– 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 apsfilter, magicfilter). This objective includes making local and remote printers accessible for a linux system, including postrscript, 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

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.