

HP Web Jetadmin Reference Manual

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Documentation conventions

This document uses the conventions described below.

Bold

Bold is used to identify the names of options, buttons, and pages within HP Web Jetadmin software.

Italic

Italic is used for emphasis.

Monospace font

Monospace font is used to identify a command that the user types.

Blue, underlined text

[Blue, underlined text](#) is used to identify hypertext links. Depending on the settings in a particular browser, these links might be formatted differently.

Page references

HP Web Jetadmin documentation contains references to pages within the software. These references tell you how to navigate to that page using the expandable tree in the **Navigation** area. For example, to navigate to the **Device Management > Device Lists > All Devices** page, select **Device Management** from the **Navigation** drop-down list, expand the **Device Lists** folder, and then select **All Devices**.

Notes, cautions, and warnings

Note

Notes contain important information.

CAUTION

Caution messages appear before procedures that, if not observed, could result in loss of data or damage to equipment.

WARNING!

Warning messages alert the reader to a specific procedure or practice that, if not followed correctly, could cause personal injury or catastrophic loss of data or equipment.

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Glossary

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Section 1

Introduction to HP Web Jetadmin

This section contains the following chapters:

[Chapter 1, Introducing HP Web Jetadmin](#)

[Chapter 2, Documentation](#)

[Chapter 3, Getting started for the first-time administrator](#)

[Chapter 4, Planning and implementing HP Web Jetadmin](#)

1 Introducing HP Web Jetadmin

This chapter covers the following topics:

[Overview](#)

[Integrating HP Web Jetadmin into the network](#)

[Security](#)

[Benefits for network administrators](#)

[Benefits for the help desk](#)

[Benefits for other network users](#)

Overview

Every network administrator wants better performance on his or her network. Carefully managing network-connected devices, such as HP printers, scanners, multifunction products, and print server appliances, can go a long way toward improving performance. HP Web Jetadmin allows you to manage and optimize network-connected devices. The HP Web Jetadmin intuitive browser interface lets you remotely manage a wide range of network-connected devices across platforms and from anywhere in the world with access to your local intranet.

HP Web Jetadmin provides a simple, comprehensive way to proactively manage network peripherals and optimize printing productivity. Key printer information, such as capabilities and status, helps you keep network printers functioning smoothly, anticipate and resolve problems with minimal user impact, and generally stay one step ahead of users demands.

Use HP Web Jetadmin to perform the following management tasks:

- create print queues
- configure printer options
- create multiple print queues at once
- troubleshoot printer problems
- schedule discoveries to update the device cache during off-peak hours
- search for a specific printer or group of printers based on a wide variety of criteria, such as IP address, color capability, or model name
- check the current status of a printer
- check the status of printer consumables, such as paper and ink levels
- verify the type of media loaded in printer trays
- verify the capabilities of a printer
- organize printers in logical groups
- create a virtual office layout with dynamic site maps

Do all this, and more, with multiple levels of security. HP Web Jetadmin saves time, increases user productivity, and reduces the total cost of ownership for network peripherals.

Ease of use

HP Web Jetadmin has an integrated Web server, which means that installation is easy. You do not have to install any client software. You can also configure printer options for multiple HP Jetdirect-connected printers at the same time.

Enhanced print job management capabilities

Prior to our current, sophisticated network technology, printer administrators focused much of their efforts on managing the jobs that users sent to printers. Although this constitutes only a small percentage of network printer administration, it continues to be an important function. The high volume of printing tasks that current network printers must process requires an effective solution for accommodating changing print job priorities and resource requirements.

Network administrators and help desk personnel can use HP Web Jetadmin to ensure that jobs flow smoothly through the network printers and to implement changes with minimal impact on user productivity. For example, they might use HP Web Jetadmin to perform the following tasks:

- check print job status
- verify information about a print job, such as the print job owner
- verify that appropriate media is loaded

Timesaving features

HP Web Jetadmin saves time in many ways.

- Remote status, diagnostics, and configuration information helps identify and resolve printing problems before user productivity is affected.
- The configurable alerts feature sends email notifications to the appropriate person as soon as printer problems occur.
- The most advanced discovery feature reliably finds devices on the network and adds them to a device cache, eliminating the need to manually enter information about each device into the device cache.
- General device searches, or searches for devices based on specific criteria such as IP address, color capability, or device model, make it easy to find and manage devices.
- The device group and site map features organize devices into workgroups with virtual office maps for easy management.
- The enhanced consumables status feature uses HP toner gauge technology to provide toner and paper consumables status for selected HP devices.

Note

HP Web Jetadmin provides a toner gauge for any Standard Printer MIB-compliant printer.

Integrating HP Web Jetadmin into the network

HP Web Jetadmin supports the broadest range of printers, peripherals, server platforms, and browsers in the industry. HP Web Jetadmin provides the industry with the most complete multi-vendor printer management solution using the Standard Printer Management Information Base (MIB), which is defined by Request for Comments (RFC) 1759.

If you prefer to manage printers from within your existing network or systems management packages, HP Web Jetadmin integrates into several of the most widely used solutions, including HP Tootools, HP OpenView Network Node Manager, CA Unicenter, IBM Tivoli Enterprise Manager, and IBM Tivoli NetView.

Protocol support

HP Web Jetadmin supports both TCP/IP and IPX/SPX protocols.

Supported platforms

See the readme file for a list of the operating systems that HP Web Jetadmin supports.

Network printer support

See the readme file for a list of the operating systems that allow HP Web Jetadmin to create print queues.

Network peripheral management support




HP Web Jetadmin provides complete printer management software. HP Web Jetadmin can manage all HP and non-HP printers that are connected through HP Jetdirect print servers, and all Standard Printer MIB-compliant, third-party, network-connected printers.

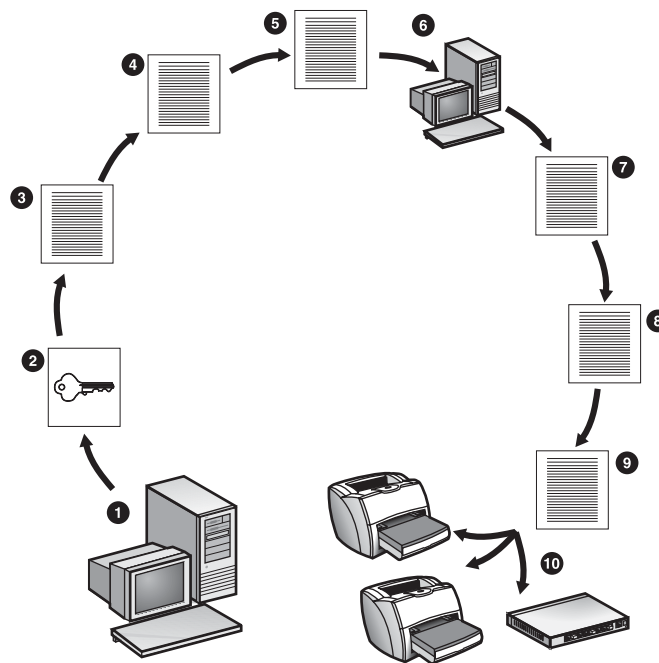
Browser support

HP Web Jetadmin supports Netscape™ and Microsoft® Internet Explorer. See the readme file for a list of the versions that HP Web Jetadmin supports.

Security

HP Web Jetadmin provides several levels of security that allow you to customize and protect device management on the network. The following diagram shows these levels of security.

Icon	Description	Icon	Description
	HP Web Jetadmin host machine		Print Server Appliance
	Printer		



- 1 HP Web Jetadmin user — Starts the process of accessing HP Web Jetadmin.
- 2 SSL/TLS — Encrypts information passed between the HP Web Jetadmin host machine and Web browsers using HTTPS, which protects any sensitive information, such as Windows NT® passwords.

- 3 Allow list — Limits HP Web Jetadmin access to machines with specific IP addresses.
- 4 Login passwords — Prevents unauthorized users from accessing HP Web Jetadmin and determines which functions and features authorized users can access within HP Web Jetadmin. Assign passwords to profiles in HP Web Jetadmin or you can use the Windows NT domain authentication feature to associate Windows NT domain users and groups to profiles.
- 5 Profiles — Controls which product features various classes of users can access. For example, you can use profiles to prevent unauthorized users from changing system-wide settings, starting discoveries, and creating device groups.
- 6 HP Web Jetadmin host machine — Allows access to the HP Web Jetadmin host machine.
- 7 Device group password — Prevents unauthorized users from making changes to a device group.
- 8 Individual device password — Prevents unauthorized users from changing network device settings.
- 9 SNMPv3 — Secures communications between HP Web Jetadmin and network devices. HP Web Jetadmin uses SNMPv3 to prevent unauthorized users from changing network device settings.
- 10 Devices — After all levels of security are validated, the HP Web Jetadmin user can access a device, such as a printer.

Additionally, Web browsers and intranets have vendor-supplied security measures of their own, and HP Web Jetadmin works within these environments.

Benefits for network administrators

HP Web Jetadmin provides numerous benefits for network administrators.

Economical

Download HP Web Jetadmin free of charge from the HP Web site.

If you already have a corporate intranet set up, HP Web Jetadmin integrates into the intranet seamlessly. If you do not, there is no need to purchase Web server software separately because HP Web Jetadmin acts as its own Web server.

Installs quickly and easily

You only have to install HP Web Jetadmin once on a machine that is centrally accessible on the network.

You do not have to configure the Web server. HP Web Jetadmin sets up the Web server automatically.

You do not have to install special software on client workstations. Only a supported Web browser is required.

Consistent look and feel

HP Web Jetadmin looks and works the same regardless of which operating system the workstation is running or which platform HP Web Jetadmin is running. HP Web Jetadmin remains consistent even if you are managing devices that run on different network operating systems or platforms.

Convenient

Use HP Web Jetadmin to perform the following tasks:

- Configure and diagnose printers and create print queues remotely, all from one software package.
- Configure multiple devices at once, eliminating the need to type configuration options multiple times.
- Configure alert notifications for a single device or for multiple devices.
- Update HP Jetdirect firmware. You no longer have to use separate downloaders for printers in different environments or manually find new firmware images on the Web.
- Access HP Web Jetadmin from any location that lets you connect to your corporate intranet. For example, you can respond to a pager call immediately, no matter where you are.
- Use the search function to quickly find devices. Search for devices based on criteria such as capabilities, status, location, or model name.
- Check device status, diagnose problems, and often put printers back online or reset them remotely.
- Monitor the toner and ink levels in devices remotely. Proactively order and replace consumables, minimizing downtime.
- Create groups of printers, scanners, and other devices to manage resources more easily.
- Manage groups of devices from a remote location, which gives you and your users greater flexibility.

- Create an image map that displays a group of devices and shows their locations.
- Assign device group ownership so other users can change devices in groups, add new devices, or remove devices without your help.

Third-party vendor support

HP Web Jetadmin supports devices from many third-party vendors. These devices must be Standard Printer MIB compliant.

Extensive diagnostics

HP Web Jetadmin provides the most extensive diagnostics available in any Web-based device management package.

Enhanced feature set

HP Web Jetadmin provides an enhanced feature set, including the following:

- scheduled discoveries
- multiple device configuration
- customized site maps
- device group management
- multiple levels of security
- support for HP device alerts
- cross-platform firmware downloader
- toner and ink gauges

Benefits for the help desk

Using HP Web Jetadmin, help desk personnel are better able to assist users. From a local or remote location, they can perform the following tasks:

- check the status of network devices
- determine which printers support the features that particular jobs require and which ones can print jobs most efficiently
- receive email notification of device problems through configurable HP device alerts
- determine what type of intervention a printer needs, such as adding toner or paper

- find out who is responsible for a device and let that person know when the device needs intervention
- turn HP Jetdirect print servers and some printers off and on remotely
- put some printers back online remotely

Even if your company outsources help desk support to third-party vendors, HP Web Jetadmin provides effective device support with minimal training. You do not have to be a Microsoft Certified Support Engineer or a Certified Novell Engineer to use the HP Web Jetadmin intuitive Web browser interface.

Benefits for other network users

HP Web Jetadmin also provides several benefits for other network users. Using HP Web Jetadmin, they can perform the following tasks:

- View the status, configuration, and capabilities of printers, scanners, and other devices.
- Quickly find the devices that they need to use. Users can search for devices based on criteria such as capabilities, status, location, or model name.
- View the device groups that you have set up, as well as monitor the status of those devices.

Allowing other network users to perform these simple tasks reduces dependence on network administrators and help desk personnel, freeing their time for other tasks.

2 Documentation

This chapter covers the following topics:

[Overview](#)

[Browsable help](#)

[Context help](#)

[Printable manual](#)

Overview

HP Web Jetadmin provides documentation in three formats: browsable help, context help, and a printable manual. The following sections discuss each of these formats.

Browsable help

The browsable help contains conceptual information about HP Web Jetadmin features. Access the browsable help directly from anywhere within HP Web Jetadmin.

To access the browsable help

- 1 In the **Navigation** area, expand the **Help** folder.
- 2 Select **HP Web Jetadmin**.

When you expand the **Help** folder, you can access the **Support** and **Local Support** pages, if they are defined on the **General Settings > Support Settings** page.

When you expand the **HP Web Jetadmin** folder, you can access the **Glossary**, **Index**, **Readme**, **License**, **About**, and **Feedback** pages.

Context help

Each page in HP Web Jetadmin has a help icon on the content toolbar. When you click the help icon, HP Web Jetadmin displays context help for that page. By default, HP Web Jetadmin displays context help in a separate browser window. However, you can configure profiles to display the context help within the page. See [Integrated context help](#) for more information.

The purpose of the context help is to provide only the information you need for the page you are on, the task you are performing, or a specific option. This means that the text in the context help is much shorter than the printable manual or browsable help. If you need more information about a concept or task, look in the browsable help or your printed manual.

Some pages in HP Web Jetadmin have a help icon next to a text box or option. When you click the help icon, HP Web Jetadmin displays specific information about that particular text box or option.

The drop-down list in the **Context Help** area has three options: **What**, **Why**, and **How**. The information that HP Web Jetadmin displays in the **Context Help** area depends on which one of these options you select. The **What** option provides a

general description of the page, topic, task, or option. The **Why** option provides a general description of why you should be concerned about that page, topic, task, or option. It also describes the impact the settings on that page have on network performance. The **How** option provides instructions for the tasks you can perform on that page.

Printable manual

The printable manual is a Portable Document Format (PDF) file that you must download from the HP Web site. This manual contains all of the information that the browsable help contains.

To view the PDF file, you must install Adobe® Acrobat® Reader. Once you open the PDF file in Adobe Acrobat Reader, print the entire manual, the current page, or a range of pages.

3 Getting started for the first-time administrator

This chapter is a guide to help you get started with HP Web Jetadmin. Use this chapter as a checklist when implementing HP Web Jetadmin.

Note

Even though HP Web Jetadmin provides many features, you do not have to use them all. For example, if you have a small network, it might not be necessary for you to create device groups and site maps or use the multiple device configuration feature.

Install HP Web Jetadmin

HP Web Jetadmin requires minimal effort to install. See [Chapter 5, Installing HP Web Jetadmin](#) for instructions.

Configure discovery mechanisms

Configure the way that HP Web Jetadmin finds devices on the network. See [Chapter 13, Overview of discovery mechanisms](#) for instructions.

Customize HP Web Jetadmin

Configure the options that determine how HP Web Jetadmin looks and works. See [Customizing HP Web Jetadmin appearance](#) and [Customizing HP Web Jetadmin functionality](#) for instructions.

Set security options

HP Web Jetadmin provides multiple levels of security that let you control who can access the product and its features.

- Force all browsers that access HP Web Jetadmin to use SSL/TLS. You can also specify the level of encryption that the browsers use. See the context help for **General Settings > Security > SSL/TLS** page for instructions.
- Create an allow list that limits HP Web Jetadmin access to machines with specific IP addresses. See [HTTP \(Web\) settings](#) for instructions.
- Assign a password to the Admin profile, preventing unauthorized users from changing system-wide settings, starting discoveries, or creating device groups. See [Profile passwords](#) for instructions.
- Create multiple profiles for various classes of users. Through these profiles, you can control which product features a class of users can access. See [Chapter 10, Configuring profiles](#) for instructions.
- If you create profiles, you can associate Windows NT domain users and groups with those profiles. By associating Windows NT domain users with profiles, those users do not need to learn a new password for the profile; they can use their current Windows NT domain user name and password. By associating Windows NT groups with profiles, you can save time by authorizing access to HP Web Jetadmin for multiple users at one time. See the context help for **General Settings > Profiles Administration > Authentication** page for instructions.
- Assign device group passwords that prevent unauthorized users from making changes to a device group. See [Device group security](#) for instructions.

- Assign individual device passwords that prevent unauthorized users from changing network device settings. See the context help on the **Device Configuration** page for instructions.
- Configure individual devices to use SNMPv3, which prevents unauthorized users from changing network device settings. See the context help on an SNMPv3-capable **Device Configuration** page for instructions.

Manage certificates

Create self-signed certificates, create certificate-signing requests, and install certificates signed by a third-party Certificate Authority. See the context help on the **General Settings > Security > SSL/TLS** page for instructions.

Find devices

Search for devices on the network, filter a device list based on specific criteria, and sort device lists by a specific column. See [Chapter 22, Searching for devices](#) and [Sorting lists](#) for instructions.

Create a print queue on a host machine

Remotely create print queues on a host machine. See the following chapters for instructions that are appropriate for your network:

- [Chapter 16, Managing print queues](#)
- [Chapter 17, Managing Novell print queues](#)

Create device groups

Create device groups that organize devices by specific criteria, such as location or department. See [Creating device groups](#) for instructions.

Add devices to a device group

Add devices, such as printers and scanners, to device groups. See the context help on the **Device Management > Device Groups > group name** page for instructions.

Configure multiple devices

Configure two or more devices at once, assigning the same values to selected options. See [Multiple device configuration](#) for instructions.

Upload and edit maps

Assign predrawn site maps to device groups, showing device locations. See [Chapter 28, Managing site maps](#) for instructions.

Select a default view for device groups

Change the way device groups display. Map view displays the devices in a group graphically while Devices view displays the devices in a list. See [Default device group view](#) for instructions.

Select a default device group

Assign a default device group that displays each time a user starts HP Web Jetadmin in a browser, when a user clicks the home icon on the content toolbar, or when a user clicks **Refresh** or **Reload** in a browser. See [Default home page](#) for instructions.

Define the support URLs

Define links to Web support pages. Users can then link to the Web support pages when they need help with a network device or HP Web Jetadmin. See [Support settings](#) for instructions.

4 Planning and implementing HP Web Jetadmin

This chapter covers the following topics:

[Phase 1: Determining what you want to accomplish](#)

[Phase 2: Deciding how to accomplish your goals](#)

[Phase 3: Installing HP Web Jetadmin](#)

[Phase 4: Customizing HP Web Jetadmin](#)

[Phase 5: Operating HP Web Jetadmin](#)

[HP product information and support](#)

Phase 1: Determining what you want to accomplish

Non-system-based and system-based tasks

For successful implementation, you need to perform two types of tasks.

- Non-system-based tasks are business and management decisions that describe why you should implement HP Web Jetadmin and how you will determine what system components and features will be most useful for your organization. Examples of non-system-based tasks include deciding how many printers you will manage with HP Web Jetadmin, how many network administrators and users will be responsible for monitoring and maintaining printer resources, and the business needs that make implementing HP Web Jetadmin necessary.
- System-based tasks produce the tangible results that are a direct result of using computer and networking technology, including HP Web Jetadmin itself and the servers and workstations where you will install and use HP Web Jetadmin. Examples of system-based tasks are defining device groups that contain the printers that particular users will manage and monitoring the use of consumables to determine how much monthly inventory you should keep on hand.

After you have determined the non-system-based tasks that you need to accomplish, you can determine which system-based tasks will help to meet your goals.

Determining your implementation goals

You may have unique situations where you want to use HP Web Jetadmin to enhance network printer management. HP Web Jetadmin offers specific benefits for each situation.

The following table categorizes HP Web Jetadmin features according to various implementation goals. This table also shows who might use the features. If you know who will be using HP Web Jetadmin, choose your implementation goals based on user functions within the organization.

Examine the features and personnel in this table to determine which implementation goals are appropriate for your environment. As you review the table, note any features that might be useful. Choosing one implementation goal does not prevent you from using features listed under another. All of the features are included in every installation of HP Web Jetadmin.

Implementation goal	Features	Person using HP Web Jetadmin
Installing network printers	<ul style="list-style-type: none"> • Create print queues on a wide variety of platforms • Configure multiple devices • Update HP Jetdirect print server firmware remotely from any workstation (integrated firmware downloader) • Discover devices without manually entering information • Implement multiple levels of security to prevent unauthorized changes to devices or to the HP Web Jetadmin software 	Printer specialist

Implementation goal	Features	Person using HP Web Jetadmin
Help desk and troubleshooting	<ul style="list-style-type: none"> • Discover devices and build a device cache without manually entering information • Display site maps, showing the location of devices • Search for printers with specific capabilities • Group devices according to location, specific features, or other criteria • View printer status • Perform remote diagnostics • View and configure HP device alerts • Put printers back online remotely • Turn printers off and on remotely • Support non-printer devices, such as HP network scanners, multifunction products, and server appliances • Configure support links for users to easily access help desk or support personnel 	Help desk personnel

Implementation goal	Features	Person using HP Web Jetadmin
Enterprise management	<ul style="list-style-type: none"> • Integrate with packages like HP Tootools, HP OpenView, CA Unicenter, and IBM Tivoli • Configure HP device alerts • Enable and disable protocols on HP Jetdirect print servers • Turn off Service Advertising Protocol (SAP) broadcasts on HP Jetdirect print servers • Support HP network-connected devices, such as HP scanners and printers 	Enterprise and IT manager

Business decisions for an organization are often used as the basis for determining the most appropriate HP Web Jetadmin implementation goals. The following are examples of reasons for implementing HP Web Jetadmin to achieve certain system-based functionality.

Installing network printers

- During installation, the network administrator wants to find out what features a printer has and assign the appropriate printer driver or model script.
- A company with a large number of printers wants to save time by configuring multiple printers simultaneously.
- The individual who installs printers wants to establish a print queue for shared network printers.

Help desk and troubleshooting

- Users want to know why their print jobs did not print.
- A company with multiple buildings only has one help desk in the main building. To cut down on trips to other buildings for minor problems, the help desk manager wants to know where a printer resides.

Enterprise management

- The network administrator wants a tool that provides cross-platform support.
- New HP Jetdirect print servers have arrived, and the network administrator wants to update firmware quickly and consistently.
- The network administrator wants to manage printers remotely, which means that a specific printer console is not required.

Phase 2: Deciding how to accomplish your goals

Now that you have determined what you want to accomplish with HP Web Jetadmin, decide how to use HP Web Jetadmin features to help meet your goals. To make the necessary decisions, you must gather information about device management problems within the network and then decide how best to address them.

Step 1: State your business objective

State your reasons for implementing HP Web Jetadmin. You might want to use the non-system-based tasks you determined in Phase 1 to formulate your business objective.

Step 2: Assemble the implementation project team

Decide who should be involved in the project team for implementing HP Web Jetadmin. You might want to include network administrators, information technology managers, and network printing professionals.

Note

You will probably add more experts to the project team at various points during implementation.

Step 3: Gather network information

Gather the following network information:

- Network topology (infrastructure, routers, remote sites, and management of remote sites)
- Operating systems
- Protocols
- Printers

- Print server brands (such as HP Jetdirect)
- Services (DHCP, NDS, BOOTP, DNS, WINS, and any others)
- Physical site layout (for maps)
- People who need access, and those who should not have access to HP Web Jetadmin
- HP Web Jetadmin and OS security

Step 4: Design a strategy for creating print queues

In many network environments, you must answer several questions before you can create a print queue. The network administrator is the person most likely to serve as project manager for this task. You should also consult the people assigned to manage printers in your organization.

The following questions should help you design a strategy for creating print queues:

- What do users need to print? What operating systems do they run?
- What are your print needs and where do the print requests originate (for example, client/server or peer-to-peer)?
- Do you want HP Web Jetadmin to support the existing printing infrastructure (for example, Novell, standard port monitor, or line printer remote) or do you want to migrate to a new one?
- Do you want print services to be centralized or distributed?
- How many print queues can be hosted on a single machine? This number varies according to printer type and relates to whether print queues are centralized or distributed.

Note

Since the machine that hosts print queues does not have to be the same one that runs HP Web Jetadmin, deciding where to create print queues does not necessarily affect deciding where to install HP Web Jetadmin.

- What types of print jobs do you support (for example, mainframe or workstation)?
- What operating system do you want print queues to reside on? This includes issues such as what platform you create print queues on and if print queues are centralized or distributed.

See [Chapter 16, Managing print queues](#) for more information about creating print queues.

Step 5: Select a protocol

HP Web Jetadmin lets you use either TCP/IP or IPX/SPX protocol to manage printers. For example, you can use IPX/SPX to manage printers in Novell environments and other IPX/SPX-based networks, and you do not have to configure an IP address for these printers. However, if you need to create print queues in a Windows® environment, each printer must have an existing IP address or you must assign one when you create the print queue.

Note

If you plan to implement HP Web Jetadmin in a Novell NetWare environment, see [Chapter 17, Managing Novell print queues](#) for specific information about creating print queues in that environment.

If you plan to use TCP/IP to manage printers, you must determine which method to use for assigning IP addresses. You can assign IP addresses either manually or automatically.

Manually assigning IP addresses

Use HP Web Jetadmin to assign IP addresses to HP Jetdirect print servers individually or through the multiple device configuration feature, even if TCP/IP is the only protocol on the HP Web Jetadmin machine. HP Web Jetadmin uses the hardware address to communicate with the HP Jetdirect print server until you assign a valid IP address. You can only assign IP addresses manually to devices that are on the same subnet where HP Web Jetadmin is installed. When you configure a static IP address for an HP Jetdirect print server, the HP Jetdirect print server continues to use that IP address even after it is turned off and turned back on.

Automatically assigning IP addresses

Use either Bootstrap Protocol (BOOTP) or Dynamic Host Configuration Protocol (DHCP) to assign IP addresses. HP Jetdirect print servers transmit BOOTP and DHCP requests whenever they are turned on with the factory default settings. The BOOTP and DHCP server then replies by assigning an IP address to the device. If an HP Jetdirect print server does not receive a reply after five minutes, it defaults to an IP address of 192.0.0.192. If that HP Jetdirect print server is turned off and back on, it repeats this process.

When a DHCP server assigns an IP address to an HP Jetdirect print server, that IP address is only valid for a period of time known as a lease. As long as the HP Jetdirect print server is turned on and connected to the network, it keeps its lease for that IP address. When the HP Jetdirect print server is turned off or disconnected, it could lose that lease.

When the HP Jetdirect print server is turned back on or reconnected to the network, it contacts the DHCP server to verify that its lease is still valid. The HP Jetdirect print server tries to use the IP address that was originally assigned. However, if enough time has elapsed, the HP Jetdirect print server may have lost its lease for that IP address. If another device has acquired that IP address, the HP Jetdirect print server leases a different IP address from the DHCP server.

While automatically assigning IP addresses saves time and lets you focus on other tasks, there are several issues that you need to address.

- While the HP Jetdirect print server is transmitting BOOTP and DHCP requests and waiting for a response, it does not have a TCP/IP configuration. HP Web Jetadmin cannot discover or communicate with the HP Jetdirect print server during this time.
- If the IP address for a printer that is configured to use HP Standard TCP/IP Port Monitor (for example, in a DHCP environment) has changed, a Windows Internet Naming Service (WINS) server is queried to determine the new IP address. If a WINS server does not exist or cannot provide new information about the printer, you must reconfigure the port. A rediscovery based on the MAC address is not performed as it is for HP Jetdirect Port.
- Discovery mechanisms that find devices by their IP addresses cannot find the devices that have been assigned new IP addresses. This applies to the Specified Addresses and IP Range discovery mechanisms.

Despite these issues, automatically assigning IP addresses provides significant benefits. Use reservations to make sure that the IP addresses assigned to HP Jetdirect print servers through DHCP remain consistent. This ensures that the IP addresses do not change over time, even when the HP Jetdirect print server is turned off or disconnected from the network for an extended period of time.

Step 6: Select the operating system

If you only plan to use HP Web Jetadmin to manage devices, it does not matter how you created print queues. You can manage HP Jetdirect print servers with HP Web Jetadmin no matter how you originally configured them, and there is no need to recreate print queues. For example, you can use HP Web Jetadmin to manage HP Jetdirect print servers that were configured using any of the following methods:

- HP Jetadmin (HP Jetdirect Port Monitor)
- HP Web Jetadmin (HP Standard TCP/IP Port Monitor)
- HP network printer installer
- Internet Printing Protocol (IPP)
- Line printer remote (lpr)
- Novell Directory Services (NDS), Bindery, and Remote Printer mode support
- Novell Distributed Print Services (NDPS)

If you plan to use HP Web Jetadmin to create print queues, the operating system where you create the print queues determines where you should install HP Web Jetadmin. Use the following guidelines to determine the correct platform:

- To create print queues in a Windows NT, Windows 2000, Windows XP, or Novell environment, you can install HP Web Jetadmin on either Windows NT, Windows 2000, or Windows XP.
- To create print queues in a UNIX®/Linux environment, you can install HP Web Jetadmin on either Windows NT, Windows 2000, Windows XP, or Linux.
- If you want IPX/SPX support in a mixed environment or if you want to discover printers configured with IPX/SPX, you must install HP Web Jetadmin on Windows NT, Windows 2000, or Windows XP. These are the only platforms that support IPX/SPX protocol.
- If you plan to use HP Web Jetadmin in a Novell NetWare environment to configure NDS or Bindery print queues, make sure that you install Novell NetWare Client. Microsoft NetWare client is not compatible. See the readme file for a list of the supported versions of Novell NetWare Client. You will get an error message if you use HP Web Jetadmin to configure NetWare printing when Novell NetWare Client is not installed. See [Chapter 17, Managing Novell print queues](#) for more information.

Step 7: Select a hardware platform

See [Chapter 5, Installing HP Web Jetadmin](#) and the HP Web Jetadmin readme file for a list of the machine hardware requirements to install HP Web Jetadmin.

Step 8: Select a browser

Because users interact with HP Web Jetadmin through a browser interface, make sure that the browser selected supports the required features and is readily available to everyone who will access HP Web Jetadmin. See [Browser support](#) and the HP Web Jetadmin readme file for a list of the browsers that HP Web Jetadmin supports for each environment.

If you plan to run HP Web Jetadmin in a high-security environment, consider the browser security features. Internet Explorer's highest security setting does not allow Java applets to run. To take advantage of the HP Web Jetadmin complete feature set, such as dynamic real-time status reports and advanced configuration, you must set a security level of Medium or lower in Internet Explorer. This might not be an option in all environments, so make sure that the security policies where you will be implementing HP Web Jetadmin let you set Medium or lower security. If the security policies require a high level of security, you might be able to define a lower level only for the HP Web Jetadmin URL and keep the high setting for other URLs.

Step 9: Decide on a discovery strategy

See [Chapter 13, Overview of discovery mechanisms](#) for guidelines for developing a discovery strategy that best suits your particular network topology and traffic patterns. This chapter contains overview information for each discovery mechanism. Use this information to help you understand how much and what type of network traffic is generated, what network topology is supported, and what level of accuracy is expected.

Step 10: Decide how many copies to install

Install a single copy of HP Web Jetadmin or you can install multiple copies, depending on how you will use the software. The following guidelines can help you determine how many copies of HP Web Jetadmin you need to install.

Installing a single copy of HP Web Jetadmin

Do you want to manage all of the devices or track all of the assets in your network or organization from a central location? If so, you probably want to install one copy of HP Web Jetadmin because multiple copies cannot share a device cache. After HP Web Jetadmin creates a device cache, only that copy of HP Web Jetadmin can use the device cache. A single copy of HP Web Jetadmin compiles one device cache that includes information about every device.

Installing a single copy of HP Web Jetadmin provides the following benefits:

- centralized device cache
- centralized asset management database
- centralized control of network devices

Installing multiple copies of HP Web Jetadmin

Will different groups of devices be managed separately? If so, it might be more appropriate to install multiple copies of HP Web Jetadmin. For example, if different people will manage devices on different subnets, install a separate copy of HP Web Jetadmin on each subnet. Multiple copies of HP Web Jetadmin also ease the discovery process across large networks.

Installing multiple copies of HP Web Jetadmin provides the following benefits:

- device discovery on remote sites
- device discovery across routers with slow links
- reduced discovery traffic on large networks

Step 11: Decide on a security strategy

HP Web Jetadmin offers a variety of security options that you can use to customize the most effective level of security for your organization. After you have identified your security goals, use the following guidelines to decide how to best accomplish them:

- **Do you want to enforce SSL/TLS for all Web browsers that access HP Web Jetadmin?** Enforce the use of SSL/TLS for all Web browsers, or you can allow the Web browsers to automatically switch to SSL/TLS for pages that contain sensitive information.
- **What level of encryption do you want Web browsers to use?** Choose the level of encryption—low, medium, or high—that meets your organization's specific needs. The high level of encryption is slower and might not work with all browsers, but it is more secure.
- **What type of certificates do you want to use?** HP Web Jetadmin can create a self-signed certificate or you can install a certificate that is signed by a third-party Certificate Authority.
- **Do you want to implement security so that only one person can make changes to HP Web Jetadmin and other users can only access information?** This is the most popular way to configure HP Web Jetadmin security. One way to accomplish this goal is to define a password for the default Admin profile and define device passwords. Only the person who knows the password for the Admin profile can make changes to HP Web Jetadmin. Anyone who knows the password for a particular device can access and change device settings, but cannot configure HP Web Jetadmin.
- **Do you want to allow only one person to access HP Web Jetadmin?** Define an allow list that only lets machines with specific IP addresses access HP Web Jetadmin. If you always use specific workstations to access HP Web Jetadmin and those workstations will always have the same IP address, use the access control list to prevent other workstations from running HP Web Jetadmin. However, you should review the Dynamic Host Configuration Protocol (DHCP) issues discussed in [Step 5: Select a protocol](#). Make sure that the workstations that will access HP Web Jetadmin are configured with static IP addresses or have reservations with the DHCP server so that their IP addresses will not change. If you plan to access HP Web Jetadmin from multiple workstations and do not know the IP address for each workstation, this method is not appropriate.
- **Do you want to allow different classes of users to see specific features in HP Web Jetadmin?** Create profiles that specify what various classes of users are allowed to do in HP Web Jetadmin. For example, you could define

a profile that prevents users from creating print queues and changing devices, device groups, and the HP Web Jetadmin software, but lets them view device status.

- **Do you want to prevent unauthorized users from changing network device settings?** Assign a password to those devices that you want to have limited configuration authorization. If a device supports SNMPv3, you can use SNMPv3 to prevent unauthorized users from changing device settings.

Step 12: Decide on a backup strategy

Hewlett-Packard recommends that you back up HP Web Jetadmin whenever you perform any of the following tasks:

- create or update the device cache
- download new firmware
- create or update site maps
- define or update security options
- define or update device group settings
- define or update discovery settings

It would be best if you archive your entire installation of HP Web Jetadmin. At a minimum, you should back up the following files:

Note

This list refers to a root directory. The root directory is where you installed HP Web Jetadmin on your system. All of the directories listed are relative to this root directory.

- For configuration options (such as security, discovery, and device groups), back up all of the INI files (*.ini) in the root directory and in its subdirectories.
- For the device cache, back up all of the DAT files (*.dat) in the root directory.
- For the site maps, back up all of the files (*.*) in root directory\doc\plugins\hpjwja\maps.
- For all of the firmware images, back up all of the directories under root directory\doc\firmware and all of the files in those directories. This saves having to download the firmware images again from the HP Web site.
- For a record of your HP Web Jetadmin installation, back up the following files:
 - On Microsoft Windows installations, back up all of the hpjfpn files (hpjfpn.*) in the windows directory.
 - On Linux installations, back up the var/lib/fpn directory.

Step 13: Decide on a printer driver management strategy

You must decide how users will obtain printer drivers and where HP Web Jetadmin will be located in relation to the printer drivers.

- This is not an issue in the UNIX/Linux environment. If you are only managing printers in a UNIX/Linux environment, see [Step 14: Decide whether to implement device groups](#).
- In a Windows environment, set up Point and Print so that the printer driver is automatically downloaded to users. See [Windows printer drivers](#) for more information about the Point and Print feature.

Hewlett-Packard recommends that you install printer drivers on the same machine where you install HP Web Jetadmin.

Step 14: Decide whether to implement device groups

Device groups can be tremendously useful if you group devices in ways that help users access information about the devices quickly and easily. For example, users who are assigned to monitor devices in their department might benefit from having those devices defined as a single group. This makes it easier for them to check device status without having to wade through a longer list of all of the devices on the network.

The following are some examples of how you could group devices:

- A group called *Graphics Printers* that contains all of the printers that support 279.4 by 431.8 mm (11 by 17 inches) paper and higher amounts of RAM.
- A group that contains all of the printers that a particular support person monitors.
- A group called *Marketing* that contains all of the printers in the marketing department.

It is important to consider what types of management tasks are required for devices before defining device groups. Defining device groups incorrectly could inhibit effective management. For example, when a help desk representative only supports color printers that are scattered throughout your site, it is not useful to base device groups on location. Grouping only color printers together would let the help desk representative monitor their status from a single list; there would be no need to check through multiple groups of printers located in different areas to find all of the color printers.

The following are some questions to consider when deciding how to implement device groups:

- **Will help desk personnel use HP Web Jetadmin to track specific subsets of devices that they support?** Create device groups that only show the printers that each help desk representative supports, printers in specific locations, or printers that require frequent checking, such as those considered mission-critical or those that require frequent maintenance.
- **Will you create site maps that show the location of devices and device groups throughout your organization?** If so, help desk personnel or network administrators can navigate through the device groups on site maps to quickly find individual devices.

Step 15: Decide whether to implement site maps

Because site maps display device groups within HP Web Jetadmin, you must define device groups before you can implement site maps.

Once again, it is important to evaluate what kind of tasks you want to accomplish with HP Web Jetadmin before you can decide whether site maps will be useful in your environment. For example, maps are generally more useful to help desk personnel. Define device groups hierarchically, allowing them to navigate through nested device groups. This makes it easy to track devices in particular locations, such as departments, floors, or buildings. Help desk personnel can see printer locations on a site map and then contact someone close to the printer when the printer requires intervention.

Because special effort is required to create and maintain site maps, you should carefully evaluate whether they will be useful for your organization.

- If the tasks you want to accomplish will not be helped by a visual representation of device locations, you will not gain enough advantages from site maps to be worth the effort of maintaining them.
- If you move devices frequently, carefully weigh the advantages of using site maps against the time it takes to keep the maps updated.
- You must create site maps in a graphics program that can save the file in a GIF format. If you do not have access to such a program, you must acquire one or hire a consultant to create your site map files. You can use a number of graphics programs to create site maps. For example, Visio version 5 outputs the correct file format and includes an extension to aid floor planning. In addition, you can use Adobe Photoshop®, Corel® PhotoPaint, and Jasc Paint Shop Pro. Most scanning software packages support the GIF format.

Note

The third-party products mentioned here are only provided as examples of programs that can be used to create site maps for HP Web Jetadmin. Hewlett-Packard does not endorse any of these products, and Hewlett-Packard acknowledges that you can also use other products.

Phase 3: Installing HP Web Jetadmin

HP Web Jetadmin requires minimal effort to install. See [Chapter 5. Installing HP Web Jetadmin](#) for more information. The following are the basic steps required to install HP Web Jetadmin and prepare it for use:

- 1 Install HP Web Jetadmin. Remember that you must have administrator access in Windows or root access in Linux.
- 2 Configure the discovery options that are appropriate for your network.
- 3 Assign a password to the default Admin profile.
- 4 Perform an initial discovery to create the device cache.
- 5 Create print queues.

Phase 4: Customizing HP Web Jetadmin

Once HP Web Jetadmin is installed, there are several ways that you can customize the software to suit your needs. For example, you can:

- Configure discoveries to run on specific days and times. You might want to enable different discovery mechanisms so that they are more appropriate for maintaining the device cache.
- Decide if you want to provide local support information. If so, configure the URL for local support in HP Web Jetadmin.
- Fine tune HP Web Jetadmin performance in the following areas:
 - Amount of information stored in the device cache
 - DNS lookup
 - Browser version
- Customize your profiles. Control how HP Web Jetadmin looks and works, such as the default page displayed when users start the HP Web Jetadmin software. Apply the same settings to all of your profiles or you can select each profile and apply different settings.
- Configure the device list views and specify how frequently you want to update device views and the **Device Status** page.
- Decide which printer settings should be common to all network printers and use the multiple device configuration feature to configure them.

