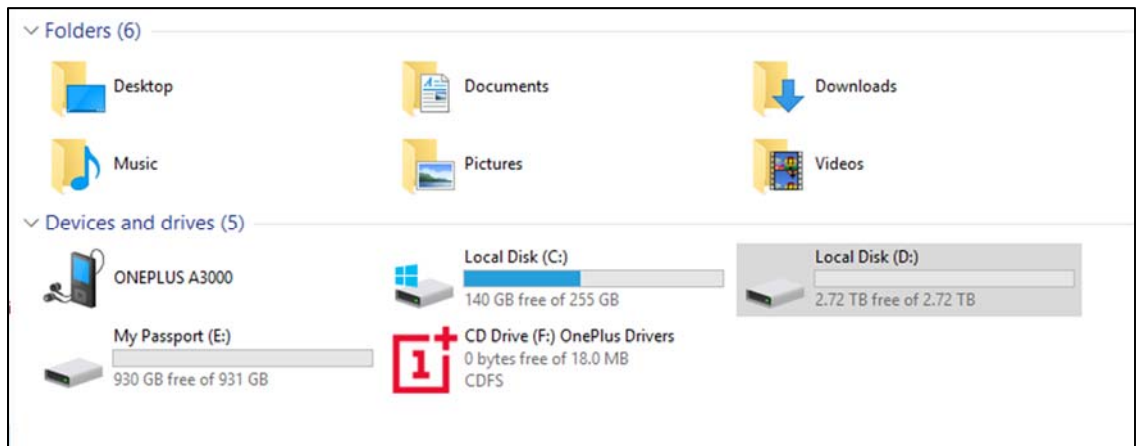


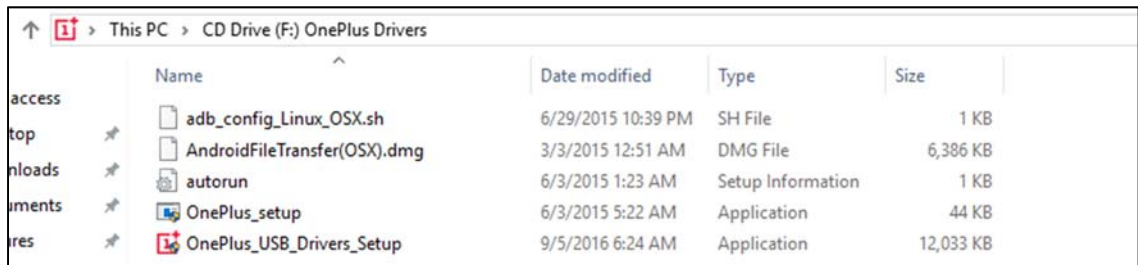
openboards

ROM FLASHING INSTRUCTIONS FOR ONEPLUS 3 / 3T

1. Locate the red USB-C cable that came with your phone, and plug your phone into the computer. The OnePlus device will automatically boot a virtual CD drive. Look for a drive location that says “OnePlus Drivers”

