BOSTON TEAM RUNBOOK

2 contribute back extra credit opportunities to improve code / documentation

Need to change readmeModified file to contain extension (readmeModified.md)

ENSURE VM BOSTON>HOSTS.CSV FILE DOESN’T CONTAIN EMPTY LINES

Check mac address of pi 14

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## Address Standard

VM address - LAN and VPN - - 172.27.<group#>.128

switch address - LAN only - - 172.16.<group#>.129

LAN network address for pis - - 172.16.<group#>.0

VPN network - - 172.27.<group#>.0

Pi person’s VPN - - 172.27.<group#>.130

27 - mac address of switch in VPN

16 - mac address of switch on LAN

### View internet connection status

> ifconfig

## Local PI Login

### 

### Login to local VM

> ssh cs149@172.27.2.130

> mh213

### Login to local pis

> ssh pi@172.17.2.<2-5>

> piman

## Remote Pi Login

### Login to remote VM @SJSU

> ssh cs158b@172.27.2.128

> mh213

TO EXIT: exit

### Login to pis

> ssh pi@172.16.2.<11-20>

> piman

TO EXIT: exit

### Restart remote VM

> sudo reboot

Will force you to log out

Must wait a couple mins before logging in

after logging in to sjsu vm

> cd boston

> cat hosts.csv

DC = pi4

B8 = pi3

## To test if pis are accessible from the vm

> for i in {11..20}

> do

> ssh pi@172.16.2.$i date

OR

> ssh pi@172.16.2.$i echo “hello”

> done;

Prompts for pi passwords and prints date if successful login

Shows error “No route to host” if pi is not accessible

## Process commands

### Is piman running

> ps -aux | grep piman

> ps -aux | grep monitoring

### Status

> sudo systemctl status piman

> sudo systemctl status monitoring

### Restart

> sudo systemctl restart piman

> sudo systemctl restart monitoring

### To start piman

> sudo systemctl enable piman

> sudo systemctl start piman

> sudo systemctl enable monitoring

> sudo systemctl start monitoring

### View all TCP connections

> netstat -a | grep tcp

### View all PIDs with TCP connection on port #

> sudo fuser <port #>/tcp

### View all processes associated with PID

> ps uxawww | grep <PID>

## PI Commands

### ARP connection

> arp -a

### Mapper mac addresses & port #s of all pis

sudo python3 ./build/piman.pyz mapper <switch addr> <port #>

> sudo python3 ./build/piman.pyz mapper 172.16.2.129 11

### Reinstall pi

sudo python3 ./build/piman.pyz reinstall <switch addr> 1 <port #>

> sudo python3 ./build/piman.pyz reinstall 172.16.2.129 1 <11-20>

### Restart pi

sudo python3 ./build/piman.pyz restart <switch addr> [list of pi\_numbers]

> sudo python3 ./build/piman.pyz restart 172.16.2.129 <11-20>

### Read logs

cat ./logs/piman\_2021-<month>-<day>.log

> cat ./logs/piman\_2021-04-07.log

### Update changes to piman.pyz

> ./make\_zipapp.sh

### Test if changes work properly

> sudo python3 ./build/piman.pyz server

### Secure copy files / folders

Go to the directory of the file / directory to copy over

> sudo scp <file1> <file2> pi@<ip address>:~/

> sudo scp -r /<directory> pi@172.16.2.<11-20>:~/

> sudo scp -r <directory> /<newDirectory>

> sudo scp monitoring-server.py monitoring-pi.service monitoring-pi.sh monitoring-pi-installer.sh pi@172.16.2.20:~/

> sudo scp <file> cs158b@172.27.2.128:~/boston ------- copy file to VM’s boston directory

sudo scp <file> cs158b@172.27.2.128:~/boston/monitoring

### From VM run .sh file in pi

> sudo ssh -n pi@<ip address> ./<file>.sh

## Grafana

### Link to dashboard

<http://172.27.2.128:3000/>

## IP Table

### View Kernel IP routing table

> route

> route -n

> netstat -rn

### IP Route List

> ip route list

%d in vi - deletes all lines

Call mapper to get MAC addresses

Populate hosts.csv with MAC / IP addresses

Copy paste old dhcp.py file

Call ./make-zipapp

Reinstall all pis

## Public / Private Key & Certificate Authority Commands

### Delete old keys for ssh connection

> ssh-keygen -f "/home/cs158b/.ssh/known\_hosts" -R "172.16.2.19"

### Client - generate keys

> openssl req -new -sha256 -newkey rsa:4096 -keyout me.key -out me.csr

### Client - Examine signed certificate

> openssl x509 -in *certificate\_file\_name* -text

### Client - Sign a file

> openssl smime -sign -in *file\_to\_sign* -out *file\_to\_generate* -signer *your\_certficate\_file* -inkey *your\_private\_key\_file*

### Client - Check signature on file

> openssl smime -verify -in *generated\_signed\_file* -CAfile *CA\_certificate\_file*

### Server - generate keys

> openssl req -x509 -sha256 -newkey rsa:4096 -keyout CA.key -days 1000 -out CA.pem

Server - Must have a CA.srl containing:

echo 02 > CA.srl

### Server - sign certificates

> openssl x509 -req -sha256 -CA CA.pem -CAkey CA.key -days 500 -in cert.csr -out cert.pem

## Nohup

### Set up nohup

> nohup echo “mh213” | sudo -S python3 dnsserverwork.py &

Runs the dns server in the background

## Git commands

https://github.com/SJSU-CS-systems-group/piman.git

### Change Git username

> git remote set-url origin https://{new url found in BitBucket clone link}

### View Git username

> git config --get remote.origin.url

### Fetch all commits since a date

git fetch --shallow-since <year-month-day>

> git fetch --shallow-since 2020-04-07

### Create a new branch

> git checkout -b <local name>

### Delete a local branch

> git branch -d <local branch>

### 

### Display all branches

> git branch

### Clone repository to local directory

> git clone https://<url link>.git

### Push to repository

> git status

> git add <folder>/<file.extension>

> git commit -m “message goes here”

> git push -u origin

> git status

### Current Git Account

https://zanagen@bitbucket.org/SJSU-CS-systems/boston.git

@bitGit19

## Important Files

### Hosts.csv 5/15

DC:A6:32:1B:36:08;172.16.2.19;raspberrypi;1621124310

B8:27:EB:52:6D:E7;172.16.2.12;raspberrypi;1621124314

B8:27:EB:67:3C:7B;172.16.2.16;raspberrypi;1621124330

DC:A6:32:1B:42:A1;172.16.2.20;raspberrypi;1621124332

B8:27:EB:64:FE:11;172.16.2.15;raspberrypi;1621124337

B8:27:EB:39:BA:C1;172.16.2.17;raspberrypi;1621124342

DC:A6:32:1B:44:2D;172.16.2.18;raspberrypi;1621124359

DC:A6:32:1B:41:C5;172.16.2.11;raspberrypi;1621124366

B8:27:EB:F2:24:39;172.16.2.13;raspberrypi;1621124412

DC:A6:32:D5:47:72;172.16.2.14;raspberrypi;1621124431

### Piman.yaml 5/13/2021

private\_number: 2

server\_address: 172.16.2.128

subnet\_mask: 255.255.255.0

interface: ens4

switch\_count: 1

switches:

