Solaris® 2.2 Basic Installation Guide

Solaris

2.2

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Contents

Preface

How to Use This Book

This book is the starting point for anyone installing a system. It is divided into two parts:

- *Part 1 - Guide to Installing Your System* is for everyone

  It provides a high-level overview of installation methods including installation scenarios which can be used by system administrators and end users with networked or non-networked systems. After reading Part 1, all networked users (system administrators and end users) should refer to the *Solaris 2.2 System Configuration and Installation Guide* for specific installation instructions.

- *Part 2 - Standalone, Non-networked Installation* is for the standalone non-networked user; it provides step-by-step procedures for installing your system.

What Is the Solaris 2.2 Environment?

The Solaris 2.2® environment consists of the following software:

- SunOS™ 5.2 operating system, based on UNIX® System V Release 4 (SVR4)
- ONC™/NFS® networking software
- OpenWindows™ Version 3.2 window environment
- DeskSet™ applications implementing the OPEN LOOK® graphical user interface

Typeface Conventions

Table P-1 describes the typeface conventions and symbols used in this section.

Table P-1   Typographic Conventions

Typeface or Symbol	Meaning	Example
AaBbCc123	The names of commands, files, and directories; on-screen computer output	Edit your `.login` file. Use `ls -a` to list all files. `% You have mail.`
AaBbCc123	What you type, contrasted with on-screen computer output	`% `**`su`** `password:`
AaBbCc123	Command-line placeholder: replace with a real name or value	To delete a file, type `rm` *filename*.
AaBbCc123	Book titles, new words or terms, or words to be emphasized	Read Chapter 6 in *User's Guide*. These are called *class* options. You *must* be root to do this.
➤	Cascade to a submenu	Compose: Reply ➤ Reply to Sender, Include
%	UNIX C shell prompt	%
$	UNIX Bourne shell prompt	$
#	Superuser prompt, either shell	#

Part 1 — Guide to Installing Your System

Automatic or manual installation?

Quick or custom installation?

Should I preconfigure?

Installation Overview 1≡

This chapter is for anyone installing the Solaris 2.2 environment. Installation can be done by a system administrator, a user, or both. Sun offers two types of installation for networked and non-networked systems: automatic and manual. Both have advantages. This chapter will help you decide which is best for you.

Automatic Installation

The advantages of using automatic installation (also called JumpStart™ and auto-install) are most evident if you are a system administrator of a networked site. Automatic installation enables you to preconfigure systems with all the system and network information required for installation. Using automatic installation with networks:

- Centralizes installation

- Reduces installation time by enabling you to define classes of systems on a network or classes by type of end user, and have a default or customized configuration for a specific class

- Allows end users to participate in the installation or be completely insulated from the process

If you have a standalone non-networked system, you are your own system administrator and can use automatic installation to install the default software that resides on the CD-ROM.

Manual Installation

Manual installation (also called `suninstall`) enables system administrators and end users to maintain complete control of the installation process, whether networked or non-networked. Through an interactive program, you can decide to accept the defaults (Quick Install) or customize the Solaris 2.2 environment (Custom Install).

Choosing Automatic or Manual

All system installations (whether networked or non-networked, new or existing) offer the choice of automatic or manual installation. The decision to use one or the other depends on:

- The level of interaction you want with the installation program (networked or non-networked)

- Whether you want to accept the default Solaris 2.2 environment or customize it

- Your level of expertise

Installation Scenarios

The following pages provide a wide range of examples of automatic and manual installations and the decision making that is involved. While not every installation scenario is covered, nor every step, it will give you a high-level look at installing the Solaris 2.2 environment.

Preconfiguring Systems

As a system administrator, you decide the amount of preconfiguring you want to do. You can preconfigure information listed in the Preinstallation Worksheet on the following page. End users can participate in gathering any or all of this information. Any information not preconfigured must be supplied by users when they boot their systems.

Preinstallation Worksheet ✍

Category	Your Configuration
Hostname Example: dipthong	
IP Address Example: 195.5.2.15	
Subnet mask Example: 255.255.255.0	
Name service Choices: NIS, NIS+, none	
Name server hostname Example: phoneme	
Name server IP address Example: 195.5.2.25	
Time zone Examples: US/Mountain, US/Pacific, US/Eastern	
Domain name Example: emcity.oz.com	

See the System Configuration and Installation Guide

Automatic Installation

for system administrators:
networked systems
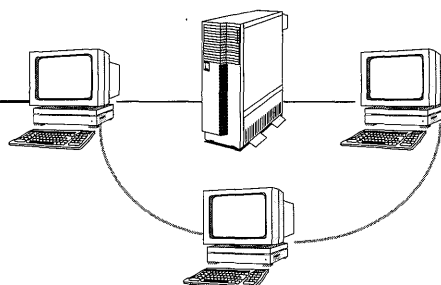
✳ **Determine if you want to preconfigure systems and the extent you want end users to participate in installation**

✳ **Set up auto-install information**

1 Determine the different classes of systems that will reside on the network; classes are systems...

◀ On a particular domain

◀ Of a certain type (server, standalone, diskless, dataless)

◀ On a specific network

2 Define the rules for assigning each machine to a specific class

See the System Configuration and Installation Guide

Automatic Installation

for system administrators:
  networked systems (continued)
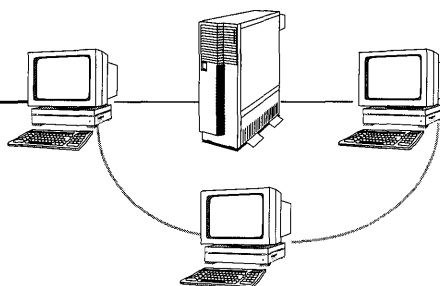
3 **Define in a class file the installation parameters to use for each class including:**

◀ System configuration type (server, standalone, diskless, dataless)

◀ Disk layout

◀ Software to be installed

4 **Check the customized configuration files for accuracy**

✳ **Check network installation options**

◀ **Set up a network install server**

◀ **Set up boot servers for subnets**

◀ **Add install client**

See the System Configuration and Installation Guide

Automatic Installation

for end users:
  networked, existing or new systems
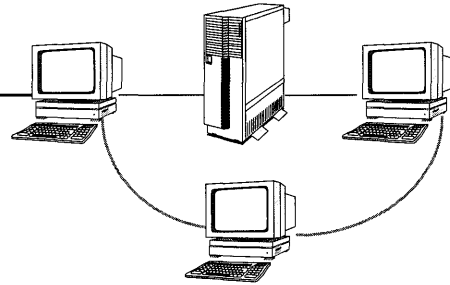
Before turning on your system...

