



OpenSatKit

Tutorial User's Guide

Introduction

- **These slides provide instructions for how to run a tutorial and add your own tutorial**
 - They also serve as an example of a PDF file being used for a tutorial.
- **The tutorial framework allows users to extend OSK with their own material making it very easy to tailor OSK to serve a particular educational purpose.**
 - User material formats include HTML, PDF, and Ruby scripts.

Important Directories and Files

- */cosmos/config/targets/CFS_KIT/...*
 - Define main OSK screens and libraries
 - These should not need to be modified by the user
- */cosmos/cfs_kit/tutorials/osk_tutorials.json*
 - Defines available tutorials
- */cosmos/cfs_kit/tutorials/...*
 - One directory for each tutorial
 - One file for each lesson

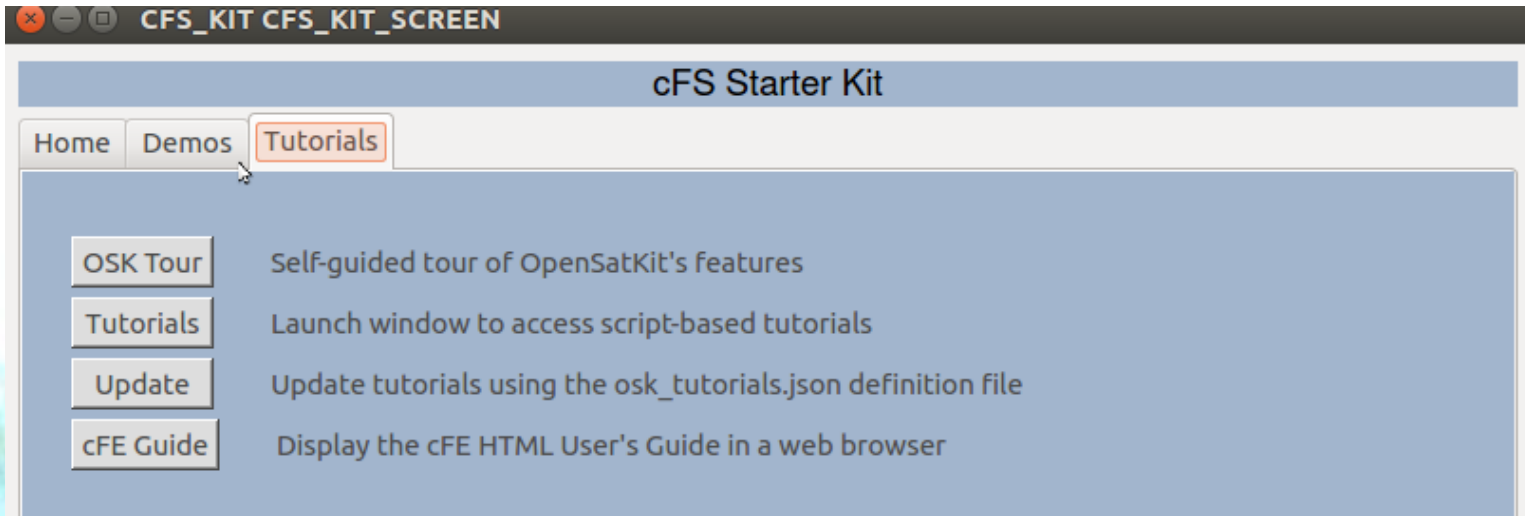
```
cosmos
|- config
|  |- targets
|  |  ...
|  |  |- CFS_KIT
|  |    |- lib
|  |    |- screens
|  |  ...
|
|- cfs_kit
|  |- tutorials
|     |- osk_tutorial.json
|     |- tutorial_x
|     |- lesson_a.rb
|     |- lesson_b.rb
| ...
```

osk_tutorials.json

```
{
  "tutorials": [
    {
      "name": "cFE",
      "directory": "cfe",
      "button": "cFE",
      "description": "Core Flight Executive",
      "user-prompt": "Select tutorial",
      "format": "SCRIPT"
      "lessons": ["ES", "TBL"]
    },
    {
      "name": "Operational Applications",
      "directory": "op_apps",
      "button": "Op Apps",
      "description": "Apps that provide an operational runtime
environment",
      "user-prompt": "Select tutorial",
      "format": "SCRIPT"
      "lessons": ["KIT_CI", "KIT_SCH", "KIT_TO"]
    },
    {
      "name": "Developing Apps",
      "directory": "dev-apps",
      "button": "Dev Apps",
      "description": "Exercises to demonstrate how to develop an
app",
      "user-prompt": "Select tutorial",
      "format": "HTML"
      "lessons": ["INTRO"]
    }
  ]
}
```