- switch\_address: 172.16.2.129

pi\_address:

- 172.16.2.11

- 172.16.2.12

dns\_domain: boston.cs158b

dns\_servers: 8.8.8.8

### > arp -a 5/15

? (172.16.2.18) at dc:a6:32:1b:44:2d [ether] on ens4

? (172.16.2.15) at b8:27:eb:64:fe:11 [ether] on ens4

? (172.16.2.11) at dc:a6:32:1b:41:c5 [ether] on ens4

? (172.16.2.129) at 24:e9:b3:fa:0a:41 [ether] on ens4

? (172.16.2.19) at dc:a6:32:1b:36:08 [ether] on ens4

? (172.16.2.12) at b8:27:eb:52:6d:e7 [ether] on ens4

? (172.16.2.16) at b8:27:eb:67:3c:7b [ether] on ens4

? (172.16.2.20) at dc:a6:32:1b:42:a1 [ether] on ens4

\_gateway (192.168.122.1) at 52:54:00:e5:12:3d [ether] on ens3

? (172.16.2.13) at b8:27:eb:f2:24:39 [ether] on ens4

? (169.254.43.102) at dc:a6:32:1b:42:a1 [ether] on ens4

? (172.16.2.17) at b8:27:eb:39:ba:c1 [ether] on ens4

? (172.16.2.14) at dc:a6:32:d5:47:72 [ether] on ens4

dd

VM resets on Fridays, all pis went down 4/10/2021

Pi 14 is on but not connected to network

Tried reinstall command on port 14, no DHCP request

Tried restart command, no DHCP request

For the Remote Pis Installed

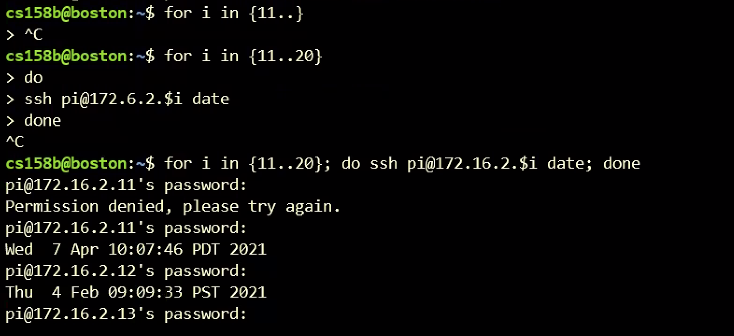
Vm rebooted

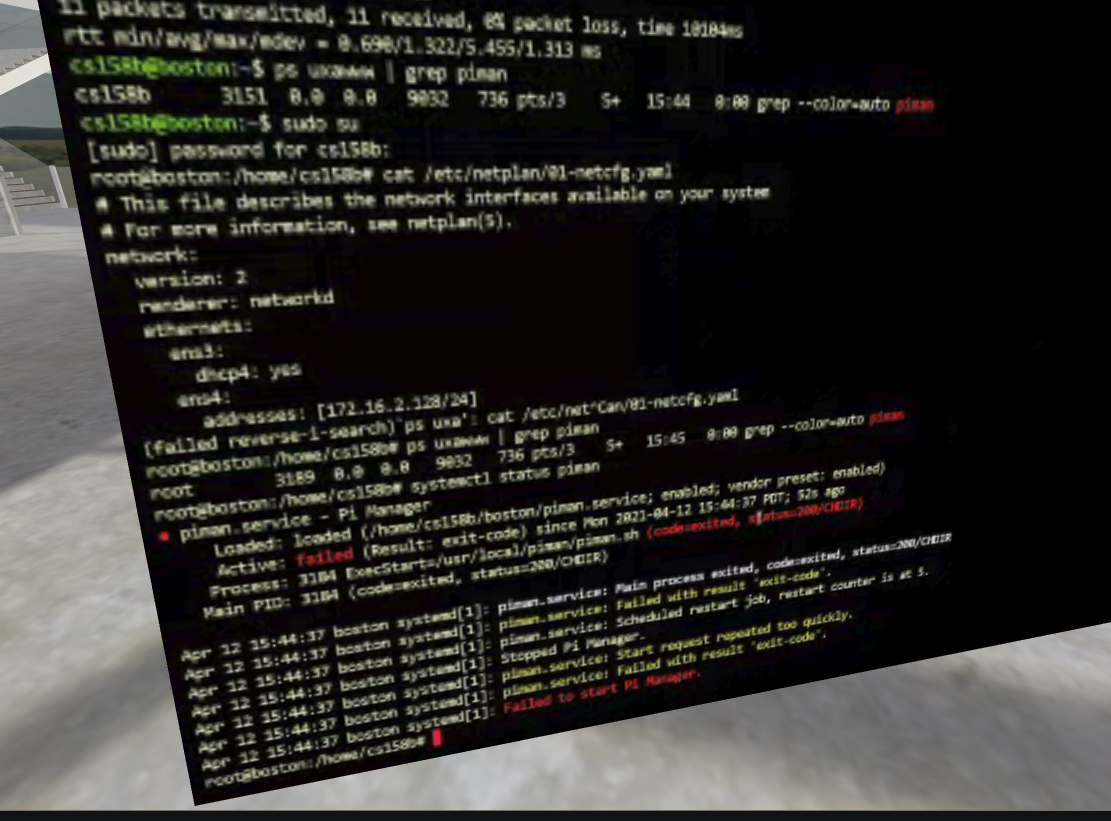
Attempt to login to each pi

Reboot the VM

Sudo reboot

After logging in type in





Couldn’t detect dhcp, try turning off and on

> sudo python3 ./build/piman.pyz mapper 172.16.2.129 1 1

['SWITCH ADDRESS,MAC ADDRESS;PORT']

['172.16.2.129,52:54:0:CD:B1:C2;23'] switch???

['SWITCH ADDRESS,MAC ADDRESS;PORT']

['172.16.2.129,B8:27:EB:12:68:7F;14'] pi3

['SWITCH ADDRESS,MAC ADDRESS;PORT']

['172.16.2.129,B8:27:EB:39:BA:C1;17'] pi3

['SWITCH ADDRESS,MAC ADDRESS;PORT']

['172.16.2.129,B8:27:EB:52:6D:E7;12'] pi3

['SWITCH ADDRESS,MAC ADDRESS;PORT']

['172.16.2.129,B8:27:EB:64:FE:11;15'] pi3

['SWITCH ADDRESS,MAC ADDRESS;PORT']

['172.16.2.129,B8:27:EB:67:3C:7B;16'] pi3

['SWITCH ADDRESS,MAC ADDRESS;PORT']

['172.16.2.129,B8:27:EB:F2:24:39;13'] pi3

['SWITCH ADDRESS,MAC ADDRESS;PORT']

['172.16.2.129,DC:A6:32:1B:36:8;19'] pi4

['SWITCH ADDRESS,MAC ADDRESS;PORT']

['172.16.2.129,DC:A6:32:1B:41:C5;11'] pi4

['SWITCH ADDRESS,MAC ADDRESS;PORT']

['172.16.2.129,DC:A6:32:1B:42:A1;20'] pi4

['SWITCH ADDRESS,MAC ADDRESS;PORT']

