Autonomous Drone Engineer

C2 – Network and ssh

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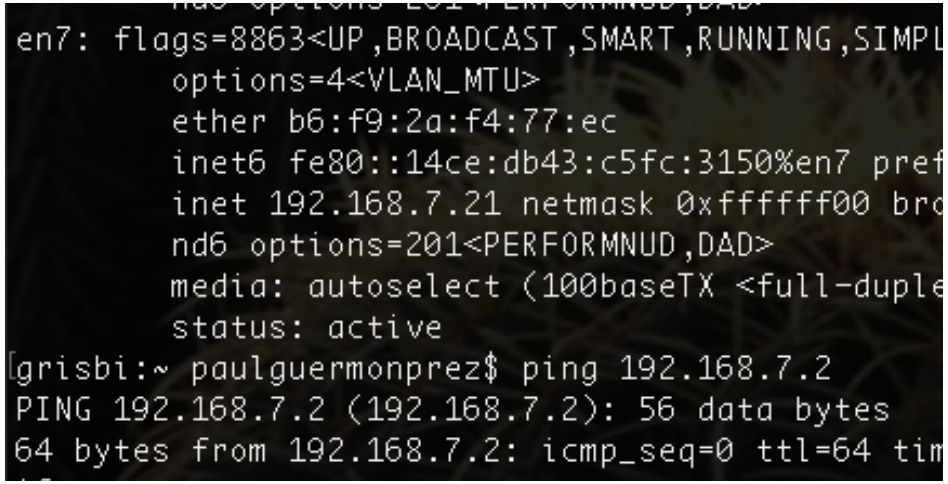
Local wireless connectivity

By default, Intel Aero is acting as **Wifi access point**.
It is convenient for the initial calibration and QGC user interface.

- Access point name is “**Aero-***”
  where * is the mac address of your drone
- Password is “**1234567890**”
- You can connect your development station to this network
- Then launch ssh on IP **192.168.8.1**, login is ”**root**”, **no password**

You can access Intel Aero over the access point included.
But the Drone is NOT connected to Internet.

Local USB connectivity



If you plug a direct **micro USB Cable** between your PC and Intel Aero, it will create a **USB-ethernet** adapter and allocate an IP address for your PC.

You can then access Intel Aero over this USB cable with IP **192.168.7.2**

Note: each OS and installation has different ways to handle networking. This method **may interfere with your setup** (ex: network-manager on Ubuntu). It is an **advanced method**. That's why we recommend you use the wireless method (see next slide).

You can access Intel Aero with USB-ethernet.
But it's an advanced method, use the wireless method instead.

Internet wireless connectivity

By default, Intel Aero is acting as **Wifi access point** but for development, you'll want to **connect Intel Aero to your Wifi** network, to access internet, install packages and access Aero remotely from your development computer.

This action is done using the keyboard, mouse and screen connected to Intel Aero (or with the USB-ethernet method). After this step, you'll access Aero remotely and won't need them anymore.

For details, consult:
https://github.com/intel-aero/meta-intel-aero/wiki/08-Aero-Network-and-System-Administration#networking-internet-access

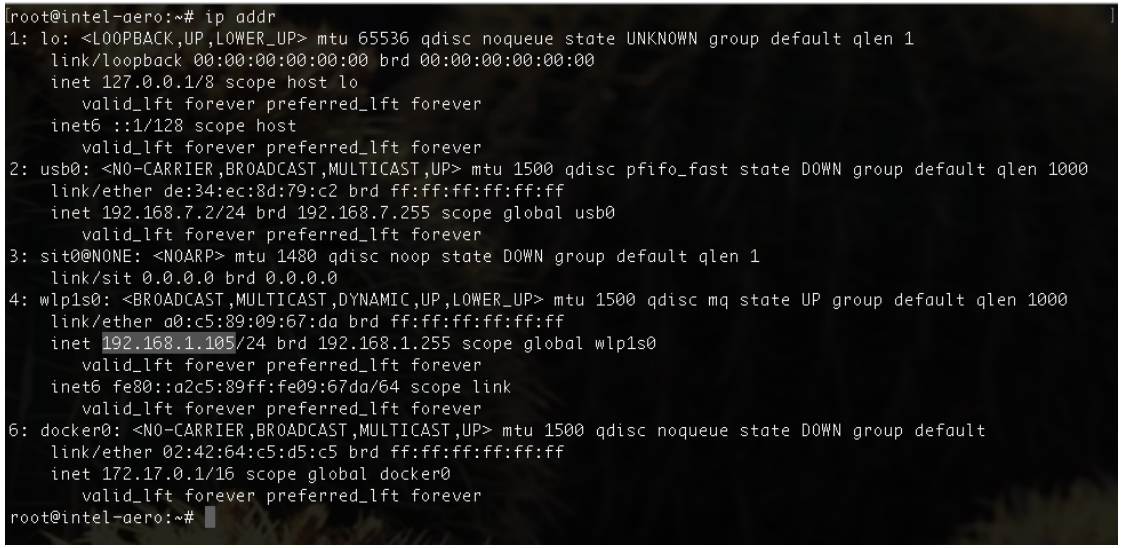
What Intel Aero's IP?

