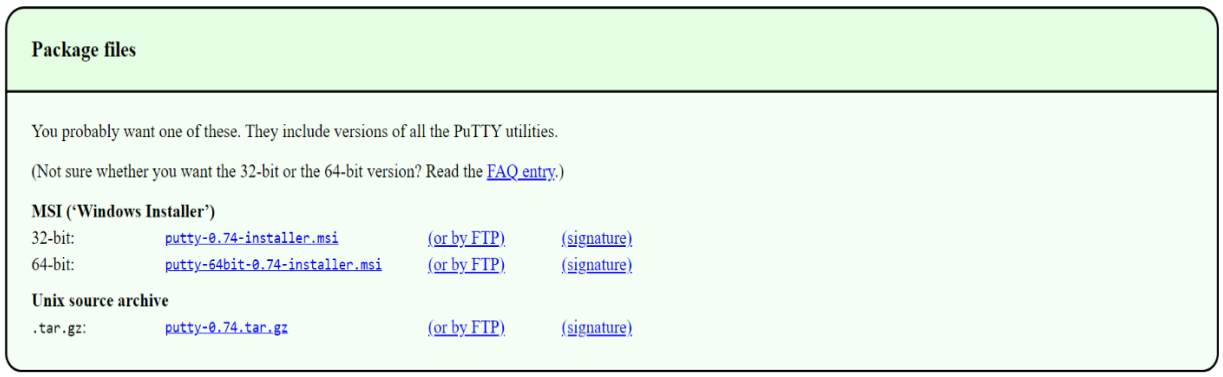
Ubiquiti AP Normalization Guide:

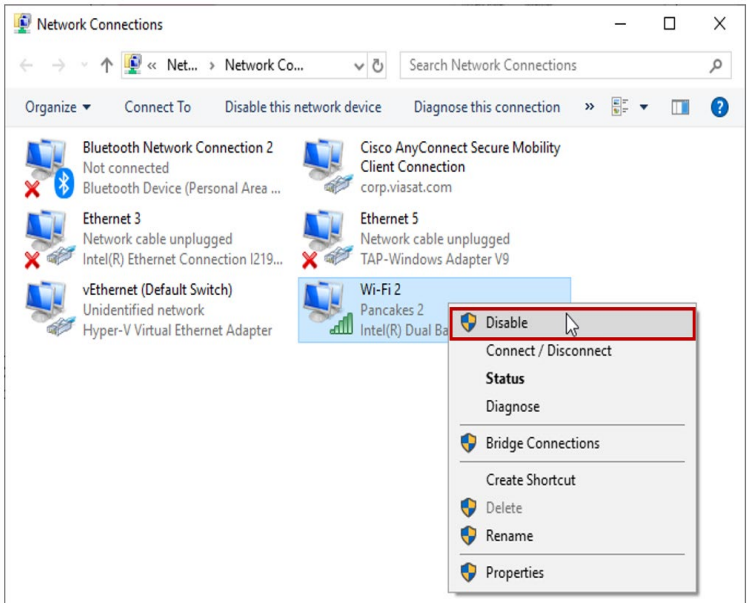
1. Download and install Winscp and Putty (if not already installed)
    a. Winscp can be found at: https://winscp.net/eng/download.php

    b. Putty can be found at: https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html