['172.16.2.129,DC:A6:32:1B:44:2D;18'] pi4

> arp -a

\_gateway (192.168.122.1) at 52:54:00:e5:12:3d [ether] on ens3

? (172.16.2.12) at b8:27:eb:52:6d:e7 [ether] on ens4

? (172.16.2.20) at dc:a6:32:1b:42:a1 [ether] on ens4

? (172.16.2.17) at b8:27:eb:39:ba:c1 [ether] on ens4

? (172.16.2.14) at <incomplete> on ens4

? (172.16.2.11) at dc:a6:32:1b:41:c5 [ether] on ens4

? (172.16.2.19) at dc:a6:32:1b:36:08 [ether] on ens4

? (172.16.2.129) at 24:e9:b3:fa:0a:41 [ether] on ens4

? (172.16.2.16) at b8:27:eb:67:3c:7b [ether] on ens4

? (172.16.2.13) at b8:27:eb:f2:24:39 [ether] on ens4

? (172.16.2.18) at dc:a6:32:1b:44:2d [ether] on ens4

? (172.16.2.15) at b8:27:eb:64:fe:11 [ether] on ens4

> cat hosts.csv

52:54:0:CD:B1:C2; 172.16.2.23; raspberrypi; 1615525128

B8:27:EB:12:68:7F; 172.16.2.14; ; 1618100102

B8:27:EB:F2:24:39; 172.16.2.13; raspberrypi; 1618172044

DC:A6:32:1B:41:C5; 172.16.2.11; raspberrypi; 1618172080

B8:27:EB:52:6D:E7; 172.16.2.12; raspberrypi; 1618172080

DC:A6:32:1B:42:A1; 172.16.2.20; raspberrypi; 1618172125

DC:A6:32:1B:36:08; 172.16.2.19; raspberrypi; 1618172229

DC:A6:32:1B:44:2D; 172.16.2.18; raspberrypi; 1618172236

B8:27:EB:39:BA:C1; 172.16.2.17; raspberrypi; 1618172242

B8:27:EB:67:3C:7B; 172.16.2.16; raspberrypi; 1618172252

B8:27:EB:64:FE:11; 172.16.2.15; raspberrypi; 1618172263

## TODAY’S LOG 4/11/2021

Correct DHCP output

2021-04-11 16:44:39,266 - tcp running...

2021-04-11 16:44:39,270 - DHCP server is running...

2021-04-11 16:44:39,271 - serving files from ./install/boot on port 69

2021-04-11 16:44:39,276 - \* Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)

2021-04-11 16:44:39,276 - TFTP waiting for request

2021-04-11 16:45:00,271 - known ip: 172.17.2.3

2021-04-11 16:45:00,272 - tobytes bytearray(b'\x02\x01\x06\x00\xf5\xb37\x10\x00\x00\x00\x00\x00\x00\x00\x00\xac\x11\x02\x03\x00\x00\x00\x00\x00\x00\x00\x00\xdc\xa62\xbcs\xfb\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00c\x82Sc\x01\x04\xff\xff\xff\x00\x03\x04\xac\x11\x02\x01<\tPXEClientB\n172.17.2.1C\x0cbootcode.bin\x06\x04\x08\x08\x08\x08\*\x04\xac\x11\x02\x013\x04\x00\x00\x02X5\x01\x026\x04\xac\x11\x02\x01=\x06\xdc\xa62\xbcs\xfb\xff')

2021-04-11 16:45:00,273 - construct packet b'\xdc\xa62\xbcs\xfb\x00\xe0L6C,\x08\x00E\x00\x01aD\x84@\x00@\x11\x98\xe1\xac\x11\x02\x01\xac\x11\x02\x03\x00C\x00D\x01M\xefp\x02\x01\x06\x00\xf5\xb37\x10\x00\x00\x00\x00\x00\x00\x00\x00\xac\x11\x02\x03\x00\x00\x00\x00\x00\x00\x00\x00\xdc\xa62\xbcs\xfb\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00c\x82Sc\x01\x04\xff\xff\xff\x00\x03\x04\xac\x11\x02\x01<\tPXEClientB\n172.17.2.1C\x0cbootcode.bin\x06\x04\x08\x08\x08\x08\*\x04\xac\x11\x02\x013\x04\x00\x00\x02X5\x01\x026\x04\xac\x11\x02\x01=\x06\xdc\xa62\xbcs\xfb\xff'

2021-04-11 16:45:00,278 - got [b'c5bf7dcf/start4.elf', b'octet', b'tsize', b'0', b'blksize', b'1024'] from ('172.17.2.3', 39274)

2021-04-11 16:45:00,297 - c5bf7dcf/start4.elf: key error - looking in filesystem next

2021-04-11 16:45:00,298 - No such file within the directory

2021-04-11 16:45:00,301 - got [b'c5bf7dcf/start.elf', b'octet', b'tsize', b'0', b'blksize', b'1024'] from ('172.17.2.3', 39275)

2021-04-11 16:45:00,317 - c5bf7dcf/start.elf: key error - looking in filesystem next

2021-04-11 16:45:00,317 - No such file within the directory

2021-04-11 16:45:00,374 - got [b'config.txt', b'octet', b'tsize', b'0', b'blksize', b'1024'] from ('172.17.2.3', 39276)

2021-04-11 16:45:00,483 - got [b'pieeprom.sig', b'octet', b'tsize', b'0', b'blksize', b'1024'] from ('172.17.2.3', 39277)

2021-04-11 16:45:00,490 - download complete, closing socket

2021-04-11 16:45:00,518 - pieeprom.sig: key error - looking in filesystem next

2021-04-11 16:45:00,519 - No such file within the directory

2021-04-11 16:45:00,580 - got [b'recover4.elf', b'octet', b'tsize', b'0', b'blksize', b'1024'] from ('172.17.2.3', 39278)

2021-04-11 16:45:00,607 - recover4.elf: key error - looking in filesystem next

2021-04-11 16:45:00,607 - No such file within the directory

2021-04-11 16:45:00,611 - got [b'recovery.elf', b'octet', b'tsize', b'0', b'blksize', b'1024'] from ('172.17.2.3', 39279)

2021-04-11 16:45:00,625 - recovery.elf: key error - looking in filesystem next

2021-04-11 16:45:00,627 - No such file within the directory

2021-04-11 16:45:00,689 - got [b'start4.elf', b'octet', b'tsize', b'0', b'blksize', b'1024'] from ('172.17.2.3', 39280)

2021-04-11 16:45:10,287 - known ip: 172.17.2.3

2021-04-11 16:45:10,287 - tobytes bytearray(b'\x02\x01\x06\x00\xf5\xb37\x10\x00\x00\x00\x00\x00\x00\x00\x00\xac\x11\x02\x03\x00\x00\x00\x00\x00\x00\x00\x00\xdc\xa62\xbcs\xfb\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00c\x82Sc\x01\x04\xff\xff\xff\x00\x03\x04\xac\x11\x02\x01\x06\x04\x08\x08\x08\x08\*\x04\xac\x11\x02\x013\x04\x00\x00\x02X5\x01\x056\x04\xac\x11\x02\x01<\tPXEClientB\n172.17.2.1C\x0cbootcode.bin\xff')

