Setting Up and Administering Printers by Using CUPS Command-Line Utilities

This section provides a brief description of the CUPS commands and describes how to set up and administer your printers.

CUPS Command-Line Utilities

CUPS provides various commands to set up printers and make those printers accessible to systems on the network. In addition, CUPS supports several printer-specific options that enable you to control printer configuration. The following table lists frequently used CUPS commands.

Note - Some CUPS command names are the same as legacy LP print commands, but the behavior of commands under CUPS management might be different.

Table 15-1 CUPS Command-Line Utilities

Command	Task
`cancel`(1)	Cancels a print request
`cuspaccept`(8)	Enables queueing of print requests to the named destinations
`cuspdisable`(8)	Disables the named printers or classes
`cupsenable`(8)	Enables the named printers or classes
`cupsreject`(8)	Rejects queueing of print requests to the named destinations
`lp`(1)	Submits a print request
`lpadmin`(8)	Sets up or changes a printer or class configuration
`lpc`(8)	Provides limited control over CUPS print and class queues
`lpinfo`(8)	Shows available devices or drivers known to the CUPS server
`lpmove`(8)	Moves a specified job or all jobs to a new destination
`lpoptions`(1)	Displays or sets printer options and defaults
`lpq`(1)	Shows the current print queue status
`lpr`(1)	Submits a print request
`lprm`(1)	Cancels print jobs that have been queued for printing
`lpstat`(1)	Displays the status information for queues and requests

How to Set Up a Printer by Using the `lpadmin` Command

1. **Connect the printer to the system, then turn on the power to the printer.**

   Consult the printer vendor's installation documentation for information about hardware switches and cabling requirements.

2. **Become an administrator.**

For more information, see How to Obtain Administrative Rights in *Oracle Solaris Administration: Security Services*

3. **Use the `lpadmin` command with the `-p` option to add a printer to CUPS.**

   Only the most commonly used options of the CUPS `lpadmin` command are shown here. For information about other options, see the `lpadmin`(8) man page.

   ```
   $ /usr/sbin/lpadmin -p printer-name -E -v device -m ppd
   ```

   `-p`

   Specifies the name of the printer to add.

   `-E`

   Enables the destination and accepts jobs.

   `-v`

   Sets the `device-uri` attribute of the print queue.

   `-m`

   Sets the PPD file for the printer from the model directory or by using one of the driver interfaces.

   See the examples at the end of this procedure.

4. **Enable the printer to accept print requests and to print those requests.**

   ```
   $ cupsaccept printer-name
   $ cupsenable printer-name
   ```

5. **Verify that the printer is correctly configured.**

   ```
   $ lpstat -p printer-name -l
   ```

Example 15-1 Adding a Printer That Is Connected to the Parallel Port

To add an HP DeskJet printer `DeskJet` that is connected to the parallel port, you would type the following command:

```
$ /usr/sbin/lpadmin -p DeskJet -E -v parallel:/dev/lp1 -m deskjet.ppd
```

`deskjet.ppd`

PPD file for the HP DeskJet drivers included with CUPS

Example 15-2 Adding a Printer That Uses a PPD File

To add an HP LaserJet printer `LaserJet` by using a JetDirect network interface with the IP address `10.1.1.1`, you would type the following command:

```
$ /usr/sbin/lpadmin -p LaserJet -E -v socket://10.1.1.1 -m laserjet.ppd
```

`laserjet.ppd`

PPD file for the HP LaserJet drivers included with CUPS

Example 15-3 Adding a Printer That Is Connected to the Serial Port

To add a dot matrix printer that is connected to the serial port, you would type the following command:

```
$/usr/sbin/lpadmin -p DotMatrix -E -m epson9.ppd \ -v serial:/dev/ttyS0?baud=9600+size=8+parity=none+flow=soft
```

Specify the serial port, baud rate, number of bits, parity, and flow control. If you do not need flow control, delete the `+flow=soft` attribute.

Setting a Default Printer

You can specify the default printer in one of the following ways:

- By setting the `LPDEST` or `PRINTER` environment variable.

