

Freescal FAE75 Training Genesi Pegasos II Linux Training

Maurie Ommerman
June 10, 2004

FAE75 Part 3

Debian Linux

Maurie Ommerman
June 10, 2004

Open Firmware boot script

Boot Options

Upon PowerUP, this menu is presented

Pegasos boot menu

1. MorphOS
2. Debian GNU/Linux 2.4 kernel
3. Debian GNU/Linux 2.6 kernel
4. Yellow Dog Linux 2.4 kernel
5. Return to OF prompt

Press 1-5 (default: 3): 25 seconds to choose

Error: error while trying to load or boot

Debian root User

- **create new users**
- **set up networking**
- **using sound**
- **setting up a printer and printing**
- **surfing the web**
- **instantiating a terminal and learning some commands**
 - mount
 - others
- **sizing the desktop**
- **tour of gnome**
- **log off**
- **login as a user**
- **tour of kde**

Debian

- **Long string of commands and responses on the monitor**
- **Finally, ..., a graphics sign on screen**
- **sign on, in gnome mode, as**
 - **guest**
 - **password: guest**

Tour of Debian gnome window manager

Tour of gnome panel menus

applications action

- office
 - menu | office | calc
 - **ONLY on ERROR:** If it fails to open then open a terminal and type `/usr/bin/oocalc`
 - > determine what the error messages indicate

Debian normal User

- **Start a terminal window in debian**
- **Look at home directory in /home/guest**
 - **pwd**
 - **ls**
- **Changing your password**
 - **passwd**
 - Since no user name is specified, this indicates change the current users password

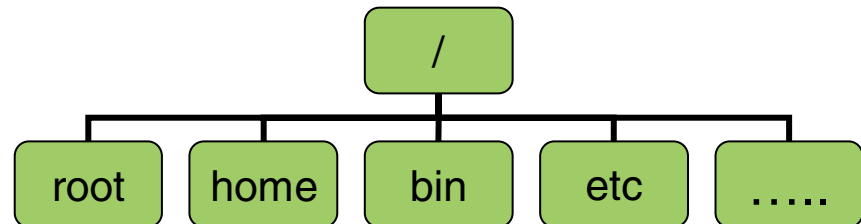
Concept of Users

Let us digress now, to the Linux Root File System

This is not the Kernel build directory

User's exist in a running Linux

A running Linux has a Linux Root File System



Concept of Users

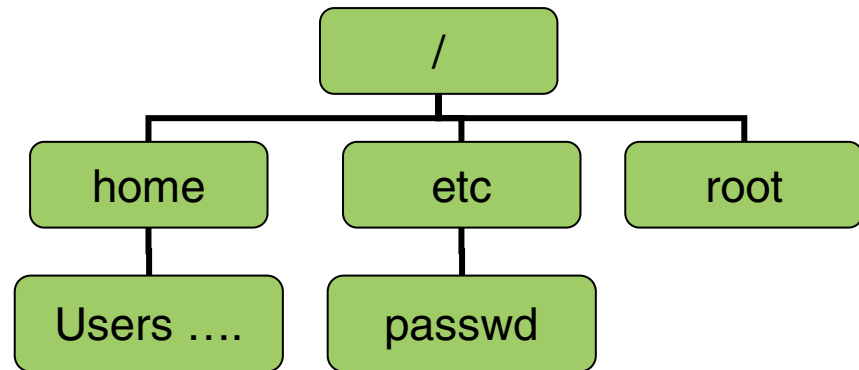
A user is a member of the club, i.e. can log in and use the linux resources.

