Cobalt RaQ

User Manual

Cobalt Networks, Inc.
440 Clyde Ave., Bldg. B
Mountain View, CA 94043
www.cobaltnet.com

In the U.S.A.:

Phone (888) 70-COBALT
(650) 930-2500
Fax (650) 930-2501

Outside the U.S.A.:

Phone +1 650 930 2500
Fax +1 650 930 2501

Important Safeguards

For your protection, please read all these instructions regarding your Cobalt RaQ™ and retain for future reference.

1. Read Instructions

All the safety and operating instructions should be read and understood before the appliance is operated.

2. Ventilation

The Cobalt RaQ ‘s vents (on the front) and the fan opening (on the back panel) are provided for ventilation and reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. This product should not be placed in a built-in installation unless proper ventilation is provided.

3. Lithium Battery

The lithium battery on the system board provides power for the real-time clock and CMOS RAM. The battery has an estimated useful life expectancy of 5 to 10 years. If your system no longer keeps accurate time and date settings, it may be time to change the battery. Contact Cobalt for service information. No operator serviceable parts inside.

Warning: There is a danger of explosion if the battery is incorrectly replaced or replaced with the wrong type of battery. Replace only with the same or equivalent type recommended by the equipment manufacturer. Dispose of used batteries according to manufacturer’s instructions.

Attention: Il y a danger d’explosion s’il a remplacement incorrect de la betterie. Remplacer uniquement avec une batterie du meme type ou d’un type equivalent recommande par le constructeur. Mettre au rebut les batteries usagées conformement aux instructions du fabricant.

Achtung: Explosionsgefahr wenn die Battery in umgekehrter Polaritat eingesetzt wird. Nur mit einem gleichen oder ahnlichen, vom Hersteller empfohlenen Typ, ersetzen. Verbrauchte Batterien mussen per den Instructionen des Herstellers verwertet werden.

4. Power Cord

Caution: The power supply cord is used as the main disconnect device. Ensure that the socket-outlet is located/installed near the equipment and is easily accessible.

Attention: Le cordon d'alimentation est utilisé comme interrupteur général. La prise de courant doit etre située or installée a proximité du matérial et etre facile d'accés.

Achtung: Zur sicheren Trennung des Gerates vom Netz ist der Netzstecker zu ziehen. Vergewissern Sie sich, daß die Steckdose leicht zuganglich ist.

5. Electrical Shock

To reduce the risk of electrical shock, do not disassemble this product. Instead, take it to a qualified service person when service or repair work is required. Opening or removing covers may expose you to dangerous voltage or other risks. Incorrect reassembly can cause electric shock when this product is subsequently used.

6. Operating the unit in an equipment rack

If you plan to operate the Cobalt RaQ in an equipment rack, take the following precautions:

(a) Make sure the ambient temperature around the Cobalt RaQ (which may be higher than the room temperature) is within the limits specified in Appendix B.

(b) Make sure there is sufficient air flow around the unit.

(c) Make sure electrical circuits aren't overloaded — consider the nameplate ratings of all the connected equipment, and make sure you have overcurrent protection.

(d) Make sure the equipment is properly grounded — particularly any equipment connected to a power strip.

(e) Don't place any objects on top of the Cobalt RaQ.

Browsers

Both Netscape Navigator® and Microsoft® Internet Explorer have bugs that can cause intermittent, unexplained failures. When using a web browser to interact with your Cobalt RaQ, you may occasionally experience a browser failure. Released product versions of the browsers are usually more reliable than beta versions, and later versions seem to work the

most reliably. A browser program failure, although annoying, will not adversely affect your Cobalt RaQ's data. The Cobalt RaQ has been tested with both Netscape Navigator and Microsoft Internet Explorer, versions 4.

Regulations and Information

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his / her expense.

This equipment is in compliance with Underwriters Laboratories (UL) and is UL listed.

Contents

Introduction

The Cobalt RaQ™ is a powerful network server that provides a complete solution for virtual hosting, Web publishing, file transfer, and e-mail.

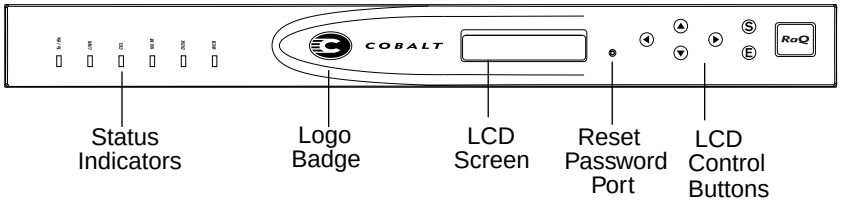
- It provides access to a broad range of Web and FTP publishing capabilities. The Cobalt RaQ supports the Common Gateway Interface (CGI) using Perl scripting (or the language of your choice) for creating interactive applications on the Web.
- It supports multiple Internet or intranet sites. You can host one or several distinct sites for separate clients or projects. The Cobalt RaQ provides comprehensive support for the three most popular Internet services — Web, FTP, and e-mail.
- It enables internal and external communication via e-mail to individuals and groups. In addition to standard individual e-mail, the Cobalt RaQ e-mail services include automatic response to messages when a user is on vacation and automatic forwarding to another e-mail address.

All these services can be used within an extranet or an intranet environment, or across the Internet.

Product Overview

The following two diagrams show the controls, indicators, and connectors on the outside of the Cobalt RaQ.

Front View



- The **Status Indicators** signal Ethernet, hard drive, and Web activities:

  Tx/Rx (Transmit/Receive) blinks with network traffic.

  Link solid light indicates the network connection.

  Col blinks when collisions are detected on the network.

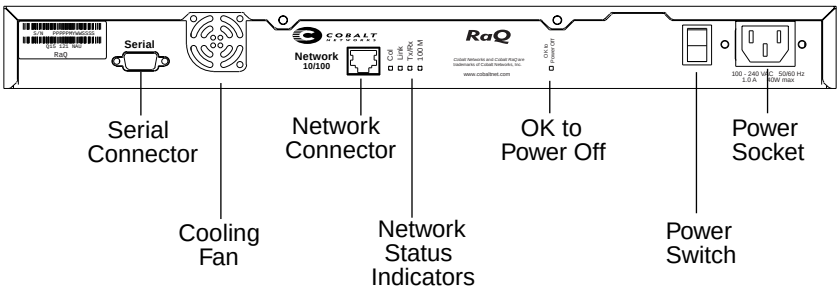
  100 M solid light indicate that 100 Mbit Ethernet is being used.

  Disk indicates hard disk activity.

  Web blinks to indicate Web activity.

- The **Logo Badge** glows when the Cobalt RaQ is powered on.
- The **LCD Screen** displays messages and entered values when you use the LCD control buttons for network configuration, shutting down, and rebooting of the Cobalt RaQ.
- You can use the **Reset Password** port if you forget the Cobalt RaQ administrator password. (See “Resetting the RaQ Administrator Password” on page 22.)
- The **LCD Control Buttons** allow you to enter network configuration information, shut down, and reboot the Cobalt RaQ.

Back View



- The **Serial Connector** allows for serial console connection.
- The **Cooling Fan** maintains proper thermal parameters.
- The **Network Connector** accepts the 10/100 Base-T network cable that is provided.
- The **Network Status Indicators** signal network activity and information.
- The **OK to Power Off** light indicates when the Cobalt RaQ is ready to be powered down.
- The **Power Switch** toggles the power on or off.
- The **Power Socket** is where you attach the AC cord that is provided.

What You Need

To use the Cobalt RaQ, you need the following:

- A 10 Base T, 10/100 Base-T, or 100 Base-T, TCP/IP-based local area network.
- A personal computer (attached to the network) that uses a Web browser (Netscape Navigator or Microsoft Internet Explorer, versions 3.0 or later).
- Network parameters, which you can obtain from your system or network administrator, or from a DHCP server — these include the Cobalt RaQ's assigned IP address, the subnet mask of your network, and a gateway/router address (if communicating with other networks).

Who Uses the Cobalt RaQ

A Cobalt RaQ can host multiple Internet or intranet sites, which can provide Web content, e-mail, and FTP services. It can be used by three different kinds of users:

- The *Cobalt RaQ administrator* is the person who controls and runs the Cobalt RaQ. This person (1) sets up and maintains the Cobalt RaQ, (2) sets up virtual sites, and (3) sets access privileges and provides services for the site administrators and site users. The Cobalt RaQ administrator can also act as the site administrator for any virtual site.
- The *site administrator* runs a virtual site, located on the Cobalt RaQ, that can provide Web publishing, e-mail and FTP services for the users of the site. The site administrator (1) sets up access privileges and provides services for the site users, (2) maintains mailing lists, (3) controls the settings for the virtual site and its FTP service, (4) has access to users e-mail settings, (5) can generate reports about the virtual site's disk and Web usage, and (6) can back up and restore files residing on the site.
- *Site users* can (1) send and receive e-mail through the site, (2) upload and download files using the FTP service provided by the site, (3) publish Web pages on the site, and (4) back up and restore their home directories.

How to Use This Guide

This guide is for administrators who will use the Cobalt RaQ to develop and host Web sites. Developers who use the Cobalt RaQ should be familiar with Microsoft® Windows™ or Macintosh® operating systems and Netscape Navigator® or Microsoft® Internet Explorer web browsers.

Organization of This Guide

Chapter 1, "Introduction," includes an overview of the Cobalt RaQ's features and directs you to the information in other chapters of this guide.