- Configure the security settings. Hewlett-Packard recommends that you define device passwords. Use the multiple device configuration feature to do this. You can also create profiles that control which product features various classes of users can access.
- Decide if you want to use HP device alerts. If you do, you must configure the SMTP server to enable the email gateway. If your printers and HP Jetdirect print server firmware support alerts, all you have to do is configure them. Decide which alerts you want to trap and who should receive notification about them. If your printers or HP Jetdirect print servers do not support alerts, download new firmware or check into acquiring new printers.
- If you want to use device groups, define them.
- If you want to use site maps, upload them to HP Web Jetadmin. If they do not exist, you or someone else needs to create them.

Phase 5: Operating HP Web Jetadmin

Once HP Web Jetadmin is installed and customized, there are several tasks you need to perform on an ongoing basis that will keep HP Web Jetadmin running smoothly. The following are some of these tasks:

- Monitor the impact of tasks on network traffic.
- Maintain the device cache. Monitor the impact of discovery traffic and the accuracy of discovery results to ensure that you are using the most efficient discovery mechanisms for your organization.
- Maintain existing device groups and create new ones when needed. Ask the people who use the device groups to determine when changes are needed to make them more effective.
- Maintain customized site maps. Remember to update the maps when you move devices, change your site, or add or change device groups.
- Monitor HP Web Jetadmin performance and fine tune it as necessary.
- Interpret and troubleshoot normal system messages, such as *Unable to communicate*.
- Execute your backup strategy. Make sure that you back up the files that are essential to your implementation of HP Web Jetadmin when you make changes to them.

HP product information and support

Hewlett-Packard maintains an extensive Web presence to provide information and assistance when implementing the strategies discussed in this document. The following Web sites provide detailed information about HP network device management solutions. When applicable, these sites also provide links for downloading software tools and updates.

Product	URL
HP Web Jetadmin	http://www.hp.com/go/webjetadmin
HP Jetdirect	http://www.hp.com/go/jetdirect
HP Tootools	http://www.hp.com/tootools
HP OpenView	http://www.openview.hp.com/

Resellers can obtain a variety of support information and assistance for HP products, including technical support, repair assistance and services, self-paced and classroom training, parts and warranty information, product availability and literature, and network assistance. Access the support Web site at <http://www.hp.com/go/support>.

Section 2

HP Web Jetadmin software

This section contains the following chapters:

[Chapter 5, Installing HP Web Jetadmin](#)

[Chapter 6, User interface](#)

[Chapter 7, Customizing HP Web Jetadmin](#)

[Chapter 8, Updating HP Web Jetadmin software](#)

5 Installing HP Web Jetadmin

This chapter covers the following topics:

[Overview](#)

[HP Web Jetadmin front end and back end](#)

[Web server configuration](#)

[Installation requirements](#)

[Windows installation](#)

[Linux installation](#)

[Stopping and starting HP Web Jetadmin](#)

[Viewing HP Web Jetadmin](#)




[Setup Wizard](#)

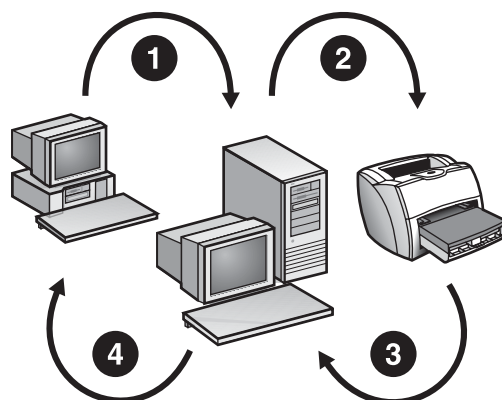
Overview

HP Web Jetadmin requires minimal effort to install. Simply run the install program and follow the instructions on the screen.

If you are installing a newer version of HP Web Jetadmin over a previous installation of version 6.5 or greater, you can keep your customized settings, such as device groups, from your previous installation.

HP Web Jetadmin front end and back end

Icon	Description
	HP Web Jetadmin host machine
	Workstation running a Web browser
	Printer operating on the Intranet



- 1 HTTP request
- 2 SNMP request
- 3 HTTP response
- 4 SNMP response

With HP Web Jetadmin you can construct a server (back end) and manage your devices from a Web browser (front end). With the Web server, network clients, such as help desk personnel, can use HP Web Jetadmin to manage devices from the TCP/IP Web browser desktops running on their client machines.

In Windows environments, the Windows machine where HP Web Jetadmin runs does not need to establish a TCP/IP communications line to the devices that you are managing because HP Web Jetadmin supports both TCP/IP and IPX/SPX. This means that devices do not need to run TCP/IP for you to use HP Web Jetadmin to manage them.

As the figure shows, the HP Web Jetadmin back end operates as follows:




- 1** When you request device status information through a Web browser (also known as a Web client), the Web server back end sends a Hypertext Transfer Protocol (HTTP) request for status information to HP Web Jetadmin.
- 2** HP Web Jetadmin converts the HTTP request to a Simple Network Management Protocol (SNMP) request and forwards the request to the appropriate device.
- 3** The device sends an SNMP response to HP Web Jetadmin with its status information.
- 4** HP Web Jetadmin composes HTML pages containing the status information and returns these HTML pages to the Web client.

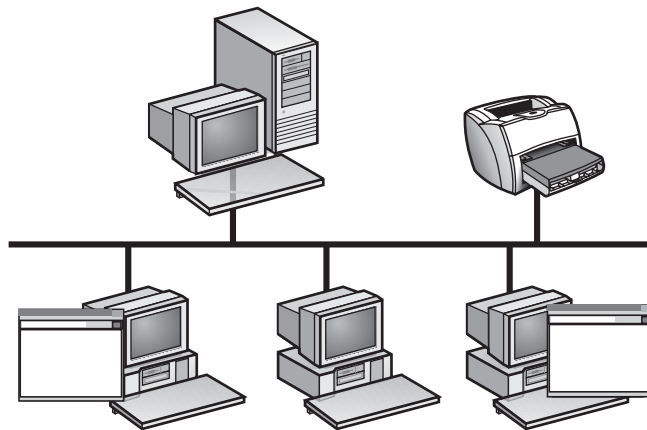
The Web client uses TCP/IP, or a proxy service for TCP/IP, to communicate with the Web server. If you want to use HP Web Jetadmin to manage printers, it is best if the printers have a TCP/IP address. However, this means that users who access HP Web Jetadmin can see devices even if they are only running IPX/SPX, such as in a mixed Novell NetWare and Windows environment.

Use HP Web Jetadmin to manage HP Jetdirect print servers regardless of how they are configured, including the following methods:

- HP Jetadmin or NDPS in a Novell environment
- HP Jetadmin in a direct-mode environment, such as Windows
- HP network printer installer in a Windows environment
- Line printer remote (lpr) in a TCP/IP environment

Web server configuration

Icon	Description
	HP Web Jetadmin host machine
	Workstation running a Web browser
	Printer



Because HP Web Jetadmin is Web-based, it relies on Web server components to distribute information to the client workstations on the network.

The HP Web Jetadmin master control process runs continuously on the host machine, waiting for incoming HTTP requests that originate from Web browsers on client workstations. The Web browser might ask the HP Web Jetadmin Web server to get a text or graphics file or to retrieve a ZIP file. The HP Web Jetadmin Web server components then send the information, files, or program results back to the requesting Web browser.

Because HP Web Jetadmin has integrated Web server components, it integrates into your corporate intranet. Unless you specify a different port during installation, HP Web Jetadmin defaults to port 8000, which means that any Web servers that you already have continue to operate.

The HP Web Jetadmin Web server components require very little setup. Accept all of the default settings for HP Web Jetadmin and then change the options that you want to have non-default settings. For example, you might want to change the port number from HP Web Jetadmin's default of 8000 to 80, which is the default HTTP network port for Web browsers.

Installation requirements

Before installing HP Web Jetadmin, your system must satisfy the following requirements.

Operating system and hardware

The network must run an approved operating system and the machine where you will install HP Web Jetadmin must meet specific hardware requirements. See the readme file for a list of the operating system and hardware requirements.

Note

The size of the machine where you install HP Web Jetadmin depends on the size of your network, how widely distributed your network is, and the number of devices supported on the network. For smaller networks, install HP Web Jetadmin as another service on someone's desktop. For larger networks, install HP Web Jetadmin on any machine up to a dedicated multiprocessor server with extensive redundant hardware.

Novell NetWare print queue support

Novell NetWare print queue support is available if you are using a Windows version of HP Web Jetadmin that is running the Novell NetWare Client. See the readme file for a list of supported versions of Novell NetWare Client.

Supported Web browsers

You must install Netscape or Internet Explorer on each workstation where you will access HP Web Jetadmin. See the readme file for supported browser versions.

Screen resolution and color palette

Hewlett-Packard recommends the following settings for the machine where the browser is running:

- Screen resolution: 1024 by 768 pixels
- Color palette: at least 256 colors

Downloading HP Web Jetadmin

Download a copy of HP Web Jetadmin to a local directory from one of the following sites:

Product	URL
World Wide Web	http://www.hp.com/go/webjetadmin
HP FTP site	ftp://ftp.hp.com/pub/networking/software

Windows installation

To install HP Web Jetadmin in Windows

- 1 Start hpwjntn.exe. This file should be in the directory where you downloaded HP Web Jetadmin.
- 2 Follow the instructions on the installation screens.
 - If you are upgrading from HP Web Jetadmin version 6.0 and greater, a previous installation dialog box appears. If you want to keep the settings (such as device groups, site maps, and HP Web Jetadmin settings) from your existing installation, select the directory where that installation resides. If you do not want to keep previous settings, select **New Installation**.
 - A default value appears for Machine Name. If the default is incorrect, type the correct machine name. If a default machine name does not appear, type the DNS hostname. If a DNS hostname does not exist, type the machine's TCP/IP address.

Note

To find the DNS hostname on Windows NT 4.x, right-click **Network Neighborhood**, and select **Properties**, **Protocols**, **TCP/IP Protocol**, and **DNS**.

- The default for Port Number is **8000**, unless that port is already in use. See [Web server configuration](#) for more information about port numbers.
- The default for Destination Path is **Program Files\HP Web Jetadmin**.
- The default for Program Folder is **HP Web Jetadmin**.

- 3 Click **Finish**.

HP Web Jetadmin runs on Windows as a service. The service starts after installation and each time you restart the system where it is installed.

Linux installation

The HP Web Jetadmin for Linux install program is a self-extracting executable. This executable is named *pwebjet_linux.selfx*.

Upgrading from a previous version of HP Web Jetadmin

Use the install program upgrade option to upgrade from a previous version of HP Web Jetadmin. When running the install program, specify the following option:

```
-u <olddir>
```

where *<olddir>* is the path to the directory where the previous version of HP Web Jetadmin is installed (for example, */opt/hpwebjet*).

If a previous version of HP Web Jetadmin is already installed and you do not specify the

```
-u <olddir>
```

option, the previous installation is left undisturbed.

Using the install program

Note

You must be logged in as the root user to install HP Web Jetadmin.

- 1 Start the install program:

```
./hpwebjet_linux.selfx
```

- 2 Follow the instructions on the installation screens.

- When prompted, press **Enter** to view the software license agreement. To scroll through the license agreement, press **Enter** repeatedly or press the **Spacebar**. To continue the installation, type **yes** to accept the terms of the license agreement. If you type **no**, you will not be allowed to continue with the installation.
- Specify the directory where you want to install HP Web Jetadmin (for example, */opt/hpwebjet*). If a parent directory already exists, the install program can create a leaf subdirectory for you. For example, if you want to install HP Web Jetadmin in */opt/hpwebjet* and */opt* already exists, the install program can create the *hpwebjet* subdirectory. However, if */opt* does not exist, the install program generates an error message.
- Specify the number of the system port where you want HP Web Jetadmin to listen for requests. The default port is 8000.

Alternative way to use the install program

Note

You must be logged in as the root user to install HP Web Jetadmin.

It is possible to avoid interacting with the install program altogether. You can give the install program the command line options with the information that the install program normally prompts you for.

To view all of the command line options for the install program, start the install program as follows:

```
./hpwebjet_linux.selfx -h
```

If you do not supply an option on the command line, the install program prompts you for most of the information. However, the install program will not prompt you for an upgrade directory. You must supply the upgrade directory information on the command line.

Verifying the configuration

Type the following URL in a supported browser:

```
http://server.domain:port
```

where `server.domain` is the hostname of the HP Web Jetadmin host machine and `port` is the port number you specified during the installation.

Stopping and starting HP Web Jetadmin

The install program starts HP Web Jetadmin when it is done. However, you might need to stop and start HP Web Jetadmin to enable some settings. The following sections explain how to stop and start HP Web Jetadmin for the different operating systems.

Windows

To stop HP Web Jetadmin

- 1 In **Control Panel**, double-click **Services**.
- 2 Select **HP Web Jetadmin** from the list.
- 3 Click **Stop**.

To start HP Web Jetadmin

- 1 In **Control Panel**, double-click **Services**.
- 2 Select **HP Web Jetadmin** from the list.

- 3 Click **Start**.

Linux

Note

You must have root-level access to perform these operations.

To stop HP Web Jetadmin

Type the following command:

```
/etc/rc.d/init.d/hpwebjetd stop
```

To start HP Web Jetadmin

Type the following command:

```
/etc/rc.d/init.d/hpwebjetd start
```

Viewing HP Web Jetadmin

To view HP Web Jetadmin in a supported Web browser from a client workstation, type one of the following URLs:

- `http://server.domain:port/`
where `server.domain` is the hostname of the HP Web Jetadmin host machine and `port` is the port number that you entered during the installation (the default port is 8000). This information is available in the `url.txt` file, which is stored in the directory where HP Web Jetadmin is installed.
- `http://ipaddress:port/`
where `ipaddress` is the IP address of the machine where HP Web Jetadmin is located.

Setup Wizard

When you access HP Web Jetadmin for the first time after installation, the Setup Wizard appears. The Setup Wizard identifies features that you can configure to obtain the most benefit from HP Web Jetadmin. For example, you can use the Setup Wizard to configure support URLs, security features such as SSL/TLS, HTTP network settings, and discovery mechanisms.

Note

For tips on determining the best way to implement HP Web Jetadmin for the specific needs of your organization, see [Chapter 4, Planning and implementing HP Web Jetadmin](#).

- Welcome page – Lists all of the settings that you can configure during the Setup Wizard. If you do not want to configure a specific setting during the Setup Wizard, click the check box to clear it. You can configure any of the settings that you do not configure when the Setup Wizard first appears at a later time through the appropriate page in HP Web Jetadmin. If you do not want HP Web Jetadmin to start the Setup Wizard again, select the check box labeled **Do not show this page again**.
- Page 1 – Lists and briefly describes the new features for the current release of HP Web Jetadmin.
- Page 2 – Configures the administrator name and several URLs that users can access for support information. See [Administrator information](#) and [Support settings](#) for more information.
- Page 3 – Configures the page that HP Web Jetadmin displays first when users access HP Web Jetadmin. See [Default home page](#) for more information.
- Page 4 – Configures the authentication method that HP Web Jetadmin uses to allow users to access the software. HP Web Jetadmin can authenticate users based on profiles or based on Windows NT domain users and groups. You can also assign passwords to profiles. See [Authentication methods](#) for more information.
- Page 5 – Configures the HTTP port that HP Web Jetadmin listens on for requests and the HTTP proxy settings that HP Web Jetadmin uses to access the Internet. If you specify the HTTP proxy settings, the HP Web Jetadmin Intelligent Update feature can access the HP Web site to download the latest software packages when you want to update the product (for example, HP Jetdirect firmware). See [HTTP port](#) and [HTTP proxy](#) for more information.
- Page 6 – Configures an allow list that controls which machines can access HP Web Jetadmin. Allow only specific IP addresses to access HP Web Jetadmin or you can deny access only for specific IP addresses. See [Allow list](#) for more information.
- Page 7 – Configures the SMTP server that HP Web Jetadmin uses to send email messages, such as alert messages. You can then send a test message to verify that the SMTP server is working correctly. See [SMTP \(mail\) host](#) for more information.
- Page 8 – Configures the network protocols that HP Web Jetadmin uses to search the network to discover devices and add those devices to the device cache, and starts the discovery. You must run a discovery before you can search the device cache for devices, configure devices, and manage devices. See [Chapter 13, Overview of discovery mechanisms](#) for more information.
- Page 9 – Schedules the time to automatically run discoveries. See [Scheduling discoveries](#) for more information.

- Page 10 – Describes the HP Web Jetadmin certificate management feature. See [SSL/TLS](#) for more information.
- Page 11 – Configures the encryption level that the HP Web Jetadmin host machine uses to establish communications with a Web browser. If a Web browser does not support the specified encryption level, HP Web Jetadmin does not allow that Web browser to access the software. See [SSL/TLS](#) for more information.
- Page 12 – Turns the SSL/TLS security feature on or off. See [SSL/TLS](#) for more information.

6 User interface

This chapter covers the following topics:

[Overview](#)

[Page layout](#)

[Making changes in HP Web Jetadmin](#)

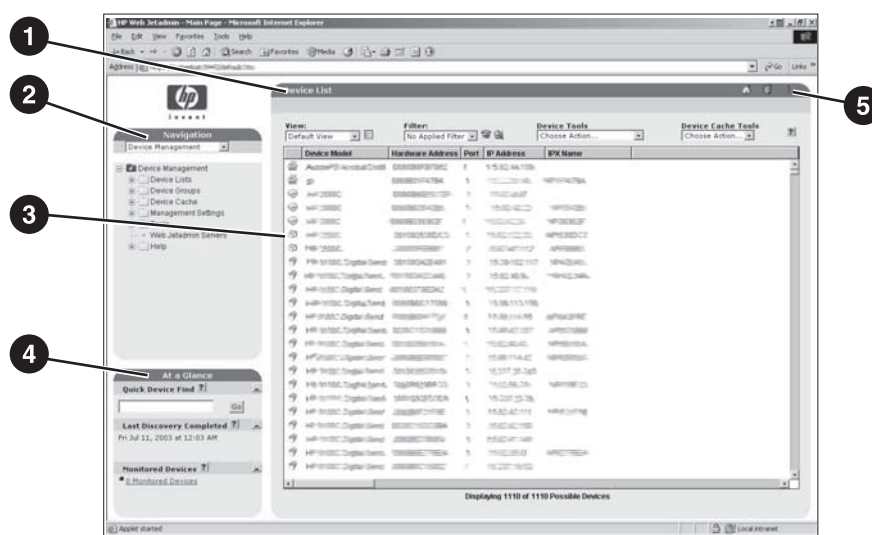
Overview

This chapter describes the HP Web Jetadmin user interface (UI) and provides instructions for navigating through the software.

Page layout

The UI is designed to make completing a task faster, make the steps to complete a task more intuitive, decrease the number of steps required to complete a task, and streamline the operation.

Each HP Web Jetadmin page is divided into the following areas:



- 1 Content title bar
- 2 **Navigation** area
- 3 Content area
- 4 **At a Glance** area
- 5 Context help

Navigation area

The **Navigation** area provides a drop-down list and an expandable tree that you can use to navigate to the page that you need. HP Web Jetadmin functionality is grouped into four main options in the drop-down list: **Device Management**, **Print Queue Management**, **Product Update**, and **General Settings**.

Note

If you have installed any HP Web Jetadmin application plug-ins, there might be additional options available in the **Navigation** drop-down list.

When you select one of the options from the **Navigation** drop-down list, HP Web Jetadmin displays an expandable tree below the drop-down list that you can use to access all of the pages for that area of functionality.

HP Web Jetadmin documentation contains references to pages within the software. These references tell you how to navigate to that page using the expandable tree in the **Navigation** area. For example, to navigate to the **Device Management > Device Lists > All Devices** page, select **Device Management** from the **Navigation** drop-down list, expand the **Device Lists** folder, and click **All Devices**.

At a Glance area

The **At a Glance** area provides the following functionality.

Quick Device Find

Use the **Quick Device Find** section to search for a specific device by typing the device address (for example, IP address, hardware address, or hostname). When you click **Go**, HP Web Jetadmin displays the **Device Status** page. This option is useful if you already know a device address.

You can also search for multiple devices by separating the addresses with a semicolon. When you click **Go**, HP Web Jetadmin opens a temporary device group.

Last Discovery Completed

The **Last Discovery Completed** section indicates when HP Web Jetadmin ran the last discovery and if a background discovery is currently running.

Monitored devices

The **Monitored Devices** section indicates how many devices HP Web Jetadmin is monitoring for alerts. When you click the **Monitored Devices** link, HP Web Jetadmin displays the **Monitored Devices** page, listing all of the monitored devices. From the **Monitored Devices** page you can add devices to and remove devices from the list of monitored devices and change the alert settings for a particular device.

If HP Web Jetadmin is monitoring devices for alerts, this section also indicates how many of the monitored devices have generated critical alerts and caution alerts. Critical alerts occur when a device has an error that must be resolved before it can continue. Caution alerts occur when a device has an error, but can continue without user intervention. When you click the **Critical Devices** or

Caution Devices link, HP Web Jetadmin opens a temporary device group listing the devices that have generated alerts. To display a **Device Status** page, select the device, and then click **Open**.

Note

If you are not monitoring devices for alerts, HP Web Jetadmin does not display the **Critical Devices** and **Caution Devices** links.

You can remove the **Monitored Devices** section from the **At a Glance** area. See [Monitored Devices, Critical Devices, and Caution Devices alerts](#) for more information.

Content area

The content area is the main area of each page. This is where HP Web Jetadmin displays information, where you can apply settings, and where you can perform other tasks. The content area contains the following sections.

Note

In the content area of some HP Web Jetadmin pages you can apply multiple options from an expandable tree or list view to a device or a device group, or select multiple devices or device groups from an expandable tree or list view. To select a range of options or devices in a list, press and hold the SHIFT key while selecting a range. To select specific options or devices in a list, press and hold the CTRL key while clicking the specific options or devices.

Device list

A device list displays in the center of the content area.





Content title bar

The content title bar identifies the current page.

Content toolbar

The content toolbar contains the following features:

- On the top of the content toolbar, some pages provide drop-down lists that you can use to access other related pages. For example, when you access a **Device Status** page, the drop-down list on the content toolbar provides access to other device-related pages, such as the **Device Configuration** page and the **Device Diagnostics** page.
- On the right side of the task bar, several icons are available.

Icon	Description
	The refresh icon appears on the content toolbar for pages like a device Device Status page. When you click the refresh icon, HP Web Jetadmin updates the device status.
	The home icon displays the HP Web Jetadmin home page. See Default home page for instructions on defining the default home page.
	The bookmark icon adds the current page to the Favorites list. When you select Favorites from the Navigation drop-down list, HP Web Jetadmin displays a list of the bookmarks that you have added on the navigation tree.
	The help icon displays the context help for that page. See Integrated context help for more information.
	<p>Note</p> <p>There might be additional help icons on the page. When you click a help icon on the page, HP Web Jetadmin displays the context help for that option.</p>

- During some processes, HP Web Jetadmin displays a progress indicator on the content toolbar showing the percentage of the process that has been completed.

Context Help area

The **Context Help** area is where HP Web Jetadmin displays the context help if you have HP Web Jetadmin set up to display the context help within the page. By default, HP Web Jetadmin displays the context help in a separate browser window. See [Integrated context help](#) for more information.

Making changes in HP Web Jetadmin

When you type information in a text box on the screen or select an option, you must click **Apply**. HP Web Jetadmin does not implement your changes until you click **Apply**.

7 Customizing HP Web Jetadmin

This chapter covers the following topics:

[Overview](#)

[Language support](#)

[Configurable views](#)

[Profiles](#)

[Temporary and permanent device groups](#)

[Direct links to support](#)



Overview

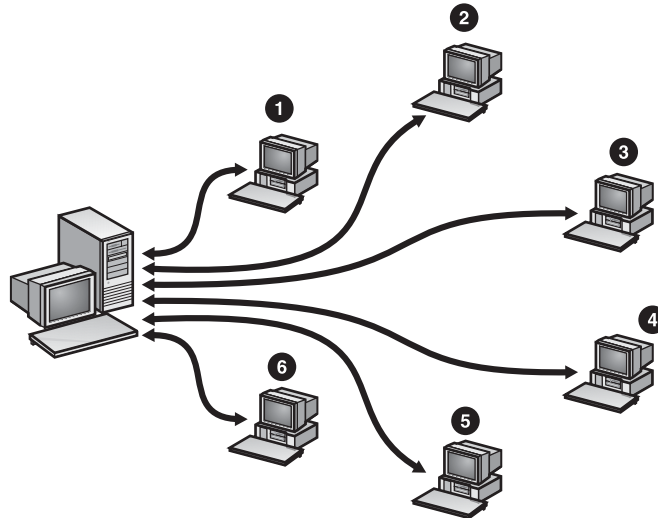
HP Web Jetadmin provides several ways to customize the software so that it works best for your environment.

Language support

HP Web Jetadmin consists of two separate pieces: the software executable and the language packs. Each language pack consists of the translated user interface (UI) dialogs (strings, bitmaps, and so on) for one of the languages that HP Web Jetadmin supports. The separation of the software executable and the translated UI dialogs has an important impact on the way HP Web Jetadmin works in a multilingual environment.

Install the software one time on a single host machine. Choose which languages you want to support and install those language packs. Using the separate language packs, this single software executable can simultaneously service multiple browser sessions in multiple languages.

Icon	Description	Icon	Description
	HP Web Jetadmin host machine		Workstation



- 1 English
- 2 French
- 3 Polish
- 4 Japanese
- 5 Spanish
- 6 Korean

A multilingual HP Web Jetadmin provides the following benefits:

- You only have to install the software once without specifying a language, which means that there is only one machine to configure.
- There is only one device cache, which means that you do not have to spend time keeping multiple device caches synchronized.
- There is only one copy of HP Web Jetadmin performing discoveries instead of multiple copies of HP Web Jetadmin running multiple discoveries to find the same devices. This means that there is less network traffic.
- If you have a multilingual workforce—for example, an office in San Francisco with employees who speak Chinese, Spanish, and English—each employee can work in the language that they prefer.
- If you have a mobile work force—for example, an employee who works in Great Britain and speaks English, but travels a lot in Germany and prefers to work in German—each employee can work in the language that they prefer.

Note

HP Web Jetadmin supports 19 languages and always tries to display consistent languages. However, each device that HP Web Jetadmin manages may support a different set of languages. As a result, HP Web Jetadmin may display different languages on the same screen. For example, the basic user interface on a **Device Status** page may be displayed in Dutch. If that particular device does not support Dutch, HP Web Jetadmin may display the device-specific information on the **Device Status** page in English instead of Dutch.

Adding language support

After you install HP Web Jetadmin, use the Intelligent Update feature to add language packs. See [Adding and removing languages](#) for more information.

Specifying language preferences in the browser

Each HP Web Jetadmin user can specify a prioritized list of the languages that he or she wants to work with in the browser. If a language that HP Web Jetadmin supports is not in the browser language list, the user can manually type an entry for that language and add it to the list.

A language entry consists of a language code and, sometimes, a country/region code. For example, the code for English in the United States is en-US and the code for French in Canada is fr-CA. The built-in codes are standard ISO language tags. See the online browser help for more information about specifying language preferences and adding user-defined language codes.

Note

Adding a language to the list in the browser does not guarantee that HP Web Jetadmin will display that language. First, HP Web Jetadmin must support that language. Second, a font that can display the language must be installed on the same machine as the browser.

Configurable views

HP Web Jetadmin contains a large amount of information about devices on the network and many options for configuring each device. If you have a large network with many devices, the amount of information that HP Web Jetadmin displays increases dramatically. Configure HP Web Jetadmin in the following ways to limit the amount of information displayed:

- Device lists – When viewing a list of devices or device groups, sort the information in the list by any of the columns. See [Sorting lists](#) for more information.
- Custom views – Although HP Web Jetadmin provides several views that display specific information about a list of devices, those views might not meet your needs. Create a custom view that only displays the information that you need to see, and then select your custom view for any displayed list. See [Custom views](#) for more information.
- Quick Sets – On the **Device Configuration** page, you can create a quick set that contains the options you typically configure for devices. See the context help for the **Device Configuration** page for more information.

Profiles

Use the **General Settings > Profiles Administration** pages to customize how HP Web Jetadmin looks and works for the various profiles that you create. Apply the same settings to all of your profiles or you can apply different settings to each profile. See [Chapter 10, Configuring profiles](#) for more information.

Note

You can also quickly create a limited User profile on the **Setup Wizard**. Customize the User profile on the **General Settings > Profiles Administration** pages.

Temporary and permanent device groups

Create both temporary and permanent device groups. When you select one or more devices from a device list and click **Open**, HP Web Jetadmin creates a temporary group that contains those devices. Temporary device groups let you perform one-time searches and tasks. HP Web Jetadmin does not save temporary device groups. Once you select another view, group, or device filter, the temporary device group is lost.

Create a permanent device group under a name that you assign. Permanent device groups are useful when you have to manage or maintain several devices on a regular basis. See [Creating device groups](#) for more information.

Direct links to support

HP Web Jetadmin provides a direct link to technical support pages on the Web that contain information about HP products. This link gives network administrators and help desk personnel quick access to software downloads for the most current printer drivers and HP Web Jetadmin solutions.

In addition, you can create a link to a support page on your organization's intranet. A local support link greatly reduces help desk personnel dependency on the network administrator, lowering support costs and saving valuable time.

See [Support settings](#) for more information.

8 Updating HP Web Jetadmin software

This chapter covers the following topics:

[Intelligent Update](#)

[Installing software components](#)

[Removing software components](#)

[Adding and removing languages](#)

[Uploading packages](#)

Intelligent Update

Use the HP Web Jetadmin Intelligent Update feature to download and install optional software components as well as the latest versions of the components that you are already using. You can also use the Intelligent Update feature to remove software components from HP Web Jetadmin.

The HP Web Jetadmin Intelligent Update feature provides the following benefits:

- You do not need to manually find and download the packages that you want to install.
- You only have to install the software components that you need.
- You can add the latest support packages to HP Web Jetadmin without having to download and install the entire product.

HP Web Jetadmin connects to the HP Web site to determine what packages are available for installation. Make sure that you have configured the proxy settings on the **General Settings > HTTP (Web)** page.

Note

If you have installed HP Web Jetadmin on an isolated network where HTTP access to the HP Web site is not possible, you must manually download the components and then install them. See [Uploading packages](#) for more information.

Installing software components

Use the **Product Update > Install** page to download and install the following components:

- New packages that provide additional support, for example, support for new devices or software components required for print queue and remote discovery on new platforms.
- Application plug-ins that provide functionality that is not available in HP Web Jetadmin.
- Patches that address issues with any current HP Web Jetadmin software components.

WARNING!

If a package fails to install for any reason, HP Web Jetadmin rolls all of the files on the disk, not just the ones that failed, back to the state that they were in before you started the install. A partial or failed install will not leave the software in an undefined state.

In some cases, a package might contain files that upgrade some part of HP Web Jetadmin and that require a restart of the HP Web Jetadmin service. If this is the case, the **Action** column on the **Install** page contains the **Upgrade (Restart of HP Web Jetadmin Required)**. The restart occurs automatically during the upgrade process.

Removing software components

If you no longer need to support a software component, use the **Product Update > Remove** page to remove the component from HP Web Jetadmin. Removing an unused software component frees up disk space on the host machine where you installed HP Web Jetadmin.

CAUTION HP Web Jetadmin checks to see if any of the remaining installed packages are dependent on the packages that you are uninstalling. If there are any dependencies, you cannot continue with the uninstall.

Adding and removing languages

Use the **Product Update > Languages** page to add language packs to HP Web Jetadmin. HP Web Jetadmin retrieves the new language packs directly from the HP Web site.

The **Available Languages** list on the **Languages** page identifies all of the available languages that you have not installed. The **Target Languages** list identifies all of the languages that you have installed.

If any of your HP Web Jetadmin users prefer to work in a language other than the default language and HP Web Jetadmin supports that language, consider adding that language pack.

If you no longer need to support a language, use the **Languages** page to remove that language pack from HP Web Jetadmin. Removing an unused language pack frees up disk space on the host machine where you installed HP Web Jetadmin.

Note If you have installed HP Web Jetadmin on an isolated network where HTTP access to the HP Web site is not possible, you must manually download the components and then use the **Upload** option on the **Product Update > Install** page to install them. Components are available from http://www.hp.com/go/wja_components.

Uploading packages

If you have installed HP Web Jetadmin on an isolated network where HTTP access to the HP Web site is not possible, you must manually download any new or updated software components. Once you have downloaded the files, use the **Product Update > Install** page to upload the file and install it.

Note Components are available from http://www.hp.com/go/wja_components.

Section 3

General settings

This section contains the following chapters:

[Chapter 9, Configuring general settings](#)

[Chapter 10, Configuring profiles](#)

9 Configuring general settings

This chapter covers the following topics:

[Overview](#)

[Support settings](#)

[HTTP \(Web\) settings](#)

[SMTP \(mail\) host](#)

Overview

Specify the following information on the **General Settings** pages:

- The **Support Settings** page allows you to specify the administrator name and URL, as well as the URL for local and HP support.
- The **HTTP (Web)** page allows you to specify what port HP Web Jetadmin listens on, HP Web Jetadmin ability to access the Internet, and what machines can access HP Web Jetadmin.
- **The SMTP (Mail)** page allows you to specify the email address for printer alert messages.

Support settings

Administrator information

The administrator name is displayed at the bottom of pages where users might need to know who to contact for help. For example, if users cannot update or create device groups, having the administrator name at the bottom of the page lets them know who to contact.

The URL can be an email address (for example, <mailto:username@domain.com>) or a Web page that provides support or information (for example, http://domain.com/homepage/specific_file.htm).

Support settings

The support URLs link to Web pages that provide additional support information.

In addition to specifying a URL, you can specify an email address in the following format: **mailto:address@company.com**. When a user accesses the **Help > Local Support** or **Help > Support** page, HP Web Jetadmin opens a new email addressed to that person.

HP support URL

The HP support URL links to HP support pages on the Internet. Users must have access to the Internet to access these support pages. If users do not have access to the Internet, copy HP support pages to your local Web server and set the HP support URL to your local Web server. Users can access HP support pages from there. If you have copied HP support pages to your local intranet, you can restore the default to HP support pages on the Internet.

When you expand the **Help** folder in the **Navigation** area, HP Web Jetadmin adds a **Support** option to the navigation tree.

Local support URL

The local support URL links to a Web page on your local intranet where users can find support information that you provide about HP Web Jetadmin or network devices. You might want to create a local support link to perform the following tasks:

- Access technical support information on local intranets, including frequently asked questions and their answers, common network problems and their solutions, or email.
- Contact offsite consultants, making it easy to communicate quickly when issues arise.
- Display special information about devices on a site map, such as maintenance schedules.
- Contact the person responsible for an individual device on a site map, providing prompt notification when a device requires attention.

When you expand the **Help** folder in the **Navigation** area, HP Web Jetadmin adds a **Local Support** option. A local support link greatly reduces help desk personnel dependency on the network administrator, lowering support costs and saving valuable time.

HTTP (Web) settings

The options on the **General Settings > HTTP (Web)** page control what port HP Web Jetadmin listens on, HP Web Jetadmin ability to access the Internet, and what machines can access HP Web Jetadmin.

HTTP port

The HTTP port is the port that HP Web Jetadmin listens on for requests. For example, if you specify port 55, you can access HP Web Jetadmin using either of the following URLs:

- `http://ipaddress:55/`
- `http://hostname:55/`

Change the HTTP port if the HP Web Jetadmin default port, 8000, conflicts with another Web server on the machine. If HP Web Jetadmin is the only Web server on the host machine, you can change the HTTP port to 80. Since port 80 is the

default HTTP port, you do not have to include the port number in the URL to access HP Web Jetadmin. Access HP Web Jetadmin using either of the following URLs:

- `http://ipaddress/`
- `http://hostname/`

If you change the HTTP port, you must restart the HP Web Jetadmin service for the change to take effect.

HTTP proxy

Configure the HTTP proxy that HP Web Jetadmin uses to download HP Jetdirect firmware, printer firmware updates, new device support, and HP Web Jetadmin updates from the Internet.

If you do not specify the HTTP proxy, HP Web Jetadmin cannot access the HP Web site. This means that, for example, you cannot use the HP Web Jetadmin Intelligent Update feature to download and install components such as software updates, additional language packs, and device support.

Allow list

Create an allow list that specifies which IP addresses can and cannot access the HP Web Jetadmin host machine. Specify an individual IP address or a range of IP addresses. If you are concerned about security, use IP addresses to closely control who can access HP Web Jetadmin.

The **Order for HP Web Jetadmin Access** section determines what order HP Web Jetadmin processes the IP addresses specified in the **Allow HP Web Jetadmin Access** and **Deny HP Web Jetadmin Access** sections. The following describes the HP Web Jetadmin process for each of the options in the **Order for HP Web Jetadmin Access** section:

- **None - Open to All Clients** – HP Web Jetadmin allows any machine to access the software. If you specify IP addresses in either the **Allow HP Web Jetadmin Access** or **Deny HP Web Jetadmin Access** sections, HP Web Jetadmin ignores those settings. Even though any machine can access HP Web Jetadmin, all of the other HP Web Jetadmin security features, such as profiles and device passwords, are still in effect.
- **Allow then Deny** – HP Web Jetadmin processes the IP addresses in the **Allow HP Web Jetadmin Access** section and then processes the IP addresses in the **Deny HP Web Jetadmin Access** section. If an IP address is specified in the **Allow HP Web Jetadmin Access** section and is not specified in the **Deny HP Web Jetadmin Access** section, HP Web Jetadmin

allows that machine to access the software. If there are no IP addresses specified in either section, HP Web Jetadmin allows any machine to access the software.

- **Deny then allow** – HP Web Jetadmin processes the IP addresses in the **Deny HP Web Jetadmin Access** section and then processes the IP addresses in the **Allow HP Web Jetadmin Access** section. If an IP address is specified in the **Deny HP Web Jetadmin Access** section and is specified in the **Allow HP Web Jetadmin access** section, HP Web Jetadmin allows that machine to access the software. If there are no IP addresses specified in either section, HP Web Jetadmin allows any machine to access the software.

SMTP (mail) host

When HP Web Jetadmin receives an alert from a printer, it sends an alert message to the email addresses that you specify. The options on the **General Settings > SMTP (Mail)** page specify the SMTP mail host that HP Web Jetadmin uses to send the alert messages. You can also send a test email message from the **SMTP (Mail)** page to verify that the SMTP mail host is working correctly.

10 Configuring profiles

This chapter covers the following topics:

[Overview](#)

[Profile passwords](#)

[Profile permissions](#)

[Customizing HP Web Jetadmin appearance](#)

[Customizing HP Web Jetadmin functionality](#)

Overview

When you install HP Web Jetadmin, two profiles are automatically created and enabled. The Admin profile can view and configure everything in the product. The User profile has a limited view and cannot configure any HP Web Jetadmin settings.

Note

If you do not want to create a limited User profile, you can change the setting on the **Setup Wizard** pages. You can also remove a User profile on the **General Settings > Profiles Administration > Add/Remove Profiles** page.

Create additional profiles in HP Web Jetadmin for different classes of users. Through these profiles, you can control what parts of HP Web Jetadmin specific classes of users can access and what they can do. For example, allow a specific class of users to view status and configuration information without giving them the ability to change the configuration settings. You can also use profiles to hide product functionality that users do not need or that you do not want them to see.

The default profile is the profile that HP Web Jetadmin automatically uses whenever a user accesses the product. Initially, the Admin profile is the default profile. If you choose a default profile other than Admin, you can control how much HP Web Jetadmin functionality is available by default.

You can change the tasks that a particular class of users can perform. If you no longer need to provide access to a particular class of users, delete that profile. That class of users can still access HP Web Jetadmin using one of the other profiles if it is appropriate.

Over time, you might create too many profiles. You can delete any of the profiles that you have created and the User profile, but you cannot delete the Admin profile. You can then start creating profiles again.