If you are still in **Wifi access point** mode, it's 192.168.8.1

If you joined your **Wifi network as client**, it's been allocated by your DHCP server (see the DHCP section of your router/access point).

While you are still connected to Aero with the HDMI screen and keyboard run the command "ip addr" to get your IP.
Ex: On my network it's 192.168.1.105

You can ask your system administrator to make a DHCP reservation to have a constant IP.



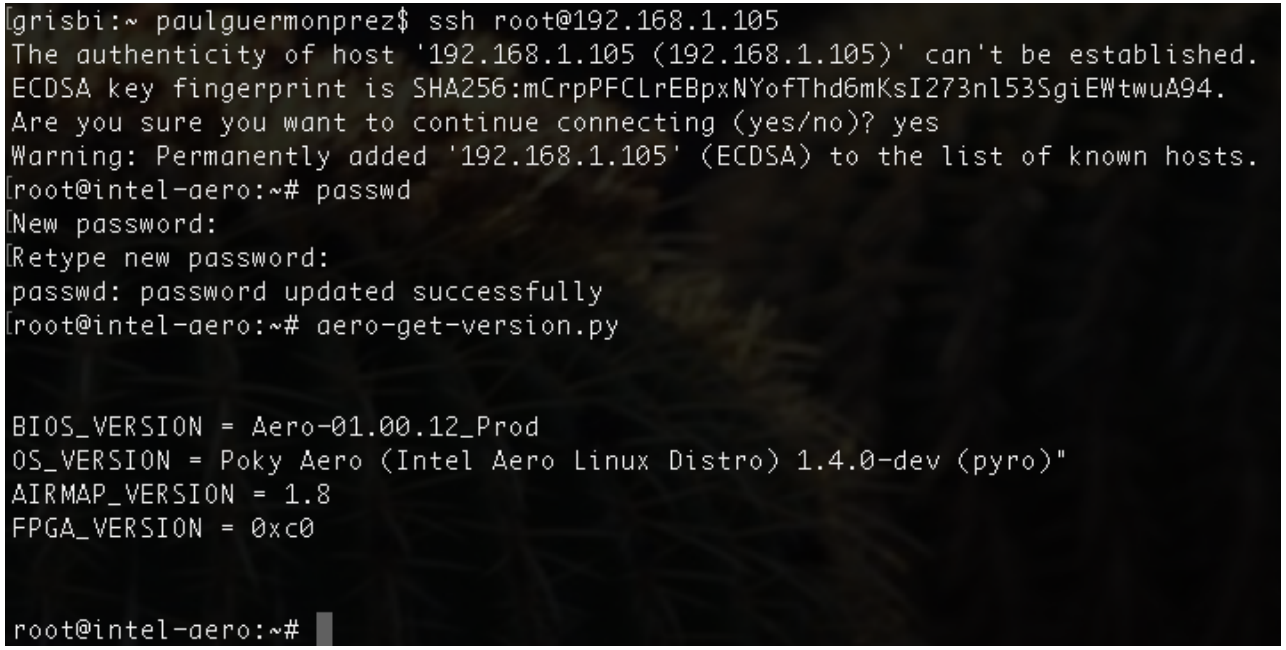
ssh connectivity

Once Intel Aero is connected to the same network as our development station, we can connect remotely with **ssh**, copy files with **scp**.