1 **Supply the following information to your system administrator, and any other information requested**

◄ **Your name, system location**

◄ **Any special requests for software**

◄ **System information (model, part, and serial numbers)**

2 **Start installation; if a new system, turn it on, or type the** - install **argument to the appropriate boot command (see page 23 for boot commands)**

For example:

```
ok boot net - install
```

```
ok boot cdrom - install
```

A space is required between the minus sign and install

See the System Configuration and Installation Guide

Automatic Installation

for standalone, non-networked users:
   out-of-the-box, preinstalled systems
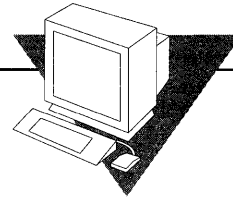
1   **Insert the Solaris 2.2 CD-ROM into the caddy**

2   **Insert the caddy into the compact disc player**

3   **Turn on your system and wait while it automatically boots**

4   **Answer the system configuration questions as prompted**

Manual Installation

for system administrators:
  networked and non-networked

Custom Install—

Boot from the network or CD-ROM (see page 23 for boot commands)

●
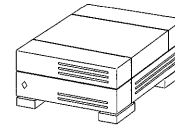
Answer any system configuration questions
not specified during preconfiguration

●
●

1 **Choose (Custom Install...) from the Solaris Installation menu**

2 **Customize the Solaris 2.2 environment**

＊

Choose system type

＊

Choose localizations
(if available)

＊

Choose software

＊

Specify parameters
for remotely mounted
file systems

＊

Choose and size disk
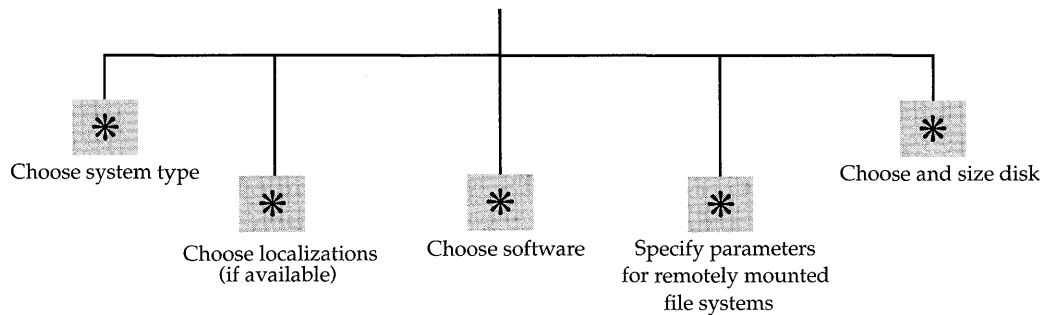
3 **Choose Start Installation**

See the System Configuration and Installation Guide

Manual Installation

for system administrators and end users:
networked and non-networked

Quick Install

Boot from the network or CD-ROM (see page 23 for boot commands)

Answer any system configuration questions
not specified during preconfiguration

●

1 Choose (Quick Install...) from the Solaris Installation menu

2 Accept the default or choose the appropriate software cluster

3 Accept the default or choose an appropriate target disk for installing Solaris 2.2

4 Check the final predefined configuration

5 Choose Begin Installation

6 If the login prompt is displayed, type root and answer the questions
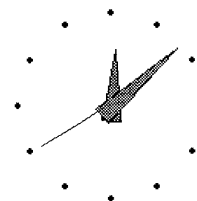
See Part 2 of this book
See the System Configuration and Installation Guide

After Installation?

Start OpenWindows by typing `/usr/openwin/bin/openwin`
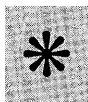
Create user accounts and environments (described in Part 2 of this book)
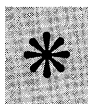
If you did not do a custom installation, add the User or System AnswerBooks (optional)
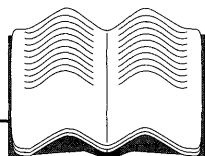
Where to Go From Here

Part 2 of this book describes installation for standalone non-networked users. If you are a networked user (system administrator or end user) see the *Solaris 2.2 System Configuration and Installation Guide* for specific installation instructions. See the figures on the following pages for overviews of what is covered in each book.

Solaris 2.2 Basic Installation Guide
for non-networked, standalone systems

Describes how to:
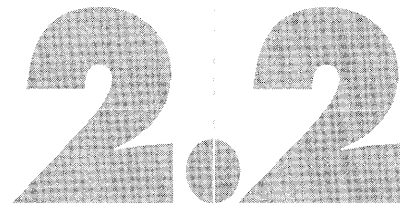
◄ Boot and install the default end user software for preinstalled, non-preinstalled, and 4.1.x systems

◄ Upgrade a Solaris 2.1 system

◄ Add User AnswerBook without doing a custom installation

◄ Create a user account and environment

◄ End and begin a work session

◄ Become superuser

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Solaris 2.2 System Configuration and Installation Guide
for all networked systems

Describes how to:

◄ Install Solaris 2.2 on the following networked
  systems: standalone, server, dataless, diskless

◄ Set up and install servers and boot servers

◄ Introduce a machine to the network

◄ Preconfigure systems for automatic installation

◄ Use advanced features of automatic installation

◄ Troubleshoot automatic installation

◄ Do a manual installation (quick or custom)

◄ Back up procedures for 4.1.x systems

◄ Upgrade from a previous revision of Solaris

◄ Restore procedures to 4.1.x systems

◄ Add and remove additional software packages
  with either a graphical user interface (GUI) or command line

Part 2 — Standalone, Non-networked Installation
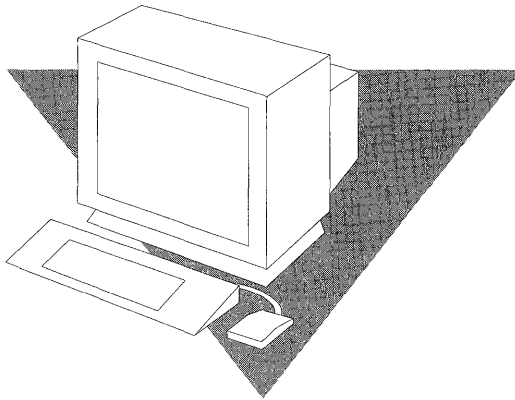
About This Section 2 ≣

This section is for users with standalone non-networked systems with graphics terminals. If your system is connected to a network, follow the installation instructions described in the *Solaris 2.2 System Configuration and Installation Guide*.

What You Should Know

This section describes how to boot a new system and upgrade an existing system to the Solaris® 2.2 environment. It assumes you are not a system administrator and do not have access to one. The instructions describe how to automatically install end user software without redividing your disks into slices, or deleting operating system software.

If you have a new system, you should be familiar with basic computer terminology and concepts, and a tree-structured file system. You should also be familiar with using a three-button mouse, graphical user interfaces, and typing commands at a prompt.

If you are upgrading your system to the Solaris 2.2 environment, you should be familiar with the Solaris environment including the DeskSet™ tools and also SunOS™ commands and shells.

Installation at a Glance

This book describes how to get your system ready to use including:

- How to boot a preinstalled and non-preinstalled system

- How to upgrade an existing system to the Solaris 2.2 environment

- How to add the Solaris 2.2 User AnswerBook® online documentation and other software

- How to create a user account and environment

- How to end and start a work session

Getting Help

If you have problems installing or using the Solaris 2.2 environment, call your system vendor and supply the following information:

- Your system model and serial number

- Your system configuration information including the number of disks and type, the frame buffer for your display device, and the amount of main memory

- The version of the operating environment you are installing (in this case, Solaris 2.2); if upgrading, the version you are upgrading from

- Information to help diagnose the problem, such as error messages, or the sequence of events that occurred before the problem

Related Books

See Appendix A, "Roadmap to Tasks and Topics," for a list of tasks and topics and where to find the information in the Solaris 2.2 environment.

Checking the Hardware 3 ≡

This chapter describes hardware compatibility and configuration issues. Your system must meet the requirements described in this chapter for successful installation. If you have questions about whether your hardware configuration is supported, contact your system vendor.

Do You Have Enough Disk Space?

The amount of disk space you need depends on whether you are adding the bundled User AnswerBook, unbundled Solaris 2.2 software and/or third party software. See Table 3-1 before starting installation.

Table 3-1   Disk Space Requirements

Disk Space For	Required
Solaris 2.2 only (end user software)	250 megabytes
User AnswerBook	300 megabytes
Unbundled Solaris 2.2 software	250 megabytes + size of the software
Third-party software	250 megabytes + the size of the software. See your third-party vendor documentation for space requirements.