Profile passwords

A profile password prevents unauthorized users from performing the tasks allowed for that profile. The Admin profile can assign a password to each profile on the **General Settings > Profiles Administration > Authentication** page. Users can assign a password to the profile that they are currently using on the **General Settings > Current Profile Settings > Password** page.

Note

When you first install HP Web Jetadmin, you can assign a password for the Admin profile on the **Setup Wizard** pages.

The password for the Admin profile prevents unauthorized users from changing HP Web Jetadmin settings and managing device groups. By default, HP Web Jetadmin does not assign a password to the Admin profile. However, once you assign a password, HP Web Jetadmin prompts users for the password whenever

they try to change HP Web Jetadmin settings. If you do not assign a password to the Admin profile, any user who can access HP Web Jetadmin can change all of the settings.

Instead of using profile passwords, you can associate Windows NT domain users and groups to a profile. Then, when users log into HP Web Jetadmin, they can specify their Windows NT domain user name and password. This method simplifies the login process for the users because they do not have to learn a new profile password.

Profile permissions

Specify what features appear in the **Navigation** area and on the content toolbar for each of the profiles that you create. The Admin profile can specify these options on the **General Settings > Profiles Administration > Permissions > Disable Pages** page.

Note

You cannot change the settings for the Admin profile.

Use the **General Settings > Profiles Administration > Permissions > Device Editing Modes** page to specify if a profile can edit HP Web Jetadmin settings, create print queues, edit device groups, and edit device configuration options.

Allow a profile to edit the configuration options for all of the devices in the device cache or only edit the devices in specific device groups. If you allow a profile to edit the device configuration options, you can limit the profile to specific types of configuration options.

Customizing HP Web Jetadmin appearance

Customize each profile to control how HP Web Jetadmin looks. Apply the same settings to all of the profiles or you can select individual profiles and apply different settings to each one. The Admin profile can change the settings for each profile on the **General Settings > Profiles Administration > Appearance** page. Users can change the settings for the profile that they are currently using on the **General Settings > Current Profile Settings > Appearance** page.

Integrated context help

By default, HP Web Jetadmin displays the context help in a separate browser window. If you enable the **Integrate Context Help** option, HP Web Jetadmin displays the context help within the software. The help appears on the right side of the content area. As you move from page to page, the text changes to reflect the current page.

Monitored Devices, Critical Devices, and Caution Devices alerts

The **Monitored Devices** section in the **At a Glance** area displays the devices HP Web Jetadmin is monitoring for alerts and how many of those devices have generated critical alerts or caution alerts. If you disable the **Show Alerts Update** option, HP Web Jetadmin removes the **Monitored Devices** section from the **At a Glance** area.

When you click the **Monitored Devices** link, HP Web Jetadmin displays a page where you can choose which devices HP Web Jetadmin monitors for alerts. When you click the **Critical Devices** and **Caution Devices** links, HP Web Jetadmin opens a temporary device group displaying all of the devices that have generated a critical alert or a caution alert.

Note

If you are not monitoring devices, HP Web Jetadmin does not display the **Critical Devices** and **Caution Devices** alerts.

Customizing HP Web Jetadmin functionality

Customize each profile to control how HP Web Jetadmin works. Apply the same settings to all of the profiles or you can select individual profiles and apply different settings to each one. The Admin profile can change the settings for each profile on the **General Settings > Profiles Administration > Default Views** page. Users can change the settings for the profile that they are currently using on the **General Settings > Current Profile Settings > Default Views** page.

Default device list view

Specify which device list view that you want HP Web Jetadmin to use. From the **Default View** drop-down list, choose one of the HP Web Jetadmin predefined views or one of the custom views that you have created. In addition, you can specify if HP Web Jetadmin automatically displays the device icons and status indicators in the device lists.

Default home page

Specify which page HP Web Jetadmin automatically displays the first each time users start HP Web Jetadmin in their browser, when users click the home icon on the content toolbar, and when users click **Refresh** or **Reload** in their browser. In the **HP Web Jetadmin Default Page** section, choose to display a list of all of the devices available, a specific **Device Status** page, a list of all of the device groups available, or a list of the devices in a specific device group.

Default device group view

Specify the default view that HP Web Jetadmin displays when users open a device group. From the **Default Device Group View** drop-down list, choose to display the device group as a map, a list of devices, or a list of subgroups. In addition, you can specify if HP Web Jetadmin automatically displays the device or device group icons and status indicators.

Section 4 Tools

This section contains the following chapters:

[Chapter 11, Configuring network properties](#)

[Chapter 12, Configuring alerts](#)

11 Configuring network properties

This chapter covers the following topics:

[Overview](#)

[General network settings](#)

[SNMP settings](#)

[BOOTP settings](#)

[TFTP settings](#)

[Java polling rate](#)

Overview

Specify the following information on the **Network Settings** pages:

- The **General Network Settings** page allows you to specify how HP Web Jetadmin performs on the network.
- The **SNMP** page allows you to specify how long HP Web Jetadmin waits for devices to respond and how many times it pings the device if it does not respond.
- The **BOOTP** page allows you to enable HP Web Jetadmin to function as a BOOTP server. You can also configure specific information for each HP Jetdirect device.
- The **TFTP** page allows you to specify the timeout value for HP Jetdirect firmware and the number of retries the device is allowed after it times out.
- The **Polling** page allows you to specify how often HP Web Jetadmin refreshes Java applets.

General network settings

The following options on the **Device Management > Management Settings > Network Settings > General Network Settings** page control HP Web Jetadmin performance on the network:

- The **Enable DNS Lookups** option allows HP Web Jetadmin to get IP hostnames from a DNS server.
- The **Enable ARP/Route Execution** option allows HP Web Jetadmin to use the system ARP cache and routing tables to create the entries it needs to communicate with unconfigured devices on the local subnet. Unconfigured devices have an IP address of 192.0.0.192.
- The **Allow Broadcasts** option allows HP Web Jetadmin to send any broadcasts to accomplish device discoveries, IPX network discoveries, and BOOTP configurations.
- The **Allow Broadcasts to Large Subnets** option allows HP Web Jetadmin to send broadcast traffic to subnets that are class B size (255.255.0.0) or larger.

SNMP settings

The options on the **Device Management > Management Settings > Network Settings > SNMP** page specify how long HP Web Jetadmin waits for devices to respond and how many times it pings a device that does not respond.

The default timeout and retry values let HP Web Jetadmin ping a device two times, once every 100 milliseconds. If the device does not respond, HP Web Jetadmin pings it twice more, once every second. This speeds up the process while reducing network traffic.

BOOTP settings

HP Web Jetadmin can function as a BOOTP server. Configure specific information for each HP Jetdirect device on the **Device Management > Management Settings > Network Settings > BOOTP** page. If HP Web Jetadmin has an entry for a device and it receives a BOOTP request from that device, it answers the BOOTP request using this information.

You can also view BOOTP devices in standard UNIX/Linux bootptab format and delete device entries from the BOOTP table.

TFTP settings

HP Web Jetadmin uses the options on the **Device Management > Management Settings > Network Settings > TFTP** page when updating HP Jetdirect firmware. The timeout value specifies how long HP Web Jetadmin waits before timing out. The retry value specifies how many times HP Web Jetadmin retries the firmware update after a timeout.

Java polling rate

Specify how often HP Web Jetadmin refreshes Java applets, such as the Java Status applet, on the **Device Management > Management Settings > Network Settings > Polling** page. When the polling rate interval is reached, HP Web Jetadmin updates the Java applets with any new information.

By default, the Java polling rate is 6 seconds. If HP Web Jetadmin polls devices more often, it affects network traffic and increases the Web server load. If you are running HP Web Jetadmin on a host machine with a particularly heavy load, you might want to have HP Web Jetadmin poll devices less often.

12 Configuring alerts

This chapter covers the following topics:

[Overview](#)

[Alert settings](#)

[Notification settings](#)

[Trap server port number](#)

[Polling delay](#)

[Duplicate alerts](#)

[Log file](#)

Overview

Alerts are messages that a device sends when it has a problem. You can enable HP Web Jetadmin alerts and configure the default settings for the alerts on the **Device Management > Tools > Alerts** pages.

Alert settings

You can specify which alerts HP Web Jetadmin will monitor on the **Device Management > Tools > Alerts > Default Settings** page. For example, you can subscribe to alerts that might cause downtime for users, such as a paper jam. You can also subscribe to alerts that provide information that can be used to set up accurate device maintenance schedules. For example, HP Web Jetadmin can send an alert message based on a specified threshold limit of pages printed on a device. By default, the settings on this page apply to all of the devices that you choose to monitor.

Note The default settings that you set on the **Default Settings** page do not enable the alerts for a device or device group.

After you set the default settings for alerts, enable the alert settings for a device or device group on the **Device Alert Settings** page. To enable the alerts for a device or device group and to view the alert options, select the check box labeled **Enable Alerts for This Device**. You can change any alert settings for a device or device group on this page.

Note The settings that you specify on the **Device Alert Settings** page override the settings specified on the **Default Settings** page.

To see a list of all the devices that HP Web Jetadmin is monitoring for alerts, go to the **Device Management > Tools > Alerts > Monitored Devices** page. All alerts that are enabled for a device appear on this list. You can add and remove devices from the list of devices. When you add a device, the alert settings are set to the default settings that you specified on the **Default Settings** page. If you enable alerts for HP Web Jetadmin, select the devices that you want to monitor on the **Monitored Devices** page or the **Device Alert Settings** page.

Notification settings

There are many methods to receive HP Web Jetadmin alert notifications. For example, you can configure the HP Web Jetadmin notification options to send an XML alert message to a Web service. However, the most common alert notification delivery is through email.

Note Depending on the notification method that you use, the output and configuring process may vary.

Email settings

You can specify an email address to send HP Web Jetadmin alerts on the **Device Alerts Setting** page and the **Default Settings** page. You can also choose the format that you want the email to appear in. HP Web Jetadmin can send the following alert messages to an email address:

- **Mobile** - A brief text message to an email-enabled mobile device. This message contains the event, the device name, and the URL for browsing to the **Device Status** page.
- **Concise** - A brief message that contains the event, the message that appears on the front panel, the device name, a link to the **Device Status** page, and the name and email address of the person to contact.
- **Verbose** - A detailed message that contains all of the information in the **Concise** message and detailed device information. It also includes a link to the **Device Status** page. This is the default.
- **Custom** - A custom message that contains information that is selected from a template. You can select different alert options and the order that the options appear in the email. You can create, edit, and delete templates.

Trap server port number

To receive alerts, HP Web Jetadmin must run a background trap server. The port number is the TCP/IP port that the trap server listens on for messages. If alerts are not working and event log messages indicate that the trap server failed to start, you may need to change the port number. Specify the port number on the **Device Management > Tools > Alerts > Receiver Settings** page.

Polling delay

To receive alerts for printers that do not support SNMP traps, HP Web Jetadmin must periodically query the device. The polling delay is how long HP Web Jetadmin waits before asking each non-SNMP trap device what state it is in. Decreasing this number provides quicker feedback, but it increases network traffic. Specify the polling delay on the **Device Management > Tools > Alerts > Receiver Settings** page.

Duplicate alerts

Sometimes devices send more than one alert for the same problem. For example, if a paper jam has not been cleared for a few days, HP Web Jetadmin may send multiple alert messages. You can specify how many days, hours, or minutes HP Web Jetadmin should wait before sending another alert for the same problem on the **Device Management > Tools > Alerts > Global Settings** page. To change this setting for a specific device, go to the **Device Alerts Settings** page. To change the default setting for this option, go to the **Default Settings** page.

Log file

HP Web Jetadmin keeps a log of every alert that it receives. You can use this log file to determine if a device has a pattern of problems or if a device needs preventative maintenance. Use the **View Alerts Log File** option on the **Device Management > Tools > Alerts > Global Settings** page to display the log file.

Section 5 Discovery

This section contains the following chapters:

[Chapter 13, Overview of discovery mechanisms](#)

[Chapter 14, Configuring discovery mechanisms](#)

[Chapter 15, Managing discoveries](#)

13 Overview of discovery mechanisms

This chapter covers the following topics:

[Overview](#)

[Discovering third-party devices](#)

[Discovery mechanisms](#)

[Discovery traffic](#)

[Planning a discovery strategy](#)

Overview

If you use non-HP device management tools, you must manually add the device address and other information for each device to the tool cache. HP Web Jetadmin, on the other hand, uses a feature called discovery that searches the network for connected devices, displays the results in a list, and adds the devices to a device cache on the machine where it is running. You can then search the device cache to find devices that meet specific criteria, such as IP address, capability, model, or status, and configure them. Searching the device cache is much faster than running a discovery and it does not generate as much network traffic.

HP Web Jetadmin is capable of discovering devices automatically. The HP Web Jetadmin discovery feature provides the following advantages:

- You no longer have to manually search for devices and add the device configuration information to a cache.
- You can schedule discoveries to run automatically at specified intervals and at times when additional network traffic is least likely to have a negative impact on network performance.
- You do not need to be present when discoveries run.
- Without leaving your workstations, you and help desk personnel can quickly find specific devices or those with particular capabilities.

Run an initial discovery to build a cache of device information after you install HP Web Jetadmin. After the device cache is built, run discoveries to help with the following ongoing management tasks:

- You can discover single new devices as soon as they are connected to the network.
- You can run a discovery at any time to find new devices or existing devices that have been updated.

HP Web Jetadmin discovers devices in two ways. First, HP Web Jetadmin can send a query to the devices and listen for their responses. Second, HP Web Jetadmin can monitor the network for the signals that the devices send to indicate their presence on the network.

HP Web Jetadmin not only discovers devices on a network, it can discover other HP Web Jetadmin host machines. Typically, the network administrator decides which machines on the network can access HP Web Jetadmin. However, the network administrator may need to check the local or remote network to ensure that all HP Web Jetadmin host machines are necessary and secure. HP Web Jetadmin can discover other host machines by either searching the network by a range of IP addresses or sending a general SNMP request to all active workstations and servers. HP Web Jetadmin records all discovered host machines on a results page.

HP Web Jetadmin uses industry-standard SNMP queries to recognize devices and collect information about the devices. Then HP Web Jetadmin adds the information about new or updated devices to the device cache. The following are some of the benefits that you and the help desk personnel might experience:

- You can create print queues for the discovered devices, making them available to the network.
- You and help desk personnel can search the device cache to find devices that meet specific criteria, such as status or specific features.
- You can export the information in the device cache and create an inventory of network assets.

Discovering third-party devices

HP Web Jetadmin can discover non-HP printers that use non-HP print server devices. By supporting third-party devices, Hewlett-Packard offers a network printer management solution that drives one step further toward the single solution concept that network administrators want. Now, you can use a single software interface to discover and manage the printers that all of the major printer vendors offer.

HP Web Jetadmin uses SNMP queries to gather information from printers and print server devices. For HP Web Jetadmin to discover third-party printers and non-HP print servers, the devices must meet the following criteria:

- The printer must be Standard Printer MIB (RFC 1759) compliant.
- The print server device must be MIB II (RFC 1213) compliant.
- The print server device must be able to send Standard Printer MIB queries to the printer and relay answers back to HP Web Jetadmin.

A Management Information Base (MIB) is a set of objects that defines the types of queries that can be asked of a device. The Standard Printer MIB is the set of objects defined in Request for Comments (RFC) 1759. For a third-party device, HP Web Jetadmin uses the Standard Printer MIB queries to obtain information about device status. This means that for HP Web Jetadmin to discover a printer, that printer must be able to answer the queries defined in the Standard Printer MIB.

MIB II is the set of objects defined in RFC 1213, and it is explicitly referenced in the Standard Printer MIB. For HP Web Jetadmin to discover a non-HP print server device, that device must be able to answer the queries defined in the MIB II. HP Web Jetadmin typically sends the following MIB II queries to obtain information about a print server device:

- MAC address
- IP address

- Hostname
- System description

HP external print server devices use a proprietary Peripheral Management Language (PML) to communicate with HP printers. Third-party external print server devices must be able to use a similar mechanism to send the Standard Printer MIB queries to the printer and receive responses.

Even if a print server device is MIB II compliant and a printer is Standard Printer MIB compliant, it is still possible that HP Web Jetadmin will not discover the printer. This can happen if the response to the HP Web Jetadmin request packet only contains print server information. If HP Web Jetadmin does not receive any printer details, it cannot discover the device because there is not enough information in the print server device response to warrant a discovery.

Once HP Web Jetadmin discovers a third-party device, it can display device status like it does for HP printers. The actual product information that HP Web Jetadmin displays is based on the Standard Printer MIB object queries that the device can answer, such as name or status. The ability to create print queues on Novell NetWare and non-Windows platforms is available for any printer that is connected to an HP Jetdirect print server, including third-party printers. The device configuration feature is only available for HP printers that are connected to an HP Jetdirect print server.

Discovery mechanisms

The following is a brief description of HP Web Jetadmin discovery mechanisms. Each mechanism is described in more detail in [Chapter 14, Configuring discovery mechanisms](#).

- [Local Broadcast — IP and IPX Broadcast discoveries](#) send a general SNMP request to all of the active devices on the local subnet or remote TCP/IP network.
- [Local Broadcast — IPX Service Query discovery](#) sends a General Service Query (GSQ) request to all of the active devices on the local subnet or remote IPX/SPX network.
- [Multicast/SLP discovery](#) sends a single SNMP request over an HP-specific multicast address. Only HP multicast-enabled devices respond to this request. You can limit the discovery mechanism to the local subnet or configure it to cross up to 15 routers for remote subnets.
- [ARP Table discovery](#) uses ARP Table listings to find devices. You can configure the discovery to search the entire network, the local subnet plus one hop away, or just the local subnet where HP Web Jetadmin is installed.
- [Specified Addresses discovery](#) searches for all of the devices listed in a host file that you create.

- [IP Range discovery](#) searches for the devices located within a range of IP addresses.
- [Remote Discovery Agent \(RDA\) discovery](#) is a proxy service that HP Web Jetadmin uses to discover and configure HP Jetdirect print servers on remote TCP/IP networks.
- [NetWare Bindery discovery](#) queries Novell NetWare servers looking for entries in their Binderies that contain information about the HP Jetdirect devices that have sent SAP broadcasts to the server.
- [NetWare File Server Login discovery](#) searches for HP Jetdirect print servers that are configured to service a print queue on any NetWare file server that HP Web Jetadmin is logged onto. This discovery mechanism can find HP Jetdirect print servers that have SAP broadcasts disabled.
- [Listen for New Devices discoveries](#) continually monitor the network for new devices. This is a passive mechanism that does not generate traffic until it detects a device.
- [Other Installations of HP Web Jetadmin discovery](#) searches the network for other HP Web Jetadmin host machines.

Depending on the network environment and which discovery mechanisms you enable, the length of time required to complete a discovery varies. This is not usually a problem because discoveries are typically run during off hours. If you run a discovery during work hours, you can check the status of the discovery in the **Last Discovery Completed** section of the **At a Glance** area.

When you install HP Web Jetadmin, the following discovery mechanisms are enabled by default:

- IP Broadcast discovery
- IPX Broadcast discovery
- Listen for New Devices discoveries
- Other installations of HP Web Jetadmin discovery

These default discovery mechanisms are optimized for small networks, which may be able to handle more discovery traffic than large networks. Enable different discovery mechanisms when you need to more optimally balance network traffic and discovery precision for your particular network.

Discovery traffic

Although the HP Web Jetadmin discovery feature eliminates the need to manually enter device address information into a management tool cache, the trade-off for this automation is a certain amount of network traffic. You have direct control over the level and duration of network traffic, its frequency, and the time it occurs.

Two types of network traffic occur on all networks. The distinction between them is important.

- General traffic, also known as broadcast traffic, is addressed so that all devices must process it. General traffic tends to be short, but it causes higher levels of network traffic. On large networks, general traffic inquiries produce less accurate results because many devices respond simultaneously and some of the responses are lost because of Ethernet collisions or buffer overflows.
- Directed traffic is sent to specific devices, which means that only those devices have to respond. Directed traffic lasts longer, but it does not cause as much network traffic. Directed traffic inquiries typically produce more accurate results because responses are not sent simultaneously, which means that they are more likely to be received. Even if a response is involved in an Ethernet collision, the response is retransmitted because it is a directed communication, not a broadcast.

Planning a discovery strategy

To decide which discovery mechanisms are best suited for your particular environment, you must understand exactly how your network is structured and what you need the discoveries to accomplish. The following are some issues that you should consider when planning a discovery strategy:

- **Are you performing an initial device discovery or updating an existing device cache?** When you schedule discoveries for ongoing device cache maintenance, change the discovery mechanisms that you originally enabled to build the device cache. For example, if you enabled a very slow but thorough discovery mechanism for the initial discovery, such as an ARP Table discovery, you might want to choose a faster mechanism for ongoing discoveries.
- **Do you have an HP Jetadmin discovery file that you want to migrate to HP Web Jetadmin?** You can import an HP Jetadmin discovery file (jetset.ini) to HP Web Jetadmin. This process converts the HP Jetadmin discovery file to HP Web Jetadmin format and appends it to the host file that you are using for HP Web Jetadmin discoveries. A Specified Addresses discovery finds all of the devices listed in the host file and adds them to the HP Web Jetadmin device cache.
- **How will you use the device cache that is created during the discoveries?** For example, a CIO might need asset information for all of the devices on a network. Help desk personnel, on the other hand, might only want information about the devices that they support, the devices that support certain features, or the devices that require maintenance.
- **What traffic is commonly found on your network and when does it occur?** Understanding network traffic patterns helps you determine what kind of discovery traffic your network can bear.

- **When is discovery traffic least likely to have a negative impact on other network traffic?** To minimize the impact of discovery traffic, schedule discoveries to run when other network usage is at a minimum.
- **Are network printers turned off regularly?** Because a discovery cannot find devices that are turned off, you should schedule discoveries to run when the devices that you want to discover are turned on. HP Web Jetadmin will discover devices that are in Power Save mode.
- **Do you need to discover devices configured with TCP/IP or IPX/SPX protocol?** You might get different results depending on whether you use a TCP/IP or IPX/SPX discovery. One reason this might occur is that you have older HP Jetdirect print servers on the network that only respond to IPX/SPX. Another reason might be the router filtering of one protocol versus the other. Some topology issues might affect one protocol differently than the other.
- **Will devices be located on a single subnet or across multiple routers?** HP Web Jetadmin takes longer to discover devices that are distributed widely across a large network. In addition, some discovery mechanisms are limited to a single subnet and are not appropriate for wider discovery. For example, the Local Broadcast discoveries only find devices on the subnet where HP Web Jetadmin is installed. They would not be appropriate for discovering devices on remote subnets.
- **What types of devices do you need to discover?** Will the discovery be aimed at a single IP address or a range of IP addresses? Do you need to discover devices that are configured with static IP addresses or that have SAP broadcasts disabled? Do the devices support multicast broadcasts? Discovery mechanisms vary in the criteria they use to find devices and the types of devices they look for.
- **How many devices do you need to discover?** If there are many devices to discover, the Local Broadcast discoveries might not be accurate since all of the devices respond at the same time, which might result in collisions or buffer overflows.
- **How many copies of HP Web Jetadmin are installed on the network?** If you are running a separate copy of HP Web Jetadmin on each subnet, a discovery takes less time because it is focused on a smaller area. Also, there is no need to limit the discovery mechanism according to its ability to search multiple subnets.

After you answer these questions, decide which discovery mechanism or combination of mechanisms is best suited for your environment. Remember that you will typically need to use more than one discovery mechanism to achieve the best balance between network productivity and the accuracy of discovery results.

Note

When you use multiple discovery mechanisms, each discovery is completely independent. For example, if you run an IP Broadcast discovery and an ARP Table discovery, the ARP Table discovery finds devices on the local subnet even if the IP Broadcast discovery already found them and added them to the device cache.

The following guidelines can help you choose the appropriate discovery mechanisms for your network.

Goal	Discovery strategy
Minimize the impact on other network traffic.	Set up HP Web Jetadmin to perform regularly scheduled discoveries during off hours at intervals that are appropriate for your network environment.
Achieve the most thorough discovery of TCP/IP-configured devices on a local network.	Use a combination of the Local Broadcast discoveries and a local ARP Table discovery.
Achieve the most thorough discovery of devices on local and remote networks.	Use one or more of the following discovery mechanisms: <ul style="list-style-type: none"> • Specified Addresses discovery (TCP/IP or IPX/SPX) • IP Range discovery (TCP/IP) • ARP Table discovery (TCP/IP)
Perform a general discovery of TCP/IP devices on enterprise networks or all remote networks one hop away from the host machine where HP Web Jetadmin is installed.	Use an ARP Table discovery.
Search through a range of addresses for TCP/IP devices on local or remote networks.	Use a Specified Addresses or an IP Range discovery for local or remote networks.
Only discover devices that are configured with the IPX/SPX protocol.	Use one or more of the following discovery mechanisms: <ul style="list-style-type: none"> • One of the Local Broadcast discoveries • Specified Addresses discovery • NetWare Bindery discovery

Goal	Discovery strategy
Discover new TCP/IP or IPX/SPX devices as they are added to the local network.	Use one or more of the following discovery mechanisms: <ul style="list-style-type: none"> • IP or IPX Broadcast discovery • Specified Addresses discovery (TCP/IP or IPX/SPX) • NetWare Bindery discovery (IPX/SPX) • Listen for New Devices discoveries
Discover new devices in a relatively static network environment.	Run an initial discovery and disable all of the discovery mechanisms except Listen for New Devices.
Run a very quick discovery.	Use one or more of the following discovery mechanisms: <ul style="list-style-type: none"> • One of the Local Broadcast discoveries • Multicast/SLP discovery
Create a short burst of network traffic, but a high spike of activity during that time.	Use one or more of the following discovery mechanisms: <ul style="list-style-type: none"> • One of the Local Broadcast discoveries • Multicast/SLP discovery
Create a small level of discovery traffic on the network, but sustain it for a longer period of time.	Use one or more of the following discovery mechanisms: <ul style="list-style-type: none"> • Specified Addresses discovery • ARP Table discovery • Listen for New Devices discoveries
Only discover devices on the local subnet.	Use one of the Local Broadcast discoveries
Discover devices on more than one subnet.	Use one or more of the following discovery mechanisms: <ul style="list-style-type: none"> • IP Range discovery • ARP Table discovery • Multicast/SLP discovery • NetWare Bindery discovery

Goal	Discovery strategy
Limit the scope of discovery on the network.	Use one or more of the following discovery mechanisms: <ul data-bbox="770 359 1134 548" style="list-style-type: none">• IP Range discovery• ARP Table discovery• Multicast/SLP discovery• NetWare Bindery discovery

14 Configuring discovery mechanisms

This chapter covers the following topics:

[Overview](#)

[Local Broadcast — IP and IPX Broadcast discoveries](#)

[Local Broadcast — IPX Service Query discovery](#)

[Multicast/SLP discovery](#)

[ARP Table discovery](#)

[Specified Addresses discovery](#)

[IP Range discovery](#)

[Remote Discovery Agent \(RDA\) discovery](#)

[NetWare Bindery discovery](#)

[NetWare File Server Login discovery](#)








[Listen for New Devices discoveries](#)

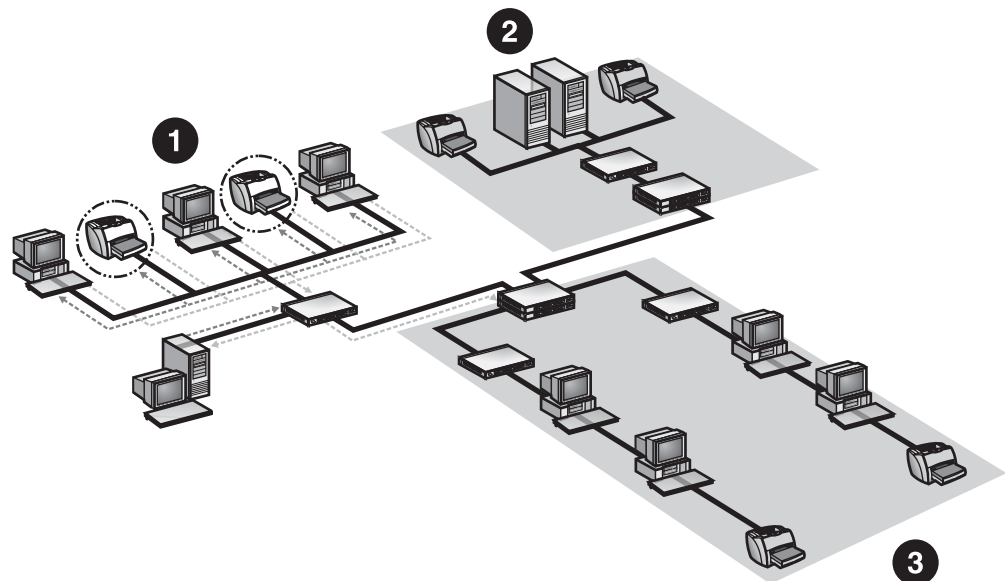
[Other Installations of HP Web Jetadmin discovery](#)

Overview

This chapter contains descriptions of the HP Web Jetamin discovery mechanisms.

Local Broadcast — IP and IPX Broadcast discoveries

Icon	Description	Icon	Description
	HP Web Jetadmin host machine		Printer
	Discovered devices		Server
	Workstation		Hub
	Router		



- 1 Subnet A
- 2 Subnet B
- 3 Subnet C

During the IP and IPX Broadcast discoveries, HP Web Jetadmin sends a general SNMP request to all of the active devices on the local subnet or remote TCP/IP network. HP Web Jetadmin listens for responses from supported devices. If any

of the supported devices that respond are not listed in the device cache or if the information about them is not correct, HP Web Jetadmin updates the device cache with the device information.

By default, the broadcast occurs over the protocol that is installed (TCP/IP or IPX/SPX). Configure the IP and IPX Broadcast discoveries to occur on just one of the protocols or you can turn them off completely. However, only the Windows environment supports IPX/SPX.

Note The IP and IPX Broadcast discovery mechanisms are enabled by default.

The IP and IPX Broadcast discoveries are very fast, but they cause a high spike in network traffic because all of the devices respond at the same time. Because so many responses are sent at once, some responses could collide and never reach HP Web Jetadmin or the buffer could overflow. These collisions and buffer overflows can affect the accuracy of the information.

Note The IPX Broadcast discovery mechanism is only available in Windows if IPX/SPX is installed on the host machine where HP Web Jetadmin is running.

Recommendations for using the IP and IPX Broadcast discoveries








You *should* use the IP and IPX Broadcast discoveries in the following situations:

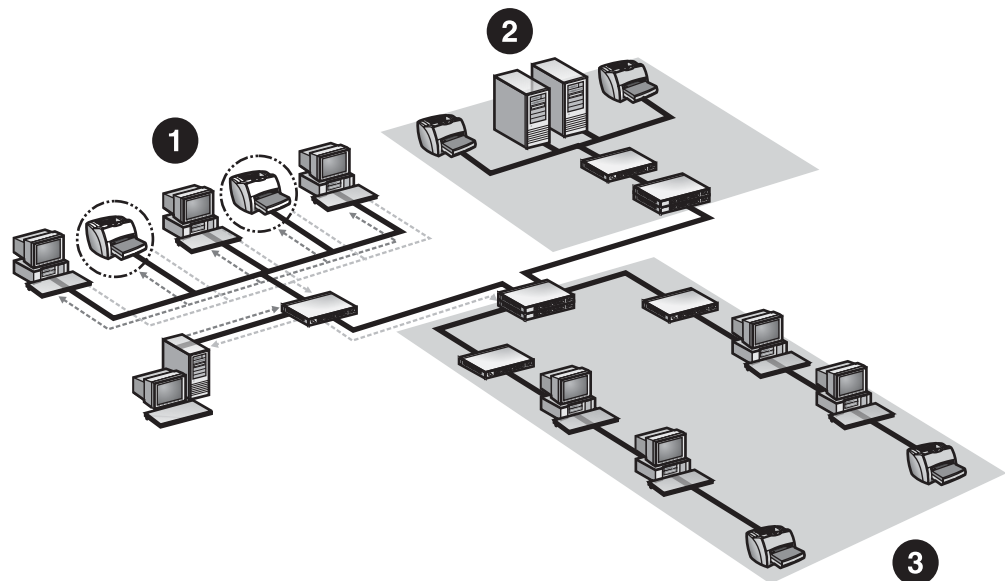
- You want a fast search.
- You need to search a fairly small network with relatively few devices.
- You plan to schedule discoveries to run when they will not have a negative impact on other network activity.
- You need to search a single subnet.
- You need to find unconfigured devices.

You *should not* use the IP and IPX Broadcast discoveries in the following situations:

- You need to search a large network with many devices in each broadcast domain, which increases the possibility of response collisions.
- You need a very accurate discovery. HP Web Jetadmin might miss some responses because of collisions.
- You are running a switched environment and the switches do not handle broadcasts well. Schedule the IP and IPX Broadcast discoveries to run at night or do not use them at all.

Local Broadcast — IPX Service Query discovery

Icon	Description	Icon	Description
	HP Web Jetadmin host machine		Printer
	Discovered devices		Server
	Workstation		Hub
	Router		



- 1 Subnet A
- 2 Subnet B
- 3 Subnet C

During an IPX Service Query discovery, HP Web Jetadmin sends a General Service Query (GSQ) request to all of the active devices on the local subnet or remote IPX/SPX network. HP Web Jetadmin listens for responses from supported devices. If any of the supported devices that respond are not listed in

the device cache or if the information about them is not correct, HP Web Jetadmin updates the device cache with the device information. Routers should also be able to respond with information about remote devices as long as SAP broadcasts are enabled.

Note The IPX Service Query discovery mechanism is enabled by default.

An IPX Service Query discovery is very fast, but it causes a high spike in network traffic because all of the devices respond at the same time. Because so many responses are sent at once, some responses could collide and never reach HP Web Jetadmin or the buffer could overflow. These collisions and buffer overflows can affect the accuracy of the information.

Note The IPX Service Query discovery mechanism is only available in Windows if IPX/SPX is installed on the host machine where HP Web Jetadmin is running.

Recommendations for using an IPX Service Query discovery








You *should* use an IPX Service Query discovery in the following situations:

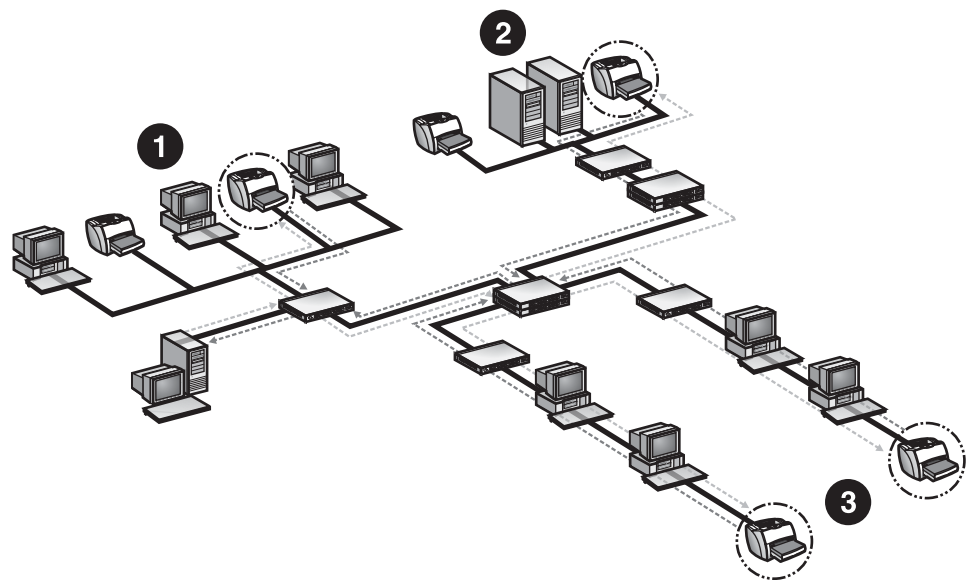
- You want a fast search.
- You need to search a fairly small network with relatively few devices.
- You plan to schedule discoveries to run when they will not have a negative impact on other network activity.
- You need to search a single subnet.
- You need to find unconfigured devices.

You *should not* use an IPX Service Query discovery in the following situations:

- You need to search a large network with many devices in each broadcast domain, which increases the possibility of response collisions.
- You need a very accurate discovery. HP Web Jetadmin might miss some responses because of collisions.
- You are running a switched environment and the switches do not handle broadcasts well. Schedule an IPX Service Query discovery to run at night or do not use it at all.

Multicast/SLP discovery

Icon	Description	Icon	Description
	HP Web Jetadmin host machine		Printer
	Discovered devices		Server
	Workstation		Hub
	Router		



- 1 Subnet A
- 2 Subnet B
- 3 Subnet C

During a Multicast/SLP discovery, HP Web Jetadmin sends a single SNMP request over an HP-specific multicast address. Only HP multicast-enabled devices respond to this request. When a device responds, HP Web Jetadmin sends another SNMP request to that device to gather more information and updates the device cache with the device information. Limit the discovery to the local subnet or configure it to cross up to 15 routers for remote subnets.

Note The Multicast/SLP discovery mechanism is not enabled by default.

A Multicast/SLP discovery is similar to the Local Broadcast discoveries except that it only looks for specific devices. This means that it does not generate as much network traffic and is less likely to miss device responses. However, a Multicast/SLP discovery can only find HP multicast-enabled devices.

Note HP Jetdirect firmware version x.06.00 or greater is required to support the Multicast/SLP discovery mechanism.

Recommendations for using a Multicast/SLP discovery





You *should* use a Multicast/SLP discovery in the following situations:




- You only need to discover devices that support multicast broadcasts.
- You need to search a fairly small network with relatively few supported devices.
- You plan to schedule discoveries to run when other network activity is low.
- You need to discover devices across multiple subnets.

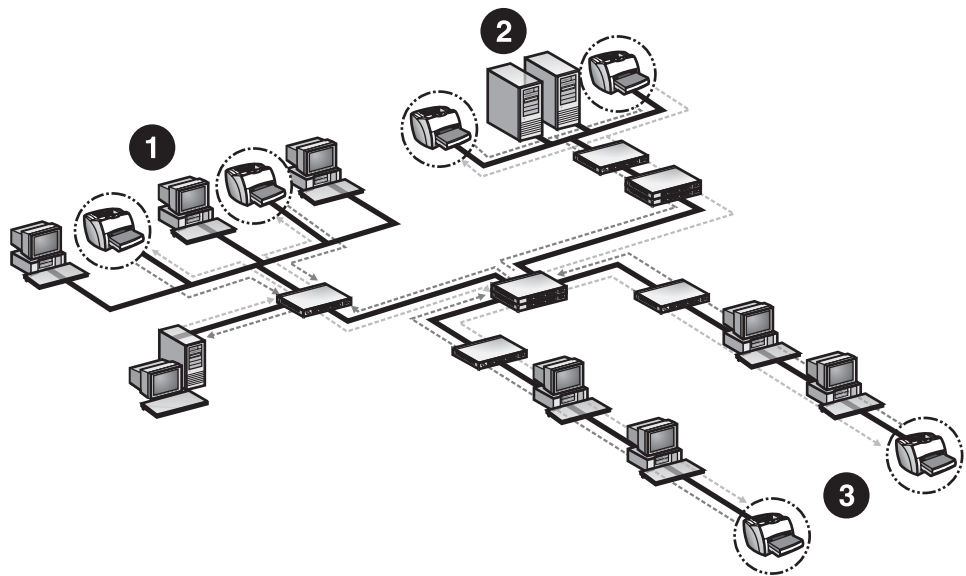
You *should not* use a Multicast/SLP discovery in the following situations:

- You need to search a large network with many supported devices, which increases the possibility of response collisions.
- You are running a switched environment and the switches do not handle broadcasts well. Schedule a Multicast/SLP discovery to run at night or do not use it at all.
- Your network includes many legacy devices that do not support multicast broadcasts.

ARP Table discovery

Icon	Description	Icon	Description
	HP Web Jetadmin host machine		Printer
	Discovered devices		Server

Icon	Description	Icon	Description
	Workstation		Hub
	Router		



- 1 Subnet A
- 2 Subnet B
- 3 Subnet C

The ARP Table discovery mechanism is unique to HP management tools. Each IP-capable device maintains an Address Resolution Protocol (ARP) Table that maps the IP address to the media access control (MAC) address for any device it communicates with on the network. An IP address must be resolved to a MAC address before communication to that IP address can occur.