Chapter 2, "Setting Up the Cobalt RaQ," describes the hardware setup of the Cobalt RaQ and the network integration process.

Chapter 3, "Cobalt RaQ Administration," describes the functions performed by the Cobalt RaQ administrator.

Chapter 4, “Site Administration,” describes the functions normally performed by the virtual site administrators.

Chapter 5, “Using Services on a Site,” explains how to use the Cobalt RaQ services (e-mail, Web publishing, and FTP) and how to manage your personal directory (monitor disk usage and back up and restore files).

Appendix A, “Using the LCD Console,” documents the LCD console functions — configuring the Cobalt RaQ’s network settings, rebooting, and powering down.

Appendix B, “Product Specifications,” contains the Cobalt RaQ’s technical specifications and functional information.

Appendix C, “Advanced Information,” gives more advanced information on development tools, configuration files, and the directory structure of the Cobalt RaQ disk.

Information and Questions

For the latest information, or if you have any unanswered questions, visit the support section of the Cobalt Web site at http://www.cobaltnet.com/support/. There, you can view a list of FAQs (Frequently Asked Questions).

For General Cobalt Information

In the U.S.A., call (888) 70-COBALT or (888) 702-6225, or send e-mail to info@cobaltnet.com.

Outside the U.S.A., call +1 650 930-2500, or send e-mail to info@cobaltnet.com.

In Europe, call +31 70 517 6375, or send e-mail to info-europe@cobaltnet.com.

In Japan, send e-mail to info-japan@cobaltnet.com.

For Cobalt Technical Support and Service

Cobalt Networks, Inc., provides telephone technical support at no charge for the first 30 days.

In the U.S.A., call (888) 70-COBALT or (888) 702-6225, or send e-mail to support@cobaltnet.com.

Outside the U.S.A., call +1 650 930-2500, or send e-mail to support@cobaltnet.com.

In Europe, send e-mail to support-europe@cobaltnet.com.

In Japan, send e-mail to support-japan@cobaltnet.com.

Setting Up the Cobalt RaQ

The Cobalt RaQ is set up by the Cobalt RaQ administrator. This chapter guides you through the process of connecting and configuring the Cobalt RaQ for your network. A typical setup process takes less than 15 minutes, after which you can begin setting up virtual sites and using the Cobalt RaQ services.

If the Cobalt RaQ has been previously configured for a different network, refer to "Changing Network Configuration," in Appendix A.

The setup process consists of two phases.

- Phase 1, "Making the Connection," covers the physical setup and connection of the Cobalt RaQ to a power source and the network.
- Phase 2, "Setting Up With the Web Browser," covers the network integration process and allows the administrator to select services and create users and groups, using any browser-enabled computer.

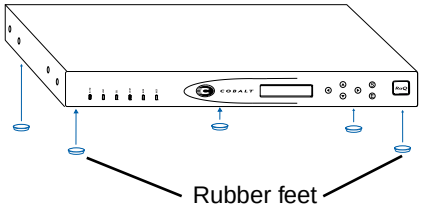
Phase 1: Making the Connection

Installing the Cobalt RaQ

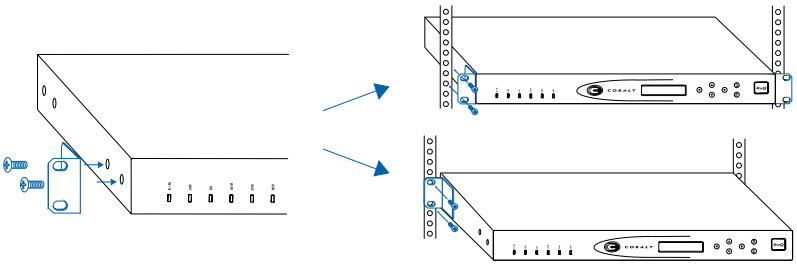
The Cobalt RaQ can either be placed on a flat surface — for example, a desk, shelf, or table top — or it can be connected to an equipment rack.

Caution: If you operate the Cobalt RaQ in an equipment rack, see the precautions described in "Operating the unit in an equipment rack," on page ii.

If you plan to use the Cobalt RaQ on a flat surface, attach the rubber feet to the five indentations in the bottom of the case (as shown in the following figure).

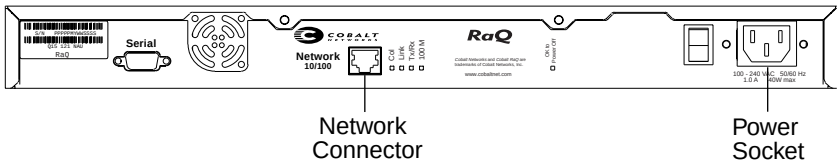


If you plan to operate the Cobalt RaQ in an equipment rack, first connect the mounting ears to the sides of the Cobalt RaQ (as shown in the next figure), near either the front or the rear of the case. Then attach the ears to the equipment rack.



Connecting to the Network

Connect one end of a Category 5 Ethernet cable to the 10/100 Base-T network connector on the back of the Cobalt RaQ (see the following diagram). Connect the other end to an existing network socket.



Connecting the Power Cord

Connect the power supply cord to an electrical outlet (100-240 volts AC, 50/60 Hz, as listed in Appendix B).

Powering On the Cobalt RaQ

Turn on the power by pressing the **On/Off** switch on the back of the Cobalt RaQ.

The hard disk "spins up," the fan turns on, and the LCD screen lights up and displays the message `Starting Up .`

Status messages are displayed on the LCD screen as the Cobalt RaQ completes its boot process.

Caution: It's important to follow the proper power-down procedure before turning off the Cobalt RaQ. Refer to "Powering Down" in Appendix A.

Configuring Network Settings

Now that you've made the network and power connections, you're ready to configure the network settings.

The Cobalt RaQ requires specific network information to function properly. Depending on the network environment, the Cobalt RaQ may be able to obtain all of the necessary information from a DHCP server on your network. If so, it will attempt an automatic configuration. If not, you'll need to enter the necessary information manually, using the LCD console on the front panel.

Configuring With a DHCP Server

When the Cobalt RaQ is powering up, it checks to see whether a DHCP server is present on the network. If there's a functioning DHCP server that's set up to serve leased IP addresses, then the Cobalt RaQ configures itself automatically. If the network information can be configured automatically, then the LCD displays the Cobalt RaQ's assigned IP Address upon completion of the boot process.

IMPORTANT: To function properly over long periods of time, the Cobalt RaQ's IP address must remain the same, i.e., the DHCP server must not assign it to a different machine at a later date. Unfortunately, some DHCP servers do not honor requests for permanent IP addresses. As a result, the system or network administrator may need to assign a different (and permanent) IP address to the Cobalt RaQ. If so, you'll need to change the network configuration information. You should coordinate any changes to the IP address, subnet mask, or gateway address with your network administrator.

Manually Configuring for the Network

If the Cobalt RaQ doesn't find a DHCP server on the network, then the following prompt appears on the LCD display:

```
ENTER IP ADDR:
000.000.000.000
```

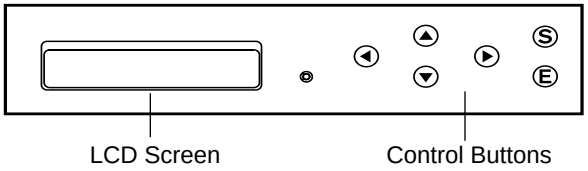
This prompt means that you need to enter the required network information manually, using the LCD control buttons on the front of the Cobalt RaQ.

Before you proceed, make sure you have the following information:

- The Cobalt RaQ's assigned IP address
- The subnet mask of your network
- The gateway / router address (necessary only if communicating with other networks)

Using the LCD Console to Configure the Network

The LCD screen on the front of the Cobalt RaQ displays two lines of text. The top line of the LCD presents instructions on data to enter, and the bottom line displays the data already entered. You use the control buttons to the right of the LCD screen to enter the required network information manually.



Here's how the control buttons work:


The **Left** button moves the cursor left.


The **Right** button moves the cursor right.


The **Up** button increments the digit located at the cursor position.


The **Down** button decrements the digit located at the cursor position.


The **S** button ("select") selects the next option.


The **E** button ("enter") accepts the information entered.

Appendix A, "Using the LCD Console," gives more information about the LCD Console.

Setting the Configuration

During setup, the LCD console is used to enter network configuration information on the Cobalt RaQ.

Follow these steps to configure the network manually:

1. When you see the prompt

   ```
   ENTER IP ADDR:
   000.000.000.000
   ```

   enter the IP address assigned to the Cobalt RaQ using the control buttons on the LCD console.

2. Press Ⓔ.

   If the IP address is valid, the next prompt appears:

   ```
   ENTER NETMASK:
   255.000.000.000
   ```

3. Enter the netmask of your network, if the number shown is not correct.

4. Press Ⓔ.

   If the netmask is valid, the following prompt appears:

   ```
   ENTER GATEWAY:
   000.000.000.000
   ```

5. Enter the IP address of the gateway for your network.

   If your network doesn't have a gateway, don't enter any number — leave the default value, "000.000.000.000."

6. Press ⓔ.

   The LCD displays:

   ```
   [S]AVE [C]ANCEL
   ```

7. To save the configuration information, use the Left and Right buttons to select [S]ave, and then press ⓔ. You'll see:

   ```
   VERIFYING AND SAVING
   ```

   Note: Selecting [C]ancel cancels the configuration, and the LCD screen displays `ENTER IP ADDR:` again. The Cobalt RaQ goes through the entry process again.

