**Drone Simulation Initial Environment Setup**

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| Create virtual machine running Linux Ubuntu 18.04 with 2gb of RAM and 30gb of dynamically allocated hd space  A regular machine running Linux natively could be used just as easily.  NOTE: All of the dependencies and software versions used in this document were tested with Linux Ubuntu 18.04. Later versions of Linux might able to be used, but problems may be faced regarding specific dependencies / versions of software resulting in errors |  |
| **Install Dependencies**  Sudo apt-get install python-dev python-opencv python-wxgtk3.0 python-matplotlib python-pygame  Python-lxml python-yaml vim git  Sudo apt install python-pip  Pip install MAVProxy==1.8.17  Sudo usermod -a -G dialout $USER  Sudo apt-get remove modemmanager  Environment Setup:  Cd~  Mkdir courseRoot  Sudo echo “export courseRoot=/home/&USER/courseRoot”>>~/.bashrc | Reference Video: https://courses.dojofordrones.com/courses/434627/lectures/6671418 |
| **Install Ardupilot and setup environment** |  |
| Mkdir apm (new directory to store the Ardupilot repository)  Git clone -b Copter-4.0.3 <https://github.com/ardupilot/ardupilot>  Cd ardupilot  Git submodule update --init --recursive  Cd Tools/autotest  Pwd - displays the path of the autotest directory, copy this onto clipboard  Sudo vi ~/.bashrc  At end of document, add:  Export PATH=”\*”:$PATH  (Asterisk in the above is the path copied onto the clipboard)  Source ~/.bashrc  To test, navigate to a directory that doesn’t contain ‘sim\_vehicle.py’. Begin typing the name of that executable and hit tab to see if it autocompletes. Any executable in the ‘autotest’ directory can be now be accessed when not directly within that directory | <https://courses.dojofordrones.com/courses/434627/lectures/6671400> |
| Navigate to ‘apm’ directory  Copy full path  Sudo vi ~/.bashrc  Add to bottom of file:  EXPORT apm = \*  Asterisk is directory path  :wq (saves and quits file)  Source ~/.bashrc  Echo $apm (confirm it worked, should display full path name)  Cd $apm (can now be used anywhere to navigate directly to the ‘apm’ directly | <https://courses.dojofordrones.com/courses/434627/lectures/6671412> |