The /etc/passwd file denotes all users, encrypted passwords, group membership, and initial shell,

File is owned by root and Readable by all users

Only root user can create new users, useradd, userdel, passwd

Each user owns their own home directory



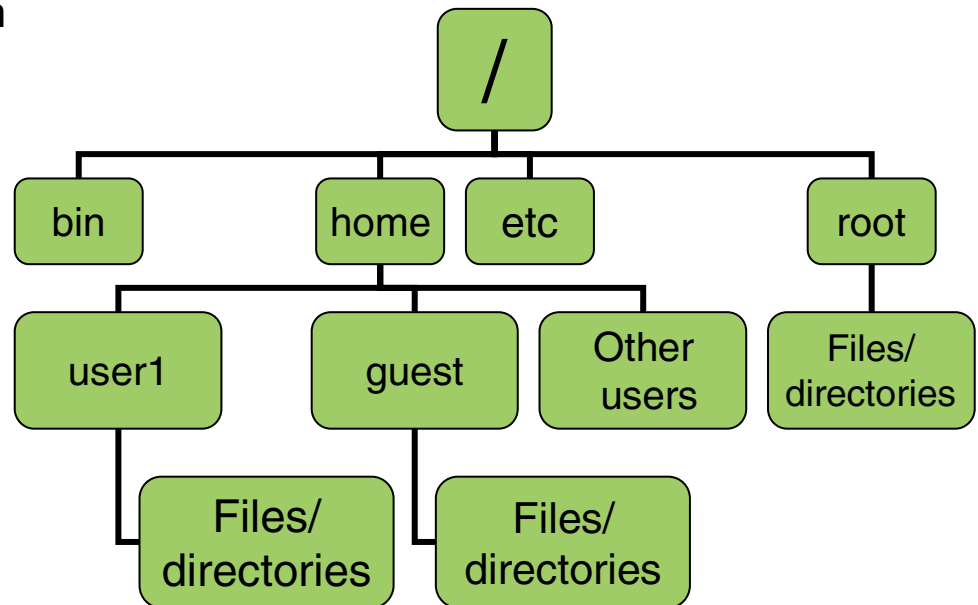
Example etc/passwd

Root and Linux type users

```
root:x:0:0:root:/root:/bin/bash
bin:x:1:1:bin:/bin:/sbin/nologin
daemon:x:2:2:daemon:/sbin:/sbin/nologin
adm:x:3:4:adm:/var/adm:/sbin/nologin
lp:x:4:7:lp:/var/spool/lpd:/sbin/nologin
sync:x:5:0:sync:/sbin:/bin/sync
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown
halt:x:7:0:halt:/sbin:/sbin/halt
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin
```

Real Users

user1:x:501:501::/home/user1:/bin/bash
guest:x:502:502::/home/guest:/bin/bash
user2:x:503:503::/home/user2:/bin/bash
user3:x:514:514::/home/user3:/bin/bash



Debian root User Add new users

- **You must be root user to create new users**
- **Start a terminal in the debian window**
- **SU –**
 - **type in password**
 - moto
 - **look at start up messages**
 - dmesg | less
- **NOTE: Once you receive your Genesi pegasos system**
 - Change the root password
 - **DO NOT change it here**

Debian root User Add new users

- **create new users**
 - **adduser <user> e.g. adduser user1**
 - **complete, adds user to /etc/passwd, creates a home directory and bash files, prompts for a password.**
 - It also asks you for password and user information
 - **passwd <user> e.g. passwd user1**
 - **deluser --remove-home <user>**
 - e.g. deluser --remove-home user1
 - **su <user>**
 - keep current user environment
 - **su - <user>**
 - change to new user environment

Lab: add a new user

Lab: everyone type in the following:

```
adduser fae
password fae
fae
fae
su fae
```

```
    whoami
    pwd
```

```
exit
```

```
su – fae
```

```
    whoami
    pwd
```

```
exit
```

Debian root User Networking

- **set up networking**

- **ifconfig**

- **man interfaces**

- **cd /etc/network**

- **vi interfaces**

- auto eth0
- iface eth0 inet dhcp

or

```
iface eth0 inet static
    address xx.xx.xx.xx
    netmask xx.xx.xx.xx
    gateway xx.xx.xx.xx
```

