

# Installing Armbian on X98H TV Box to Develop and Deploy with the Singkong Programming Language

# What You'll Need

- **An X98H TV Box (Allwinner H618):** This tutorial uses the 4GB RAM / 32GB eMMC model.
- **A microSD card:** This tutorial uses a Class 10 A1 16GB model.
- **A computer:** Running any OS that supports writing an Armbian disk image to the microSD card. This tutorial uses Windows 10 and Raspberry Pi Imager.
- **A physical keyboard and mouse:** Necessary for interacting with the X98H TV Box during installation, configuration, and software development tasks (in addition to the keyboard/mouse required for the computer).
- **An HDMI cable and display:** Necessary to connect the X98H to a monitor or TV. The same display used by the computer can be shared by switching the input source.
- **A wooden toothpick:** Required to press the reset button hidden inside the AV port to trigger the TV Box bootloader.

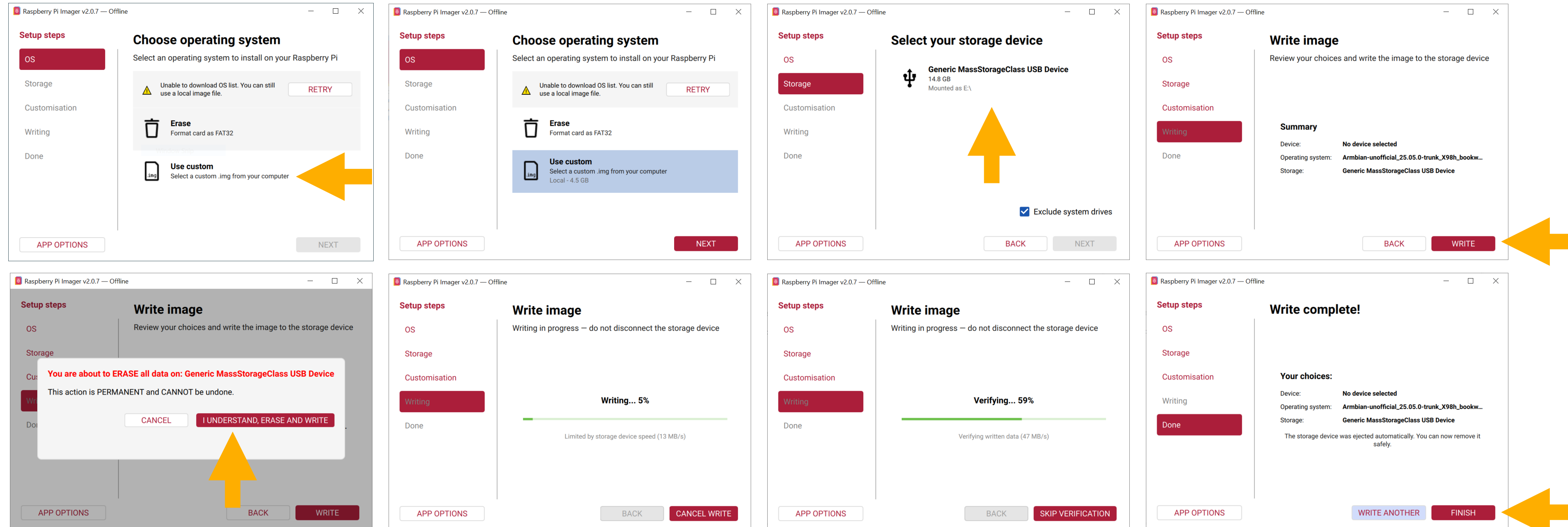
# Downloading the Armbian Disk Image

At the time of this writing, the X98H TV Box is not officially supported by Armbian. This tutorial utilizes a community-maintained image.

- **Repository:** [github.com/NickAlilovic/build/releases](https://github.com/NickAlilovic/build/releases)
- **Version:** 20250306, Armbian 25.05.0, Kernel 6.12.11
- **File Name:** Armbian-unofficial\_25.05.0-trunk\_X98h\_bookworm\_edge\_6.12.11\_xfce\_desktop.img.xz