2021-04-11 16:45:10,287 - construct packet b'\xdc\xa62\xbcs\xfb\x00\xe0L6C,\x08\x00E\x00\x01Y\x8a\xf8@\x00@\x11Ru\xac\x11\x02\x01\xac\x11\x02\x03\x00C\x00D\x01E:X\x02\x01\x06\x00\xf5\xb37\x10\x00\x00\x00\x00\x00\x00\x00\x00\xac\x11\x02\x03\x00\x00\x00\x00\x00\x00\x00\x00\xdc\xa62\xbcs\xfb\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00\x00c\x82Sc\x01\x04\xff\xff\xff\x00\x03\x04\xac\x11\x02\x01\x06\x04\x08\x08\x08\x08\*\x04\xac\x11\x02\x013\x04\x00\x00\x02X5\x01\x056\x04\xac\x11\x02\x01<\tPXEClientB\n172.17.2.1C\x0cbootcode.bin\xff'

2021-04-11 16:45:13,931 - download complete, closing socket

2021-04-11 16:45:14,656 - got [b'fixup4.dat', b'octet', b'tsize', b'0', b'blksize', b'1024'] from ('172.17.2.3', 39281)

2021-04-11 16:45:14,839 - download complete, closing socket

2021-04-11 16:45:15,188 - got [b'recovery.elf', b'octet', b'tsize', b'0', b'blksize', b'1024'] from ('172.17.2.3', 49153)

2021-04-11 16:45:15,202 - recovery.elf: key error - looking in filesystem next

2021-04-11 16:45:15,202 - No such file within the directory

2021-04-11 16:45:15,204 - got [b'config.txt', b'octet', b'tsize', b'0', b'blksize', b'1024'] from ('172.17.2.3', 49154)

2021-04-11 16:45:15,236 - download complete, closing socket

Correct TFTP output

Post code here

## TODAY’S LOG 4/6/2021

2021-04-06 13:22:39,711 - INFO - serving client from: ('172.16.2.13', 57110)

2021-04-06 13:22:39,716 - INFO - TCP - unsupported request: + set -x

2021-04-06 13:22:39,716 - INFO - TCP - unsupported request: + send Hello World

2021-04-06 13:22:39,720 - INFO - TCP - unsupported request: + echo Hello World

2021-04-06 13:22:39,720 - INFO - TCP - unsupported request: Hello World

2021-04-06 13:22:39,720 - INFO - TCP - unsupported request: + makenode

2021-04-06 13:22:39,721 - INFO - TCP - unsupported request: + send MAKING NODES

2021-04-06 13:22:39,721 - INFO - TCP - unsupported request: + echo MAKING NODES

2021-04-06 13:22:39,721 - INFO - TCP - unsupported request: MAKING NODES

2021-04-06 13:22:39,721 - INFO - TCP - unsupported request: + mkdir /m

2021-04-06 13:22:39,722 - INFO - TCP - unsupported request: + mknod /dev/mmcblk0 b 179 0

2021-04-06 13:22:39,728 - INFO - TCP - unsupported request: + mknod /dev/mmcblk0p1 b 179 1

2021-04-06 13:22:39,733 - INFO - TCP - unsupported request: + mknod /dev/mmcblk0p2 b 179 2

2021-04-06 13:22:39,739 - INFO - TCP - unsupported request: + send MADE NODES

2021-04-06 13:22:39,739 - INFO - TCP - unsupported request: + echo MADE NODES

2021-04-06 13:22:39,740 - INFO - TCP - unsupported request: MADE NODES

2021-04-06 13:22:39,740 - INFO - TCP - unsupported request: + checkinstalled

2021-04-06 13:22:39,740 - INFO - TCP - unsupported request: + send CHECKING IF INSTALLED

2021-04-06 13:22:39,740 - INFO - TCP - unsupported request: + echo CHECKING IF INSTALLED

2021-04-06 13:22:39,741 - INFO - TCP - unsupported request: CHECKING IF INSTALLED

2021-04-06 13:22:39,741 - INFO - TCP - unsupported request: + mount -t ext4 /dev/mmcblk0p2 /m

2021-04-06 13:22:39,771 - INFO - TCP - unsupported request: + stat /m/bin

2021-04-06 13:22:39,777 - INFO - TCP - unsupported request: stat: can't stat '/m/bin': No such file or directory

2021-04-06 13:22:39,779 - INFO - TCP - unsupported request: + send IS\_UNINSTALLED

2021-04-06 13:22:39,780 - INFO - TCP - unsupported request: + echo IS\_UNINSTALLED

2021-04-06 13:22:39,780 - INFO - TCT - uninstalled, sending format

2021-04-06 13:22:39,781 - INFO - TCP - unsupported request: + true

2021-04-06 13:22:39,782 - INFO - TCP - unsupported request: + recv

2021-04-06 13:22:39,782 - INFO - TCP - unsupported request: + msg=

2021-04-06 13:22:39,782 - INFO - TCP - unsupported request: + read line

2021-04-06 13:22:39,782 - INFO - TCP - unsupported request: + [ xbusybox date -s 202104061322.39 == xEOM ]

2021-04-06 13:22:39,782 - INFO - TCP - unsupported request: + msg=busybox date -s 202104061322.39

2021-04-06 13:22:39,783 - INFO - TCP - unsupported request: + read line

2021-04-06 13:22:39,783 - INFO - TCP - unsupported request: + [ xEOM == xEOM ]

2021-04-06 13:22:39,783 - INFO - TCP - unsupported request: + echo -n busybox date -s 202104061322.39

2021-04-06 13:22:39,783 - INFO - TCP - unsupported request: + return

2021-04-06 13:22:39,784 - INFO - TCP - unsupported request: + req=busybox date -s 202104061322.39

2021-04-06 13:22:39,784 - INFO - TCP - unsupported request: + send busybox date -s 202104061322.39

2021-04-06 13:22:39,784 - INFO - TCP - unsupported request: + echo busybox date -s 202104061322.39

2021-04-06 13:22:39,785 - INFO - TCP - unsupported request: busybox date -s 202104061322.39

2021-04-06 13:22:39,785 - INFO - TCP - unsupported request: + send RECEIVED\_DATE

2021-04-06 13:22:39,785 - INFO - TCP - unsupported request: + echo RECEIVED\_DATE

2021-04-06 13:22:39,785 - INFO - TCP - pi successfully received date string

2021-04-06 13:22:39,785 - INFO - TCP - unsupported request: + busybox date -s 202104061322.39

2021-04-06 13:22:39,790 - INFO - TCP - unsupported request: Tue Apr 6 13:22:39 UTC 2021

2021-04-06 13:22:39,791 - INFO - TCP - unsupported request: + send SET\_DATE

2021-04-06 13:22:39,791 - INFO - TCP - unsupported request: + echo SET\_DATE

2021-04-06 13:22:39,791 - INFO - TCP - pi successfully set local datetime

2021-04-06 13:22:39,791 - INFO - TCP - unsupported request: + true

2021-04-06 13:22:39,793 - INFO - TCP - unsupported request: + recv

2021-04-06 13:22:39,793 - INFO - TCP - unsupported request: + msg=

2021-04-06 13:22:39,793 - INFO - TCP - unsupported request: + read line

2021-04-06 13:22:39,793 - INFO - TCP - unsupported request: + [ xformat == xEOM ]

2021-04-06 13:22:39,793 - INFO - TCP - unsupported request: + msg=format

2021-04-06 13:22:39,793 - INFO - TCP - unsupported request: + read line

2021-04-06 13:22:39,793 - INFO - TCP - unsupported request: + [ xEOM == xEOM ]

