**USEFUL LINKS ABOUT F-PRIME**

<https://github.com/fprime-community/fprime-course-materials/tree/master/Flight_Software_Workshop-June_2019>

<https://nasa.github.io/fprime/getting-started.html>

<https://github.com/nasa/fprime/tree/master/docs>

**OS / IDE INSTALLATION**

1. **If needed,** install VirtualBox (<https://download.virtualbox.org/virtualbox/6.1.2/VirtualBox-6.1.2-135663-Win.exe> )

* You will need to install an extra driver to support USB high speed otherwise the JTAG debugging will be slow. <https://download.virtualbox.org/virtualbox/6.1.2/Oracle_VM_VirtualBox_Extension_Pack-6.1.2.vbox-extpack>
* Configure the virtual machine. Use static memory allocation, I have not much luck with dynamic.

1. Install Ubuntu 18.04 on your virtual machine.
2. Download and install Code Composer Studio 9.1 in **default** directory. (<https://software-dl.ti.com/ccs/esd/CCSv9/CCS_9_1_0/exports/CCS9.1.0.00010_linux-x64.tar.gz>)
   * cd Downloads/
   * tar -xvf CCS9.1.0.00010\_linux-x64.tar.gz
   * cd CCS9.1.0.00010\_linux-x64/
   * sudo apt-get install libusb-0.1-4
   * ./ccs\_setup\_linux64\_9.1.0.00010.bin
   * Progress through the installation then select MSP430 and Hercules processors.
3. Install wine : sudo apt-get install wine1.6
4. Download and unzip Halcogen (<http://www.ti.com/tool/HALCOGEN>)
   * Install Halcogen using wine. wine HALCoGen-04.07.01-installer.exe
   * Install Halcogen in the Code Composer Studio folder.

**CUBE ROVER PACKAGE CLONING – FPRIME INSTALLATION**

1. Clone CubeRoverPackage from <https://github.com/PlanetaryRobotics/CubeRoverPackage>
2. Open terminal
3. sudo apt-get install python-lxml
4. sudo apt-get install python-cheetah
5. cd <clone\_destination>/Apps/FlightSoftware/fprime/
6. subl mk/configs/compiler/defines\_ccs.mk
   * Verify that the path and version match Code Composer Studio installation.
7. cd Os/
8. make gen\_make
9. make TIR4
10. cd Fw/
11. make TIR4
12. cd ../Svc
13. make TIR4
14. cd ../Drv
15. make TIR4
16. cd ..
17. ./install\_libs.sh
18. cd CubeRover
19. make TIR4
20. Open Code Composer Studio (~/ti/ccs910/ccs/eclipse/) ./ccstudio
21. Use default workspace
22. Click on Project → Import CCS Projects…
23. Select “CubeRoverPackage/Apps/FlightSoftware/PrimaryFlightController/FlightMCU”
24. Click on Finish.
25. In the project file remove the folder ti-arm-xxx folders.
26. Click build to compile.