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Standalone System Requirements

Table 3-2 lists the required and recommended hardware and configuration.

Table 3-2   System Requirements

Component	Required
Main memory	16 megabytes
Disk drive	SCSI, SMD, or IPI
Disk space	At least 300 megabytes if adding User AnswerBook
Compact disc player	A SPARC Compliant Definition (SCD) compact disc player connected to your system
PROM	A PROM compatible with the Solaris 2.2 environment. The PROM revision is displayed in the banner when you turn on a new system. For existing systems, you can type **banner** at the **ok** prompt to check your PROM revision before booting from the CD-ROM.

Display Devices

This book assumes you have a Sun-supported graphics terminal. If you have an alphanumeric terminal, you can use this book for installing the end user software, but will then need to refer to the *Solaris 2.2 System Configuration and Installation Guide* for other tasks.

Booting and Installing Preinstalled and Non-preinstalled Systems 4 ≡

This chapter describes how to boot and install the default end user software for preinstalled and non-preinstalled systems from your CD-ROM, and start the OpenWindows environment.

Determining Your System Type

Most new systems are preinstalled at the factory with a program that automatically installs the end user software from the CD-ROM onto your disk. When you turn on your system, the booting sequence automatically starts and you are prompted to enter system configuration information (for example, date and time). After the booting sequence, installation automatically begins.

If your system is not preinstalled, it cannot boot when you turn on your system. In this case, you can start the booting sequence manually.

Is Your Hardware Set Up?

The following system components must be set up and ready to use before booting:

- System unit
- Graphics terminal
- Disk drive(s)
- Compact disk player
- Keyboard and mouse

For help in setting up your hardware, see the owner's guide that comes with your system.

Installing Preinstalled Systems

During system boot, you will be prompted to:

- Create a name (called *hostname*) for your workstation
- Specify your geographical region, time zone, current date and time
- Create a root password
- Log in to the system as root

Follow these steps to boot the system:

1. **Insert the Solaris 2.2 CD-ROM into the CD-ROM caddy (supplied with your compact disc player).**

2. **Insert the caddy into the compact disc player.**

3. **Turn on your system components in the order recommended by your hardware guide; booting begins automatically.**

   During the first phase of booting, the message `No carrier – transceiver cable problem?` is displayed. Ignore this message because it applies only to systems connected to a network.

   Next, you will see the Solaris logo, followed by the message `The system is coming up.` You are then prompted to supply system configuration information through a series of interactive screens.

   After you press Return on the final screen, the system automatically installs the end user software from the CD-ROM onto your disk.

   After the software is installed, the following screen is displayed, prompting you to create a root password. (You will use this password to log in to the system after it reboots.)

As root, you have *superuser* privileges. Superuser privileges give you access to all files on your system. Chapter 7, "Creating a User Account and Environment," describes how to create a *user* login and password.

```
What is your root password?

A root password may contain any number of characters, but only
the first eight characters in the password are significant. For
example, if you enter 'a1b2c3d4e5f6' as your root password, then
'a1b2c3d4' could also be used to gain root access. If you do not
want a root password, press RETURN.

You will be asked to type the root password twice. (It will not
appear on the screen as you type it.)

If you have questions consult your Install documentation.

Root password:

Press Return to continue
```

4. **Type a root password as prompted.**
   The system continues to reboot. After the message `The system is ready,` you are prompted to log in as root.

5. **Type `root` at the prompt and press Return.**

```
console login: root
```

6. **Type the root password.**

7. **The root prompt (#) is displayed.**

```
Password:
#
```

8. **To start OpenWindows, type** `/usr/openwin/bin/openwin` **and press Return.**

```
# /usr/openwin/bin/openwin
```

Installing Non-preinstalled and 4.1.x Systems

This section describes how to manually boot and install Solaris 2.2 on preinstalled systems, and 4.1.x systems which cannot be upgraded.

When you turn on a non-preinstalled system, it tries to boot but fails. Then the screen displays the `ok` prompt.

1. **Insert the Solaris 2.2 CD-ROM into the CD-ROM caddy (supplied with your compact disc player).**

2. **Insert the caddy into the compact disc player.**

3. **Turn on your system components in the order recommended by your hardware guide.**

4. **Choose the appropriate boot command for your system from the table on the following page and type it at the PROM prompt.**

System Type	Boot Command
Sun 4/110 Sun 4/2*nn* Sun4/3*nn* Sun4/4*nn*	b sd(0,30,1)
SPARCstation 1 (4/60) SPARCstation 1+ (4/65) SPARCstation SLC (4/20) SPARCstation IPC (4/40)	boot sd(0,6,2)
SPARCengine 1E	boot sd(0,6,5)
SPARCstation ELC (4/25) SPARCstation IPX (4/50) SPARCstation 2 (4/75) SPARCstation 10 SPARCserver 6*nn*MP and newer platforms SPARCcenter 2000	boot cdrom

During the first phase of booting, the message `No carrier - transceiver cable problem?` is displayed. Ignore this message because it applies only to systems connected to a network.

5. **Answer the system configuration questions as prompted.**

6. **Choose Quick Install from the Solaris Installation menu.**

7. **Accept the default or choose the appropriate software cluster.**
   The asterisk marks `End User System Support` as the default software to install.

8. **Accept the default or choose an appropriate target disk for installing Solaris 2.2 .**

9. **Check the final predefined configuration.**

10. **Choose Begin Installation.**

After the software is installed, the following screen is displayed, prompting you to create a root password. (You will use this password to log in to the system after it reboots.)

As root, you have *superuser* privileges. Superuser privileges give you access to all files on your system. Chapter 7, "Creating a User Account and Environment," describes how to create a *user* login and password.

```
What is your root password?

A root password may contain any number of characters, but only
the first eight characters in the password are significant. For
example, if you enter 'a1b2c3d4e5f6' as your root password, then
'a1b2c3d4' could also be used to gain root access. If you do not
want a root password, press RETURN.

You will be asked to type the root password twice. (It will not
appear on the screen as you type it.)

If you have questions consult your Install documentation.

Root password:

Press Return to continue
```

11. Type a root password as prompted.
The system continues to reboot. After the message The system is ready, you are prompted to log in as root.

12. Type root at the prompt and press Return.

```
console login: root
```

13. Type the root password.

14. The root prompt (#) is displayed.

```
Password:
#
```

15. **To start OpenWindows, type** `/usr/openwin/bin/openwin` **and press Return.**

```
# /usr/openwin/bin/openwin
```

OpenWindows

The OpenWindows environment is Sun's implementation of the OPEN LOOK Graphical User Interface (GUI). It is a graphics-based operating environment where you manipulate objects with a mouse, rather than typing commands at the keyboard.

After the OpenWindows environment is installed, the *workspace* is displayed; this is the solid background that surrounds windows and icons. When you first start the OpenWindows environment, the workspace displays the following items:

• *A Command Tool* (`cmdtool`) – A shell tool or command interpreter which processes your keyboard input and passes commands to the operating system.

• *The File Manager* – A tool for manipulating directories, subdirectories, and files in your home directory without typing commands to the operating system. A second File Manager window displays the CD-ROM icon which is automatically mounted during installation; the folders (for example S0) represent the disk slices on the CD-ROM.

• *A wastebasket* – A temporary holding place for files you intend to discard.

Workspace Menu

The workspace menu (sometimes called the *root* menu) is a pop-up menu for starting applications, tools, and utilities. To display the workspace menu:

1. **Move your mouse pointer to any area of the workspace not occupied by a window or icon.**

2. **Press the MENU button.**

Help with OpenWindows

If you are unfamiliar with the OpenWindows environment, see Appendix C, "OpenWindows Concepts," for a brief overview of terminology and concepts. For an online tour of the OpenWindows environment, start the HelpViewer (described in next section) and select "Introducing Your Sun Desktop."