2021-04-06 13:22:39,793 - INFO - TCP - unsupported request: + echo -n format

2021-04-06 13:22:39,794 - INFO - TCP - unsupported request: + return

2021-04-06 13:22:39,794 - INFO - TCP - unsupported request: + req=format

2021-04-06 13:22:39,794 - INFO - TCP - unsupported request: + send format

2021-04-06 13:22:39,795 - INFO - TCP - unsupported request: + echo format

2021-04-06 13:22:39,795 - INFO - TCP - unsupported request: format

2021-04-06 13:22:39,795 - INFO - TCP - unsupported request: + send RECEIVED\_FORMAT

2021-04-06 13:22:39,795 - INFO - TCP - unsupported request: + echo RECEIVED\_FORMAT

2021-04-06 13:22:39,795 - INFO - TCP - pi successfully received format command

2021-04-06 13:22:39,795 - INFO - TCP - unsupported request: + format

2021-04-06 13:22:39,795 - INFO - TCP - unsupported request: + send FORMATTING

2021-04-06 13:22:39,795 - INFO - TCP - unsupported request: + echo FORMATTING

2021-04-06 13:22:39,796 - INFO - TCP - unsupported request: FORMATTING

2021-04-06 13:22:39,796 - INFO - TCP - unsupported request: + umount /m

2021-04-06 13:22:39,892 - INFO - TCP - unsupported request: + umount /new\_root

2021-04-06 13:22:39,896 - INFO - TCP - unsupported request: umount: can't umount /new\_root: No such file or directory

2021-04-06 13:22:39,898 - INFO - TCP - unsupported request: + sfdisk /dev/mmcblk0

2021-04-06 13:22:39,923 - INFO - TCP - unsupported request: Checking that no-one is using this disk right now ... OK

2021-04-06 13:22:39,923 - INFO - TCP - unsupported request:

2021-04-06 13:22:39,924 - INFO - TCP - unsupported request: Disk /dev/mmcblk0: 29.2 GiB, 31312576512 bytes, 61157376 sectors

2021-04-06 13:22:39,924 - INFO - TCP - unsupported request: Units: sectors of 1 \* 512 = 512 bytes

2021-04-06 13:22:39,924 - INFO - TCP - unsupported request: Sector size (logical/physical): 512 bytes / 512 bytes

2021-04-06 13:22:39,924 - INFO - TCP - unsupported request: I/O size (minimum/optimal): 512 bytes / 512 bytes

2021-04-06 13:22:39,924 - INFO - TCP - unsupported request: Disklabel type: dos

2021-04-06 13:22:39,924 - INFO - TCP - unsupported request: Disk identifier: 0x5f5d7a31

2021-04-06 13:22:39,924 - INFO - TCP - unsupported request:

2021-04-06 13:22:39,924 - INFO - TCP - unsupported request: Old situation:

2021-04-06 13:22:39,925 - INFO - TCP - unsupported request:

2021-04-06 13:22:39,925 - INFO - TCP - unsupported request: Device Boot Start End Sectors Size Id Type

2021-04-06 13:22:39,925 - INFO - TCP - unsupported request: /dev/mmcblk0p1 8192 96663 88472 43.2M c W95 FAT32 (LBA)

2021-04-06 13:22:39,925 - INFO - TCP - unsupported request: /dev/mmcblk0p2 98304 61157375 61059072 29.1G 83 Linux

2021-04-06 13:22:39,925 - INFO - TCP - unsupported request:

2021-04-06 13:22:39,925 - INFO - TCP - unsupported request: >>> Script header accepted.

2021-04-06 13:22:39,925 - INFO - TCP - unsupported request: >>> Script header accepted.

2021-04-06 13:22:39,925 - INFO - TCP - unsupported request: >>> Script header accepted.

2021-04-06 13:22:39,926 - INFO - TCP - unsupported request: >>> Script header accepted.

2021-04-06 13:22:39,926 - INFO - TCP - unsupported request: >>> Created a new DOS disklabel with disk identifier 0x5f5d7a31.

2021-04-06 13:22:39,926 - INFO - TCP - unsupported request: /dev/mmcblk0p1: Created a new partition 1 of type 'W95 FAT32 (LBA)' and of size 43.2 MiB.

2021-04-06 13:22:39,968 - INFO - TCP - unsupported request: Partition #1 contains a vfat signature.

2021-04-06 13:22:39,983 - INFO - TCP - unsupported request: /dev/mmcblk0p2: Created a new partition 2 of type 'Linux' and of size 29.1 GiB.

2021-04-06 13:22:39,983 - INFO - TCP - unsupported request: Partition #2 contains a ext4 signature.

2021-04-06 13:22:39,993 - INFO - TCP - unsupported request: /dev/mmcblk0p3: Done.

2021-04-06 13:22:39,993 - INFO - TCP - unsupported request:

2021-04-06 13:22:39,993 - INFO - TCP - unsupported request: New situation:

2021-04-06 13:22:39,993 - INFO - TCP - unsupported request:

2021-04-06 13:22:39,993 - INFO - TCP - unsupported request: Device Boot Start End Sectors Size Id Type

2021-04-06 13:22:39,993 - INFO - TCP - unsupported request: /dev/mmcblk0p1 8192 96663 88472 43.2M c W95 FAT32 (LBA)

2021-04-06 13:22:39,993 - INFO - TCP - unsupported request: /dev/mmcblk0p2 98304 61157375 61059072 29.1G 83 Linux

2021-04-06 13:22:39,994 - INFO - TCP - unsupported request:

2021-04-06 13:22:39,994 - INFO - TCP - unsupported request: The partition table has been altered.

2021-04-06 13:22:39,994 - INFO - TCP - unsupported request: Calling ioctl() to re-read partition table.

2021-04-06 13:22:39,994 - INFO - TCP - unsupported request: Syncing disks.

2021-04-06 13:22:39,995 - INFO - TCP - unsupported request: + mkfs.ext4 /dev/mmcblk0p2 -L rootfs

2021-04-06 13:22:40,003 - INFO - TCP - unsupported request: mke2fs 1.43.4 (31-Jan-2017)

2021-04-06 13:22:40,008 - INFO - TCP - unsupported request: ext2fs\_check\_if\_mount: Can't check if filesystem is mounted due to missing mtab file while determining whether /dev/mmcblk0p2 is mounted.

