

# pysimCoder

## Step-by-step Installation in Ubuntu

by

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# Step 1: Download files from LinuxLabo

Link: <https://github.com/robertobucher/LinuxLabo>

LinuxLabo / Ubuntu\_installer /

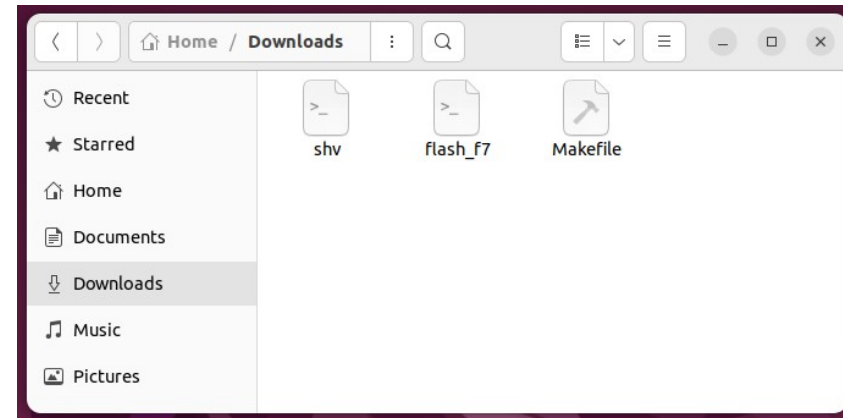
robertobucher · Installers for Debian and Ubuntu · e80f2ab · 5 hours ago · History

Name	Last commit message	Last commit date
..		
Makefile	Installers for Debian and Ubuntu	5 hours ago
README.md	Installers for Debian and Ubuntu	5 hours ago
flash_f7	Installers for Debian and Ubuntu	5 hours ago
shv	Installers for Debian and Ubuntu	5 hours ago

Make sure  
“Allow executing files as program” is **checked**  
for “shv” and “flash\_f7”

Execute ☒ Allow executing file as program

These files will be used later.



## Step 2: “Basic Installation”

- a) `uname -r`
- b) `sudo su`
- c) `apt-get install linux-headers-6.5.0-41-generic`
- d) `apt-get install make`

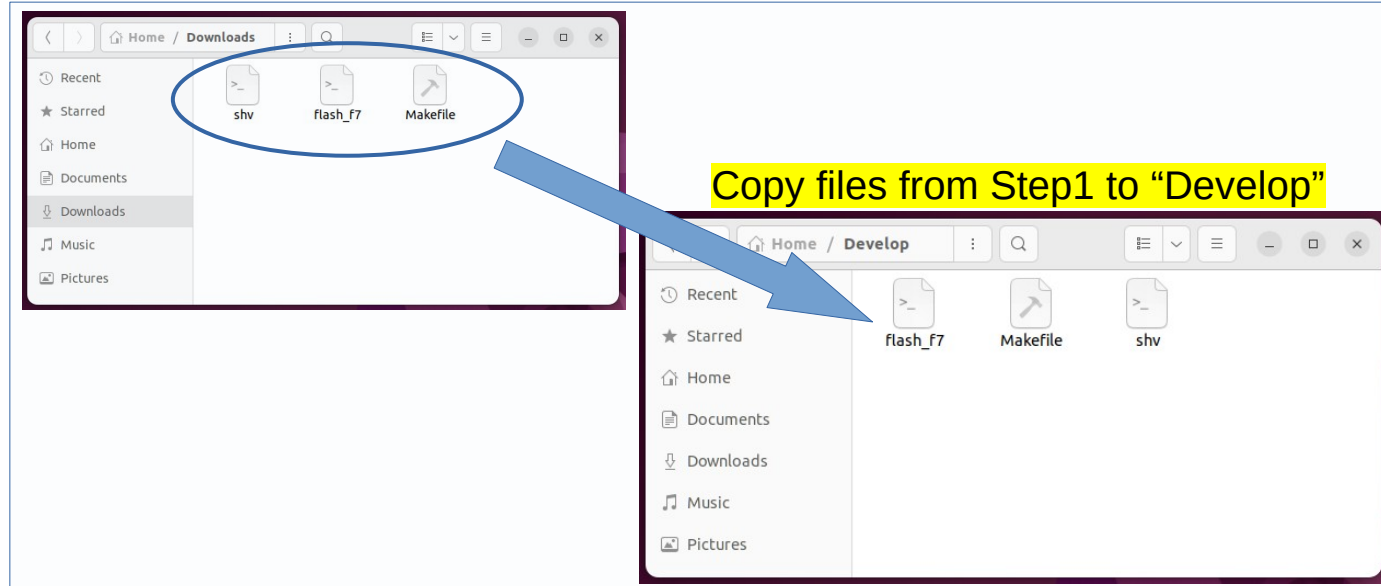
Step 2, part c:

```
emb@emb-iMac:~$ uname -r
6.5.0-41-generic
emb@emb-iMac:~$ sudo su
[sudo] password for emb:
root@emb-iMac:/home/emb# apt-get install linux-headers-6.5.0-41-generic
```

