

# Using HP Web Jetadmin 10.0

## In Help Desk Operations



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# Overview

HP Web Jetadmin 10.0 contains many tools for troubleshooting printers. As a result, it is increasingly being used as a Help Desk troubleshooting tool. HP Web Jetadmin 10.0 includes several features for Help Desk personnel to remotely troubleshoot printers without having to physically visit the printer. This significantly reduces the time spent resolving issues.

Proactive measures, such as regularly querying for status or enabling email alerts, can be enforced so that printer problems can be resolved before the end user call ever comes in to the Help Desk.

## Help Desk Example

A Help Desk individual could potentially perform the following steps remotely from within HP Web Jetadmin 10.0 to troubleshoot a printer issue:

- Quickly locate the printer by using *Quick Device Discovery*.
- View the status of the printer to indicate whether the printer is in an error condition.
- Generate a test page which can act like a ping test to determine network connectivity.
- Set the printer online and offline.
- Power-cycle the printer.
- Perform a cold reset to factory defaults.
- View critical diagnostic information such as firmware revision.
- Upgrade firmware for either HP Jetdirect or printer,
- Configure network or printer parameters.

This paper will examine techniques for quickly locating and troubleshooting devices, both reactively and proactively.

## Viewing Devices

Printer users typically call the Help Desk when there is a problem with a printer; they might provide a variety of information for the Help Desk personnel to remotely locate the printer. Once the device is located, Help Desk personnel can view device status. This indicates the current state of the printer, the front panel message (Figure 1).

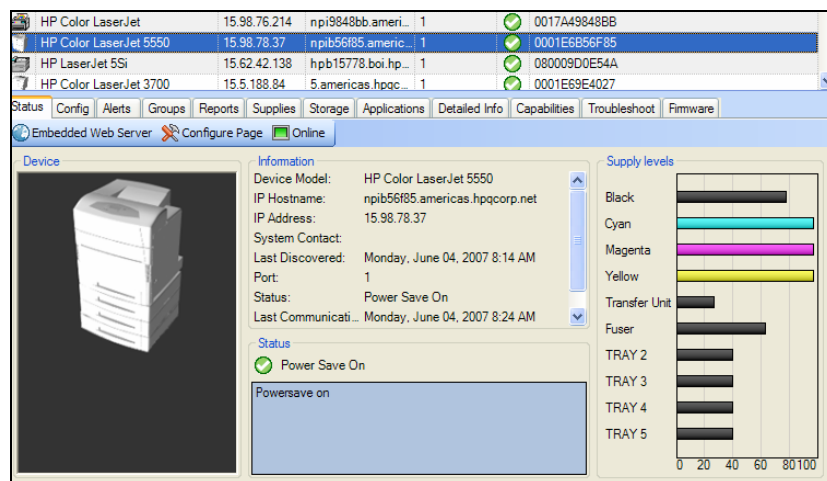


Figure 1 – Device Status

## Quick Device Discovery

*Quick Device Discovery* can be used in HP Web Jetadmin 10.0 to find the device on the network if the user provides either the IP Hostname or IP Address of the printer. *Quick Device Discovery* will initially look in the HP Web Jetadmin 10.0 cache to see if the device has already been discovered. If not, *Quick Device Find* can use the information provided to locate the device on the network and add it to the HP Web Jetadmin cache of discovered devices. Once found, *Quick Device Find* will display the Status of the device (see Figure 1 earlier).

## Search

When a network searchable IP address or IP hostname is not available, HP Web Jetadmin 10.0 provides a new search feature that scans device list visible or specified columns for any user-specified text string. *Search* can be invoked in one of two ways:

- Type any search string into the *Quick Search* field on any device list or device group toolbar and then press Enter (Figure 2).
- Invoke the *Advanced Search* tool by selecting the binocular icon near the quick search field (Figure 2). Many advanced search features including *Wrap*, *Regular expression*, and *Find All* exist to help you locate devices that are already in an HP Web Jetadmin 10.0 device list.