2021-04-06 13:22:45,890 - INFO - TCP - unsupported request: Discarding device blocks: done

2021-04-06 13:22:45,891 - INFO - TCP - unsupported request: Creating filesystem with 7632384 4k blocks and 1908736 inodes

2021-04-06 13:22:45,891 - INFO - TCP - unsupported request: Filesystem UUID: 2c59be2a-96db-11eb-ae4c-b827ebf22439

2021-04-06 13:22:45,891 - INFO - TCP - unsupported request: Superblock backups stored on blocks:

2021-04-06 13:22:45,892 - INFO - TCP - unsupported request: 32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632, 2654208,

2021-04-06 13:22:45,892 - INFO - TCP - unsupported request: 4096000

2021-04-06 13:22:45,892 - INFO - TCP - unsupported request:

2021-04-06 13:22:45,895 - INFO - TCP - unsupported request: Allocating group tables: done

2021-04-06 13:22:45,896 - INFO - TCP - unsupported request: Writing inode tables: done

2021-04-06 13:22:46,465 - INFO - TCP - unsupported request: Creating journal (32768 blocks): done

2021-04-06 13:23:01,934 - INFO - TCP - unsupported request: Writing superblocks and filesystem accounting information: done

2021-04-06 13:23:01,936 - INFO - TCP - unsupported request:

2021-04-06 13:23:01,939 - INFO - TCP - unsupported request: + sfdisk /dev/mmcblk0

2021-04-06 13:23:01,961 - INFO - TCP - unsupported request: Checking that no-one is using this disk right now ... OK

2021-04-06 13:23:01,962 - INFO - TCP - unsupported request:

2021-04-06 13:23:01,962 - INFO - TCP - unsupported request: Disk /dev/mmcblk0: 29.2 GiB, 31312576512 bytes, 61157376 sectors

2021-04-06 13:23:01,962 - INFO - TCP - unsupported request: Units: sectors of 1 \* 512 = 512 bytes

2021-04-06 13:23:01,962 - INFO - TCP - unsupported request: Sector size (logical/physical): 512 bytes / 512 bytes

2021-04-06 13:23:01,962 - INFO - TCP - unsupported request: I/O size (minimum/optimal): 512 bytes / 512 bytes

2021-04-06 13:23:01,962 - INFO - TCP - unsupported request: Disklabel type: dos

2021-04-06 13:23:01,962 - INFO - TCP - unsupported request: Disk identifier: 0x5f5d7a31

2021-04-06 13:23:01,962 - INFO - TCP - unsupported request:

2021-04-06 13:23:01,963 - INFO - TCP - unsupported request: Old situation:

2021-04-06 13:23:01,963 - INFO - TCP - unsupported request:

2021-04-06 13:23:01,963 - INFO - TCP - unsupported request: Device Boot Start End Sectors Size Id Type

2021-04-06 13:23:01,963 - INFO - TCP - unsupported request: /dev/mmcblk0p1 8192 96663 88472 43.2M c W95 FAT32 (LBA)

2021-04-06 13:23:01,963 - INFO - TCP - unsupported request: /dev/mmcblk0p2 98304 61157375 61059072 29.1G 83 Linux

2021-04-06 13:23:01,963 - INFO - TCP - unsupported request:

2021-04-06 13:23:01,963 - INFO - TCP - unsupported request: >>> Script header accepted.

2021-04-06 13:23:01,964 - INFO - TCP - unsupported request: >>> Script header accepted.

2021-04-06 13:23:01,964 - INFO - TCP - unsupported request: >>> Script header accepted.

2021-04-06 13:23:01,964 - INFO - TCP - unsupported request: >>> Script header accepted.

2021-04-06 13:23:01,964 - INFO - TCP - unsupported request: >>> Created a new DOS disklabel with disk identifier 0x5f5d7a31.

2021-04-06 13:23:01,964 - INFO - TCP - unsupported request: /dev/mmcblk0p1: Created a new partition 1 of type 'W95 FAT32 (LBA)' and of size 43.2 MiB.

2021-04-06 13:23:01,964 - INFO - TCP - unsupported request: Partition #1 contains a vfat signature.

2021-04-06 13:23:01,996 - INFO - TCP - unsupported request: /dev/mmcblk0p2: Created a new partition 2 of type 'Linux' and of size 29.1 GiB.

2021-04-06 13:23:01,996 - INFO - TCP - unsupported request: Partition #2 contains a ext4 signature.

2021-04-06 13:23:02,005 - INFO - TCP - unsupported request: /dev/mmcblk0p3: Done.

2021-04-06 13:23:02,005 - INFO - TCP - unsupported request:

2021-04-06 13:23:02,005 - INFO - TCP - unsupported request: New situation:

2021-04-06 13:23:02,005 - INFO - TCP - unsupported request:

2021-04-06 13:23:02,005 - INFO - TCP - unsupported request: Device Boot Start End Sectors Size Id Type

2021-04-06 13:23:02,005 - INFO - TCP - unsupported request: /dev/mmcblk0p1 8192 96663 88472 43.2M c W95 FAT32 (LBA)

2021-04-06 13:23:02,005 - INFO - TCP - unsupported request: /dev/mmcblk0p2 98304 61157375 61059072 29.1G 83 Linux

2021-04-06 13:23:02,005 - INFO - TCP - unsupported request:

2021-04-06 13:23:02,006 - INFO - TCP - unsupported request: The partition table has been altered.

2021-04-06 13:23:02,006 - INFO - TCP - unsupported request: Calling ioctl() to re-read partition table.

2021-04-06 13:23:02,006 - INFO - TCP - unsupported request: Syncing disks.

2021-04-06 13:23:02,006 - INFO - TCP - unsupported request: + sfdisk --dump /dev/mmcblk0

2021-04-06 13:23:02,014 - INFO - TCP - unsupported request: label: dos

2021-04-06 13:23:02,014 - INFO - TCP - unsupported request: label-id: 0x5f5d7a31

2021-04-06 13:23:02,015 - INFO - TCP - unsupported request: device: /dev/mmcblk0

2021-04-06 13:23:02,015 - INFO - TCP - unsupported request: unit: sectors

2021-04-06 13:23:02,015 - INFO - TCP - unsupported request:

2021-04-06 13:23:02,015 - INFO - TCP - unsupported request: /dev/mmcblk0p1 : start= 8192, size= 88472, type=c

2021-04-06 13:23:02,015 - INFO - TCP - unsupported request: /dev/mmcblk0p2 : start= 98304, size= 61059072, type=83

2021-04-06 13:23:02,017 - INFO - TCP - unsupported request: + mkfs.ext4 /dev/mmcblk0p2 -L rootfs

2021-04-06 13:23:02,024 - INFO - TCP - unsupported request: mke2fs 1.43.4 (31-Jan-2017)

2021-04-06 13:23:02,028 - INFO - TCP - unsupported request: ext2fs\_check\_if\_mount: Can't check if filesystem is mounted due to missing mtab file while determining whether /dev/mmcblk0p2 is mounted.

2021-04-06 13:23:07,585 - INFO - TCP - unsupported request: Discarding device blocks: done

2021-04-06 13:23:07,587 - INFO - TCP - unsupported request: Creating filesystem with 7632384 4k blocks and 1908736 inodes

2021-04-06 13:23:07,587 - INFO - TCP - unsupported request: Filesystem UUID: 39481992-96db-11eb-8781-b827ebf22439

2021-04-06 13:23:07,588 - INFO - TCP - unsupported request: Superblock backups stored on blocks:

2021-04-06 13:23:07,588 - INFO - TCP - unsupported request: 32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632, 2654208,

2021-04-06 13:23:07,588 - INFO - TCP - unsupported request: 4096000

2021-04-06 13:23:07,588 - INFO - TCP - unsupported request:

2021-04-06 13:23:07,590 - INFO - TCP - unsupported request: Allocating group tables: done

2021-04-06 13:23:07,590 - INFO - TCP - unsupported request: Writing inode tables: done

2021-04-06 13:23:08,154 - INFO - TCP - unsupported request: Creating journal (32768 blocks): done