During an ARP Table discovery, HP Web Jetadmin first sends an SNMP request to each device listed in the ARP Table maintained on the machine where it is running to gather information. HP Web Jetadmin then searches the ARP Tables on each of those devices and sends an SNMP request to each device listed in those ARP Tables. HP Web Jetadmin continues searching the ARP Tables maintained by all of the devices that it finds until it cannot discover any more devices.

Note

The ARP Table discovery mechanism is not enabled by default.

Configure an ARP Table discovery to search the entire network (unrestricted), the local subnet and one hop away, or just the local subnet. The discovery level determines how extensive the discovery is, which in turn determines how long

the discovery takes and how much network traffic the discovery creates. For example, in an environment such as Hewlett-Packard's, which has one of the largest private intranets in the world, the following statistics have been recorded:

- Searching only the local subnet takes approximately 10 minutes.
- Searching the local subnet plus one hop away takes approximately 20 minutes.

Note

These numbers are provided for the sake of comparison and do not constitute a performance guarantee.

An ARP Table discovery generates a low level of network traffic that is sustained for an extended period of time. An ARP Table discovery is more accurate than the Local Broadcast discoveries because the device responses are not sent at the same time.

To discover devices, the ARP Table discovery mechanism needs a list of known addresses. Normally, an ARP Table discovery uses an SNMP broadcast to determine an initial list of devices to discover, also known as a seed list. Avoid this broadcast by specifying your own seed list of addresses. Seed list addresses should have SNMP agents. Routers and gateways are excellent choices as seed list addresses because, typically, they have recently talked to and know about many devices on your network.



Recommendations for using an ARP Table discovery






You *should* use an ARP Table discovery in the following situations:

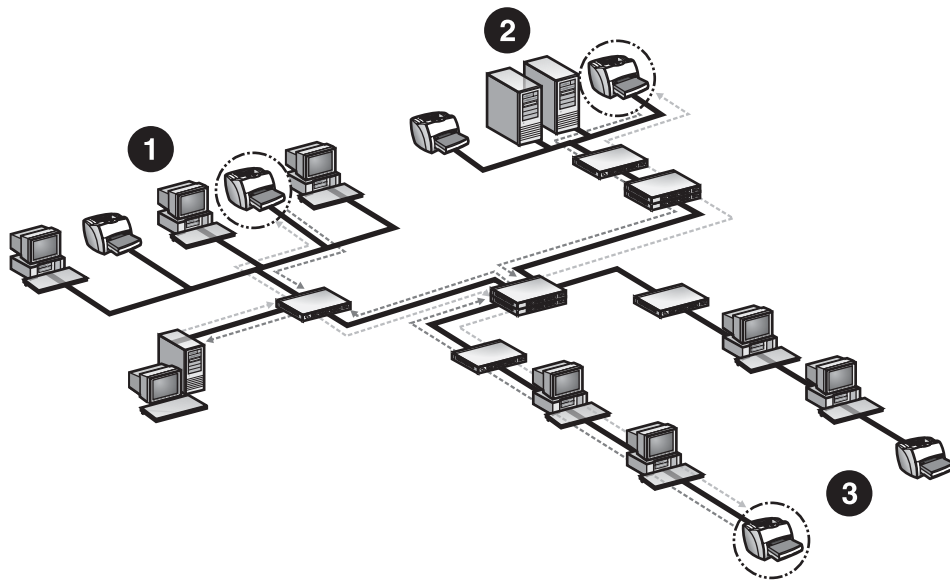
- You do not want to generate a high level of traffic on the network.
- You need an extremely accurate discovery.
- You want to limit the scope of the discovery on the network.
- You schedule the discovery for a time when you do not care how long it takes.

You *should not* use an ARP Table discovery when you want a fast discovery across a large network.

Specified Addresses discovery

Icon	Description	Icon	Description
	HP Web Jetadmin host machine		Printer

Icon	Description	Icon	Description
	Discovered devices		Server
	Workstation		Hub
	Router		



- 1 Subnet A
- 2 Subnet B
- 3 Subnet C

During a Specified Addresses discovery, HP Web Jetadmin searches for the devices defined in a host file. HP Web Jetadmin sends a directed SNMP request to each device in the host file. Upload a host file to HP Web Jetadmin or browse an existing host file.

Note

The Specified Addresses discovery mechanism is not enabled by default.

A Specified Addresses discovery generates very little network traffic because HP Web Jetadmin talks directly with each device that is listed in the HP Web Jetadmin host file, even if the device is on a remote subnet. However, you must have an existing host file or create one in any application that can save it as a text file. In addition, the results of a Specified Addresses discovery are only as accurate as the addresses in the host file. If you do not list a device in the host

file, HP Web Jetadmin cannot discover it. A Specified Addresses discovery can only search through a range of IP addresses if you include each IP address in the host file.

Creating the host file

When you create a host file, name the file anything that you want and put it in any directory that you want. When you upload the new host file, HP Web Jetadmin imports the data and saves a copy of the new host file in a file called `hosts.txt`. HP Web Jetadmin puts the new `hosts.txt` file in the HP Web Jetadmin installation directory in a subdirectory called `\doc`.

Each line in the host file represents one device and must be separated by a line break. An entry can be any combination of IP address, IP hostname, IPX address, or hardware address separated by spaces.

Add entries to the host file either manually using an editor or directly on the **Device Management > Management Settings > Discovery > Specified Addresses** page. To add a comment to a host file entry, type a pound (#) symbol, and then type the comment.

Recommendations for using a Specified Addresses discovery

You *should* use a Specified Addresses discovery in the following situations:

- A host file already exists.
- You know exactly how many devices are connected to the network.
- You want to create very little network traffic.
- You need to search for devices across remote subnets.

You *should not* use a Specified Addresses discovery in the following situations:

- A host file does not exist.
- You do not know how many devices are connected to the network.
- You need to search through a range of devices by listing only the first and last addresses.








Importing an HP Jetadmin discovery file

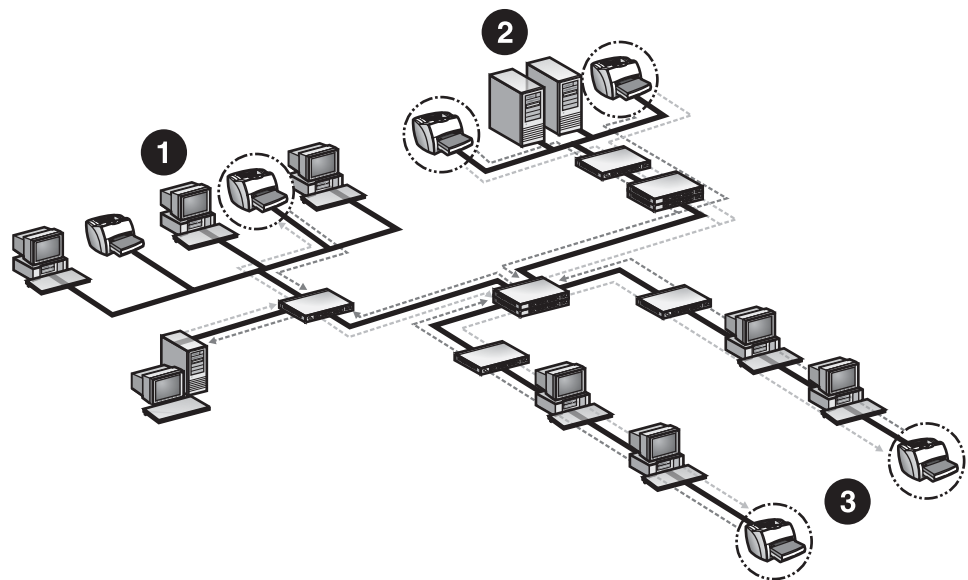
Import an HP Jetadmin discovery file (jetset.ini) to HP Web Jetadmin. This process converts the HP Jetadmin discovery file to HP Web Jetadmin format and appends it to the hosts.txt file that you are using for HP Web Jetadmin discoveries. This provides backward compatibility with the file-based discovery mechanism that HP Jetadmin uses.

Migrating from the HP Jetadmin database

The Generate Report feature in HP Jetadmin creates a complete device database. Once you create the database in HP Jetadmin, upload the database to HP Web Jetadmin. HP Web Jetadmin appends the HP Jetadmin database to the hosts.txt file. Use this process to easily migrate from HP Jetadmin to HP Web Jetadmin.

IP Range discovery

Icon	Description	Icon	Description
	HP Web Jetadmin host machine		Printer
	Discovered devices		Server
	Workstation		Hub
	Router		



- 1 Subnet A
- 2 Subnet B
- 3 Subnet C

An IP Range discovery, also known as a subnet ping, only searches for the devices within a range of IP addresses. IP hostnames are not valid. During an IP Range discovery, HP Web Jetadmin sends a burst of directed SNMP requests to each IP address within the range.

Note The IP Range discovery mechanism is not enabled by default.

An IP Range discovery is very accurate and thorough. HP Web Jetadmin can discover devices on local or remote subnets, and you can limit the scope of discovery on the network. However, because an IP Range discovery essentially checks each IP address to see if a device is there, it can be very slow on large networks. In addition, because an IP Range discovery can take so long, your network monitoring software might interpret the discovery process as someone trying to access your network.

Note

To use an IP Range discovery in a DHCP/WINS environment, Hewlett-Packard recommends that you use reservations on the HP Jetdirect print servers. This method assigns IP addresses with an infinite lease.

Recommendations for using an IP Range discovery






You *should* use an IP Range discovery in the following situations:

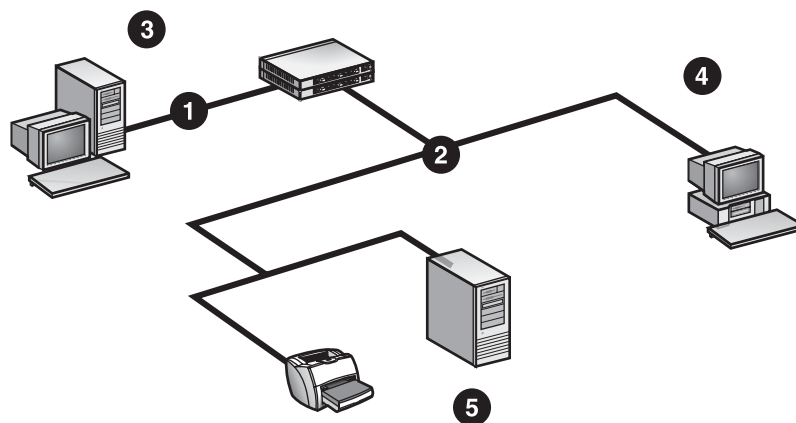
- You need a thorough discovery.
- You need to discover devices across local and remote subnets.
- You want to search through a range of IP addresses.
- You want to limit the scope of discovery on the network.

You *should not* use an IP Range discovery in the following situations:

- You need a fast discovery. An IP Range discovery must check every IP address individually, although some are checked at the same time.
- You are using security tools that monitor for unauthorized users.

Remote Discovery Agent (RDA) discovery

Icon	Description	Icon	Description
	HP Web Jetadmin host machine		Workstation
	Printer		Router
	Server		



- 1 Subnet A
- 2 Subnet B
- 3 PC or Linux workstation running HP Web Jetadmin host machine
- 4 PC with RDA proxy service installed
- 5 HP Jetdirect print server with unconfigured IP address (192.0.0.192)

The Remote Discovery Agent (RDA) discovery mechanism is a proxy service that HP Web Jetadmin uses to discover and configure HP Jetdirect print servers on remote TCP/IP networks. In preparation for an RDA discovery, HP Web Jetadmin pushes a small piece of software onto a host machine on a remote network. You can then configure the discovery mechanisms, configure the advanced options, and schedule discoveries on that remote host machine. HP Web Jetadmin retrieves the information from the RDA discovery on the remote network during its next discovery.

If you try to configure the IP address on an HP Jetdirect print server on that particular remote network, HP Web Jetadmin connects to the remote RDA server and tells it to do the actual IP configuration.

HP Web Jetadmin cannot configure any unconfigured HP Jetdirect print servers that are on remote TCP/IP networks. If the RDA discovery is on the same subnet as the unconfigured HP Jetdirect print servers, HP Web Jetadmin can configure the HP Jetdirect print servers through commands sent to the RDA proxy service.

Note

The RDA discovery mechanism is not enabled by default.

Use the RDA discovery mechanism to manage network traffic while capturing more complete information about the devices on your network. Since an RDA discovery runs on each subnet instead of from the host machine where you installed HP Web Jetadmin, the discovery traffic on a particular subnet does not compete with the discovery traffic on the other subnets. This means that the discovery on each subnet is more likely to capture device responses without experiencing the collisions and buffer overflows that often occur. The information that HP Web Jetadmin collects from each subnet is more complete.

Recommendations for using an RDA discovery








You *should* use an RDA discovery if the HP Jetdirect print server is across an IP subnet router from HP Web Jetadmin and the IP address has not been configured yet (that is, the IP address is 192.0.0.192).

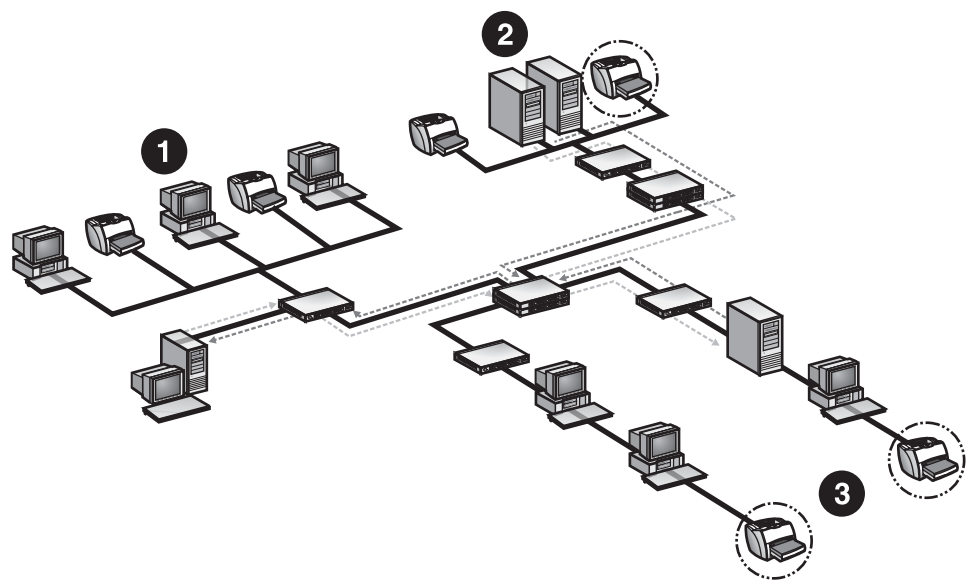
You *should not* use an RDA discovery if the subnet is class B or larger (more than 65,000 nodes per subnet).

Note

Although an RDA discovery will work if you are routing IPX packets, it is not necessary.

NetWare Bindery discovery

Icon	Description	Icon	Description
	HP Web Jetadmin host machine		Printer
	Discovered devices		Server
	Workstation		Hub
	Router		



- 1 Subnet A
- 2 Subnet B
- 3 Subnet C

By default, HP Jetdirect print servers send out a Service Advertising Protocol (SAP) broadcast every 60 seconds, making their presence known to the servers in an IPX/SPX network environment. Novell NetWare servers receive these broadcasts and store information about the devices that sent them in a dynamic database called a Bindery. A Bindery exists on all versions of Novell NetWare, including Novell NetWare 4.x and 5.x.

During a NetWare Bindery discovery, HP Web Jetadmin sends a query to NetWare servers looking for entries in their binderies that contain information about the HP Jetdirect devices that have sent SAP broadcasts to the servers. HP Web Jetadmin adds or updates the device cache with the device information.

Note The NetWare Bindery discovery mechanism is not enabled by default.

A NetWare Bindery discovery is particularly useful in network environments where routers are configured to filter the SAP broadcasts that come from HP Jetdirect print servers. By default, a NetWare Bindery discovery queries all NetWare servers. If there are many servers or servers at remote locations, such an extensive search might take a long time and it might result in redundant information. It might be more efficient to only query specific servers.

Note The NetWare Bindery discovery mechanism is only available if the IPX/SPX (NWLink) protocol and Novell NetWare Client are installed. This means that HP Web Jetadmin must be installed on Windows.




Recommendations for using a NetWare Bindery discovery

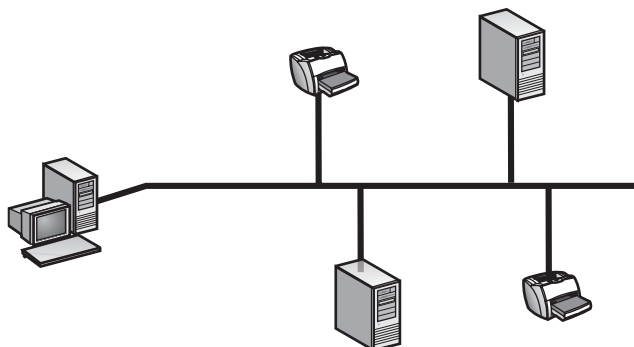
You *should* use a NetWare Bindery discovery in the following situations:

- You need to discover new devices on a network where routers are configured to filter SAP broadcasts.
- You need to discover devices in a Novell NetWare environment where IP addresses are not assigned to HP Jetdirect print servers.

You *should not* use a NetWare Bindery discovery if you need to discover devices in an environment where SAP broadcasts are disabled on HP Jetdirect print servers.

NetWare File Server Login discovery

Icon	Description
	HP Web Jetadmin host machine (running on Windows NT with Novell NetWare Client installed)
	Printer
	Server



A NetWare File Server Login discovery searches for HP Jetdirect print servers that are configured to service a queue on any file server that HP Web Jetadmin is logged onto. This discovery mechanism can find HP Jetdirect print servers that have SAP broadcasts disabled.

File servers require login credentials so that HP Web Jetadmin can log into them to perform the login scan for the HP Jetdirect print servers. If you specify login credentials for multiple file servers, HP Web Jetadmin scans the connection table on each of the file servers and adds the HP Jetdirect print servers to the cache of discovered devices.

Note

The NetWare File Server Login discovery mechanism is not enabled by default.

A NetWare File Server Login discovery is fast and it generates a low level of network traffic. However, HP Web Jetadmin cannot find unconfigured HP Jetdirect print servers or devices that are configured for Remote Printer mode.

Recommendations for using a NetWare File Server Login discovery



You *should* use a NetWare File Server Login discovery in the following situations:

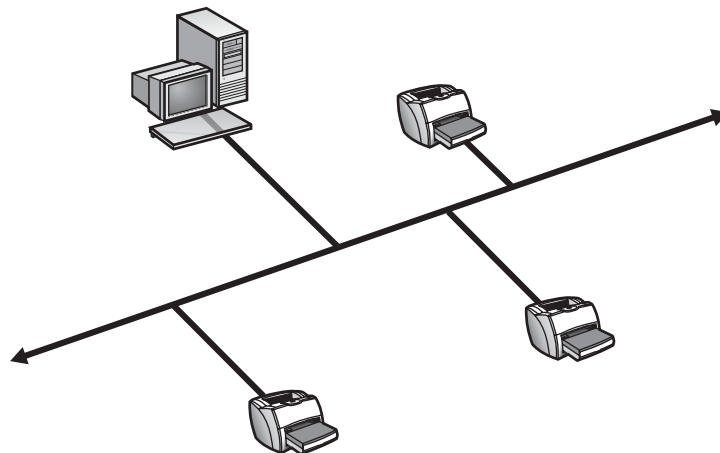
- You have already configured the HP Jetdirect print servers for Novell NetWare and the print servers are operating in QServer mode.
- You have disabled IPX broadcast SAPs on the HP Jetdirect print servers.

You *should not* use a NetWare File Server Login discovery in the following situations:

- You have configured the HP Jetdirect print servers for Remote Printer mode.
- You are trying to discover HP Jetdirect print servers that you have just installed or trying to discover HP Jetdirect print servers that have never been configured for Novell NetWare.

Listen for New Devices discoveries

Icon	Description	Icon	Description
	HP Web Jetadmin host machine		Printer



The Listen for New Devices discovery mechanisms are passive forms of discovery that constantly monitor the network for new devices. Specifically, HP Web Jetadmin listens for the following signals:

- BOOTP requests, which are generated when devices are connected to the network and need to be configured.
- Service Advertising Protocol (SAP) broadcasts, which notify the network that devices are available for access. HP Web Jetadmin only hears SAP broadcasts when it is running on a Windows machine that has the Microsoft IPX/SPX protocol stack installed.
- Service Location Protocol (SLP) broadcasts, which are unsolicited service advertisements by HP Jetdirect print servers that TCP/IP-based multicast packets send.

When HP Web Jetadmin detects one of these signals from a device, it takes exclusive use of the port that the service uses, sends an SNMP request to that device to gather more information, and adds that device to the device cache.

Note

The Listen for New Devices discovery mechanisms are enabled by default.

The Listen for New Devices discoveries are the least intrusive form of discovery because they take advantage of normally occurring network traffic. They are meant to complement the more robust discovery mechanisms. However, the results are not as reliable as other discovery mechanisms. If HP Web Jetadmin is running when the new devices are turned on for the first time, it can discover most unconfigured devices. HP Web Jetadmin cannot discover devices that are configured with static IP addresses or have SAP broadcasts disabled. If your network environment is relatively static, you can disable all of the discovery mechanisms except Listen for New Devices after you run the initial discovery.

Note

The Listen for New Devices discovery mechanisms will not work if HP Web Jetadmin is running on a machine that is also a BOOTP server. The **Listen for New Devices - SAP** option is only available on the **Device Management > Management Settings > Discovery > Properties** page if IPX/SPX is set up on the host machine where HP Web Jetadmin is running.

Recommendations for using the Listen for New Devices discoveries

You *should* use the Listen for New Devices discoveries in the following situations:

- You want to keep the device cache updated with new devices as they are connected to the network.
- You want a nonintrusive discovery that does not generate any network traffic.
- You want to take advantage of traffic that is already on the network for device searches.

You *should not* use the Listen for New Devices discoveries in the following situations:

- You are not running HP Web Jetadmin all of the time.
- You need to find new devices that do not send out BOOTP requests, SAP broadcasts, or SLP broadcasts.
- You are running HP Web Jetadmin on a machine that is also a BOOTP server.

Other Installations of HP Web Jetadmin discovery

During an Other Installation of HP Web Jetadmin discovery, HP Web Jetadmin performs one or both of the following discovery methods:

Note

Both discovery methods can run simultaneously.

- Sends a general SNMP request to all active workstations and servers on a local or remote network.
- Searches a range of IP addresses on the local or remote network.

HP Web Jetadmin listens for responses from workstations and servers on the network. After the discovery is finished, a results page appears listing the IP host name, the IP address, the HP Web Jetadmin version, and the operating system of all HP Web Jetadmin host machines. The network administrator can verify that all HP Web Jetadmin host machines on the network are necessary and secure.

Sending a general SNMP request across the network is very fast, but causes a high spike in network traffic because all workstations and servers respond at the same time. Because so many responses are sent at once, some responses could collide and never reach HP Web Jetadmin or the buffer could overflow. These collisions and buffer overflows can affect the accuracy of the information.

Searching a range of IP addresses is very accurate and thorough. HP Web Jetadmin can discover workstations and servers on local or remote subnets, and you can limit the scope of discovery on the network. However, because an IP Range discovery essentially checks each IP address to see if the workstation or server is an HP Web Jetadmin host machine, it can be very slow on large networks. In addition, because an IP Range discovery takes longer, your network monitoring software might interpret the discovery process as an unauthorized user trying to access your network.

Note

The Other installations of HP Web Jetadmin discovery mechanism is not enabled by default.

Recommendations for using the Other Installations of HP Web Jetadmin SNMP IP Broadcast discovery

You *should* use the SNMP IP Broadcast discoveries in the following situations:

- You want a fast search.
- You need to search a fairly small network with relatively few workstations and servers.
- You plan to schedule discoveries to run when they will not have a negative impact on other network activity.
- You need to search a single subnet.

You *should not* use the SNMP IP Broadcast discoveries in the following situations:

- You need to search a large network with many workstations and servers in each broadcast domain, which increases the possibility of response collisions.
- You need a very accurate discovery. HP Web Jetadmin might miss some responses because of collisions.
- You are running a switched environment and the switches do not handle broadcasts well. Schedule the SNMP IP Broadcast discoveries to run at night or do not use them at all.

Recommendations for using the Other Installations of HP Web Jetadmin IP Range discovery

You *should* use an IP Range discovery in the following situations:

- You need a thorough discovery.
- You need to discover workstations and servers across local and remote subnets.
- You want to search through a range of IP addresses.
- You want to limit the scope of discovery on the network.

You *should not* use an IP Range discovery in the following situations:

- You need a fast discovery. An IP Range discovery must check every IP address individually, although some are checked at the same time.
- You are using security tools that monitor for unauthorized users.

15 Managing discoveries

This chapter covers the following topics:

[Advanced discovery options](#)

[Starting a background discovery](#)

[Scheduling discoveries](#)

Advanced discovery options

There are several additional options that affect many of the discovery mechanisms: the network communications timeout value, the SNMP Community Names, and the proactive cache level. All of these options are available on the **Device Management > Management Settings > Discovery > Advanced** page.

Network communication timeout

All HP Web Jetadmin discovery mechanisms send a query to each discovered device. HP Web Jetadmin normally waits 1 second for a reply from a discovered device. If your network is very large, you might need to increase the timeout value so that HP Web Jetadmin can accurately and consistently find all devices. The recommended range for the timeout value is from 1 to 10 seconds.

Community Names

Many of the HP Web Jetadmin discovery mechanisms use SNMP. SNMP agents have a Community Name associated with them. If you have devices that do not use public as the Community Name or if you have changed the default Community Names, you might need to change the Community Names in HP Web Jetadmin to match.

The most common reason for changing the Community Names is if you have new HP Jetdirect print servers that support a modifiable Set Community Name. If you use a software application other than HP Web Jetadmin to change the Community Names and you want HP Web Jetadmin to automatically discover the changes, you must change the Community Names in HP Web Jetadmin.

Note

The Community Name settings are not typically used.

Proactive cache level

HP Web Jetadmin stores the information from device queries on the host machine where you installed HP Web Jetadmin. This means that when you view a device, HP Web Jetadmin can retrieve the information from the host machine instead of sending a query to the device. The more information that HP Web Jetadmin gathers during queries, the less time it takes HP Web Jetadmin to display device information.

Use the **Proactive Cache Level** option to control how much information HP Web Jetadmin gathers when you view a device. The following are the levels of information that HP Web Jetadmin gathers during a device query:

- **None** – When you view a device, HP Web Jetadmin always queries the device for information.
- **All** – When you click the refresh icon on the **Device Status** page, HP Web Jetadmin queries the device for all of the information that HP Web Jetadmin is capable of displaying.
- **Low, Medium, or High** – When you view a device, HP Web Jetadmin queries the device for various levels of information. For example, if you select the **Low** option, HP Web Jetadmin only queries a minimal set of information on the host machine. If you select the **High** option, HP Web Jetadmin queries advanced information, such as consumables status, on the host machine.

Starting a background discovery

Start a discovery to run in the background whenever you want to refresh the cache of devices on the network. Before you run a discovery, you must specify which discovery mechanisms you want to use on the **Device Management > Management Settings > Discovery > Properties** page. Once you specify the discovery mechanisms, start the discovery from the **Properties** page.

Note If a discovery is in progress, **Start** on the **Properties** page changes to **Stop**.

Scheduling discoveries

After you enable and configure the discovery mechanisms that you want to run, you can schedule discoveries to run automatically. Schedule discoveries to run as frequently as once a day or as seldom as once a year. Schedule discoveries to run at times, such as at night, when discovery traffic is least likely to have a negative impact on network performance and device cache accuracy. You do not need to be on site when scheduled discoveries run.

Note Hewlett-Packard recommends that you run discoveries during off hours if possible. However, you must schedule discoveries to run when the devices are turned on. HP Web Jetadmin will discover devices that are in Power Save mode.

Before you schedule a discovery, you must specify which discovery mechanisms you want to use on the **Device Management > Management Settings > Discovery > Properties** page. Once you specify the discovery mechanisms, specify the schedule on the **Device Management > Management Settings > Discovery > Schedule** page.

Section 6

Print queues

This section contains the following chapters:

[Chapter 16, Managing print queues](#)

[Chapter 17, Managing Novell print queues](#)

16 Managing print queues

This chapter covers the following topics:

[Overview](#)

[Planning the printing environment](#)

[Creating print queues](#)

[Deleting print queues](#)

[Installing the software](#)

[Removing the software](#)

Overview

The primary goal of printer management is to provide simple printing services to users in an efficient manner. Print queues are the most important building block you can use when constructing the printing environment.

A print queue is a central resource on a host machine that holds print jobs until a printer is available. Typically, multiple clients send print jobs to a central print queue. Software running on the host machine where the print queue resides monitors the printer. When a printer becomes available, the software sends the next print job in the print queue to the printer. On a Windows host machine, this software is the HP Standard TCP/IP Port Monitor. On a Linux host machine, this software is the line printer daemon (lpd).

With HP Web Jetadmin, you can create print queues remotely from any location where you can access your intranet. Users do not have to create print queues themselves. HP Web Jetadmin is the only Web-based management tool that provides a print queue creation feature.

Note

Although HP Web Jetadmin supports any third-party printer that is Standard Printer MIB-compliant and is not connected through an HP Jetdirect print server, you must use the third-party vendor tools to create print queues. See the vendor documentation for instructions and requirements.

The print queue creation feature also helps you accomplish the following tasks:

- create print queues on specific host machines
- assign printers to service the print queues
- install software on the host machine for managing the print queues and print jobs
- create a port that associates the logical port name with the network printer
- configure a printer IP address, if one is not already assigned
- install printer drivers on the host machine, if necessary

Note

In many respects, creating print queues in the Windows and UNIX/Linux operating systems are similar. The differences are identified throughout the discussion of print queues.

Note



If you are creating print queues in a small network environment, you can use a smaller, less expensive machine as the host machine. As your network grows, you can upgrade to a larger, server class host machine to gain more power.

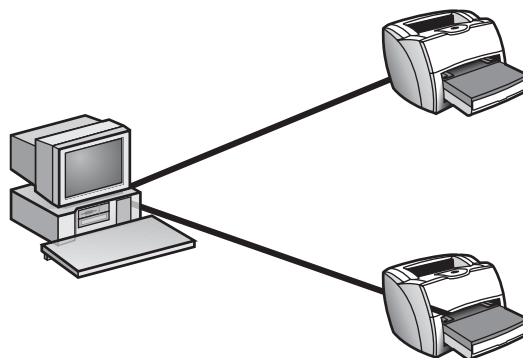
Planning the printing environment

When implementing print queues, it is very important to do some initial planning so that, as your network grows, the print queues can easily accommodate the new printers. If you set up print queues in a structured manner, the host machine manages which printer a print job goes to. If not, end users might have to try different printers to find an available one.

The following sections describe different options for setting up the printing environment.

Direct printing

Icon	Description	Icon	Description
	Workstation		Printer



The simplest printing environment to set up is direct printing. Direct printing occurs when a client machine is connected directly to the printer. To set up direct printing for a network printer, you must create a new TCP/IP port on the client machine. See the documentation for the operating system that is running on the client machine for more information. You can have any number of client machines connected to a single printer.

In a small environment, direct printing can be an effective solution. However, it has the following disadvantages:

- You must install the software for creating print jobs (printer drivers, print filters, or model scripts) on each client machine. When new software becomes available, you must go to each client machine and install the new software. If you have many client machines printing to the printer, updating the software on each client machine could be time consuming.
- It is more difficult to manage the volume of print jobs on the printer. When a printer can no longer handle the volume and you add a new printer to the network, you must go to some of the client machines and manually redirect each of those machines to the new printer.

Shared printing

Overcome the disadvantages of a direct printing environment by centralizing print services in a shared printing environment. Shared printing occurs when many clients send print jobs to a central print queue.

A shared printing environment provides the following advantages:



- You can install the software for creating print jobs (print drivers, print filters, or model scripts) on the host machine where the print queue resides. When new software becomes available, you only have to install the new software on the host machine.
- It is easier to manage the volume of print jobs on the printers because the printing services are centralized. When you add a new printer to the network, you only have to redirect a print queue to the new printer; you do not have to manually redirect each client machine.


You can set up a shared printing environment in several ways. The following sections describe a few of these shared printing environments and show how planning for print queues can accommodate network growth.

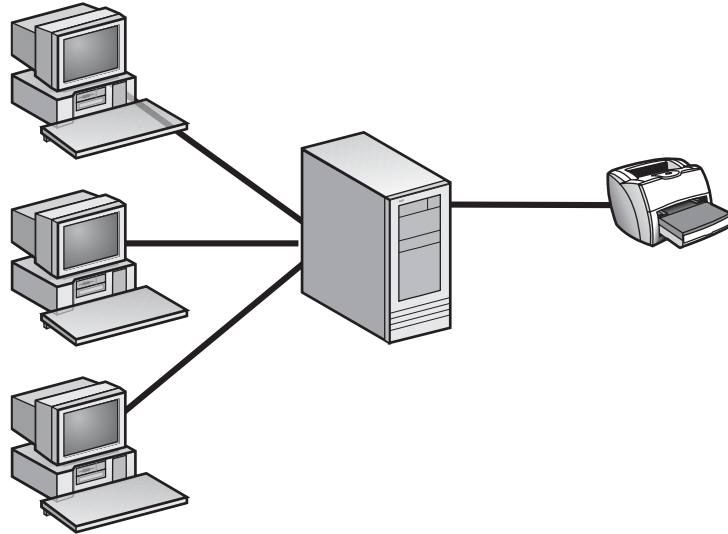
Note

If you are creating print queues in a small network environment, use a smaller, less expensive machine as the host machine. As the network grows, you can upgrade to a larger, server class host machine to gain more power.

Single print queue




Icon	Description	Icon	Description
	Host machine with Queue 1		Printer

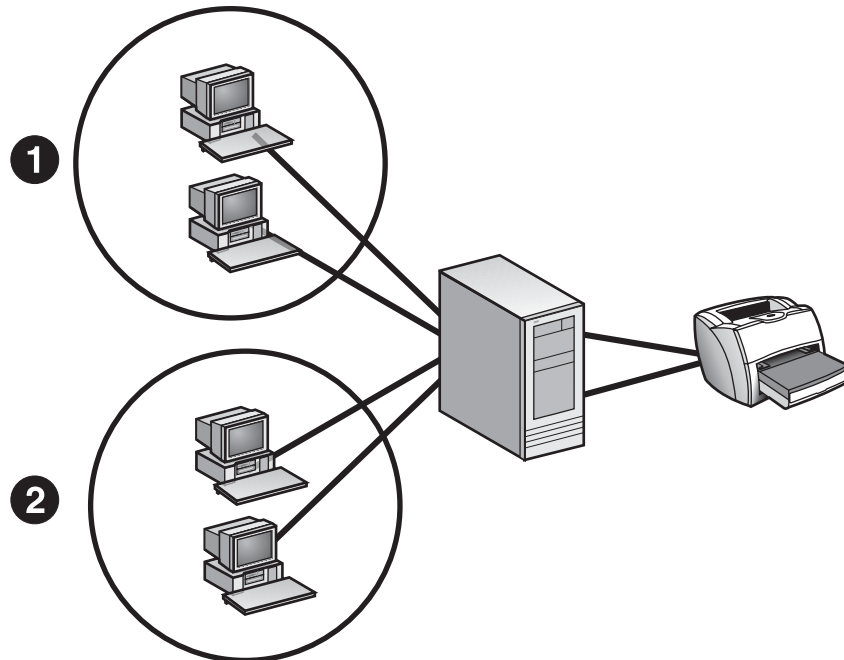
Icon	Description	Icon	Description
	Workstation		



One option is to create a single print queue and direct all clients on the network to this print queue. In this shared printing environment, there are multiple clients, one print queue on a host machine, and one printer. The clients send all of their print jobs to the same print queue. The print queue stores the print jobs and sends them to the printer as it becomes available.

Multiple print queues

Icon	Description	Icon	Description
	Host machine with Queue 1 and Queue 2		Workstation
	Printer		



- 1 Group 1 of workstations
- 2 Group 2 of workstations

A more flexible approach is to create one print queue for each group of clients. For example, you could group your clients by department. You can initially configure each print queue to send its print jobs to the same printer.

As the network continues to grow and you add more clients, you might need to add additional printers to accommodate the increase in print jobs. Since you had previously grouped clients and created a separate print queue on the host machine for each group, adding new printers is relatively easy. All you need to do is redirect a print queue to the new printer; you do not have to make any changes on the client machines.

Creating print queues

Once you have planned the printing environment, use HP Web Jetadmin to create print queues.

HP Web Jetadmin works very well in mixed environments. If you are running HP Web Jetadmin on a supported Linux machine, you can create a print queue on any of the other supported UNIX/Linux platforms. If you are running HP Web Jetadmin on a Windows machine, you can create a print queue on any other supported Windows machine, as well as NetWare environments. This chapter discusses print queue creation for Windows and UNIX/Linux. See [Chapter 17, Managing Novell print queues](#) for more information about creating print queues in NetWare environments.

A print queue consists of the following items:

- A printer to service the print queue and a computer to host the print queue.
- Software to manage the print queue. Each operating system where you create print queues requires different software. During the process of creating print queues, HP Web Jetadmin automatically installs the appropriate software for the operating system on the host machine if it is not already installed.
- Software that users need to create print jobs. Windows clients use printer drivers to create print jobs. Linux clients use print filters.
- A name for the print queue. Windows also requires a share name and a port name. For print queues on Linux host machines, you can also specify a class name and designate a print queue as the default.

The following sections describe each of these items in detail.

Selecting the printers and host machines

The first step in creating print queues is specifying which printers are used with the new print queues and which host machines the print queues reside on. You can only work with one printer model at a time, but you can select any number of printers within that printer model. Create print queues for the same printers on Windows, Linux, and any other device capable of hosting print queues, such as a print server appliance.

Installing the software for managing the print queues

At this point in the process, HP Web Jetadmin checks each host machine to make sure that the appropriate software is installed for that operating system. If the appropriate software is not installed, HP Web Jetadmin automatically installs it. If you are creating print queues for the first time on many different host

machines, this process might take quite awhile to complete. To streamline this process, install the appropriate software on the host machines before you start creating the print queues. [Installing the software](#) for more information.

Specifying the software for creating print jobs

The second step in creating print queues is specifying the operating system-specific software that the users need to create print jobs.

Windows printer drivers

For Windows systems, you must specify the printer driver that the host machine uses to communicate with the printer.

By default, the shared printer is available to all Windows users after you create the print queue. The HP Web Jetadmin Point and Print feature automatically downloads the printer driver to any Windows client machine that accesses the shared printer. However, not all printer drivers support Point and Print. For some printer drivers, a newer version supports Point and Print. For example, version 1.0 of the printer driver for the HP 2000C does not support Point and Print, but version 2.0 does.

Linux print filters

For Linux systems, HP Web Jetadmin makes entries in the `/etc/printcap` file and adds the correct directories to the Linux print system. HP Web Jetadmin for Linux uses the Red Hat print filters. Most default Red Hat installations already contain the print filters. If your installation does not, install them using the `rhs-printfilters` RPM. For SuSE Linux systems, HP Web Jetadmin installs these print filters automatically.

Specifying the print queue names, share names, and port names

The third step in creating print queues is to specify the names used to identify the print queues. For Windows host machines, you must specify a share name, queue name, and port name. For Linux host machines, you must specify a queue name.

Note

For Linux host machines, you can also assign print queues to a class and assign a name to that class. Users send their print jobs to a class, and the host machine directs the print jobs to one of the print queues in that class. You can also designate the print queue as the default.

HP Web Jetadmin initially provides default values for these names. Accept the defaults or assign your own names. If you assign your own names, consider developing a standard for each type of name that will continue to work well as the network grows. The following are some examples of things to consider:

- If you use the IP address as the port name, remember that the IP address might change in a DHCP environment.
- If you assign share names that are longer than 8 characters, some MS-DOS workstations might not be able to access those print queues.

Verifying the print queues

The last step in creating print queues is to make sure that the print queues are set up correctly.

The **Results** page that HP Web Jetadmin displays at the end of the process contains a **Print Test Page** button. When you click **Print Test Page**, HP Web Jetadmin sends a test page to that printer. If the test page prints, you know that the print queue is set up correctly.