After verifying and saving, the Cobalt RaQ then completes the boot process, and the LCD screen shows several messages before displaying the IP address assigned to the Cobalt RaQ.

Configuration is complete when the LCD screen displays the Cobalt RaQ's assigned IP address, for example:

```
IP Address:
127.0.0.0
```

Phase 2: Setting Up With the Web Browser

The remainder of the setup process is performed through a Web browser on any computer on your network. Use one of the standard browsers available (e.g., Netscape Navigator or Microsoft Internet Explorer, versions 3.0 or later) to do this. Once the setup process is complete, the Cobalt RaQ can be managed from any computer on the network that has a browser.

To use a browser to set up the Cobalt RaQ, follow these steps:

1. Launch a standard Web browser on any computer connected to the network.
2. Enter the Cobalt RaQ's IP address (shown on the LCD screen on the front panel) into the URL field of your browser — for example:

3. Press **Return** (or **Enter**) on your keyboard.

If the Cobalt RaQ's network settings were configured successfully (via a DHCP server or the LCD console), then the Cobalt introduction page appears.

Click the **Start** button to begin using the Setup Wizard (described in the following section).

Configuring the Cobalt RaQ With the Setup Wizard

To configure the Cobalt RaQ, you enter information into the fields on the Setup Wizard screen (shown in the next figure). These fields are described in the sections that follow.

Note: For help with a particular field in the Setup Wizard, move the pointer over the Active Assist icon adjacent to the field.

Entering the Network Settings

Hostname. This is a name you assign to the Cobalt RaQ microserver— for example, raq1.

Domain name. This is the official name that's registered with InterNIC — for example, cobaltnet.com. The hostname and domain name must be coordinated by the network administrator in order for you to access the Cobalt RaQ by its name and not just its IP address.

Primary DNS Server Address. This is the IP address of your primary domain name server. A primary domain naming service maintains a list of computer names and their IP addresses. The Cobalt RaQ needs access to this list (on the primary DNS server) in order to convert between IP addresses and names. This conversion is essential if you intend to send and receive e-mail external to the Cobalt RaQ.

Secondary DNS Server Address. This is the IP address of your secondary domain name server. A secondary DNS service can provide redundant DNS service to your computers. If the primary DNS server is turned off, then your computers can use the secondary DNS server with no loss of performance.

For informational purposes, this table also displays the Cobalt RaQ's IP address, the subnet mask of your network, your configured gateway, and the Machine Address Code (MAC) address that uniquely identifies this Cobalt RaQ. These settings can be changed later (through the browser) from the Control Panel section of the Server Management screen.

Entering the Administrator Settings

The Administrator Settings table is for entering information about the Cobalt RaQ administrator. The Cobalt RaQ's administrator has several responsibilities: 1) setting up and maintaining the Cobalt RaQ, virtual sites, virtual site administrators, users, and services, and 2) responding to e-mail alerts from the microserver in order to forestall potential problems.

To set up the RaQ administrator, you must enter a password in the Administrator Password field, and then enter the same value again in the second Administrator Password field. Use a hard-to-guess password — one that has more than five characters, both letters and numbers, and isn't a word. Be sure to remember this password to access the Cobalt RaQ's management administration features in the future.

If you forget or want to reset the password, see "Resetting the RaQ Administrator Password" on page 22.

Entering the Time Settings

In the Time Settings table, enter the current date and time and your time zone.

Completing Configuration With the Setup Wizard

When you've entered the information in the Setup Wizard, click **Save Changes**. The Cobalt RaQ performs automatic checks on the information entered and alerts you if an illegal value or a problem is encountered. If the information is correct, the Cobalt RaQ enters the changes in its configuration files.

Once the Cobalt RaQ has been configured, you can access the default Cobalt RaQ Home page, "index.html" from the directory /home/sites/home . This page appears when a user goes to the URL http://*IP address*/.

When the Cobalt RaQ administrator changes the index.html file to create a new Home page, the default Cobalt RaQ Home page is replaced.

Registering the Cobalt RaQ

Once you've completed all the setup steps, it's a good idea to register the Cobalt RaQ microserver with Cobalt Networks, Inc. If you do, you'll receive notifications of system upgrades and new product information.

You can register your Cobalt RaQ via its default Home page, at the URL http://*IP address/*.

Alternatively, you can register your Cobalt RaQ from almost any screen by following these steps:

1. Click the Cobalt logo (a "C" inside a blue oval) in the upper-left corner of either the Server Management, Site Management, or Personal Profile screen.
2. Click **About The Product**.
3. Under Product Registration, click the text "**Click here to register.**"
4. Fill out the form that appears, then click **Register Through Email**.

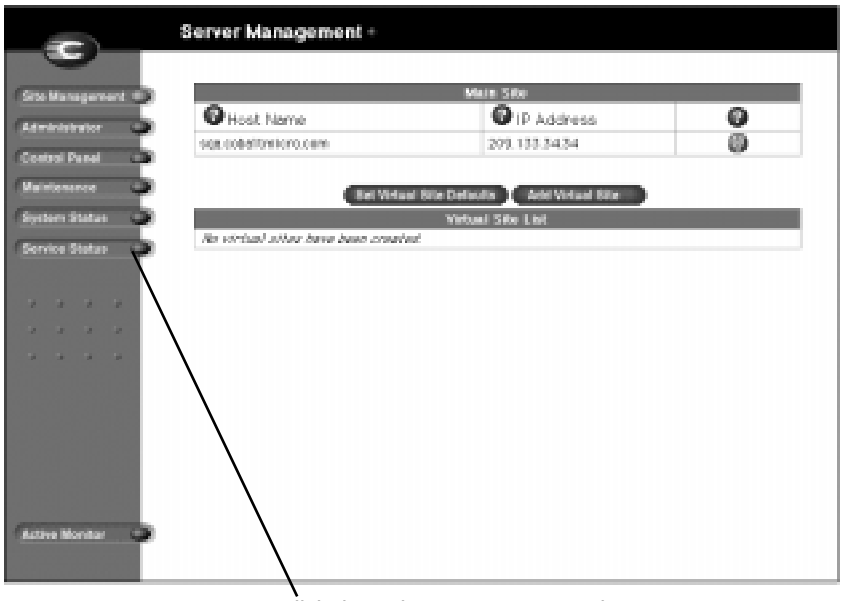
Cobalt RaQ Administration

There are three types of users on the Cobalt RaQ: the *RaQ administrator*, *site administrators*, and *site users*. The RaQ administrator is usually the owner of the Cobalt RaQ and has the username "admin." The RaQ administrator has full control of the Cobalt RaQ and is a member of the main site (which uses the IP address shown on the Cobalt RaQ's LCD screen). The Cobalt RaQ can have several site administrators, but only one RaQ administrator.

This chapter describes the functions that can be performed only by the Cobalt RaQ administrator. However, the RaQ administrator can also perform site-related and user tasks that are described in Chapters 4 and 5.

As the Cobalt RaQ administrator, you manage the Cobalt RaQ using any standard browser. Access the Cobalt RaQ's administrator site by typing the URL http://*IP address*/admin/ into your browser. Note that this site is password-protected — you have to enter the administrator password.

When you access the RaQ administrator site for the Cobalt RaQ, the **Server Management** screen appears (shown in the next figure). This screen is used for the Cobalt RaQ management tasks that are performed only by the Cobalt RaQ administrator — (1) setting up and maintaining the Cobalt RaQ, (2) creating virtual sites, and (3) creating access privileges and providing services for the site administrators and site users.



The RaQ administrator functions available on the Server Management screen are described in the sections that follow.

Site Management Section

The Cobalt RaQ is designed for hosting multiple sites (domains). A site is an individual location on the Internet, such as www.abc.com or www.xyz.com. Each site can have unique sets of users who can send and receive e-mail, publish Web pages, or upload and download files via FTP. Each site can also provide anonymous FTP access.

In the Site Management section of Server Management, the RaQ administrator can create and manage sites hosted by the Cobalt RaQ. There are two tables in this section — one describes the main site and the other table lists the virtual sites (if there are any).

Designing Virtual Sites

As the Cobalt RaQ administrator, you set up the sites (domains), as described in "Adding a Virtual Site," below. Here is a list of information (and some suggestions) you need in order to create a site.

- A unique hostname (e.g., www.xyz.com). If you're using an intranet, the RaQ can serve as the DNS server and provide the hostname. If you're connected to the Internet, make sure you know what IP address the hostname uses. Also, the hostname must be registered with InterNIC.
- A unique IP address for each site. Normally, this address should be within your subnet, or in the range of subnets handled by your router. All sites hosted by the RaQ must use the same subnet mask, even if they are on different subnets.
- Disk space allocation. Think about how much disk space you want to give the site. As the Cobalt RaQ administrator, you can change this allocation at any time.
- Web usage reporting. You can enable Web usage reporting and set the frequency of report generation. This option has a very small effect on server performance.
- CGI access. You can enable this site and all the site users to have CGI-based dynamic Web content on the Cobalt RaQ. CGI allows users to have Web sites run programs that dynamically generate HTML pages in response to specific user inputs. CGI scripts can be created on a user's desktop computer and then transferred to the Cobalt RaQ with an FTP application (as explained in Chapter 5).
- Anonymous FTP. This feature allows users without passwords to download and upload files via FTP, up to the specified disk-space limit. As the RaQ administrator, you can enable the anonymous FTP server for any site, and set limits on the amount of files that can be uploaded anonymously and the total number of anonymous users who can access the site simultaneously.