Online Help

To see a help screen for an item on the workspace, place the mouse pointer on the item and press the HELP key.

Another resource for help is the HelpViewer, which provides online help for the DeskSet tools. To activate the HelpViewer:

Workspace menu ➤ Help

Where to Go from Here

The end user software package, which is automatically installed when you boot your system, does not contain User AnswerBook. To add User AnswerBook and other optional software, see Chapter 6, "Adding User AnswerBook and Other Software."

Upgrading Your Existing System 5 ☰

This chapter describes how to upgrade your system to the Solaris 2.2
environment including:

- Backing up and restoring your files
- Booting from the CD-ROM
- Configuring the system
- Installing end user software on 2.1 systems

If You Have a 4.1.x System

Because there is no upgrade available for 4.1.x systems, you must install Solaris
2.2 from scratch using the procedures in "Installing Non-preinstalled and 4.1.x
Systems" on page 22.

Caution – If you are running 4.1.x and have a SPARCsystem, backing up is
particularly important because the SunOS 5.2 operating system is larger than
SunOS 4.1.x releases. Disks may be repartitioned and you could lose data if
you do not follow backup and restore procedures. See *Solaris 2.2 System
Configuration and Installation Guide* for specific files that may need to be saved.

Backing Up and Restoring Your Files

Before you install any new version of the Solaris operating environment, *you should always do a full backup of your files.* Backing up and restoring files is not a trivial procedure; if you do not have a backup procedure already in place, see the *SunOS 5.2 Routine System Administration Guide.* See the *Solaris 2.2 System Configuration and Installation Guide* for specific files that may need to be saved.

This section describes how to boot the Solaris 2.2 environment from the CD-ROM.

1. **Insert the Solaris 2.2 CD-ROM into its caddy.**

2. **Insert the caddy into the compact disc player.**

3. **Become superuser and halt the system.**

```
# su
# halt
```

4. **Check your PROM prompt:**
   - If the prompt is "ok", go to step 5
   - If your system is a Sun4, go to step 5
   - If the prompt is ">" type n and press Return

5. **Choose the appropriate boot command for your system from Table 5-1 on page 29, and type it at the PROM prompt.**
   For example if your system is a SPARCstation 2, you would enter the following command:

```
ok boot cdrom
```

Table 5-1   Boot Commands

System Type	Boot Command
Sun 4/110 Sun 4/2*nn* Sun4/3*nn* Sun4/4*nn*	`b sd(0,30,1)`
SPARCstation 1 (4/60) SPARCstation 1+ (4/65) SPARCstation SLC (4/20) SPARCstation IPC (4/40)	`boot sd(0,6,2)`
SPARCengine 1E	`boot sd(0,6,5)`
SPARCstation ELC (4/25) SPARCstation IPX (4/50) SPARCstation 2 (4/75) SPARCstation 10 SPARCserver 6*nn*MP and newer platforms SPARCcenter 2000	`boot cdrom`

After your system boots, you are prompted for system configuration
information through a series of interactive screens. After providing this
information, the installation configuration menu is displayed.

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Upgrading Your Systems

> **Note –** If you previously installed Solaris 2.1 end user software, the PEXlib runtime environment (SUNWpexlb) was automatically installed. In the Solaris 2.2 environment, this software will not automatically be upgraded, because most users do not require this functionality. To install the SUNWpexlb software, you must add it by using the procedure described in Chapter 6, "Adding User AnswerBook and Other Software."

> **Note –** Upgrading your system may take as long as an initial install, depending on the software you choose.

1. **From the installation configuration menu, select Upgrade and press Return.**

2. **If more than one disk is upgradable, and a menu is overlaid for selecting a disk: select the disk to upgrade, select Apply and press Return.**

3. **From the upgrade configuration screen, select Start Upgrade and press Return.**

> **Note –** If system problems result in only a partial upgrade, you are prompted to either finish the upgrade or quit. If you specify yes, the upgrading process continues. If you specify no, you must backup your disk and reinstall using the Quick Install option as described in "Installing Non-preinstalled and 4.1.x Systems" on page 22.

> After installation begins, the screen displays messages showing the packages as they are added. At the end of installation, the screen displays where to find a cleanup file (containing any files that could not automatically be merged), and a log file of the upgrade.

4. **Check the cleanup file and take any actions required to complete your upgrade.**

5. **Type `reboot` at the prompt.**

Adding User AnswerBook and Other Software 6≡

This chapter describes how to add the User AnswerBook, third-party software, and other unbundled software.

User AnswerBook

The User AnswerBook is the optional online documentation, which you can add by using the Software Manager Tool described in this chapter.

Checking Your Disk Space

Whether you booted up a new system, or upgraded to the Solaris 2.2 environment, the directory /opt is created during installation for optional software. However, you may not have enough room in /opt to add User AnswerBook or other optional software. User AnswerBook takes approximately 25 megabytes (25,600 kilobytes).

In the following steps, you will use the SunOS `df` command to find free disk space for installing your optional software.

1. **Open a Command Tool shell (if one is not already opened).**

2. **Move the mouse pointer into the Command Tool shell.**
   The default Bourne shell prompt $ is displayed.

3. **Expand the Command Tool window for the next step by using the resize corners.**

4. **Click SELECT and type** `df  -k` **at the prompt.**

```
$ df -k
```

The following is a sample response.

```
Filesystem          kbytes    used     avail    capacity  Mounted on
/dev/dsk/c0t0d3s0    19095    12097     5098       70%        /
/dev/dsk/c0t0d3s5    76783    50571    18542       73%       /opt
/dev/dsk/c0t0d3s6   110750    70411    29264       71%       /usr
```

Disks are listed under the `Filesystem` heading and are located in the `/dev/dsk` directory as *cntndnsn* where:

- *cn* = controller, where *n* is the controller number

- *tn* = target, where *n* is the target ID number

- *dn* = device, where *n* is the device number

- *sn* = slice, where n is the slice number

In the previous example, slice zero of disk device two (d3) contains all the root files; slice five contains optional software; slice six contains user software.

Free disk space is shown in the `avail` column; the number listed is in kilobytes. In the above example, `/opt` has only 18,542 kilobytes. This is not enough space for User AnswerBook, which requires approximately 25,600 kilobytes. The only directory with adequate space for User AnswerBook is `/usr` (29,264 kilobytes).

5. **Check your vendor documentation to see how much disk space is required for any third-party software you want to install.**

Note – To convert megabytes into kilobytes, multiply the number of megabytes by 1024. For example, 25 megabtyes X 1024 = 25,600 kilobytes.

---

6. Record the directories for installing your optional software.

Adding Software by Using Software Manager

This section describes how to use the Software Manager tool (swmtool) to add User AnswerBook, but the steps shown are similar for adding other unbundled software. It assumes you know the amount of disk space required for your software, you have a directory that has adequate space for it, and the CD-ROM is in the compact disk player.

1. Check that you are logged in as superuser.
The Software Manager tool can only be run if you have superuser privileges.

2. In the Command Tool shell, type /usr/sbin/swmtool and press Return.
The Software Manager tool is started and its base window is displayed.

```
# /usr/sbin/swmtool
```

3. Check to make sure the Install setting is selected on the Software Manager base window.

4. Choose the Props button.
The Software Manager: Properties window is displayed with the default media type as the local CD-ROM.

5. From the Media Type menu button, choose Mounted Directory.
This points the Software Manager to the mounted directory for the User AnswerBook software. The Device Name field is dimmed.