2021-04-06 13:23:23,159 - INFO - TCP - unsupported request: Writing superblocks and filesystem accounting information: done

2021-04-06 13:23:23,160 - INFO - TCP - unsupported request:

2021-04-06 13:23:23,161 - INFO - TCP - unsupported request: + mount -t ext4 /dev/mmcblk0p2 /m

2021-04-06 13:23:23,191 - INFO - TCP - unsupported request: + send FINISHED FORMATTING

2021-04-06 13:23:23,191 - INFO - TCP - unsupported request: + echo FINISHED FORMATTING

2021-04-06 13:23:23,191 - INFO - TCP - unsupported request: FINISHED FORMATTING

2021-04-06 13:23:23,192 - INFO - TCP - unsupported request: + cd /m

2021-04-06 13:23:23,193 - INFO - TCP - unsupported request: + nc 172.16.2.128 4444

2021-04-06 13:23:23,193 - INFO - TCP - unsupported request: + tar -xf -

2021-04-06 13:23:23,194 - INFO - TCP - unsupported request: + gunzip

2021-04-06 13:23:23,198 - INFO - TCP - started file\_transferring

2021-04-06 13:23:24,900 - DEBUG - TCP - read rootfs.tgz

2021-04-06 13:23:24,909 - DEBUG - TCP - sending rootfs.tgz

2021-04-06 13:24:09,037 - INFO - known ip: 172.16.2.19

2021-04-06 13:24:19,019 - INFO - known ip: 172.16.2.17

2021-04-06 13:24:19,026 - INFO - known ip: 172.16.2.12

2021-04-06 13:25:26,800 - INFO - known ip: 172.16.2.20

2021-04-06 13:25:32,412 - INFO - known ip: 172.16.2.15

2021-04-06 13:25:36,654 - INFO - known ip: 172.16.2.16

2021-04-06 13:26:26,238 - INFO - known ip: 172.16.2.11

2021-04-06 13:26:33,471 - DEBUG - TCP - finished sending rootfs.tgz

2021-04-06 13:26:33,472 - INFO - TCP - finished file\_transferring

2021-04-06 13:26:36,185 - INFO - TCP - unsupported request: + mounting

2021-04-06 13:26:36,187 - INFO - TCP - unsupported request: + send MOUNTING

2021-04-06 13:26:36,187 - INFO - TCP - unsupported request: + echo MOUNTING

2021-04-06 13:26:36,188 - INFO - TCP - pi mounting has started

2021-04-06 13:26:36,188 - INFO - TCP - unsupported request: + mkdir -p /new\_root

2021-04-06 13:26:36,190 - INFO - TCP - unsupported request: + mount -t ext4 /dev/mmcblk0p2 /new\_root

2021-04-06 13:26:36,196 - INFO - TCP - unsupported request: + send FINISHED\_MOUNTING

2021-04-06 13:26:36,196 - INFO - TCP - unsupported request: + echo FINISHED\_MOUNTING

2021-04-06 13:26:36,196 - INFO - TCP - pi successfully mounted filesystem

2021-04-06 13:26:36,196 - INFO - TCP - unsupported request: + send IS\_FORMATTED

2021-04-06 13:26:36,196 - INFO - TCP - unsupported request: + echo IS\_FORMATTED

2021-04-06 13:26:36,196 - INFO - TCP - is formatted, sending file

2021-04-06 13:26:36,196 - INFO - tcpdump

2021-04-06 13:26:54,981 - INFO - known ip: 172.16.2.13

2021-04-06 13:27:04,995 - INFO - known ip: 172.16.2.13

2021-04-06 13:27:26,412 - INFO - known ip: 172.16.2.18

2021-04-06 13:29:19,052 - INFO - known ip: 172.16.2.19

2021-04-06 13:29:29,054 - INFO - known ip: 172.16.2.12

2021-04-06 13:29:29,069 - INFO - known ip: 172.16.2.17

2021-04-06 13:30:36,822 - INFO - known ip: 172.16.2.20

2021-04-06 13:30:42,433 - INFO - known ip: 172.16.2.15

2021-04-06 13:30:46,690 - INFO - known ip: 172.16.2.16

2021-04-06 13:30:53,214 - WARNING - Power\_Cycle - Setting pi at port 13 to OFF

2021-04-06 13:30:53,413 - ERROR - Power\_Cycle - not found

2021-04-06 13:30:54,415 - WARNING - Power\_Cycle - Setting pi at port 13 to ON

2021-04-06 13:30:54,587 - ERROR - Power\_Cycle - not found21-04-06 13:15:16,636 - INFO - known ip: 172.16.2.16

piman.yaml changed:

### Prometheus links:

<https://prometheus.io/docs/guides/node-exporter/#configuring-your-prometheus-instances>

<https://prometheus.io/docs/prometheus/latest/getting_started/>

<https://geekflare.com/prometheus-grafana-setup-for-linux/>

<https://itsfoss.com/resolvconf-permanent-ubuntu/>

<https://stackoverflow.com/questions/53295711/multiple-targets-on-prometheus>

Storm setup

## SET UP VM / PIS 5/20

Restart command

> sudo python3 ./build/piman.pyz restart 172.16.2.129 <11-20>

### 1. Copying correct files

Rozanna

1. Clone bitbucket to vm
   1. git clone <https://zanagen@bitbucket.org/SJSU-CS-systems/boston.git>
2. Copy rootfs file into boston/install/boot
   1. cd /mnt/c/Users/rozan/Desktop/storm
   2. sudo scp rootfs.tgz cs158b@172.27.2.128:~/boston/install/boot

Duy

1. Copy service files (grafana, piman, prometheus) into /etc/systemd/system
   1. cd /mnt/c/Users/rozan/Desktop/storm
   2. sudo scp grafana.service piman.service prometheus.service cs158b@172.27.2.128:~/
   3. sudo scp grafana.service piman.service prometheus.service /etc/systemd/system
   4. cd
   5. rm grafana.service piman.service prometheus.service

### 2. Set up pis

Duy & Rozanna

1. Run commands to setup piman
   1. cd boston
   2. create blank hosts.csv and piman.yaml
      1. cat hosts.csv
      2. cat piman.yaml (change pi address)
   3. cd /boston/install/initram
   4. ./create\_initramfs.gz.sh (RUN ONLY 1 TIME)

Bhavana

1. Change firmware data
   1. cd firmware/
   2. git fetch --shallow-since 2020-04-07
      1. ERROR
      2. fatal: Server does not support --shallow-since
      3. fatal: the remote end hung up unexpectedly
   3. git checkout 9e3c23c
   4. (ENSURE INITRAMcat hostsFS FILE IS BUILT!!!)
   5. ./make\_zipapp.sh
   6. sudo systemctl start piman
   7. sudo systemctl enable piman
   8. sudo systemctl status piman

Duy & Rozanna

1. Check logs and copy mac address to hosts.csv (REPEAT UNTIL errors don’t show up)
   1. cat logs/piman\_2021-05-21.log
   2. vi hosts.csv
   3. <MAC address>;172.16.2.<11-20>;raspberrypi;1621293519
   4. IF ERRORS ARE SHOWING IN PIMAN STATUS, restart piman
      1. ./make\_zipapp.sh
   5. sudo systemctl restart piman
   6. sudo systemctl status piman
2. Reinstall all pis (2 PEOPLE, check node\_exporter is running)
   1. sudo python3 ./build/piman.pyz reinstall 172.16.2.129 1 <11-20>
3. Check node exporter is running (Bhavana)
   1. ssh pi@<IP address> password: piman
   2. sudo systemctl status node\_exporter (displays active status)