Adding a Virtual Site

From the Server Management screen, you can add a virtual site by following these steps:

1. Click **Site Management**.
2. Click **Add Virtual Site**.

3. Enter the information for the site.

   See the descriptions above, in "Designing Virtual Sites,".

4. Click **Confirm New Site**.

Once the site has been created, you can manage it by clicking the wrench icon for the site (shown below, in “Changing Site Settings”).

To assign a site administrator to the new virtual site, follow the steps in “Adding a Site User,” below.

Changing Site Settings

To change settings for a particular site, click the wrench icon for that site, then click Site Settings (on the left side of the Site Management screen). In the Site Settings table, you can change the disk space allocation for the site, choose the frequency of Web log reporting, and enable or disable CGI.

> Note: Clicking the wrench icon for a site takes you to the Site Management screen for that site. From this screen, you can perform any site administration task described in Chapter 4.

Adding a Site User

After creating a virtual site, you can add or remove users for that site, and assign a site administrator. From the Server Management screen, follow these steps to add a site user and / or site administrator:

1. Click **Site Management**.
2. Click the wrench icon for the site to which you want add a user.
3. Click **Add User**.
4. Enter the information for the user.

   Enter the user’s name and password, set a total disk space allocation for the user, and enable Telnet / shell access (if appropriate). You can also enter e-mail aliases for this user and choose to assign the user as the administrator for the virtual site. (E-mail aliases are explained in “Entering User E-mail Settings and Aliases” on page 35.)

5. Click **Confirm New User**.

Removing a Virtual Site

From the Server Management screen, you can remove a virtual site by following these steps:

1. Click **Site Management**.
2. In the Virtual Site List table, click the trash icon for the virtual site you want to remove.
3. In the confirmation dialog box that appears, click OK to delete all the site accounts and users.

Removing a Site User

From the Server Management screen, you can remove a site user by following these steps:

1. Click **Site Management**.
2. Select the site to which the user belongs by clicking the corresponding wrench.
3. Click **User Management** on the Site Management screen, and locate the user you want to remove.
4. Click the trash icon for the user you want to remove.
5. Click OK in the confirmation dialog box that appears.

Administrator Section

In the Administrator section of the Server Management screen, you enter information about the Cobalt RaQ administrator — including user name, password, and (optionally) current e-mail address. You need to enter the password twice to make sure you've entered it as intended. Click **Save Changes** when you've entered all the administrator information.

Caution: Be sure to remember the password you enter here — otherwise, you'll need to reset it (as described below).

Changing the RaQ Administrator Password

As long as you remember the RaQ administrator password, you can always go to the Server Management screen, click **Administrator**, and change the password by entering a new one (twice).

Resetting the RaQ Administrator Password

If you forget the Cobalt RaQ administrator password, you can clear it by following these steps:

1. Push and hold a paper clip in the Reset Password port (located between the LCD screen and the LCD control buttons, on the front of the Cobalt RaQ). Hold the button in for approximately 2 seconds.

   The LCD screen will display

   ```
   RESETTING ADMIN
      PASSWORD
   ```

Caution: After you clear the password, enter a new one as soon as possible, to protect the security of the Cobalt RaQ — otherwise, at this point, anyone on the network can assign the RaQ administrator password. Follow the steps below to enter a new password.

2. In your Web browser, enter the URL http://*IP address*/admin/ to access the Server Management screen.
3. If a prompt appears asking for a username or password, enter “admin” as the username, and enter any name or word as the password.
4. Click **Administrator** to go to the Administrator Section.
5. In the Administrator Settings table, enter a new password (twice).
6. Click **Save Changes**.

When the Cobalt RaQ administrator password is cleared, the root password is also cleared. This process disables root Telnet access to the Cobalt RaQ root. Telnet access is re-enabled once a new Cobalt RaQ administrator password is assigned.

Control Panel Section

You can configure the network, time, and services settings through the Control Panel section of the Server Management screen.

> Note: For help with a particular field, click the Active Assist icon adjacent to the field.

Network

Click the **Network** button at the top of the Control Panel section to enter or change network configuration information. These settings make the Cobalt RaQ visible to other computers. If you change the IP address, the system will reboot.

Time

Click the **Time** button at the top of the Control Panel section to enter the correct time and date and your time zone. You can also specify the name of the server (NTP server) with which the Cobalt RaQ will synchronize its internal clock every night.

Services

To manage settings for the Cobalt RaQ services, go to the Server Management screen, click **Control Panel**, then click the **Services** button at the top of the screen. To turn on any of the services listed in the Service Settings table (except Web server), click its check box. The services are described in the sections that follow.

> Note: Instructions for users on how to use the Cobalt RaQ services are given in Chapter 5.

Web Server

This service is always on. It allows users to access Web content, as described in Chapter 5.

E-Mail Server

The Cobalt RaQ supports e-mail for each hosted site. It also supports e-mail for entire domains (for example, abc.com). By default, each registered user has an e-mail account created on the Cobalt RaQ.

Once you've turned on the e-mail server (via the e-mail check box in this section), you can set e-mail parameters by clicking **Parameters** for e-mail. You can specify hosts from which to relay, receive, or block e-mail, and set a maximum size for e-mail messages.

> IMPORTANT: For e-mail to be received, the Cobalt RaQ's hostname (as specified in the Setup Wizard) must be entered into your organization's DNS server by the network or system administrator. SMTP will not work unless the DNS server's IP address has been entered in the Cobalt RaQ's network settings (in the Control Panel section of the Server Management screen), as described in "Network," above.

Set the e-mail parameters as follows:

- **Maximum e-mail message size...** It's important to enter a number here to limit the size of incoming e-mail messages. If there's no value in this field, you might receive a message that exceeds the available disk space. Such a message would be returned to the sender as "undeliverable."
- **Relay e-mail from...** In this field, enter all the IP addresses or domain names of sites from which you might want to have e-mail messages relayed.
- **Receive e-mail addressed to...** In this field, enter all the IP addresses or domain names of sites on which you might receive e-mail. You can only receive e-mail that's addressed to you on the domains specified here. For example, if you want to get e-mail addressed to you at username@domain.com, domain.com must be in this field. Otherwise, people sending you e-mail will have to include the host name in your e-mail address — e.g., username@host.domain.com.
- **Block e-mail from...** In this field, enter e-mail addresses or domains from which you don't want to received any e-mail. Anyone trying to send you messages from one of these addresses or domains will receive an error message in return.

File Transfer Protocol (FTP) Server

FTP allows users to upload and download files on the Cobalt RaQ using the File Transfer Protocol (FTP). Users can transfer files with FTP client software (such as Fetch or WS-FTP).

Telnet Server

Telnet access is available and should be used only by advanced users. An advanced user is someone who is proficient in the internal workings of the UNIX® operating system. It is possible to adversely affect the performance of your Cobalt RaQ if you modify system configuration files.

Domain Name Service (DNS) Server

A *domain name space* is a computer name suffix shared by computers in the same organization. Domain names are organized in a hierarchy, including your company or server name and a country code or generic identification such as ".com" or ".edu." Cobalt Networks has registered the domain name "cobaltnet.com" for use by our servers "dns.cobaltnet.com," "www.cobaltnet.com," and others. "dns" and "www" are different machines registered in the same domain. If you want to run your own Internet servers, talk to your Internet Service Provider to determine a suitable domain name for your business.

Once you've turned on the DNS server (via the check box in this section), you can set the optional DNS services by clicking **Parameters** next to DNS in the table.

Configuring a Primary Domain Naming Service

A primary domain-naming service maintains a list of computer names and their IP addresses. This list is made available to other DNS servers if the domain is registered with your country-specific domain-naming organization. Your Internet service Provider may help you register your Internet server.

To configure a primary domain naming service on your Cobalt RaQ, follow these steps:

1. Open the Control Panel section on the Server Management screen.
2. Click the **Services** button at the top of the screen.
3. Click the check box for Domain Name Service (DNS) Server to turn it on (if it's not already turned on).

4. Click **Parameters** in the table, next to DNS.
5. Click **Add Primary**
6. Enter the domain name you want to serve and click **Add Service**.

You can now use the "Add New Host..." table to build a list of IP addresses and the corresponding computer names. Click **Update List** after typing in each new IP and hostname pair.

In the "Current DNS Host List" table that appears, you can create aliases for a DNS host by entering multiple host names, separated by spaces. The first name in the list is the host name, and the subsequent names are aliases.

In the "Mail Servers" table, you can specify mail exchange servers by entering them in decreasing priority, separated by spaces. The first name entered is the computer name; subsequent names are aliases. The first server listed is the primary e-mail exchange server, the next one listed is the secondary, and so on.

After you've finished entering the list of hosts to be served, click **Save Changes** to update the DNS server.

To stop a primary domain naming service, click the trash icon adjacent to the domain you want to delete in the table that appears when you click DNS Parameters in the Service Settings table. This stops forward-lookup DNS service for that domain.

Configuring a Secondary Domain Naming Service

A secondary DNS service can be configured to provide redundant DNS service to your computers. If the primary DNS server is turned off, then computers may use the secondary DNS server with no loss of performance.