6. In the Directory Name text field, type /cdrom/solaris_2_2/s0
Be sure to type the underscores, use all lowercase letters, and type zero (0) as the final character. The cdrom/solaris_2_2 directory is where the User AnswerBook software resides.

7. **If installing User AnswerBook, check that the entries in your Properties window match the following sample.**

```
┌─────────────────────────────────────────────────────┐
│ ↴        Software Manager: Properties                │
├─────────────────────────────────────────────────────┤
│                                                       │
│    Category: ⊽⌋  Source Media                         │
│  ┌──────────────────────────────────────────────┐    │
│  │                                                │    │
│  │      Media Type: ⊽⌋  Mounted Directory         │    │
│  │                 ─                              │    │
│  │    Device Name: /dev/dsk/c0t0d0s0      Eject )  │    │
│  │  Directory Name: /cdrom/solaris_2_2/s0         │    │
│  │                                                │    │
│  │              Apply )   Reset )                 │    │
│  │                                                │    │
│  └──────────────────────────────────────────────┘    │
└─────────────────────────────────────────────────────┘
```
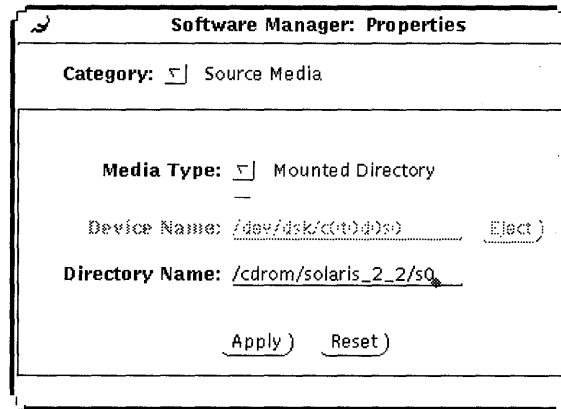
8. **Choose Apply.**
   The Software Manager base window displays the software in the `/cdrom/solaris_2_2` directory.

9. **Dismiss the Software Manager Properties window.**

⚠

Caution – In steps 9-14, do NOT select icons so they display in reverse video. Selecting icons in these steps can cause problems. If you select an icon in error, deselect it by clicking on it. Icons with squares around them indicate a version of the software already exists on your system; it does not indicate the icon is selected.

10. **Move the mouse pointer over the Solaris 2.2 icon (do not select); using the MENU button, choose Expand.**
    The Solaris 2.2 software *clusters* (predefined group of files) are displayed.

11. **Move the mouse pointer over the Entire Distribution icon (do not select); using the MENU button, choose Expand.**

12. **Grow the Software Manager base window to the full length of the screen by using the resize corners.**

13. **Using the scrollbar on the right of the window, scroll through the complete list and deselect any icons that are highlighted by clicking on them once.**

14. **Scroll through the list until you see the Solaris 2.2 User AnswerBook icon.**

15. **Move the mouse over the Solaris 2.2 User AnswerBook icon (do not select); using the MENU button, choose Set base directory.**
    The Package Information window is displayed.

16. **In the Base Directory text field, type the directory where you want to install your software.**
    The default directory for installing User AnswerBook and other optional software is /opt. However, the directory you type in this field can be anywhere you have free space.

17. **Choose Apply.**

Note – When you choose Apply, there is no visual feedback indicating the Apply was successful.

---

18. **Dismiss the Package Information window.**

19. **On the Software Manager Base window, deselect any icon that may be in reverse video.**

20. **Click once on the Solaris 2.2 User AnswerBook icon so it displays in reverse video.**
    This step requires the icon to be in reverse video.

21. **Choose the Begin Installation button in the upper left of the window.**
    The Software Manager window displays messages about the installation. You are prompted to continue or quit the installation.

22. **To continue installation, type y and press Return.**

23. **Dismiss the Software Manager Base window.**

Starting User AnswerBook

To start the User AnswerBook after successful installation:

1. From the workspace menu, choose Programs ➤ AnswerBook

Note – Starting the User AnswerBook may take 40 seconds or more. The only indicators you'll see are in the Command Tool shell (if opened.)

Creating a User Account and Environment 7≣

This chapter describes how to create a user account, a password, startup files, and to login to your user account.

What Is a User Account?

A user account describes you as a unique user to the system. It identifies your *user name* for logging into the system, your home directory, and parameters for managing your password.

When to Create a User Account

You should create a user account:

* If you are a new user and are still logged into the system as superuser

  You should create a user account to set up a user login so you do not continue working as superuser. As superuser, you have unrestricted access to all files, and can perform system administrator functions such as shutting down the system, and editing and removing protected files. Even with a standalone system, you should become superuser only when it is required; this will protect you from destroying data or inadvertently shutting down your system. See Appendix B, "The Superuser Account," for information on when and how to become superuser.

- If you allow someone to use your system

  Each person you allow to use your system should have a login and password so you cannot access each other's files without permission.

Creating a User Account

This section describes how to create a user account with the User Account Manager Administration Tool.

The following steps assume the OpenWindows environment is running.

1. **Open a Command Tool shell.**

2. **Move the mouse pointer into the Command Tool shell and click SELECT.**
   A triangle called the *caret* appears at the root prompt #.

3. **Type `admintool` and press Return.**
   After you press Return, a number is displayed; it may take several seconds before the Administration Tool menu is displayed.

```
# admintool
234
```

4. **From the Administration Tool base window, select the User Account Manager icon.**
   The Select Naming Service window is displayed.

5. **Choose the None setting and Apply.**

6. **Choose Edit ➤Add User.**
   The Add User window is displayed.

7. **Using the information in Table 5-1, type responses in the required fields (and any optional fields) for the Add User window.**

Table 7-1   Add User Fields

Category	Field	Required or Optional?	Description
User Identity	User Name	Required	Unique name by which user is known to the system; 2–8 characters (A–Z, a–z, 0–9). First character must be a letter; name must include at least one lowercase letter.
	User ID	Required	Unique number in the range 100–60,000 that identifies user to the system.
	Primary Group	Accept default	A group identifier associated with a particular group. Range = 100–60,000; Default = other.
	Secondary Groups	Accept default	Specifies one or more group names or numbers to which user also belongs. If you enter more than one name or number, separate them with commas. Default = none.
	Comment	Optional	Information such as user's full name, phone number, and organization.
	Login Shell	Accept default	Name of program that starts up at login: `/bin/sh` for the Bourne shell, `/bin/csh` for the C shell, or `/bin/ksh` for the Korn shell. Default = Bourne shell.

Table 7-1   Add User Fields (Continued)

Category	Field	Required or Optional?	Description
Account Security			
	Password	Accept default	Sets password status. Default = Cleared until first login.
	Min Change	Optional	Number of times user can change a password. Any attempts within a shorts interval is rejected. Can be used to ensure users change their passwords periodically. Default = no minimum.
	Max Change	Optional	Number of days password may remain unchanged. If password has not been changed within this number of days, user will not be able to log in to the account, and action must be taken by the administrator to re-enable the account. Default = no expiration.
	Max Inactive	Optional	Number of days an account can go unused (no login) before it is automatically locked. Default = no limit.
	Expiration Date	Optional	Date on which user account expires. Default = no expiration date.
	Warning	Optional	The number of days in advance to warn user about password expiration. Default = no warning.

