Mac OS X Server

Installation & Setup Worksheet

For Version 10.5 Leopard and Later

Contents

Installation & Setup Worksheets

Complete these worksheets to help you install Mac OS X Server version 10.5 Leopard and set up your server.

• For information about the settings in these worksheets, see "Instructions for the Installation & Setup Worksheets" on page 13.

• For installation and setup instructions, see Chapter 2, "Installing Mac OS X Server," and Chapter 3, "Setting Up Mac OS X Server," of the *Getting Started* guide included with Leopard Server.

• If you're reinstalling Leopard Server and you have a complete Time Machine backup, you can restore the server from the backup instead. For instructions, open System Preferences and then use the Help menu. (Time Machine backup and restore is supported for standard and workgroup configurations only.)

These worksheets are for installing and setting up a standard configuration or workgroup configuration of Leopard Server. For information about advanced installation and setup methods, see *Server Administration*, which is available from the Mac OS X Server documentation website at:

www.apple.com/server/documentation

Installation Worksheet

Complete this worksheet before installing Leopard Server locally (on the server itself) or remotely (from an administrator computer). Instructions for this worksheet begin on page 13.

Installation item	Your information
Destination—remote server *(skip this unless installing remotely)*	
IP address:	
DNS name:	
MAC address:	
Preset password:	
Install language:	☐ English ☐ Japanese ☐ French ☐ German
Type of installation:	☐ Erase and install
	☐ New (no existing installation of Mac OS X Server or Mac OS X)
	To upgrade an existing server, use *Upgrading and Migrating* instead of this worksheet.
Target volume	
Name:	
Format *(if erasing):*	☐ Mac OS Extended (Journaled)
	☐ Mac OS Extended (Journaled, Case-sensitive)
	☐ Mac OS Extended
	☐ Mac OS Extended (Case-sensitive)
Partitioning: *(optional, using Disk Utility)*	☐ Don't partition
	☐ Use a separate sheet to list each partition's name, size, and format.
RAID mirroring: *(optional, using Disk Utility)*	☐ Don't set up a RAID set
	☐ Create a RAID set before installing
Time Machine backup *(skip this if you're not erasing, or if you're using Disk Utility to erase)*	
Back up before installing:	☐ Yes ☐ No
Backup to disk named:	
Erase backup disk:	☐ Yes ☐ No

Setup Worksheet

Complete this worksheet before using Server Assistant to set up your server. Instructions for this worksheet begin on page 15.

Setup item	Your information
Network services	☐ AirPort Base Station or other Internet router has a secure password and doesn't use a default IP subnet
	☐ Server has a meaningful DNS name
	☐ DNS server resolves server's IP address and DNS name
	☐ DHCP server assigns static IP address to target server
	☐ Internet connection is working
Destination—remote server *(skip this unless setting up remotely)*	
IP address:	
DNS name:	
Preset password:	
Server configuration:	☐ Standard ☐ Workgroup ☐ Advanced
Language *(skip this unless setting up remotely):*	
	☐ English ☐ Japanese ☐ French ☐ German
Keyboard:	Choose an available keyboard layout during setup.
Serial number:	
Administrator account	
Name:	
Short name:	
Password:	
Password hint:	
Picture:	☐ Automatic ☐ Other source:
AirPort Base Station password *(skip this if you don't have an AirPort Base Station)*	
	☐ Administration password:
	☐ Uses the default base station password (*public*)
Network address *(skip this if the server will get a static IP address from the DHCP server, or if there is no DHCP server)*	
	☐ Use the address supplied by DHCP
	☐ Configure network settings manually
Network interfaces *(skip this if the server has only one Ethernet port)*	
Primary Ethernet port:	☐ Built-in Ethernet ☐ Other:
Other active Ethernet ports:	

