

Lab 2

```
eecs678_base.qcow 24% 535MB
4.7MB/s 06:01 eecs678_base.qcow
24% 540MB 4.7Meecs678_base.qcow
41MB 4.8MB/s 0eecs678_base.qcow 24% 5
B 4.9MB/s 05:40 eecs678_base.qcow 25% 554M
MB 5.0MB/s eecs678_base.qcow 25% 555MB 4.
9MB/s eecs678_base.qcow 25% 556MB 4.9MB/s 05:
eecs678_base.qcow 100% 2215MB 4.3MB/s 08:40
chase@precision-5520:/media/chase/Chase Portable WD 1T/Qemu$
```

1.) Copied the .qcow from the cycle server

```
Processing triggers for install-info (6.7.0.dfsg.2-5) ...
chase@precision-5520:/media/chase/Chase Portable WD 1T/Qemu$ qemu-img create -f qcow2 -b eecs678_base.qcow chase.qcow
Formatting 'chase.qcow', fmt=qcow2 size=21474836480 backing_file=eecs678_base.qcow cluster_size=65536 lazy_refcounts=off refcount_bits
=16
chase@precision-5520:/media/chase/Chase Portable WD 1T/Qemu$
```

2.) Created a differential image named chase.qcow

```
chase@precision-5520:/media/chase/Chase Portable WD 1T/Qemu$
Unpacking libccard0:amd64 (1:2.6.1-1) ...
Selecting previously unselected package libpnm1:amd64.
Preparing to unpack .../05-libpnm1_1.8-1ubuntu1_amd64.deb ...
Unpacking libpnm1:amd64 (1.8-1ubuntu1) ...
Selecting previously unselected package libslirp0:amd64.
Preparing to unpack .../06-libslirp0_4.1.0-2ubuntu2.1_amd64.deb ...
Unpacking libslirp0:amd64 (4.1.0-2ubuntu2.1) ...
Selecting previously unselected package libspice-server1:amd64.
Preparing to unpack .../07-libspice-server1_0.14.2-4ubuntu3_amd64.deb ...
Unpacking libspice-server1:amd64 (0.14.2-4ubuntu3) ...
Selecting previously unselected package libusbredirparser1:amd64.
Preparing to unpack .../08-libusbredirparser1_0.8-1ubuntu1_amd64.deb ...
Unpacking libusbredirparser1:amd64 (0.8-1ubuntu1) ...
Selecting previously unselected package libvirglrenderer1:amd64.
Preparing to unpack .../09-libvirglrenderer1_0.8.2-1ubuntu1_amd64.deb ...
Unpacking libvirglrenderer1:amd64 (0.8.2-1ubuntu1) ...
Selecting previously unselected package qemu-system-common.
Preparing to unpack .../10-qemu-system-common_2.11+dfsg-2ubuntu1_amd64.deb ...
Unpacking qemu-system-common (2.11+dfsg-2ubuntu1) ...
Selecting previously unselected package qemu-system-x86.
Preparing to unpack .../11-qemu-system-x86_2.11+dfsg-2ubuntu1_amd64.deb ...
Unpacking qemu-system-x86 (2.11+dfsg-2ubuntu1) ...
Setting up libccard0:amd64 (1:2.6.1-1) ...
Setting up libpnm1:amd64 (1.8-1ubuntu1) ...
Setting up libslirp0:amd64 (4.1.0-2ubuntu2.1) ...
Setting up libspice-server1:amd64 (0.14.2-4ubuntu3) ...
Setting up libusbredirparser1:amd64 (0.8-1ubuntu1) ...
Setting up libvirglrenderer1:amd64 (0.8.2-1ubuntu1) ...
Setting up qemu-system-common (2.11+dfsg-2ubuntu1) ...
Setting up qemu-system-x86 (2.11+dfsg-2ubuntu1) ...
Processing triggers for libc-bin (2.31-0ubuntu9) ...
chase@precision-5520:/media/chase/Chase Portable WD 1T/Qemu$ qemu-system-x86_64 -hda chase.qcow -smp 2 -m 1024M
```