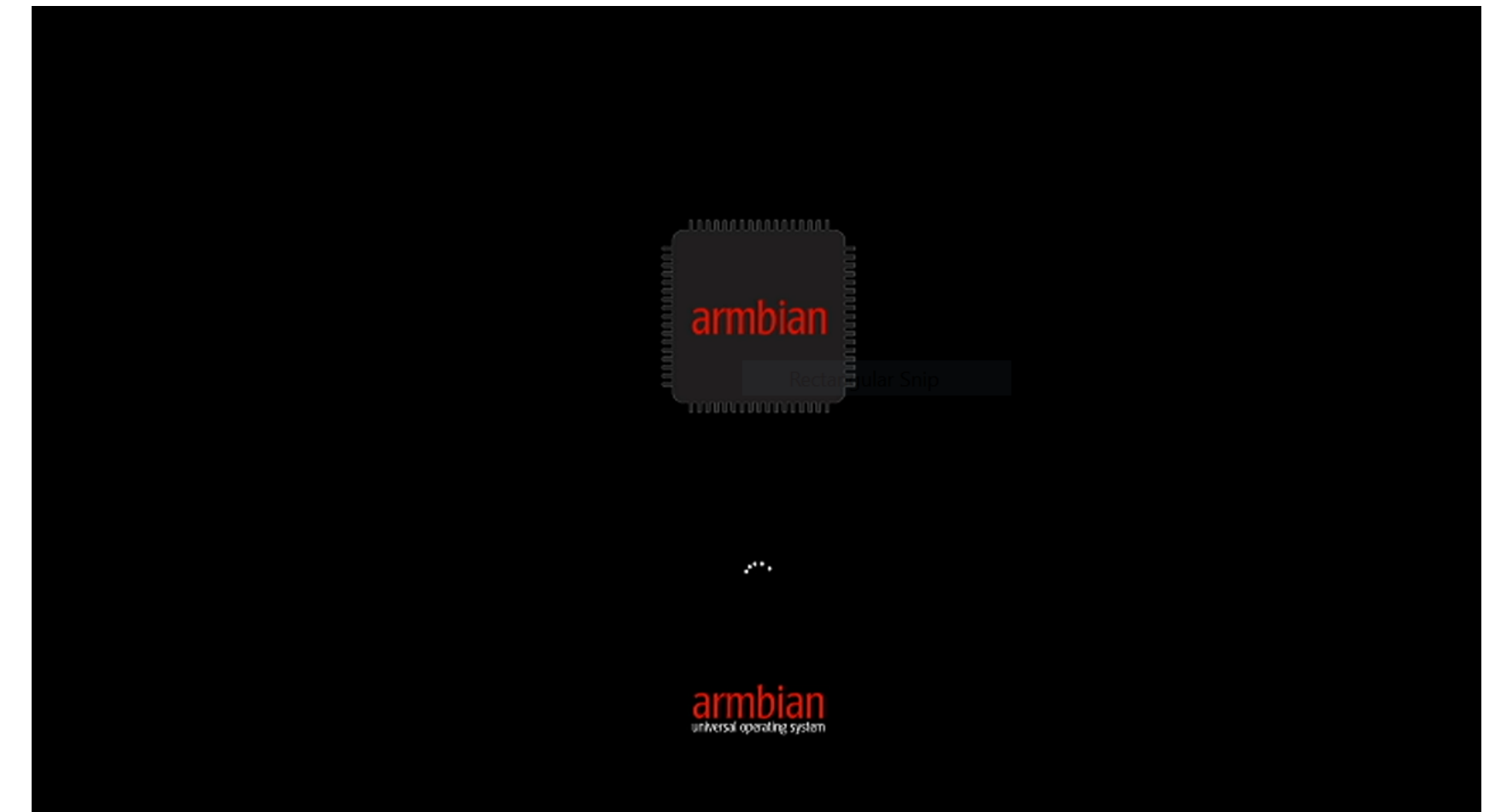
# Flashing the Armbian Disk Image

- Insert the microSD card: Plug the card into your computer.
- Run Raspberry Pi Imager: Select the downloaded file, choose the microSD card, and click Write to begin. Unplug the card once the process is complete.



# Booting from the microSD Card

- **Power off:** Ensure the TV Box is completely powered down.
- **Insert:** Slide the prepared microSD card into the slot.
- **Press and Hold:** Insert the toothpick into the AV jack until you feel the button click; continue holding it firmly.
- **Power on:** Connect the power cable while continuing to hold the button.
- **Release:** Remove the toothpick once the Armbian logo appears on the screen.