Table 7-1 Add User Fields (Continued)

Category	Field	Required or Optional?	Description
Home Directory			
	Create Home Dir	Check box	Specifies to create a home directory for the new user account.
	Path	Required	Specifies the full path to the home directory for this user account. By convention, this should be `/export/home/`*user-name*
	Server	Required	Specify the hostname (the name you assigned to your system when you booted)
	Skeleton Path	Not applicable	Specifies the full path of the directory on the server system that contains the skeleton files to be supplied for this user. Example: .login
	AutoHome Setup	Check box	Sets up an automount entry for user's home directory.
	Permissions Owner: Group: World:	Optional	Specifies permissions to read, write, and execute files by owner, group, and world in the home directory.
Miscellaneous			
	Mail Server	Optional	Name of system where user's mailbox is located
	Cred. Table Setup	Not applicable	Sets up an NIS+ security entry for user.

8. **Choose Add.**

9. **Dismiss the Add User window, the User Account Manager window, and the Administration Tool base window.**

Creating a User Password

A password should be one you can easily remember, but difficult for someone else to guess. Passwords must:

- Have at least six characters; at least two must be alphabetic

  It is recommended that at least one character be a number or special character (for example, 3, 7, *,/,%, #)

- Differ from the login name including any reverse or circular shift of the login name (for example, if your login is marvin, your password should not be nivram, arvinm, or rvinam)

To create a user password:

1. **Move the mouse pointer into the Command Tool window.**
   If you are a new user, the prompt will be the superuser prompt (#).

2. **Type passwd** *user-name* **and press Return.**
   The *user-name* is the name you created for your user account.

```
# passwd user-name
```

3. **Type a new password as prompted and press Return.**
   The prompt Re-enter new password: is displayed.

```
New password:
Re-enter new password:
```

4. **Retype the password and press Return.**

Before you can test your user login and password, you must make a home directory as described in the next section.

Setting Up Initialization Files

This section describes how to set up your user startup or *initialization* files. Continue using the Command Tool to complete the steps in this section. If you are a new user, you will still be logged in as superuser.

Note – Be sure to type the commands exactly as shown, including the spaces between characters. Also, make sure you type the correct case (upper or lower) because Solaris is case sensitive.

Setting Up Initialization Files

After your system starts, it looks for user initialization files to set a path to your home directory, the search path, and other environment variables. The Solaris 2.2 environment provides default initialization files in the /etc/skel directory. In the following steps, you will:

- Change to your home directory

- Copy all default user initialization files from /etc/skel into your home directory

- Set file permission for initialization files

- Specify yourself as the owner of your home directory

- Rename the file local.profile to .profile

- Delete unused initialization files

The sample command lines assume the user login name is sherlock.

To set up your initialization files:

1. **Type cd /export/home/**user-name **and press Return.**
   The *user-name* is the login name specified in the Passwd database when you set up your user account. This step changes directories to your home directory.

```
# cd /export/home/sherlock
```

2. **Type** `cp /etc/skel/local.*` **. and press Return.**
   This step copies the default user initialization files into your home directory.
   Be sure you type a space between the asterisk and the second period.

```
# cp /etc/skel/local.* .
```

3. **Type** `chmod 744 local.*` **and press Return.**
   This step sets permissions for your initialization files.

```
# chmod 744 local.*
```

4. **Type** `chown` *user-name* *** and press Return.**
   This step sets ownership of your initialization files.

```
# chown sherlock *
```

5. **Type** `mv` `local.profile` `.profile` **and press Return.**
   This step renames the initialization files.

```
# mv local.profile .profile
```

6. **Type** `rm local.*` **and press Return.**
   This step deletes unused initialization files.

```
# rm local.*
```

Logging in with Your User Login and Password

If you have a new system, you are still logged in as superuser. To log in with your user login and password that you created in this chapter:

1. **From the Workspace menu, choose Exit.**

2. **At the prompt, type exit and press Return.**
   This ends your superuser session and the login: prompt is displayed with the hostname you created during system boot as the login prefix.

```
# exit
moriarity login:
```

3. **Type your user login and press Return.**
   If you mistype the login, press the DELETE key (not Backspace) to back up and correct the error.

4. **Type your password and press Return**

```
password:
```

The message "Starting OpenWindows in 5 seconds (type Control-C to interrupt)" is displayed, followed by the Workspace.

Ending and Beginning a Work Session 8 ≡

This chapter describes how to end and begin a work session.

Saving Your Workspace

You can save the screen arrangement of tools and applications on your workspace at any time.

To save your workspace:

1. **Arrange the icons and windows on your workspace.**

2. **From the workspace menu, choose Save Workspace.**
   The notice "Save Workspace complete" is displayed.

3. **Choose OK.**
   When you log back in, the workspace is displayed as you saved it.

Securing Your System

Whenever you stop working you should log out. If you share a system, logging out allows other users to log in to the system under their own user accounts so your files cannot be accessed without permission. You may also need to log out in case of an expected power outage, or for customized changes to take effect. If you leave your system unattended and are not sharing your system, you may want to just lock your screen.

Logging Out

To exit the OpenWindows environment and log out:

1. **Save any files that have been closed to icons.**

2. **From the workspace menu, choose Exit.**
   A pop-up window is displayed, asking you to confirm that you want to exit OpenWindows.

3. **Choose Exit.**

4. **At the prompt, type `exit` and press Return.**
   The `login:` prompt is displayed. This prompt includes the hostname you created during installation. Now you or another user can log into the system to start a new session.

```
moriarity> exit
moriarity login:
```

Locking the Screen

An easy way to secure your system is to exit the workspace and leave the OpenWindows environment running. This is done by activating the Lock Screen feature from the workspace menu.

To lock your screen:

1. **From the workspace menu, choose Lock Screen.**
   The screen displays the Sun Microsystems® logo in a randomly-changing image.

Logging In

In Chapter 7, "Creating a User Account and Environment," you created a user account where you specified a login name. Logging in tells the system who you are and what access and permissions you have to files. Because more than one person may have an account on your system with different access and file permissions, each user should log in with a unique login and password.

Note – The system recognizes the difference between uppercase and lowercase letters. Make sure you type your login and password using the correct case.

To log in to the system:

1. At the login prompt, type your user name and press Return.

```
moriarity login: sherlock
```

2. Type your password and press Return.
For security reasons, you will not see the characters on the screen as you type your password.

```
Password:
```

If you mistype the login or password, the system will prompt you to reenter the login and password.
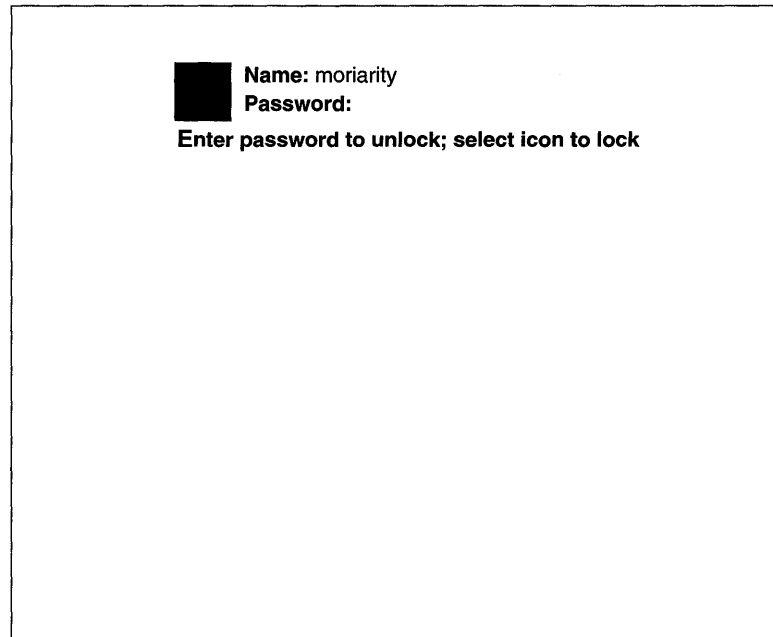
```
moriarity login: sherlock
Password:
Login incorrect.
moriarity login:
```

If Lock Screen Is On

If you activated the Lock Screen feature from the workspace menu, your screen displays the Sun Microsystems logo in a randomly-changing image.

