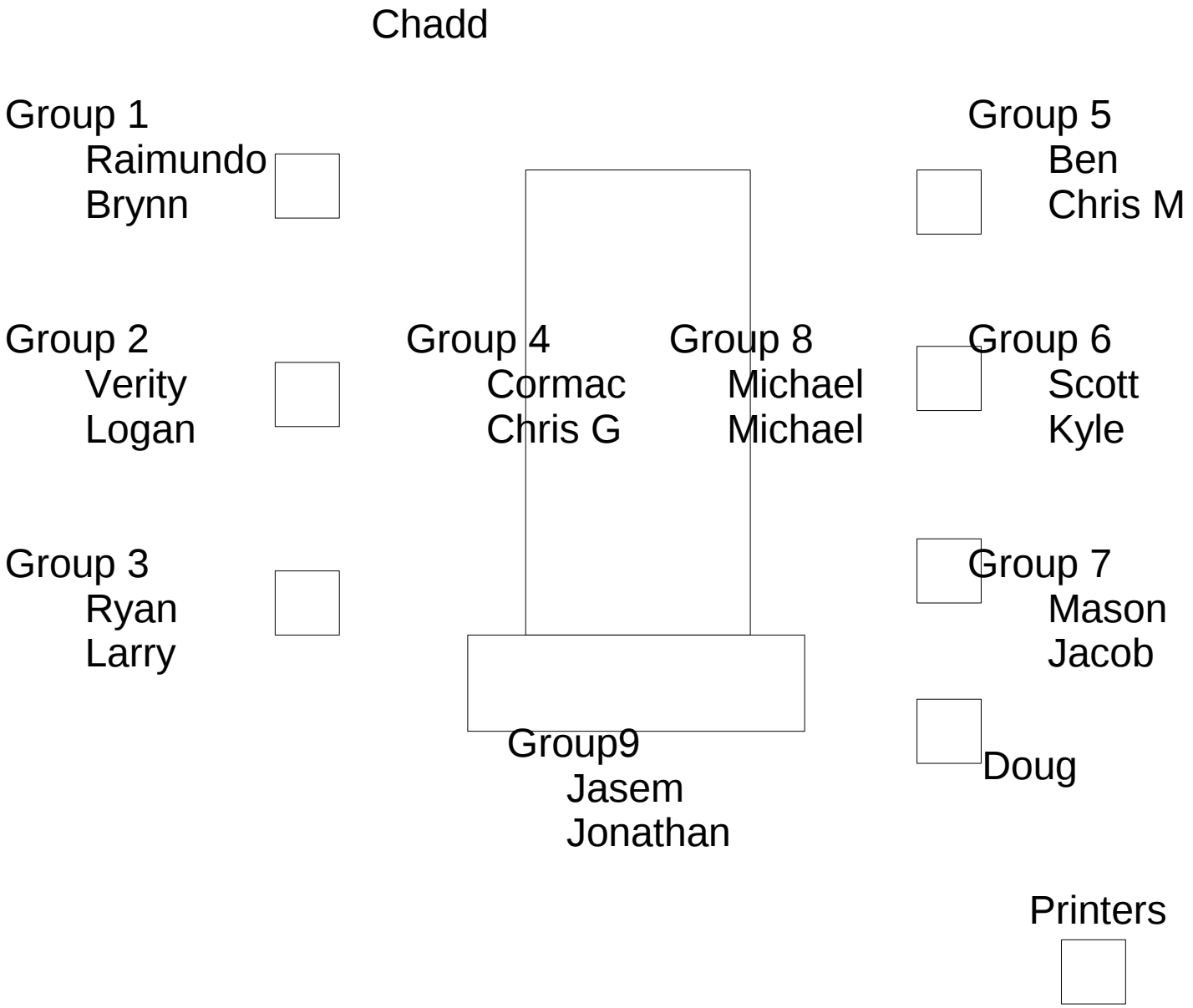
# Sit with your new teammate



# Today

- Work with a partner today
- Not everyone will perform every task
- Everyone will be responsible for understanding how to perform every task.

# Common Developer Tasks

- Is that software installed?
  - what version?
- Is that server running?

- What is happening on my computer?
  - Is my hard drive full?
  - Could my computer be doing more work for me?