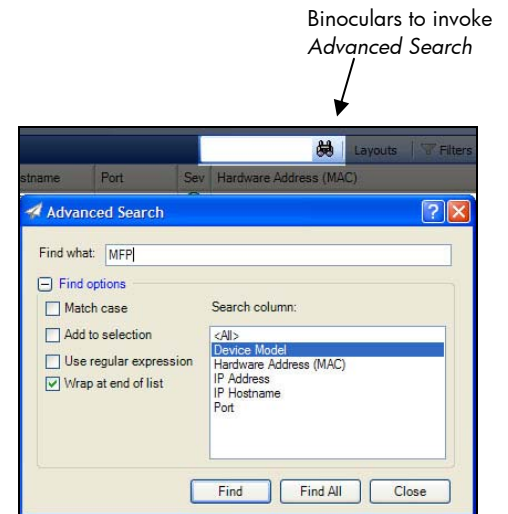


Figure 2 – Advanced Search Feature

## Filters

Another feature in HP Web Jetadmin 10.0 that can be used for finding devices in large lists is *Filters*. *Filters* are located by selecting the *Filters* icon at the top of the HP Web Jetadmin 10.0 device list, and can be used to quickly locate devices that have already been discovered in HP Web Jetadmin 10.0 based upon criteria (Figure 3).

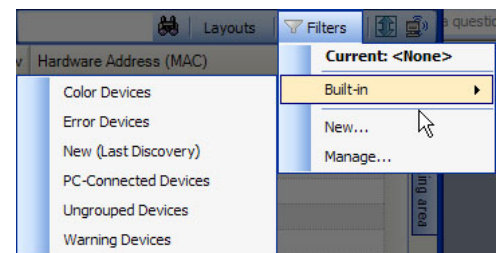


Figure 3 – Filter Tool

A number of built in filters including *New (Last Discovery)* can be used to quickly reduce the number of devices being displayed to those that match filter criteria. *Custom filters* can also be created by using the *New* or *Manage* features from within the filter tool. Figure 4 shows the filter editor and function selection tool. In HP Web Jetadmin 10.0, multiple layer filters can be created and joined with logical the logical operators *AND/OR*.

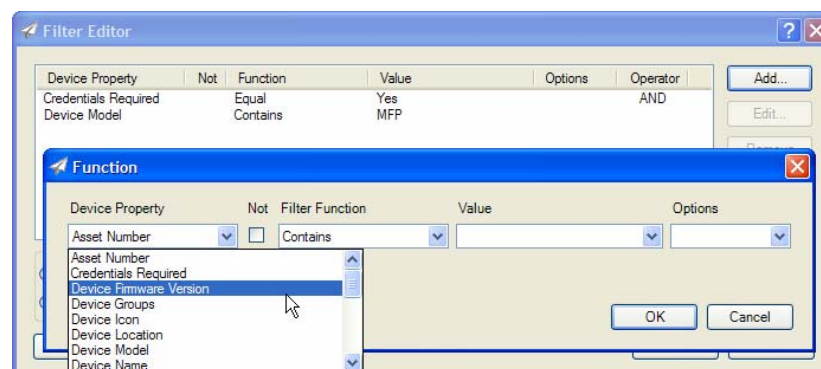


Figure 4 – Filters Feature

An example of how filtering can be used follows: A company uses unique printer numbers assigned to each printer in the *Description* field. Users may only refer to the printer by the printer number when calling the Help Desk. The Help Desk individual could quickly find the particular printer by selecting *Description* and entering the printer number as the *Criteria* under *Filters*.

*Advanced filters* can be created with boolean operators used for matching criteria. For example, a query could be made on all IP addresses greater than 15.2.1.1. Filters can only be used to find devices that have already been discovered in HP Web Jetadmin 10.0. Filters cannot be used to discover new devices on the network. For more information about device discovery, see the document "Discovering Devices Using HP Web Jetadmin 10.0".

### Columns

Devices or attributes can also be found quickly by viewing the information contained within columns in HP Web Jetadmin 10.0. Columns can be sorted by clicking on the heading at the top of the column. Columns can also be resized by dragging the side of the column heading or can be re-ordered by drag and drop. Columns can also be managed through the *Layouts* tool found on the device list toolbar and also includes several built in column layouts (Figure 5). Custom layouts can be created from any of several hundred data attributes. *Security*, *Status*, and *Active Directory* are just a few of the pre-existing columns that enable users to extract data from the device environment as well as view and interact with that data through HP Web Jetadmin 10.0 device lists.