# Step 3: “Additional files for Python and pysimCoder”

- a) mkdir Develop
- b) cd Develop
- c) Copy files to Develop
- d) make packages

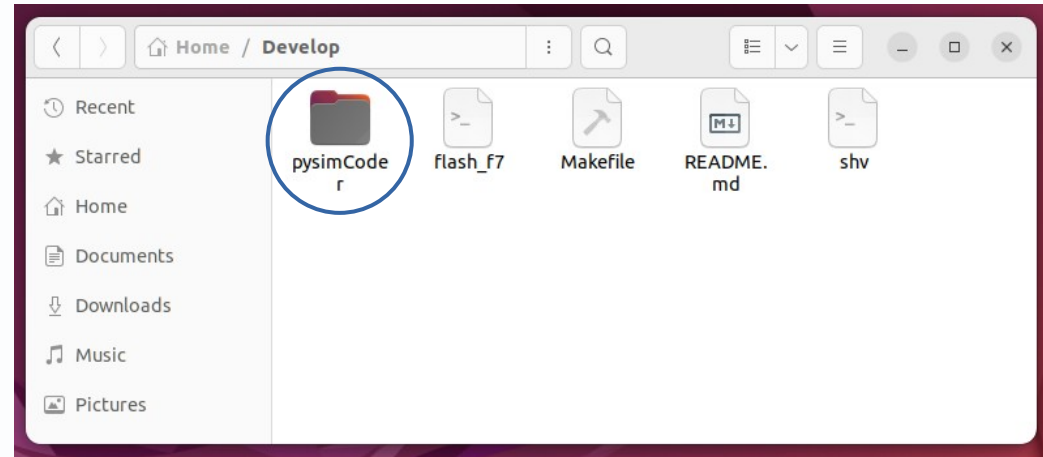
Step 3, part c:



## Step 4: “pysimCoder”

a) make pysimcoder

Step 4, part a: `emb@emb:~/Develop$ make pysimcoder`

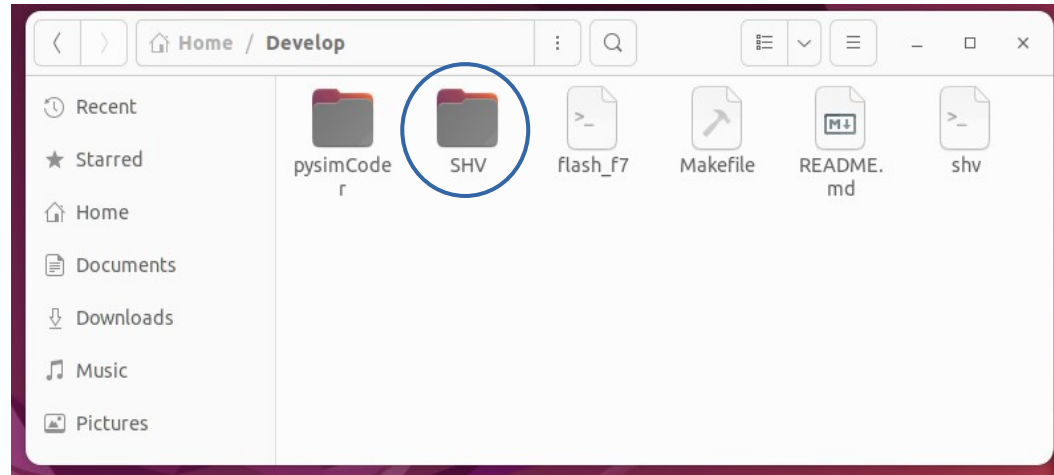


## Step 5: “Install SHV”

- a) make Shv
- b) Start a new terminal as “normal user”
- c) cd pysimCoder/CodeGen/LinuxRT/devices
- d) make SHV=1

Step 5, part a:

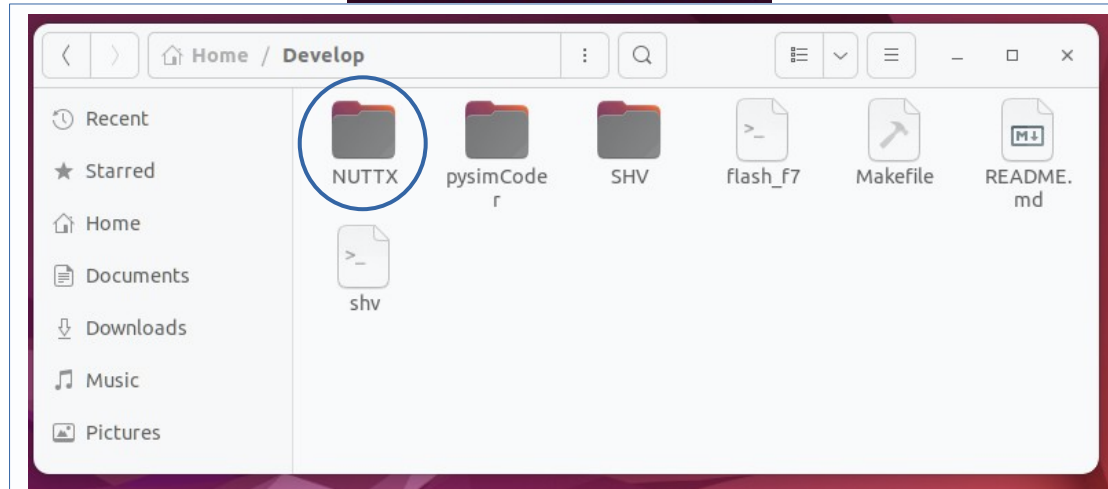
```
~/Develop$ make shv
```



## Step 6: “Install NuttX”

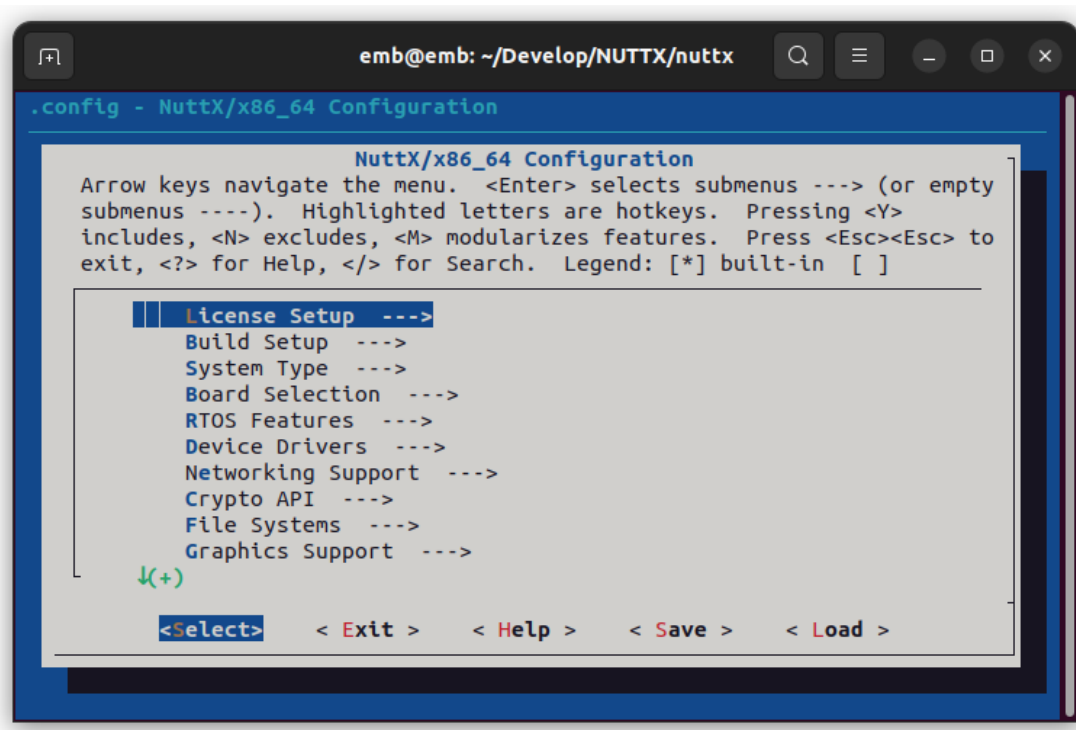
- a) make nuttx
- b) make f7
- c) Configure “make menuconfig” to match the target needs (next slides)

Step 6, part a: `~/Develop$ make nuttx`



# Step 6: Continuation “Install NuttX”

Optional  
Procedures  
depending on  
target needs.