# Completing the Setup

Carefully complete every prompt to ensure your system is configured correctly.

```
Create root password:
```

```
Choose default system command shell:
```

```
Please provide a username (eg. your first name):
```

```
Create user (<user>) password:
```

```
Please provide your real name:
```


```
Connect via wireless? [Y/n]  
Enter a number of SSID:  
Enter a password for <SSID>:
```

```
a network connection is required to complete the system configuration.
```



```
Set user language based on your location [Y/n]  
...
```

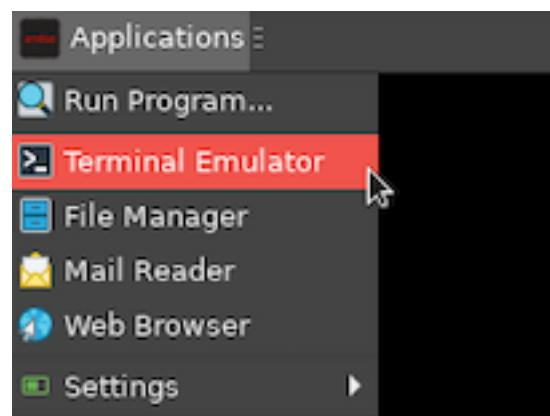
```
Choose your language, country, and timezone  
to ensure your system is configured for your region.
```



```
Now starting desktop environment
```

# Installing Required Software

Follow the steps below within the Terminal Emulator to prepare your environment.



```
user@x98h: ~  
user@x98h: ~  
user@x98h:~$ sudo apt-get update
```

```
user@x98h: ~  
user@x98h: ~  
user@x98h:~$ sudo apt-get install default-jdk
```

```
user@x98h: ~  
user@x98h: ~  
user@x98h:~$ wget https://nopri.github.io/Singkong.jar
```

# Singkong in Action

From development to production—leverage your device for both building and running your projects.

The screenshot displays the Singkong IDE interface. On the left, a code editor shows the following Singkong code:

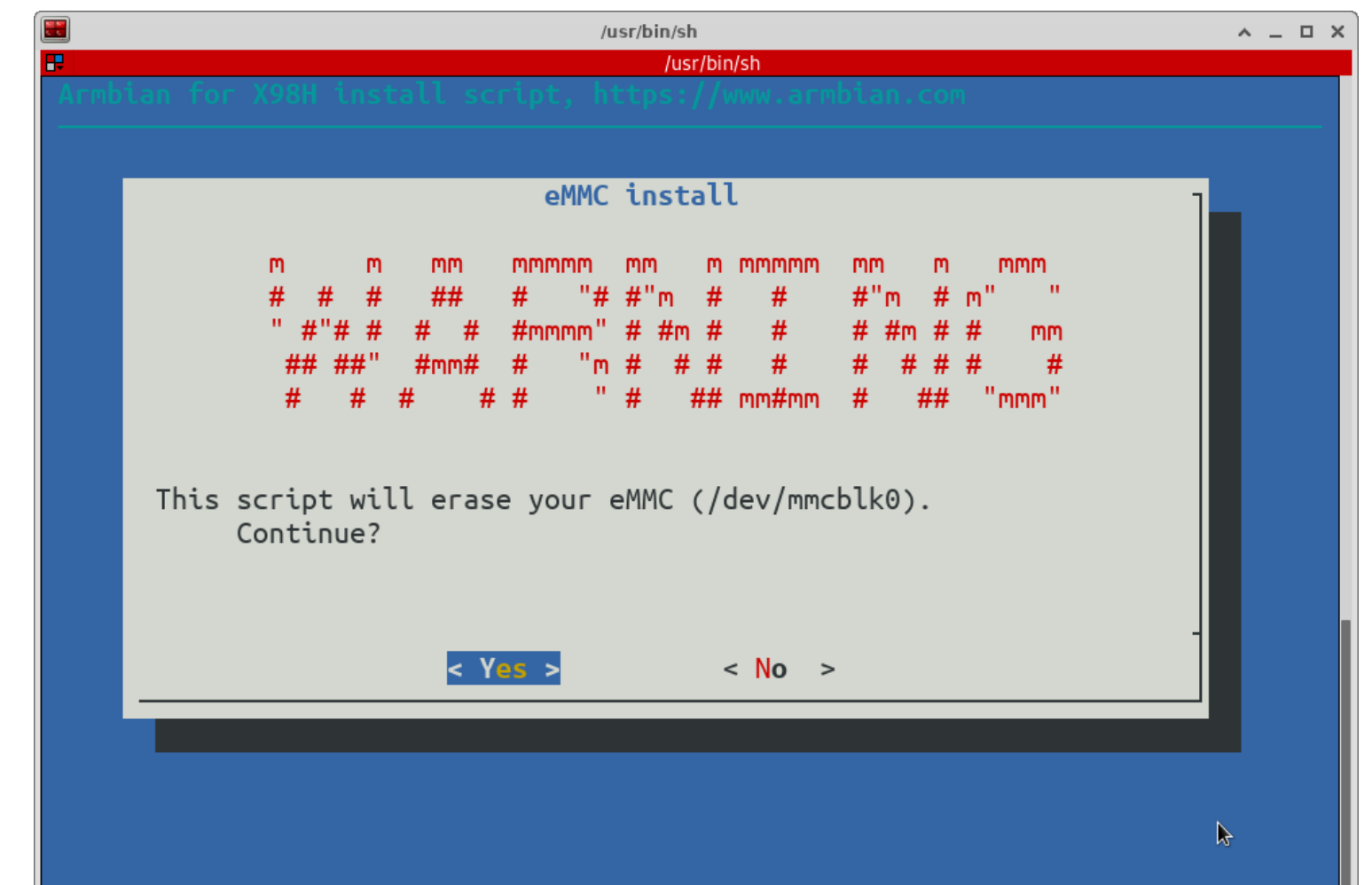
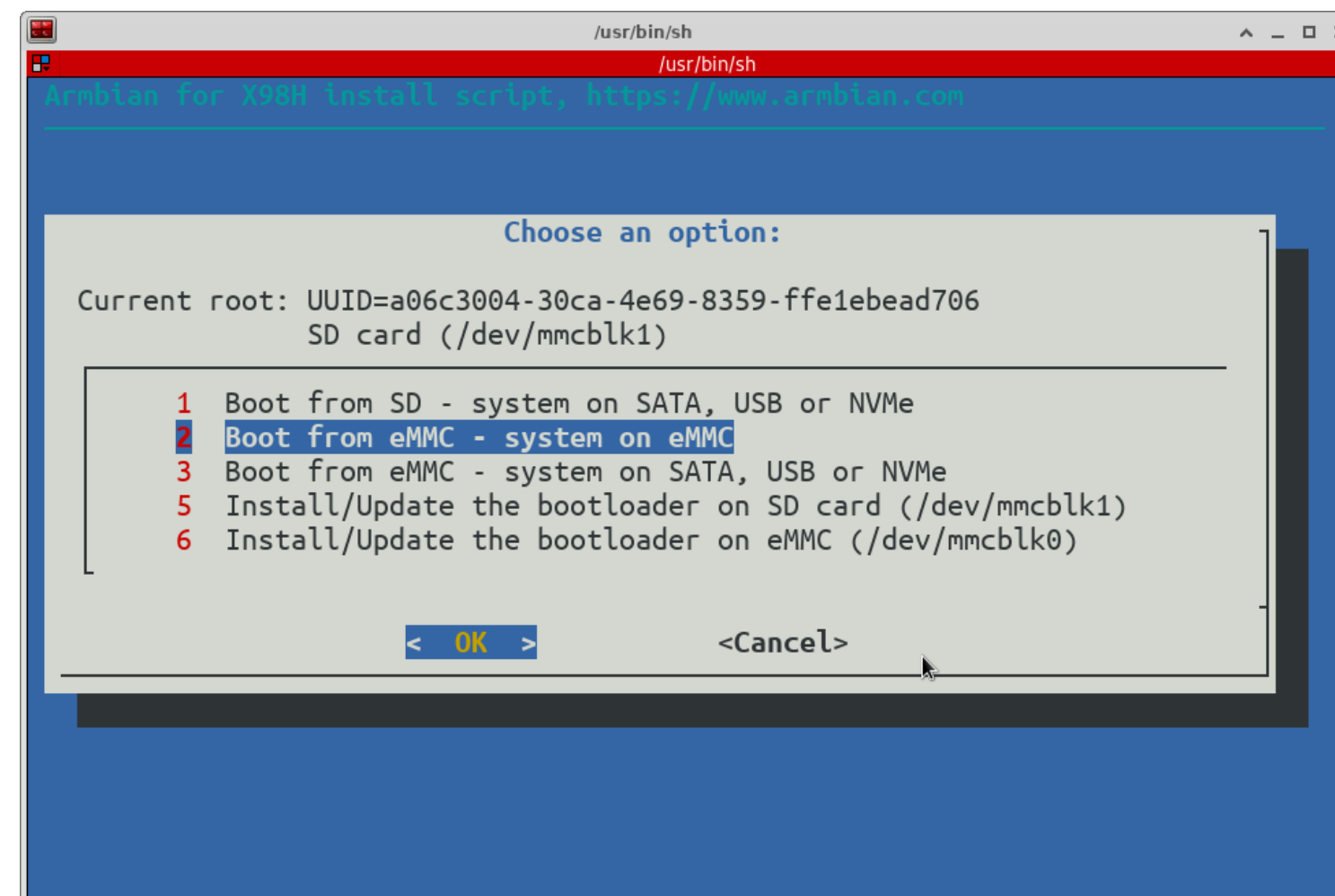
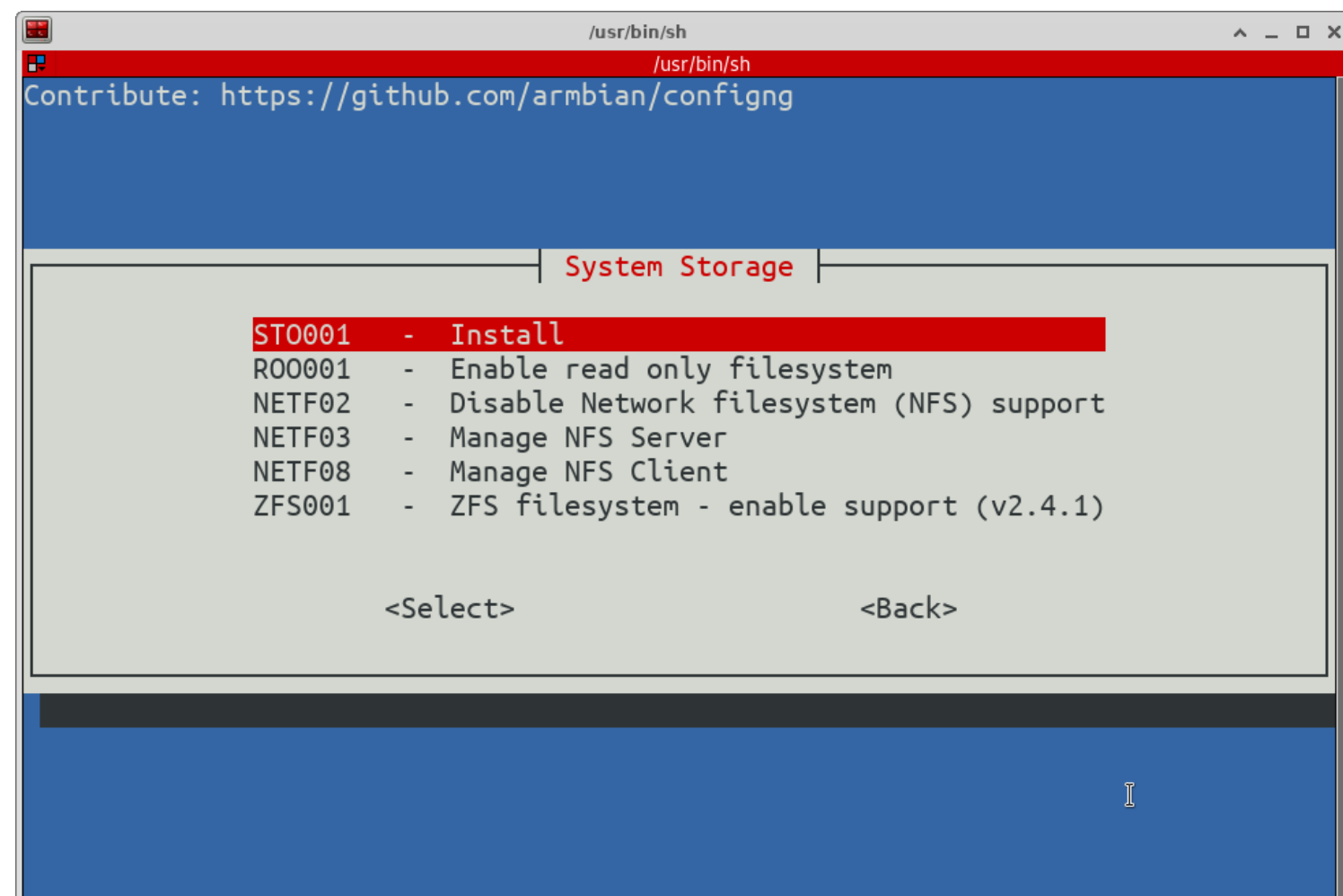
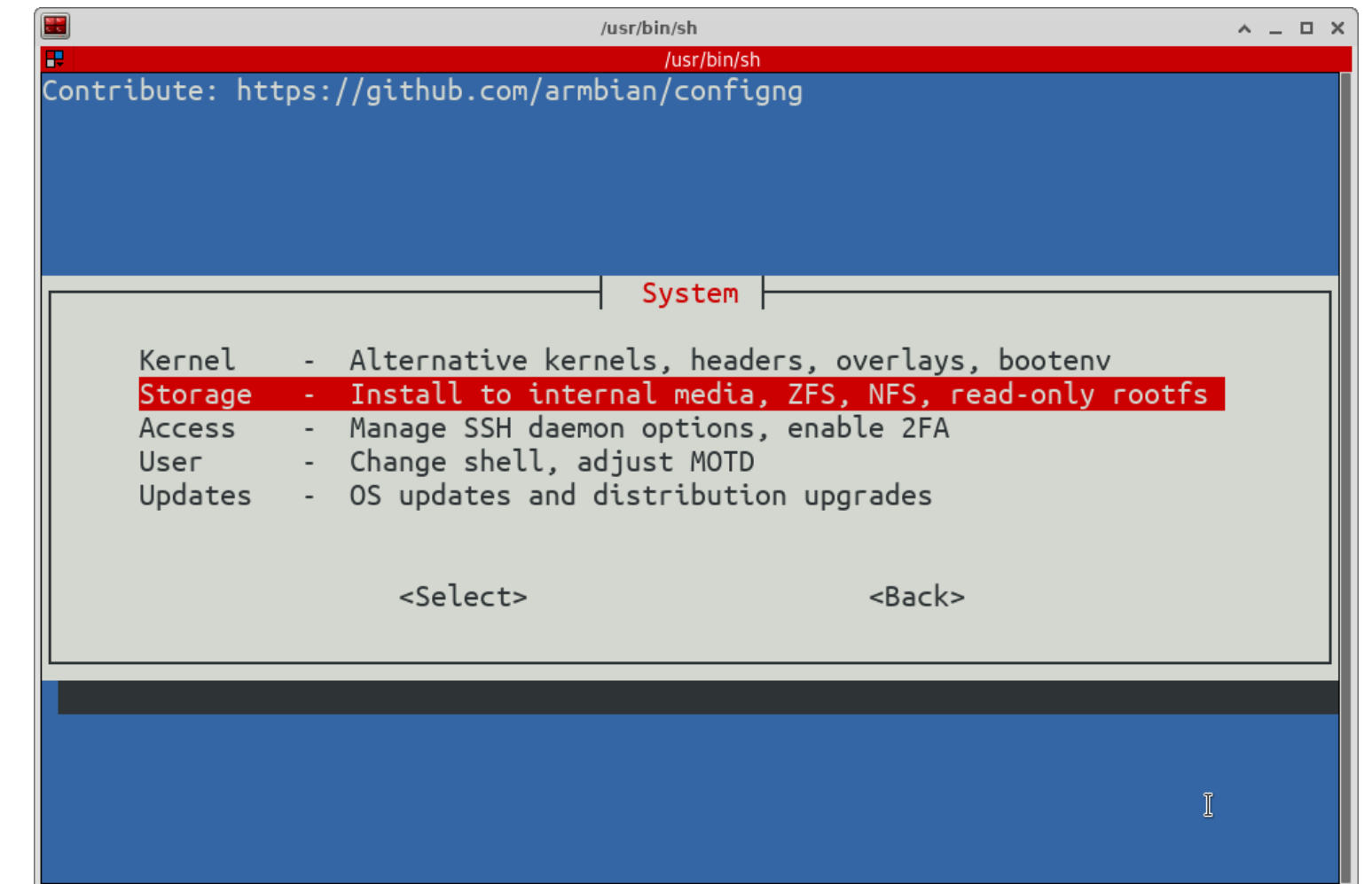
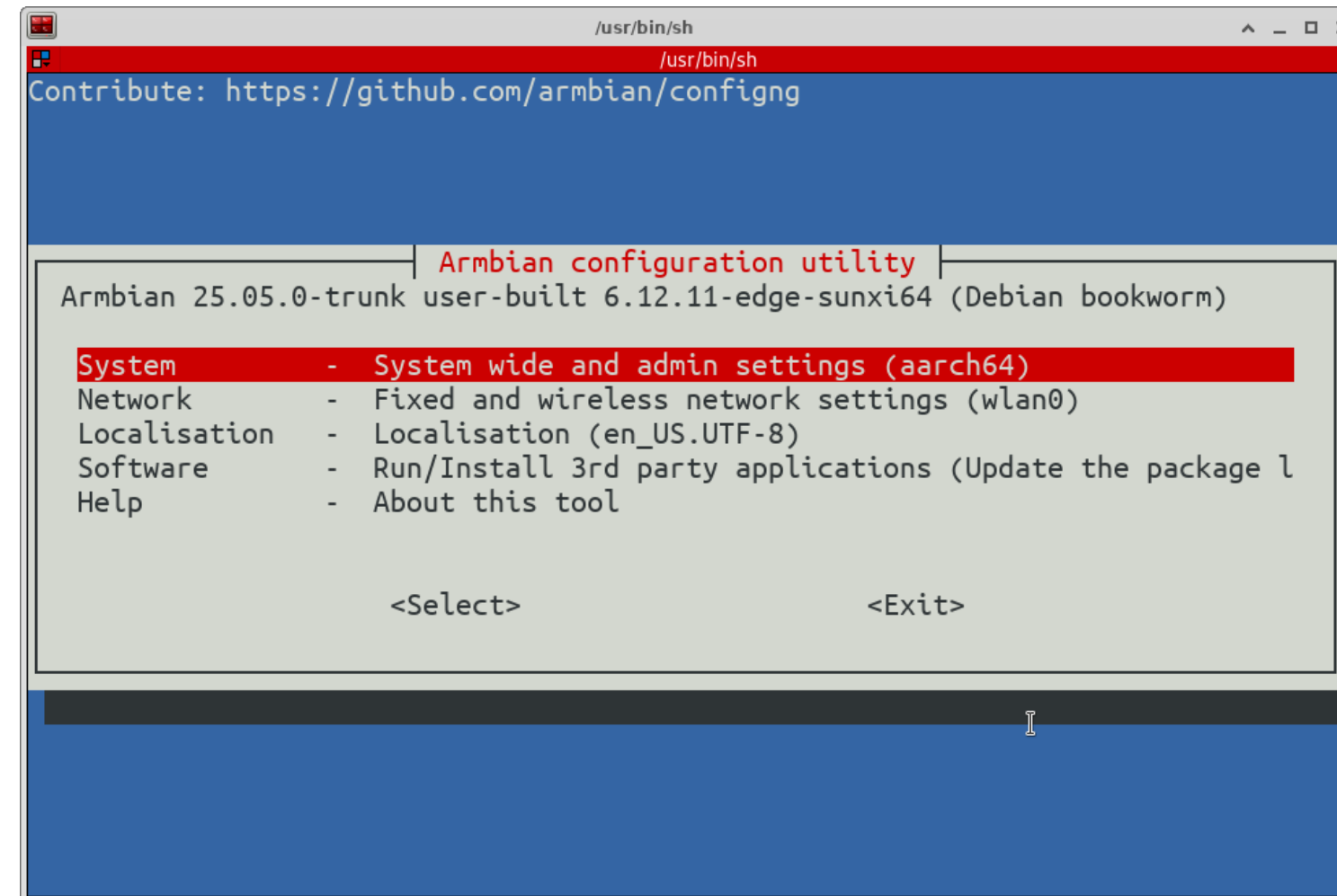
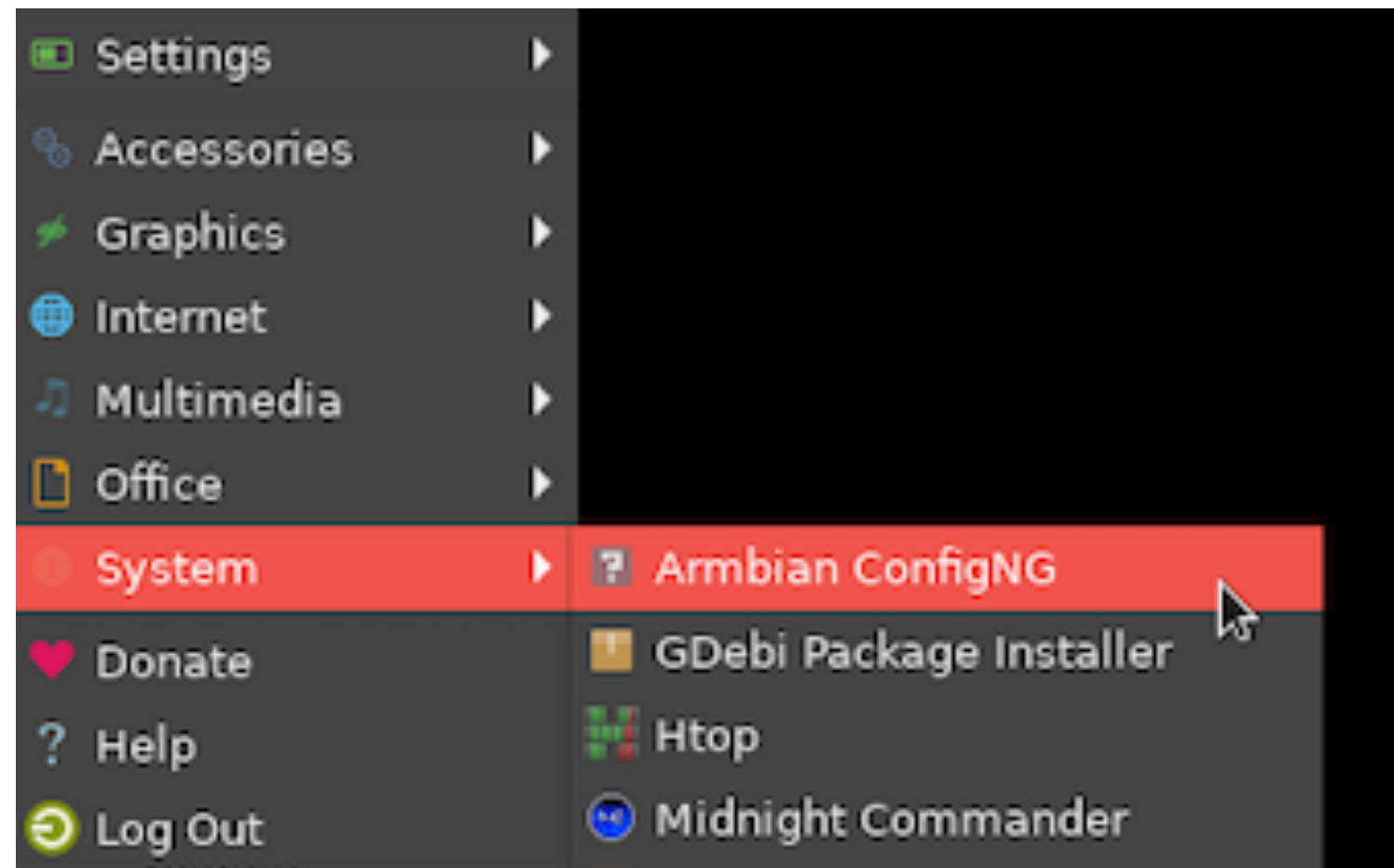
```
1 reset()
2 var b = component("button", "Hello")
3 var c = component("checkbox", "Singkong?")
4 var m = component("combobox", "Singkong Programming Language")
5 var d = component("date", "EEEE, yyyy-MM-dd")
6 var e = component("edit", "Hello, World")
