For additional information, visit our website,

https://github.com/fjodoin/SmartFlow/blob/master/README.md

or call us at

+1(800)-123-FLOW

SmartFlow

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Linux User Manual

Helping Your Home Flow Safer!

Prerequisites

A. Raspberry Pi 4; *Raspbian*, *Python3*, *pip3* and *git*
B. External Monitor
C. Micro HDMI to HDMI cable
D. USB Keyboard & Mouse
E. Internet Connection (Ethernet of WiFi)
F. Gigabit Internet cable or WiFi 2.4 / 5 GHz
G. IoT Ecosystem (Smart Hubs, Sensors, Lightbulbs, etc.)
H. Anaconda3

- Update and Upgrade your Raspbian version via the terminal:
    1. [PATH_to_dir]>*sudo apt-get update*
    2. [PATH_to_dir]>*sudo apt-get upgrade*

Steps

1. Download and Install openHAB2

Via a browser, download OpenHAB2 at:
https://www.openhab.org/docs/installation/openhabian.html

2. Download and Install SmartFlow

Via Browser:

1. https://github.com/fjodoin/SmartFlow
2. Bring the cursor to the "Clone or download" drop down menu and select "Download Zip"
3. Extract the SmartFlow-master.zip to i.e. your Desktop
4. Navigate to the SmartFlow-master/SmartFlow directory and install required Python3 libraries with the install command:
    - *[PATH_to_dir]>pip3 install -r requirements.txt*

Via Github:

1. Navigate to i.e. your Desktop with a Bash terminal, create a new folder which will contain the SmartFlow software.
2. Initialize the new folder as a git repository using the "git init" command:
    - *[PATH_to_dir]/>git init*
3. Clone the SmartFlow repository using the "git clone" command:
    - *[PATH_to_dir]>git clone https://github.com/fjodoin/SmartFlow.git*
4. Navigate into the SmartFlow folder and pull from the SmartFlow repository master using the "git pull" command:
    - *[PATH_to_dir]/SmartFlow>git pull*
5. install required Python3 libraries with the install command:

-[PATH_to_dir]/SmartFlow>pip3 install -r requirements.txt

3. Start and Configure openHAB2

1. [PATH_to_dir]/*SmartFlow>service openhab start*
2. Via a browser, navigate to ***localhost:8080*** and select Paper UI for simple configuration.
3. Add bindings for the IoT devices found within your Ecosystem and proceed with connecting devices.

4. Configure and Start SmartFlow

Configure: Edit source code to confirm file paths.

1. **events_monitoring.sh** line 3 (on one line)

   *tail -n0 -f /var/log/openhab2/events.log | python3 /home/**[username]**/Desktop/SmartFlow/events_parser.py*

2. **Smartflow_dashboard.sh** line 3 (on one line)

   tail -n0 -f /home/[username]/Desktop/SmartFlow/smartflow_events.log | python3 /home/[username]/Desktop/SmartFlow/dashboard.py

Start:

Start the Anaconda3 environment:

- [PATH_to_dir]/*SmartFlow>conda activate*

1. Start the SmartFlow Parser script; ingress node of Pipeline.

- [PATH_to_dir]/*SmartFlow>sh events_monitoring.sh*

2. Start the SmartFlow Dashboard script; egress node of Pipeline

- [PATH_to_dir]/*SmartFlow>sh smartflow_dashboard.sh*

❖ Via a browser, navigate to ***localhost:8050*** to view the ***SmartFlow Dashboard***

Dashboard Organization: *localhost:8050*

I. Obtain the active devices in a given room

- Start SmartFlow (cf *Start SmartFlow* section)
- Scroll to the given room
- Get the list of active devices in the room

II. Obtain the temperature in a given room

- Start SmartFlow (cf *Start SmartFlow* section)
- Scroll to the given room
- Get the temperature in the room

III. Obtain the overall status of the house

- Start SmartFlow (cf *Start SmartFlow* section)
- Scroll to the last section [--OVERVIEW--]
- Get the status of the house

IV. Obtain the list of active devices in the house

- Start SmartFlow (cf *Start SmartFlow* section)
- Scroll to the last section [--OVERVIEW--]
- Get the list of active devices in the house

Dashboard Organization: ***localhost:8050***