- On Windows, you can use putty for ssh and filezilla for scp.
- On Mac and Linux, it's included.

Set a new password!

You're now connected over ssh

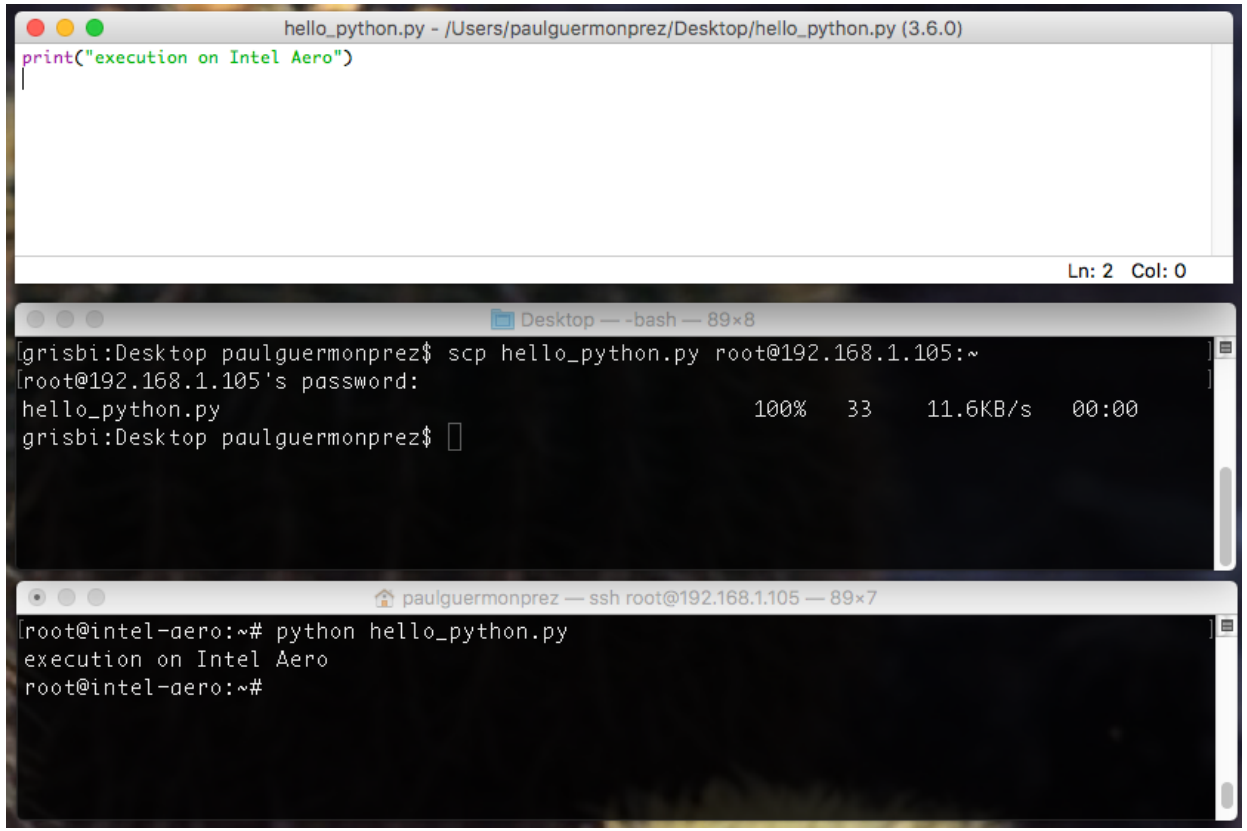


Development methods

You can edit your source files, compile and execute **remotely on Intel Aero** over ssh. As an example: vi, python, make, gcc are included.

It is also possible to **edit sources on your station**
and transfer them
to Intel Aero for execution.

In this capture,
I used IDLE editor on Mac,
transferred the file with scp
and executed on Aero.



Conclusion

We:

- Connected Intel Aero to our **Wifi** network
- Discovered **connmanctl**, a powerful networking tool
- Have **ssh** access from our workstation
- Can edit, compile, execute

We’re ready to code!

Thanks

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