The screenshot shows a terminal window titled "emb@emb: ~/Develop/NUTTX/nuttx". The main window is titled ".config - NuttX/x86\_64 Configuration". Inside, there's a sub-header "NuttX/x86\_64 Configuration" followed by instructions: "Arrow keys navigate the menu. <Enter> selects submenus ---> (or empty submenus ----). Highlighted letters are hotkeys. Pressing <Y> includes, <N> excludes, <M> modularizes features. Press <Esc><Esc> to exit, <?> for Help, </> for Search. Legend: [\*] built-in [ ]". Below this is a menu with the following options: "License Setup --->", "Build Setup --->", "System Type --->", "Board Selection --->", "RTOS Features --->", "Device Drivers --->", "Networking Support --->", "Crypto API --->", "File Systems --->", and "Graphics Support --->". A green arrow with a plus sign points to "System Type". At the bottom, there are navigation options: "<Select>", "<Exit>", "<Help>", "<Save>", and "<Load>".

Go to “System Type”, then “Timer Configuration”



# Step 6: Continuation “Install NuttX”

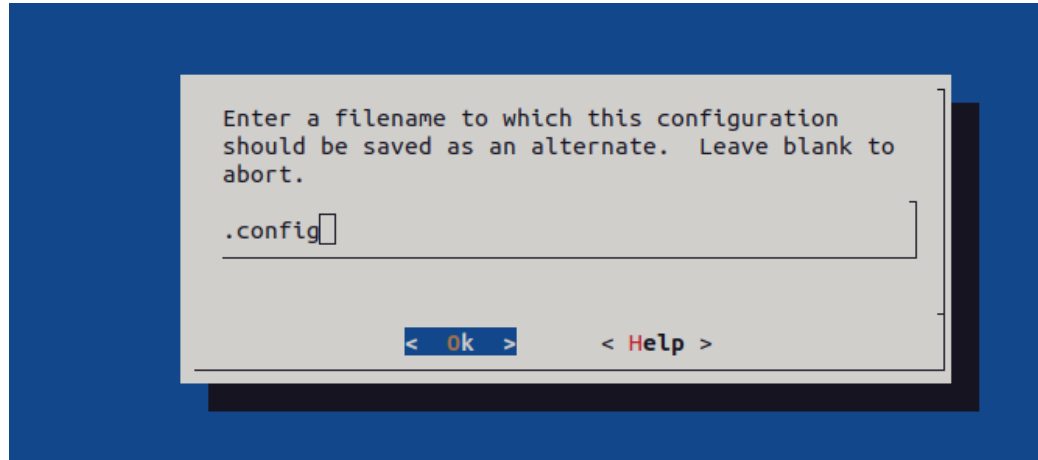
Optional  
Procedures  
depending on  
target needs.

```
[ ] PWM low-level operations
[*] TIM1 PWM
(0) TIM1 Mode
(0) TIM1 Lock Level Configuration
(0) TIM1 t_DTS Division
(10) TIM1 Initial Dead-time
[*] TIM1 Channel 1
(6) TIM1 Channel 1 Mode
[*] TIM1 Channel 1 Output
[*] TIM1 Channel 1 Complementary Output
[*] TIM1 Channel 2
(6) TIM1 Channel 2 Mode
[*] TIM1 Channel 2 Output
[*] TIM1 Channel 2 Complementary Output
[ ] TIM1 Channel 3
[ ] TIM1 Channel 4
[ ] TIM1 Channel 5 (internal)
[ ] TIM1 Channel 6 (internal)
[ ] TIM2 PWM
[ ] TIM3 PWM
[ ] TIM4 PWM
[*] PWM Multiple Output Channels
[ ] TIM PWM TRGO support
[ ] TIM1 ADC
[*] TIM2 ADC
    Select TIM2 ADC channel (TIM2 ADC channel 1) --->
[ ] TIM3 ADC
[ ] TIM4 ADC
(5000) ADC1 Sampling Frequency
(1) ADC1 Timer Trigger
[ ] TIM1 Capture
[ ] TIM2 Capture
[ ] TIM3 Capture
[ ] TIM4 Capture
STM32 TIMx Outputs Configuration --->
```

```
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[ ] TIM3 Capture
[ ] TIM4 Capture
STM32 TIMx Outputs Configuration --->
```

Uncheck complementary outputs for TIM1

## Step 6: Continuation “Install NuttX”



Save as .config and exit

## Step 6: Continuation “Install NuttX”

- d) Start a new terminal as “normal user”
- e) `cd pysimCoder/CodeGen/nuttx/devices`
- f) `make SHV=1`

```
:~/Develop/pysimCoder/CodeGen/nuttx/devices$ make SHV=1
```

## Step 7: “Configure SHV Application”

- a) Set user and password in the shvspy window
- b) User: admin
- c) Password: admin!123

## Step 8: “pyshv module”

a) `pip install pyshv`

Done, installation is complete!