To configure a secondary domain naming service on your Cobalt RaQ, follow these steps:

1. Open the Control Panel section on the Server Management screen.
2. Click the **Services** button at the top of the screen.
3. Click **Parameters** in the table, next to DNS.
4. Click **Add Secondary**
5. Enter the secondary domain name you want to serve and the IP address of the corresponding primary DNS service, and then click **Add Service**.

To stop a secondary domain naming service, click the trash icon adjacent to the secondary domain you want to delete in the table that appears when you click DNS Parameters in the Service Settings table. The list of hostnames and their IP addresses can be modified only on the primary DNS server for that domain.

Changing Reverse Lookup Configuration

A DNS server can resolve a computer name to an IP address as well as resolve an IP address to a computer name. When a primary domain name service is started, the DNS server will automatically be configured as the primary DNS server for reverse lookups. If your Internet service provider is providing primary reverse lookup service for your domain, then you'll want to configure the reverse lookup to act as a secondary domain naming service.

To change reverse lookup configuration:

1. Open the Control Panel section on the Server Management screen.
2. Click the **Services** button at the top of the screen.
3. Click **Parameters** in the table, next to DNS.
4. Click **Edit Reverse Lookup**.
5. Click the appropriate radio button to select the reverse lookup server for the corresponding network listed in the leftmost column.

   To change reverse lookup service for a network to secondary, you must provide the IP address of the primary server.
6. Click **Save Changes**.

To stop reverse lookup for a network, select the Disabled radio button adjacent to that network. Then click **Save Changes** to update the DNS server. If DNS service for a primary domain is stopped, reverse lookup for networks served in the domain can be disabled manually in the Edit Reverse Lookup table.

Simple Network Management Protocol (SNMP) Agent

Once you've enabled SNMP, you can click **Parameters** (next to SNMP in the table) to specify the SNMP community that can have read and write access to this SNMP agent. The default read-access community is "public."

Maintenance Section

The Maintenance section of the Server Management screen provides several Web-based utilities that facilitate the day-to-day operations of the microserver. To get to these utilities, you click **Maintenance** on the Server Management screen, then click the button (at the top of the screen) that corresponds to the utility you want to use (they're all described below).

Backup

Each category of user on the Cobalt RaQ has different backup privileges. The RaQ administrator can back up the entire Cobalt RaQ or just a site or user directory. Site administrators can back up their own site or a user directory. Site users can back up their own directories. Normally, you save backup files to your local hard disk or to tape.

To back up all the files on the Cobalt RaQ, a virtual site's files, or a user's files and e-mail, go to the Maintenance section of Server Management, click **Backup** (at the top of the screen), and follow the on-screen instructions.

Restore

Restoring directories on the Cobalt RaQ is a simple procedure. First, go to the Maintenance section of Server Management, and click **Restore** (at the top of the screen). Click **BROWSE** and select the .raq backup file to restore on the RaQ. Click **Selective Restore**, if you want to restore only some of the files, then click the **Restore** button (below the File Restore table).

Note: Legato NetWorker® client software is also available on the RaQ to support backup and restore needs. To start the client daemon, execute: `/etc/rc.d/init.d/networker start` from a shell as the root user.

Install Software

You can add new software to the Cobalt RaQ from the browser. The following steps describes how to install new software obtained either from Cobalt's Web site or from a CD supplied by Cobalt Networks, Inc.

To install or upgrade software from Cobalt's Web site:

1. Download the new software to your desktop computer. See http://www.cobaltnet.com/support/.
2. In the Maintenance section of the Server Management screen, click **Install Software** (at the top of the screen).
3. Click **BROWSE** to locate the package that you downloaded to your computer. Then click **Open** to select it.
4. Click "**Install a .pkg package**" to automatically install or upgrade the new software on the Cobalt RaQ.

To install software from a CD:

1. Insert the CD into a computer on the same network as the Cobalt RaQ.
2. From the computer that has the CD, go to the Server Management screen, click **Maintenance**, then click "**Install Software**" (at the top of the screen).
3. Click **BROWSE** to locate the package from the CD. Then click **Open** to select it.
4. Click "**Install a .pkg package**" to automatically install the new software on the Cobalt RaQ.

Reboot

Rebooting the Cobalt RaQ sometimes cures problems with certain services. The "Active Monitor" software recommends when a reboot is necessary.

You can reboot the Cobalt RaQ via your browser by going to the Server Management screen, clicking **Maintenance**, then clicking **Reboot** (at the top of the screen). In the table that appears, click the **Reboot** button.

Alternatively, you can reboot by using the LCD console; refer to "Rebooting" in Appendix A.

Rebooting may take a few minutes.

Shutdown

The Cobalt RaQ can only be shut down from the LCD console located on the front of the unit. Refer to "Powering Down" in Appendix A. Shutting down may take a few minutes.

Caution: Turning off the Power switch before the Cobalt RaQ tells you to do so can result in lost data.

System Status Section

The System Status section of the Server Management screen allows you to monitor CPU, memory, disk, and network status. In all cases, the Cobalt RaQ monitors the health of each of the subsystems and displays a green, amber, or red LED beside each item. “Green” means that the subsystem is performing well. “Amber” indicates a potential problem. “Red” indicates that a problem exists. Clicking on the LED provides an explanation of the problem.

Memory

The Memory Status chart tells you whether there is physical memory available. If you see a red light in this chart, you may want to add more memory to the Cobalt RaQ.

CPU

The CPU Usage chart provides a real-time chart of CPU load. It indicates the number of tasks waiting to be executed. This chart helps you evaluate whether the Cobalt RaQ’s CPU is being used heavily or lightly.

Disk

A Disk Usage Summary describes the total disk space occupied by system files, by sites and site users, the amount of free disk space left, and the total size of the disk.

Network

The Network Usage chart displays the number of network packets successfully sent / received, the total number of errors when sending / receiving network packets, the number of network packets dropped after failure in sending / receiving, and the number of attempts to send several network packets at the same time (i.e., collisions).

Service Status Section

The Service Status section allows you to monitor Web, e-mail, FTP, Telnet, DNS, and SNMP services. It follows the same LED conventions as the System Status section.

Web

The Web Server Status chart displays the status of the Web server (green, amber, or red).

E-mail

The E-mail Status chart displays the status of the Post Office Protocol 3 (POP3) server, the Internet Message Access Protocol 4 (IMAP4) server, and the Simple Mail Transfer Protocol (SMTP) service. This chart indicates whether these servers are operating normally.

FTP

The File Transfer Protocol (FTP) Status chart displays the status of the (FTP) server's operation (normal or otherwise).

Telnet

The Telnet Status chart displays the status of the Telnet server's operation (normal or otherwise).

Domain Name Service

The Domain Name Service (DNS) Status chart denotes whether or not DNS is active and whether it is operating properly.

SNMP

The SNMP (Simple Network Management Protocol) chart displays the status of the SNMP server's operation (normal or otherwise).

Active Monitor Section

The Cobalt RaQ uses Active Monitor software, which is constantly evaluating the system components and services in the background. The Active Monitor reports on potential problems.

To get to the Active Monitor section, click **Active Monitor** on the Server Management screen. If you see a blinking red light next to any of the components or services listed in this section, the Active

Monitor is signaling that a warning condition exists on the server. Click on the light to examine which component or service is producing the error.

Approaches to RaQ Administration

As the RaQ administrator, you can decide how much of the server's functions you want to manage directly, and how much you want to delegate.

- **Full control**. If you want to control all the functions on the Cobalt RaQ, you can create virtual sites without assigning any virtual site administrators. This way, you'll be responsible for managing the main site and all the virtual sites.
- **Hybrid control**. If you want to control some of the Cobalt RaQ functions and delegate others, you can assign virtual site administrators for some of the virtual sites (for the sites that have a user capable of acting as administrator), and not assign administrators for the other sites. This way, you'll be responsible for managing only the sites that don't have an administrator.
- **Distributed control**. If you want to delegate responsibility for all the sites other than the main site, create site administrators for all the virtual sites. If you do this, you'll be responsible for managing only the main site. The virtual site administrators will be responsible for managing the virtual sites.

Site Administration

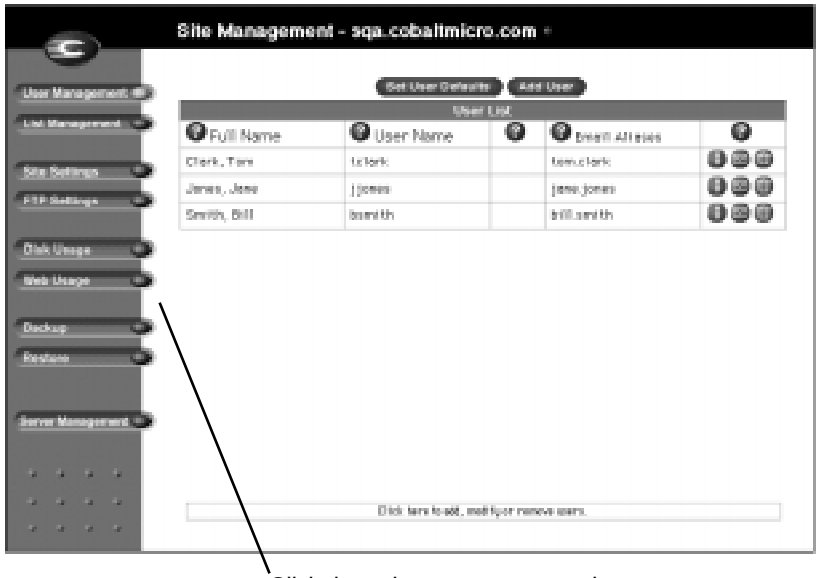
There are three types of users on the Cobalt RaQ: the *RaQ administrator*, *site administrators*, and *site users*.