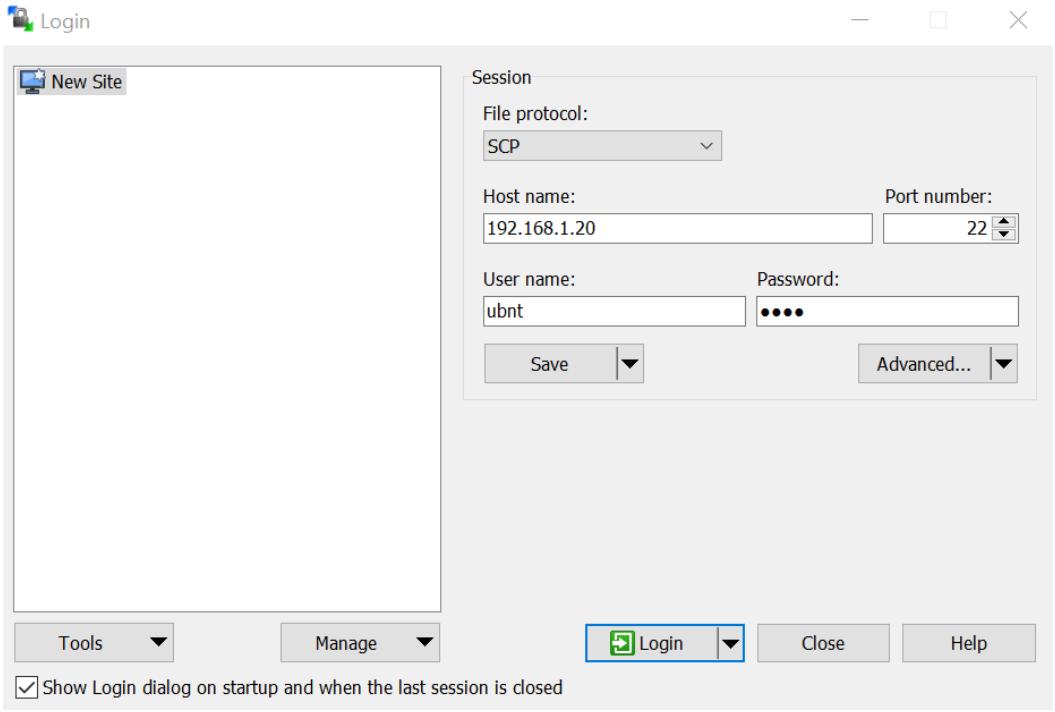


2. Plug in AP to be normalized into your computer with an RJ45 cord.

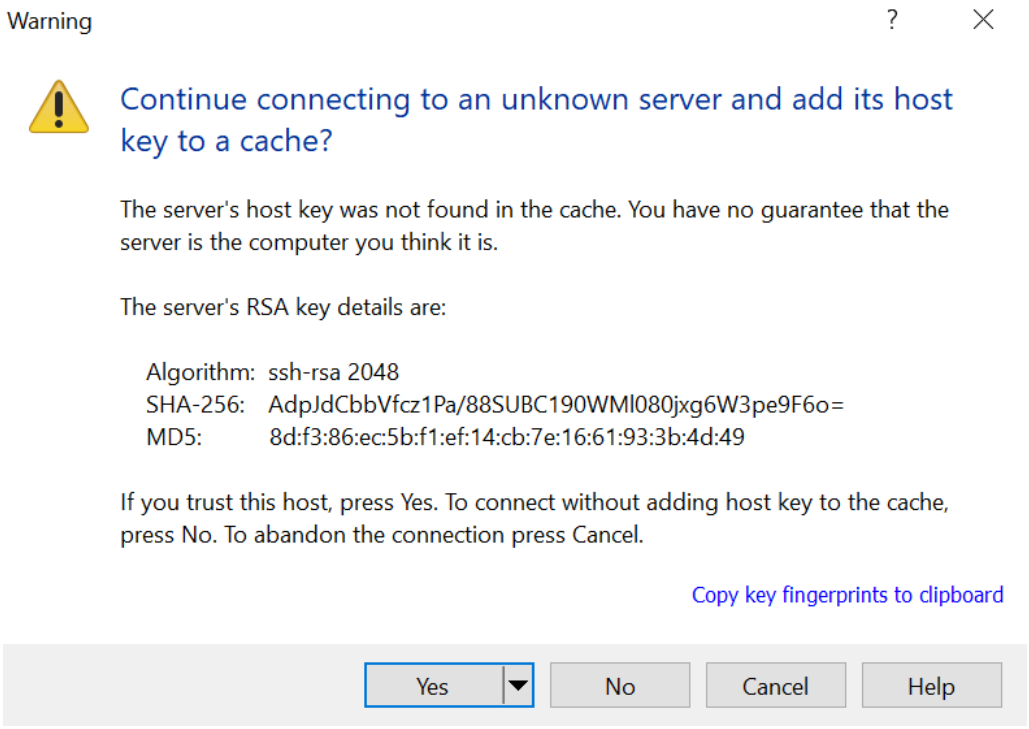
a. WiFi needs to be turned OFF!



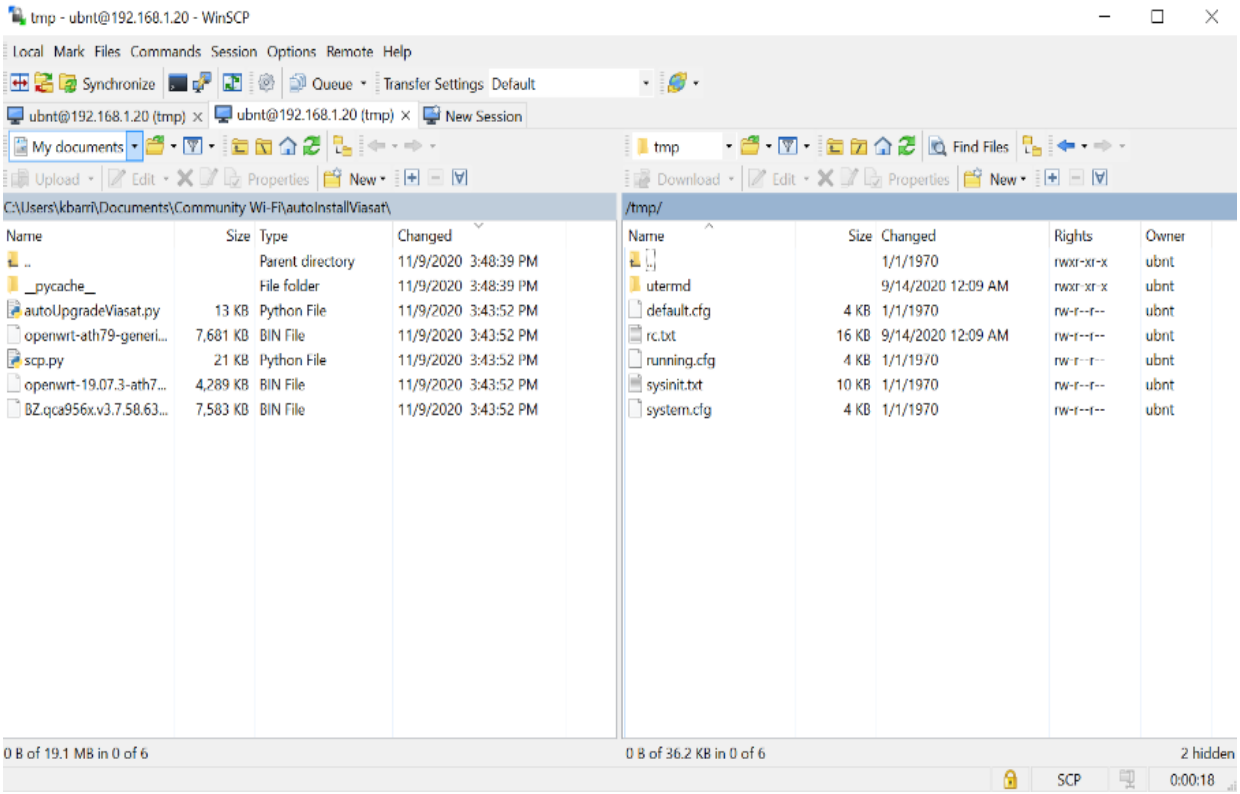
3. Open winscp and change the following:
    a. Protocol: Switch to SCP
    b. Host name/IP: 192.168.1.20
    c. Port: 22
    d. Username: ubnt, and password: ubnt
    e. Press Login/Connect