- Basic system administration work

With great power comes great responsibility

# Linux Administration

- OpenSUSE
- Root account vs user account

- su - super user
  - need root password

- sudo - act as super user
  - use your own password*

- Add/Delete User

- Install/Update software

# Your Group's Linux Server

cs360-#.cs.pacificu.edu

## Connecting:

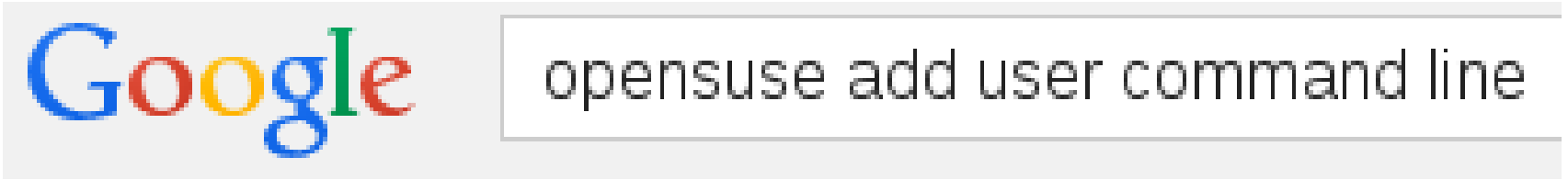
Text
ssh -X ***user***@cs360-#.cs.pacificu.edu

Graphical
vncviewer cs360-#.cs.pacificu.edu:5901

- this requires a bit of configuration, enable Remote Administration
- fix a bug in the config files. You are welcome.

**`/sbin/ifconfig | grep "inet addr"`**
to find the IP address (from outside CS Lab)

# Help!




```
chadd@moe:~> apropos user

chadd@moe:~> apropos user | less

chadd@moe:~> man useradd
```

https://en.opensuse.org/Portal:Support

http://linux.die.net/man/

ssh -X ***cs360***@cs360-#.cs.pacificu.edu

- Add a User

```
sudo useradd -G wheel -m USERNAME
sudo passwd USERNAME
```

- Update software

```
sudo zypper lu
sudo zypper update
```

- Install software

```
cnf terminator
sudo zypper se terminator
sudo zypper in package
sudo zyppe info package
```

- Configuration

```
sudo yast2  &  # GUI
sudo yast # text based
```

# Tasks

- One person per group log in to their server
  - create a user account for each person in the group
- Everyone SSH to their server to verify their account.
  - take turns on the keyboard
  - how do you ssh via a laptop?
- Everyone change your password on the server
  - make sure your prompt says
    ***user*@cs360-#**

    **passwd**
- Stop.

# Tasks - One Person

- Install **nano.**
  - Which version is going to get installed?
- ~~Update the software on the server~~
  - (we'll come back to this later)
- Use the **`shutdown`** command to **reboot** the server!
  - use a 1 minute delay
  - everyone log off before the reboot
  - How do I learn how to use the **`shutdown`** command?
- ssh to the server after reboot
- Stop.

# Editing a config file

- ssh root@cs360-#.cs.pacificu.edu
  - typically a security risk
- Is sshd running?
  - yes: how how can we tell from the command line?
- sudo /etc/ssh/sshd_config
  - find PermitRootLogin
  - uncomment, set to no
  - save file
- restart sshd
  - sudo systemctl restart sshd

# What do you know about your disk?

```
df -h
df -h .

du -sh
```

# /proc

/proc is a directory that contains files with data about the system

```
ls -a /proc
cat /proc/cpuinfo | less
cat /proc/meminfo | less

screen -S test
nano
<exit screen> Control-a d


ps u | grep nano # find nano PID

ls /proc/NANO_PID

ls -al /proc/NANO_PID/exe

ls -al /proc/NANO_PID/cwd

cat /proc/NANO_PID/cmdline
```

# Watch the System

```
journalctl
```

```
sudo journalctl --system --no-pager | tail -n 20
```

```
sudo journalctl --system -f
```

https://wiki.archlinux.org/index.php/systemd#Journal

# crontab

```
crontab -e
45 17 * * * /home/YOU/test.sh
```

```
#!/bin/bash

echo hi
mail -s "test" YOU@localhost < /home/YOU/test.sh
```

⇐ This is /home/YOU/test.sh

make sure to
**`chmod u+x test.sh`**

mail
from
delete
quit

http://stackoverflow.com/questions/14710257/running-a-cron-job-at-230-am-every-day

# Homework: at

- What is **`at`**? How does **`at`** work?

- Is **`at`** setup/installed correctly on your OpenSUSE Leap 42.1 server?

- Make sure **`at`** works and use **`at`** to email you@localhost and chadd@localhost at 3am any night before next Monday. Include both teammate's names in the email and a short description of how you got **`at`**working and the **`at`** command you ran.

# Bonus Tasks

- Everyone
  - SSH to your server **`ssh -X user@cs360-#`**
  - Create SSH keys to interact with GitHub
    - add your new key to GitHub (now you have 2+ keys at GH)
  - Use **git** to **clone** your **`ContactManager-Example-C-Group-#`** repository
  - Use **nano** to edit your code on the server
    - add a line to the end of README.md
  - Build your code.
  - Test your code.

Help your group members!