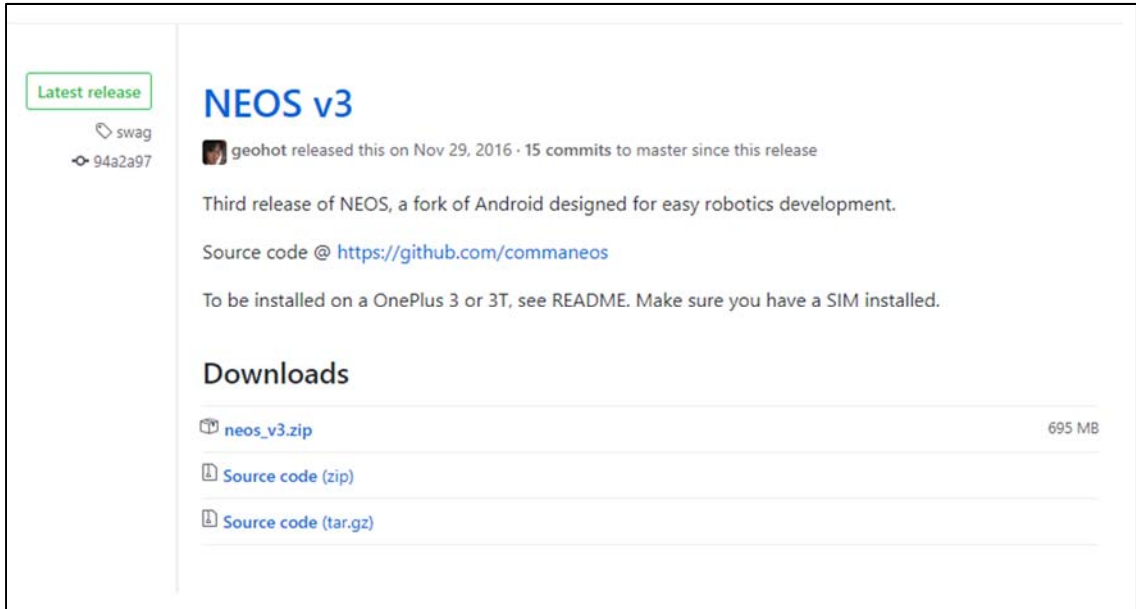


2. Double-click “OnePlus Drivers” and navigate to “OnePlus_USB_Drivers_Setup” and install.



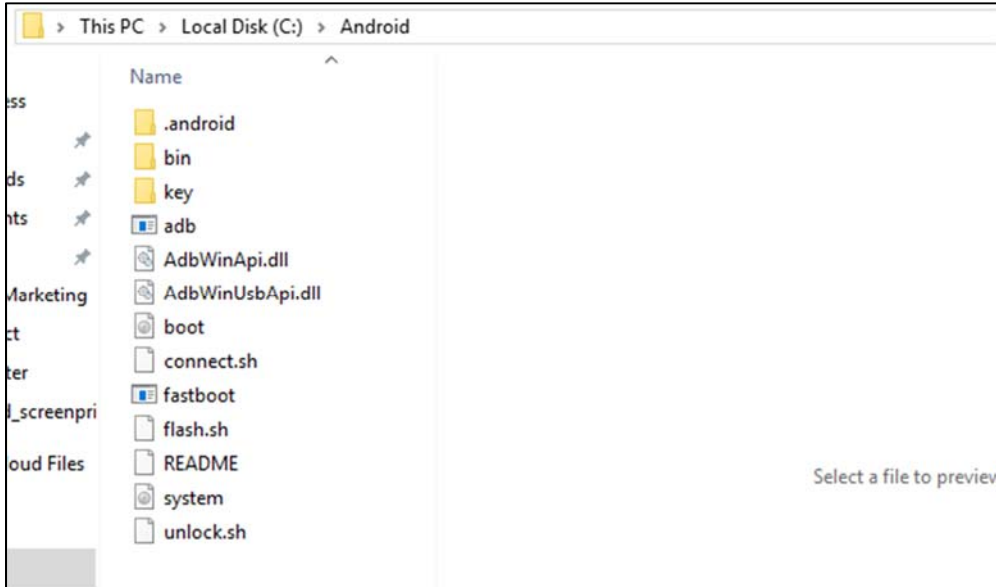
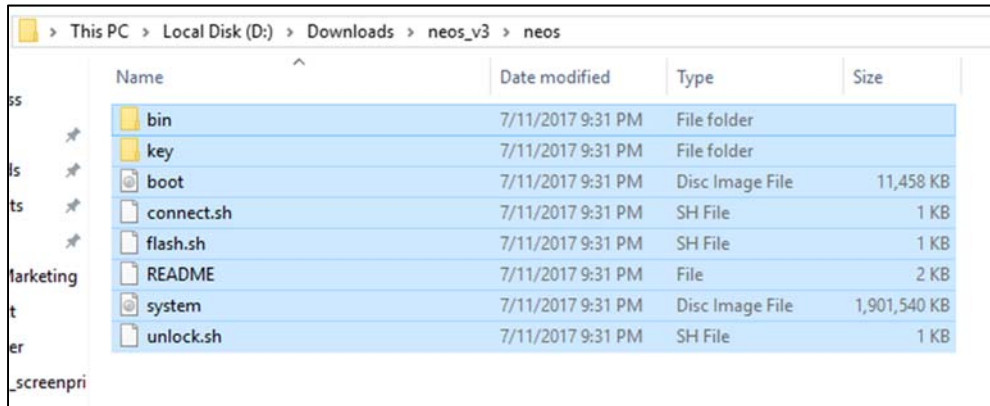
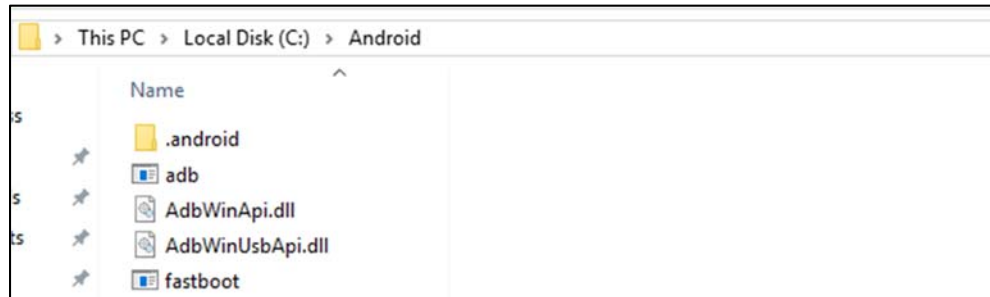
- a. You should now have an “Android” folder in your (C:) drive. This will automatically contain the “adb” and “fastboot” files you need to flash your OP3/3T