Deleting print queues

Use the **Print Queue Management > Print Queues > Delete Queue** page to remove a print queue from a host machine. Clients can no longer send print jobs to that print queue. You must redirect all of the clients that are currently using that print queue to another print queue.

Installing the software

To support print queue creation, HP Web Jetadmin must remotely install software on the host machines where the print queues reside. HP Web Jetadmin does this automatically during the print queue creation process. If you are creating print queues for the first time on many different host machines, this process might take quite awhile to complete. To streamline the process, use the **Print Queue Management > Print Server Software Management > Install Software** page to install the software before you start creating print queues.

Note

To install the software on a Windows host machine, you must have Admin rights. To install the software on a Linux host machine, you must have root access.

HP Web Jetadmin always contains the print queue creation software for the operating system you installed it on. For example, if you install HP Web Jetadmin on a Windows machine, the software required to create print queues on Windows is automatically installed. If you want to create print queues on other platforms, you must install additional software. Use the HP Web Jetadmin

Intelligent Update feature to download this additional software from the HP Web site and install it. You can also use the Intelligent Update feature to download and install newer versions of the print queue creation software. See [Intelligent Update](#) for more information.

Removing the software

Use the **Print Queue Management > Print Server Software Management > Remove Software** page to remove the print queue creation software from the host machines where you have installed it.

If you remove the software from a Windows or Linux host machine, the print queues on that host machine continue to work.

17 Managing Novell print queues

This chapter covers the following topics:

[Overview](#)

[Bindery and NetWare Directory Services connections](#)

[Requirements for Novell configuration](#)

[NDS context](#)

[NDS tree name and print server name](#)

[NetWare print server and printer objects](#)

Overview

If you plan to use HP Web Jetadmin in a Novell NetWare environment to configure Bindery or NDS print queues, make sure that you install Novell NetWare Client. Microsoft NetWare client is not compatible. You will get an error message if you use HP Web Jetadmin to configure NetWare printing when Novell NetWare Client is not installed. See the readme file for a list of the versions of Novell NetWare Client that HP Web Jetadmin supports.

Bindery and NetWare Directory Services connections

You can configure two types of connections for Novell NetWare queue-based print services: Bindery and NetWare Directory Services (NDS) connections. You can configure both Bindery and NDS connections in a NetWare 4.x or 5.x environment.

NDS eliminates the redundant administration that Bindery connections require. In a NetWare 4.x or 5.x environment, users and resources are stored in a database that is shared and distributed among all of the file servers defined in the same NDS tree. This means that a single network login is required to access resources. You can configure resource access and security once and apply it to all of the file servers that belong to the same tree.

While HP Jetdirect print servers can support up to 16 connections at the same time, they only provide print services in one NDS tree at a time. However, they can maintain Bindery connections to other file servers that are in other NDS trees. HP Jetdirect print servers can service a total of 64 queues on up to 16 file servers.

The naming convention for NDS is much broader than for Bindery services. NDS names can be up to 64 characters in length and can contain special characters. Bindery object names can be up to 47 characters in length and cannot contain special characters.

The configuration processes for Bindery and NDS connections are very similar. If you are familiar with using HP Web Jetadmin to configure NDS print services, configuring Bindery print services is very straightforward.

Requirements for Novell configuration

Use HP Web Jetadmin to configure HP Jetdirect print servers to provide support for Novell print services. You must have a Windows server or workstation to run HP Web Jetadmin in this environment. This assumes that you are running HP Web Jetadmin on a Windows machine that has the IPX/SPX protocol and the

latest Novell NetWare Client software installed. HP Web Jetadmin creates the necessary NetWare print objects during the NDS configuration of the HP Jetdirect print server.

Note

Using Microsoft Client Service for NetWare, Gateway, and Client Services instead of Novell NetWare Client will not work. Novell NetWare Client is required to create a print queue, but it is not required if you are only using HP Web Jetadmin to manage HP Jetdirect print servers that you used HP Jetadmin or NDPS to configure.

The following information is required for both the Bindery and NDS configurations:

- NDS tree name
- NetWare user name and password
- NetWare user context
- Authentication file server
- Print server name
- Print server context
- Print queue name (existing print queue or new)
- File server volume where the print queue is placed

Not all of this information is required for each configuration. For example, the authentication file server is optional for an NDS configuration, but it is required for a Bindery configuration. The NDS tree name, NetWare user context, and print server context are optional for a Bindery configuration, but they are required for an NDS configuration. You can supply this optional information when you configure the Bindery print services on a NetWare 4.x or 5.x server.

Note

It is very important that you specify the correct information. If the Novell environment has multiple trees and you select the NDS tree from the drop-down list, make sure that you select the correct tree.

The NetWare user must have an account with the proper NetWare NDS rights to create the NetWare print objects in the NetWare 4.x or 5.x environment. You must also know the context of this user account for an NDS configuration.

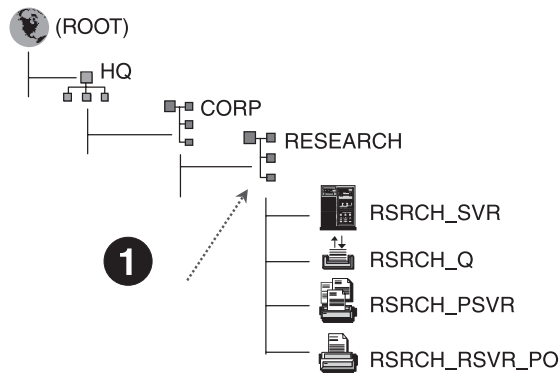
Assign the print server name during the NDS configuration. Use any name that complies with NetWare naming standards. Make sure that the name you assign is unique for the specified context because two NDS objects cannot have the same name in the same context. This is true even if they are different types of objects.

Select the context for the print server during the NDS configuration. This is where you create the print server and printer objects. The NetWare account that you specify at the beginning of the NDS configuration must have NDS create rights for the print server context.

Use an existing print queue or you can create a new print queue during an NDS configuration. If you use HP Web Jetadmin to create a new print queue, you can specify the context where the print queue is created.

You must also specify the file server volume name that is used as the queue volume. The default volume is SYS, but it can be any NetWare volume. Print jobs are spooled on this volume.

NDS context

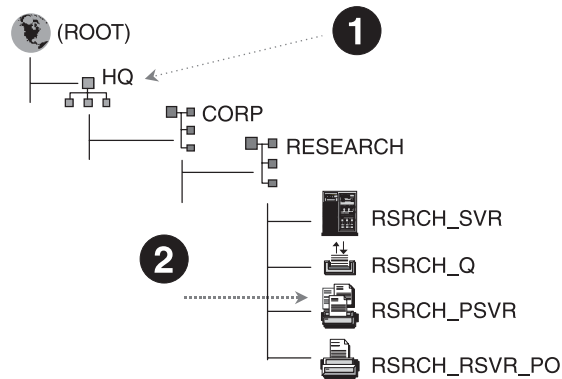


1 Print server context is .Research.Corp.Hq (or .OU=Research.OU=Corp.O=Hq)

The NetWare print server object context is the place in the NDS tree where the print server object is located. The container where the print server object resides is listed first, followed by each container leading to the root of the tree. The container names are separated by a period. For example, Research.Corp.Hq means that the print server objects are in a container called Research, which is under a container called Corp, which is under a container called Hq. List this context in any of the following ways:

- Research.Corp.Hq
- .Research.Corp.Hq
- .OU=Research.OU=Corp.O=Hq

NDS tree name and print server name



- 1 Tree name is HQ
- 2 Print server name is RSRCH_PSVR

In a NetWare NDS configuration, select the correct NDS tree name from a drop-down list. Because NDS advertises the tree names with SAP broadcasts, HP Web Jetadmin can discover the tree name. You can also select the context.

NetWare print server and printer objects

The NDS context is the location where you create the objects. The print server object name is the same as the name specified in HP Web Jetadmin. The printer object name is the print server name, an underscore, and the letters PO if another utility has not already assigned a printer object to the print server object. This allows for printer object names other than the HP default of <printservername>_PO. Use HP Web Jetadmin to create the print queue object or you can use an existing print queue. You can also use HP Web Jetadmin to delete print queue objects when you no longer need them.

Because a Bindery is a flat-file database, the concept of context does not exist. In addition, only the print server object is created during a Bindery configuration because the print queue is a property of the print server in the Bindery. Use HP Web Jetadmin to create the print queue object or you can use an existing print queue. You can also use HP Web Jetadmin to delete print queue objects.

Section 7

Security overview

This section contains the following chapters:

[Chapter 18, Network security](#)

[Chapter 19, Profile security](#)

[Chapter 20, Device security](#)

18 Network security

This chapter covers the following topics:

[Overview](#)

[HTTP port](#)

[Allow list](#)

[SSL/TLS](#)

Overview

The HP Web Jetadmin server must be kept physically secure and be password-protected. Also, use a firewall as the first form of security to prevent unauthorized Internet users from browsing to any Web server within your intranet, including HP Web Jetadmin. The following sections describe the additional features that HP Web Jetadmin provides for securing the network.

HTTP port

By default, HP Web Jetadmin communicates on HTTP port 8000. This prevents HP Web Jetadmin from conflicting with another Web service on the host machine that uses HTTP port 80, which is the default Web port. To communicate with HP Web Jetadmin, a Web browser must request HTTP port 8000.

Note

Do not use the HTTP scheme with the HTTPS port number. For example, in the Web browser address bar, if you type `http://server name:HTTPS port number`, the page will not load.

To prevent unauthorized users within your intranet from browsing to HP Web Jetadmin, change the HTTP port on the **General Settings > HTTP (Web)** page. If you change the HTTP port to 80, users can browse to HP Web Jetadmin without specifying a port number.

Allow list

Create an allow list that defines which IP addresses can access HP Web Jetadmin. Deny access for all IP addresses and then allow a select few IP addresses to access HP Web Jetadmin, or allow all IP addresses to access HP Web Jetadmin and then deny access for a select few IP addresses.

The following sections on the **General Settings > HTTP (Web)** page define the allow list:

- **Order for HP Web Jetadmin Access** – This section specifies what order HP Web Jetadmin processes the IP addresses specified in the **Allow HP Web Jetadmin Access** and **Deny HP Web Jetadmin Access** sections.
- **Allow HP Web Jetadmin Access** – This section specifies the IP addresses that can access HP Web Jetadmin.
- **Deny HP Web Jetadmin Access** – This section specifies the IP addresses that cannot access HP Web Jetadmin.

See [Allow list](#) for more information.

Note

You cannot deny access to the HP Web Jetadmin host machine.

SSL/TLS

HP Web Jetadmin is a Web-based application, which means that all communications with HP Web Jetadmin are subject to capture as the information moves between the HP Web Jetadmin host machine and the Web browser (client). HP Web Jetadmin uses Secure Sockets Layer/Transport Layer Security (SSL/TLS) protocol to limit this threat. If you enforce SSL/TLS, all communications between the HP Web Jetadmin host machine and a Web browser are sent encrypted using HTTPS.

Note

Do not use the HTTPS scheme with the HTTP port number. For example, in the Web browser address bar, if you type `https://server name:HTTP port number`, the page will not load.

When a Web browser connects to the HP Web Jetadmin host machine using SSL/TLS, HP Web Jetadmin uses the default HTTPS port 8443. You can change the port. The default port for Web browsers is 443. If you want to allow HTTPS connections without requiring that the Web browsers specify a port number, set the port to 443.

Specify the encryption level that HP Web Jetadmin uses. If a Web browser does not support the specified encryption level, HP Web Jetadmin does not allow the Web browser to connect to the product. HP Web Jetadmin supports the following encryption levels:

- **Low (DES-56-bit, RC4-40-bit)** – This encryption level provides simple encryption. Some circumstances require simple encryption. For example, some versions of Internet Explorer are not capable of 128-bit encryption, which is required for the medium and high encryption levels.
- **Medium (RC4-128-bit)** – This encryption level provides 128-bit encryption. If you specify this encryption level, any Web browser that tries to access HP Web Jetadmin must support 128-bit encryption.
- **High (3DES-168-bit only)** – This encryption level provides 168-bit encryption, which is the most secure. However, if you specify this encryption level, the load on the HP Web Jetadmin host machine, the network, and the Web browsers increases, which means that the process is slower.

SSL/TLS uses a certificate in the encryption process. Web browsers use the HP Web Jetadmin certificate to authenticate the identity of the HP Web Jetadmin host machine.

HP Web Jetadmin can use a certificate that has been created and signed by a Certificate Authority (CA). A CA-signed certificate is intended to reassure users that they are using the correct host machine. If the host machine IP address, name, or validity date does not match the CA-signed certificate, the Web browser warns the user of the differences.

You can also create a self-signed certificate in HP Web Jetadmin. A self-signed certificate provides the same encryption level as a CA-signed certificate. However, a self-signed certificate does not authenticate the certificate owner.

Web browsers do not trust self-signed certificates; Web browsers only trust certificates signed by a root CA. If the host machine IP address, name, or validity date does not match the self-signed certificate, the Web browser warns the user that the certificate was not signed by a known CA and that there is no way to verify the information provided.

19 Profile security

This chapter covers the following topics:

[Overview](#)

[Authentication methods](#)

[Profile settings](#)

Overview

Profiles are a form of security that prevents unauthorized users from accessing HP Web Jetadmin. Use profiles to control which HP Web Jetadmin features are available for various classes of users.

By default, HP Web Jetadmin provides the following profiles:

- **Admin** - This profile has full access to HP Web Jetadmin. While logged into the Admin profile, you can view and configure all HP Web Jetadmin settings. You cannot limit the Admin profile access to HP Web Jetadmin, but you can assign a password to the profile.
- **User** - This profile can view most HP Web Jetadmin features, but cannot configure any HP Web Jetadmin settings unless you specifically give the profile permission to do so. You can assign a password to the User profile, and you can further restrict the User profile access.

In addition to the default profiles, you can create an unlimited number of profiles for various classes of users. For example, you might want to create a Support profile that can access the alerts, but cannot change any HP Web Jetadmin settings.

Authentication methods

HP Web Jetadmin uses one of the following methods to authenticate users when they log in:

- **Profiles and passwords** - Create profiles and assign passwords to them. HP Web Jetadmin prompts users for the profile password when they log in.
- **Windows NT domain users and groups** - Associate Windows NT domain users and groups with profiles. HP Web Jetadmin prompts users for their Windows NT domain user name and password when they log in. You can associate more than one Windows NT domain user or group with each profile. However, each Windows NT domain user or group can be associated with only one profile.

The Windows NT domain authentication method simplifies the following tasks:

- **User account administration** - You do not need to maintain a profile for each user or manage profile passwords.
- **Login procedure for users** - Users do not need to learn a new profile password. They can log into HP Web Jetadmin using their Windows NT domain user name and password.

HP Web Jetadmin stores user credentials and can pass that information to other machines when the user requires remote authentication. For example, when a user creates a print queue on a Windows NT host machine, HP Web Jetadmin tries to authenticate the user with the Windows NT domain information that the user supplied during login.

Profile settings

Use the **General Settings > Profiles Administration > Permissions > Device Editing Modes** page to specify the following editing capabilities for a profile:

- **Allow HP Web Jetadmin Editing** - This option specifies if the profile can change HP Web Jetadmin configuration settings.
- **Allow Print Queue Creation** - This option specifies if the profile can create print queues.
- **Allow Device Group Editing** - This option specifies if the profile can change existing device groups and create new device groups.
- **Allow Device Configuration** - This option specifies if the profile can change device configuration options. Allow the profile to edit the configuration options for all of the devices in the device cache or edit only the devices in specific device groups. If you allow a profile to edit the device configuration options, you can limit the profile to specific types of configuration options, such as device or accessory options.

Note

You cannot disable the editing capabilities for the Admin profile.

By enabling or disabling a combination of the editing capabilities, you can tailor a profile according to the needs of that particular class of users. For example, you might want to create a Help Desk profile that can edit device groups and devices, but cannot edit HP Web Jetadmin configuration settings or create print queues.

In addition, you can use the **General Settings > Profiles Administration > Permissions > Disable Pages** page to specify which features appear in the **Navigation** area and content toolbar for a profile. The options on the **Disable Pages** page provide a greater level of control than the editing capabilities.

See [Chapter 10, Configuring profiles](#) for more information about profiles.

20 Device security

This chapter covers the following topics:

[Overview](#)

[Device passwords](#)

[Set Community Name](#)

[SNMP](#)

[Unused protocols](#)

[Administrator passwords](#)

[Printer control panel](#)

[Device embedded Web server](#)

[HP Jetdirect embedded Web server](#)

[Storage management for devices](#)

Overview

Although HP Web Jetadmin provides several methods for securing itself against unwanted access, preventing individuals from downloading HP Web Jetadmin from the Web and using it to install and configure devices can be a challenge. Users can access and configure a device with a variety of utilities, including the following:

- HP Web Jetadmin
- HP Install Network Printer Wizard
- Telnet
- Embedded Web server
- SNMP utilities
- HP Printer Gateway for NDPS

Given all of these available utilities, setting security at the device level is the most effective method of preventing unauthorized users from accessing devices. HP Web Jetadmin provides several security mechanisms that you can enable on the device to address these utilities.

Note

Hewlett-Packard periodically revises or enhances the HP Jetdirect firmware to proactively address performance and security issues. You should always keep the HP Jetdirect firmware updated with the latest revisions to ensure maximum security. Use the HP Web Jetadmin Intelligent Update feature to update HP Jetdirect firmware.

Device passwords

By default, HP Web Jetadmin does not assign passwords to devices; you must assign them. You can use the multiple device configuration feature to assign a password to more than one device at the same time. After you assign passwords, HP Web Jetadmin prompts users for the password before saving any changes that they make to device configuration options.

If you want to delegate routine maintenance and administrative tasks for particular devices, assign passwords so that authorized users can access the devices without compromising overall network security. For example, you might want to authorize someone in each department or area of a building to oversee the devices there. That person could check the status of the devices in a device group, add new devices, or change existing devices as needed without your help. Other privileges would still be reserved for you.

Set Community Name

A supplemental security option known as the Set Community Name is available. The device Set Community Name prevents the device from acknowledging unauthorized copies of HP Web Jetadmin and prevents unauthorized users from using SNMP utilities to change device configuration options.

Only users who know a device Set Community Name can use SNMP utilities to change device configuration options. Any SNMP utility that tries to change device configuration options must provide the device Set Community Name before the changes take effect.

Note HP Jetdirect firmware version x.06.00 or greater is required to support the Set Community Name.

SNMP

All communications between HP Web Jetadmin and devices are sent across the network using the SNMPv1 protocol. When HP Web Jetadmin configures an SNMPv3-capable device, HP Web Jetadmin configures the device SNMP protocols so that SNMPv1 is read-only and SNMPv3 is read/write. This means that the device can only respond to requests for information, such as device status, that are made with the SNMPv1 protocol. In addition, the device can only accept Set requests to change configuration options that are made with the SNMPv3 protocol.

If a device does not respond to an SNMPv1 Set request, HP Web Jetadmin tries using the SNMPv3 protocol. If the device still does not respond, HP Web Jetadmin reports a communications failure. While HP Web Jetadmin can use the SNMPv3 protocol to send Set requests to a device, the device must be SNMPv3-capable to receive and respond to those requests.

The data portions of the communications between HP Web Jetadmin and devices are sent in clear text format, which means that the information is unencrypted. When HP Web Jetadmin sends a device password to the device, either to set the password or authenticate the device, the information could be captured off the network. The SNMPv3 protocol encrypts the information being sent between HP Web Jetadmin and a device.

Unused protocols

Many networks only use a few protocols. For example, the AppleTalk and DLC protocols are enabled by default on HP Jetdirect print servers, but many networks do not use them. An unused protocol could be considered a back door for unauthorized users to access and configure devices.

Disable any protocols that you are not using to prevent unauthorized access to the devices. Disabling unused protocols also helps to minimize network traffic. Once you disable a protocol, no activity is allowed on that protocol. Printing and management applications that use a disabled protocol will no longer function correctly.

Disable unused protocols for a device on the **Device Configuration** page under the **Network** category. You can also use the multiple device configuration feature to disable unused protocols for several devices at one time.

Administrator passwords

To prevent unauthorized users from changing device configuration options, use HP Web Jetadmin to assign passwords to the following:

- an HP Jetdirect device
- the HP Jetdirect embedded Web server
- a device embedded Web server

The HP Jetdirect device password is stored on the HP Jetdirect device. Any utility, such as HP Web Jetadmin, HP install printer wizard, or the HP Jetdirect embedded Web server, that tries to change device configuration options must specify the HP Jetdirect device password. Other SNMP utilities, however, can still change device configuration options because those utilities do not check for the HP Jetdirect device password.

Assign a password to the HP Jetdirect embedded Web server. This password is stored on the device. When a user browses to the HP Jetdirect embedded Web server, the device verifies this password before any changes to device configuration options take effect. If users do not know the password, they can still view device information through the HP Jetdirect embedded Web server, but they cannot change device configuration options.

The password for the device embedded Web server prevents unauthorized users from changing device configuration options while browsing directly to the device and accessing the device embedded Web server. The device embedded Web server password is separate from the HP Jetdirect device password and the HP Jetdirect embedded Web server password.

Note

If a printer has firmware version 22.xx, these three passwords are synchronized. If you change one of the passwords, the firmware changes the other two passwords.

Printer control panel

Use HP Web Jetadmin to remotely lock a printer control panel, which prevents unauthorized users from walking up to the printer and changing printer configuration options on the control panel. Users can still view the settings on the control panel, but they cannot change printer configuration options. Most printers that have the control panel lock feature also provide the ability to define the access level as either minimum, moderate, or maximum. The definitions for the different access levels vary depending on the printer.

Device embedded Web server

HP Web Jetadmin provides a link to a device embedded Web server, which provides additional security methods to prevent unauthorized users from accessing the device and changing device configuration options. Assign a password to a device embedded Web server to prevent unauthorized users from browsing directly to the device and accessing the device embedded Web server. This password is stored on the device.

HP Jetdirect embedded Web server

Note

Most of the security techniques discussed in this section are only available in the HP Jetdirect embedded Web server for HP Jetdirect 610n (J4169A and J4167A) and HP Jetdirect 175x (J6035A). However, you can still use Telnet to enable many of these options if the most recent HP Jetdirect firmware is installed on the HP Jetdirect device.

The HP Jetdirect embedded Web server provides additional security methods that prevent unauthorized users from printing to the printer using the following techniques:

- HP TCP/IP Standard Port Monitor
- HP Jetdirect Port
- Microsoft Standard Port Monitor
- Line printer daemon (lpd)
- File Transfer Protocol (FTP)
- Internet Printing Protocol (IPP)

The HP Jetdirect embedded Web server provides an additional security option called an access control list. The access control list specifies a range of IP addresses that can establish TCP connections with the HP Jetdirect device.

The access control list affects printing as well as management. HP Web Jetadmin typically uses TCP packets during device management. Port monitors, such as the HP TCP/IP Standard Port Monitor, typically use TCP packets to send print jobs. These utilities cannot configure devices or print to devices if they are excluded from the access control list.

To provide even more security against unauthorized device access, use the HP Jetdirect embedded Web server to disable additional services for configuring a device or printing to a device.

You can enable and disable the following services:

- Service Location Protocol (SLP) configuration
- Telnet configuration

You can enable and disable the following printing methods:

- TCP Port 9100
- File Transfer Protocol (FTP)
- Line printer daemon (lpd)
- Internet Printing Protocol (IPP)

Storage management for devices

Note

The storage management options will not appear if the device does not support the following features.

To protect the information that is stored on a device's hard disk drive or other erasable storage devices from unauthorized access, you can use the following HP Web Jetadmin features.

- File system external access: This feature allows you to manage the access to file systems on a device's or group of devices' hard disk drive.
- Secure file erase modes: This feature determines the behavior of a secure disk erase operation and the erase operation that a printer automatically performs to make space available on a hard disk drive for incoming print jobs.
- Secure storage erase: This feature erases a device's hard disk drive or other erasable storage devices based on the secure file erase mode setting.

To use any of the storage management features, you must set the file system password on a device or group of devices on the **Configuration** page. For easier password management, it is recommended to set the same file system password for all devices.

File system external access

If you disable a file system external access option, the printer communication language cannot read or write any data to the file system on a device's hard disk drive.

The following are the printer communication languages that HP Web Jetadmin can enable or disable.

Note

All of the printer communication languages are enabled by default.

- Network File System (NFS)
- PostScript (PS)
- Peripheral Management Language (PML)
- Printer Job Language (PJL)

If a printer communication language is disabled on a device, the device can still receive requests and information from the printer communication language. For example, a PML request can be sent to a printer to set the media size for a print job. However, the PML printer communication language cannot send a request to read or write any data to the hard disk drive.

You can access this feature from the device's **Configuration** page. For multiple devices, you can access this feature from the **Device List** page by selecting the devices, and clicking the **Device Tools** menu, and then selecting **Configure**. You can also access this feature from the **Multiple Device Configuration** page.

Secure file erase modes

The secure file erase modes determine the behavior of a secure disk erase operation and the erase operation that a printer automatically performs to make space available on a hard disk drive for incoming print jobs. The erase operations are designed to add available space to a device's hard disk drive and to prevent unauthorized users from accessing confidential information from a device's hard disk drive or other erasable storage device.

Note

The secure disk erase and the automatic printer file erase operation use the same secure file erase mode.

The following are the supported secure file erase modes:

- **Non-secure Fast Erase:** This mode erases the file system references to operations, such as completed print job references. By erasing the references, space on the hard disk drive is made available. This is the fastest erase mode and the default mode.
- **Secure Fast Erase:** This mode erases the file system references to operations and provides one layer of masking to hide data stored on the hard disk drive. This mode is slower than the **Non-secure Fast Erase** but more secure.
- **Secure Sanitizing Erase:** This mode erases the file system references to operations and provides multiple layers of masking to hide data stored on the hard drive. This mode may introduce a significant performance impact to the device while the mode is executing.

You can access this feature from the device's **Configuration** page. For multiple devices, you can access this feature from the **Device List** page by selecting the devices, and clicking the **Device Tools** menu, and then selecting **Configure**. You can also access this feature from the **Multiple Device Configuration** page.

Secure storage erase

The secure storage erase feature erases a device's hard disk drive or other erasable storage devices to prevent unauthorized users from accessing confidential information. The level of disk erasure is based on the secure file erase mode.

Note

For multiple devices, this feature erases all available hard disk drives.

Erasing the contents of a device's hard disk drive may take a long time. During the secure disk erase operation, HP Web Jetadmin can only communicate with the HP Jetdirect card, if available.

You can access this feature from a device's **Status** page by selecting the feature from the drop-down list. For multiple devices, you can access the feature from a **Device List** page by selecting the feature from the **Device Tool** drop-down menu.

Section 8 Devices

This section contains the following chapters:

[Chapter 21, Introducing devices](#)

[Chapter 22, Searching for devices](#)

[Chapter 23, Managing device lists](#)

[Chapter 24, Managing devices and the device cache](#)

[Chapter 25, Configuring multiple devices](#)

[Chapter 26, Updating HP Jetdirect firmware](#)

21 Introducing devices

This chapter covers the following topics:

[Overview](#)

[Java applets and JavaScript](#)

[Embedded and integrated Web servers](#)

[Device alerts](#)

[Embedded Web server pages](#)

Overview

With HP Web Jetadmin, you can manage and troubleshoot a diverse inventory of network devices, including the following:

- More than 100 models of HP printers, network scanners, and CD-ROM servers
- HP Jetdirect-connected, parallel-based printers
- Third-party vendor printers that are Standard Printer MIB compliant
- Printers with embedded Web servers

Legacy support

HP Web Jetadmin supports the features of the current family of HP LaserJet printers, from the HP LaserJet II to the newer HP LaserJet 9000. Use HP Web Jetadmin to configure and manage a wide range of HP printers. Help desk personnel can use HP Web Jetadmin to check printer status and statistics for end users. HP Web Jetadmin uses Java applets, JavaScript, and Simple Network Management Protocol (SNMP) to support these printer features.

HP Web Jetadmin ability to support older printers is more limited. For example, HP Web Jetadmin might only be able to show printer status information such as online, offline, and out of paper.

TCP/IP and IPX/SPX protocol support

HP Web Jetadmin supports TCP/IP and IPX/SPX protocols, which means that it supports a wide variety of devices without requiring hardware updates.

Note

To support the IPX/SPX protocol, HP Web Jetadmin must be running on Windows.

Although HP Jetdirect print servers support several popular network operating systems, these operating systems might require different protocol stacks. By building support for these protocols into HP Web Jetadmin, Hewlett-Packard continues to protect your investments. You can also view limited status information for third-party devices that are connected with an external HP Jetdirect print server.

Third-party vendor support

HP Web Jetadmin supports any printer that supports the Standard Printer MIB, which is defined by Request for Comments (RFC) 1759. This means that you only need one tool to manage the various brands and models of network devices

in a mixed environment. Manufacturers that currently support the Standard Printer MIB include Hewlett-Packard, Lexmark, IBM, Xerox, Tektronix, and Kyocera.

HP Web Jetadmin sends an SNMP query to a device, reads the information in the device Standard Printer MIB objects, and displays this information. The information stored in the Standard Printer MIB varies by vendor and device model. This means that some of the information that HP Web Jetadmin is capable of displaying might not be available for third-party devices. To ensure the greatest variety of management information, connect these printers to the network with HP Jetdirect print servers. In addition, you can use the print queue creation and multiple device configuration features for any third-party printers that are connected with an HP Jetdirect print server.

HP Web Jetadmin also supports devices with embedded Web servers by providing a link to the embedded Web server URL.

Java applets and JavaScript



HP Web Jetadmin is Java-enabled, allowing it to capitalize on the powerful features of Java programming language. HP Web Jetadmin Java applets take advantage of new printer features and allow more interactive responses from the user interface.

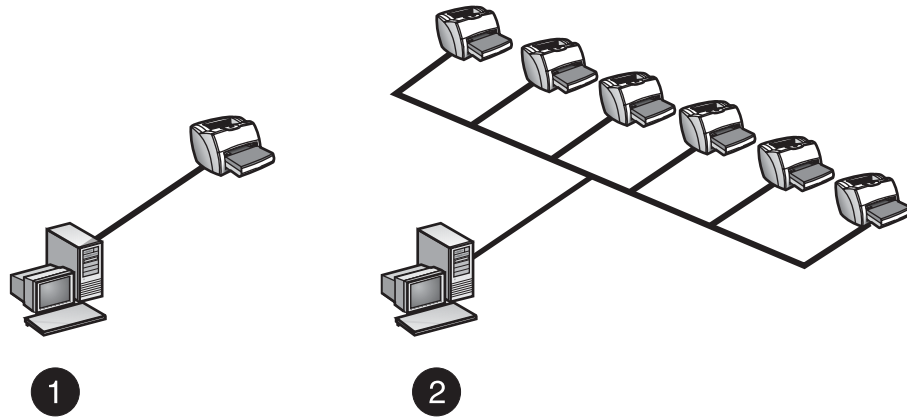
Java is platform-independent, which means that HP Web Jetadmin Java applet features are available regardless of the operating environment. In addition, Java applets are executed in the browser, which means that you do not need special software to run them.

However, Java is limited in speed. If Java is not necessary, HP Web Jetadmin uses a scripting language called JavaScript. JavaScript executes faster than Java while still adding capabilities that the Common Gateway Interface (CGI) does not provide. JavaScript allows for a livelier, more animated user interface and helps keep Web pages cleaner by reducing the need for **Submit** buttons on Web forms.

The graphical image that appears on a **Device Status** page is actually a Java applet that shows device status. As that status changes, the Java Status applet updates the graphical image without having to refresh the entire page. Use the **Device Management > Management Settings > Network Settings > Polling** page to specify how often the Java Status applet polls devices. By default, the Java polling rate is 6 seconds. If you poll devices more often, it affects network traffic and it increases the Web server load. If you are running HP Web Jetadmin on a host machine with a particularly heavy load, you might want to poll devices less often.

Embedded and integrated Web servers

Icon	Description	Icon	Description
	HP Web Jetadmin host machine		Printer



- 1 Embedded Web server
- 2 Embedded Web server

Because HP Web Jetadmin acts as its own integrated Web server, you must understand the differences between managing devices through an embedded Web server and an integrated Web server. Each method has strengths that are appropriate for certain environments.

Using an embedded Web server

Embedded Web servers are completely contained within a print device; you do not need any additional hardware or vendor software. By using a Web browser to access an HP Jetdirect device embedded Web server, network users can get network printer status updates, perform simple troubleshooting operations, change device configuration options, and link to HP's online customer support.

You might prefer to use an embedded Web server to perform the following tasks:

- manage a single device or a limited number of devices on a small network
- manage each device that contains an embedded Web server individually

Using an integrated Web server management tool

Despite their range of functionality in small network environments, embedded Web servers do not offer an integrated solution. You cannot monitor the status of multiple devices at the same time. Instead, you must enter each device IP address to access device status. Embedded Web servers do not provide any site map capabilities or topology views, which are helpful for managing multiple devices, without installing extra software.

HP Web Jetadmin, on the other hand, is an integrated Web server. HP Web Jetadmin runs on a separate machine, resulting in an extended range of management capabilities that become more valuable as the number of network devices you manage increases.

Typically, an integrated Web server management tool such as HP Web Jetadmin is more useful when you need to perform the following tasks:

- view all of the devices across the network
- discover devices on a network automatically
- configure the options for multiple devices
- configure the options for all of the devices in a device group
- create print queues
- manage Standard Printer MIB-compliant printers
- manage legacy devices that do not have an embedded Web server

If you only manage a few printers for a small organization, embedded Web servers might be the most appropriate solution. As the network grows, you might find that managing devices individually has become too time-consuming and decide to find a more integrated management solution. In this case, install HP Web Jetadmin with full confidence that you can support legacy devices and maintain your initial investment in embedded Web servers. HP Web Jetadmin communicates with embedded Web servers to display comprehensive information in a framework that helps you manage multiple devices and device groups.




HP Jetdirect print servers can also link to HP Web Jetadmin through one of the following options:

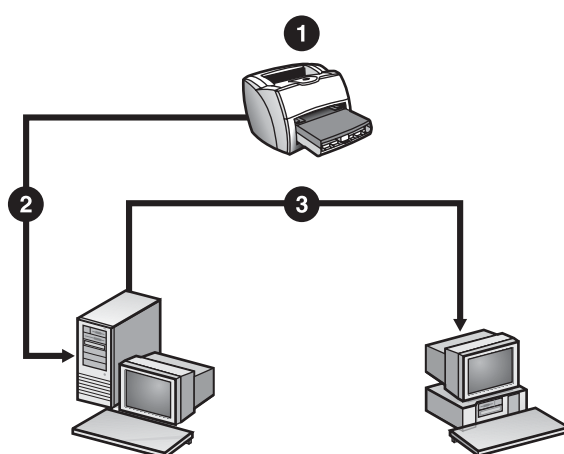
- **Redirect URL** – Some legacy HP Jetdirect print servers, such as the HP Jetdirect 600N series EIO and HP Jetdirect 300X with a firmware version prior to x.07.03, contain a Web Redirector feature that, when configured with the HP Web Jetadmin URL, simulates an embedded Web server. If you enter the HP Jetdirect print server IP address in your Web browser, the

HP Jetdirect print server redirects the request to HP Web Jetadmin, which then displays the printer properties. If you use this option, all of the information displayed comes from HP Web Jetadmin.

- **Integration URL** – This option is available in HP Jetdirect print servers that have an embedded Web server, such as the HP Jetdirect 170X and HP Jetdirect 500X. The Integration URL option is also available for the HP Jetdirect 600N series EIO and HP Jetdirect 300X print servers with updated firmware. When you have configured the Integration URL, the embedded Web server can enhance the information it provides with additional content from HP Web Jetadmin. The information displayed in the embedded Web server is a combination of its own information and HP Web Jetadmin information. In particular, the embedded Web server **Status** page displays status information from HP Web Jetadmin, and the embedded Web server **Configuration** page is the same as the HP Web Jetadmin **Device Configuration** page.

Device alerts

Icon	Description	Icon	Description
	HP Web Jetadmin host machine		Workstation
	Printer		



- 1 Printer runs out of paper
- 2 Printer sends an alert to the HP Web Jetadmin host machine
- 3 HP Web Jetadmin host machine sends an alert to the email distribution list.

HP Web Jetadmin lets you route various types of alerts, such as standard SNMP traps and embedded Web server alert notifications, from the HP Jetdirect print servers to email addresses or other notification methods.

Note

For more information on how to apply other notification methods to HP Web Jetadmin, contact the HP Customer Care Technical Center using one of the methods described on the following Web site: http://www.hp.com/cposupport/mail_support.html.

SNMP traps are also known as HP Jetdirect alerts. Although printers might use different methods to communicate with HP Jetdirect print servers, the traps that print servers send to HP Web Jetadmin are consistent for all of the HP Jetdirect-connected printers that are Standard Printer MIB compliant.

HP Jetdirect firmware version x.06.00 or greater is required to support the HP Jetdirect alerts feature. In addition, the device Standard Printer MIB objects must support HP Jetdirect alerts. If a printer and an HP Jetdirect print server do not meet these criteria, HP Web Jetadmin can still support alerts using its polling mechanism.

Use the HP Jetdirect alerts feature to proactively monitor and resolve network printer problems. Because you receive early notification of problems, you can correct them before they impact end-user productivity, saving time for both you and your users.

To configure HP Jetdirect alerts, you must first enable the alerts feature in HP Web Jetadmin and specify the default settings. After you have enabled the HP Jetdirect alerts feature, you must decide which devices you want to monitor, configure the alerts that you want to forward for each device, and specify the email addresses or configure any other notification methods that you want HP Web Jetadmin to send alert messages to. For example, you can send some alert messages for a device to one email address and send other alert messages for the same device to a different email address.

Email alert messages contain the following information:

- Device description
- Error condition
- Front panel message
- URL where HP Web Jetadmin can be accessed
- Date of the alert

To display the **Device Status** page for the device that generated the alert, click the link at the bottom of the alert message. The format and content of the alert message is based on the hpaltmsg.txt file located in the directory where you installed HP Web Jetadmin.

Note

Depending on the notification method that you use, the output and configuring process may vary.

HP Web Jetadmin keeps a log of every alert message that it sends. This log file is never larger than 1 MB. When the file reaches 1 MB, HP Web Jetadmin begins deleting older messages. You can view the alert log from the **Device Management > Tools > Alerts > Advanced Settings** page.

Embedded Web server pages

Some devices have embedded Web server pages that let you view properties and configure device attributes. A particular device might have some options that you can only configure on its embedded Web server page. To access a device embedded Web server page, access the **Device Status** page, and select

Device Web Page from the drop-down list on the content toolbar. HP Web Jetadmin displays the device embedded Web server page in a separate browser window.

For more information about what you can do while viewing the device embedded Web server, see the help in the browser window that HP Web Jetadmin opens to display the embedded Web server page.

22 Searching for devices

This chapter covers the following topics:

[Overview](#)

[Quick searches](#)

[Device list searches](#)

Overview

HP Web Jetadmin performs a discovery and stores the information about the devices it finds in a device cache. After the discovery is complete, you can search the device cache to find specific devices or devices with particular capabilities. You can also search directly on the network for devices that are not in the device cache. This means that you can work with new devices without waiting for a discovery to run.

If you search for dynamic information, such as status, HP Web Jetadmin must poll each device. In these searches, the discovery activity required to get the information creates additional network traffic. If a search takes longer than you expect, HP Web Jetadmin is probably polling the device for more information.

Quick searches

Use the **Quick Device Find** option in the **At a Glance** area to find specific devices. This type of search is always available, no matter what page you are on. Search for a specific device using the following information:

- IP hostname (for example, hpb12345)
- IP address (for example, 15.62.62.62)
- IPX address (for example, 12345678.1234567890AB)
- Hardware address (for example, 1234567890AB)

HP Web Jetadmin searches the device cache. When HP Web Jetadmin finds the device, it displays the **Device Status** page. If HP Web Jetadmin does not find the device in the device cache, it searches the network.

To quickly find a specific device

- 1 In the **At a Glance** area, type the device address in the text box labeled **Quick Device Find**.

Note

To find more than one device, separate the device addresses with a semicolon.

- 2 Click **Go**.