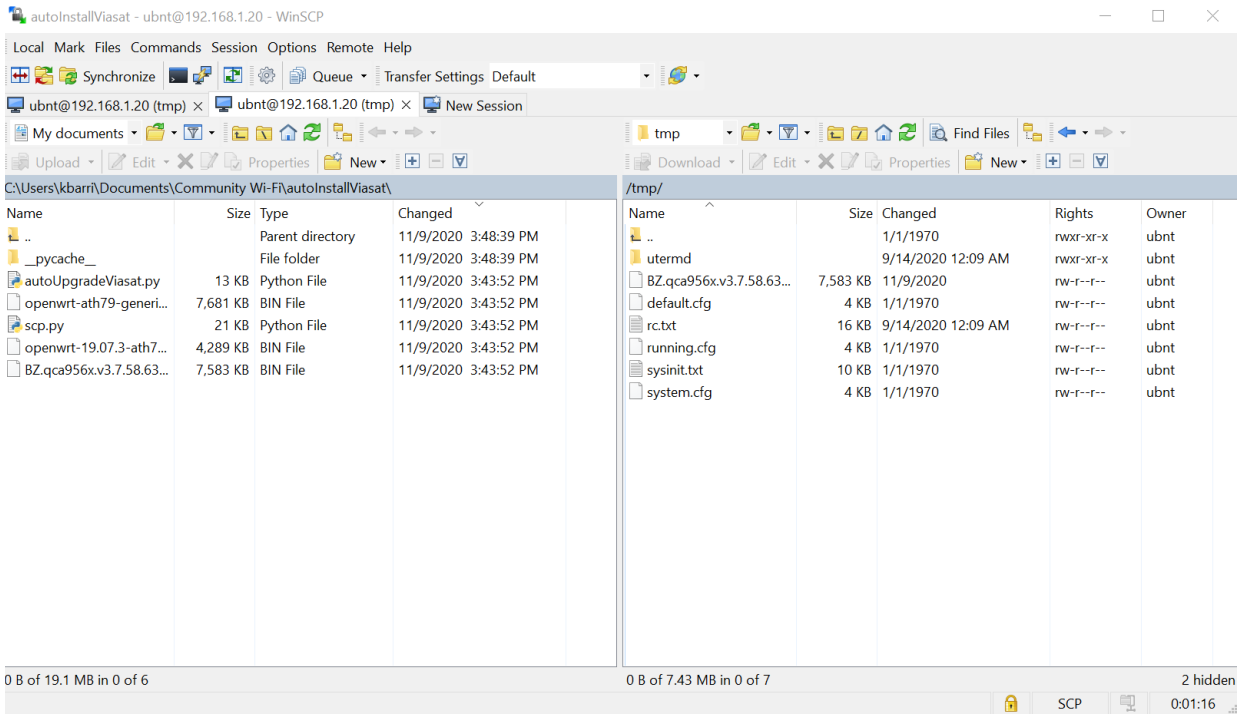
4. Press “Yes” or “Accept”