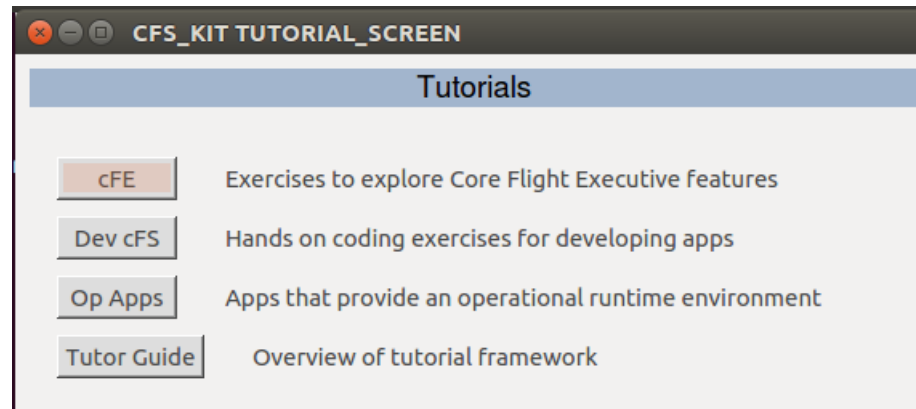
- Each entry in the *“tutorials”* array defines a tutorial
- A tutorial has one or more lessons
- The lessons defined in the *“lessons”* array are displayed in a drop down menu.
- Each tutorial is defined in its own directory.
- Each lesson is defined its own file.
- Tutorial formats include *“SCRIPT”*, *“HTML”*, and *“PDF”*.
- All of the lessons in a tutorial must be in the same format.

Running a Tutorial



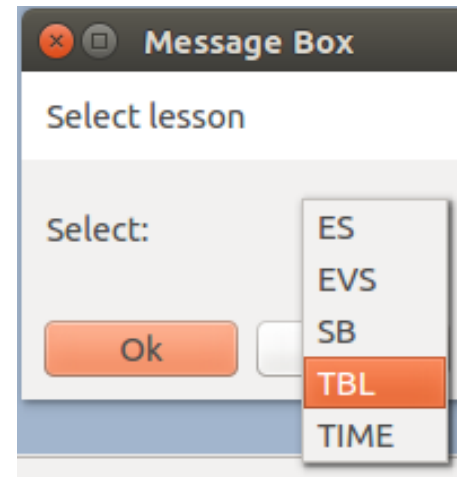
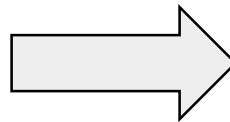
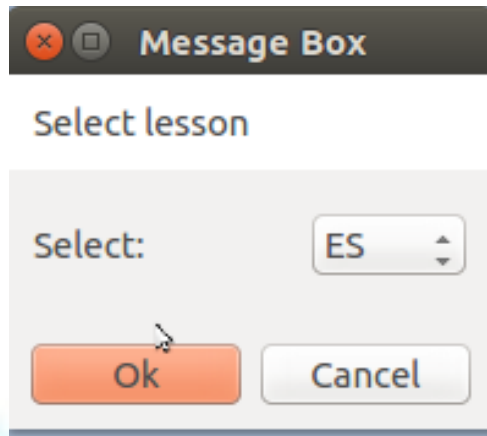
- Select the *Tutorials* tab in the CFS_KIT main screen
- Select *Tutorials* button to launch a window containing the available tutorials. See next slide.
- *Update* button
 - Click to resolve directory paths after the initial OSK installation
 - Click to install *osk_tutorials.json* modifications

Tutorials Dialog



- This menu may not look exactly like your menu if tutorials have been added or removed.
- Note the JSON *“button”* definition is used to label the button and the *“description”* definition is used in the text to the right of the button.
- When you select a tutorial button, the tutorial’s lesson message box will appear that provides a drop down menu with each of the lessons. See next slide.

Running a Lesson



- **Select a lesson to the launch the appropriate application (based on the format) to start the lesson.**
 - The lesson file is located in *cosmos/cfs_kit/tutorials/"directory"/"lesson".xx*.
 - In the cFE example if the user selected table services (TBL) then the *cosmos/cfs_kit/tutorials/cfe/tbl.rb* is launched in the COSMOS Script Runner.

Adding a Tutorial

- Create a new directory in the `cosmos/cfs_kit/tutorials` directory
- In your new directory create one file for each lesson
- Create a new tutorial entry in the “tutorials” array in *osk_tutorials.json*
- **Navigate to the Tutorial Tab Screen and select <Update>**
 - This creates a new `tutorial_screen.txt` file in the *CFS_KIT/screens* target directory.
 - The previous `tutorial_screen.txt` file is preserved in *tutorial_screen_year_month_day_hourminutesecond.txt* file
- If a tutorial is added without any lesson files defined, the screen will be created but the user will get an error if they try to launch a lesson in a tutorial without a corresponding file.