Setup item	Your information
TCP/IP connection *(skip this if the server will get a static IP address automatically and has only one Ethernet port)*	
	Use "TCP/IP Connection Worksheet" on page 9.
Network names	
Computer name:	
Primary DNS name:	☐ Automatic ☐ Other:
Time zone	
Closest city:	
Network time server:	
Server backup *(skip this if the server has only one disk)*	
Back up this server:	☐ Yes ☐ No
Back up to:	
Do not back up:	
Select services *(workgroup configuration only)*	
	☐ File sharing ☐ Calendar ☐ Instant messaging ☐ Web
	☐ Client computer backup ☐ Mail ☐ Remote access
Mail service *(optional)*	
Relay outgoing mail through: *(optional)*	
Send a welcome email to new users*:*	☐ Yes ☐ No
Custom introduction:	Use a separate sheet to compose a custom introduction to the standard welcome email.
Remote access *(optional)*	☐ Enable remote access (VPN)
Gateway setup *(skip this if the server has only one Ethernet port)*	
Make the server a gateway:	☐ Yes ☐ No
Internet port:	☐ Built-in Ethernet ☐ Other:
Local network ports:	
Users and authentication *(workgroup configuration only)*	
Connect to directory server:	
User name and password on the directory server:	
Add user accounts	☐ Add user accounts during setup
	☐ Add all user accounts later using Server Preferences

Setup item	Your information
Add new user accounts *(skip this if you want to add all new accounts after setup or if your server will connect to a directory server)*	
Name, short name, password, and picture:	Use a separate sheet to list each user's name, short name, password (if not the user's short name), and source of picture (if not automatic).
Import user accounts *(workgroup configuration only; skip this if you want to import all users after setup)*	
User names and group names:	Use a separate sheet to list users you want imported and groups whose members you want imported automatically.
Invitation email *(workgroup configuration only; skip this if you aren't importing users during setup)*	
Send an email invitation to imported users and groups:	☐ Yes ☐ No
Sender's name:	
Sender's email:	
Custom introduction:	Use a separate sheet to compose a custom introduction to the standard invitation email.

TCP/IP Connection Worksheet

Complete a form in this worksheet before setup if any of the following apply:

• Your network doesn't have a DHCP server, such as an Internet router configured to automatically assign IP addresses to computers on the network

• The DHCP server isn't configured to assign the server a static (fixed) IP address and you want to set the server's IP address manually

• The server has multiple Ethernet ports

• Your ISP requires making a PPPoE connection to access the Internet

Complete the form in this worksheet for the TCP/IP configuration method you want to use with the server's built-in Ethernet port. If the server has multiple Ethernet ports, complete a copy of the form for the configuration method you want to use for each port.

Instructions for the settings in these forms are on page 22.

TCP/IP: Configure Using DHCP with Manual IP Address

Use this form if you want to enter a static IP address and let the DHCP server assign other TCP/IP connection settings.

TCP/IP connection setting	Your information
Interface:	☐ Built-in Ethernet ☐ Other:
IP address:	
DNS servers *(optional):*	
Search domains *(optional):*	
Configure IPv6:	Use "TCP/IP: Configure IPv6" on page 12
Configure Ethernet:	Use "TCP/IP: Configure Ethernet" on page 12

TCP/IP: Configure Using DHCP

Use this form if you want the DHCP server to assign all TCP/IP settings, including the server's IP address. With this method, the DHCP server should be configured to assign the server a static IP address (the same IP address all the time).

TCP/IP connection setting	Your information
Interface:	☐ Built-in Ethernet ☐ Other:
IP address:	Provided by DHCP server
DHCP client ID *(optional):*	
DNS servers *(optional):*	
Search domains *(optional):*	
Configure IPv6:	Use "TCP/IP: Configure IPv6" on page 12
Configure Ethernet:	Use "TCP/IP: Configure Ethernet" on page 12

TCP/IP: Configure Manually

Use this form if your network doesn't have a DHCP server, or if you need to specify all TCP/IP connection settings manually for some other reason.

TCP/IP connection setting	Your information
Interface:	☐ Built-in Ethernet ☐ Other:
IP address:	
Subnet mask:	
Router:	
DNS servers:	
Search domains *(optional):*	
Configure IPv6:	Use "TCP/IP: Configure IPv6" on page 12
Configure Ethernet:	Use "TCP/IP: Configure Ethernet" on page 12

TCP/IP: Configure Using PPPoE with PPP

Use this form if your ISP requires making a PPPoE connection to access the Internet, and your ISP didn't give you a static IP address for your account. In this case, your server will get an IP address automatically when it makes a PPPoE connection.