Person 3 - Sowmya

### 

### 3. Grafana setup

1. cd /usr/local
2. sudo git clone <https://github.com/SJSU-CS-systems-group/piman.git>
3. sudo cp piman/monitoring/grafana.service /etc/systemd/system
4. vi /etc/systemd/system/grafana.service
5. change the file in ExecStart to grafana-install.sh
6. change install line to: sudo apt-get -y install grafana-enterprise
7. IF RUNNING THIS FAILS, run all the commands in grafana-install.sh manually
   1. sudo apt-get install -y apt-transport-https
   2. sudo apt-get install -y software-properties-common wget
   3. wget -q -O - https://packages.grafana.com/gpg.key | sudo apt-key add -
   4. echo "deb https://packages.grafana.com/enterprise/deb stable main" | sudo tee -a /etc/apt/sources.list.d/grafana.list
   5. sudo apt-get update
   6. sudo apt-get install grafana-enterprise
   7. sudo systemctl daemon-reload
   8. sudo systemctl start grafana-server
   9. sudo systemctl status grafana-server
8. access grafana: <http://172.27.2.128:3000/>
   1. username and password is **admin**
   2. prompts you to change password, keep the same password

### 4. Prometheus setup

1. In pis, check if node exporter is running
   1. sudo systemctl status node\_exporter
   2. IF NOT RUNNING - reinstall pis, check logs for rootfs and tcpdump
2. sudo vi /etc/dhcp/dhclient.conf
3. uncomment prepend domain-name-servers 127.0.0.1;
4. Set up DNS server (Duy)
   1. sudo pip3 install serializeme
   2. nohup echo “mh213” | sudo -S python3 DNSServer.py &
5. Run following commands in VM
   1. sudo systemctl daemon-reload
   2. sudo systemctl start prometheus
   3. sudo systemctl enable prometheus
   4. sudo systemctl status prometheus -l
6. Prometheus link: 172.27.2.128:9090/targets

Grafana dashboard setup

1. Create new datasource - prometheus
   1. HTTP URL: <http://172.27.2.128:9090>
   2. HTTP Access: Server
   3. Save & Test - should show OK
2. Create new dashboard and add empty panel
3. In Query, change the datasource to Prometheus
4. Make 5 queries
   1. Under each query, change metrics to node > CPU / temp / memory usage / # running processes /

New addresses for the storm:

Give ben the dashboard when we’re finished and let him grade it

Need to reinstall all pis

New rootfs located in home directory of VM, need to move it

Know in home directory of pis if file called SUCCESS exists

All members must be logged into the VM when ben grades, check for grafana and hosts.csv for correct IP addresses

Pi IP addresses offset by 100

Info on dashboard: load

ssh cs158b@172.27.2.128 password: weHaveWon

VM on LAN: 172.16.2.1 - all pis will be connected to this IP address

Pis: 127.16.2.111

112

113

114

115

116

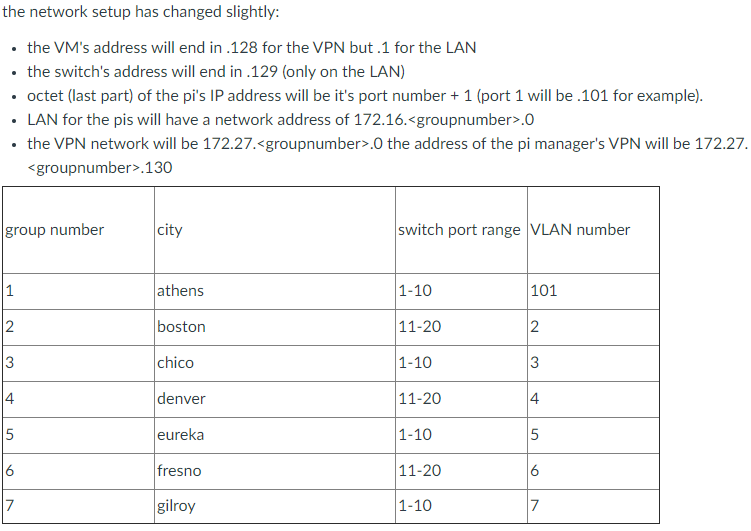
117

118

119

120

All other addresses are the same.



Files saved locally to prepare for the storm:

* **boston folder:**
  + hosts.csv: for formatting purpose
  + logs: folder containing log files
  + \_\_pycache\_\_: a folder, idk what that’s for



* + prometheus.yml:

# my global config

global:

scrape\_interval: 15s # Set the scrape interval to every 15 seconds. Default is every 1 minute.

evaluation\_interval: 15s # Evaluate rules every 15 seconds. The default is every 1 minute.

# scrape\_timeout is set to the global default (10s).

# Alertmanager configuration

alerting:

alertmanagers:

- static\_configs:

- targets:

# - alertmanager:9093

# Load rules once and periodically evaluate them according to the global 'evaluation\_interval'.

rule\_files:

# - "first\_rules.yml"

# - "second\_rules.yml"

# A scrape configuration containing exactly one endpoint to scrape:

# Here it's Prometheus itself.

scrape\_configs:

# The job name is added as a label `job=<job\_name>` to any timeseries scraped from this config.

- job\_name: 'prometheus'

# metrics\_path defaults to '/metrics'

# scheme defaults to 'http'.

static\_configs:

- targets: ['localhost:9090']

- job\_name: 'node\_exporter'

# metrics\_path defaults to '/metrics'

# scheme defaults to 'http'.

static\_configs:

- targets: ['172.16.2.11:9100']

- targets: ['172.16.2.12:9100']

- targets: ['172.16.2.13:9100']

- targets: ['172.16.2.14:9100']

- targets: ['172.16.2.15:9100']

- targets: ['172.16.2.16:9100']

- targets: ['172.16.2.17:9100']

- targets: ['172.16.2.18:9100']

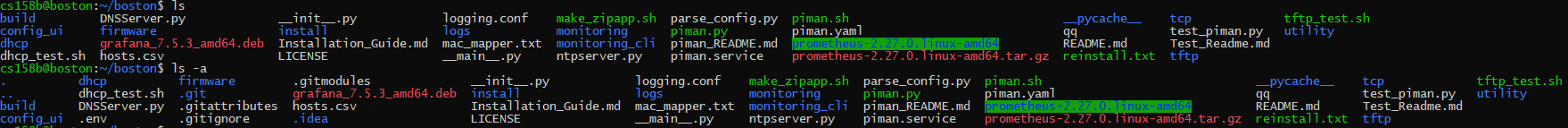
- targets: ['172.16.2.19:9100']

- targets: ['172.16.2.20:9100']

* **/etc/systemd/system:**
  + grafana.service
  + piman.service
  + prometheus.service

Screenshots of the VM:

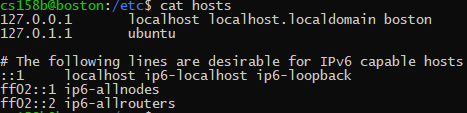
boston folder:



/etc/hostname:



/etc/hosts:



/usr/local/piman:

