

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 or 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
- Scroll to the given room
- Observe active devices in the room

II. Obtain the temperature in a given room

- Start SmartFlow
- Scroll to the given room
- Observe the temperature in the room

III. Obtain the overall status of the house

- Start SmartFlow
- Scroll to the last section [--OVERVIEW--]
Observe the status of the house

IV. Obtain the list of active devices in the house

- Start SmartFlow
- Scroll to the last section [--OVERVIEW--]
- Observe the amount of active devices in the house

Dashboard Organization: localhost:8050