  The `LPDEST` environment variable determines the destination of the printer. If the `LPDEST` variable is not set, the `PRINTER` variable is used. The `PRINTER` variable determines the output device or destination. If both the `LPDEST` and `PRINTER` variables are not set, an unspecified device is used. For instructions on setting up a default printer by specifying the environment variables, see How to Set a Default Printer at the Command Line.

- By using the new `lpoptions` command.

  Use this command to display or set printer options and defaults. For instructions on setting up a default printer by using the CUPS commands, see How to Set a Default Printer at the Command Line. For more information, see the `lpoptions`(1) man page.

The print command searches for the default printer in the following order:

1. The printer name as set by the `lp` command with the `-d` option
2. The value of the `LPDEST` environment variable
3. The value of the `PRINTER` environment variable

For instructions on setting up printers by using the CUPS web browser interface, see Setting Up and Administering Printers by Using the CUPS Web Browser Interface .

How to Set a Default Printer at the Command Line

The default printer can be a local printer or a remote printer.

1. **Become an administrator on the system where you want to set a default printer.**
2. **Set the system's default printer by using one of the following methods:**
   - **By specifying the `PRINTER` variable:**

     ```
     $ export PRINTER=printer-name
     ```

     where *printer-name* specifies the name of the printer to be assigned as the system's default printer. If you do not specify *printer-name*, the system is set up with no default printer.

     Note - When using the `lp` command with the `-d` option, the destination printer, which might not be the default printer, is specified. If the `-d` option is not specified, the `print` command searches for information about the printer in the `PRINTER` environment variable.

   - **By specifying the `LPDEST` variable:**

     ```
     $ export LPDEST=printer-name
     ```

     where *printer-name* specifies the name of the printer to be assigned as the system's default printer. If you do not specify *printer-name*, the system is set up with no default printer.

     Note - If both the `LPDEST` and the `PRINTER` environment variables are set, `LPDEST` takes precedence.

- **By using the `lpoptions` command:**

  ```
  $ lpoptions -d printer-name
  ```

  `-d`

  Specifies the destination printer.

  printer-name

  Specifies the name of the printer that is assigned as the system's default printer. If you do not specify *printer-name*, the system is set up with no default printer.

  For more information, see the `lpoptions`(1) man page.

3. **Verify the system's default printer.**

   ```
   $ lpstat -d
   ```

4. **To print to the default printer, type the following command:**

   ```
   $ lp filename
   ```

Example 15-4 Setting a Default Printer by Specifying the `PRINTER` Variable

The following example shows how to set the printer `luna` as the system's default printer by using the `PRINTER` variable.

```
$ export PRINTER=luna
$ lpstat -d
system default destination: luna
```

Example 15-5 Setting a Default Printer by Specifying the `LPDEST` Variable

The following example shows how to set the printer `luna` as the system's default printer by specifying the `LPDEST` variable.

```
$ export LPDEST=luna
$ lpstat -d
system default destination: luna
```

Example 15-6 Setting a Default Printer by Using the `lpoptions` Command

The following example shows how to set the printer `luna` as the system's default printer. The printer `luna` is used as the system's default printer if the `LPDEST` or the `PRINTER` environment variable is not set.

```
$ lpoptions -d luna
$ lpstat -d
system default destination: luna
```

The `lpoptions` command creates a `~/.lpoptions` file that includes and entry for the default printer `luna` in the file. By default, all print jobs are now directed to the `luna` printer.

How to Print to a Specified Printer

1. (Optional) **Verify the status of the printer.**

   ```
   $ lpstat -p printer-name
   ```

2. **Provide the destination printer name when issuing the `lp` command.**

   ```
   $ lp -d destination-printer filename
   ```

   `-d`

Specifies the destination printer.

destination-printer

Specifies the name of the printer that you are assigning as the destination printer.

filename

Specifies the file name to print.

Note - You can also use the `lpr` command with the `-p` option to submit a print request to a specific printer. For more information, see the `lpr`(1) man page.