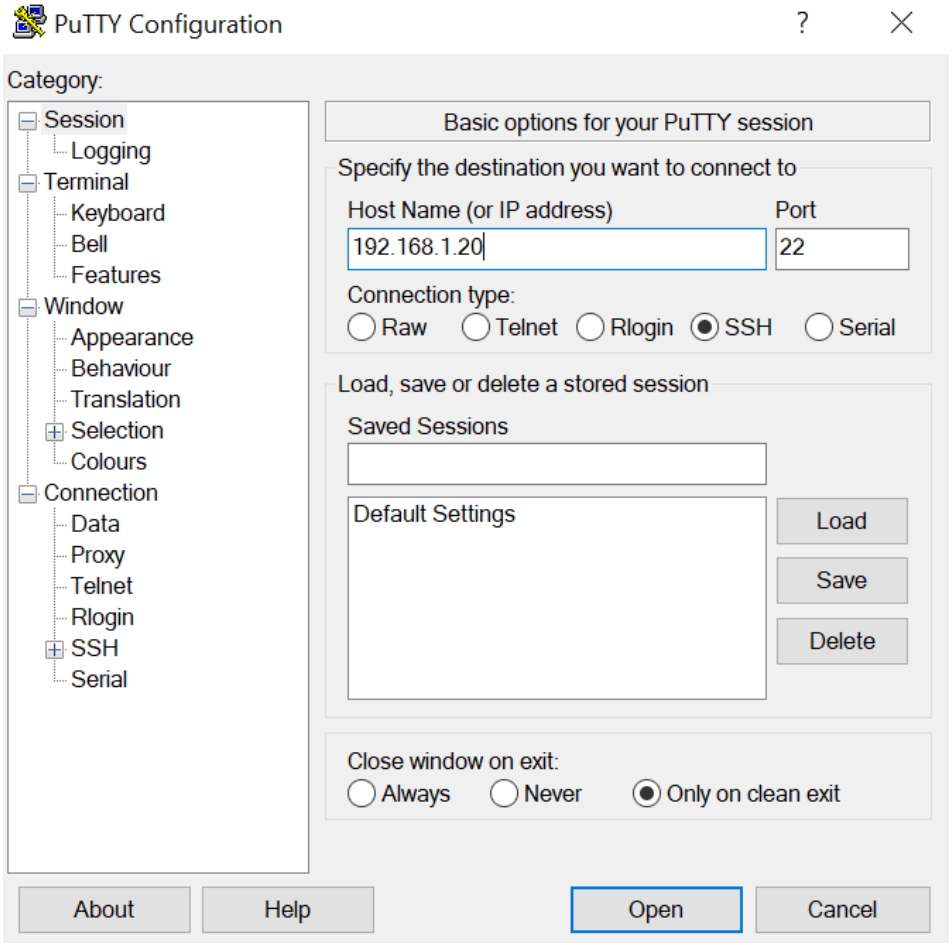
5. On the right-hand side, go to top directory “root” in drop down and double click ‘tmp’ folder
    a. On the left side open up the folder containing the unzipped AP image files



    b. Transfer the **bin** (BZ) file by dragging it to the tmp folder and press “OK”
        i. DO NOT drag it into a folder within ‘tmp’, if you do the file must be deleted from that folder.

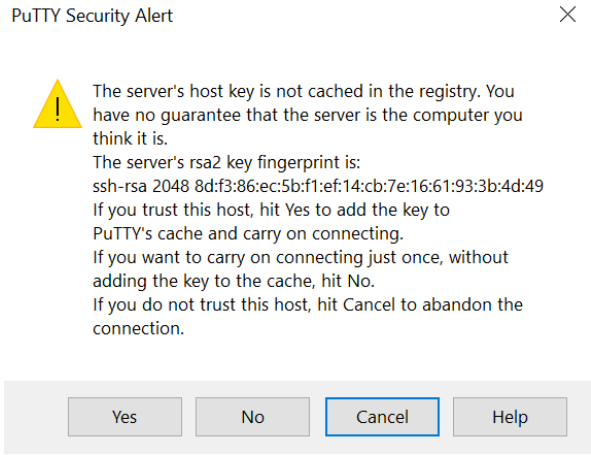


6. Open putty and enter the same IP and port as entered into winscp and press ‘open’



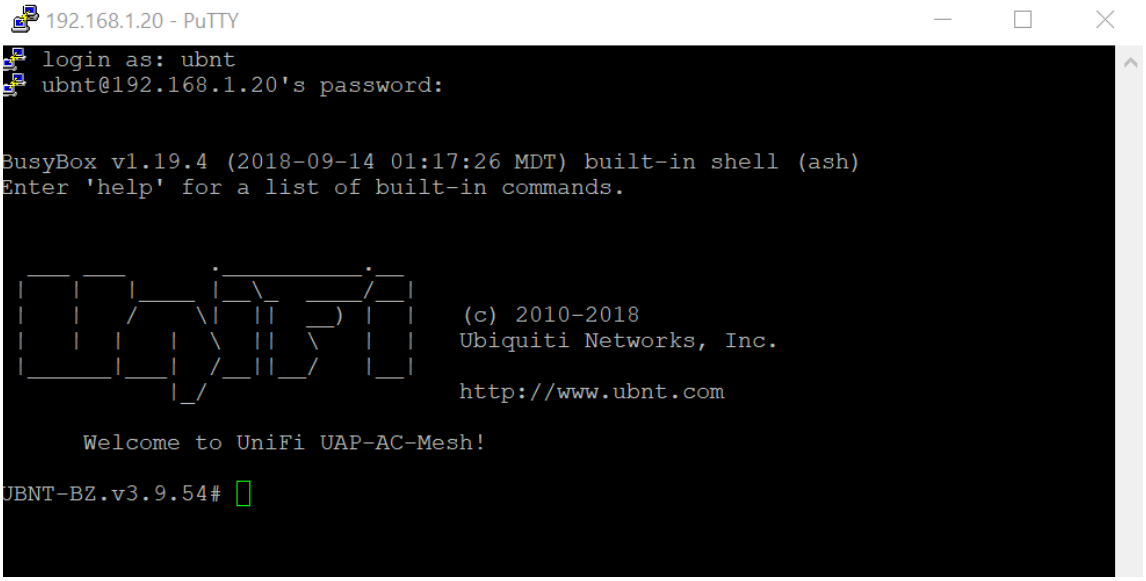
7.

