

# App Exchange Tutorial

## Objectives

- Describe Basecamp's interface to the cFS App Exchange
- Gain familiarity with using Basecamp's app installation features by installing and running the payload manage app, payload simulator app, and payload simulator library.

## Notes

1. The Payload Manager example was chosen because most if not all missions need the flight software to interface to a payload
2. For more information on designing mission flight software with a payload manager refer to the following Basecamp project: [https://openmissionstack.com/projects\\_read/payload\\_manager](https://openmissionstack.com/projects_read/payload_manager)
3. Being familiar with the "Build and Run cFS" tutorial is helpful but not required

# Lesson 1

## Objective

- Show how to install an app from the cFS App Exchange

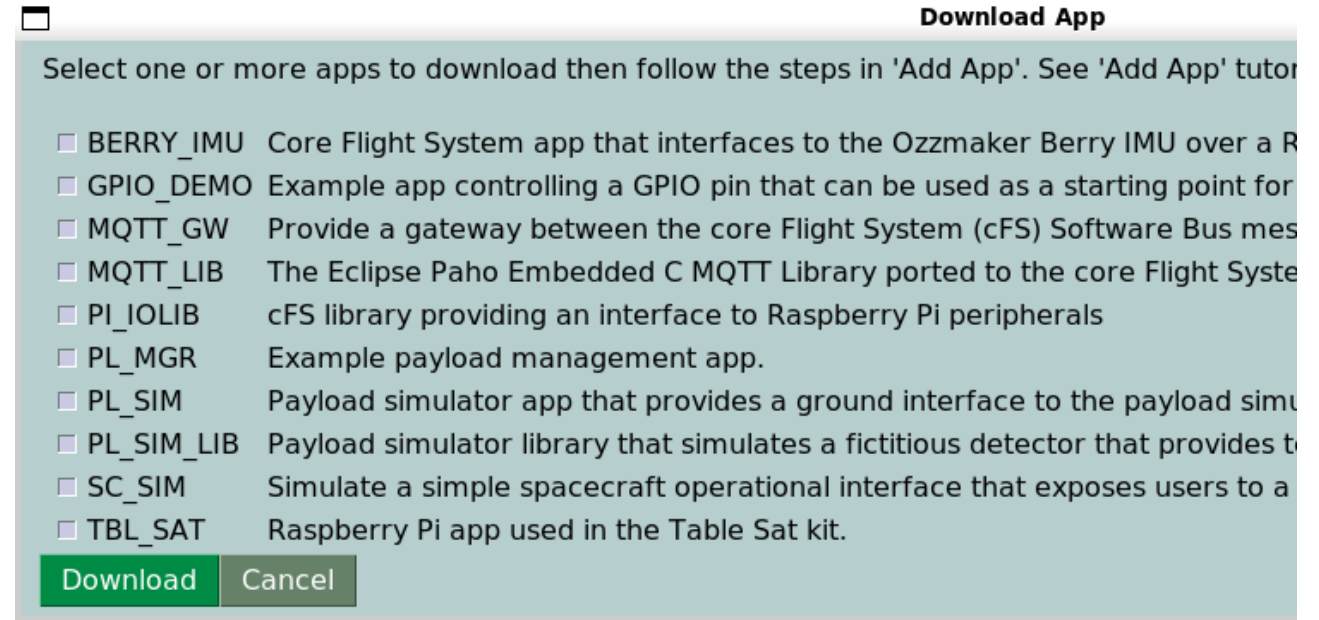
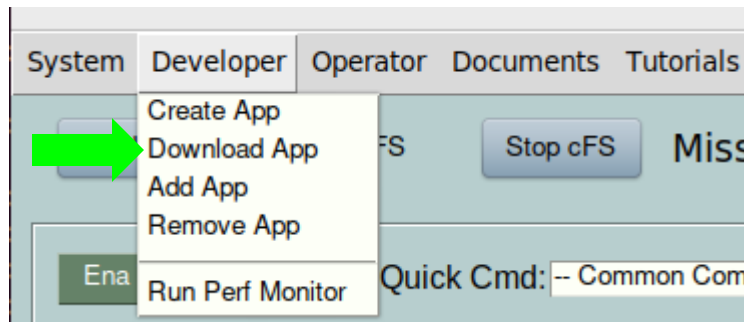
## Notes

1. This lesson documents how to use the app exchange. In lesson 2 you will use these instructions to actually download and install an app.

