

# – General Linux 2 –

## Install & configure local & remote printers

(Linux Professional Institute Certification)

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# **Install & configure local & remote printers**

**1.107.2** Manage printers & print queues

**1.107.3** Print files

**1.107.4** Install & configure local & remote printers

# Install & configure local & remote printers

## Objective

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

# Install & configure local & remote printers

## Key files, terms, and utilities

**lpd** The Printing daemon

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

`/etc/printcap` - Configuration file

`/etc/apsfilter/*`

`/var/lib/apsfilter/*`

`/etc/magicfilter/*`

## **Resources of interest**

Printing-HOWTO

Printing-Usage-HOWTO

[www.linuxprinting.org](http://www.linuxprinting.org)

# Linux Printing

- There are several packages available for linux printing:
  - LPR
  - LPRng
  - Cups
- LPR (or LPRng) is the default on most Linux distros
- 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 & queues

# Installing a Printer

- There are two ways to install a printer under Linux:
- The easy way! - Use a GUI like `printtool`
- The hard way:
  - Edit `/etc/printcap`
  - Create the spool directory
  - Touch the log file
  - Restart `lpd`

## printcap - The configuration file

/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 :
```



## **printcap - The configuration file**

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 & log file must be created manually

## **printcap - The configuration file**

**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

## Creating spool directory & log file

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

- `# mkdir /var/spool/lpd/HPLjet ↵`
- `# chown lp:lp /var/spool/lpd/HPLjet ↵`
- `# chmod 0700 /var/spool/lpd/HPLjet ↵`

The log file should have permissions set to 666 and have the same ownership as the spool directory:

- `# touch /var/spool/lpd/HPLjet/log ↵`
- `# chown lp:lp /var/spool/lpd/HPLjet/log ↵`
- `# chmod 0660 /var/spool/lpd/HPLjet/log ↵`

## Controlling printer access

- 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
```

## Print Filters

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

## Key Point Summary

- Most Linux Systems use LPR (or LPRng)
- 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.

## 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.