a. Press “ok”/”yes”

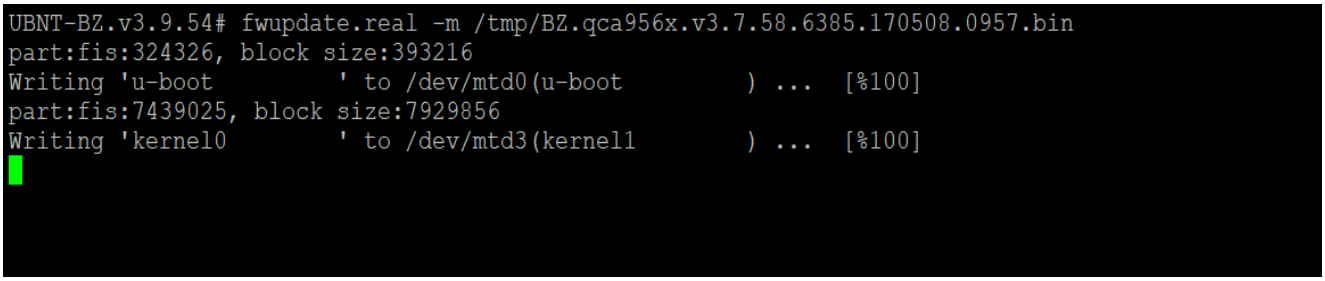


b. Type in username ‘ubnt’ and press Enter

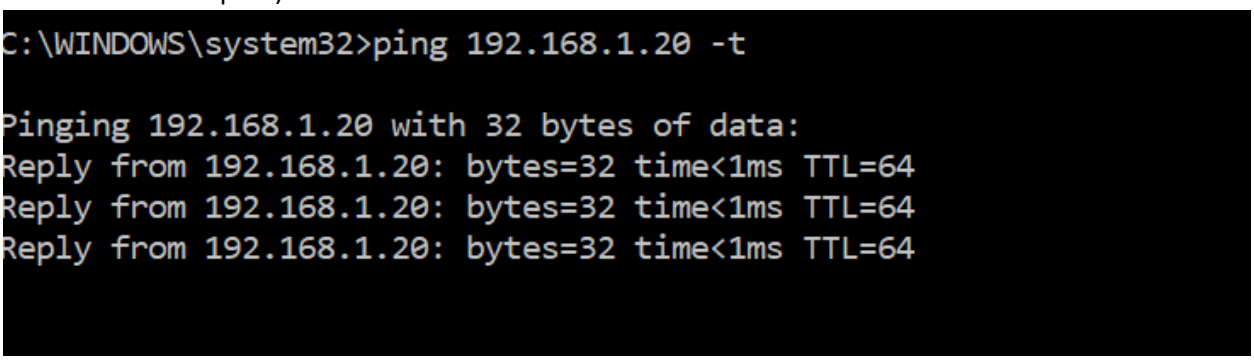
c. Type in “ubnt” as password (it won’t show on screen) and press enter. Verify the following screen appears:



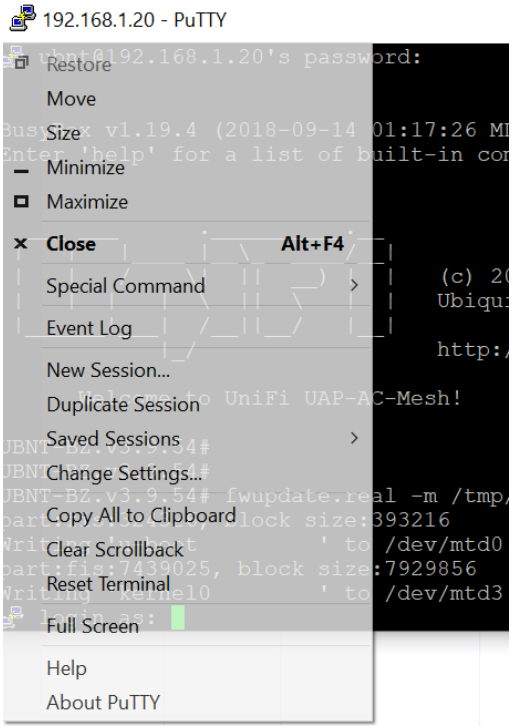
d. Type ‘fwupdate.real -m /tmp/BZ.qca956x.v3.7.58.6385.170508.0957.bin’ and press enter
   i. There is a tab shortcut they can use once starting to type a filename
   ii. **ONLY PRESS ENTER ONCE** – if interrupted the device may break.
   iii. **DO NOT LET CONNECTED DEVICE LOSE POWER OR THE AP MAY BREAK**
   iv. Takes 2 minutes max
   v. It is supposed to timeout and a “network failure” error will likely appear, this is OK