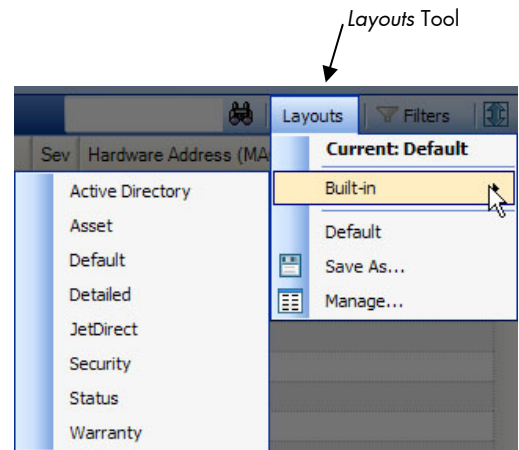


Figure 5 – Column Layouts Tool

### Device Groups

When the list of printers in HP Web Jetadmin 10.0 becomes too large to quickly locate or manage devices, it can be broken into subsets, or *Groups*, in order to manage the devices easier. For example, printers can be organized into groups representing different buildings, and subgroups could be created to represent different floors of each building. Automatic groups can be created which enables dynamic group membership based on *Filter* criteria. With *Groups* created, Help Desk personnel can quickly locate printers based upon the location of the user who is calling into the Help Desk or based on some other logical criteria. Device Group icons in the HP Web Jetadmin 10.0 indicate device status for the devices and/or subgroups within a group container. Figure 6 shows a number of different device *Group* icons:

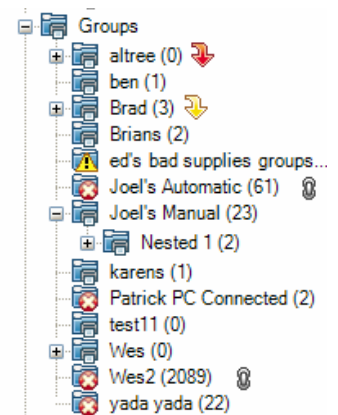


Figure 6 – Device Group Icons

- + (on the left side of some of the icons): the group contains a nested or sub-group.
- yellow triangle overlaid: devices in a Warning state.
- red circle overlaid: devices in an Error state.

These icons enable Help Desk staff to quickly find devices in need of attention. Groups with the red or yellow arrows on their right hand side indicate a subgroup in an error or warning state. Navigating into the group's subgroup structure allows quick location of the problem devices. Finally, automatic groups can be distinguished from manual groups by observing the chain links on the right hand side of the group. This indicates that the Automatic group membership is bound by a *Filter*.

## Troubleshooting Printers

Once a printer has been located by Help Desk personnel, a variety of troubleshooting options are made available by HP Web Jetadmin to enable solving the problem remotely. A significant amount of time can be saved if a problem can be solved remotely without having to physically travel to the printer. Most of these troubleshooting features can be found in the Troubleshoot tab on any device list or device group (Figure 7).

