

PROJECT ENVIRONMENT SETUP INSTRUCTIONS

Use Vagrant and VirtualBox to establish a working environment.

1. Install VirtualBox for your machine, with guest additions. (<https://www.virtualbox.org/>)
2. Download and install vagrant. <https://www.vagrantup.com/downloads.html>
3. Create a directory to hold your virtual machine information.
 - a. Download the fsw_ubuntu.box vagrant file into this directory.
 - b. Download the Vagrantfile and place it into this directory.
4. Start the virtual machine in Virtualbox via vagrant by running the command from the directory where you placed the above files.
 - a. **vagrant up**
 - b. If you see multiple “connection aborted, connection reset” messages, ignore them.

Check your user credentials

1. Open a terminal in Ubuntu (Right-click on the background and select “Open Terminal”)
 - a. Your user name is **fsw** and the password is **fsw**
2. Show your user name by typing
 - a. `whoami`
 - b. Verify the result is “fsw”
3. Test sudo privileges by typing
 - a. `sudo ls -al`
 - b. When prompted for your password type **fsw**.
 - c. Verify that you see a directory listing.

Compile and run flight software

1. Open a terminal in Ubuntu (Right-click on the background and select “Open Terminal”)
2. Change into the cfs directory, set up environment.
 - a. `cd ~/cfs`
 - b. `./setvars.sh` (note this is two .'s separated by a space).
3. Go into the build area, clean the existing build and re-build from scratch:
 - a. `cd build/cpu1`
 - b. `make clean`
 - c. `make`
4. Go into the executable area and run the flight software
 - a. `cd exe`
 - b. `sudo ./core-linux.bin --reset PO` (enter password if asked. Note 2 dashes before reset)
5. You will know this is working if you see a “Stop FLYWHEEL” message in the terminal.
6. Exit flight software by typing CTRL-C

Run COSMOS

1. Open a new terminal window (right-click on the background and select "Open Terminal")
2. Change to the cfs_demo area and launch Cosmos
 - a. `cd cfs_demo`
 - b. `ruby Launcher`
3. Select "OK" at the COSMOS splash screen.
1. Quit COSMOS by selecting file->exit from the Launcher window.

Exit the virtual machine

1. Make sure that the FSW has stopped (type CTRL-C from the window running CFS)
2. Make sure that you have exited out of all COSMOS windows – including minimized windows)
3. Simply shut down the machine from the Ubuntu menu.

Starting the virtual machine again

1. You can re-start the virtual machine when necessary by running "vagrant up" from the proper directory as before.
2. Alternatively, if you look in the VirtualBox user interface you will see a randomly named vm (mine is called test_default_1562085438636_45728). You can select and start the VM from the VirtualBox interface by selecting it and pressing the "start" button.