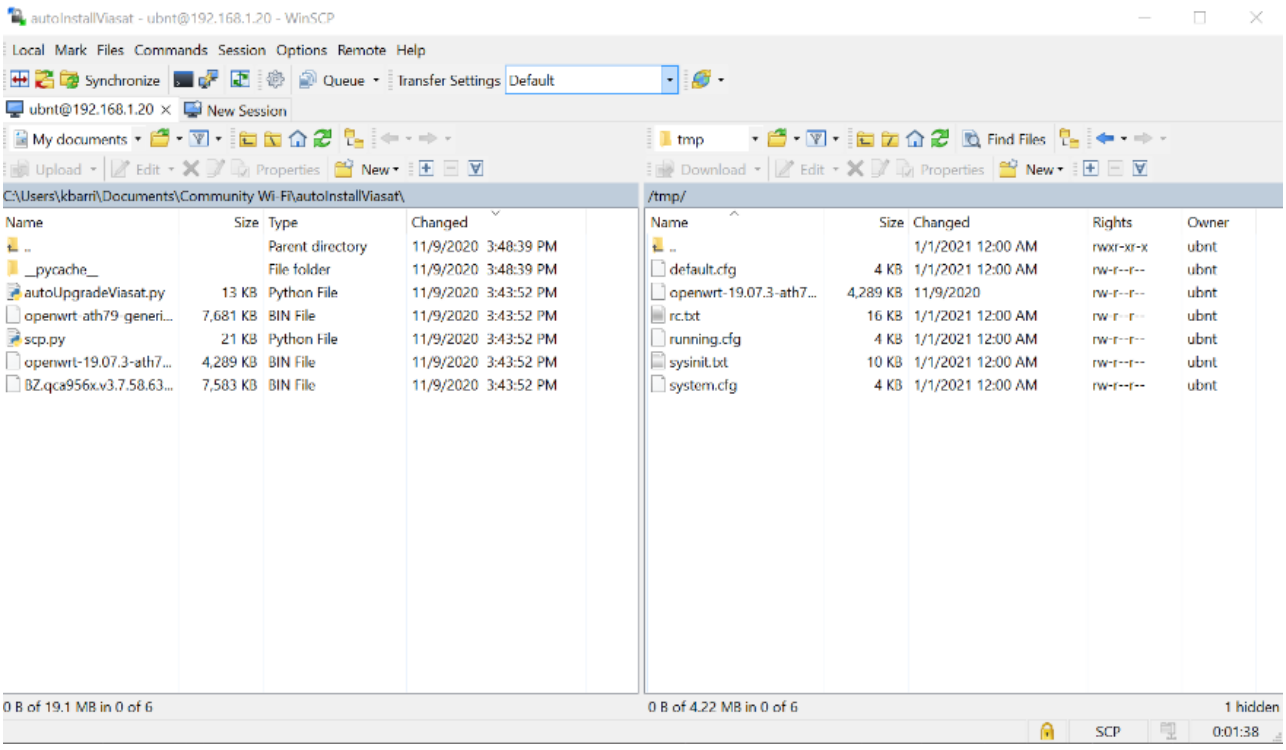
8. Open command prompt and type ‘ping 192.168.1.20 -t’ and press enter
   a. Verify that it gets a reply then exit (does not need to stop, will continue endlessly with replies)



9. Afterwards, reopen Putty
    a. Right click the icon in top left corner and press “New Session”



    b. Reenter login credentials
10. Open winscp
    a. Click “Session” → “Restore Session”
    b. Transfer ‘openwrt- 19.07…’ to the ‘tmp’ folder



11. Return to Putty
    a. Enter 'cat /proc/mtd' and press enter

```
BZ.v3.7.58# cat /proc/mtd
dev:    size   erasesize  name
mtd0: 00060000 00010000 "u-boot"
mtd1: 00010000 00010000 "u-boot-env"
mtd2: 00790000 00010000 "kernel0"
mtd3: 00790000 00010000 "kernel1"
mtd4: 00020000 00010000 "bs"
mtd5: 00040000 00010000 "cfg"
mtd6: 00010000 00010000 "EEPROM"
BZ.v3.7.58#
```

    b. Take note of which mtd# the "bs" is assigned to (usually mtd4) for later reference
    c. Enter 'mtd write /tmp/openwrt-19.07.3-ath79-generic-ubnt_unifiac-mesh-squashfs-sysupgrade.bin **kernel0**' and press enter once
        i. ONLY PRESS ENTER ONCE (ALWAYS)
        ii. **Tab shortcut doesn't get the 'kernel0' – this needs to be typed.**

```
BZ.v3.7.58# mtd write /tmp/openwrt-19.07.3-ath79-generic-ubnt_unifiac-mesh-squas
hfs-sysupgrade.bin kernel0
Unlocking kernel0 ...

Writing from /tmp/openwrt-19.07.3-ath79-generic-ubnt_unifiac-mesh-squashfs-sysup
grade.bin to kernel0 ...
BZ.v3.7.58#
```

    d. Type 'mtd erase kernel1' and press enter

```
BZ.v3.7.58# mtd erase kernel1
Unlocking kernel1 ...
Erasing kernel1 ...
BZ.v3.7.58#
```