TCP/IP connection setting	Your information
Interface:	☐ Built-in Ethernet ☐ Other:
IP address:	Provided by server
DNS servers *(optional):*	
Search domains *(optional):*	
Configure IPv6:	Use "TCP/IP: Configure IPv6" on page 12
Configure Ethernet:	Use "TCP/IP: Configure Ethernet" on page 12
PPPoE account name:	
PPPoE account password:	
PPPoE service name:	
Internet service provider:	

TCP/IP: Configure Using PPPoE with Manual IP Address

Use this form if your ISP requires making a PPPoE connection to access the Internet, and your ISP gave you a static IP address for your account.

TCP/IP connection setting	Your information
Interface:	☐ Built-in Ethernet ☐ Other:
IP address:	
DNS servers *(optional):*	
Search domains *(optional):*	
Configure IPv6:	Use "TCP/IP: Configure IPv6" on page 12
Configure Ethernet:	Use "TCP/IP: Configure Ethernet" on page 12
PPPoE account name:	
PPPoE account password:	
PPPoE service name:	
Internet service provider:	

TCP/IP: Configure Using BootP

Use this form if you want a Bootstrap Protocol server to assign an IP address and other TCP/IP connection settings to your server. BootP always assigns the same IP address to a particular network port. It's used primarily for computers that start up from a NetBoot image.

TCP/IP connection setting	Your information
Interface:	☐ Built-in Ethernet ☐ Other:
IP address:	Provided by BootP server
DNS servers *(optional):*	
Search domains *(optional):*	
Configure IPv6:	Use "TCP/IP: Configure IPv6" on page 12
Configure Ethernet:	Use "TCP/IP: Configure Ethernet" on page 12

TCP/IP: Configure Lights-out Management (LOM)

Use this form if your server is an Xserve with a lights-out management (LOM) interface,

TCP/IP connection setting	Your information for channel 1	Your information for channel 2
IP address:		
Subnet mask:		
Router:		
Lights-out management administrator		
Name:		
Password:		

TCP/IP: Configure IPv6

Use this form if you don't want the server to configure IPv6 addressing automatically.

TCP/IP connection setting	Your information
Configure IPv6:	☐ Automatically ☐ Manually ☐ Off
Configure IPv6 manually	
IPv6 address:	
Router IPv6 address:	
Prefix length:	☐ 64 ☐ Other:

TCP/IP: Configure Ethernet

Use this form if you don't want the server to configure Ethernet port settings automatically.

TCP/IP connection setting	Your information
Configure Ethernet:	☐ Automatically ☐ Manually
Configure Ethernet manually	
Speed:	☐ Autoselect ☐ Other:
Duplex:	☐ Half duplex ☐ Full duplex
MTU:	☐ Standard (1500) ☐ Other:

Instructions for the Installation & Setup Worksheets

Use these instructions for help filling out the installation and setup worksheets that start on page 5. These instructions cover installing and setting up a standard configuration or a workgroup configuration of Leopard Server. For information about setting up an advanced configuration, see *Server Administration*, which is available from the Mac OS X Server documentation website at:

www.apple.com/server/documentation

Instructions for the Installation Worksheet

These instructions explain the settings in the worksheet that begins on page 5.

Destination—remote server

Server Assistant lists computers on the local network (IP subnet) that have been started up using a *Mac OS X Server Install Disc*. Each of these computers is identified by its IP address, DNS name, and MAC address (also called the Ethernet address or hardware address). You can specify an unlisted server by entering its IP address or DNS name.

To begin remote installation, you must enter the remote computer's preset password. It consists of the first 8 characters of the computer's built-in hardware serial number, located on a label on the computer. For computers with no built-in hardware serial number, use 12345678.

Install language

The language you select affects the server's time and date formats, text that appears in the server administration applications, and the default encoding used by the file sharing service (AFP protocol). It doesn't affect the language of client computers. For example, you can administer a server in English even though it supports client computers that use Japanese.

Type of installation

You can perform a new installation of Mac OS X Server on a disk that doesn't already have Mac OS X Server or Mac OS X installed. You can also perform a clean installation, which erases and formats the target disk before installing Mac OS X Server. For information about upgrading a server with an earlier version of Mac OS X Server, see *Upgrading and Migrating*, which is available from the Mac OS X Server documentation website at www.apple.com/server/documentation.

Target volume

If the server has more than one disk or partition, you need to know the name of the one on which you want Leopard Server installed.

If you're installing locally and will have the Installer erase the target volume before installing Leopard Server, you can select either of the first two disk formats listed in the worksheet.

If you're installing remotely and will have Server Assistant erase the target disk before installing, it uses the Mac OS Extended (Journaled) format only.

You can erase the target disk with any of the formats listed in the worksheet by using Disk Utility before installing. Don't use any other formats for the Mac OS X Server startup disk.

Important: Third-party software may not function properly when installed on a case-sensitive disk if the software encounters an unforeseen case mismatch in file names.

For more information about erasing the target disk, partitioning the disk, or creating a RAID set, see Appendix A, "Preparing Disks for Installing Mac OS X Server," in the *Getting Started* guide included with Leopard Server.

Time Machine backup

If you choose to have the Mac OS X Server Installer erase the target volume (disk or partition), you can also have the Installer make a Time Machine backup of it before erasing it. For the most reliable backup, you should choose a backup destination on an external hard drive or a spare internal hard disk, if the server has one. If necessary, the backup volume you choose can be on the same disk as the target installation volume.

Instructions for the Setup Worksheet

These instructions explain the settings in the worksheet that begins on page 6.

Network services

Before installing a standard or workgroup configuration of Leopard Server, prepare network services:

- *AirPort Base Station or other Internet router has a secure password and doesn't use a default IP subnet*
  If you have an AirPort Base Station, configure it to use a secure password instead of the preset administration password, which is *public*.

  If you have an AirPort Base Station or other Internet router, and your server will provide VPN service to users through their own base stations or Internet routers, your server and users' computers need to be on different IP subnets. You can avoid duplicate IP subnets by changing all the devices on your server's local network to use an IP subnet other than the ones commonly used by default on base stations and most other Internet routers: 10.0.1, 192.168.0, and 192.168.1. You can simply change the third number to something between 2 and 254, for example 10.0.9, 10.0.222, 192.168.15, or 192.168.111. You can also use 172.16.0 through 172.31.255. In all cases, use subnet mask 255.255.255.0.

  Change the IP addresses of the base station or router, its DHCP service, your server, and all other devices on your server's local network to begin with the three numbers of the new IP subnet you choose. To change an AirPort Base Station's IP address and DHCP service, use AirPort Utility (in /Applications/Utilities/). For instructions, open AirPort Utility and then use the Help menu. For information about configuring another router's IP address and DHCP service, see its documentation.

- *Server has a meaningful DNS name*
  Work with your ISP or the information technology department in your organization to assign your server a meaningful DNS name. The server's DNS name is the basis for the addresses of all services that users get from the server, such as email, iChat, iCal, wiki, file sharing, blog, webmail, and VPN. For example, if the server's DNS name is myserver.example.com, users have email and iChat addresses like user@myserver.example.com, and the server's website is at http://myserver.example.com.

- *DNS server resolves server's IP address and DNS name*
  If your ISP or organization provides DNS service, it needs to resolve your server's fully qualified DNS name to its IP address. This DNS service must also resolve your server's IP address to its DNS name; this is called a reverse lookup.

  If you don't want to use your server's fully qualified DNS name for users' email addresses, the DNS service must also include an MX record for your server. For example, if your server's DNS name is myserver.example.com and you want to have email addresses like mchen@example.com, the DNS service needs an MX record for your server.

  If DNS service isn't configured for your server when you set up Mac OS X Server, Server Assistant configures your server to provide DNS service for your local network. This local DNS service has a record for the server, and it uses the DNS name and IP address you enter during setup.

- *DHCP server assigns static IP address to target server*
  Configure your DHCP service to assign a static IP address to your server based on its Ethernet ID (or MAC address). If your DHCP service provider can't do this, you can enter the server's IP address manually when you set up the server. Also configure your DHCP service to supply the addresses of the Internet router and DNS name servers for your network.

- *Internet connection is working*
  Your network's Internet connection is working if other computers on the network can connect to the Internet. Server Assistant will check the status of your server's Internet connection.

Destination—remote server

(Skip these settings unless you're setting up remotely.)

Server Assistant lists servers on the local network (IP subnet) that have Mac OS X Server newly installed and are ready for setup. Each of these computers is identified by its IP address and DNS name. You can specify an unlisted server by entering its IP address or DNS name.

To begin remote setup, you must enter the remote server's preset password. It consists of the first 8 characters of the server's built-in hardware serial number, located on a label on the server. For a server with no built-in hardware serial number, use 12345678.

Server configuration

Leopard Server offers several options for setting up your server to suit your circumstances:

- *Standard:* a simplified configuration ideal for the first server or only server in a small organization
- *Workgroup:* An easy-to-use setup ideal for a workgroup in an organization with an existing directory server
- *Advanced:* A flexible configuration ideal for advanced, highly customized deployments

For more information about the configuration choices, see Chapter 1, "Introducing Mac OS X Server," in *Getting Started*.

Language

(Skip this setting unless you're setting up remotely.)

The language you select affects the server's time and date formats, text that appears in the server administration applications, and the default encoding used by the file sharing service (AFP protocol). It doesn't affect the language of client computers. For example, you can administer a server in English even though it supports client computers that use Japanese.

Serial number

You must use a Mac OS X Server v10.5 Leopard serial number, which begins with XSVR-105. You'll find the serial number printed on the materials provided with the Mac OS X Server package. Unless you have a site license, you need a unique serial number for each server. You can't use a serial number from an earlier version of Mac OS X Server to register Leopard Server.

Administrator account

You set up the primary administrator account for the server by specifying:

- *Name:* The full name you want used for the primary administrator account—for example, Server Administrator. This name can contain as many as 255 characters (from 255 Roman characters to as few as 85 Japanese characters). It can include spaces. It can't be the same as any predefined user name, such as System Administrator.
- *Short Name:* This is an abbreviation of the full name. The short name typically is eight or fewer characters, but can be as long as 255 Roman characters. Use only the characters a–z, A–Z, 0–9, _ (underscore), or - (hyphen). It can't be the same as a predefined user's short name, such as root.
- *Password:* Should be hard to guess and kept secret. Anyone who knows an administrator name and password can change server settings and manage user accounts. If you write the administrator account information on the worksheet, keep the worksheet in a safe place.

  Important: The password you enter here is also used for the System Administrator account, whose short name is root. On a standard or workgroup server, this password is also used for the Local Administrator account. After setting up the server, you should either change the password of the account you create here and the Local Administrator account, or change the password of the System Administrator account. The System Administrator (root) account has full access to the system, including system files. Protecting this root user password is very important, so it should not be the same as another account's password. Server administrators don't need root user privileges.
- *Password Hint:* Can be anything that will help you recall your password (except the password itself).
- *Picture:* You can use the picture that Server Assistant assigns automatically. You can instead choose a standard Mac OS X picture from a pop-up menu, take a picture using an attached camera, or open a picture file. You can also crop the picture and apply a visual effect.

For more information about administrator accounts, see Chapter 5, "Managing Users," in *Getting Started*.

AirPort Base Station password

(Skip this setting if you don't have an AirPort Base Station or you're setting up your server remotely.)

Leopard Server can automatically configure an AirPort Extreme Base Station (802.11n) so that computers on the Internet can access services provided by your server. If you're setting up your server locally, Server Assistant asks you to enter the base station password (not the AirPort wireless network password). If the base station uses the preset password (*public*), Server Assistant doesn't ask you to enter it, but the preset password is not secure.

Network address

(Skip these settings if the server will get a fixed IP address automatically and has only one Ethernet port.)

Your server gets its network address settings automatically if it has only one Ethernet port and your network has a DHCP server that's configured to assign your server a static IP address (the same IP address every time the server starts up). Your network's DHCP server could be an AirPort Base Station, another type of Internet router, or a computer with server software such as an advanced configuration of Mac OS X Server.

If your network's DHCP server assigns your server a dynamic IP address (not static), the network address pane appears so you can choose whether to use the address from DHCP or configure your TCP/IP network settings manually. If you configure them manually, you can specify settings for the TCP/IP connection, optional IPv6 addressing, the Ethernet interface, or an available lights-out management (LOM) interface.

Network interfaces

(Skip these settings if the server has only one Ethernet port.)