Device list searches

When you display a device list, such as the **All Devices** page or a list of the devices in a device group, you can search that list for specific devices. Search for any full or partial string of text that appears in any of the columns of the device list. HP Web Jetadmin highlights the devices that match the search criteria.

Searches are cumulative. For example, you might want to find two devices and know each device IP address. Search for the first IP address. HP Web Jetadmin highlights that device in the device list. Then you can search for the second IP address. HP Web Jetadmin highlights that device in the device list, while still highlighting the first device.

To search a device list

- 1** Display a device list.
- 2** Click the **Search/Select** tool on the content toolbar.
- 3** On the dialog box displayed, type the device information that you want to find.
- 4** Click **OK**.

23 Managing device lists

This chapter covers the following topics:

[Overview](#)

[Device list views](#)

[Custom views](#)

[Filtering lists](#)

[Sorting lists](#)

[Exporting device lists](#)

[Printing device lists](#)

Overview

Display a list of all of the devices in the device cache or a list of all of the devices in a device group. Once you have displayed a device list, you can perform the following tasks:

- change the view, which determines what columns of information are displayed
- sort the devices by any of the columns, making it easier to find a particular device
- display each device icon as part of the device list
- display status indicators
- display a **Device Status** page
- create temporary and permanent device groups
- add new devices to the current device list
- delete devices that are no longer on the network but are still in the device cache
- refresh information for a specific device or refresh the entire device list
- print the current list of devices
- export the current list of devices to a file that you can open in an application in order to sort the information or generate reports
- use the **Filter Tool** to reduce the number of devices displayed in the list

Note

If the **Device Model** column is blank, that device has a model name that HP Web Jetadmin does not recognize. If **Unknown (Disconnected)** appears in the **Device Model** column, the HP Jetdirect print server does not have a printer connected to it.

Device list views

HP Web Jetadmin provides several views for displaying device lists. Each view displays different information about devices. The following are HP Web Jetadmin predefined views:

- **Default View** displays the device model, hardware address, port number, IP address, IP hostname, and IPX name.
- **Status View** displays the device model, hardware address, port number, device description, and status description.
- **Detailed View** displays the device model, hardware address, port number, device description, and system contact.

- **Asset View** displays the device model, hardware address, port number, device description, system contact, asset number, and serial number.
- **Jetdirect View** displays the hardware address, port number, HP Jetdirect model, HP Jetdirect firmware revision, system contact, and device model.
- **Page Count View** displays the device model, IP address, port number, start date, interim page count, and total page count. The interim page count is the number of pages a printer has processed since the page count was set to zero. The total page count is the same as the page count displayed on the printer test page. Not all printers support the **Page Count View**. The start date displayed is based on the host machine clock. Note that the host machine where HP Web Jetadmin is running and the client where the Web browser is running may be in different time zones.
- **Export View** displays many, but not necessarily all, of the columns of information stored in the cache. This view is useful when you want to export the device information from the device cache to a comma-separated values (CSV) file.

Custom views

In addition to HP Web Jetadmin predefined views, you can create custom views that only display the information that you want to see. Create custom views on the **Device Management > Management Settings > Views** page. Once created, your custom view is available from the **View** drop-down list. You can apply that custom view to any list.

Some device information is not stored in the device cache. To display this information in a view, HP Web Jetadmin must poll each device, which can increase network traffic. If you include device information that is not stored in the device cache when you create a view, system performance might be affected by this increased network traffic.

Another way to use custom views is to generate reports. For example, if you want to generate a report on page usage, add the **Interim Page Count** and **Total Page Count** columns to a view. Once you have created the view, select that view on the **All Devices** page and export the information for that view to a comma-separated values (CSV) file. Then you can use a third-party database reporting application to generate a report on page usage from the information in the CSV file.

Filtering lists

If you have a large network with many devices or have created many device groups, your lists might be very long. Use the **Filter Tool** to reduce the number of items displayed in a list, making it easier to find specific items. To access the **Filter Tool**, display any device list, and then click **Filters**.

Specify more than one filter for a list. Filters are cumulative. For example, you could filter the list so that only HP LaserJet 8000 printers are displayed. Then you could filter that list so that only those printers that have an IP hostname that begins with NP are displayed.

The **Advanced** button displays an additional drop-down list of options that you can use to further define the filter criteria, such as **Equals** and **Greater Than or Equal**. For example, you could filter the list so that only printers that print 17 pages per minute or more are displayed.

Once you have filtered a list, you can save the filters for the current browser session or you can save them permanently. Apply saved filters to any list of devices or groups.

Sorting lists

You can sort a list of devices, device groups, subgroups, or devices in a device group. To sort a list, click on the column heading that you want to sort by. The list is sorted in ascending order. To sort in descending order, click the column heading again.

Exporting device lists

Export device information to a comma-separated values (CSV) file from any page that displays a list of devices. Export the entire device list or you can filter the device list and only export the information for specific devices. Select the view that contains the information that you want to export.

Once you have exported device information, you can open the file in an application, such as an electronic spreadsheet or a third-party database reporting application, sort the information by different fields, and generate reports.

Note

You must have access rights to the local disk where HP Web Jetadmin saves the exported information.

Printing device lists

Print device information from any page that displays a list of devices. You can find this feature in the **Device Tools** drop-down box. Print the entire device list or you can filter the device list and only print the information for specific devices. Select the view that contains the information that you want to print.

Note This is not the same as the **Print** command in the browser **File** menu.

24 Managing devices and the device cache

This chapter covers the following topics:

[Overview](#)

[Status page](#)

[Diagnostic information](#)

[Printer firmware updates](#)

[Enable proactive update notification](#)

[Manage the device cache](#)

[Device Application Manager](#)

[Configuring the embedded Web server](#)

[View Log](#)

Overview

This chapter contains the following device-related information:

- A description of the **Device Status** page, which displays the features of each supported device and the status of each device.
- A description of the **Device Diagnostics** page, which displays detailed information about a device. This information is used to diagnose device problems from a remote location.
- A description of the **Device Update** page, which is used to update printer firmware.
- A description of HP Web Jetadmin features used to manage the device cache.
- A description of the Device Application Manager, which is used to manage device applications on an individual printer, printers in a temporary device group, or printers in a device group.
- A description of how the embedded Web server (EWS) is configured.
- A description of the **View Log** page, which displays the history of all operations processed for HP Web Jetadmin managed devices.

Status page

HP Web Jetadmin provides a **Device Status** page for each supported device. The **Device Status** page provides information that you can use to manage devices without leaving your workstation.

Help desk personnel in particular can use the **Device Status** page to see what features each device supports and the device status. For example, when a user calls to ask why a printer is not working, help desk personnel can see exactly what the problem is and who to contact for maintenance. If the printer is offline, help desk personnel can put it back online from their workstation. If the problem cannot be resolved immediately, help desk personnel can direct the user to another printer in the company that has the features needed for a particular print job.

The **Device Status** page shows the following information about a device.

Note

The device feature set, the information stored in the device MIB, and the device firmware revision determine what information HP Web Jetadmin displays.

Status

This section displays a graphical image of the device and a stoplight icon that indicates device status. Depending on the printer, you might also see the current printer control panel message and an icon for taking the printer offline or bringing it online remotely.

The Java Status applet updates the graphical image of the device with the current status at regular intervals. As the status changes, the applet shows exactly what is occurring and what action is required, making this information available at a glance. For example, if a printer top is open, the **Device Status** page shows a graphic of the printer with the top open.

Device information

This section displays the device model name, IP hostname, IP address, IPX name (only on Windows systems), hardware address, description, and system contact. It also provides a list of device capabilities.

HP Instant Support

The HP Instant Support link connects you to the HP Instant Support Web site for the device. When a user clicks the link, an HP Instant Support Web page appears.

Note If you click the link, the device automatically sends information to the HP Instant Support Web site and opens a new Web browser that allows the user to troubleshoot existing issues or get information and tips on how to best use the device.

Note The link does not appear if the device does not support HP Instant Support.

Toner gauge

The toner gauge accurately indicates the percentage of toner or ink that remains in the printer cartridge. The toner gauge only appears for HP printers that support this feature. The toner gauge might also appear for some non-HP printers that are Standard Printer MIB compliant.

HP Web Jetadmin is the only printer management tool that measures toner and ink levels in precise increments. Use the toner gauge to remotely monitor the remaining life expectancy of a printer toner or ink cartridge. Use this feature to proactively order and replace cartridges, minimizing printer downtime and the impact on end-user productivity.

Group membership

This section tells you if the device belongs to a device group. You can add the device to an unlimited number of device groups, and you can remove the device from any of the device groups it belongs to.

Diagnostic information

If a device control panel or test page does not provide enough information to resolve a problem or you need to investigate a problem from a remote location, the **Device Diagnostics** page provides extensive diagnostic information.

The **Device Diagnostics** page provides the following categories of diagnostic information:

Note

The categories displayed might not be the same for all interface cards because the protocols that a particular HP Jetdirect print server supports might be different.

- **Device** – This section provides general information about the device, consumables status, automatic language switching, and supported printer languages.
- **Jetdirect** – This section provides general information about the HP Jetdirect firmware, detailed information about the network packets the device has processed, and the number of incoming and outgoing SNMP packets the device has processed.
- **TCP/IP** – This section provides general information about the device TCP/IP configuration and the various protocols.
- **NetWare** – This section provides information about the device NetWare connections. If a device is configured for NetWare Bindery or NetWare NDS, you can log into the HP Jetdirect print server. When you return to this page, HP Web Jetadmin displays the print queue information in the **NetWare** section.
- **Usage Meters** – This section provides information about toner coverage, page meters, and usage. This section is only displayed if the printer supports these features.

Diagnostic information about the connection status is also available for IPX/SPX Peer-to-Peer, EtherTalk, and Data Link Control/Logical Link Control (DLC/LLC). This information indicates if these products are supported and connected.

Use the diagnostic information to plan and manage assets. For example, when a device indicates a problem, such as a high engine page count or a large number of paper jams, it might mean that the device requires preventive maintenance.

Printer firmware updates

Note

HP Web Jetadmin does not support third-party firmware updates.

Printers run firmware that controls the feature set. For example, printer firmware can control how pages are formatted. Take advantage of any improvements made to the firmware by updating printer firmware. Use the **Device Update** page to update printer firmware.

Note If a printer does not support firmware updates, the options to update printer firmware do not appear.

To update printer firmware, manually download a firmware image file from the HP Web site and save it to the local system. The firmware image file must be compatible with the printer model. Once the firmware image file is available on the local system, use HP Web Jetadmin to update the firmware. HP Web Jetadmin will query the printer to see if the firmware image file is compatible with the printer. A results page appears, notifying you if the firmware image file was successfully sent to the printer. After HP Web Jetadmin sends the firmware image file to a printer, the printer automatically processes the firmware image file.

Note After the printer processes the firmware image file, the printer shuts down momentarily.

Enable proactive update notification

Note You must be logged in to HP Web Jetadmin as an administrator to receive the notification for proactive updates.

If the option is enabled, and there are new or upgraded packages available for HP Web Jetadmin installation, there will be a message link displayed in the upper left area of the HP Web Jetadmin screen. Click this link to go to the **What's New** page, which links the new and upgraded packages available for HP Web Jetadmin installation. In order to accomplish this, assuming HTTP downloads are enabled, contact HP.com once each day to receive a file containing an index listing of new software.

Note No executable software is downloaded in this operation, only a text file that lists all available packages designed for use with HP Web Jetadmin. If you disable this option, no file will be downloaded and no proactive notification will be given when new and upgraded packages become available.

This feature is enabled by default and can be disabled by unchecking this box. Each time the text file is retrieved, it is logged like any other visit to the HP Web site. No personally identifiable information such as user name, email address, or physical address is gathered as part of this process. HP does monitor web logs in order to understand our customers and improve our products. All Web transactions are subject to the HP privacy policy which can be found at: <http://www.hp.com/country/us/eng/privacy.htm>.

Note You can schedule an update.

Manage the device cache

This section contains information about clearing, aging, and acknowledging devices.

Clearing the device cache

The first time that you run a discovery, HP Web Jetadmin finds all of the supported devices on the network and adds information about them to a device cache that is stored on the HP Web Jetadmin host machine. Whenever you run subsequent discoveries or search for devices, HP Web Jetadmin adds any new or updated information to the device cache, but it does not delete outdated information. If you remove devices from the network, the devices still appear in the device cache. Over time the device cache can become cluttered with outdated information.

Clear the entire contents of the device cache from the **Device Management > Device Cache > Reset Device Cache** page. Once you have cleared the device cache, run a discovery to create a new device cache. The new device cache only contains the current information about the network environment and supported devices.

Note

After clearing the device cache, it is important to run a discovery to create a new device cache as soon as possible. If a device cache is not available, features such as Quick Device Find will not work.

Aging the device cache entries

Aging the device cache entries prepares the device cache for an extensive update during the next discovery. HP Web Jetadmin flags all of the data in the device cache as being old. When the next discovery runs, HP Web Jetadmin creates a new device cache that contains updated status, properties, and other information.

Age the device cache entries from the **Device Management > Device Cache > Reset Device Cache** page.

Acknowledging Devices

When HP Web Jetadmin discovers new devices on the network, it adds those devices to the list displayed on the **Device Management > New Devices** page. Acknowledging devices removes the devices from the list.

Acknowledge devices by highlighting the devices on the **Device Management > New Devices** page and then selecting **Acknowledge Devices** from the **Device Cache Tools** drop-down menu.

Clearing Acknowledged Devices

Clearing acknowledged devices adds all of the discovered devices to the list that HP Web Jetadmin displays when you select **Acknowledge Devices** from the drop-down list labeled **Device Cache Tools** on the **Device Management > New Devices** page.

Clear acknowledged devices from the **Device Management > Device Cache > Reset Device Cache** page.

Note Clearing acknowledged devices adds those devices to the **New Devices** page.

Device Application Manager

To manage device applications on an individual printer or printers in a device group, go to the **Device Application Manager** page. Managing the device applications for a device group saves time and prevents errors that might occur when you make changes to each printer separately.

Note To use Device Application Manager, an HP Jetdirect 610n or higher must be installed in the printer.

You might want to manage the device applications for only one printer in a device group. For example, if a printer in a device group is reset or a setting is changed, by browsing directly to the printer you can use the **Device Application Manager** pages to install a device application on that printer instead of changing the entire device group.

Perform the following tasks with Device Application Manager:

- View the device applications that are installed on an individual printer or printers in a device group.
- View the history of all transactions that Device Application Manager has executed on the HP Web Jetadmin host machine. However, manually deleted device applications do not appear on the activity log.
- Install new device applications.
- Remove device applications.

Device Application Manager processes may take a long time to complete. While you are waiting, you can work on other tasks in HP Web Jetadmin or any other application. When the Device Application Manager processes are complete, you can retrieve the Device Application Manager job from the **Activity Log** page.

Accessing the Device Application Manager page

Use one of the following methods to access the **Application Manager** page:

- From a printer **Device Status** page, select **Application Manager** from the drop-down list on the content toolbar.
- From the **Device Management > Device Lists > All Devices** page, select the printers from the list. Select **Application Manager** from the **Device Tools** drop-down list.
- From the **Device Management > Device Groups > group name** page, select the printers from the list. Select **Application Manager** from the **Device Tools** drop-down list.

Viewing the activity log

The **Activity Log** page displays the history of all jobs that Device Application Manager has executed on the HP Web Jetadmin host machine. Click **Refresh** at any time to update the **Activity Log** page.

Note

Jobs that are manually deleted do not appear on the **Activity Log** page.

Perform the following jobs with Device Application Manager:

- **List**
- **Install**
- **Remove**

CAUTION

The activity log is a shared resource that manages jobs on the HP Web Jetadmin host machine. Make sure that you review the activity log before you perform any task, such as installing a device application. The tasks that are performed affect all of the Device Application Manager users on the HP Web Jetadmin host machine.

Because the activity log is server based, you can troubleshoot any potential conflicts by knowing what task each user is performing. For example, if a user removes a device application that another user just installed, there is a record of each transaction.

To view the activity log, click **Activity Log** in the **Toolbox** area. The following information is displayed for each job:

- **Job ID** – Displays a unique identifier for the job. Click the link in the **Job ID** column to access a particular job.
- **Description** – Displays a short description of the job.

- **Owner** – Displays the name of the application plug-in that initiated the job. In most cases, this is Device Application Manager. However, other HP Web Jetadmin application plug-ins can appear in this section because Device Application Manager provides services to those application plug-ins.
- **Devices** – Displays the number of selected printers for the job.
- **State** – Displays the state of the job. The following are the possible states of the job:

Note

Device Application Manager processes may take a long time to complete. While you are waiting, you can work on other tasks in HP Web Jetadmin or any other application. When the Device Application Manager processes are complete, you can retrieve the Device Application Manager job from the **Activity Log** page.

- **Aborted** – The job was not complete when HP Web Jetadmin or Device Application Manager was shut down.
- **Pending** – The job has been created and is queued for execution. The job is waiting for server resources to become available before starting.
- **Executing** – The job is running.

Note

Cancel jobs in the **Pending** or **Executing** state by selecting the job check box and then clicking **Cancel**.

- **Canceling** – The job is canceling. A user clicked **Cancel** on the **Activity Log** page while the job was in the **Pending** or **Executing** state.
- **Ready** – A job is a two-step process. When the job is in the **Ready** state, the first step of the process is complete. The process continues until the job is in the **Completed** state.
- **Completed** – The job has completed processing.

Note

Delete jobs when they are in the **Completed** or **Ready** state by selecting the job check box and then clicking **Delete**

Viewing the device applications by device

The **List** page displays the selected printers, their IP address and status, and a list of all of the device applications that are installed on the printers.

Note

Click **Refresh** until the **Job State** is **Completed**. The job may take some time before it completes. **Refresh** does not appear when the job is in the **Completed** state.

The **List** page displays the following information:

- **Job ID** – Displays a unique identifier for the job.
- **Job State** – Indicates the relationship between the device application and the Device Application Manager. The following are possible states of the job:

- **Not Installed** – The printer supports the installation of the device application, but the device application is currently not installed.
- **Not Supported** – The printer does not support the installation of the device application, or the printer does not have a supported embedded Web server.
- **Not Connected** – The printer is not connected.
- **Pending** – The job has been created and is queued for execution. The job is waiting for server resources to become available before starting.
- **Executing** – The job is running.
- **Canceling** – The job is canceling. A user clicked **Cancel** on the **Activity Log** page while the job was in the **Pending** or **Executing** state.
- **Completed** – The job has completed processing.
- **Device Count** – Displays the number of printers for that job. Click the number link to display a window with a list of each printer model name and IP address.

Installing a device application

The **Install** page displays a list of all device applications that are available for installation on an individual printer or a printer in a device group. Use the **Install** page to install a new or updated version of a device application.

Note

Some printers require a password before a device application can be installed. If the device application installation fails because a password is required, set a password for the printer on the device or device group's **Configuration** page.

The following information is on the **Install** page:

- **Job ID** – Displays a unique identifier for the job.
- **Job State** – Indicates the relationship between the device application and the Device Application Manager.
- **Device Count** – Displays the number of printers for that job. Click the number link to display a window with a list of each printer model name and IP address.

Viewing the installation results

The **Installation Results** page displays the results of the installation process for an individual printer or printers in a device group. Use this page to verify that Device Application Manager successfully installed the device application on an individual printer or printers in a device group. If you need to view this page again, click the link in the **Job ID** column on the **Activity Log** page.

After the install is finished, one of the following results displays under each printer section:

- **Installed**
- **Not Installed**
- **Not Allowed**

Note If the result is **Not Allowed**, the **Command Load and Execute** check box was not selected on the **Device Configuration** page in HP Web Jetadmin.

- **Authentication Required**
- **No Loader**

Note If the result is **No Loader**, the loader page could not be found, or the embedded Web server is disabled.

Note Click **Refresh** until the **Job State** is **Completed**. The job may take some time before it is complete. **Refresh** does not appear when the job is in the **Completed** state.

Removing a device application

The **Remove** page displays a list of the device applications that are installed on the printers. Use the **Remove** page to remove device applications from an individual printer or printers in a device group.

Note System device applications cannot be removed; you cannot select a shaded check box.

The **Remove** page displays the following information:

- **Job ID** – Displays a unique identifier for the job.
- **Job State** – Indicates the relationship between the device application and the Device Application Manager.
- **Device Count** – Displays the number of printers for that job. Click the number link to display a window with a list of each printer model name and IP address.

Viewing the results for removing a device application

The **Remove Results** page displays the results of the removal process for the selected printer or printers in a device group. Verify that Device Application Manager successfully removed the device application from an individual printer or printers in a device group. If you need to view this page again, click the link in the **Job ID** column on the **Activity Log** page.

Note Click **Refresh** until the **Job State** is **Completed**. The job may take some time before it is complete. **Refresh** does not appear when the job is in the **Completed** state.

Configuring the embedded Web server

You can manage the embedded Web server parameters on an individual printer or printers in a device group by configuring the embedded Web server settings on a device or device group configuration page. Managing the parameter settings for printers in a device group saves time and prevents errors that might occur when you make changes to each printer separately.

Note To configure the embedded Web server, an HP Jetdirect 610n or higher must be installed in the printer.

You can configure the embedded Web server to perform the following tasks:

- Specify a URL where the embedded Web server can retrieve configuration information.
- Select check boxes that turn various embedded Web server features on and off.
- Specify the embedded Web server password.
- Specify email settings for sending and receiving email messages from the printer. Use the following information to specify the email settings:
 - An Internet Protocol (IP) address is the address of a device attached to a TCP/IP network. Every device must have a unique IP address.
 - Simple Mail Transfer Protocol (SMTP) servers route SMTP messages throughout the Internet to an email server. The printer uses the email server to send email notifications.
 - The domain name identifies where Embedded Web Server Configuration Manager sends the email message, for example, mycompany.com. The domain name generally resolves to an IP address. However, not all devices can resolve a domain name to an IP address, so both the domain name and an IP address are required.
 - Post Office Protocol 3 (POP3) is a standard email server commonly used on the Internet. POP3 provides a message store feature that holds incoming email until users log on and download the messages. The printer uses this email server to search for incoming email messages.
- Specify the language that the embedded Web server uses to display Web pages. For example, if the primary language used in your company is not English, you can select another supported language to display the Web pages.

- Specify links to other Web sites. This feature is a convenient way to browse to a Web site.
- Specify which machine on the network the printer connects to for time requests. HP printers do not have internal clocks; therefore, they need to connect to another machine on the network to request the correct time.

Note

Setting parameters affects all printers listed in the **Toolbox** under the **Devices** section.

View Log

This **Device Management > Tools > View Log** page displays the history of all operations that HP Web Jetadmin has processed on the HP Web Jetadmin host machine. The following information displays on the page:

- Type of operation processed by HP Web Jetadmin
- Status of the operation
- Result of the operation

Use the information on this page to verify if an operation was processed completely and successfully. If the operation failed, click the link on the **View Log** page to view detailed results of the operation. The results page provides troubleshooting information that can help you solve the issue, and then process the operation successfully.

25 Configuring multiple devices

This chapter covers the following topics:

[Multiple device configuration](#)

[Batch device group configuration](#)

Multiple device configuration

Use the multiple device configuration feature to select several devices and change the options for all of those devices at one time. For example, you can assign the same password to several devices. The multiple device configuration feature is available on the **Device Management > Tools > Multiple Device Configuration** page. This feature is available exclusively for printers connected through HP Jetdirect print servers.

The devices can be on the local subnet or they can be on a remote subnet if the devices have TCP/IP addresses or IPX/SPX and TCP/IP configurations. HP Web Jetadmin uses SNMP commands to configure the options.

All of the options that you configure for the selected devices must be the same. This means that you spend a few minutes entering the information once and then apply it to all of the devices instead of entering the same information repeatedly for each device. It also ensures that redundant information is entered consistently and correctly across multiple printers connected to the network using HP Jetdirect print servers.

The following are some of the options that you can configure for multiple devices:

- Subnet mask
- Default gateway
- System contact
- Device password
- Front control panel lock
- Description
- High-capacity output mode
- HP Jetdirect alerts
- Integration URL (for embedded Web servers)
- IPX SAP broadcast interval
- Protocols
- Set Community Name (security option)
- Interim page count
- Status page language

If one of the devices that you select does not support a particular option, HP Web Jetadmin still displays that option. For example, if you select one HP LaserJet 5Si printer that has a high-capacity output accessory and one that does not, HP Web Jetadmin displays the **High Capacity Output Mode** option on the **Multiple Device Configuration** page.

Use the multiple device configuration feature to assign a range of IP addresses to a device group. HP Web Jetadmin assigns the IP addresses in the order that the devices are listed. If you want more control over which addresses are assigned to particular devices, use each **Device Configuration** page to assign IP addresses.

Note

Although HP Web Jetadmin supports any third-party printer that is Standard Printer MIB compliant and is not connected through an HP Jetdirect print server, you must use the third-party vendor tools to configure the printer. See the vendor documentation for instructions and requirements.

Two of the options that you can configure with the multiple device configuration feature—the IPX SAP broadcast interval and the protocol stacks—require some additional explanation.

IPX SAP broadcast interval

By default, HP Jetdirect print servers send out a Service Advertising Protocol (SAP) broadcast every 60 seconds. This is necessary for the HP Jetdirect print server services to be located in some Novell NetWare environments. You might want to disable HP Jetdirect SAP broadcasts on Novell networks that use Novell Distributed Print Services (NDPS) or on other networks that do not require them.

HP Printer Gateway, which is included with NDPS, has an option that disables SAP broadcasts after HP Web Jetadmin has discovered an HP Jetdirect print server on the network. If you uninstall HP Printer Gateway, another option enables SAP broadcasts. You must specifically configure the HP Web Jetadmin discovery mechanisms to find HP Jetdirect print servers that have SAP broadcasts disabled. Setting the IPX SAP broadcast interval to zero disables SAP broadcasts.

Protocol stacks

Use the multiple device configuration feature to enable and disable the protocols that HP Jetdirect print servers use. You might want to disable the protocols that the HP Jetdirect print server is not using. For example, the AppleTalk and DLC protocols are enabled by default on HP Jetdirect print servers, but many networks do not use them. Although leaving unused protocols enabled does not cause any harm, you might realize the following benefits if you disable them:

- A slight improvement in network performance.
- An additional measure of security and control because each user must access the print services centrally instead of establishing a direct connection. For example, a Macintosh user cannot set up a direct AppleTalk connection with the printer, but the user can access centralized print services through TCP/IP or IPX/SPX.

Batch device group configuration

Use the batch device group configuration feature to configure options for all of the devices in a device group at one time. For example, you could change the name of the person to contact for all of the devices at once. The batch device group configuration feature eliminates the need to select each device and type the options, saving you time and reducing the chances of typing errors.

On the **Device Group Configuration** page, a drop-down list labeled **Device Model Subset** appears below the device list. The options that are displayed change depending on what you select from the drop-down list. For example, if you select **All Device Models in List**, only the options that are common to all of the devices are displayed. If you select a specific model, all of the options that you can configure for that model are displayed.

If one of the devices that you select does not support a particular option, HP Web Jetadmin still displays that option. For example, if you select one HP LaserJet 5Si printer that has a high-capacity output accessory and one that does not, HP Web Jetadmin displays the **High Capacity Output Mode** option on the **Multiple Device Configuration** page.

Note

Although HP Web Jetadmin supports any third-party printer that is Standard Printer MIB compliant and is not connected through an HP Jetdirect print server, you must use the third-party vendor tools to configure the printer. See the vendor documentation for instructions and requirements.

26 Updating HP Jetdirect firmware

This chapter covers the following topics:

[Overview](#)

[Downloading firmware from the Web](#)

[Updating firmware](#)

Overview

Update HP Jetdirect print servers with new functionality over the network, adding new features as they become available without changing hardware. This means that you can preserve your current investment in network printing devices and still take advantage of the latest tools and capabilities emerging from continually evolving network technology.

Use the HP Web Jetadmin integrated, cross-platform firmware downloader to determine which firmware revision is currently installed in an HP Jetdirect print server. You can then compare that revision to the latest revision available from Hewlett-Packard and the minimum revision required to work with HP Web Jetadmin. If a newer firmware revision is available, the firmware downloader can download the new firmware into devices that have Flash memory.

Updating the firmware can correct problems and add new features, such as the following:

- DHCP support
- Novell Directory Services (NDS) support
- Direct Mode printing
- Line printer daemon (lpd) support
- Multicast/SLP support
- Multiprotocol switching

The integrated firmware downloader streamlines the process by finding the latest firmware revision on the Web and updating the firmware on any platform.

Because you access the firmware downloader through a **Device Update** page in HP Web Jetadmin, you do not have to run a separate utility. You can also update multiple devices in one procedure.

The firmware downloader uses Trivial File Transfer Protocol (TFTP) to send the firmware image to the HP Jetdirect device. This process is fully fault-tolerant. If a power outage or loss of network connection interrupts the firmware update process, you can rerun the firmware downloader and initiate the download again. This fully recovers the update because each image file contains two complete code sets: the short stack and the full firmware code image. Each code set has the utilities necessary to complete an image download. The first stage of a firmware update is to download the short stack. After the short stack is validated, the HP Jetdirect print server continues the firmware upgrade by downloading the full firmware image. After the full image is validated, the HP Jetdirect print server reboots and switches to run the new full image. If the upgrade process fails while the full image is downloading, after the power cycle, HP Jetdirect switches to run the short stack. This means that the firmware downloader can recover from a failed download because there is always a good OS in Flash memory.

Downloading firmware from the Web

If there is not a firmware revision on the HP Web Jetadmin host machine that is newer than the one that is currently on the HP Jetdirect print server, HP Web Jetadmin can connect to the HP Web site and download the latest revisions. HP Web Jetadmin compares this list to what is already on the host machine and places an asterisk (*) by each file that is already on the host machine. This makes it easy to see which images are new.

Before you download the firmware from the Web, make sure that the following requirements are satisfied:

- You must have access to the Internet from the machine where HP Web Jetadmin is running.
- You must specify the following settings on the **General Settings > HTTP (Web)** page:
 - Select the check box labeled **Allow HTTP Downloads**.
 - If you are using an HTTP proxy server to access the HP Web site, specify the HTTP proxy server URL and port number.

Note You can schedule firmware updates to occur automatically.

Updating firmware

CAUTION Do *not* turn off the device, unplug the device, disconnect the networking, shut down the host machine where HP Web Jetadmin is installed, or do anything else that would interrupt the firmware downloading process. Doing so may damage the HP Jetdirect print server.

HP Web Jetadmin looks in a directory where it is installed to find the latest firmware revision for the appropriate HP Jetdirect print server model. Firmware update files contain information about which HP Jetdirect model they are meant for and what revision they contain. HP Web Jetadmin examines this information, which means that no additional configuration is necessary to use the new firmware files.

You must download all of the firmware image files you need from the Web before you update the device.

Note When updating a device with downloaded HP Jetdirect firmware, the device must have an IP address other than the default (192.0.0.192) assigned to it.

Section 9

Device groups

This section contains the following chapters:

[Chapter 27, Managing device groups](#)

[Chapter 28, Managing site maps](#)

27 Managing device groups

This chapter covers the following topics:

[Overview](#)

[Creating device groups](#)

[Device group security](#)

[Maintaining device groups](#)

[Subgroups](#)

[Refreshing device group status](#)

Overview

A device group consists of printers, scanners, and other network devices that share particular qualities. For example, you can group devices that support the same features or require the same preventive maintenance schedules. A single device can belong to an unlimited number of device groups.

Device groups reduce the complexity of operating a large network, making it easier to find devices, check their status, troubleshoot problems, and perform preventive maintenance and other administrative tasks.

Creating device groups

Group devices in a logical way. For example, group all of the printers in a workgroup area or you could group one color printer, one monochrome printer, and one scanner.

On the device group **Properties** page, you or the device group owner can assign the following information to a device group:

- A password that prevents unauthorized users from changing or deleting the device group.
- A name and description that helps you quickly find the device group in a list.
- The name of the person who is responsible for the devices in the device group.
- A URL that users can go to for more information, such as a page on your local intranet that provides contact information or support information that you created.
- An icon that helps you quickly identify a device group on a map.

Device group security

Assign a password to a device group on the device group **Properties** page. The device group password prevents unauthorized users from changing or deleting the device group. By default, passwords are not assigned to device groups. You can also specify that the password is required when anyone opens the device group, providing an additional level of security for the device group. For example, you could create a device group for all of the devices in a specific area of the building and assign a password to that device group. Then you could assign a specific person to be responsible for those devices. Only that person could use the device group to check the status of the devices in the device group, add new devices, and update existing devices as needed without your assistance.

Once you assign a password, HP Web Jetadmin prompts users for the password when they try to make changes to the device group. If you delete the device group password, HP Web Jetadmin does not prompt users for a password when they try to make changes to the device group.

Maintaining device groups

Once you have created a device group, you or the device group owner can perform the following tasks:

- add devices to the device group
- remove devices when they no longer belong in the device group
- delete the device group, permanently removing it from HP Web Jetadmin

Add and remove devices on the device group **Devices** page. Delete device groups from the **Device Management > Device Groups** page.

Autogrouping for device groups

The Autogroup feature allows HP Web Jetadmin to automatically add newly discovered devices to a device group if the devices meet specific criteria. This feature saves time by eliminating the need to manually add each new device to the appropriate device group. You can also quickly clean up the device group with the Autogroup feature. You might need to clean up a device group if you have created or changed the filters for the device group, or if someone has added devices that do not belong in the device group.

When HP Web Jetadmin evaluates multiple filters to see whether a device should be included in a device group, the filters specified with the **And** option take precedence over the filters specified with the **Or** option.

Note

HP Web Jetadmin uses Boolean logic to evaluate the filters.

To access the Autogroup feature, go to **Device Management > Device Groups** page and select a device group. Select **Autogroup** from the **Device Group Tools** drop-down list.

Subgroups

A subgroup is a device group that belongs to another device group. When you use subgroups, you can quickly add the devices in an existing device group to another device group without having to manually add each device. Add a subgroup to another device on the subgroup **Properties** page.

Use subgroups to group devices hierarchically so that large groups can contain smaller groups, which can contain even smaller groups. For example, if your company has multiple sites, you could define all of the devices located at one site as a device group called Site 1. Within Site 1, you could define subgroups that contain all of the devices located on each floor: First Floor, Second Floor, and Third Floor. Within those subgroups, you could define even smaller subgroups that contain all of the devices located in each department: Finance, Engineering, and Sales.

Refreshing device group status

The status of the devices in a device group or a subgroup changes constantly. The status of a device group reflects the status of all of the devices and subgroups in it. For example, if one of the devices in a subgroup has a critical error, the subgroup shows a critical error. The device group that the subgroup belongs to also shows a critical error.

To view device group status, display the device group **Devices** page, and then click the refresh icon on the content tool bar.

Note

Clicking the browser **Refresh** button does *not* refresh the device group; it reloads the HP Web Jetadmin home page.

28 Managing site maps

This chapter covers the following topics:

[Overview](#)

[Creating maps](#)

[Uploading maps](#)

[Assigning a map to a device group](#)

[Maintaining maps](#)

[Viewing maps](#)

[Nesting maps](#)

Overview

Site maps are a visual representation of where devices are located and their status. Maps can contain icons that represent individual devices and device groups. Click an icon to display the **Device Status** page or a list of the devices in the device group.

Maps can also contain icons for URLs, providing a support link that users can click to display special information, send questions to an offsite consultant, or contact the person responsible for the device. For example, the URL could be the email address of the person who maintains the device, such as **mailto:name@company.com**.

Site maps are particularly useful if your company is large or you need to manage devices across multiple sites, such as plant sites or branch offices. From a single, remote location, you can more efficiently find and troubleshoot devices distributed across a wider area than previous management tools have allowed.

Although site maps are a powerful feature, it is important to plan how you will use and maintain them before deciding to implement them. Site maps require more memory than other HP Web Jetadmin features. Be sure to check machine memory usage and determine if you need more memory.

Creating maps

Create the underlying map image in, or scan it into, any graphics program that can save files in GIF format. Once created, upload the map to HP Web Jetadmin, assign the map to a device group, and add icons representing individual devices, device groups, or URLs to the map. As you move devices, move their icons to new locations on the map.

If you do not already have an online map or image of your site, you have several options. Work with your IT staff or other network-knowledgeable personnel to create a map or hire a consultant to develop one. Carefully consider whether the value of having site maps justifies the time and expense of creating them. For example, large organizations, organizations distributed across multiple sites, and organizations that outsource help desk functionality might benefit greatly from using site maps. After you create a map, either you or a consultant can maintain it, depending on the number and frequency of updates required. For example, when you move a device to a new location, create new device groups, or update support links.

Uploading maps

Before you can assign a map to a device group, you must upload a map that you created in a graphics package and saved as a GIF file. Upload maps on the device group **Map** page.

Note

If you have problems uploading a map file, make sure that your browser supports the ability to upload files. If it does, disable the proxy server in your browser and try uploading the map file again.

Assigning a map to a device group

Once you have uploaded a map to HP Web Jetadmin, assign that map to a device group on the device group **Map** page.

By default, HP Web Jetadmin displays a site map when someone displays a device group that you have assigned a site map to. If a site map is not available for a device group, HP Web Jetadmin displays a list of the devices in the device group.

Maintaining maps

Once you have assigned a map to a device group, you can perform the following tasks on the device group **Map** page:

- Add an icon for an individual device or a device group to a map. Users can click the icon to view the **Device Status** page or a list of the devices in the device group.
- Add an icon for a URL, providing a support link that users can click to display special information, send questions to an offsite consultant, or contact the person responsible for the device. For example, you can add a URL containing the email address of the person who maintains the mapped area, such as **mailto:name@company.com**.
- As you move devices to new locations, move the device icons on the map to the new locations.
- When devices are no longer in service, remove the device icons from the map.

Viewing maps

Because the icons on a site map are color coded to show the status of the device or device group, you only need to take a quick look at the map to know which devices or device groups need attention and which needs are most critical.

- No border – The device is online and ready. For a device group, all of the devices are ready.
- Red – The printer has stopped and user intervention is required before it can continue. For a device group, at least one of the printers has stopped.
- Yellow – The printer has an error condition, such as toner low, but the printer can still print. For a device group, at least one of the printers has an error condition.

Note

If you click an icon for a URL that is maintained on a secured machine, HP Web Jetadmin might prompt you for a user name and password before you can view the URL.

Nesting maps

Use subgroups to nest maps within each other. You can then navigate through the nested subgroups to display the location of a specific device. For example, you could have a site map that shows multiple buildings. When you open the device group for a building, HP Web Jetadmin displays the floors in the building. When you open the device group for a floor, HP Web Jetadmin displays the departments on that floor. When you open the device group for a department, HP Web Jetadmin displays a floor plan that shows the location of each device in that department.

The following steps illustrate how you to create subgroups for the buildings, floors, and departments and then nest those maps:

- 1 Define a device group called Building 1. Assign a map to it, but do not add any devices to it.
- 2 Define a device group for each floor: First Floor, Second Floor, and Third Floor. Assign a map to each one, but do not add any devices to them.
- 3 Define a device group for each department: Finance, Engineering, and Sales. Assign a map to each one, but do not add any devices to them.
- 4 Add First Floor, Second Floor, and Third Floor as subgroups to Building 1. On the map for Building 1, add icons for the First Floor, Second Floor, and Third Floor device groups.
- 5 Add the device groups for all of the departments on the first floor as subgroups to First Floor. On the map for First Floor, add icons for the department subgroups.

- 6 Add the device groups for all of the departments on the second floor as subgroups to Second Floor. On the map for Second Floor, add icons for the department subgroups.
- 7 Add the device groups for all of the departments on the third floor as subgroups to Third Floor. On the map for Third Floor, add icons for the department subgroups.

To display a detailed map of the Sales department, which is on the second floor of Building 1, display the map for Building 1, click the icon for Second Floor, and then click the icon for Sales.

Section 10

Appendices

This section contains the following chapters:

[Appendix A, Troubleshooting](#)

[Appendix B, Frequently asked questions](#)

[Glossary](#)

[Index](#)

A Troubleshooting

This chapter covers the following topics:

[Installation](#)

[Windows printer drivers](#)

[Operating systems](#)

[Web browsers](#)

[Security](#)

[HP Jetdirect print server security](#)

[SMTP mail host](#)

[HTTP settings](#)

[Discovery mechanisms](#)

[Print queues](#)

[NDS configuration](#)

[Devices](#)

[Site maps](#)

Installation

Issue

You cannot install HP Web Jetadmin.