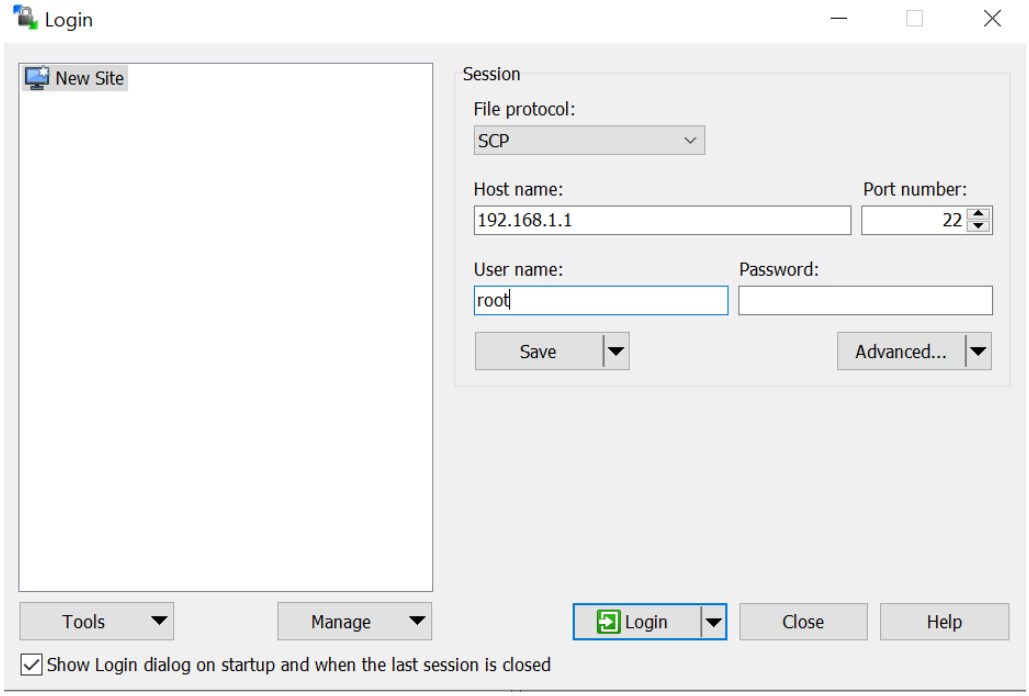
    e. Type 'dd if=/dev/zero bs=1 count=1 of=/dev/**mtd4**' – use the mtd assigned to 'bs' instead of 4 if it is different and press enter.
        i. Verify 1+0 record in and out

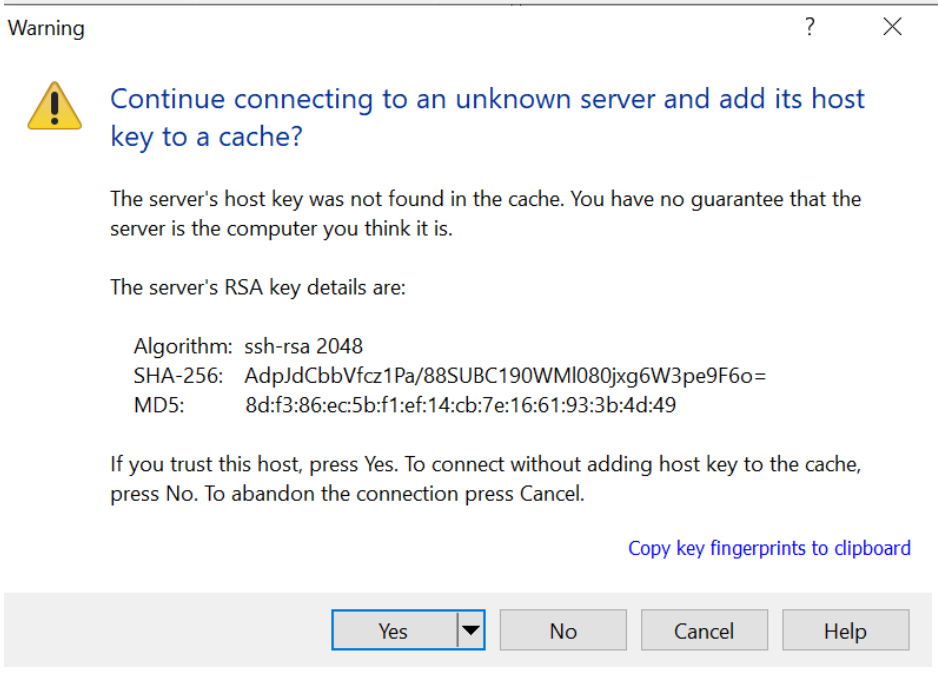
```
BZ.v3.7.58# dd if=/dev/zero bs=1 count=1 of=/dev/mtd4
1+0 records in
1+0 records out
BZ.v3.7.58#
```

        ii. May be a way to make the mtd selection automated, but don't worry about it for now
    f. Type "reboot' and press enter. Wait for # line