- Next, navigate to <https://github.com/commaai/neo/releases/tag/swag> and download the **neos_vX.zip** file. (vX designates an unknown version number as the software may be updated after this guide has been published.)



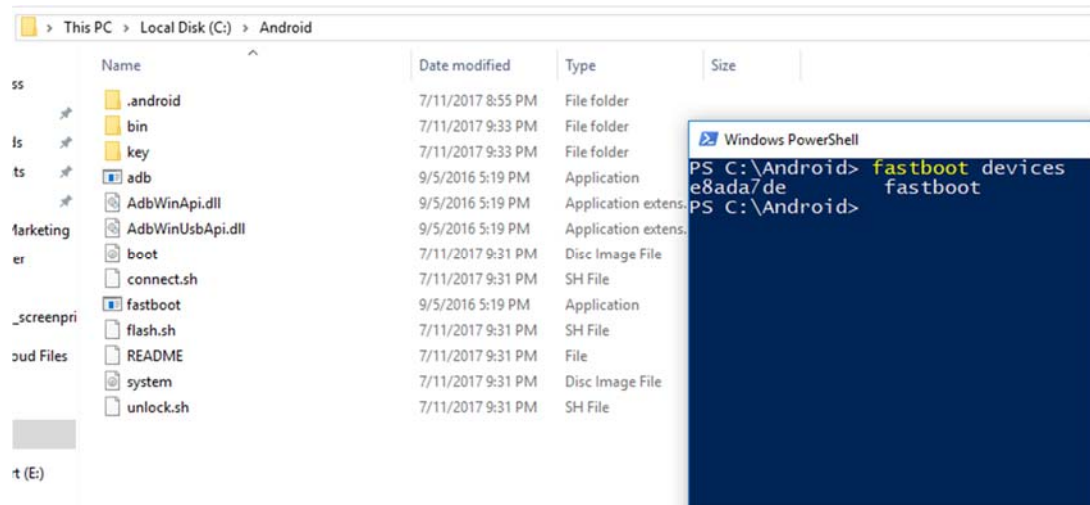
The screenshot shows the GitHub release page for 'NEOS v3'. On the left, there is a sidebar with a green 'Latest release' badge, the repository name 'swag', and a commit hash '94a2a97'. The main content area features the title 'NEOS v3' in large blue font, followed by the author 'geohot' and the release date 'Nov 29, 2016' with '15 commits to master since this release'. Below this is a description: 'Third release of NEOS, a fork of Android designed for easy robotics development.' It includes a link to the source code at 'https://github.com/commaneos' and installation instructions: 'To be installed on a OnePlus 3 or 3T, see README. Make sure you have a SIM installed.' A 'Downloads' section lists three items: 'neos_v3.zip' (695 MB), 'Source code (zip)', and 'Source code (tar.gz)'. Each item has a download icon to its left.

