Activity icon.
Status Line	When checked, shows the status line at the bottom of the container. Unchecking this choice hides the status line.

Activity Icon

The *activity icon* shows that the container is busy finding objects to list in the view area or opening another window or dialog box.

View Area

The *view area* lists icons that represent things on the system. Depending upon the application and user preferences, icons can be presented in a variety of views, including the **Icon**, **Tree**, **Details**, and **Tree–Details** views. Choices are provided in the View menu for sorting or filtering objects in the view area.

Note: Sorting is not supported in the tree views.

Status Line

The *status line* presents the status of objects in the active window. For example, it shows the progress of filling objects into the window. When all objects have been found, the status line shows how many objects are displayed.

Dialog Boxes

OK	Submits the values specified in the controls of a dialog box and closes the dialog box
Apply	Submits the values specified in the controls of a dialog box and leaves the dialog box open
Reset	Restores the values specified in the controls of a dialog box to their settings when the dialog box was opened
Cancel	Closes the dialog box without submitting the values specified in its controls
Next	Performs the next step in a series of steps
Back	Returns to the previous step in a series of steps
Help	Opens a context sensitive help window

TaskGuides

TaskGuides are dialog boxes that assist you in performing a task by presenting a series of simple tasks with questions that you answer or information that you specify. An example of a TaskGuide is shown in the Add New Group illustration:

Web-based System Manager Keyboard Basics

You can perform many Web-based System Manager actions using key sequences, even though the helps always refer to mouse actions. To use a key sequence described in the form `key1+key2`, press and hold key1, then press key2.

Note: The `keyboardFocusPolicy` resource in your **.Xdefaults** file must be set to `explicit` so that you can set the input focus using key sequences. When using the keyboard, the focus area is emphasized. Generally, a focus area can be selected or serve as a drop site.

These key sequences are equivalent to mouse actions in Web-based System Manager:

Point	Tab (forward) or Shift+Tab (backward) to move between controls in a Web–based System Manager dialog or Properties Notebook. Use the arrow keys to move from object to object in a Web–based System Manager container. The focus area is emphasized.
Click or Select	Press the spacebar. The selected object appears with a white background outlined in black.
Double–Click	Press the spacebar, then press the Enter key.
Multiselect	Select an object, then use the arrow keys to point to another object and press Shift+spacebar. Continue until you have selected all the desired objects in the area. (You can select all by selecting Ctrl+A, and deselect all by entering Ctrl+Shift+A.)

Key mappings for Web–based System Manager interface	
Key	**Function**
Spacebar	Selects object
Enter	Activates object
Shift+spacebar	Adds object to collection of selected objects
Tab	Moves the focus from current control to next control in a dialog or Properties Notebook
Shift+Tab	Moves the focus from current control to previous control in a dialog or Properties Notebook
Arrow keys	Moves the focus from object to object in a container
F10	Moves the pointer to or from the menu bar (to move from one menu to the next in the menu bar, use the arrow keys)

Key mappings for Web–based System Manager menu selections	
Key	**Function**
Ctrl+F	Find
Ctrl+W	Close
Ctrl+Q	Exit
Ctrl+A	Select all
Ctrl+Shift+A	Deselect all
Ctrl+R	Reload (objects in the container)

Ctrl+N	Open new window
Ctrl+I	Switch icon size
Ctrl+L	Filter objects in the container
Ctrl+S	Sort objects in the container

Key mappings for managing the windows	
Key	**Function**
Ctrl+Q	Close
Alt+Tab	Raises the next window in the stack and moves the input focus to that window
Alt+Shift+Tab	Raises the previous window in the stack and moves the input focus to that window
Alt+Esc	Raises the next window in the stack without changing the input focus
Alt+Shift+Esc	Raises the previous window in the stack without changing the input focus

Note: The Alt+key sequences work for AIX and Windows platforms; the sequences may not work for other platforms.

Chapter 7. System Problems and Error Messages

Sometimes, your understanding of a system problem may be very general. At other times you may be able to pinpoint the part of the system causing the problem. Or you may know specifically what is causing a problem and want to use a particular tool to study or fix the problem.

Responding to System Problems

The *AIX Version 4.3 Problem Solving Guide and Reference* provides information to help you investigate, define, and fix system problems. This book is for system users who are having problems with software or hardware operation, the operating system, or other programs installed on the system. The chapters in the *AIX Version 4.3 Problem Solving Guide and Reference* cover general symptoms, specific problems, and problem–solving tools.

Responding to Error Messages

The *AIX Messages Guide and Reference* provides you with information to help you identify and resolve any errors you receive that are identified by a message number. There are two types of numbered error messages that you can receive.

Chapter 8. Accessing Online Information

This chapter describes the different types of online information available and the various tools to help you access it. All the online information is available on CD–ROM and can be mounted or installed as a licensed program offering with the operating system. The library contains information about using, managing, and programming the operating system, and other programming language software.

To view the online information, you must have a Version 3.2 HTML–compatible web browser.

Available Online Information

The following online information is provided in this release:

* The "Hypertext Library for AIX 4.3" CD-ROM, which provides the base operating system books, the system programming guides and technical reference documentation, and can be viewed with a web browser

* The **help** command line tool, which displays information about basic commands

* The **man** command line tool, which displays information about commands, subroutines, and files

If InfoExplorer, which can be purchased and installed separately, is installed on your system, you can access information in the *Hypertext Information Base Library*.

Viewing Information with a Web Browser

The AIX online documentation is delivered on one of two CD-ROMs:
– 86 A2 72JX: Hypertext Library. Basic Subset for AIX 4.3
– 86 X2 73JX: Hypertext Library. Full Set for AIX 4.3

Instructions for installing the *Hypertext Library* are contained in the CD-ROM booklet and must be scrupulously followed.

The *Hypertext Library* comes with a set of tools called *Hypertext Library Utilities.* This set of tools contains a **Search** function allowing to search for information through the entire Library and a **Multi-Print** capability allowing to print several documents with a single click in the Search Results window.

The *Hypertext Library* and the *Hypertext Library Utilities* have both a graphical and character interface.

The contents of the *Hypertext Library* and the *Hypertext Library Utilities* are described in the *Hypertext Library* home page.

More information can be found in the leaflet: *"About the Documentation CD-ROM".*

The following information in this chapter **does not** concern the *Hypertext Library*. In particular, **do not use** the *Search Service* described herafter with the *Hypertext Library*.

Searching for Online Documents

The *documentation library service* allows you to search the indexes of the online help and document volumes that are installed and registered on your search server. For detailed information about this service, see Documentation Library Service in *AIX 4.3 System User's Guide: Operating System and Devices.*

Related Information

For a complete listing of documentation available in the product library for the AIX operating system, see *AIX and Related Products Documentation Overview*, order number 86 A2 71WE.

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Use the cut marks to get the labels.

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