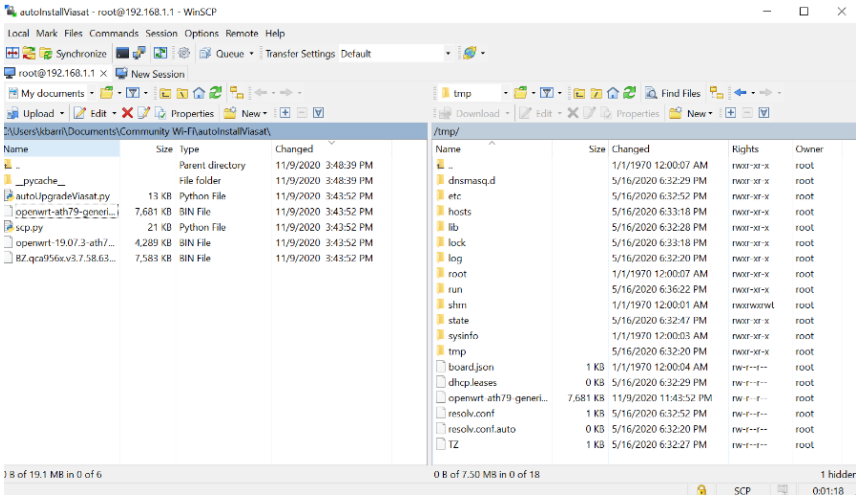
```
BZ.v3.7.58# reboot
BZ.v3.7.58#
```

12. Open command prompt
    a. Type ‘ping 192.168.1.**1** -t’ <u>this has changed from the **.20** used before!</u>
    b. Verify it gets a reply then exit
13. Open winscp
    a. Exit out of winscp then reopen to new session
    b. Enter 192.168.1.1
    c. Username: root, leave password blank
    d. Port: 22
    e. Press connect

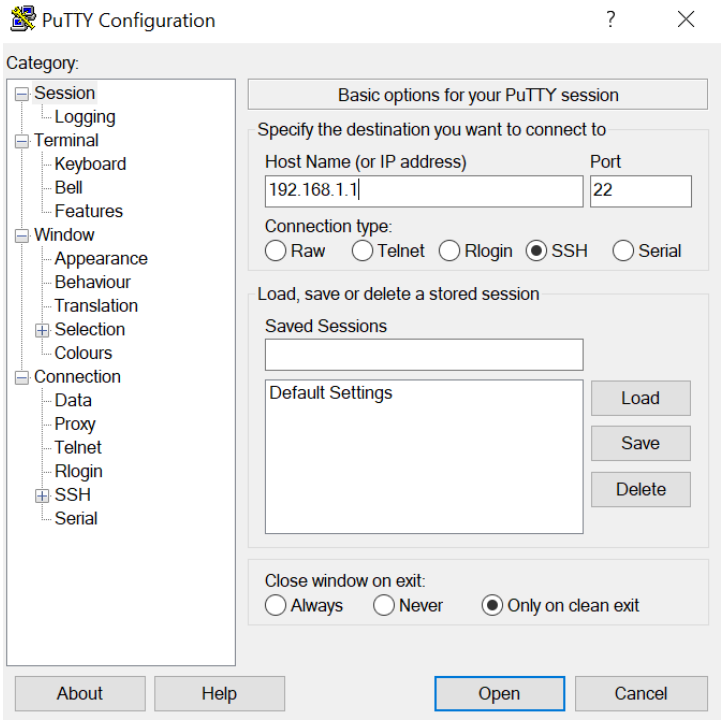


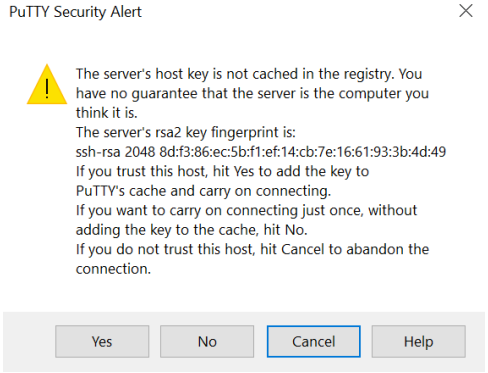


14. Same viasat image file folder on left and ‘tmp’ on the right
    a. Transfer ‘openwrt-ath79…’ file to ‘tmp’



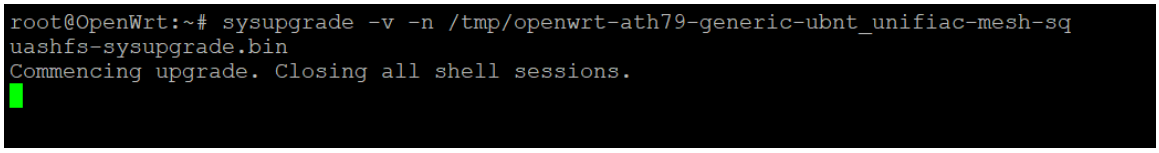
15. Go back to Putty and click new session. Enter the same new credentials as above and click “yes”.





a. Type in just the login name “root” (no password required) and press enter

b. Type ‘sysupgrade -v -n /tmp/openwrt-ath79-generic-ubnt_unifiac-mesh-squashfs-sysupgrade.bin’ and press enter
c. Press OK to any error messages
d. Press Accept – should read closing all shell sessions. Once you see the below the AP has been staged.



DONE!

If at any point during the process the device cannot be reached or if you want to check if device is bricked it will no longer appear on either IP, but once the process is complete it won’t appear on those IPs either.

This process stages the device as well as fixes it!