- Once downloaded, unzip the file and place the contents of the folder inside the **“Android”** folder located in your **OS (C:) Drive**

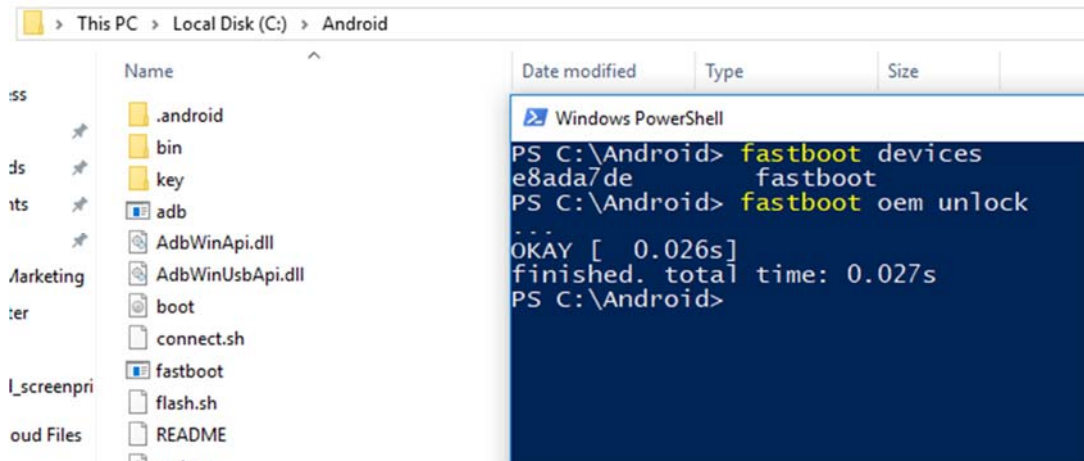


- On OnePlus phone, navigate to **Menu > Settings>About Phone**
- Click **“About Phone”** Scroll down to bottom of settings menu and **tap “Build Number” 7 times to enable developer menu**

7. Press the back button and scroll down to **“Developer Options”**
8. Enable **“OEM Unlocking”** and **“USB Debugging”**
9. Unplug the red USB cable and press power button for approximately 5 seconds and select **“Power Off”**
10. Wait approximately 10 seconds, then boot the phone into fastboot mode by holding volume up + power. The phone will display "fastboot" text indicating that it has successfully entered fastboot mode.
11. Plug the phone into your PC, then navigate to your **C:/Android** folder.
12. Open a command prompt window in the folder by holding Shift + Right Click and selecting **“Open Command Window / Powershell Window here”** and type: **fastboot devices**
 - a. This command will list the connected devices. If your phones serial number shows up you are good to go and may continue. If the phone is NOT listed this indicates that your drivers are not installed correctly. To continue you must fix your drivers so that your phone is listed under fastboot devices. Go back and re-do step #1.



