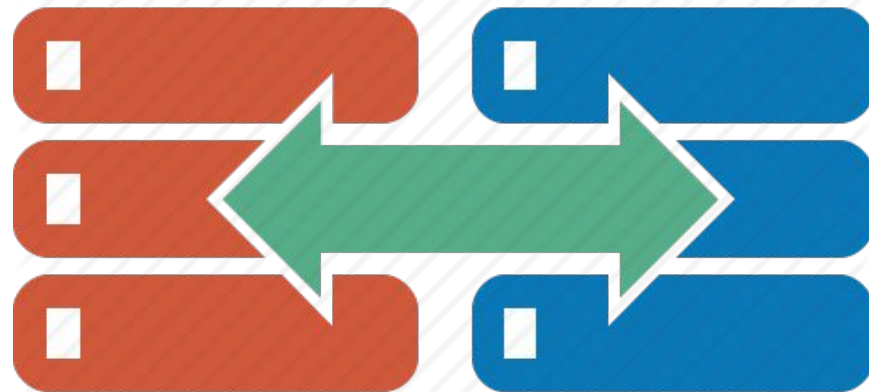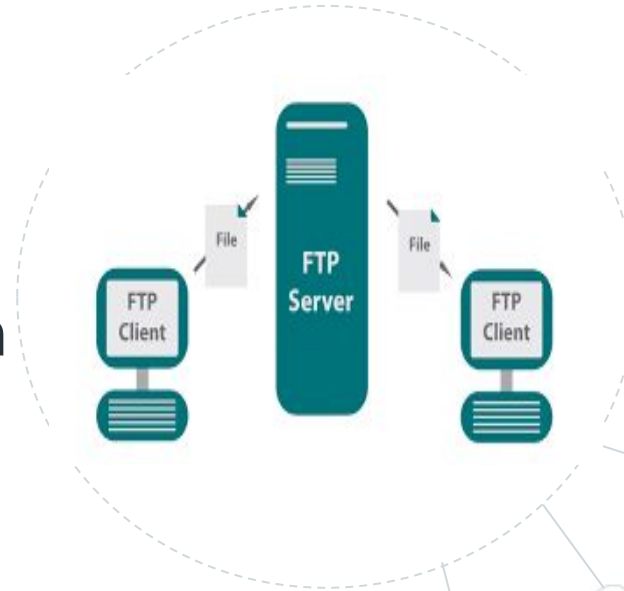# How to FTP

# What is FTP?

## File Transfer Protocol

It allows you to move files between computers. Basically, a stripped down google drive

# Example server

Try accessing ftp.mozilla.org in your browser

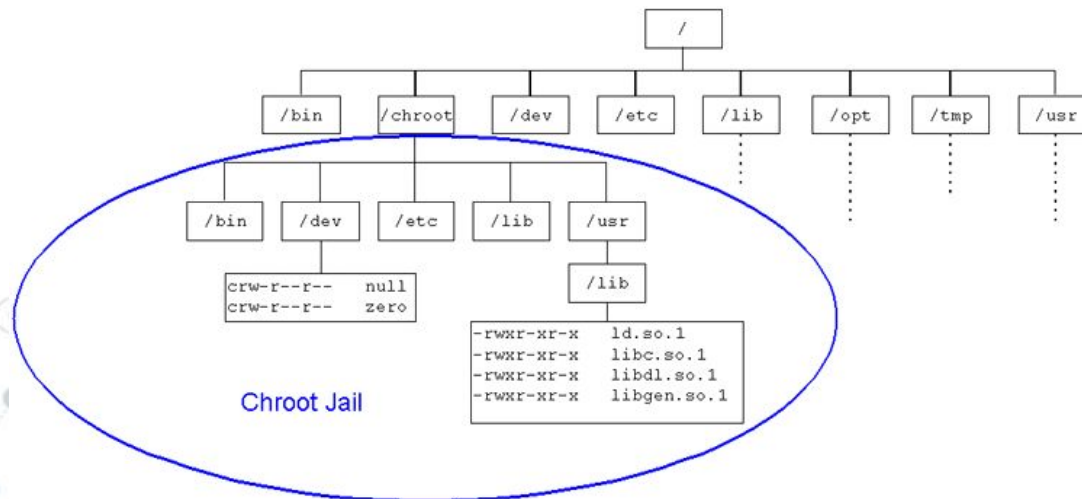If you wanted to, you could get firefox here!