3.) Booted into new image

```

Unpacking libspice-server1:amd64 (0.14.2-4ubuntu3) ...
Selecting previously unselected package.
Preparing to unpack .../08-1...
Unpacking libusbredirparser1:amd64 (0.8.0-1) ...
Selecting previously unselected package.
Preparing to unpack .../09-1...
Unpacking libvirt0:amd64 (4.0.0-0ubuntu1) ...
Selecting previously unselected package.
Preparing to unpack .../10-6...
Unpacking qemu-system-common:amd64 (2.11+dfsg-1ubuntu1) ...
Selecting previously unselected package.
Preparing to unpack .../11-6...
Unpacking qemu-system-data (2.11+dfsg-1ubuntu1) ...
Selecting previously unselected package.
Preparing to unpack .../12-6...
Unpacking qemu-system-gui:amd64 (2.11+dfsg-1ubuntu1) ...
Selecting previously unselected package.
Preparing to unpack .../13-6...
Unpacking libfdt1:amd64 (1.5.1-1) ...
Selecting previously unselected package.
Preparing to unpack .../14-3...
Unpacking seabios (1.13.0-1ubuntu1) ...
Selecting previously unselected package.
Preparing to unpack .../15-6...
Unpacking qemu-system-x86 (2.11+dfsg-1ubuntu1) ...
Selecting previously unselected package.
Preparing to unpack .../16-6...
Unpacking ovmf (2.0.0-0ubuntu1) ...
Setting up qemu-system-gui:amd64 (2.11+dfsg-1ubuntu1) ...
Setting up libspice-server1:amd64 (0.14.2-4ubuntu3) ...
Setting up msr-tools (1.3-3) ...
Setting up libfdt1:amd64 (1.5.1-1) ...
Setting up libusbredirparser1:amd64 (0.8.0-1) ...
Setting up libcacard0:amd64 (1.2.6-1ubuntu1) ...
Setting up ovmf (2.0.0-0ubuntu1) ...
Setting up libvirt0:amd64 (4.0.0-0ubuntu1) ...
Setting up qemu-system-data (2.11+dfsg-1ubuntu1) ...
Setting up seabios (1.13.0-1ubuntu1) ...
Setting up qemu-system-x86 (2.11+dfsg-1ubuntu1) ...
Setting up cpu-checker (0.7-1) ...
Setting up qemu (2.11+dfsg-1ubuntu1) ...
Setting up qemu-system-x86 (2.11+dfsg-1ubuntu1) ...
Setting up libpxe-qemu (1.0.0-0ubuntu1) ...
Setting up ipxe-qemu (2.56k-0ubuntu1) ...
Setting up libpnm1:amd64 (1.8-1ubuntu1) ...
Setting up qemu-system-common (2.11+dfsg-1ubuntu1) ...
Created symlink /etc/systemd/system/multi-user.target.wants/qemu-kvm.service → /lib/systemd/system/qemu-kvm.service.
Setting up qemu-system-x86 (2.11+dfsg-1ubuntu1) ...
Processing triggers for desktop-file-utils (0.24-0ubuntu1) ...
Processing triggers for mime-support (3.64ubuntu1) ...
Processing triggers for hicolor-icon-theme (0.17-2) ...
Processing triggers for gnome-menus (3.36.0-1ubuntu1) ...
Processing triggers for libc-bin (2.31-0ubuntu9) ...
Processing triggers for nan-d (2.91-1) ...

```

4.) Added a new user named Chase

```
Machine View
1 #User privilege specification
2 root ALL=(ALL) ALL
3 chase ALL=(ALL) ALL
```

5.) Added user to the sudoers file

```
[~]  
root@debian$ usermod -a -G sudo chase  
  
[~]  
root@debian$ mkdir /home/chase/kernel  
  
[~]  
root@debian$ mv ~/linux-2.6.32.60/ /home/chase/kernel/  
  
[~]  
root@debian$ chown -R chase:chase /home/chase/kernel/  
  
[~]  
root@debian$ apt-get install sudo_
```