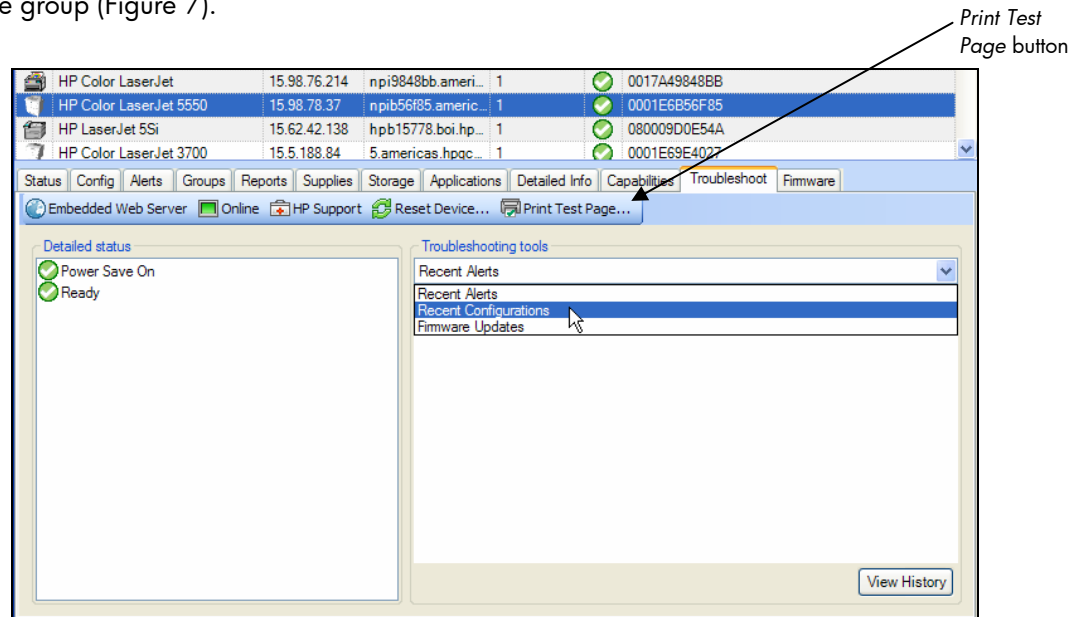


Figure 7 – Troubleshoot Tab

### Test Page

From with the *Troubleshoot* tab, a *Print Test Page* can be invoked (Figure 7 earlier). Users can either print a standard test page command or an actual file. *Printing from file* allows users to browse to a local file and then send it to the printer port 9100. This feature can be used for troubleshooting to prove communication is possible to the printer on the network. It is somewhat of a ping test to indicate the problem may be with the print queue versus the printer itself.

### Detailed Status

This feature provides a bit more status messaging than does the HP Web Jetadmin 10.0 status page in that it shows all status messages coming from the printer.

### Embedded Web Server

The *Embedded Web Server* allows users to launch the device's EWS interface in a browser session. Sometimes these interfaces contain tools and other detailed information that has not yet been implemented in HP Web Jetadmin 10.0 (newer HP devices only)

### Online/Offline

Remotely toggles the printer to either an online or an offline state depending on which state the printer is currently in.

## Reset Device

This feature provides a way to remotely power-cycle a device.

## Other features

Other features inside the *Troubleshoot* tab include device configuration history, status on available device firmware updates, and a list of recent *Alerts* generated by the device.

## Detailed Info

Another tab tool found within HP Web Jetadmin 10.0 device lists is *Detailed Info*. This tool provides a view on many of the devices vital statistics including network, device information such as firmware and device usage meters (when available).

## Firmware Upgrades

With HP Web Jetadmin 10.0, users can upgrade the firmware of HP Jetdirect devices and many HP printers over the network. Upgrades to firmware can correct problems with devices and add new features to devices without replacing hardware. The ability to upgrade HP Jetdirect firmware on multiple devices simultaneously saves time for administrators. This “batch” process is available by highlighting the desired devices and then choosing the *Firmware* tab from the device list tab area (Figure 8).

Firmware images can be qualified by administrators first; then Help Desk staff can be given permission through HP Web Jetadmin 10.0 *Roles* to allow them to upgrade with only qualified images. This can provide the Help Desk staff with measures that address known device issues or perhaps add new features.

The screenshot displays the HP Web Jetadmin 10.0 interface for the Firmware tab. At the top, it shows 'All Devices (9 of 970 Selected)'. Below this is a table listing various HP devices with their respective IP addresses, hostnames, ports, severity levels, and MAC addresses. The 'Firmware' tab is highlighted in the navigation bar. Below the navigation bar, there are buttons for 'Upgrade device...', 'Upgrade Jetdirect...', and 'Schedule upgrade...'. The main content area shows a table with columns for 'Firmware Type', 'JetDirect Model', 'Current Version', 'New Version', and 'Recommended'. The table lists several HP LaserJet models and their current and recommended firmware versions.

Device Model	IP Address	IP Hostname	Port	Sev	Hardware Address (MAC)
HP LaserJet 4345 MFP	15.5.188.27	NPIA205D0	1	Warning	000D9DA205D0
HP LaserJet 4250	15.5.178.47	npifcd256.americ...	1	Warning	001185FCD256
OfficeJet Pro K8600	15.5.177.117	hp823994.ameri...	1	Error	0018FE823994
HP 9200C Digital Sender	15.5.178.98	npic1c385.ameri...	1	OK	001185C1C385
HP CM8060 MFP with Edgeline	15.5.177.96	npj982ac6.ameri...	1	OK	0017A4982AC6
HP LaserJet 2100	15.5.188.83	npj6bf91f.americ...	1	OK	0001E66BF91F
HP LaserJet M3035 MFP	15.5.178.199	npj813016.ameri...	1	OK	001708813016
HP LaserJet 4000	15.2.206.206	hpb11472.boi.hp...	1	OK	001083068F17
HP LaserJet 5000	15.5.176.63	sdb-lj4000.ameri...	1	OK	0060B0429523
HP LaserJet P3005	15.5.178.62	npjid6658a.ameri...	1	Warning	001438D6658A
HP 9200C Digital Sender	15.98.78.11	npicfdb34.americ...	1	OK	001438CFDB34
HP Color LaserJet 3700	15.5.176.91	npj8798ed.ameri...	1	Warning	0001E68798ED
HP Color LaserJet 9500	15.5.177.224	NPIA29C37	1	OK	0001E6A29C37