- **save**

- **ifdown eth0**

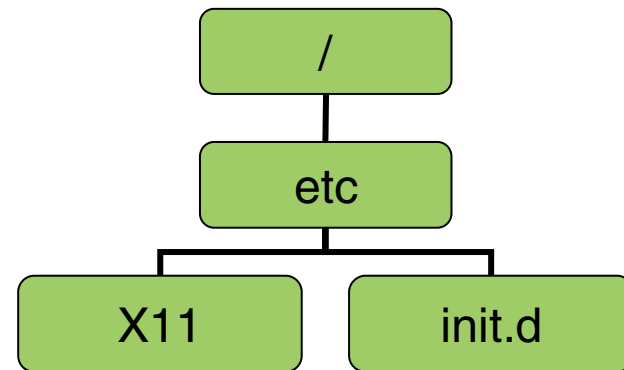
- **ifup eth0**

- **Lab: Look at these files on your pegasos system**

/etc

**The etc directory contains
linux system control files**

- passwd - password file**
- X11 – window managers**
- termcap – terminal types like vt100**
- init.d - initialization system start up files**
- Various configuration files**



Now, return to guest user

Lab: adduser fae audio

**Need to be root to do this command
see next slide**

Lab: exit

returns from root user to guest

Debian normal User sound

•using sound on gnome

- **adduser <user> audio (must be root to perform this command)**
 - adds the user to the audio group so audio is available
 - adduser guest audio
- **Applications | desktop preference | sound**
 - sound preferences box includes event sounds.

•audio CD

- **Applications | multimedia | CD player**
 - CD player
 - volume control

•DVD

- **Use the xine player**
- **May need to build a dvd device**
 - In `–s /dev/cdrom /dev/dvd`

Debian normal User mozilla

- Lab: mozilla firefox, set up proxies
- surfing the web

Using mozilla

Applications|internet

Mozilla firefox

First time choose settings

setting up proxies

mozilla menu tools | options | connection

choose manual proxy configuration

set all Proxy to wwwgate0.mot.com

set all Port 1080

Debian normal User mozilla

- **Lab: Add mozilla firefox to panel**
 - right click on panel**
 - add to panel**
 - Launcher from menu**
 - Internet**
 - Mozilla fire fox**

Debian root User install a network printer

- **setting up a printer and printing**
- **The print client and server are CUPS**
- **Install a new network printer**
 - open a browser
 - <http://localhost:631>
 - > printer daemon uses port 631
 - Choose manage printers
 - Look at available printers
 - Can choose to delete a printer (**Don't do it**)
 - > You will need root user and password
 - Choose add a printer
 - > You will need root user and password
 - > enter the name, location, and description (cannon400-bw in room b2455)
 - > enter device (we use AppSocket/HP jetDirect)
 - > choose the network protocol (we use LaserJet Series cups v1.1)
 - > device URI (we use socket:\\IP:6100 address) (eg socket://10.82.119.224:9100)
 - > we use Cannon400, HP 4Si/4Si MX **driver**
 - Lab: Look at printers on pegasos

Printer commands

- **Lab: perform all these commands**
- **man lp**
- **man lpstat**
- **man enscript**
- **create a file**
 - **vi test.prt**
- **lp test.prt**
- **lp -d cannon400-bw test.prt**
- **man enscript | col -b > j**
- **enscript -c -2r -o out.ps j**
- **gv out.ps**
 - **ghost viewer of postscript files**
- **lp out.ps**
- **lpstat -a**

KDE User office

- logoff of debian
- tour of kde
 - Tour of menus
 - office
 - menu | office | calc
 - **ONLY IF IT FAILS**
 - > If it fails to open then open a terminal and type `/usr/bin/ocalc`
 - > determine what the error messages indicate

Debian User kde

- **If kde can not start the sound server**
 - **During startup, you will get a sound server failure message**
 - **change to root, su -**
 - **ps -ef | grep esd**
 - **kill -9 <esd id>**
 - gnome does not kill it's sound server when it quits
 - **then logout and relogin under kde**
- **sound**
 - menu | settings | control center | sound
 - many cd players

KDE User logoff and shutdown

- **log off**
- **shutdown the system**
 - shutdown –h now
 - log in screen shutdown command

Advanced Features

Debian Normal User common commands

Debian or KDE normal User

•Lab: learning some more commands

- create a new user on this machine with the same login as a user on the remote machine
- adduser guest

ssh -- secure shell remote login

ssh <remote host name or IP>

ssh 10.82.118.239

login as guest, password guest

ls

cat welcome.txt

Lab: Do the same exercise with telnet

Advanced Features

Debian Root User common commands

Debian root User

- **Lab: learning some more commands**

parted

m

p

q

ps -ef

ps -ef | grep <something>

Genesi's Partitions

- **parted can list the partitions**
 - parameter p – print partitions
 - q – exit and do not change the partition table