Solution

Make sure that you have administrator rights.

Issue

When you accessed HP Web Jetadmin from your browser, you received an error message indicating that the browser could not find the proxy server.

Solution

Set up your browser so that it does not use a proxy server for the machine where HP Web Jetadmin is installed.

For Internet Explorer, the proxy server settings are on the **Connections** and **Advanced** tabs of **Internet Options**.

For Netscape, the proxy server settings are in the **Advanced**, **Proxies** option of **Preferences**.

Issue

HP Web Jetadmin does not start when you type its URL in the Web browser.

Solution

- Make sure that the URL is correct, including the port number.
- Make sure that you are using a supported Web browser.
- Make sure that you have configured HP Web Jetadmin to allow access.
- Make sure that HP Web Jetadmin is still running. If HP Web Jetadmin is not running, try to restart it. If HP Web Jetadmin is running, restart the system.

Issue

HP Web Jetadmin performance is very slow.

Solution

- Check to see if you need to add more RAM to the host machine where HP Web Jetadmin is running. The amount of RAM in the host machine has a significant effect on HP Web Jetadmin speed.
 - If HP Web Jetadmin is running on the same machine as an existing Web server or other network services, try running HP Web Jetadmin on a separate machine.
 - If you are running the front end (browser) and HP Web Jetadmin back end (server) on the same machine, try running the browser on a separate machine.
-

Issue

You can use an IP address to start HP Web Jetadmin, but you cannot use the hostname.

Solution

This indicates a name resolution problem. Windows 95 and Windows NT machines that are on the same subnet can resolve hostnames (machine names) without any additional services running. If these machines are on a different subnet than the machine where HP Web Jetadmin is installed, the Microsoft Windows Internet Name Service (WINS) or Domain Name Services (DNS) is required to resolve the hostname to an IP address. Clients other than Windows 95 or Windows NT require DNS to resolve the hostname, regardless of whether routing is involved.

Windows printer drivers

Issue

HP Jetdirect-connected printers are not printing the jobs that are sent to them.

Solution

Some HP printers, referred to as Graphics Device Interface (GDI) or host-based printers, are designed strictly for the Windows environment. The GDI printer driver that resides on the computer interprets and formats the information to be printed before sending it to the printer. This means that GDI printers expect to receive a fully formatted data stream.

Issue

HP Jetdirect-connected printers are not printing the jobs that are sent to them.

Solution

Non-GDI printers expect the computer to send PCL or PostScript data, which the printer then interprets and formats. When non-GDI printers receive a formatted data stream, they discard it as corrupted print data.

HP Jetdirect EX print servers are incompatible with GDI printers. GDI printers must be connected to a host or port rather than an HP Jetdirect print server, which means that GDI printers are not network compatible.

Note

HP Jetdirect does not care how the data is formatted.

Do not use HP Jetdirect print servers with the following HP GDI printers:

- HP Deskjet 720
- HP Deskjet 722
- HP Deskjet 1000
- HP Deskjet 820
- HP LaserJet 3100
- HP LaserJet 6L (with host-based driver)

In addition, do not use HP Jetdirect print servers with GDI printers that other vendors manufacture.

Operating systems

Issue

You cannot install HP Web Jetadmin on Linux.

Solution

- Make sure that you are logged on as the root user.
- Check the directory permissions as well as the ownership.
- Check for disk space on the appropriate volumes.

Issue

When creating print queues, you experience problems with Windows NT domain permission.

Solution

HP Web Jetadmin version 6.0 fixes many cross-domain login issues. If you still experience problems, make sure that domain administrators from the domain where you are the domain administrator appear as a member under the Administrators group on the HP Jetdirect print server. Use the User Manager utility to check this.

Web browsers

Issue

When trying to access HP Web Jetadmin with Internet Explorer 4.x, you receive an error message that an ActiveX control is not safe and your current security settings prohibit running unsafe controls on a browser page. As a result, the page may not display as intended. When you click **OK**, you get a script error.

Solution

The security level is set too high in Internet Explorer. To examine the browser security settings, perform the following steps:

- 1 On the **View** menu, select **Internet Options**.
- 2 Click the **Security** tab.
- 3 Check the security setting for this zone.

If the browser is configured for High security, Java cannot run. Because the HP Web Jetadmin Java Status applet requires Java, the pages containing this applet do not display properly.

To run Java applets, you must reconfigure the browser for Medium security or lower.

Issue

After setting HP Web Jetadmin encryption level to high, you can no longer browse to HP Web Jetadmin.

Solution

The browser that you are using might not support 128-bit encryption. Download and install the high-encryption package for the browser.

The appropriate SSL versions might not be activated in the browser that you are using. Perform one of the following procedures:

- For Internet Explorer 5.x, on the **Tools** menu, click **Internet Options**. Click the **Advanced** tab. In the **Security** section, make sure that the **Use SSL 2.0**, **Use SSL 3.0**, and **Use TLS 1.0** options are selected.
- For Netscape 6.x, on the **Edit** menu, click **Preferences**. In the **Category** section, click **Privacy & Security**, and select **SSL**. Make sure that the **Enable SSL version 2**, **Enable SSL version 3**, and **Enable TLS** options are selected. Click **Edit Ciphers**. Make sure that all of the cipher options are selected.

Security

Issue

You defined an incorrect IP address as the only IP address allowed to access HP Web Jetadmin.

Solution

HP Web Jetadmin does not allow you to deny access to the IP address of the machine where it is installed. Using the browser on the machine where HP Web Jetadmin is installed, access the **General Settings > HTTP (Web)** page and specify the correct IP address.

Issue

You forgot the password for the Admin profile.

Solution

To clear the password, perform the following steps:

Issue

You forgot the password for the Admin profile.

Solution

Note

You must have administrator privileges on the machine where HP Web Jetadmin is running.

- 1 Open the hpjwja.ini file, which is located in the \HP Web Jetadmin\doc\plugins\hpjwja directory.
 - 2 Find and delete the line that starts with AdminPassword=XXXXXXXX, where the Xs represent the encrypted password.
 - 3 Save the hpjwja.ini file.
 - 4 To stop the HP HyperDaemon, click **Start, Settings, and Control Panel**.
 - 5 Double-click the **Services** icon.
 - 6 Select **HP Web Jetadmin**, and click **Stop**. When asked if you want to stop the specified service, click **Yes**.
 - 7 To restart the HP HyperDaemon, select **HP Web Jetadmin**, and click **Start**.
 - 8 To close the Services window, click **Close**.
 - 9 Close the Control Panel.
-

Issue

Someone forgot the password for a device group.

Solution

To clear the password and assign a new one, perform the following steps:

Note

You must have administrator privileges on the machine where HP Web Jetadmin is running.

- 1 Open the hpjwja.ini file, which is located in the \HP Web Jetadmin\doc\plugins\hpjwja directory.
- 2 Find and delete the line that starts with Password=XXXXXXXX, where the Xs represent the encrypted password, in the section matching the device group.
- 3 Save the hpjwja.ini file.

Issue

Someone forgot the password for a device group.

Solution

- 4 To stop the HP HyperDaemon, click **Start, Settings,** and **Control Panel.**
- 5 Double-click the **Services** icon.
- 6 Select **HP Web Jetadmin,** and click **Stop.** When asked if you want to stop the specified service, click **Yes.**
- 7 To restart the HP HyperDaemon, select **HP Web Jetadmin,** and click **Start.**
- 8 To close the Services window, click **Close.**
- 9 Close the Control Panel.

HP Jetdirect print server security

For more information about HP Jetdirect print server security, see document bpj05999 on the HP Web site.

SMTP mail host

Issue

When configuring the SMTP mail host for HP Jetdirect alerts, you received an error message indicating that the SMTP mail host could not be verified.

Solution

To make sure that the mail host you specified is an SMTP mail host, use Telnet to connect to the host at port 25. If the connection is successful and the first three characters are 220, the machine is an SMTP host. If the connection fails, the host is not running an SMTP server.

HTTP settings

Issue

You changed the HTTP port number and users cannot access HP Web Jetadmin.

Solution

For Windows

Perform the following steps:

- 1 Click **Start**, **Settings**, and **Control Panel**.
- 2 Double-click the **Services** icon.
- 3 Select **HP Web Jetadmin**.
- 4 Click **Stop**.
- 5 When the service is stopped, select **HP Web Jetadmin**.
- 6 Click **Start**.

For Linux

Issue the following commands to stop and start the daemon:

- 1 `/etc/rc.d/init.d/hpwebjetd stop`
- 2 `/etc/rc.d/init.d/hpwebjetd start`

Discovery mechanisms

General discovery problems

Issue

HP Web Jetadmin did not discover a known printer on the network.

Solution

- Make sure that the printer is turned on. If you ran one of the broadcast discovery mechanisms, try running a Specified Addresses discovery to search for the printer IP address.
- Use the Quick Device Find feature to discover the device.
- If HP Web Jetadmin still cannot find the printer, the printer might have a network communications problem. Print the configuration (or self-test) page for the printer or the external HP Jetdirect print server and check the protocol status, I/O status, and network statistics.

Local Broadcast discoveries

Issue

HP Web Jetadmin did not find a known printer on the network.

Solution

Make sure that the printer is turned on. If it is turned on, run a Specified Addresses discovery to search for the printer IP address.

Issue

Since delivery of the SNMP request or the response is not guaranteed, HP Web Jetadmin did not discover some of the network devices.

Solution

SNMP is a connectionless protocol. If your network is busy or has many nodes, HP Web Jetadmin might not discover some devices.

- Run one of the Local Broadcast discoveries again or run one of the Local Broadcast discoveries with another discovery mechanism, such as an ARP Table discovery.
- Try running the discovery when there is less network traffic.

Issue

(TCP/IP only) HP Web Jetadmin did not find devices that were on a remote subnet. Routers might not be passing broadcast packets.

Solution

Make sure that the devices are on the same subnet. If they are not on the same subnet, run an IP Range, a Specified Addresses, an ARP Table, or an RDA discovery to find the remote devices.

Issue

(TCP/IP only) HP Web Jetadmin did not find devices that were turned off or unable to communicate.

Solution

Make sure that the device is turned on and able to communicate.

Issue

(TCP/IP only) An IP addressing problem, such as duplicate addresses or a bad subnet mask, might exist.

Solution

- Make sure that the addressing is correct.
 - Make sure that you do not have duplicate IP addresses. Devices with duplicate IP addresses cannot communicate on the network.
 - Use ping and Telnet to test and configure the IP parameters, such as IP address, default gateway, and subnet mask.
-

Issue

(IPX/SPX only) HP Web Jetadmin did not find remote devices because the routers filtered the broadcast traffic.

Solution

Change the router filters, run a NetWare Bindery or RDA discovery, or install a copy of HP Web Jetadmin on each network segment.

Issue

(IPX/SPX only) The routers are not passing IPX/SPX between networks. IPX/SPX is local only.

Solution

- Install IPX/SPX on the network link or install a copy of HP Web Jetadmin on each network segment.
 - Run an IP Broadcast or IP Range discovery.
-

Issue

(IPX/SPX only) SAP broadcasts were filtered.

Solution

Change the router filters, run a NetWare Bindery discovery, or install a copy of HP Web Jetadmin on each network segment.

Issue

(IPX/SPX only) HP Web Jetadmin did not find devices that might be on a remote subnet because the routers filtered the broadcast traffic, the link between the networks was not IPX/SPX, or SAP broadcasts were filtered.

Solution

Run a Specified Addresses or RDA discovery to add the remote IPX addresses so that HP Web Jetadmin can discover the devices.

Multicast/SLP discovery

Issue

HP Web Jetadmin did not discover certain devices on the network.

Solution

Make sure that the devices support multicast broadcasts. If they do not, try a different discovery mechanism. See [Planning a discovery strategy](#) for guidelines on choosing the appropriate discovery mechanism for your network.

Issue

HP Web Jetadmin did not discover devices on remote subnets.

Solution

Make sure that the discovery is configured for the appropriate number of router hops. The default is 4.

ARP Table discovery

Issue

HP Web Jetadmin did not discover newly installed devices.

Solution

Run an IP Range discovery to look for specific addresses or use the Quick Device Find feature to search for a single device.

Issue

The device discovery took a long time when you selected the unrestricted level.

Solution

Specify smaller areas for the discovery or schedule the discovery to run during off hours.

Issue

Devices that you recently disconnected still show up in the device cache.

Solution

Clear the device cache and run a new discovery.

Issue

HP Web Jetadmin did not find NetWare or IPX-only printers.

Solution

The ARP Table discovery is IP print dependant. If the printers are not IP active, they will not be in the ARP table or the device cache.

Specified Addresses discovery

Issue

The hosts.txt file might be incomplete.

Solution

Run another discovery mechanism, such as one of the Local Broadcast discoveries or an ARP Table discovery.

Issue

The hosts.txt file might contain incorrect addresses.

Solution

Make sure that the addresses are correct.

Issue

HP Web Jetadmin did not find devices that were turned off or unable to communicate.

Solution

Make sure that the device is turned on and able to communicate.

IP Range discovery

Issue

An IP addressing problem, such as duplicate addresses or a bad subnet mask, might exist.

Solution

Make sure that the addresses and ranges are correct.

Issue

The device discovery timed out over WANs.

Solution

Increase the network communication timeout value.

Issue

HP Web Jetadmin did not discover devices that were turned off or unable to communicate.

Solution

Make sure that the devices are turned on and able to communicate.

Remote Discovery Agent (RDA) discovery

Issue

RDA was not installed on the remote system.

Solution

- Make sure that the user credentials you supplied during the RDA installation have Administrator rights on the remote system.
 - Make sure that ADMIN\$ share is enabled on the node where you are installing RDA.
-

Issue

HP Web Jetadmin did not discover devices on the subnet where you installed RDA.

Solution

- Make sure that RDA is running on the system on that remote subnet. To do this in Windows, select **Start**, **Control Panel**, and **Services**. To do this in Linux, use a command such as the following:

```
ps -aux | grep "rda"
```
- Make sure that the printers can communicate through IP. RDA is an IP-only discovery mechanism.
- Make sure that the node where RDA is running is turned on during the discovery.

NetWare Bindery discovery

Issue

HP Web Jetadmin did not discover certain devices on the network.

Solution

- Make sure that the NetWare Bindery discovery is querying the NetWare servers on the subnet where the undiscovered devices are installed.
- Make sure that SAP broadcasts are not disabled in the HP Jetdirect print servers. If they are disabled, try running a different discovery mechanism. See [Planning a discovery strategy](#) for guidelines on choosing the appropriate discovery mechanism for your network.

NetWare File Server Login discovery

Issue

You could not add a NetWare file server to the **Selected File Servers** list.

Solution

Make sure that the credentials you supplied have Admin equivalence on the NetWare file server.

Issue

HP Web Jetadmin did not discover NDPS or IP-only printers.

Solution

The NetWare File Server Login discovery is dependent on the HP Jetdirect print server queue server login to the NetWare file server. Run a different discovery mechanism. See [Planning a discovery strategy](#) for guidelines on choosing the appropriate discovery mechanism for your network.

Listen for New Devices discoveries

Issue

HP Web Jetadmin did not discover devices on remote subnets.

Solution

Routers might not be passing BOOTP, SLP, or SAP packet types. Run a different discovery mechanism. See [Planning a discovery strategy](#) for guidelines on choosing the appropriate discovery mechanism for your network.

Issue

HP Web Jetadmin did not discover devices that were already installed and configured.

Solution

Devices that are already installed and configured do not generate the initial BOOTP, SLP, or SAP packet types. Run a different discovery mechanism with the Listen for New Devices discovery. See [Planning a discovery strategy](#) for guidelines on choosing the appropriate discovery mechanism for your network.

Issue

On Linux platforms, HP Web Jetadmin cannot listen to the BOOTP port.

Solution

- Make sure that HP Web Jetadmin is running with root access on the Linux platform.
- HP Web Jetadmin might not be able to monitor the BOOTP port on a Linux system that is an active BOOTP server. Check the system settings and run a different discovery mechanism if needed. See [Planning a discovery strategy](#) for guidelines on choosing the appropriate discovery mechanism for your network.

Issue

HP Web Jetadmin could not discover devices by listening for BOOTP requests because the BOOTP process did not start.

Solution

This problem occurs when the BOOTP process tries to start after you have installed HP Web Jetadmin on the same host machine. The Listen for New Devices discoveries, which are enabled by default, might interfere with enabling the BOOTP process on the host machine.

If you install HP Web Jetadmin before you enable the BOOTP process, HP Web Jetadmin binds to the BOOTP port (port 67). When you try to start BOOTP, the BOOTP port is unavailable and the process cannot start. You can solve this problem with one of the following workarounds.

Workaround 1: If you implement the BOOTP service on the same host machine as HP Web Jetadmin, make sure that HP Web Jetadmin is installed or started after you start the BOOTP service. This prevents HP Web Jetadmin from binding to the BOOTP port.

Workaround 2: If you have already installed HP Web Jetadmin, enable the BOOTP process to start at boot up. Restart the host machine. Because the BOOTP process has a higher priority than HP Web Jetadmin, the BOOTP process starts and binds to the BOOTP port before HP Web Jetadmin.

If you cannot restart the host machine for some reason, manually stop and restart each process in the following order:

- 1 Stop the BOOTP process.
- 2 Stop the HP Web Jetadmin process.
- 3 Restart the BOOTP process.
- 4 Restart the HP Web Jetadmin process.

Note

When the BOOTP process is running, HP Web Jetadmin cannot discover new devices using the BOOTP method. To avoid future BOOTP conflicts, disable the Listen for New Devices discovery mechanisms in HP Web Jetadmin, restart HP Web Jetadmin, and use one of the workarounds.

Print queues

Issue

You tried to create a print queue on Linux and it failed.

Solution

You must enable the rexec service on the HP Jetdirect print server where you want to create the print queue. Perform the following steps:

- 1 Make sure that you have the following line in the `/etc/inetd.conf` file and make sure that it is not commented out:

```
exec stream tcp nowait root /usr/sbin/tcpd in.rexecd
```

- 2 Comment out (or delete) the following line from the `/etc/pam.d/rexec` file:

```
auth required /lib/security/pam_securetty.so
```

- 3 Restart the inetd service:

```
/etc/rc.d/init.d/inet stop  
  
/etc/rc.d/init.d/inet start
```

Issue

When you use HP Web Jetadmin Standard TCP/IP Port Monitor, print jobs leave the print queue, but nothing prints.

Solution

- In the Properties of the Printers folder, check the name of the port. If it is a hostname instead of a TCP/IP address, enter the `nslookup hostname` command. You should get a response that has the correct corresponding TCP/IP address. Then ping the hostname. If it fails or an error occurs, delete the port and create the print queue again using the HP Jetdirect print server TCP/IP address.
- PostScript printer drivers might encounter an error, but the printer does not print the PostScript error message. Use a generic printer driver to print a test page.
- Check for duplicate TCP/IP addresses on the HP Jetdirect **Configuration** page.
- Check the idle timeout interval on the HP Jetdirect **Configuration** page.

Issue

While you were creating a Windows print queue on a server that has Novell NetWare client installed, you clicked **More Drivers** but the list of printer drivers did not change.

Solution

To allow enumeration of printer drivers from other systems, you must reorder the print providers on the HP Jetdirect print server where you are creating the print queue. To reorder the print providers, perform the following steps:

- 1 On the host machine where HP Web Jetadmin is installed, go to **Network Neighborhood Properties**.
- 2 Click the **Services** tab.
- 3 Click **Network Access Order**.
- 4 In the **Print Providers** section, change the order of the list so that **LanMan Print Services** appears first.

NDS configuration

Issue

You cannot create the NetWare print objects.

Solution

If you are configuring print services in a Novell NetWare environment, you must have NDS create rights for the container where you are creating the print objects. Use the NetWare Administrator utility to determine if the specified user has the appropriate NDS rights.

Issue

After setting up the Novell configuration for the HP Jetdirect print server, the HP Jetdirect print server does not service print jobs that arrive in the print queue.

Solution

For more information about the NetWare connections, display the **Device Diagnostics** page. HP Web Jetadmin displays information indicating connection problems, such as the inability to resolve the HP Jetdirect print server name. The Novell Status section on the HP Jetdirect print server test page also shows any NDS errors.

Devices

Issue

The **Device Alerts** page is not available.

Solution

Make sure that the printer supports alerts in its Standard Printer MIB.

Issue

HP Web Jetadmin does not display some of the information that is available for devices on your network.

Solution

The information that HP Web Jetadmin displays on the **Device Status** page depends on the following factors:

- the device feature set
- the information that the device Standard Printer MIB supports
- the device firmware revision

Check to see if the device feature set and Standard Printer MIB support the information that you want to display. If they do, try updating the firmware.

Issue

When you use an older version of HP Web Jetadmin to manage HP Jetdirect print servers, a Dr. Watson error is generated on the host machine running HP Web Jetadmin.

Solution

Update to the latest version of HP Web Jetadmin.

Issue

When you try to change an HP Jetdirect print server configuration options after you have configured the Set Community Name, you receive an error message indicating that the Set Community Name is invalid. When you type the new Set Community Name, you receive another error message indicating that the Set Community Name is invalid.

Solution

Make sure that the Set Community Name does not end with a number. If it does, change the Set Community Name to one that does not end with a number. Try to change the HP Jetdirect print servers configuration options again.

Issue

When creating a print queue on an HP-UX system, you received an error indicating that the operating system is not supported.

Solution

On the machine where you are creating the print queue, type

```
uname -a
```

The operating system should be HP-UX 11.x.

At the command prompt, type

```
ll /bin
```

This command should return something similar to the following:

```
lr-xr-xr-t 1 root sys 8 Dec 20 15:26 /bin -> /usr/bin
```

In most cases, /bin is a symbolic link to the /usr/bin directory. A default installation of HP-UX 11.x should contain this link. If /bin does not exist or it is not linked to the /usr/bin directory, HP Web Jetadmin fails its operating system check.

Issue

An HP Jetdirect print server TCP/IP address is displayed instead of the hostname.

Solution

Make sure that the hostname is an IP hostname that can be resolved on the network. It cannot be a hostname that you configured within the HP Jetdirect print server by a method such as Telnet. The configured hostname is stored on the HP Jetdirect print server and may not match the DNS hostname.

At the command or DOS prompt on the machine where HP Web Jetadmin is running, type
`nslookup hostname`
where `hostname` is the IP hostname that you expect to be displayed in HP Web Jetadmin.

If the DNS query ends with a timeout, the hostname cannot be resolved through DNS.

If the DNS query works, make sure that the DNS inverse query function is implemented on the DNS server. At the command or DOS prompt on the machine where HP Web Jetadmin is running, type

`nslookup ipaddress`

where `ipaddress` is the HP Jetdirect print server TCP/IP address. If the DNS query ends with a timeout, the DNS inverse query function may not be configured correctly.

A possible workaround for this problem is to assign IPX/SPX names. IPX/SPX must be enabled on the HP Jetdirect print server and on the machine where HP Web Jetadmin is running.

Issue

When downloading HP Jetdirect firmware from the HP Web site, you received an error message indicating that the download failed.

Solution

On the **General Settings > HTTP (Web)** page, make sure that the check box labeled **Allow HTTP Downloads** is selected.

If the LAN has a proxy server, make sure that the proxy server settings are correct. Match the proxy server settings to the settings in the browser.

If these settings are correct, the following steps provide a workaround:

- 1 In your browser, go to http://www.hp.com/embed/webjetadmin_firmware.

Issue

When downloading HP Jetdirect firmware from the HP Web site, you received an error message indicating that the download failed.

Solution

2 If you are prompted to save the file, save it as HP Web Jetadmin\ina\firmware\firmware.glf in the directory where you installed HP Web Jetadmin.

-or-

If the text of the firmware.glf file is displayed, manually save the file to the HP Web Jetadmin\ina\firmware directory where you installed HP Web Jetadmin.

3 Open the firmware.glf file in WordPad.

4 Find the entry for the firmware revision you tried to download and make a note of the path name.

5 In your browser, type the path name for that firmware revision. Most browsers display the binary contents of the DLD file.

6 Save the DLD file to the ina\firmware directory where you installed HP Web Jetadmin.

7 Download the firmware revisions again.

If you cannot download the firmware revisions using the workaround, there are issues with your network (for example, a firewall) that you need to resolve. Make sure that the files are saved in their entirety to the correct HP Web Jetadmin directory. Look in the firmware.glf file for the correct file size.

Site maps

Issue

HP Web Jetadmin performance is very slow after you upload a site map.

Solution

Check to see if you need to add more RAM in the host machine where HP Web Jetadmin is running. The amount of RAM in the host machine has a significant effect on HP Web Jetadmin performance.

B Frequently asked questions

This appendix covers the following topics:

[How has HP Web Jetadmin help changed?](#)

[How can I provide feedback about HP Web Jetadmin?](#)

[Why is HP Web Jetadmin performance very slow?](#)

[How much memory is required on the client machine that I am using to access HP Web Jetadmin?](#)

[If I am using Internet Explorer in Windows NT 4.0, Windows 2000, or Windows XP, what version of the Microsoft Java Virtual Machine \(JVM\) is required?](#)

[If I have Service Pack 3 or higher installed, why does the HP Web Jetadmin installation process fail with the error message HP Web Jetadmin 7.0 requires Windows NT 4.0 Service Pack 3 or higher?](#)

[When using a non-English version of HP Web Jetadmin, why is English displayed on some pages?](#)

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[When I use Netscape to configure a printer for NDS, why is the full queue name not displayed in the NetWare Service Queue window?](#)

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[Are there any issues that I need to be aware of when using Netscape to reinstall or upgrade HP Web Jetadmin?](#)

[Is HP Web Jetadmin affected by CERT Advisory CA-2002-17, which affects the Apache Web Server?](#)

[Is HP Web Jetadmin affected by CERT Advisory CA-2002-19?](#)

[Since Microsoft no longer offers their Java Virtual Machine \(JVM\) for downloading, which JVM should I use with Internet Explorer?](#)

[When I create a print queue in HP Web Jetadmin, why do the printer drivers not display when I try to select one from a Windows XP machine?](#)

[How do I re-enable the Setup Wizard?](#)

[What is the difference between the Allow then Deny and Deny then Allow options in the Order for HP Web Jetadmin Access section on the General Settings > HTTP \(Web\) page?](#)

[How do I configure Windows NT domain authentication in Linux?](#)

[Why am I unable to disable some protocols on an HP Jetdirect device?](#)

Question**Answer**

How has HP Web Jetadmin help changed?

HP Web Jetadmin browsable help has been enhanced. The browsable help provides a hypertext index of the help topics and a glossary of key terms used in HP Web Jetadmin. To access the browsable help from within HP Web Jetadmin, select **Device Management** from the **Navigation** drop-down list, expand the **Help** folder, and click **HP Web Jetadmin**.

You can also download the browsable help in PDF format, allowing you to print the complete browsable help. To download the PDF, go to http://www.hp.com/go/webjetadmin_software, scroll to the self-help resources section, and click the **manuals** link.

HP Web Jetadmin context help has also been enhanced. To view a **What**, **Why**, and **How** synopsis for a page, topic, task, or option, click the help icon (blue question mark).

How can I provide feedback about HP Web Jetadmin?

A **Feedback** page is now available within HP Web Jetadmin. This page provides a one-way communication path for you to send feedback directly to HP. The **Feedback** page is not intended to be a replacement for customer-escalation issues that require a follow up or call back. If you have an issue that requires customer support, please contact the HP Customer Care Technical Center using one of the methods described on the following Web site:

http://www.hp.com/cposupport/mail_support.html.

To access the **Feedback** page, select **Device Management** from the **Navigation** drop-down list, expand the **Help** folder, expand the **HP Web Jetadmin** folder, and click **Feedback**.

Why is HP Web Jetadmin performance very slow?

The amount of random-access memory (RAM) on the host machine where HP Web Jetadmin is installed affects the speed. You might need to increase the amount of RAM installed in HP Web Jetadmin's host machine. If the host machine is a Windows PC, HP recommends a

Question	Answer
How much memory is required on the client machine that I am using to access HP Web Jetadmin?	<p>minimum of 256 MB of RAM. If the host machine is a Linux PC, HP recommends a minimum of 128 MB of RAM.</p> <p>If you are using Netscape on the client machine, HP recommends a minimum of 64 MB of RAM.</p> <p>If you are using Internet Explorer on the client machine, HP recommends a minimum of 32 MB of RAM.</p>
If I am using Internet Explorer in Windows NT 4.0, Windows 2000, or Windows XP, what version of the Microsoft Java Virtual Machine (JVM) is required?	<p>At a minimum, you should use JVM version 5.00.3149. If it is possible, use the latest version of JVM.</p> <p>To find out what JVM version is installed, open a DOS window, and issue the <code>jview</code> command. If the JVM version is older than 5.00.3149, you must upgrade JVM.</p> <p>Go to the following Web site for more information about upgrading JVM: http://www.microsoft.com/java</p>
If I have Service Pack 3 or higher installed, why does the HP Web Jetadmin installation process fail with the error message HP Web Jetadmin 7.0 requires Windows NT 4.0 Service Pack 3 or higher?	<p>Typically, this means that the Service Pack was a release candidate or hotfix. To find out which Service Pack is installed, use <code>regedit</code> or <code>regedit32</code> to check the following key in the Registry:</p> <p>CAUTION Do not modify the Registry.</p> <p>\HKEY_LOCAL_MACHINE\SOFTWARE \Microsoft\Windows NT\Current Version \CSDVersion</p> <p>The value for this registry key should be Service Pack x, where x is the Service Pack version number. If the value includes the RC number, for example Service Pack 4, RC 1.2, the HP Web Jetadmin installation will fail. Download and install the latest Service Pack from Microsoft, or reinstall the released version of the Service Pack that you have installed. See Microsoft article Q222507 for more information.</p>

Question	Answer
When using a non-English version of HP Web Jetadmin, why is English displayed on some pages?	<p>HP Web Jetadmin always tries to display consistent languages. However, each device that HP Web Jetadmin manages might support a different set of languages. As a result, HP Web Jetadmin might display different languages on the same page.</p> <p>For example, HP Web Jetadmin might display the basic user interface on a device Device Status page in Dutch. If that particular device does not support Dutch, HP Web Jetadmin might display the device-specific information on the Device Status page in English instead of Dutch.</p> <p>HP Web Jetadmin might also display English in the following situations:</p> <ul style="list-style-type: none"> • when you display an embedded Web page for a device • when you create a print queue from a Windows NT 4.0 or Windows 2000 machine on an HP-UX, Linux, or Solaris machine that does not support the language that is being used on the Windows machine
Can I use Internet Explorer on a Linux machine to browse to HP Web Jetadmin?	No. You must use Netscape on Linux machines.
How do I download HP Jetdirect firmware images from the Web with a secure proxy server setup?	<p>HP Web Jetadmin supports basic proxy authentication. However, if additional authentication is required for Web access, you can manually download the firmware images from the following Web site:</p> <p>http://www.hp.com/go/webjetadmin_firmware</p> <p>Once you download the firmware images, you can use the Intelligent Update feature to upload the files and install them.</p>
What new alerts are available in HP Web Jetadmin?	<p>HP Web Jetadmin can send different alerts from the same device to different email addresses. In addition to this, three levels of alert text messages are available: Mobile (for email-enabled mobile devices with limited</p>

Question	Answer
	<p>message lengths), Concise (for short alert messages), and Verbose (for a complete alert message).</p> <p>HP Web Jetadmin relies on SNMP traps for alerts from most HP printers. However, alerts for polling can be enabled for monitoring older HP printers that do not support SNMP traps.</p> <p>HP Web Jetadmin now provides threshold alerts for printers with embedded Web servers for Toner Low and alerts for the Transfer Kit, Drum Kit, and Fuser Kit.</p>
<p>How do I delete devices from HP Web Jetadmin device lists?</p>	<p>From any device list, select the devices that you want to delete, and click Delete Device.</p> <p>Note To select multiple devices, you can use the Shift or Ctrl key.</p>
<p>Does HP Web Jetadmin have a Remote Control Panel function?</p>	<p>Yes. Not only is the printer control panel displayed within HP Web Jetadmin, but all of the buttons on the control panel are functional within HP Web Jetadmin.</p> <p>To access the Remote Control Panel feature, perform the following steps:</p> <ol style="list-style-type: none"> 1 From any device list, double-click a device. 2 On the Device Status page, select Configuration from the drop-down list on the content toolbar. 3 On the Device Configuration page, click Remote Control Panel in the Configuration Categories section. <p>HP Web Jetadmin does not support the Remote Control Panel feature for the following devices:</p> <ul style="list-style-type: none"> • devices released prior to the HP LaserJet 5Si • devices that do not have a control panel • HP Color LaserJet 8500 and 8550 printers • HP LaserJet 9000

Question	Answer
What is the Remote Discovery Agent (RDA) feature?	<ul style="list-style-type: none"> • HP LaserJet 4100 MFP • HP LaserJet 4600 • non-HP devices <p>HP Web Jetadmin uses RDA to discover unconfigured HP devices (IP address of 192.0.0.192) on remote TCP/IP networks. HP Web Jetadmin pushes a piece of software to a host machine on the remote network. The RDA software then runs as a service under Windows or as a process under Linux, discovering unconfigured devices and passing the device information back to HP Web Jetadmin.</p> <p>With HP Web Jetadmin version 6.5 and above, you can configure RDA on the remote network. You can specify the discovery mechanisms that you want to run on the remote network and schedule when the RDA discovery runs on the remote network.</p>
When displaying device lists in HP Web Jetadmin, can I reorder or change the columns of information?	<p>Yes. After you display any device list, click the Views tool on the content toolbar. You can use the Device List - Edit Views page to show or hide columns of information and change the order of the columns. You can permanently save these custom views.</p>
What versions of Novell NetWare Client does HP Web Jetadmin support for Windows NT 4.0, Windows 2000, and Windows XP?	<p>HP Web Jetadmin supports only Novell NetWare Client 4.83.</p> <p>HP Web Jetadmin does not support Novell NetWare Client 4.51, which is shipped Windows 2000.</p> <p>HP Web Jetadmin does not support Microsoft Client Service for NetWare.</p>
When I use Netscape to configure a printer for NDS, why is the full queue name not displayed in the NetWare Service Queue window?	<p>Netscape has trouble resizing the text box for the fully qualified queue name. The queue name is correct; it just is not displayed.</p> <p>To resize the text box, finish installing the printer, and go back and check the entry in HP Web Jetadmin. The text box is now resized.</p>

Question	Answer
<p>When I create a Windows print queue on a machine that has Novell NetWare client installed, why does the list of printer drivers remain the same when I click More Drivers?</p>	<p>Note There are no known patches for this problem in Netscape at this time.</p> <hr/> <p>To allow enumeration of printer drivers from other systems, you must change the order of the print providers on the machine where you are creating the print queue. To change the order of the print providers in Windows NT 4.0, perform the following steps:</p> <ol style="list-style-type: none"> 1 On the host machine where HP Web Jetadmin is installed, go to Network Neighborhood Properties. 2 Click the Services tab. 3 Click Network Access Order. 4 In the Print Providers section, change the order of the list so that LanMan Print Services appears first.
<p>Why does the BOOTP process not start on my Linux system?</p> <p>Note This issue only applies if you try to start the BOOTP process after you install HP Web Jetadmin on the same host machine.</p>	<p>HP Web Jetadmin can discover new devices attached to the network by listening for the BOOTP packets that HP Jetdirect devices broadcast. The Listen for New Devices - BOOTP discovery mechanism is enabled by default and might interfere with enabling the BOOTP process on the host machine.</p> <p>If you installed HP Web Jetadmin before you enabled the BOOTP process, HP Web Jetadmin binds to the BOOTP port (port 67). When you try to start BOOTP, the BOOTP port is unavailable and the process cannot start.</p> <p>Workaround 1 - If you implement the BOOTP service on the same host machine as HP Web Jetadmin, make sure that you install or start HP Web Jetadmin after you start the BOOTP service. This prevents HP Web Jetadmin from binding to the BOOTP port.</p> <p>Workaround 2 - If you have already installed HP Web Jetadmin, enable the BOOTP process to start at boot up. Restart the host machine. Because the BOOTP process has a higher</p>

Question	Answer
	<p>priority than HP Web Jetadmin, the BOOTP process starts and binds to the BOOTP port before HP Web Jetadmin.</p> <p>Workaround 3 - If you cannot restart the host machine for some reason, manually stop and restart each process in the following order:</p> <ol style="list-style-type: none"> 1 Stop the BOOTP process. 2 Stop the HP Web Jetadmin process. 3 Restart the BOOTP process. 4 Restart the HP Web Jetadmin process. <p>Note When the BOOTP process is running, HP Web Jetadmin cannot discover new devices using the BOOTP method. To avoid future BOOTP conflicts, disable the Listen for New Devices - BOOTP discovery mechanism by performing the following steps:</p> <ol style="list-style-type: none"> 1 Select Device Management from the Navigation drop-down list, expand the Management Settings folder, expand the Discovery folder, and click Properties. 2 Clear the check box labeled Listen For New Devices - BOOTP. 3 Click Apply. 4 Restart the HP Web Jetadmin service. <p>Once you complete these steps, you must still implement one of the workarounds, if you have not already done so.</p>
How do I install printers in Red Hat Linux?	<p>If you want to use the HP Print Server Manager Software on Red Hat Linux print servers, you must enable the rexec service on each print server. To enable the rexec service, perform the following steps:</p> <ol style="list-style-type: none"> 1 For systems with inetd, make sure that the following line is in the /etc/inetd.conf file, and make sure that the line is not commented out:

Question

Answer

For systems with xinetd, issue the following command:

```
/sbin/chkconfig rexec on
```

```
exec stream tcp nowait root /usr/sbin/  
tcpd in.rexecd
```

- 2** Comment out (or delete) the following line from the `/etc/pam.d/rexec` file:

```
auth required /lib/security/  
pam_securetty.so
```

- 3** Restart the rexec service.

For systems with inetd, issue the following commands:

```
/etc/rc.d/init.d/inet stop
```

```
/etc/rc.d/init.d/inet start
```

For systems with xinetd, issue the following commands:

```
/etc/rc.d/init.d/xinetd stop
```

```
/etc/rc.d/init.d/xinetd start
```

When using Linux, why am I unable to print the list of devices that HP Web Jetadmin has discovered?

When using Netscape in Linux to print a list of the devices that HP Web Jetadmin has discovered, the error message *Could not execute print command* might be displayed. This error occurs because Linux supports only the LPR command to print. Netscape tries to use the LP print command, which is unavailable. As a workaround, try printing to a file using the LPR command to print, then use Linux to print the file.

When using Netscape in Red Hat Linux, why does Netscape crash when I access a Web page that contains a Java applet?

In some situations, certain applications might not display fonts correctly. This occurs because Netscape Java Virtual Machine (JVM) expects there to be certain directories in the font path. There is a problem in Red Hat Package Manager (RPM) that causes many systems to have an incomplete list of font paths for X to use.

