1.107.4

Install and configure local and remote printers Weight 1

Linux Professional Institute Certification — 102

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1.107.4 Install and configure local and remote printers Weight 1

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Overview of Linux

Setting up a Printer

c/printcap file

pool dir and log file

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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]

1.107.3 Print files [1]

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:

1.107.4 Install and configure local and remote printers [1]

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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- 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.

Installing a Printer

- ► 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

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printcap — The configuration file

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```
/ {\it 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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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
- ▶ Ipd 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
- If 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 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 ←
- ightharpoonup \$ sudo chown lp:lp /var/spool/lpd/HPLjet \hookleftarrow
- ▶ \$ 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:

- ightharpoonup \$ sudo touch /var/spool/lpd/HPLjet/log \hookleftarrow
- ▶ \$ sudo chown lp:lp
 /var/spool/lpd/HPLjet/log ←
- \$ sudo chmod 0660 /var/spool/lpd/HPLjet/log

_

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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Print Filters

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

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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.

Key Point Summary

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- 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.

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