Jason Dreisbach
4/18/11

Lab 02

1. **GET the system**

Approach:

First, I tried the qemu build on vogon, but ultimately decided to run qemu on my mac.

Problems Encountered:

Building from source failed on my mac.

Solutions:

So I downloaded the qemu gui applications "Q".

Lessons Learned:

Cross compiling open source software is not always as simple as ./configure && make && sudo make install

2. LOGIN

Approach:

Type "root" at the prompt.

Problems:

none.

Solution:

none.

Learned:

Minix login is very similar to linux login.

3. MAKE USER

Approach:

Use the adduser utility.

Problems:

Didn't specify the group or directory.

Solution:

adduser jason wheel /home/jason
passwd jason
<enter password twice>
su jason

Learned:

That I had to specify a group and home directory for the user.

4. FLOPPY DISK

Approach:

Use the utilities provided by "Q" software.
Create a 1.44 Mb file on the host computer and set it to be the floppy device.

Problems:

I experienced many problems creating, mounting and using a floppy disk device using qemu. Also, I ran into more problems with my keymap. For example '/' was remapped to ?. Therefore I had to type SHIFT+/ to get the character '/'.

On the host machine I created a floppy image with
$ dd if=/dev/zero of=./floppy.img bs=1024 count=1440

Then in qemu I added the flag '-fda ./floppy.img' to the arguments.

Though, while in the VM /dev listed many devices and partitions. For example, there was all of the following:

/dev/fd0
/dev/fd0p1

/dev/fd0p2
/dev/fd0p3
/dev/fd1
/dev/fd1p1
/dev/fd1p2
/dev/fd1p3
/dev/fd2
/dev/fd2p1
/dev/fd2p2
/dev/fd2p3

When trying to mount a directory. This error occured.
mkdir /mnt/floppy
mount /dev/fd0 /mnt/floppy
mount: Can't mount /dev/fd0 on /mnt/floppy: Invalid Argument
*

The error was the same for each floppy disk block device.

Solutions:

First, I needed to make a filesystem on the floppy device.
mkfs /dev/fd0
Then mount the device
mount /dev/fd0 /mnt/floppy
Though ultimately since I am using a Macintosh I am unable to mount the minix filesystem. Thus, I will need to use the step 5 method to transfer data.

I was able to make sure the floppy image was written to by using the minls method after copying the image to vogon.

Learned:

There must be a valid filesystem to mount the drive. Otherwise, the mount command will blow up.

5. THE DIRTY WAY

Approach:

I created a file named cats.txt in the method as follows.
cat > cats.txt
Hello this is sample text

wohooo!
^D
tar cvf /dev/fd0 ./cats.txt

Then, on the host computer I was able to extract it by using this method.
$ tar xvf ./floppy.img
x ./cats.txt
jtdreisb@pcp067702pcs:os$ cat ./cats.txt
Hello this is sample text

wohooo!
jtdreisb@pcp067702pcs:os$

Problems:

None.

Solution:
Explanation in the approach section.

Learned:

That the disk file can be written to represent a tar archive. Also, that regular files may be written to look as if they were real block devices with partition tables.