Let's take a closer look at ftp.mozilla.org

◎ It says "Index of /"
  ○ Why would they give us access to /? Doesn't that compromise their system?
◎ This is known as a chroot jail
  ○ What does chroot mean?
  ○ Why do we need it?

~$ sudo chroot /mnt
bus error
ME:



When you're trying to recover your system:
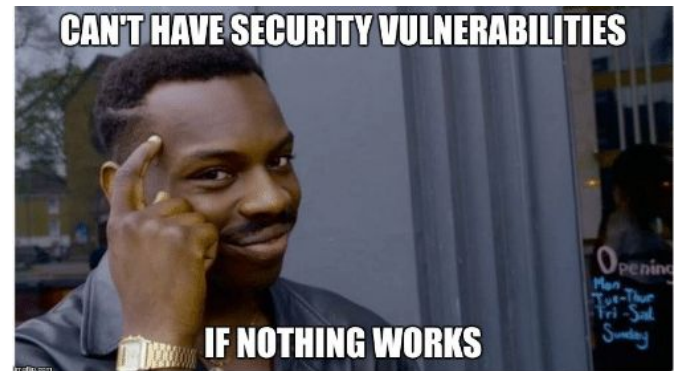
# 1.

# Different types of FTP servers

Wait what there's more than 1?

◎ FTP is not secure
  ○ Just look up when it was created
  ○ What's wrong with it?

◎ Different servers arose in order to provide the FTP service with higher levels of security
  ○ Ex: Vsftpd and Pureftpd



CAN'T HAVE SECURITY VULNERABILITIES

IF NOTHING WORKS

How sysadmins think

But wait there's more!



◎ Anonymous vs non-anonymous servers
  ○ Some servers are built so that anyone can access
    ◉ Such as mozilla.firefox.org
  ○ But some servers are for private usage
    ◉ Ex: a company is hosting files ONLY for employee access
◎ Can access an anonymous server by providing username/passwd as "anonymous"
◎ Can access a non-anonymous server through a local user

# 2.

# **Configuration**

Ya yeet

## General steps

◎ Install the latest version of your desired FTP server



◎ Allow FTP through the firewall
◎ Create the appropriate local users (for non-anonymous server) and a chroot directory
◎ Configure in /etc/vsftpd.conf
  ○ Can set options to allow for anon/not anon
  ○ Setup the chroot jail
  ○ Security options

how to allow stuff through firewall

to allow stuff:
ufw allow 21
ufw allow 21/tcp
ufw allow 21/udp

you can also deny by using deny

# VSFTPD

download vsftpd:

apt-get install vsftpd

vsftpd="very secure ftp daemon"

## ANONYMOUS IS BAD

open /etc/vsftpd.conf

anonymous_enable=NO



© Reuters/U. Bektas

Connected people are restricted, local are allowed

chroot_local_user=YES
local_enable=YES

Make sure people can add things too

write_enable=YES
service vsftpd restart

there is more configs in the file, but you should research those on your own!!!

# pureftpd



download pureftpd:

apt-get install pure-ftpd

◎ used to be called "pro-ftpd" but it was garbage insecure

◎ then became pure cuz it was "purer"

◎ vsftpd still best tho, but pure still used

◎ every config is file not line in a file

◎ open /etc/pure-ftpd/conf/TLS
◎ basically was security standard it's gonna use so be good
◎ 2

NoAnonymous yes
PAMAuthentication yes

systemctl restart pure-ftpd

# AGAIN

there is more configs for pure-ftpd than by default, but you should research those on your own!!!

# sysctl

very complex configurations on how your connections work

too many to go over

research it all??!!


When you can't find an example of R code to steal from stack exchange

Impossible.
Perhaps the archives are incomplete.

super neat website that is so good it's like the equivalent of joe

REVIEW: do you remember joe from week 2 presentation?

# JOE MAMA

haha jk here u go

https://klaver.it/linux/sysctl.conf

backup cuz yes

cp /etc/sysctl.conf /etc/sysctl.backup

VERY IMPORTANT INCASE U MESS UP SYSCTL OR SOMETHING

◎ gedit /etc/sysctl.conf
◎ copy paste it into /etc/sysctl.conf
◎ save and exit

sysctl -p to restart and refresh it

-Hi im qlaver

**in case** your system starts going bad then restore the backup

mv sysctl.backup sysctl.conf

sysctl -p

only when your system is going <span style="color:red">BAD</span>