- **List of partitions**

	device	location	part name	type	style
			type		
1.	hda1	0	FFS boot	-t affs	amiga
2.	hda2	1	SFS MOS		morphos
3.	hda3	2	SFS MOS-DATA		morphos
4.	hda4	3	LNx		swap
5.	hda5	4	LNx debian	-t ext3	Linux
6.	hda6	5	LNx ydl	-t ext3	Linux

Debian root User

- **Lab: learning some more commands**

df -k [.]

cd /mnt

ls /mnt/temp

it is empty

mount /dev/hda6 /mnt/temp

df -k

ls /mnt/temp

files and directories

umount /mnt/temp

Modifying the boot menu file

```
df -k [.]
```

```
mount
```

```
the boot menu file is on hda1, it is an affs style
```

```
mount -t affs /dev/hda1 /mnt/temp
```

```
cd /mnt/temp
```

```
ls
```


Debian root User

- **/etc/X11/XFree86Config-4**
 - Controls the screen resolution, mouse type, and keyboard type.
 - `/etc/init.d/gdm stop`
 - `/etc/init.d/gdm start`
- **choosing other terminals**
 - control-alt-F7 is main terminal
 - control-alt-F6 is an alternate terminal
 - control-alt-F5 is another alternate terminal
- **sizing the desktop**
 - control-alt-minuskey

Debian root User usb memory stick

- **tour of kde and gnome (looks the same)**
 - **usb memory stick as root**
 - `df -k`
 - plug in usb memory stick
 - `df -k`
 - `cd /usb`
 - `ls, vi, etc`
 - `cd`
 - pull usb memory stick out
 - `df -k`
 - `vi /etc/fstab`
 - > look at `/dev/sda1` entry

Debian user User usb memory stick

- **tour of kde and gnome (looks the same)**

- **usb memory stick as a user**

- `df -k`
- plug in usb memory stick
- `df -k`
- `cd /usb`
- `ls -ld /usb`

oops wont let us, permission problem
need to add this user to pegasos group
`adduser <user> pegasos`

- `ls, vi, etc`
- `cd`
- pull usb memory stick out
- `df -k`
- `vi /etc/fstab`
 - > look at `/dev/sda1` entry

Advanced automounting of usb memory stick

A script is run when the usb memory stick is inserted

`/etc/hotplug/usb/usb-storage`

It's job is to:

copy `/etc/fstab.in` to `/etc/fstab`

add the mount `/dev/sda1 /usb` command

echo “ `...,fmask=0222,dmask=0000, ...` “

**ensures that permissions are set so that
all users can use the memory stick**

and issue the mount `/usb`

Advanced gdm and XF86Config-4

gdm is the gnome display manager

If you have an old terminal, the display may default to lowest resolution.

A possible solution is to comment out all Mode lines then reboot.

After boot if still in lowest resolution

control-alt-f6

log in as root

/etc/init.d/gdm stop

/etc/init.d/gdm start

repeat until higher resolution can be found, or if many repeated failures, then no fix available.

Advanced gdm and XF86Config-4

A monitor resolution solution I haven't tried yet.

connect the monitor directly, run X, get the modelines from the /var/log/XFree86.0.log file, and paste them in the XF86Config-4 file.

In order to not get the config file overridden on up/downgrade, you have to set the xserver-xfree86/clobber_XF86Config-4 debconf variable to false, which can be done either by hand by editing /var/cache/debconf/config.dat, or by reconfiguring xserver-xfree86 with :

```
dpkg-reconfigure xserver-xfree86
```

If i remember well. Eventually you can use the -p option to set the priority to something lower than usual, like medium or low.

Debian root User commands

- **Lab: learning some commands**

pwd

cd

cd / **look at important files**

ls -F

gcc

gcc --version

vi c.c

main()

{ printf("hello world\n"); return 0;}

save it

gcc c.c

./a.out



Genesi Presentation Part 3