Example 15-7 Printing to a Specified Printer by Using the `lp` Command

The following example shows how to set the printer `luna` as the destination printer.

```
$ lp -d luna abc.ps
request id is luna-1 (1 file(s))

$ lpstat -d
system default destination: saturn
```

The `-d` option of the `lp` command takes precedence over the `LPDEST` and `PRINTER` environment variables.

Note that in this example, the default printer is `saturn`.

How to Verify the Status of Printers

The `lpstat` command displays information about accessible printers and jobs.

1. **Log in to any system on the network.**
2. (Optional) **Verify the status of all printers or a specific printer.**

   Only the most commonly used options are shown here. For information about other options, see the `lpstat`(1) man page.

   `$ lpstat [-d] [-p]` *`printer-name`* `[-l] [-t]`

   `-d`

   Shows the system's default printer.

   `-p` *printer-name*

   Shows that a printer is active or idle, and when the printer was enabled or disabled.

   You can specify multiple printer names with this command. Use a space or a comma to separate printer names. If you use spaces, enclose the list of printer names in quotation marks. If you do not specify *printer-name*, the status of all printers is displayed.

   `-l`

   Shows the characteristics of printers and jobs.

   `-t`

   Shows status information about CUPS, including the status of all printers, for example whether printers are active and accepting print requests.

Example 15-8 Displaying the Status of Printers

To display the status of the printer `luna`:

```
$ lpstat -p luna
printer luna is idle. enabled since Jul 12 11:17 2011. available.
```

To display the system's default printer:

```
$ lpstat -d
system default destination: luna
```

To display the description of the printers `asteroid` and `luna`:

```
$ lpstat -p "asteroid, luna" -D
printer asteroid faulted. enabled since Jan 5 11:35 2011. available.
unable to print: paper misfeed jam

Description: Printer by break room
printer luna is idle. enabled since Jan 5 11:36 2011. available.
Description: Printer by server room.
```

To display the characteristics of the printer `luna`:

```
$ lpstat -p luna -l
printer luna is idle.  enabled since September 29, 2011 05:20:57 PM BST
```

How to Print a File to the Default Printer

1. **Log in to any system on the network.**
2. (Optional) **Verify the status of the printer.**

   ```
   $ lpstat -p printer-name
   ```

3. **Issue a print request in one of the following ways:**
   - **By using the `lp` command:**

     ```
     $ lp filename
     ```

   - **By using the `lpr` command:**

     ```
     $ lpr filename
     ```

Note - Only the basic commands are shown in this procedure. For information about the other options, see the `lp`(1) and the `lpr`(1) man pages.

How to Delete a Printer and Remove Printer Access

1. **Become an administrator on a print client with access to the printer to delete.**
2. **On the system that is the print client, delete information about the printer.**

   ```
   $ lpoptions -x printer-name
   ```

   printer-name

   Specifies the name of the printer to delete.

   `-x`

   Deletes the specified printer.

Note - The `-x` option only removes the default options for a specific printer and instance. The original print queue still remains until it is deleted by using the `lpadmin` command.

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3. **Become an administrator.**
4. **On the system that is the printer server, stop accepting print requests for the printer.**

   ```
   $ cupsreject printer-name
   ```

   This step prevents any new requests from entering the printer's queue while you are in the process of removing the printer.

5. **Stop the printer.**

   ```
   $ cupsdisable printer-name
   ```

6. **Delete the printer.**

   ```
   $ lpadmin -x printer-name
   ```

7. **Verify that the printer has been deleted, as follows:**
   a. **Confirm that the printer has been deleted on the print client.**

      ```
      $ lpstat -p printer-name -l
      ```

      The command output displays a message indicating the printer does not exist.

   b. **Confirm that the printer has been deleted on the print server.**

      ```
      $ lpstat -p printer-name -l
      ```

      The command output displays a message indicating that the printer does not exist.

Example 15-9 Deleting a Printer

The following example shows how to delete the printer `luna` from the print client `terra` and from the print server `jupiter`.

```
terra# lpoptions -x luna
terra# lpstat -p luna -l
jupiter# lpadmin -x luna
jupiter# lpstat -p luna -l
lpstat: Invalid destination name in list "luna"!
```