# cFS App Exchange

38

- Select “Developer->Download App” to get a list of the libraries and apps that can be installed

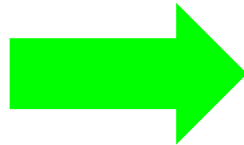
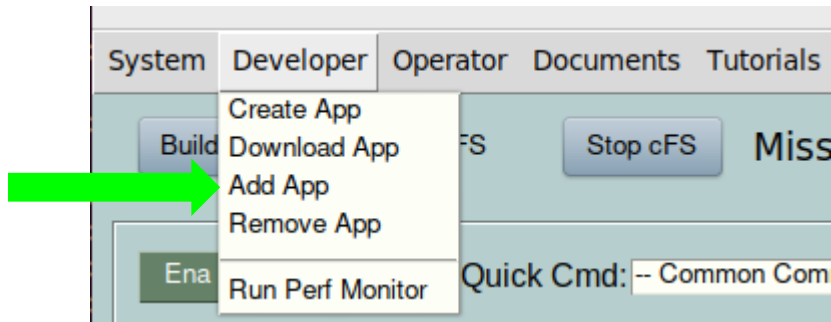


- Select the libraries and apps you want and click download to have the components cloned into the cfs-basecamp/usr/apps directory
- The cFS App Exchange is located at <https://github.com/orgs/cfs-apps/repositories>

# Add New App to Basecamp's cFS Target (1 of 2)

8/8

## 1. Select *Add App* from the Basecamp Developer menu



**Add User Apps**

Perform the following steps to add one or more apps. For step 1, choose 'Auto' to automatically perform all of the steps or 'Man' to manually perform each step. Libraries MUST be added prior to the apps that depend upon it.

1. Add app to the cFS build configuration  
pl\_mgr Select an app from the dropdown list  
 Automatically perform all steps or ...  
 Copy table files to basecamp\_defs  
 Update targets.cmake's cpu1\_APPLIST and cpu1\_FILELIST  
 Update cpu1\_cfe\_es\_startup.scr  
 Update EDS cfe-topicids.xml  
 Update telemetry output app table
2. Build the cFS
3. Stop the cFS if it is running  
Close this window and click <Stop cFS> from the main window or ...  
Open a terminal window & kill the cFS process or ...  
Submit [sudo] password and click <Submit>
4. Exit and restart Basecamp

## 2. Select the library/app from the dropdown menu you want to add to the build configuration

- a. The autonomous option is recommended for normal user operations. The manual options are for educational situations.

# Add New App to Basecamp's cFS Target (2 of 2)

Add User Apps

Perform the following steps to add one or more apps. For step 1, choose 'Auto' to automatically perform all of the steps or 'Man' to manually perform each step. Libraries MUST be added prior to the apps that depend upon it.

1. Add app to the cFS build configuration

pl\_mgr

Select an app from the dropdown list

Auto

Automatically perform all steps or ...

Man

Copy table files to basecamp\_defs

Man

Update targets.cmake's cpu1\_APPLIST and cpu1\_FILELIST

Man

Update cpu1\_cfe\_es\_startup.scr

Man

Update EDS cfe-topicsids.xml

Man

Update telemetry output app table

2. Build the cFS

Build

3. Stop the cFS if it is running

Close this window and click <Stop cFS> from the main window or ...

Open a terminal window & kill the cFS process or ...

Submit [sudo] password and click <Submit>

Submit

4. Exit and restart Basecamp

Restart

3. Build the cFS

a. This uses the 'make topicids' command option that is described in the 'Build and run cFS' tutorial

4. Stop the cFS if it is running

5. Restart Basecamp's GUI

a. This causes Basecamp to use the new python libraries created by the cFS build process

Lesson 1

Slide 5