# Bash

# Meeting Flag!

Reminder to write meeting flag on board

# Bash I/O Redirection

- |
    - Redirects the output of one command to the input of another
    - Ex: echo "hello" | nc chal.sigpwny.com 1337
- >
    - Redirects the output of one command to a file
    - Ex: cat someFile.txt > newFile.txt
- >>
    - Appends the output of one command to end of a file
    - Ex: cat someFile.txt >> existingFile.txt
- <
    - Takes file contents as input to a command
    - Ex:
- $()
    - Uses the output of any command as a parameter of another command
    - Very useful for BOF attacks.

# Tmux

What is it? Why is it wonderful?

Terminal Multiplexor

Have different instances of terminal in one terminal window.

# Tmux Basics

tmux opens a tmux window, which is unlike a normal terminal window.

Once in tmux, the action command is cntrl + B

Some helpful things

| Command (B + ?) | What it does |
|---|---|
| d | Detaches you from your tmux session |
| c | Creates a new tmux window |
| " | Creates a horizontal split pane |
| % | Creates a vertical split pane |
| Arrow Keys | Navigates between panes |
| n (or 0-9) | Moves to next window (windows 0-9) |

# More Cool Tmux Stuff

Renaming

Re-attaching

Killing Windows

Persistent uptime (super helpful)

# Why use tmux?

Quickly host something

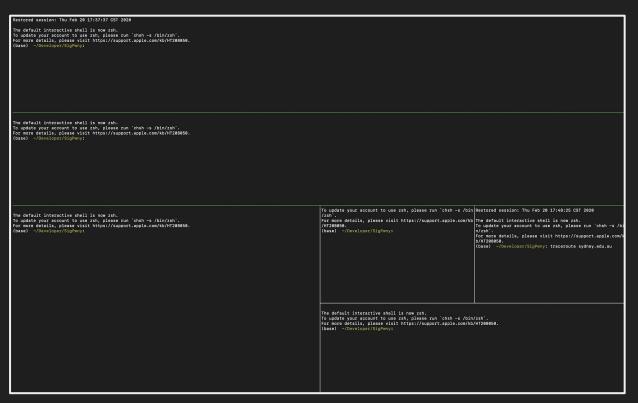Multitask quickly (no mouse)

(If VM hosted somewhere) Keep things up for a long time

Tmux is probably the Jankest way to keep a minecraft server up for awhile.

# Challenges

Replicate & navigate

that --->



Do something cool with tmux, then show us.

There aren't really many things you can challenge people on with tmux.