If the server has more than one Ethernet port, identify which one you want to be the primary Ethernet port and list the other ports that you want to be active. During setup, you'll select the active ports from a list of all the server's Ethernet ports, and you'll make sure the primary port is at the top of the list.

TCP/IP connection

(Skip these settings if the server will get a fixed IP address automatically and has only one Ethernet port.)

Your server has a built-in Ethernet port, and may have an additional Ethernet port built in or added on. Use a separate copy of the "TCP/IP Connection Worksheet" on page 9 for each port you plan to activate. For information about the TCP/IP connection settings, see "Instructions for the TCP/IP Connection Settings Worksheet" on page 22.

Network names

You specify one or two names for the server:

- *Computer Name:* Identifies the server to client computers that are browsing for network file servers, shared printers, or other network resources identified by computer name rather than DNS name. Specify a name 63 Roman characters or fewer. The name can include spaces, but avoid using =, :, or @. (Mac OS X Server automatically converts the computer name to a form that's valid with SMB file sharing.) Example: My Server
- *Primary DNS Name:* This is set automatically if it can be determined from the DHCP server or DNS server on your network. It's the full, unique name for the server in the DNS service, for example myserver.example.com. If you don't have DNS service, use a name like myserver.private.

Time zone

You specify the server's time zone by clicking the server's location on a map of the world or selecting the closest city from a list.

The server is preset to keep its clock accurate by synchronizing it with a network time server on the Internet. You can specify a different time server's IP address or DNS name. For reliable operation of your server, Apple recommends using a network time server. If necessary, you can stop using one and set the server's clock manually.

Server backup

(Skip these settings unless your server has a partitioned hard disk or multiple hard disks.)

You can set the Time Machine preferences for backing up the server:

- *Back up this server:* Specify whether you want Time Machine to back up the server.
- *Back up to:* Specify a disk attached to the server as the backup destination for server data.
- *Do not back up:* List disks and folders that you do not want backed up.

Select services

(Workgroup configuration only)

If you're setting up a workgroup configuration, you can specify which services your server will initially provide to client computers. For information about client computer backup, see Chapter 9, "Managing Server Information," in *Getting Started*. For information about the other services, see Chapter 8, "Customizing Services," in *Getting Started*.

Mail service

You can enable or disable mail service. If you enable it, you can also set additional options:

• *Relay outgoing mail through:* Some Internet service providers or organizations require routing all outgoing mail through a relay server. If this applies to your network, you need to specify the relay server's DNS name. Use a relay server only if your ISP or organization requires one. Trying to relay mail through another server without permission may make your server appear to be a mail service abuser.

• *Send a welcome email to new users:* Choose whether to send an email telling new users about its services. The standard message specifies the server's DNS name and the recipient's email address, and it explains the services that the server provides. The standard message also includes links to available file sharing and web services.

• *Custom introduction:* Optionally enter a custom introduction to the standard message that the server generates. Example: Hi, I'm the administrator for our server, myserver.example.com. If you need help getting services from it, please don't hesitate to send me an email or call me at 310-555-4357. —Bill

The server sends the welcome email automatically when you add a new user account. However, your server doesn't send the email if its mail service is stopped when you add new user accounts.

Users receive the welcome email when they start using their email accounts. They see the server administrator's name (see "Administrator account" on page 17) and your custom introduction in a boxed section set apart from the standard message text.

For information about mail service, see Chapter 8, "Customizing Services," in *Getting Started*.

Remote access

You can enable or disable remote access service, which creates a virtual private network (VPN) to give users secure access to the server's network from home or other remote locations over the Internet. If you don't have remote users or you aren't sure if you want to allow remote access, you can disable this service during setup and turn it on later using Server Preferences.

VPN uses the L2TP protocol with a shared secret to ensure confidentiality, authentication, and communications integrity. A secure shared secret is generated automatically. The shared secret is not used to authenticate client computer users for a VPN connection. Rather, it allows the server to trust client computers that have the shared secret, and it allows client computers to trust the server that has the shared secret.

Both server and client computers must have the shared secret. When client computers with Mac OS X v10.5 Leopard join the server, they automatically get the shared secret and are configured so they can make connections to the server's VPN service. Other Mac and Windows clients can also be configured in different ways to connect to the VPN service.