Firmware Type	JetDirect Model	Current Version	New Version	Recommended
HP LaserJet 5000 -- sdb-lj4000.americas.hpqcorp.net --	J3111A	G.08.35	G.08.49	Yes
HP LaserJet 4345 MFP -- NPIA205D0 --		15.5.188.27 (2 items)		
HP 9200C Digital Sender -- npic1c385.americas.hpqcorp.net --		15.5.178.98 (2 items)		
HP LaserJet 2100 -- npj6bf91f.americas.hpqcorp.net --		15.5.188.83 (1 item)		
HP LaserJet M3035 MFP -- npj813016.americas.hpqcorp.net --		15.5.178.199 (1 item)		
HP LaserJet 4000 -- hpb11472.boi.hp.com --		15.2.206.206 (1 item)		
HP LaserJet 4250 -- npifcd256.americas.hpqcorp.net --		15.5.178.47 (2 items)		

Figure 8 – Firmware Tab

## Configuration

HP Web Jetadmin 10.0 provides the ability to configure printers and HP Jetdirect devices individually or in batches to assist in solving issues. For example, if timing issues are occurring while printing to a printer, the *TCP-IP Idle Timeout* could be increased on the HP Jetdirect device remotely using HP Web Jetadmin 10.0. Other useful networking parameters that may require configuration during the troubleshooting process include enabling/disabling protocols, frame types, and more. Printer configurations such as tray and media administration can also assist in assuring the printer is properly configured to receive the desired print jobs.

## Proactive Troubleshooting

While all previously discussed troubleshooting techniques involved reactively responding to user call at the Help Desk, HP Web Jetadmin 10.0 also includes various proactive techniques whereby issues can be solved before ever being reported by users.

### Status

Status can be viewed for individual printers or groups of printers to determine the current state of each device. Many of the printers in a warning or error state can be remotely solved before they are detected by end users. The severity and status columns in Layouts can be enabled on any device list in order for Help Desk staff to find problem devices.

### Alerts

HP Web Jetadmin has the ability to send e-mail messages, or alerts, whenever events occur on printers. For example, error or warning conditions on printers, such as paper out or toner low, can trigger e-mail messages to be sent by HP Web Jetadmin that contain detailed information pertaining to the condition, allowing the recipient to act upon that condition immediately. The advantage of alerts is that administrators can receive proactive, real-time warnings via e-mail for events that occur on networked printers. Receiving early notification of printer events allows administrators to correct the problems before they impact end user productivity. This saves time for both the administrator and the end user. Help Desks might use alerts to proactively troubleshoot issues with printers before end users detect them. Individuals responsible for ordering consumables, such as toner cartridges, might enable toner low alerts so they can be warned of toner low conditions in order to proactively order toner before it runs out.

Once a printer is enabled to send alerts in HP Web Jetadmin, there are three different mechanisms in which HP Web Jetadmin can be informed that a condition exists on the device:

- Traps: HP Web Jetadmin 10.0 can listen for device traps that warn of a condition.
- Polling: HP Web Jetadmin 10.0 can periodically poll a device for status if the device does not support traps or the traps table is full. For more information, see the document "using Proactive Alerts with HP Web Jetadmin 10.0".

If the status condition of the printer matches any of the configured alerts for the printer, a detailed email message is composed and delivered to designated recipients. If a printer only supports polling, SNMP status queries will be sent to the printer at user-defined intervals. If the status condition of the printer matches any of the configured alerts for the printer, a detailed email message is composed and delivered to designated recipients.

## Summary

Printer issues do contribute to the total volume of calls a Help Desk receives. Fortunately, HP Web Jetadmin 10.0 provides many tools that allow for troubleshooting printers remotely without having to physically visit the printer, significantly reducing the time spent solving issues. HP Web Jetadmin 10.0 also provides proactive measures for troubleshooting printer issues before end users experience them, increasing customer satisfaction.

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