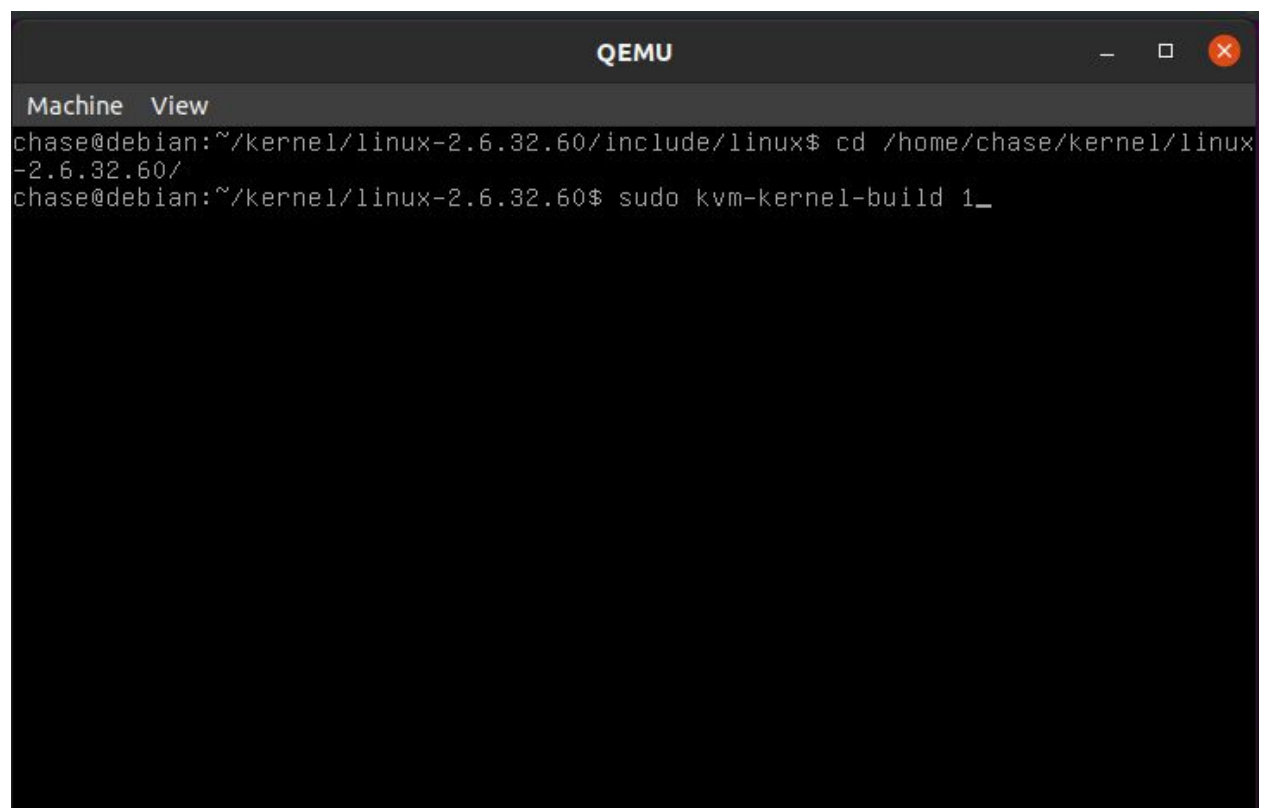
- 6.) Added myself to the sudo group, made a kernel folder, moved linux-2.6.32.60 to kernel folder, changed ownership of kernel folder to the user, installed sudo.

```
[~]  
root@debian$ cp /root/.vimrc /home/chase  
  
[~]  
root@debian$ chown chase:chase /home/chase/.vimrc  
  
[~]  
root@debian$ su chase  
chase@debian:/root$ sudo apt-get install libz-dev_
```

- 7.) Copied .vimrc from /root to home directory, changed ownership to myself, switched user to myself then installed libz-dev.

[illegible]

8.) Added “-j” and “2” to the kvm-kernel-build script for concurrency



9.) I ran the kernel build script to begin building the new kernel

```
chase@debian:~/kernel$ ls
linux-2.6.32.60  linux-image-2.6.32.60_1_i386.deb
chase@debian:~/kernel$ su
Password:

[/home/chase/kernel]
root@debian$ ls
linux-2.6.32.60/  linux-image-2.6.32.60_1_i386.deb

[/home/chase/kernel]
root@debian$ dpkg -i linux-image-2.6.32.60_1_i386.deb
```

- 10.) Once the kernel was built I had a .deb file with the correct linux flavor, I was then able to install the kernel i just built.

```
linux-2.6.32.60/  linux-image-2.6.32.60_1_i386.deb

[/home/chase/kernel]
root@debian$ dpkg -i linux-image-2.6.32.60_1_i386.deb
Selecting previously deselected package linux-image-2.6.32.60.
(Reading database ... 23905 files and directories currently installed.)
Unpacking linux-image-2.6.32.60 (from linux-image-2.6.32.60_1_i386.deb) ...
Done.
Setting up linux-image-2.6.32.60 (1) ...
Running depmod.
Examining /etc/kernel/postinst.d.
run-parts: executing /etc/kernel/postinst.d/initramfs-tools 2.6.32.60 /boot/vmlinuz-2.6.32.60
update-initramfs: Generating /boot/initrd.img-2.6.32.60
run-parts: executing /etc/kernel/postinst.d/zz-update-grub 2.6.32.60 /boot/vmlinuz-2.6.32.60
Generating grub.cfg ...
Found linux image: /boot/vmlinuz-2.6.32.60
Found initrd image: /boot/initrd.img-2.6.32.60
Found linux image: /boot/vmlinuz-2.6.32-5-686
Found initrd image: /boot/initrd.img-2.6.32-5-686
done

[/home/chase/kernel]
root@debian$
```

- 11.) After the kernel was built I was left with this output letting me know everything was built correctly and I was good to initiate the reboot

```
SeaBIOS (version 1.13.0-1ubuntu1)
Decompressing Linux... Parsing ELF... done.
Booting the kernel.
iPXE (http://ipxe.org) 00:03.0 CA00 PCI2.10 PnP PMM+BFF8CAFO+BFEC8CAFO CA00
Debian GNU/Linux 6.0 debian tty1

debian login: chase
Password: om Hard Disk...
Linux debian 2.6.32.60 #2 SMP Fri Sep 25 10:11:07 CDT 2020 i686
Welcome to GRUB!
The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
chase@debian:~$ uname -a
Linux debian 2.6.32.60 #2 SMP Fri Sep 25 10:11:07 CDT 2020 i686 GNU/Linux
chase@debian:~$ _
```

- 12.) After the reboot I ran a `uname -a` to give me the information about the system, confirming I successfully had installed the kernel!