Question	Answer
	<p>To confirm the font paths, issue the following command:</p> <pre>chkfontpath --list</pre> <p>The following information is displayed:</p> <hr/> <pre>Current directories in font path: 1 /usr/X11R6/lib/X11/fonts/misc:unscaled 2 /usr/X11R6/lib/X11/fonts/75dpi:unscaled 3 /usr/X11R6/lib/X11/fonts/100dpi:unscaled 4 /usr/X11R6/lib/X11/fonts/misc 5 /usr/X11R6/lib/X11/fonts/Type1 6 /usr/X11R6/lib/X11/fonts/Speedo</pre> <hr/> <p>To add the 75dpi scaled font to the path list, issue the following command:</p> <pre>chkfontpath --add /usr/X11R6/lib/X11/fonts/75dpi</pre> <p>If problems persist, go to the following Web site for additional information:</p> <p>http://home.netscape.com/eng/mozilla/4.6/relnotes/unix-4.6.html#unix/</p>
<p>When creating print queues or pushing the Remote Discovery Agent (RDA) service to a Gnome Workstation, why am I unable to log in to the workstation to complete the process?</p>	<p>The inetd, rsh, and rsh-server packages might not be installed during a default Gnome Workstation installation of Red Hat Linux. To create print queues or push the RDA service, you must manually install these packages.</p> <p>Note In general, the rsh-server package is required to create print queues on Linux.</p>
<p>What languages does HP Web Jetadmin support? How do I enable them?</p>	<p>HP Web Jetadmin supports the following languages: Czech, Danish, Dutch, English, Finnish, French, German, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Simplified Chinese, Spanish, Swedish, Russian, Traditional Chinese, and Turkish.</p> <p>These language packs are available from HP's Web site. To use the Intelligent Update feature to download and install any or all of these languages, perform the following steps:</p>

Question	Answer
	<p>Note To use the Intelligent Update feature, you must specify the proxy settings on the General Settings > HTTP (Web) page.</p> <ol style="list-style-type: none"> 1 Select Product Update from the Navigation drop-down list. 2 Click Languages. 3 Select the appropriate languages, and click Install. 4 Click Next. 5 If the list of packages to be updated is acceptable, click Next. The Install Results page indicates if the languages that you selected were successfully installed.
Does HP Web Jetadmin support the Windows NT Terminal Server environment?	No.
Can I use an Apple PC to browse to HP Web Jetadmin?	No.
How do I disable the UTF-8 encoding of the subject line in HP Web Jetadmin alert messages?	<p>UTF-8 (Universal Transformation Format) is a method for converting 16-bit Unicode characters to ASCII characters for transmission over 8-bit email systems. This encoding is enabled by default in HP Web Jetadmin. To disable this feature so that no encoding takes place, add the following entry to the <code>hpjalertnotemail_settings</code> section in the <code>hpjalerts.ini</code> file:</p> <pre>DisableUTF8 Subject=true</pre> <p>For Windows, the following is the path for the <code>hpjalerts.ini</code> file:</p> <pre>\Program Files\HP Web Jetadmin\doc\plugins\hpjalerts</pre> <p>For Linux, the following is the path for the <code>hpjalerts.ini</code> file:</p> <pre>/opt/hpwebjet/doc/plugins/hpjalerts</pre>

Question	Answer
Why does the AutoComplete function in Internet Explorer not work for passwords?	<p>Passwords in HP Web Jetadmin must be encrypted before being transmitted over the network (from the client machine to HP Web Jetadmin host machine). Because of this, the AutoComplete function for passwords is incompatible and does not work in HP Web Jetadmin.</p>
Does HP Web Jetadmin provide a command-line installation option?	<p>Yes. Issue the following command:</p> <pre>setup <options></pre> <p>You can specify the following parameters for <options>:</p> <ul style="list-style-type: none"> -h - Displays the usage description. NONE - Initiates a new installation with a GUI interface. -r - Initiates a GUI uninstallation. <p>Silent installation or uninstallation</p> <p>You can specify the following parameters for <options>:</p> <ul style="list-style-type: none"> -s - Initiates a new installation without a GUI interface. The installation fails if there are conflicts. -s -r - Initiates a silent standard uninstallation. -s -r all - Initiates a silent complete uninstallation. The uninstallation fails if there are conflicts. <p>Silent installation only</p> <p>You can specify the following parameters for <options>:</p> <ul style="list-style-type: none"> -d <dir> - Sets the installation directory to the value that you specify for the <dir> parameter. -m <name> - Sets the hostname to the value that you specify for the <name> parameter, if <name> is valid.

Question	Answer
	<p>-p <num> - Sets the port number to the value that you specify for the <num> parameter, if <num> is valid.</p> <p>-n - Sets a silent upgrade to use new settings.</p> <p>-f - Sets an upgrade or uninstallation to forcefully resolve conflicts.</p> <p>Text installation or uninstallation</p> <p>You can specify the following parameters for <options>:</p> <p>-t - Initiates a new installation with a text interface.</p> <p>-t -r - Initiates an uninstallation with a text interface.</p> <p>Bundle installation only</p> <p>You can specify the following parameters for <options>:</p> <p>-b - Initiates a silent bundle installation only.</p> <p>Linux upgrade only</p> <p>You can specify the following parameters for <options>:</p> <p>-u <dir> - Initiates an upgrade installation. A previous installation directory must exist.</p> <p>Note</p> <p>All new installations try to discover a previous installation. If a previous installation is found, the upgrade option is offered.</p>
<p>Why does the setup -s -r all command fail to uninstall HP Web Jetadmin?</p>	<p>This command tries to perform a complete uninstallation, but fails because of a conflict with one of HP Web Jetadmin plug-in modules. To perform a complete uninstallation, issue the following command:</p> <pre>setup -s -f -r all</pre> <p>The -f parameter forcibly resolves any conflicts.</p>

Question**Answer**

Are there any issues that I need to be aware of when upgrading from HP Web Jetadmin version 6.5 to 7.0 while running Netscape 7.0 and Sun Java Runtime Environment (JRE) 1.4.1?

Yes. An error might occur when you first access HP Web Jetadmin. A red X appears where the **Navigation** tree should be. To fix this error, you must clear the JRE cache.

To clear the JRE cache, perform the following steps:

- 1 Close the Netscape browser.
- 2 Open the JRE Control Panel.

In Windows, click **Start**, click **Settings**, click **Control Panel**, and double-click the **Java Plug-in** icon.

In Linux, issue the following command:

```
<jre_directory>/bin/ControlPanel
```

where <jre_directory> is the directory where JRE is installed.

- 3 On the JRE Control Panel, click the **Cache** tab.
- 4 Click **Clear**.
- 5 Close the JRE Control Panel.
- 6 Open Netscape, and browse to HP Web Jetadmin.

The **Navigation** tree should now load correctly.

Are there any issues that I need to be aware of when using Netscape to reinstall or upgrade HP Web Jetadmin?

Yes. If you use Netscape to install the certificate for the HP Web Jetadmin host machine and you reinstall or upgrade HP Web Jetadmin, HP Web Jetadmin creates a new certificate. In this situation, Netscape displays an invalid MAC error, which prevents anyone from browsing to the HP Web Jetadmin host machine. Apparently, Netscape does not allow the certificate to be deleted.

To resolve this issue, delete the cert7.db and key3.db files in the Netscape profile directory.

In Windows, the following is the path for the profile directory:

Question	Answer
	<p>%USERPROFILE%\Application\Data\mozilla\profiles\<<profile name>\<random number></p> <p>In Linux, the following is the path for the profile directory:</p> <p>~/.mozilla/<profile name>/<random number></p> <p>Unfortunately, deleting the cert7.db and key3.db files deletes all of the other certificates that you have installed. To avoid losing these certificates, export them first.</p>
<p>Is HP Web Jetadmin affected by CERT Advisory CA-2002-17, which affects the Apache Web Server?</p>	<p>HP Web Jetadmin implemented Apache Web Server version 2.0.39, which is not affected by this CERT Advisory. Go to the following Web site for more information:</p> <p>http://www.cert.org/advisories/CA-2002-17.html</p>
<p>Is HP Web Jetadmin affected by CERT Advisory CA-2002-19?</p>	<p>HP Web Jetadmin running on Windows is not affected by this CERT Advisory.</p> <p>HP Web Jetadmin running on Linux might be affected by this CERT Advisory because the GNU libc library is used. You should apply the appropriate operating system patches. Go to the following Web site for additional information:</p> <p>http://www.cert.org/advisories/CA-2002-19.html</p>
<p>Since Microsoft no longer offers their Java Virtual Machine (JVM) for downloading, which JVM should I use with Internet Explorer?</p>	<p>Download and install Sun's Java Runtime Environment (JRE) 1.4.1 from one of the following Web sites:</p> <ul style="list-style-type: none"> • http://java.sun.com (general site) • http://java.sun.com/getjava/download.html (specific download page)
<p>When I create a print queue in HP Web Jetadmin, why do the printer drivers not display when I try to select one from a Windows XP machine?</p>	<p>Because of a Windows XP security enhancement, you must install the HP Print Server Management component (also known as PPS) on the remote machine before HP Web Jetadmin can list the printer drivers from the remote Windows XP machine. To push the PPS software to the remote machine, use HP Web Jetadmin to create a print queue on that remote machine.</p>

Question	Answer
How do I re-enable the Setup Wizard?	<p>To re-enable the Setup Wizard so that it is displayed when you access HP Web Jetadmin, edit the framework.ini file in the following directory:</p> <p>\Program Files\HP Web Jetadmin\doc\plugins\framework</p> <p>In the [profiles_admin] section, delete the following line:</p> <hr/> <pre>IgnoreSetup=true</pre> <hr/>
<p>What is the difference between the Allow then Deny and Deny then Allow options in the Order for HP Web Jetadmin Access section on the General Settings > HTTP (Web) page?</p>	<p>For the Allow then Deny option, HP Web Jetadmin evaluates the Allow directives first and then evaluates the Deny directives. If you select this option, HP Web Jetadmin denies access by default. This means that HP Web Jetadmin denies access to any client machine that does not match an Allow directive and denies access to any client machine that does not match a Deny directive.</p> <p>For the Deny then Allow option, HP Web Jetadmin evaluates the Deny directives and then evaluates the Allow directives. If you select this option, HP Web Jetadmin allows access by default. This means that HP Web Jetadmin allows access to any client machine that does not match a Deny directive and allows access to any client machine that matches an Allow directive.</p>
<p>How do I configure Windows NT domain authentication in Linux?</p>	<p>For Windows, NT domain authentication appears as an option within HP Web Jetadmin without any extra configuration.</p> <p>For Linux, however, you must perform the following steps to enable the Linux machine to support Windows NT domain authentication:</p> <ol style="list-style-type: none"> 1 On the Linux machine, install winbindd, if it is not already installed.

Question

Answer

- 2** Configure the smb.conf file. See the winbindd man page for instructions. In the [global] section, add the following lines:

```
workgroup= <DOMAIN NAME>
winbind uid= 10000-20000
winbind gid= 10000-20000
winbind enum users= yes
winbind enum groups= yes
template homedir= /home/winnt/%D/%U
template shell= /bin/bash
winbind separator= +
```

- 3** To start (or restart) samba, issue the following command:

```
/etc/rc.d/init.d/smb start
```

- 4** To join the domain, issue the following command:

```
smbpasswd -j <DOMAIN NAME> -r
<DOMAIN SERVER> -U <USERNAME>
```

You are prompted for the user's password. The user must have permissions to join the domain.

- 5** To test the configuration, issue the following command:

```
wbinfo -t
```

This is the same test that HP Web Jetadmin uses to determine if the Linux machine supports Windows NT domain authentication. If this command returns successfully, the message Secret is good is displayed. You can also use the

```
wbinfo
```

command to test the authentication of specific users by using the

```
-a
```

option.

Why am I unable to disable some protocols on an HP Jetdirect device?

This appears to be a problem with Novell Client 4.80 installed on the HP Web Jetadmin host machine. To resolve this issue, upgrade to Novell Client 4.83.

Glossary

[A](#) - [B](#) - [C](#) - [D](#) - [E](#) - [F](#) - [G](#) - [H](#) - [I](#) - [J](#) - [L](#) - [M](#) - [N](#) - [O](#) - [P](#) - [Q](#) - [R](#) - [S](#) - [T](#) - [U](#) - [V](#)
- [W](#) - [Y](#)

A

About page

Lists the HP Web Jetadmin version, license, and copyright information.

Admin profile

A default profile. You can assign a password to the Admin profile. HP Web Jetadmin requires this password for users to change some settings.

allow list

A list of the IP addresses that are allowed or denied access to HP Web Jetadmin.

Application Manager

An HP Web Jetadmin feature that manages the applications installed on a device or a device group. You can perform the following tasks with this feature:

- View the device applications installed on a device or device group.
- View the history of all Application Manager transactions.
- Install new device applications.
- Remove device applications.

application plug-in

Optional software that is added to HP Web Jetadmin to increase its functionality.

ARP

Address Resolution Protocol. A protocol used to map IP addresses to hardware addresses. ARP is one method of discovering devices on a network.

ARP Table

Each TCP/IP-capable device on a network maintains an ARP Table that contains every device it communicates with. The ARP Table resolves IP addresses to hardware addresses. It obtains the IP addresses from the DNS server, which maps each device hostname to an IP address.

asset number

A number of up to eight digits that the network administrator assigns to a device. The asset number is often used for tracking. It is found on the **Device Configuration** and **Device Diagnostics** pages.

Asset View

An HP Web Jetadmin predefined view that displays the device model, hardware address, port number, device description, system contact, asset number, and serial number.

B

Back

In most browsers, returns to the previous page that you viewed.

background

In most browsers, a color scheme or graphic that serves as a backdrop to a Web page.

batch configuration

See [Asset View](#).

Bindery

Novell's flat database model for storing printer information.

bookmark

An icon on the content toolbar that marks an HP Web Jetadmin page so that you can quickly return to it later. When you select **Favorites** from the **Navigation** drop-down list, HP Web Jetadmin displays a list of the pages that you have bookmarked.

BOOTP

Bootstrap Protocol. BOOTP is a protocol that allows network users to automatically receive an IP address. The BOOTP server automatically assigns the IP address for a limited amount of time from a pool of addresses.

BOOTP request

A message sent by a device that has been recently attached to the network. This message notifies the network that the device needs to be configured. When you configure HP Web Jetadmin to run the Listen for New Devices discoveries, it listens for BOOTP requests to find new network-attached devices.

broadcast

A message sent to all of the devices on the network. Broadcast messages cause a high spike in network traffic, but it does not last very long.

browser

A software application that lets you view information on the Internet. Also see [Web browser](#).

C

cache

A directory where information is stored. Web browsers can retrieve pages from the cache. A computer can access data in the cache faster than it can access data outside of the cache.

capabilities

The features and options available for a device, such as color, PCL, PostScript, or Power Save mode. HP Web Jetadmin displays the capabilities on the **Device Status** page.

certificate

A file that binds a client or server identity to a pair of electronic keys that an organization uses to encrypt and sign digital information. Certificates ensure secure, tamper-proof communication on the Internet. A certificate is obtained by a process called code signing. The certificate identifies the author and software publisher.

Certificate Authority

An organization that issues a certificate and vouches for the identity of the author and software publisher for that certificate.

CGI

Common Gateway Interface. The CGI standard lets executable files running on remote Web servers, such as HP Web Jetadmin, communicate with Web browsers. A CGI program runs in real-time and outputs dynamic information to the Web browser window. When you enter the URL where the executable file is stored on the Web server, the program runs and retrieves the information that you want. This means that you do not access data files directly; you access the program, which in turn accesses the data.

client workstation

A computer on a network that accesses the shared network resources provided by a computer running administrative software, also known as a server.

content area

The main area of each HP Web Jetadmin page. This is where HP Web Jetadmin displays information, where you can apply settings, and where you can perform other tasks.

content toolbar

The part of the content area on each HP Web Jetadmin page that contains the following items:

- On some pages, HP Web Jetadmin provides a drop-down list that you can use to access other related pages. For example, when you access a **Device Status** page, the drop-down list on the task bar provides access to other device-related pages, such as the **Device Configuration** page and the **Device Diagnostics** page.
- Several icons that provide specific functionality, including refresh, home, bookmark, and context help.
- During some processes, HP Web Jetadmin displays a progress indicator on the content toolbar.

context help area

The area on each HP Web Jetadmin page where the context help is displayed if you have HP Web Jetadmin set up to display it within the software. By default, HP Web Jetadmin displays the context help in a separate browser window.

control panel message

A message that indicates device activity, such as Ready or Power Save On. The control panel message appears on the **Device Status** page.

creating print queues

The work required on a network print server to create a shared network printer.

custom view

A view that you create to display the information that you have specified in the order that you want. Once you create a custom view, you can use it to display any list of devices.

D

default

A predefined option or value. The default is usually set to the value that most users will use.

default device group

The network administrator can designate a particular device group as the default. Generally, the default is the device group that is used most often. As a convenience, HP Web Jetadmin displays the default device group page each time that users start HP Web Jetadmin in their browsers, when users click the home icon on the content toolbar, and when users click **Reload** or **Refresh** in their browser.

Default View

An HP Web Jetadmin predefined view that displays the device model, hardware address, port number, IP address, IP hostname, and IPX name.

Detailed View

An HP Web Jetadmin predefined view that displays the device model, hardware address, port number, device description, and system contact.

device

Any peripheral, such as a printer or scanner, that you can attach to the network. Device usually refers to one of the devices that HP Web Jetadmin manages, including Standard Printer MIB-compliant printers, HP Jetdirect print servers, and HP network scanners. Also see [device group](#).

device address information table

A table containing the IPX/SPX name, IP address, hardware address, and description of a device. HP Web Jetadmin displays this information on the **Device Status** page.

device application

An application that is installed on any peripheral, such as a printer, that adds functionality to the peripheral.

Device Application Manager

See [Application Manager](#).

device cache

The file where HP Web Jetadmin stores information about devices that it has discovered on the network. Web browsers can access data in the device cache faster than it can access data outside of the device cache, which reduces network traffic.

device capabilities

The features and options available for a device, such as color, PCL, PostScript, or Power Save mode. HP Web Jetadmin displays the capabilities on the **Device Status** page.

device control panel message

The device status, such as Ready or Power Save On. HP Web Jetadmin displays the device control panel message on the **Device Status** page.

device description

Optional information for the currently selected device, such as its location, options, or users. The administrator assigns the device description when configuring the device.

device group

A group of devices and other resources. You can group devices based on location, workgroup, owner, or other identifiers.

device group owner

The person who manages a device group. The administrator could be the device group owner.

device group page

A list of all of the devices in a device group. It includes information such as device name, IP hostname, and IP address. You can specify a device group page as the HP Web Jetadmin home page.

device group password

A password for a device group that the administrator or device group owner assigns. If you assign a password, HP Web Jetadmin prompts users for the password whenever they try to make changes to the device group.

device model

The name that a device is sold under, such as HP LaserJet 4si, HP Deskjet, or HP LaserJet 5.

device name

The name that a device is identified by on the network. The administrator assigns the device name. The device name can come from the IP or IPX/SPX name, based on the preferred name setting.

device password

A password for a specific device. If you assign a password, HP Web Jetadmin prompts users for the password whenever they try to make changes to the device.

device status

The current operational state of a device.

device status icon

See [device stoplight](#).

device status message

The device status. For example, Online, Offline, Paper Out, or Printer Communication Error.

Device Status page

A page that displays information about a device, such as status, model name, address, and capabilities.

device spotlight

An image that displays one of three states representing the device status:

- Red - An error condition occurred and requires user intervention.
- Yellow - The device is either offline or has a noncritical error, but can still print jobs.
- Green - The device is online and ready.

DHCP

Dynamic Host Configuration Protocol. A TCP/IP protocol that dynamically assigns a temporary IP address to each device when it signs onto the network. The IP address comes from a predefined range of reusable IP addresses. Once allocated, DHCP leases an IP address to a device for a preconfigured period of time, called the lease time. The IP address that DHCP assigns to a device might be different each time the device requests an IP address, which could occur during a power on, reboot, or loss of the TCP/IP configuration.

DHCP provides an alternative for assigning and managing IP addresses. It provides centralized control and more efficient use of IP addresses.

diagnostics

A feature that provides information to help you troubleshoot problems. HP Web Jetadmin gathers the information for the **Device Diagnostics** page from several places within the system.

DLC

Data Link Control. In the Systems Network Architecture (SNA), DLC is an error-correction protocol that transmits data between two devices over a physical connection, such as cabling.

DMI

Desktop Management Interface. An application program interface that provides information about devices on the network, such as workstations and HP Jetdirect print servers. DMI provides the information needed to perform management tasks remotely and helps administrators with configuration and updating tasks.

DNS

Domain Name Service. The DNS server maps each device hostname to an IP address. The ARP Table then resolves these IP addresses to hardware addresses.

E

EIO

Enhanced Input/Output. A hardware interface used in internal HP Jetdirect print server and network adapter cards to provide a communications link between HP printers and the network. This technology replaces the MIO interface and improves on it by offering a 32-bit bus, increased flexibility, lower power requirement, and smaller card size.

embedded Web server

A server that is completely contained within a device. Embedded Web servers provide management information about the device. They are helpful for managing single devices on a small network. By using a Web browser to access an embedded Web server, network users can obtain network printer status updates, perform simple troubleshooting operations, change device configuration settings, and link to online customer support. When you need to manage many network devices, it is more effective to use an integrated Web server management tool, such as HP Web Jetadmin.

enterprise

A network or collection of networks that typically includes users in different geographical locations using a range of platforms, operating systems, protocols, and network architectures.

enterprise management system

A broad-based management tool that oversees all of the people, processes, and technology that make up an enterprise. HP OpenView is an example of an enterprise management system.

error behavior

The way that the HP Jetdirect EX print server handles error conditions. The following are the options for handling errors:

- **Dump then Reboot** sends a print log to the device and restarts the HP Jetdirect print server.
- **Reboot without Dump** restarts the HP Jetdirect print server without sending a print log to the device.
- **Dump then Halt** sends a print log to the device and stops the HP Jetdirect print server.

Ethernet frame type

A method for assembling packets in Ethernet for network data transmission. Different frame types use different formats.

Export View

An HP Web Jetadmin predefined view that displays many, but not necessarily all, of the columns of information stored in the cache. This view is useful when you want to export the device information from the cache to a comma-separated values (CSV) file.

F

Favorites

See [bookmark](#).

file server volume

A physical area on a NetWare file server disk drive. A file server volume is similar to a partition in other operating systems.

file server volume object

The logical object representing a file server volume in an NDS tree.

firmware

Software routines, such as startup routines and I/O instructions, that are stored in read-only memory. You can update the firmware in HP Jetdirect print servers over the network to add functionality and fix problems without upgrading the hardware.

firmware downloader

A feature integrated into HP Web Jetadmin that you can use to update the firmware in HP Jetdirect print servers. The firmware downloader can find a newer firmware image on the server hosting HP Web Jetadmin or download one from the HP Web site. Unlike HP Download Manager, the firmware downloader is not a separate utility, and you can use it to download firmware to multiple platforms. In addition, the firmware downloader does not require that you manually determine the latest firmware revision.

Flash memory

A type of nonvolatile memory that can be erased in blocks. You can update the information residing in the Flash memory over the network, the way that the HP Web Jetadmin firmware downloader and HP Download Manager update firmware in HP Jetdirect print servers.

Forward

In most browsers, displays the next page of the pages you have viewed. You can only use Forward after you have either used Back to navigate or selected another page from a bookmark or favorite-list item.

FTP

File Transfer Protocol. A program for transferring files in a TCP/IP environment, such as the Internet. Web browsers commonly use FTP for downloading software from the Web. Contrast with [HTTP](#).

G**gateway**

A device that separates networks that use the same or different protocols so that they can exchange information. For example, a router.

GIF

Graphic Interchange Format. A file format used primarily for graphics on the Internet. You can create site maps in GIF format and upload them to HP Web Jetadmin where you can associate devices, device groups, and URLs.

green light

A visual indicator that a printer is online.

H

hardware address

A unique address that the manufacturer assigns to a network interface card. Also known as the media access control (MAC) address.

high-capacity input (HCI)

An accessory on some printers, such as high-end HP LaserJet printers and multi-function peripherals (MFPs), that provides large paper stack feeding capability.

high-capacity output (HCO)

An accessory on some printers that lets you send output to multiple output trays or different mailboxes.

home page

The first screen you see when you enter HP Web Jetadmin. The administrator can choose which page is displayed as the home page.

hostmachine

A network machine running administrator software that controls access to all resources on a network. A host machine makes network resources available to client workstations on the network.

hostname

A user-friendly name assigned to a device that eliminates the need to use an IP address to communicate with the device. The hostname can reside on the device itself or on a name server, such as DNS.

HTML

Hypertext Markup Language. A special language used to create Web pages. It organizes text, graphics, sound, and animation into documents that a Web browser can display.

HTTP

Hypertext Transfer Protocol. A standard Internet protocol that Web browsers use to retrieve documents and programs stored on Web servers over the Internet or a corporate intranet. Contrast with [FTP](#).

HTTP port

A setting used to indicate a Web site's physical port.

HTTPS

Hypertext Transfer Protocol Secure. A protocol used to access a secure Web server. HP Web Jetadmin uses HTTP and SSL to provide secure access.

I

idle timeout

The amount of time that HP Web Jetadmin waits after receiving print data before switching I/O ports. For HP Web Jetadmin, the default idle timeout is 120 seconds.

Internet

A global collection of networks and gateways that use TCP/IP protocol.

Internet browser

A software application that lets you view information on the Internet.

intranet

A network used to distribute information within an organization. Intranets use the same applications associated with the Internet, but they are only accessible from within an organization.

IP

See [TCP/IP](#).

IP address

A unique identifier assigned to a device that lets you use TCP/IP protocol to communicate with the device.

IP Range discovery

A discovery mechanism that searches for devices at one IP address or a range of specific IP addresses.

IPX/SPX

Internetwork Packet Exchange/Sequenced Package Exchange. The software developed for communications between computers over networks. IPX/SPX protocol is only supported on Windows NT networks.

IPX/SPX name

The name that the administrator assigns to the HP Jetdirect card.

IPX/SPX SAP

IPX/SPX Service Advertising Protocol. A periodic broadcast packet that provides information on NetWare services. This information is stored in the Bindery.

J

Java applets

Small applications created with the Java programming language that can be embedded in Web pages to provide executable content. This means that Web pages can display dynamic, interactive content. When a Java-enabled browser displays a page containing a Java applet, it downloads the applet and lets the computer run it. The results of the applet appear in the Web page. HP Web Jetadmin users can see the Java Status applet, which dynamically updates device status, on the **Device Status** page.

JavaScript

A programming language that HP Web Jetadmin uses when Java is not required. JavaScript executes faster than Java and still adds capabilities that the CGI does not provide. It allows for a livelier, more animated user interface and helps keep Web pages cleaner by reducing the need for **Submit** buttons on Web forms.

Jetadmin

Software for network device configuration and management. Unlike HP Web Jetadmin, HP Jetadmin requires that you install a copy of the software on each workstation where it will be used. It also requires that you install an OS-specific version on each operating system where you manage printers.

Jetdirect print server

The internal or external HP Jetdirect print server hardware developed by Hewlett-Packard that enables network-connected printing.

Jetdirect View

An HP Web Jetadmin predefined view that displays the hardware address, port number, HP Jetdirect model, HP Jetdirect firmware revision, system contact, and device model.

Jetsend

A peripheral communications architecture that lets a wide range of devices, such as network peripherals and workstations, communicate on a peer-to-peer basis without device-specific formatting and communications software, such as printer and device drivers. HP devices that support HP Jetsend include the HP LaserJet 4000, HP LaserJet 5000, HP Color LaserJet 4500, HP LaserJet 8100, and the HP 9100C Digital Sender.

job description

Information about a print job, such as the file name.

job details

Detailed information about a print job, such as the job number, entry time, size in bytes, and number of requested copies.

job entry time

The time that the print job entered the print queue.

job ID

A reference number that the device automatically assigns to uniquely identify a job.

job list

A list of the print jobs that have printed. The list could include the job ID, job description, job status, and job owner. The list depends on the operating system, application, and printer driver used.

job number

A number that the HP Jetdirect print server assigns to a print job.

job owner

The person who sends a job to a device.

job retention

A feature on some printers that have mass storage capability. This feature lets users store jobs, print multiple copies, or store secure private copies on a printer.

job size

The size of a print job in bytes.

job status

The state of a job, such as Printed, Processing, or Hold. You can periodically update the status by clicking the refresh icon on the content toolbar.

L

LAN

Local Area Network. Devices connected by a communications link that lets them communicate with each other. LANs support a wide variety of devices, such as workstations, printers, and large storage disks, but they must be located within a limited area, such as a single building, and they must all use the same protocol to communicate.

LLC

Logical Link Control. One of the data-link sublayers of the ISO Open Systems Interconnection model that is defined in the IEEE 802 standards. The LLC sublayer is involved with workstation-to-workstation connections and error control. Contrast with [MAC](#).

local broadcast

A broadcast that occurs on the subnet local to the Web server over the protocol that you have enabled, either TCP/IP or IPX/SPX.

M

MAC

Media access control. One of the data-link sublayers of the ISO Open Systems Interconnection model that is defined in the IEEE 802 standards. The MAC sublayer is involved with network access and collision detection. It varies from one standard to another according to the different types of networks defined by them. Contrast with [LLC](#).

MAC address

A unique address that the manufacturer assigns to a network interface card. Also known as the hardware address.

map

A graphical representation of your site's physical layout that shows you the location of your device groups and devices. You can click an icon on the map to view a **Device Status** page and follow links to other maps, pages, or URLs. HP Web Jetadmin lets you display dynamic maps that show device status.

menu bar

A bar on each HP Web Jetadmin page that contains a series of buttons. These buttons take you to pages where you can view information and perform specific tasks. The buttons are different depending on where you are in HP Web Jetadmin. For example, if you are on the the **Device List** page, the menu bar contains the following buttons: **Devices**, **Configuration**, **Update**, and **Views**.

MIB

Management Information Base. A database protocol used to manage devices on a network. The MIB contains information about the devices that are managed by a network management system. This information, which is collected from each device through SNMP, could include the device name, features, data transmission statistics, and errors. Specific information stored in the MIB varies by device vendor and model. The Standard Printer MIB is defined by the Request for Comments (RFC) 1759 specification.

MIO

Modular Input/Output. A hardware interface used in internal HP Jetdirect print server and network adapter cards to provide a communications link between HP printers and the network. MIO technology has been replaced by the newer EIO technology.

model script

The software needed to create print jobs on Linux or UNIX systems.

multicast

A broadcast directed at specific devices on the network. The Multicast/SLP discovery broadcasts an SNMP query asking all multicast devices on the network to respond.

multicast/SLP

An option for broadcasting that sends data packets to a pool of devices, each listening to a common IP address. The Multicast/SLP discovery finds new IP addresses and reconnected printers, among others.

multiple device configuration

A method of changing the settings for two or more devices at once. You can assign the same value to selected fields for multiple devices.

N

NDS

NetWare Directory Services. Novell's hierarchical database model for object organization.

O

offline

A condition during which the printer does not accept or print data from the host machine.

online

A condition during which the printer accepts and prints data from the host machine.

OpenView

A broad-based enterprise management system that oversees all of the users, processes, and technology that make up an enterprise. It can communicate with HP Web Jetadmin through bridges. This lets you use HP Web Jetadmin information at the enterprise management level.

owner

The name of the application that initiated a job.

P

package

A collection of files that provide specific functionality to HP Web Jetadmin. For example, a language package contains all of the files required to add support for that language and a device package contains all of the files required to add support for that device.

Page Count View

An HP Web Jetadmin predefined view that displays the device model, IP address, port number, start date, interim page count, and total page count. The interim page count is the number of pages a printer has processed since the page count was reset to zero. The total page count is the same as the page count displayed on a printer test page. Not all printers support the **Page Count View**. The start date displayed is based on the host machine clock. Note that the host machine where HP Web Jetadmin is running and the client machine where the Web browser is running may be in different time zones.

pages per minute

The number of pages a device can print per minute.

pages printed

The total number of pages that a device has printed during the current print job.

parallel handshaking

The communications protocol or handshake that the HP Jetdirect external print server and the printer use. You can select Busy only, nACK and busy, or nACK only.

parallel mode

The type of parallel mode that the HP Jetdirect external print server uses.

parameter

A configuration option on a printer, such as email settings and embedded Web server language.

parent device group

A map that shows the location of the device groups. You can click an icon in the parent device group to view an individual map for a device group.

password

A series of letters and numbers that are required to access a secured system or device. Users must know the current password to change or delete any of the existing passwords, change device settings, or change the HP Web Jetadmin software.

patch

A subset of the files found in a particular package that are designed to address issues with any HP Web Jetadmin software components.

ping

A signal sent to a device on the network asking it to respond. HP Web Jetadmin can ping devices to find them during a discovery.

Point and Print

A feature that makes a shared printer available to all Windows users after it is installed on the network. The printer driver is automatically downloaded to any Windows machine that accesses the shared printer.

print filter

The software needed to create print jobs on Linux systems.

print queue

The path that a print job takes to reach a printer after a user sends the print job from an application on a client workstation.

print server

A network computer or similar device running administrator software that controls access to network printing resources. A print server makes printers available to client workstations on the network.

print server name

The name of a NetWare print server object.

print server object

The object in the NDS tree where a specific print server object is defined.

print server tree

The NDS tree where a specific print server object is defined. To access a specific print server object, the HP Web Jetadmin user must log into the NDS tree where that object is defined. This means that the user tree and the print server tree are the same.

printer driver

The software needed to create print jobs on Windows systems.

private job

A job retention option that holds a print job until a user releases it by entering a personal identification number.

Proof and Hold

A job retention option that lets users print one copy of a multiple-copy print job for proofing. The user can then release the remaining copies for printing or cancel them.

protocol stack

A collection of software that controls the communications between devices. Devices with the same protocol stack can communicate with each other.

push

The process of remotely installing software on a device. For example, the software that allows the HP Jetdirect print server to communicate with an HP Jetdirect device is installed on the HP Jetdirect print server. In some operating systems, such as Windows, HP Web Jetadmin can push the software.

Q

queue context

The context in the NDS tree where a particular queue object is defined. An HP Web Jetadmin user can browse the context in the NDS tree to find queues.

queues serviced list

A list of the Bindery queues currently configured for the selected device.

quick copy

A feature in some printers that lets you print additional copies of a print job after the initial job has printed.

Quick Device Find

A search feature that lets you quickly find a specific device by its hardware address, IP address, IPX/SPX address, IPX name, or IP hostname.

Quick Set

A feature that lets you group the configuration options that you use most often. Once you define a Quick Set, you can display the configuration options in your Quick Set on the **Device Configuration** page.

R

red light

A visual indicator that means a printer is in an error condition. When the stoplight icon displays a red light, users cannot send print jobs to the printer. User intervention is required to bring the printer back online.

refresh

Replaces the information on the current, cached HP Web Jetadmin page with updated information.

refresh rate

Controls how often the information in HP Web Jetadmin is automatically updated. Setting the automatic refresh rate might place an unnecessary load on the Web server, so this option is not set up by default. However, if you choose to use this feature, the recommended rate is from 6 to 60 seconds.

remove device

Deletes a device from a device group.

results page

Displays the results of a device search.

S

SAP

Service Advertising Protocol. A broadcast protocol that file servers, print servers, gateway servers, and application servers use to advertise their services and addresses on TCP/IP networks. SAP broadcasts are generated at regular intervals. For example, HP Jetdirect print servers send out a SAP broadcast every 60 seconds. You can configure the frequency of HP Jetdirect SAP broadcasts through the IPX/SPX SAP broadcast interval parameter; setting this interval to zero disables SAP broadcasts, which is useful on networks that do not require them.

scheduled discovery times

The set times that HP Web Jetadmin performs a discovery. The administrator specifies the discovery times.

seed address

A device address that HP Web Jetadmin uses to perform an ARP Table discovery. An ARP Table discovery uses an SNMP broadcast to determine an initial list of devices to discover, also known as a seed list.

server

A network computer running administrator software that controls access to all network resources. A server makes network resources available to client workstations on the network.

Set Community Name

A card setting that allows SNMP to set an object on the card. You must have a matching Set Community Name to perform an SNMP set on the card.

SLP

Service Location Protocol. Unsolicited service advertisements by network devices that TCP/IP-based multicast packets send. Also see [multicast/SLP](#).

SNMP

Simple Network Management Protocol. An Internet standard communications protocol that lets devices from different vendors work with each other and collects management information from devices on a network. This information is recorded in the device MIB. Management utilities, such as HP Web Jetadmin, can use SNMP to collect information from the MIB and display it on various pages.

SNMPv3

Simple Network Management Protocol version 3. In addition to the functionality of SNMP, SNMPv3 protects network management information through user authentication and data encryption. HP Web Jetadmin uses SNMPv3 to prevent unauthorized users from changing network device settings

Specified Addresses discovery

A discovery method that only searches for the devices that are recorded in a data file that you create.

SSL/TLS

Secure Sockets Layer/Transport Layer Security. A network security protocol that is used to secure Web transactions.

state

The operational status of a job, such as **Pending** or **Completed**.

status

The operational state of a device.

status page language

The device personality that the HP Jetdirect external print server uses when it sends a status page to the printer. This personality can be HP-PCL, PostScript, Text, or HP-GL2.

Status View

An HP Web Jetadmin predefined view that displays the device model, hardware address, port number, device description, and status description.

stored job

A job-retention feature in some printers that saves a print job. You can then call the job from the printer control panel as needed. This feature is useful for storing forms and other commonly shared documents.

subnet

A network could be made up of multiple LANs that are interconnected with bridges and routers. In such an arrangement, each LAN is called a subnet, or subnetwork. A subnet is usually confined to a departmental area or a workgroup of users, and traffic is often isolated within a subnet.

subnet mask

A number that identifies a subnetwork so that the local network can share an IP address.

system contact

The person, often the administrator, device owner, or device group owner, who users can go to for device support or HP Web Jetadmin support.

T

task bar

An area on each HP Web Jetadmin page that contains several drop-down lists and text boxes that let you select the task that you want to work on.

TCP/IP

Transmission Control Protocol/Internet Protocol. The software developed for communications between computers that has become the standard for data transmission over networks, including the Internet.

TCP/IP settings

The IP address, default gateway, subnet mask, and idle timeout for a device.

TCP/IP timeout

The amount of time, in seconds, after which the HP Jetdirect print server closes an idle TCP/IP print data connection. Timeout is also referred to as Wait. Acceptable values are integers between 0 and 3600. A value of zero turns off the timeout feature.

test page

Prints an embedded test page.

TFTP

Trivial File Transfer Protocol. A protocol for transferring files. The HP Web Jetadmin integrated firmware downloader uses TFTP to send an updated firmware image to an HP Jetdirect print server. This download process is fully fault tolerant because each image file contains two complete code sets.

toner gauge

A visual indicator of the amount of toner left in the toner cartridge. The toner gauge appears on the **Device Status** and **Device Diagnostics** pages. This feature is only available for newer printers.

Toptools

A management tool that you can use to manage hardware devices on a network, such as desktop and laptop computers, servers, printers, and network hubs and switches. You can integrate HP Web Jetadmin into HP Toptools 3.0 or greater to provide it with richer management information about the SNMP-compliant devices that HP Web Jetadmin manages. For example, HP Jetdirect print servers, and HP network scanners.

traffic

The amount of activity being handled on network communications links. General, or broadcast network traffic, is sent to all network devices. Directed network traffic is sent to specific devices.

traffic light icon

See [device stoplight](#).

U

URL

Uniform Resource Locator. An address used to access information on the Internet, either a Web page, FTP or Gopher, Usenet, or database. URLs can take the following formats: `http://host.domain/page` or `mailto:username@host.domain`.

user context

The context in the NDS tree where a user object is defined. The NetWare system administrator determines this context when creating the user object.

user tree

The NDS tree where a user object is defined. The NetWare system administrator creates and maintains the user object.

V

view

Determines the information about a device that is shown. You can select from the following views:

- [Default View](#)
- [Status View](#)
- [Detailed View](#)
- [Asset View](#)
- [Jetdirect print server](#)
- [Page Count View](#)
- [Export View](#)
- [custom view](#)

volume context

The context in the NDS tree where file server volume objects are defined. The NetWare system administrator specifies this context.

W

WAN

Wide area network. A communications network that connects geographically separated areas.

Web browser

An application running on a workstation that you use to view HTML documents on the Web, access hyperlinks, and transfer files. Web browsers request information from Web servers and display the information that the Web servers send back. The information is organized into Web pages, which contain text, graphics, sound, and animation formatted by HTML and Java applets. HP Web Jetadmin supports Netscape and Microsoft Internet Explorer.

Web Redirector

A miniature Web server contained in the HP Jetdirect print server itself that accesses device information from HP Web Jetadmin. You can type the HP Jetdirect print server IP address in your browser as the URL. HP Jetdirect then accesses and displays the HP Web Jetadmin **Device Status** page for the device. Administrators specify the Redirect URL for the **Device Status** page on the **Device Configuration** page.

Web server

A specialized program running on a server that supports TCP/IP protocol. Web servers let workstations on a network access the Web. Web servers receive HTTP requests that Web browsers running on client workstations send. The Web server could be asked to get a text or graphics file or retrieve a ZIP file. The Web server then sends the information, files, or program results back to the requesting browser. Embedded Web servers are contained within HP Jetdirect print servers to provide management information about the device.

WINS

Windows Internet Naming Service. A method that Windows NT Server uses to associate a computer hostname with its address.

WWW

World Wide Web. An easy-to-use, graphics-based interface to the Internet. The Web refers to the total set of linked, hypertext documents that are located on Web servers throughout the world.

Y**yellow light**

A visual indicator that means a printer is low on toner or a media tray is empty. When the stoplight icon displays a yellow light, users can still send print jobs to the printer.

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