This chapter describes the functions normally performed by the site administrator. Site administrators can add or remove site users, create mailing lists, manage disk space, back up and restore files, and do other site-related administrative tasks. (These functions can also be performed by the Cobalt RaQ administrator.)

As a site administrator, you manage your site using any standard Web browser. Access the Site Management screen for your site by typing the URL http://*IP address*/siteadmin/ into your browser. A prompt appears, asking you to enter your site administrator username and password.

The **Site Management** screen (shown in the next figure) provides access to the site administrator functions.

To go to a section of the Site Management screen, you click the section's button along the left side of the screen. These functions are described in the sections that follow.



User Management Section

The User Management section on the Site Management screen allows you to perform administrative functions related to site users — adding or removing users, entering and modifying user names and passwords, and managing users' disk space allocations, Telnet access, and e-mail aliases.

Adding a user

To add a user to a site, follow these steps:

1. Go to the Site Management screen.
2. Click **User Management**.
3. Click **Add User**.
4. Enter the information for the user.

Enter the user's name and password, set a total disk space allocation for the user, and enable Telnet access and enter e-mail aliases (if appropriate — see the description in "Entering User E-mail Settings and Aliases" on page 35 below). You can also choose to assign the user to be the administrator for the virtual site.

5. Click **Confirm New User.**

Caution: When you're on the Site Management screen for the main site (which is the Cobalt RaQ), the user settings for the RaQ administrator can be modified here, including name and password. Please make sure you remember the Cobalt RaQ administrator password. If you forget the password, see "Resetting the RaQ Administrator Password" on page 22 for instructions on resetting it.

Entering User E-mail Settings and Aliases

Mail Forwarding and Vacation Reply

Individual users can choose to have their Cobalt RaQ e-mail forwarded to another e-mail account. Users can also choose to have a vacation-reply message that's automatically sent to each person who sends the user an e-mail. This feature is useful when users know they won't be reading or responding to incoming e-mail messages for a period of time. As the site administrator, you can enter these settings for users (at their request) as described below in "Changing User Settings" on page 36.

Note: A vacation-reply e-mail is sent only once per day to each sender.

E-mail Aliases

Each registered user on the Cobalt RaQ must have a unique username (e.g., mary, john). This username is used to send or retrieve e-mail. When a username is already taken by another site (for example, username mary exists and her e-mail goes to mary@abc.com), you can add a new user with a similar name (maryb) and configure the server to receive e-mail with the

desired name (user maryb receives mail for mary@xyz.com). The user then enters the desired "return address" in his or her e-mail software.

Note: To address a user by an alias, a sender must always include the hostname in the recipient's e-mail address, e.g., alias@hostname.domainname.com, even if domainname.com is in the "Receive e-mail addressed to" field in the e-mail parameters table (in the Control Panels/Services section of the Server Management screen).

Changing User Settings

To change the name, password, disk space allocation, or Telnet access for an existing user, or to make an existing user the site administrator, click **User Management** on the Site Management screen, then click the pencil icon for the user. Enter the changes you want in the Modify User table.

To set up or modify the e-mail options for an existing user, click **User Management** on the Site Management screen, then click the envelope icon for the user. In the table that appears, you can enter a forwarding e-mail address, e-mail aliases, and an automatic vacation reply. These options are described in "Entering User E-mail Settings and Aliases" on page 35.

If you want to remove a site user, click the trash icon for the user. To confirm that you want to remove the user, click **OK** in the confirmation dialog box that appears.

List Management Section

The List Management section on the Site Management screen allows you to create and manage mailing lists for the site.

To add a mailing list:

1. Go to the Site Management screen.
2. Click **List Management**.
3. Click **Add Mailing List**.
4. Enter a name for the mailing list, then enter the e-mail addresses of the members of the list.

5. If there are existing users you want to include in the list, select them (one at a time) from the pull-down menu, and then click the bent, down-pointing arrow to add the selected user to the list.
6. You can specify aliases for the mailing list by entering them in the "Aliases" area. (You don't need to include the domain in the aliases.)
7. When you're finished, click **Confirm New Mailing List**.

To modify a mailing list, go to the Site Management screen, click **List Management**, click the pencil icon for the mailing list, modify the information as needed, and then click **Confirm Modify**.

To delete a mailing list, go to the Site Management screen, click **List Management**, click the trash icon for the mailing list, and then click **OK** to confirm that you want to delete the mailing list.

Site Settings Section

In the Site settings section of Site Management, you can see the domain name and IP address of the site, change the disk space allocation for the site, and choose the frequency with which Web usage reports will be generated. If CGI has been enabled for your site (by the RaQ administrator), you can turn CGI on or off for all the site's users.

CGI allows users to have Web sites run programs that dynamically generate HTML pages in response to specific user inputs. CGI scripts can be created on a user's desktop computer and then transferred to the Cobalt RaQ with an FTP application (as explained in Chapter 5). CGI scripts must have a .pl or .cgi filename extension.

FTP Settings Section

As the site administrator, you can enable the anonymous FTP server for the site, set limits on the size of files that can be uploaded, and set the number of simultaneous users. This feature allows users without passwords to download and upload files via FTP, up to the specified disk-space limit.

To change the FTP settings for your site, click **FTP Settings** on the Site Management screen, enter the setting you want, and then click **Save Changes**.

To **download** files via anonymous FTP, log onto the site with the username "guest" or "anonymous" — you don't need to enter a password. When you log on with one of these usernames, you'll enter the directory `/home/sites/sitename/ftp/`. (This directory can be accessed via the URL ftp://IP address/.) The site administrator can post files here for downloading via FTP client software or a Web browser.

To **upload** files, you must use FTP client software (for example, Fetch) and access the directory `/home/sites/sitename/ftp/incoming/`. Once you've uploaded a file, you (as a guest) can't see it or access it on the FTP site. However, all registered site users with Telnet/shell privileges can access it.

The size limit specified for FTP uploads is the total amount of disk space allocated for FTP uploads. If this number is set to 0, guests cannot upload to the FTP site.

Disk Usage Section

In this section of Site Management, you can monitor how much disk space is being used by the site and its users.

Web Usage Section

The Web Usage section allows you to download a Web log file for your site, or view the last report that was downloaded. To download a log file, go to the Web Usage section of Site Management, then click **Download Log File**.

Backup Section

As a site administrator, you can back up your own site or a user directory that belongs to a user on your site. To do either of these, go to the Backup section of Site Management and follow the on-screen instructions.

Restore Section

Restoring a site or user directory on the Cobalt RaQ is a simple procedure. First, go to the Restore section of Site Management. Click **BROWSE** and select the .raq backup file to restore on the RaQ. Click **Selective Restore**, if you want to restore only some of the files, then click the **Restore** button (below the File Restore table).

Server Management

If you're the Cobalt RaQ administrator, you can return to the RaQ administrator site's Server Management screen by clicking **Server Management** on the Site Management screen.

Publishing Web Pages

For information on publishing Web pages on the Cobalt RaQ, see "Developing Web Pages" on page 42 and "Publishing Web Pages Via FTP" on page 43.

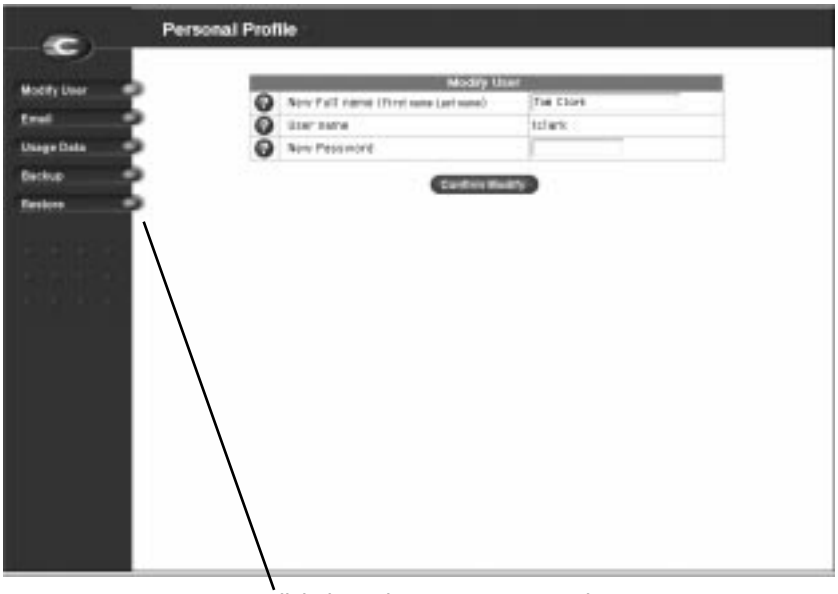
Using Services on a Site

This chapter describes the functions that site users can perform on the Cobalt RaQ. As a site user, you can change your user name and password, set e-mail options, monitor your directory's disk space usage, back up and restore your files, send and receive e-mail, and create and upload Web pages and other files.

Managing Your Personal Profile

You manage your directory using any standard browser. Access your directory by typing the URL http://*IP address*/personal/ into your browser. You must enter your user name and password.