For information about VPN service, see Chapter 8, "Customizing Services," in *Getting Started*.

Gateway setup

(Skip these settings if your server has only one Ethernet port.)

If your server has more than one Ethernet port and your Internet connection has a public IP address, you can set up your server to share an Internet connection with other computers on your network, linking your local network to the Internet.

During setup, you specify:

• *Internet port:* The Ethernet port, or interface, that is connected to your DSL modem, cable modem, or other Internet source. The Internet interface must have a public IP address (not a private IP address like 10.0.7.1 or 192.168.99.1). For example, if the server's built-in Ethernet port connects to the Internet, you would specify it as the Internet port.

• *Local network ports:* Your server's other Ethernet port is automatically set as the one that is connected to your local network. If your server has more than two active Ethernet ports, you specify which ones are connected to local networks.

Users and authentication

(Workgroup configuration only)

A workgroup configuration is designed to integrate with a directory server in your organization. If your server's users already have user accounts on your organization's Open Directory server or Active Directory server, your server can import the existing accounts. Your server uses the account name, password, and other attributes that already exist on your organization's directory server. Your server can augment the existing attributes with attributes needed for its services. For example, imported users can be members of a group you create on your server.

During setup, you specify these settings:

* *Connect to directory server:* Specify the directory server's DNS name or IP address. You select the directory server from a drop-down list. If the server isn't on the list, you can enter its DNS name or IP address.
* *User account name and password:* Specify the name and password of a user account on the directory server. This can be a standard user account; it doesn't need to be a directory administrator account.

Add user accounts

Specify whether you want to add a batch of user accounts during setup with Server Assistant, or add them all after setup by using Server Preferences. After setup, you can use Server Preferences to add more user accounts and enter more information for the accounts you added during setup. For information about user accounts, see Chapter 5, "Managing Users," in *Getting Started*.

Add new user accounts

(Skip this if you want to add all new accounts after setup or your server will connect to a directory server.)

If you're setting up a standard configuration, or a workgroup configuration that isn't connected to a directory server in your organization, Server Assistant streamlines the process of entering basic information for a batch of new user accounts.

For each user account you want to create during setup, you specify the user name and a short name. The user name (also called the full name or real name) is the long name for a user, such as Ravi Patel or Dr. Anne Johnson. The short name is an abbreviated name, such as rpatel or annejohnson. Users can log in using either name. The short name is used for the user's instant messaging and email accounts. When entering a short name, use only the characters a–z, A–Z, 0–9, - (hyphen), and _ (underscore).

Note: If a user already has a Mac set up, try to get the user's short name on that Mac and use the same short name for the user's account on the server. Having the same short name will facilitate logging in for services.

You can specify an initial password for each user account, or you can have Server Assistant automatically use each user's short name for the initial password. Users can change their passwords later.

If you don't want the new user accounts to use generic pictures, you can specify the picture for each user. You can choose a standard Mac OS X user picture, take a picture using an attached camera, or open a picture file (such as the files in /Library/User Pictures/). You can also crop the picture and apply a visual effect.

Import user accounts

(Workgroup configuration only; skip this if you want to import all users after setup.)

If you're setting up a workgroup configuration that's connected to a directory server in your organization, Server Assistant facilitates importing a batch of existing users and group members. Server Assistant lists available users and groups by name, and you select the ones you want imported. Thus you need to know the names of user accounts you want to import individually. You also need to know the names of groups whose members you want imported automatically.

Invitation email

(Workgroup configuration only; skip this if you aren't importing users during setup.)

If you're importing existing user accounts from your organization's directory server during setup, the server can send an email inviting the imported users to connect their computers to the server. The standard message specifies the server's DNS name, and it explains the services that the server provides. Recipients who have Mac OS X v10.5 Leopard can click a button in the email to automatically set up their Macs to get services from your server. The standard message also includes links to available file sharing and web services.

During setup, you specify these settings:

- *Send an email invitation to imported users and groups:* Choose whether to send an invitation email to imported users.
- *Sender's name:* Enter the name of the person you want the email to be from.
- *Sender's email:* Enter the email address of the person you want the email to be from.
- *Custom introduction:* Optionally enter a custom introduction to the standard message that the server generates. Example: Hi, I'm the administrator for our server, myserver.example.com. If you need help setting up your computer to get services from it, please don't hesitate to send me an email or call me at 310-555-4357. —Bill

The server sends the invitation email to email addresses that already exist in the imported user accounts. The server doesn't send the invitation to an imported user account that doesn't contain an email address. Recipients see the sender's name and your custom introduction in a boxed section set apart from the standard message text.