To unlock the screen:

1. **Click any mouse button or press any key on the keyboard.**
   The password prompt is displayed.

```
┌─────────────────────────────────────────────────────┐
│                                                       │
│            ██ Name: moriarity                         │
│            ██ Password:                               │
│            Enter password to unlock; select icon to lock │
│                                                       │
│                                                       │
│                                                       │
│                                                       │
│                                                       │
│                                                       │
│                                                       │
│                                                       │
│                                                       │
│                                                       │
└─────────────────────────────────────────────────────┘
```

2. **With your mouse pointed anywhere on the screen, type your password.**
   If you mistype your password, you are asked to enter it again.

Roadmap to Tasks and Topics   *A* ≡

Table A-1 lists tasks and topics in the Solaris 2.2 environment, and where to find information. If you've installed User AnswerBook, many of these books are online.

System Administration

As a standalone user, you are your own system administrator. As such, you may want to purchase the Solaris 2.2 System AnswerBook, which contains the system administration book set. For descriptions of the system administration book set, see the *Solaris 2.2 Roadmap to Documentation* in the User AnswerBook. To order hardcopies, use the SunSoft™ documentation order card that comes with your system.

Finding Solaris 2.2 Information

Table A-1   Finding Solaris 2.2 Information

Task or Information	Where?
Introducing OpenWindows	*Solaris 2.2 User's Guide*
About windows, working with windows	Workspace menu ➤ Help ➤ Introducing Your Sun Desktop
Migrating from OpenWindows Version 2	*Solaris 2.2 Advanced User's Guide*
Migrating from SunView	*Solaris 2.2 Advanced User's Guide*
Other methods of starting OpenWindows	*Solaris 2.2 Advanced User's Guide*
The Sun desktop	Workspace menu ➤ Desktop Intro
Introducing DeskSet tools	*Solaris 2.2 User's Guide*
Online help	Workspace menu ➤ Help or Pressing the HELP key
Help Handbooks	Workspace menu ➤ Help
Solaris 2.2 features, late-breaking news, known bugs	*Solaris 2.2 Release Manual*
Connecting printers	See your hardware guide
Setting up printing by using the Printer Manager	*SunOS 5.2 Setting Up User Accounts, Printers, and Mail*
The Print Tool • Printing ASCII files • Checking the printer queue status • Changing Print Tool properties	*Solaris 2.2 User's Guide*

Table A-1   Finding Solaris 2.2 Information (Continued)

Task or Information	Where?
Using printers: submitting requests, determining status, canceling a request	*Solaris 2.2 Advanced User's Guide*
Formatting a new disk	*SunOS 5.2 Routine System Administration Guide*
Shell tools	*Solaris 2.2 User's Guide*
Turning the system on and off	See your hardware guide
Workstation information: • Workstation name and type • Physical memory (RAM) • Virtual memory (swap) • Operating system version • Window system version	Workspace menu ➤ Workstation Info
Solaris 2.2 documentation set for end users, system administrators, and developers	*Solaris 2.2 Roadmap to Documentation*
Customizing the Solaris 2.2 environment	*Solaris 2.2 Advanced User's Guide*
Tools to: • Search for patterns, words, or phrases • Determine disk and directory space • Identify differences between files • Locate specific files on your system • Tracking system processes	*Solaris 2.2 Advanced User's Guide*
The vi editor	*Solaris 2.2 Advanced User's Guide*

≡ *A*

The Superuser Account   *B* ≡

This appendix describes when and how to: become superuser, exit a superuser account, and log in as superuser.

When to Become Superuser

You need to become superuser to perform the following system administration tasks:

- Backing up and restoring file systems
- Shutting down the system
- Mounting and unmounting file systems
- Changing ownership and permissions for a file or directory you do not own
- Creating device files
- Setting the sticky bit on a file

≣ *B*

Becoming Superuser

1. **At the shell prompt, type su and press Return.**
   The command su means switch user.

```
$ su
```

2. **Type the superuser password and press Return.**
   If you enter the password correctly, the superuser prompt is displayed.

```
Password:
#
```

Exiting the Superuser Account

1. **At the superuser prompt, type exit and press Return.**
   The shell prompt is displayed.

```
# exit
$
```

Logging In as Superuser

1. **At your login prompt, type root and press Return.**

```
kalrissian login: root
```

2. **Type the root password and press Return.**
   If you enter the correct password, you have superuser access to the system and the root prompt is displayed.

```
Password:
#
```

Open Windows Concepts   C ≡

This appendix summarizes Sun's implementation of the OPEN LOOK
graphical user interface. It covers the basics to get you through installation if
you are unfamiliar with the OPEN LOOK graphical user interface. For more
information on OpenWindows, see Appendix A, "Roadmap to Tasks and
Topics."

Mouse

Sun supports a three-button mouse, which can be configured to suit your
needs. The default positions are:
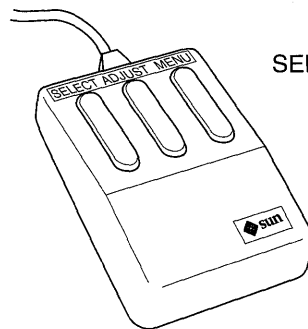
SELECT – selects unselected objects and activates control

ADJUST – adjusts a selected group of objects,
adding to or deselecting part of the group

MENU – displays and chooses from menus

≡ C

The Workspace

The workspace is the solid background on which windows and icons are displayed. It is analogous to a desktop or table and is displayed after you start the OpenWindows environment.

Workspace Menu

The workspace menu is a pop-up menu for activating applications, tools, and utilities. It is also known as the *root menu* because it is the primary menu for accessing DeskSet tools and utilities.

```
┌─────────────────────────────┐
│  ↲      Workspace           │
│ ╭─────────────────────────╮ │
│ │ Programs         ▷      │ │
│ ╰─────────────────────────╯ │
│   Utilities        ▷        │
│   Properties...             │
│                             │
│   Help...                   │
│                             │
│                             │
│   Exit...                   │
│                             │
└─────────────────────────────┘
```
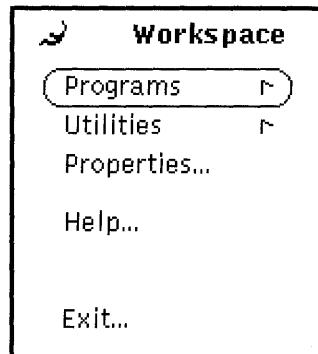
To display the workspace menu, move the mouse pointer to any part of the workspace not occupied by a window or icon, and press the MENU button.

Note – If you release the MENU button with a menu option highlighted, the option is started. To avoid starting a Workspace option by mistake, move the pointer off the Workspace menu before releasing the MENU button.

Base Windows

A base window, shown below, is the primary window for an application. It can always be closed to an icon (by clicking the window menu button) or quit (from the File menu, in which case, the application activity is stopped and the application is removed from the workspace.)

Window menu button

Menu buttons   Application title   Menu mark   Resize corner

Header

Control
Area

Text Editor V3 – (NONE), dir; /tmp_mnt/nfs/

File ▿)   View ▿)   Edit ▿)   Find ▿)

Pane

Every writer, in a roomful of writers, wants to be the best, and the judge, or umpire, or referee is soon overwhelmed and shouted down like a chickadee trying to take charge of a caucus of crows.

