

1.107.4

Install and configure local and remote printers Weight 1

Linux Professional Institute Certification — 102

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Topic 107 Printing [3]

Where we are up to

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1.107.2 Manage printers and print queues [1]

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Description of Objective

1.107.4 Install and configure local and remote printers [1]

Candidates should be able to install a printer daemon, install and configure a print filter (eg `apsfilter`, `magicfilter`). This objective includes making local and remote printers accessible for a linux system, including postscript, non-postscript and samba printers.

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Key files, terms, and utilities include:

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lpd The Printing daemon

`/var/spool/lpd/*` — Spooler directories

`/etc/printcap` — lpd Configuration file

`/etc/apsfilter/*`

`/var/lib/apsfilter/*`

`/etc/magicfilter/*`

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Resources of interest

Printing-HOWTO
Printing-Usage-HOWTO
www.linuxprinting.org

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Linux Printing

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- ▶ There are several packages available for linux printing:
 - ▶ LPR
 - ▶ LPRng
 - ▶ Cups
- ▶ Previously LPR (or LPRng) was the default on most Linux distros. . .
- ▶ . . . but now Cups is the default.
- ▶ Major components of the LPR subsystem are:
 - ▶ `lpd` — The printing daemon
 - ▶ `lpr` — A tool to submit jobs into the queue
 - ▶ `lprm` — A tool to remove jobs from the queue
 - ▶ `lpq` — A tool to view jobs in the queue
 - ▶ `lpc` — An administration tool for printers and queues
- ▶ The commands in **red** are also provided by Cups.

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- ▶ There are two ways to install a printer under Linux:
- ▶ The easy way! — Use a GUI like `printtool` or `system-config-printer` on Fedora systems.
- ▶ The hard way:
 - ▶ Edit `/etc/printcap`
 - ▶ Create the spool directory
 - ▶ Touch the log file
 - ▶ Restart `lpd`

printcap — The configuration file

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`/etc/printcap` contains information about **all** printers on the system (including remote printers)

An example looks like:

```
HPLjet|lp|lp0:\
    :ml=0:\
    :mx=0:\
    :sd=/var/spool/lpd/HPLjet:\
    :sh:\
    :lp=/dev/lp0:\
    :lf=/var/spool/lpd/HPLjet/log:\
    :if=/usr/share/printconf/util/mf_wrapper:
```

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printcap — The configuration file

Syntax

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Key points to note about `printcap` format:

- ▶ Comments start with a '#'
- ▶ Any line not starting with a colon or pipe is the start of a printer definition
- ▶ Each line of a definition ends in a backslash except the last line
- ▶ `lpd` must be restarted each time `/etc/printcap` is edited
- ▶ Spool directory and log file need to be created manually
 - ▶ it is not created automatically by `LPD`

printcap — The configuration file

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- if** Define the input filter
- lf** Define the printer log file
- lo** Define the lock file created when printer is in use
- mx** Define the maximum size of a print job
- rm** Specify printer is on remote machine. Eg
:rm=192.168.222.254:
- rp** Define remote printer name. Eg :rp=HPLjet:
- sh** Tell lpd not to print banner pages
- sd** Specify spool directory

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Creating spool directory and log file

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The spool directory should be owned by user `lp` and have permissions set to 700:

- ▶ `$ sudo mkdir /var/spool/lpd/HPLjet` ↩
- ▶ `$ sudo chown lp:lp /var/spool/lpd/HPLjet` ↩
- ▶ `$ sudo chmod 0700 /var/spool/lpd/HPLjet` ↩

The log file should have permissions set to 660 and have the same ownership as the spool directory:

- ▶ `$ sudo touch /var/spool/lpd/HPLjet/log` ↩
- ▶ `$ sudo chown lp:lp`
`/var/spool/lpd/HPLjet/log` ↩
- ▶ `$ sudo chmod 0660 /var/spool/lpd/HPLjet/log`
↩

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Controlling printer access

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- ▶ Printer access is controlled through `/etc/hosts.lpd`
- ▶ If the file does not exist, all access is granted
- ▶ If the file exists, only those in the list will be granted access
- ▶ The format is: `[host [user]]`

Example: All access from `box2.c222`, only `greg` from
`box3.c222`

```
box2.c222
```

```
box3.c222 greg
```

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- ▶ A print filter converts data to be printed into a language that your printer understands
- ▶ There are several print filter packages:
 - ▶ Foomatic
 - ▶ Apsfilter
 - ▶ Magicfilter

Key Point Summary

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- ▶ Most Linux systems previously used LPR (or LPRng),
- ▶ but now most Linux systems use Cups
- ▶ Local & remote printer configs are stored in `/etc/printcap`
- ▶ The print spool directory & log file must be created manually
- ▶ Print access is controlled using `/etc/hosts.lpd`
- ▶ Print filters convert different data types to a language understood by the printer
- ▶ The `lpd` daemon is responsible for getting jobs from the user, putting them through the filter and delivering them to the spool directory.

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Key Point Summary

- ▶ The `lpc` program is used to control the printer and print spools
- ▶ The `lpq` program is used to view the print queues
- ▶ The `lprm` program is used to remove jobs from the queues
- ▶ The `lpr` program is used to submit jobs into the queue.

Topics Covered

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