When you access your directory, the **Personal Profile** screen appears (shown in the next figure).



The management functions available on the Personal Profile screen are described in the sections that follow.

Modify User

This section allows you to change your full name and password. Click **Modify User** on the Personal Profile screen to access a table where you can change these settings. When you're finished, click **Confirm Modify**.

E-mail

The E-mail section of the Personal Profile allows you to select e-mail options. To set your e-mail options, access the Personal Profile screen (as described above), then click **E-mail**. In the E-mail Settings table, you can select the e-mail options that are described in the next two sections.

Having Your E-mail Forwarded

You can choose to have your Cobalt RaQ e-mail forwarded to another e-mail account. All you need to do is enter the destination account in the "Forward E-mail To" field in the E-mail Settings table.

Setting an Automatic Vacation Reply

You can also create a vacation-reply message that's automatically sent to each person who sends you e-mail. This feature is useful when you know that you won't be reading or responding to incoming e-mail messages for a period of time.

To set up a vacation reply, follow these steps:

1. Type the URL http://*IP address*/personal/ into your Web browser, and then enter your name and password when prompted.
2. Click **E-mail** on the Personal Profile screen.
3. Click the check box labeled "Vacation/Autoresponder E-mail Reply" to turn it on.
4. In the scrolling field, type the text of the message you want users to receive while you're away.
5. Click **Save Changes**.

Note: A vacation-reply e-mail is sent only once per day to each sender.

Usage Data

The Usage Data section of the Personal Profile displays a Disk Usage table showing the total disk space occupied by your files, the amount of available disk space, and your total disk space allocation. To access this table, just click **Usage Data** on the Personal Profile screen.

Backup

As a site user, you can back up your Home directory. To do this, go to the Personal Profile screen, click **Backup** and read the on-screen instructions. When you're ready to perform the backup, click **Backup My Home Directory**.

Restore

To restore your backed-up Home directory files (from your local disk to your Cobalt RaQ Home directory):

1. Access the Personal Profile screen.
2. Click **Restore**.
3. Click **BROWSE** and select the .raq backup file to restore onto the Cobalt RaQ.
4. Check **Selective Restore** if you want to restore only some of the files.
5. Click **Restore a Backup File** (below the File Restore table) when you're ready to begin restoring the files.

Using Cobalt RaQ E-mail

To use all of the Cobalt RaQ's e-mail capabilities, the e-mail parameter settings must be correct (as described in "E-Mail Server" on page 24). Also, you must configure your e-mail application to send and retrieve e-mail from the Cobalt RaQ.

Make sure the following information is entered into your e-mail program:

1. **E-mail address**. The format is either

   username@domainname, or

   username@hostname.domainname,

   (e.g., myname@raq1.cobaltnet.com) where:

- *username* is the user ID assigned to you (for example, “myname”)
- *hostname* is the name assigned to the Cobalt RaQ (for example, “raq1”)
- *domainname* is either the “official” domain name that is registered with InterNIC (for example, “cobaltnet.com”), or an intranet domain name specific to your network. (Obtain this information from your system administrator.)

2. **SMTP Server**. The format is *hostname.domainname* (e.g., “raq1.cobaltnet.com”).
3. **POP3 Server**. The format is *hostname.domainname* (e.g., “raq1.cobaltnet.com”).

Note: Occasionally, an e-mail application asks for an “incoming” mail server. The incoming mail server would be the POP3 server.

Developing Web Pages

You can create complex Web pages using any of the standard HTML editors and the HTML publishing capabilities of many popular desktop productivity applications. You can create and link the Web pages themselves on your desktop computer, and then move them to the appropriate subdirectory in the Cobalt RaQ via an FTP application (as described below).

CGI Scripts

The Cobalt RaQ supports CGI scripts, such as those written in Perl version 5.0, C, or other languages. If CGI is enabled for your site (in the Site Settings section of the Site Management screen), then you can add CGI scripts to work with your Web content.

This enables you to develop highly interactive, powerful Web-based applications by building server-side CGI scripts that generate Web pages in response to specific user inputs. These applications range from simple scheduling and conferencing applications to sophisticated electronic commerce solutions.

You can develop CGI scripts on your desktop machine, and then transfer it to the Cobalt RaQ by means of any FTP-based application that allows permission bits to be set to “Executable.” Use FTP (File Transfer Protocol) to upload .cgi and .pl files. You

should use ASCII mode to upload CGI files. Once the file is on the Cobalt RaQ, use your FTP program (or use the Telnet command: *chmod 755 filename.cgi*) to make the script executable.

The path to Perl is /usr/bin/perl. In order for users (other than the RaQ administrator) to add CGI files, CGI must be enabled for the user's site (in the Site Settings section of the Site Management screen). CGI scripts must use .pl or .cgi filename extensions in order to be executed by the Web server.

Publishing Web Pages Via FTP

After creating your Web pages, you can publish them on the Cobalt RaQ using FTP.

First, make sure you have the following information:

- The hostname or the IP address of your Cobalt RaQ.
- Your username and password.
- A filename of your choice to save as your main page (the default is index.html).

Then launch your FTP software, establish an FTP link to the Cobalt RaQ, and then upload your HTML files. If you need help, consult the instructions for your FTP application.

By default, the files you upload via FTP are stored in your personal directory, the directory path for which is

`/home/sites/`*`sitename`*`/users/`*`username`*

where *sitename* is the first 12 characters of your site name, and *username* is your user name.

Note to site administrators: To post Web pages for your site, you must upload to the directory `/home/sites/`*`sitename`*, which is two directory-levels higher than your personal directory. (Only the site administrator or the RaQ administrator can upload to this directory.) Unless you specify this directory, your Web pages will be stored in your personal directory, which will be accessible on the Web at http://*sitename*/users/*your-username*/ — not at http://*sitename*/.

Using Telnet

Telnet access is available — it can be turned on for individual users by the site administrator (via the User Management section of the Site Management screen). Telnet should be used by advanced users only — users who want to run shell scripts or use shell commands. An advanced user is someone who is proficient in the internal workings of the UNIX operating system.

Warning to the RaQ administrator: It's possible to adversely affect the performance of your Cobalt RaQ if you modify system configuration files. Check your warranty card for details.

Using the LCD Console

During startup, the LCD screen displays status information about the boot process itself.

During setup, the LCD console is used to enter network configuration information for the Cobalt RaQ.

Once the Cobalt RaQ is running, the LCD console also serves multiple purposes. You can use it to:

- Change network configuration information, which is useful if the Cobalt RaQ's location is changed.
- Reboot, which restarts the entire system.
- Power down in a way that allows the Cobalt RaQ to close all open files and minimizes startup time the next time the Cobalt RaQ is powered on.

IMPORTANT: Before turning off the Cobalt RaQ, be sure to follow the proper power-down procedure (as described in "Powering Down," below).

You access each of these functions by holding down the Ⓢ button on the LCD console for approximately two seconds. This action causes the LCD screen to enter its function mode. Press the Ⓢ button until the function you want appears on the LCD screen. To cancel the LCD's function mode, select the EXIT function (when it appears on the screen), then press the Ⓔ button, then select YES.

Changing Network Configuration

To reset the IP address or change the network configuration from the LCD console:

1. From the LCD console, hold down the Ⓢ button for approximately 2 seconds.

The LCD screen displays:

```
SELECT:
   SETUP NETWORK
```

2. Press the Ⓔ button.
3. Enter the IP address, and then press the Ⓔ button.
4. Enter the netmask, and then press the Ⓔ button.
5. Enter the Gateway, and press the Ⓔ button.
6. Toggle the cursor to [S]ave or [C]ancel and press the Ⓔ button.

If you select the Save option, the Cobalt RaQ will restart, using the new network configuration. If you select Cancel, you return to step 1 of this procedure.

Note: Alternatively, you can change the Cobalt RaQ's network configuration via the browser. To do this, go to the Server Management screen, click **Control Panel**, then click **Network** (at the top of the screen). You can edit the network settings in the table that appears. This can cause the Cobalt RaQ to reboot.

Rebooting

To select the reboot application:

1. From the LCD console, hold down the Ⓢ button for approximately 2 seconds.

   The LCD screen displays:

   ```
   SELECT:
      SETUP NETWORK
   ```

2. Press the Ⓢ button once until "reboot" appears in the LCD display:

   ```
   SELECT:
      REBOOT
   ```

3. Press the Ⓔ button.
4. Use the cursor control keys to toggle the cursor between [Y] and [N]. Select [Y] to reboot the system.

Note: You can also reboot via the browser. To do this, go to the Server Management screen, click **Maintenance**, and then click **Reboot** (at the top of the screen). In the table that appears, click **Reboot**.

Powering Down

Caution: To prevent the potential loss of data, it is important to follow the proper power-down procedure (described below) before turning off the Cobalt RaQ.

To select the power-down application:

1. From the LCD console, press and hold in the Ⓢ button for approximately 2 seconds.

   The LCD screen displays:

   ```
   SELECT:
      SETUP NETWORK
   ```

2. Press the Ⓢ button twice until “power down” appears in the LCD display:

   ```
   SELECT:
      POWER DOWN
   ```

3. Press the Ⓔ button.

4. Use the cursor control keys to toggle the cursor between [Y] and [N]. Select [Y] to power down the system.

   The “OK to Power Off” light (on the back panel) blinks, and the LCD (on the front) displays:

   ```
   PLEASE SWITCH
      POWER OFF NOW
   ```

5. Press the **On/Off** switch on the back panel to turn off the Cobalt RaQ.

Resetting Network Configuration

The “Reset Network” function resets the hostname, IP address, netmask, gateway, and DNS information to that of a new, unconfigured Cobalt RaQ. This function may be useful if you’re moving the Cobalt RaQ to a new network.