— James Thurber

Scrollbar

Footer

Pop-up Windows

Pop-up windows provide controls to change attributes of applications. Examples of pop-up windows are Command windows, Property windows, Help windows, and Notice windows. Most applications use pop-up windows to display information or to provide a way to enter commands.

Property window

Workspace Properties

Category: ⊽ Color

Help window

olwm: Help

Pushpin

Pins up a pop-up window for continued use.

When the pin is lying on its side, the pop-up window is unpinned. The window will be dismissed the next time you give a command.

To pin up the window, click SELECT on the push-pin.

More)

Default

Workspace

Windows

Palette

Custom

Apply)   Reset)

Command window

Text:Find and Replace

Find ⊽)   : ▵

Replace) : _____

Find then Replace) Replace then Find) Replace All) ⊽ All Text

Notice window

The text has been edited.
You may discard edits now and quit, or cancel the request to Quit and go back and either save the contents or store the contents as a new file.

(Cancel, do NOT Quit)   Discard edits, then Quit)

Pushpins

Most menus, Property windows, and Command windows have pushpins in the upper left corner so you can keep them displayed on the Workspace for repeated use.
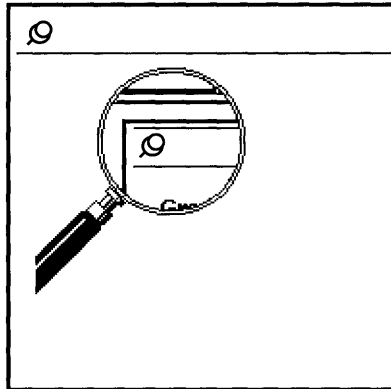

Making Settings Active or Inactive

On some menus, you must choose only one of two or more settings; on other menus, you can make several selections from the same menu.

In either case, when you choose a setting, it appears to be *indented* or depressed with a dark background; settings that are *raised* with a light background are not chosen.

In the following example, the AM setting is chosen.
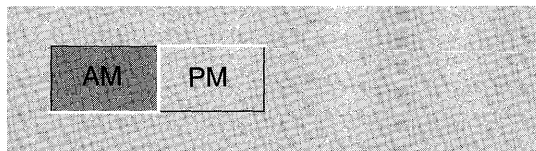
Glossary

application

Software designed to perform a specific task, such as word processing, accounting, design, or database management.

architecture

The specific components of a computer system and the way they interact with one another. From the perspective of the core of the operating system, architecture is the type of processor chip in the system. The Solaris 2.2 environment runs on SPARC architectures (for example sun4c).

backup

A copy on a floppy diskette, tape, or hard disk of some or all of the files from a hard disk. There are two types of backups: a full backup and an incremental backup. Synonymous with *dump*.

backup copy

A copy of a file as it was when you last saved it. If you accidentally erase or otherwise corrupt a file, you can use the backup copy.

booting

The process of turning on a system, testing to determine which attached hardware devices are running, and bringing the operating system kernel into memory and operation at the run level specified by the boot command.

caret

The insertion point indicator in a Command Tool or Shell Tool window. In an active window, the caret is a blinking black triangle when you select the window. In an inactive window, the caret is a static gray diamond.

case-sensitive

Treating lowercase and uppercase characters as two kinds of characters with separate functions.

cluster

A predefined grouping of software; for example, the End User cluster is comprised of software required for end users.

command

A string of characters that directs the system to process information or start an application.

command prompt

The string of characters that the system displays to tell you it is ready to accept and interpret your next command line. Often, the command prompt includes the name of the system.

Command Tool

A window that accepts typed commands and passes them to the system for processing. It has all the features of the standard Text Editor pane including a scrollbar.

configuration

A default selection of typical software.

default

An assumed value, or an action taken automatically unless you specify otherwise.

device

A hardware component, such as a printer or disk drive, acting as a unit to perform a specific function.

directory

A division or level in a hierarchical file storage system that contains files and, optionally, other directories.

disk slice

A portion of the disk reserved for a specific file system and function.

display device

The hardware device that displays windows, text, icons, and graphical pictures. Typically, a display device is a frame buffer and monitor.

dump

See *backup*.

drive

The hardware that performs the physical storage of data for the system onto a tape or disk and back again.

file

A collection of data stored on a disk and assigned a name.

File Manager

A graphical file management program for finding, copying, moving, opening, closing, creating, deleting, and printing files.

file permissions

A set of permissions assigned to each file and directory that determines which users have access to read, write, and execute its contents.

file protection

The way the system prevents unauthorized users from reading or altering your files.

file system

In the SunOS operating system, a tree-structured network of files and directories through which you can move to access the files and directories.

file system hierarchy

The structure of the file system, consisting of a tree of files and directories, with a root directory at the "top."

filename

The name of a file or directory in a SunOS command line.

formatting

Preparing a disk so information can be stored on it.

home directory

The directory that is current when you first log in to the system.

hostname

Name that identifies your system. Often used as a prefix to the login prompt. For example, `moriarity login:` where is the hostname specified during installation.

initialization files

The "dot" files in a user's home directory that set the path, environment variables, windowing environment, and other characteristics to get users set up and functioning. For example, `.profile`

localization

Full or partial implementation of a language for the Solaris 2.2 environment.

login name

The name assigned to an individual user. The login name controls access to a system.

login prompt

The string of characters the system displays to let you know that it's ready to accept your user name.

log in

To gain access to the system, usually by typing a user name and password, so you can begin a work session.

log out

To end a session on the system; usually when you finish your work and want to close access to your account.

mounting

The process of making a file system accessible by executing the `mount` command.

OpenWindows

A windowing system based on the OPEN LOOK graphical user interface.

operating system

The software on a system that controls system resources including hardware, programs, data, and user access.

package

A functional grouping of files. In the Solaris 2.2 environment, all files are grouped and delivered as packages. Also called *cluster*.

partition

See *slice*.

password

A character string you type, usually after your user name, to gain access to the system.

Passwd database

The database that you use to add, modify, or delete user accounts. You access the Passwd database from the Administration Tool (`admintool`).

permissions

See *file permissions*.

PROM

A programmable read-only memory chip with a program called the monitor that runs a quick self-test procedure and checks such things as the hardware and memory on the system. If no errors are found, the system begins the automatic boot process.

PROM prompt

The prompt displayed when the system halts; either > or `ok`.

root directory

The "top" directory in the tree structure of the SunOS file system.

root menu

Same as the Workspace menu.

shell

A command interpreter or user interface to the operating system, specified in the Passwd database. SunOS supports the Bourne, C, and Korn shells.

slice

A discrete portion of a disk, configured during installation. Under SunOS 4.1.x and System V Release 3, slices were referred to as partitions.

special characters

A set of characters that have meaning to the system other than their meanings as simple characters. The special characters are \, /, >, <, |, &, ?, $, [,], and *. Valid in passwords, but not in filenames.

standalone system

A system with a local disk that can boot without relying on a server. It maintains its own root (/) file system, swap partition, and `/usr` file system.

subdirectory

A directory that resides within another directory.

superuser

A user who has access to all parts of the system. This is usually the system administrator. Also known as *root*.

system

The basic set of components that make up your computer system: keyboard, monitor, and system unit.

system administrator

The person who performs maintenance tasks on systems. For a standalone system, the primary user is the system administrator.

unbundled software

Software products that are not delivered as part of Solaris 2.2.

user account

A record of essential user information stored on the system. Each user who accesses a system should have a user account.

user id

A number that identifies a user to the system.

user name

A combination of letters, and possibly numbers, that identifies a user to the system.

workspace

The background screen area on which windows and icons are displayed.

workspace menu

The menu that controls global functions.

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