13. If the phone has been recognized and you see a serial number readout similar to the photo above, you can now unlock the device with this command: **fastboot oem unlock** in the Command or Powershell Window



14. On your OnePlus device, you should see an “Unlock Bootloader?” warning page. Select “Yes” from the prompt by pushing the “Volume Up” button twice on the left side of the phone. To confirm the selection (highlighted in blue), push the “Power” button of the right side of the phone.
15. Your phone will now reboot.
16. Once your phone has finished rebooting, disconnect your phone from USB, power off the phone, and boot back into fastboot mode by holding power + volume up buttons. After fastboot mode is acquired, plug the phone back into USB.
17. Shift + Right Click inside the “C:/Android” folder to enter into Command Prompt / Windows Powershell
18. Enter command: **fastboot flash boot boot.img**

```
PS C:\Android> fastboot flash boot boot.img
target reported max download size of 440401920 bytes
sending 'boot' (11457 KB)...
OKAY [ 0.374s]
writing 'boot'...
OKAY [ 0.112s]
finished. total time: 0.488s
```

19. Enter command ***fastboot flash system system.img*** (This will take a while)

```
PS C:\Android> fastboot flash system system.img
target reported max download size of 440401920 bytes
erasing 'system'...
OKAY [ 0.007s]
sending sparse 'system' (426132 KB)...
OKAY [ 13.714s]
writing 'system'...
OKAY [ 6.229s]
sending sparse 'system' (429626 KB)...
OKAY [ 13.822s]
writing 'system'...
OKAY [ 19.337s]
sending sparse 'system' (428235 KB)...
OKAY [ 13.659s]
writing 'system'...
OKAY [ 7.165s]
sending sparse 'system' (425141 KB)...
OKAY [ 13.537s]
writing 'system'...
OKAY [ 3.406s]
sending sparse 'system' (192404 KB)...
OKAY [ 6.077s]
writing 'system'...
OKAY [ 84.646s]
finished. total time: 181.609s
```

20. Enter command: ***fastboot format userdata***

```
PS C:\Android> fastboot format userdata
Creating filesystem with parameters:
  Size: 57588281344
  Block size: 4096
  Blocks per group: 32768
  Inodes per group: 8176
  Inode size: 256
  Journal blocks: 32768
  Label:
  Blocks: 14059639
  Block groups: 430
  Reserved block group size: 1024
Created filesystem with 11/3515680 inodes and 266738/14059639 blocks
target reported max download size of 440401920 bytes
erasing 'userdata'...
OKAY [ 12.264s]
sending 'userdata' (140934 KB)...
OKAY [ 4.373s]
writing 'userdata'...
OKAY [ 0.020s]
finished. total time: 16.659s
```

21. Enter command: **fastboot format cache**

```
PS C:\Android> fastboot format cache
Creating filesystem with parameters:
  Size: 268435456
  Block size: 4096
  Blocks per group: 32768
  Inodes per group: 8192
  Inode size: 256
  Journal blocks: 1024
  Label:
  Blocks: 65536
  Block groups: 2
  Reserved block group size: 15
Created filesystem with 11/16384 inodes and 2089/65536 blocks
target reported max download size of 440401920 bytes
erasing 'cache'...
OKAY [ 0.016s]
sending 'cache' (6248 KB)...
OKAY [ 0.208s]
writing 'cache'...
OKAY [ 0.083s]
finished. total time: 0.309s
```

22. Enter command: **fastboot oem lock** (This will again enter a warning screen on OP3/3T. Select “Yes” with volume key on left side of device. Confirm with power button on right side of device.)

```
PS C:\Android> fastboot oem lock
...
OKAY [ 0.032s]
finished. total time: 0.032s
```

23. As the OP3/3T is rebooting, you should be welcomed with a white Comma boot screen. If you have not inserted a sim card into the phone, you will see a prompt requesting it. The final configuration of the system will not work without a simcard with data present. (After configuration, you can use WIFI only if you choose.)
24. After a simcard with data has been inserted, you will be welcomed by a WIFI network selection prompt. Select your wifi network, enter in your credentials, and select next.
25. You should now be greeted with an “Install NEOS Program” screen.
Enter URL: **openpilot.comma.ai** and select “Done”
26. You should now be seeing a black loading screen with a spinning star. Once the device has finished loading, you will see a login screen for the vision system.
27. Connect you neo board to your OP3/3T, plug in the neo board and log into the system.

Congratulations!!! You have successfully flashed your device!!!