Note: Resetting the network configuration via the LCD console affects only the main site (i.e., the Cobalt RaQ itself) — it doesn’t change the network settings for the virtual sites.

To reset the Cobalt RaQ’s network state, follow these steps:

1. From the LCD console, hold down the Ⓢ button for approximately 2 seconds.

   The LCD screen displays:

   ```
   SELECT:
      SETUP NETWORK
   ```

2. Press the Ⓢ button three times until “reset network” appears in the LCD display:

   ```
   SELECT:
      RESET NETWORK
   ```

3. Press the Ⓔ button.

4. Use the LCD control buttons to toggle the cursor between [Y] and [N]. Select [Y] to reset the network configuration.

5. After resetting, the Cobalt RaQ powers down and the LCD displays:

   ```
   PLEASE SWITCH
      POWER OFF NOW
   ```

6. Press the **On/Off** switch on the back panel to turn off the Cobalt RaQ.

Product Specifications

Technical Data for the Cobalt RaQ

Hardware

Superscalar RISC microprocessor

16-MB to 256-MB 5-Volt EDO 60-ns DRAM, packaged in 72-pin Single In-Line Memory Modules (SIMMs)

> Note: For 64 MB SIMMs or greater, contact Cobalt Networks, Inc., for exact memory specifications. (See page 5 for contact information.)

Ultra ATA hard drive

10/100 Base-T Ethernet network interface, auto-sensing

LCD console

Serial console interface

Power consumption: 25 W typical, 35 W peak

Software

Technical Details:

Linux 2.0 multitasking operating system

Apache 1.3 web server, HTTP/1.1 compliant

CGI support

Perl 5.0 scripting

SMTP, IMAP4, POP3 e-mail protocol support

FTP support

SNMP support

Domain Name Server (BIND 4)

Year-2000 compliant

Services:

Browser-based setup

Browser-based administration

Active Monitor maintenance agents

Remote software upgrade service

Physical Data

Dimensions: 17.00 in. x 12.50 in. x 1.75 in. (43.2 cm x 31.8 cm x 4.5 cm — fits in standard 19” rack)

Weight: 9 lbs. 3 oz. (4.2 kg)

Power requirements: Input rating 100-240 V, 50 / 60 Hz

Operating environment: 32^{o} to 108^{o}F ($0^{o}$to 40^{o}C), 10% to 90% humidity (non-condensing)

Non-operating environment: 14^{o} to 122^{o}F ($-10^{o}$to 50^{o}C), 5% to 93% humidity (non-condensing)

LEDs: Power, Transmit / Receive, Link, Collision, 100 Mbit Operation, Disk Activity, Web Activity, OK to Power Off

Regulatory approval: FCC Class A, VCCI-A, UL, C-UL, TUV, CE

System Requirements

A TCP / IP-based 10 Base-T, 10 / 100 Base-T, or 100 Base-T Ethernet network

Netscape Navigator or Microsoft Internet Explorer, Version 3.0 or later

Advanced Information

Serial Console Port

You can connect a console terminal to the DB-9 connector on the back panel of the Cobalt RaQ. The terminal can be either an ASCII terminal or a PC running terminal software. The console terminal should have the following communications parameters — 9600 Baud, 8 data bits, no parity, and one stop bit.

Development Tools

The Cobalt RaQ provides a collection of utilities to support applications development and server administration. These tools include:

- The GNU C/C++ compiler (`gcc`) and libraries
- Several text editors (`emacs`, `vi`)
- The GNU Bourne Again Shell (`bash`)
- File system utilities (`ls`, `mv`, `cp`, `ln`, `rm`, `chmod`, `chown`, `chgrp`, `du`, `df`)
- File parsing utilities (`sed`, `awk`, `diff`)
- File display utilities (`cat`, `more`, `less`)
- Search utilities (`find`, `grep`, `which`)
- Archive utilities (`gzip`, `tar`, `cpio`, `rpm`)
- Network utilities (`ftp`, `telnet`, `netstat`, `ping`, `finger`, `mail`, `pine`)
- The Perl programming language

These utilities can be found in one of the following directories:

`/sbin`

`/bin`

`/usr/sbin`

`/usr/bin`

Additionally, the Linux distribution on the Cobalt RaQ is highly compatible with the RedHat Linux distribution found on other computers. This means that virtually all source code that compiles on other Linux architectures (e.g., Intel®, SPARC®, Alpha™) can compile (unchanged) on the Cobalt RaQ (a MIPS® processor-based system). Therefore, you can easily build utilities not found on the Cobalt RaQ with the GNU C/C++ compiler that's supplied.

DNS and Site Notification

The Cobalt RaQ can notify you when the RaQ administrator (or site administrator) makes a change to DNS or virtual site hosting. To enable this notification feature, Telnet into the Cobalt RaQ as the root user and create the file:

`/etc/dns.notification`

This file should contain the full e-mail address to which you want notifications sent (for example, user@domain.com).

When the notification feature is enabled, the Cobalt RaQ generates an e-mail message notifying you whenever one of the following events occurs:

- A change is made to a Primary DNS database hosted by the RaQ.
- A virtual site is added or removed.

Here's an example of an e-mail message the Cobalt RaQ generates when the RaQ administrator adds a virtual site:

```
Date: Tue, 1 Sep 1998 13:13:14 -0700
Message-Id:<199809012013.NAA01157@raq.cobaltnet.com>
To: isp-notify@isp.net
From: admin@raq.cobaltnet.com
Subject:RaQ 10.9.25.33 added a virtual site 10.9.28.16
X-UIDL: e6b3231b86e7d5a8f23a423a4eabf64d

The RaQ using 10.9.25.33 has added a virtual site
using 10.9.28.16. Please verify that this IP address
is available for use. IP addresses must be unique for
every virtual site.
```

Here's an example of an e-mail message the Cobalt RaQ generates when the RaQ administrator makes a DNS entry:

```
Date: Tue, 1 Sep 1998 13:40:29 -0700
Message-Id: <199809012040.NAA01596@raq1.cobaltnet.com>
To: isp-notify@isp.net
From: admin@raq.cobaltnet.com
Subject: DNS host modification: abc.com
X-UIDL: 83935d5d2ef766fbdc1aa263e169e50a

Raq: raq.cobaltnet.com
Serving domain: abc.com

Hosts:
127.0.0.1   localhost
10.9.25.33  www
```

Configuration Files

If necessary, you can change some of the configuration files for the Cobalt RaQ services for development purposes. Here's a list of services with some of their associated configuration files and directories:

- E-mail

  `/etc/inetd.conf`

  `/etc/sendmail.*`

  `/etc/mail/`

- DNS

  `/etc/named/`

- FTP

  `/etc/proftpd.conf`

- Web

  `/etc/httpd/conf/*.conf`

Caution: Changing any of the above configuration files can dramatically affect the operation of the services configured by means of the Cobalt RaQ's Web-based administration service or the administration service itself.

Directory Structure

The disk on the Cobalt RaQ is partitioned into four segments. Most of the available disk space is on the partition mounted from `/home`. It's best to do most of your work under this partition. By default, quotas are turned on in this partition, and they're used extensively by the Cobalt system software.

Server Home Page

The document root for the Web server is the Cobalt RaQ's main site:

`/home/sites/home`

Web content in this directory is associated with the URL http://*IP address*/. For example, a file saved as:

`/home/sites/home/testdir/test.html`

would be accessed via the URL:

http://*IP address*/testdir/test.html

Note: *IP address* refers to the IP address or hostname.domainname of the RaQ.

Virtual Site Home Page

The document root for the virtual sites' Web page content is:

`/home/sites/`*`sitedir`*

The directory *sitedir* is the first 12 characters of the virtual site name (i.e., it's the virtual site name truncated to the first 12 characters). For example, the virtual site

www.cobaltnet.com would have a document root of

`/home/sites/www.cobaltne/`

because www.cobaltne is the first 12 characters of the site name www.cobaltnet.com.

Only the Cobalt Raq administrator or the site administrator can upload to this directory.

Web content in this directory is associated with the URL http://*sitename/*. For example, a file saved as:

/home/sites/*sitedir*/testdir/test.html

would be accessed via the URL:

http://*sitename*/testdir/test.html

Note: *Sitename* refers to the IP address or hostname.domainname of the corresponding viritual site.

User Home Page

When users on the main site are created by means of the Web-based administration screens, the user's home directory is created in:

/home/sites/home/users/*username*

The content of their Web pages (which is stored in their home directory) can be viewed at:

http://*IP address*/users/*username*/

When users on a virtual site are created by means of the Web-based administration screens, the user's home directory is created in:

/home/sites/*sitedir*/users/*username*

The content of their Web pages (which is stored in their home directory) can be viewed at

http://*sitename*/users/*username*/

CGI Bin for Users

You can save CGI files in any directory on your site, as long as CGI is enabled, the CGI file is executable, and the file ends with a .pl or .cgi extension.

The Web server is configured to execute CGI scripts using a wrapper program (cgiwrap), which preserves the permissions set for the executing script. For more information regarding this security precaution, visit:

http://www.umr.edu/~cgiwrap/

Appendix C

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