

Free/Libre and Open Source Software

Lecture 10

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UNIX/Linux administration

- Users and groups
- Repositories and packages
- Devices and drivers
- File systems
- Archiving and backups
- Network administration

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Sysadmin tools (RHEL)

setup – simple text config

/usr/bin/system-config-* – GUI-configs

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Users and groups

`adduser`, `useradd` - create a new user or update default new user information

`groupadd` - create a new group

`passwd` - update user's authentication tokens

Data:

`/etc/passwd` `/etc/group` `/etc/shadow`

Configs:

`/etc/security/`

`/etc/pam.d/`

`/etc/nsswitch.conf`

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Repositories and packages (SL)

rpm - RPM Package Manager

yum - Yellowdog Updater Modified

yumdownloader – program for downloading RPMs from
Yum repositories

gnome-packagekit – Session applications to manage
packages

yumex -- Graphical User Interface for Yum

/etc/yum.repos.d/ -- descriptions for repositories

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Devices and drivers

mknod - make block or character special files

MAKEDEV - create devices

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Partitions and file systems

fdisk, cfdisk, sfdisk - Partition table manipulator for Linux

parted, gparted – GNU Parted - a partition manipulation program

mkfs - build a Linux file system

mount - mount a filesystem

fsck - check and repair a Linux file system

mkswap - set up a Linux swap area

swapon, swapoff - enable/disable devices and files for paging and swapping

/etc/fstab -- static information about the filesystems mounting and swapping enabling

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df - report file system disk space usage

du - estimate file space usage

dd - convert and copy a file

tar – saves many files together into a single tape or disk archive, and can restore individual files from the archive

cpio - copy files to and from archives

dump/restore - ext2/3 filesystem backup/retore

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Booting and services starting/stopping

grub2-install - install GRUB on your drive

init - process management daemon
/etc/rc – main init script

/etc/inittab - init daemon configuration
/etc/rc<runlevel>.d/ /etc/init.d/ – start/stop scripts

service - run a System V init script
chkconfig - updates and queries runlevel information for
system services

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Network configuration

`ifconfig` - configure a network interface

`route` - show / manipulate the IP routing table

`ip` - show / manipulate routing, devices, policy

routing and tunnels

`/etc/resolv.conf` – DNS resolver configuration file

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Network access

setup, system-config-firewall
/etc/init.d/iptables
/etc/sysconfig/iptables

Host access control files:

/etc/hosts.deny:

ALL: ALL

/etc/hosts.allow:

ALL: LOCAL @some_netgroup

ALL: .foo.bar EXCEPT hacker.foo.bar

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Network services

xinetd - the extended Internet services daemon
system-config-services, /etc/xinetd.d

/etc/exports - NFS server export table