Instructions for the TCP/IP Connection Settings Worksheet

These instructions explain the settings in the worksheet that begins on page 9.

IP address

Enter the unique numeric address that identifies the server on the network. It's written as four numbers separated by periods (for example, 192.0.2.123).

If you have an AirPort Base Station or other Internet router that shares an Internet connection on your local network, the server's IP address must be on the same IP subnet as the IP address of the base station or router, such as 10.0.7.2 or 192.168.99.2.

Subnet mask

Enter the group of four numbers that identifies the network part of the server's IP address; the remainder of the IP address uniquely identifies the server on that network. If the server has a private IP address, use 255.255.255.0 for the subnet mask. If the server has a public IP address—it doesn't begin with 192.168, 10.0–10.255, or 172.16–172.31—get the subnet mask from the same source as your server's IP address.

Router

Enter the IP address of the router for the server's local network (for example, 192.168.99.1 or 10.0.7.1). The router is a device that forwards data packets from the local network toward their destinations on other networks or the Internet. If you have an AirPort Base Station or other Internet router, use its address. Otherwise, get the router address from the same source as your server's IP address.

DNS servers

Enter the IP address of a DNS server (for example, 192.0.2.12) or a list of IP addresses of DNS servers. A DNS server translates DNS names like server.example.com to IP addresses and vice versa. The DNS server addresses will be set up automatically if you're using a DHCP, PPPoE, or BootP method of configuring the TCP/IP connection. If you're configuring manually, get the DNS server addresses from your ISP.

Search domains

May be supplied automatically by your DHCP service. You can also enter the last part of one or more names that you want automatically appended to partial DNS names you enter while using the server. For example, if you specify campus.univ.edu as a search domain, you can type server1 in the Finder's "Connect to Server" dialog to connect to server1.campus.univ.edu.

DHCP client ID

Enter the client identifier code if you received one from your ISP or network DHCP server administrator. The client ID identifies the server (or the server's network port, if the server has more than one port).

PPPoE settings

Enter the account name and password you received from your ISP for making a PPPoE connection to the Internet. Enter the service name if your ISP gives it to you; otherwise, leave the service name blank. You may also enter your ISP's name, but it isn't required for making a PPPoE connection.

Lights-out management administrator

(Skip these settings unless your server is an Xserve with a lights-out management (LOM) port.)

Give the LOM interface its own IP address. Don't use the same address that you assigned to built-in Ethernet 1, even though it uses the same physical connector (port 1) on the back of the Xserve.

The LOM administrator account is not the same as the Mac OS X Server administrator account that you configured earlier in the setup process, but you can use the same name and password if you want to.

IPv6 settings

The server normally generates IPv6 address settings automatically. If necessary, you can turn off IPv6 addressing or specify the following settings manually:

- *IPv6 address:* An eight-part number generally written in the form 0000:0000:0000:0000:0000:0000:0000:0000.
- *Router:* The IPv6 address of the router for the server's local network.
- *Prefix length:* The number of significant bits in the subnet mask that are used to identify the network.

Ethernet settings

The server normally configures the Ethernet settings automatically. If your network has specific requirements, you can specify the following settings manually. Incorrect Ethernet settings can affect network performance or render a port unusable.

- *Speed:* Specifies the maximum number of bits per second that the Ethernet port can send or receive. If your computer and the device you are connecting to support Gigabit Ethernet but the Ethernet cable you are using does not, you may need to adjust the Ethernet speed. Alternatively, you can purchase a cable that supports Gigabit Ethernet.
- *Duplex:* Determines whether input and output packets are transmitted at the same time (full-duplex) or alternately (half-duplex).
- *MTU:* The largest packet the port will send or receive. (MTU stands for maximum transmission unit, expressed in bytes.) Increasing the packet size improves throughput (for example, for file transfers), but the devices that receive the packet (switches, routers, and so forth) must support the packet size.