7 var i = component("image", "image.jpg")
8 var l = component("label", "Singkong Programming Language")
9 var p = component("password", "test")
10 var sp = component("spin", "1,0,10,2")
11 var g = component("progress", "")
12 config(g, "contents", 50)
13 var r = component("radio", "Radio Button")
14 var a = component("tab", "")
15 var panel = component("panel", "Panel")
16 var t1 = component("table", "A,B,C,D,E")
17 var grid = component("grid", "Grid")
18 var t2 = component("table", "A,B,C,D,E")
19 var x = component("text", "Singkong")
20 var v = component("view", "<b>Singkong</b><br>Programming")
21 var s = component("mask", "(##) ##-##")
22 var dr = component("draw", "50, 50")
23
24 config(dr, "foreground", "black")
25 config(dr, "background", "white")
26 draw_string(dr, ":", 20, 22)
27
28 panel_add(panel, t1, 10, 10, 250, 400)
29 tab_add(a, panel)
30 grid_add(grid, t2, 0, 0, 1, 1, 1, 3, 0, 5, 5, 5)
31 tab_add(a, grid)
32
33 var bc = component("barchart", "")
34 config(bc, "foreground", "black")
35 config(bc, "background", "white")
36 config(bc, "font", ["monospaced", 1, 20])
37 config(bc, "text", "Bar Chart")
38 config(bc, "contents", [[10, "A (10)", "red"], [20, "B (20)", "green"], [30, "C (30)", "blue"]])
39
40 var pc = component("piechart", "")
41 config(pc, "foreground", "black")
42 config(pc, "background", "white")
43 config(pc, "font", ["monospaced", 1, 20])
44 config(pc, "text", "Pie Chart")
```

The main window displays a GUI titled "Singkong Programming Language" with a "Hello" button, a "Singkong?" checkbox, a "Radio Button", and a "Singkong" combobox. Below these are a "Panel" containing a table with columns A-E and a "Grid" containing a calendar for May 2026. To the right, there is a "Bar Chart" with three bars (A: 10, B: 20, C: 30) and a "Pie Chart" with three segments (D: 40, E: 50, F: 60). At the bottom, a database viewer shows a table named "TEST" with the following data:

ID	Value
1	Singkong
2	Programming
3	Language

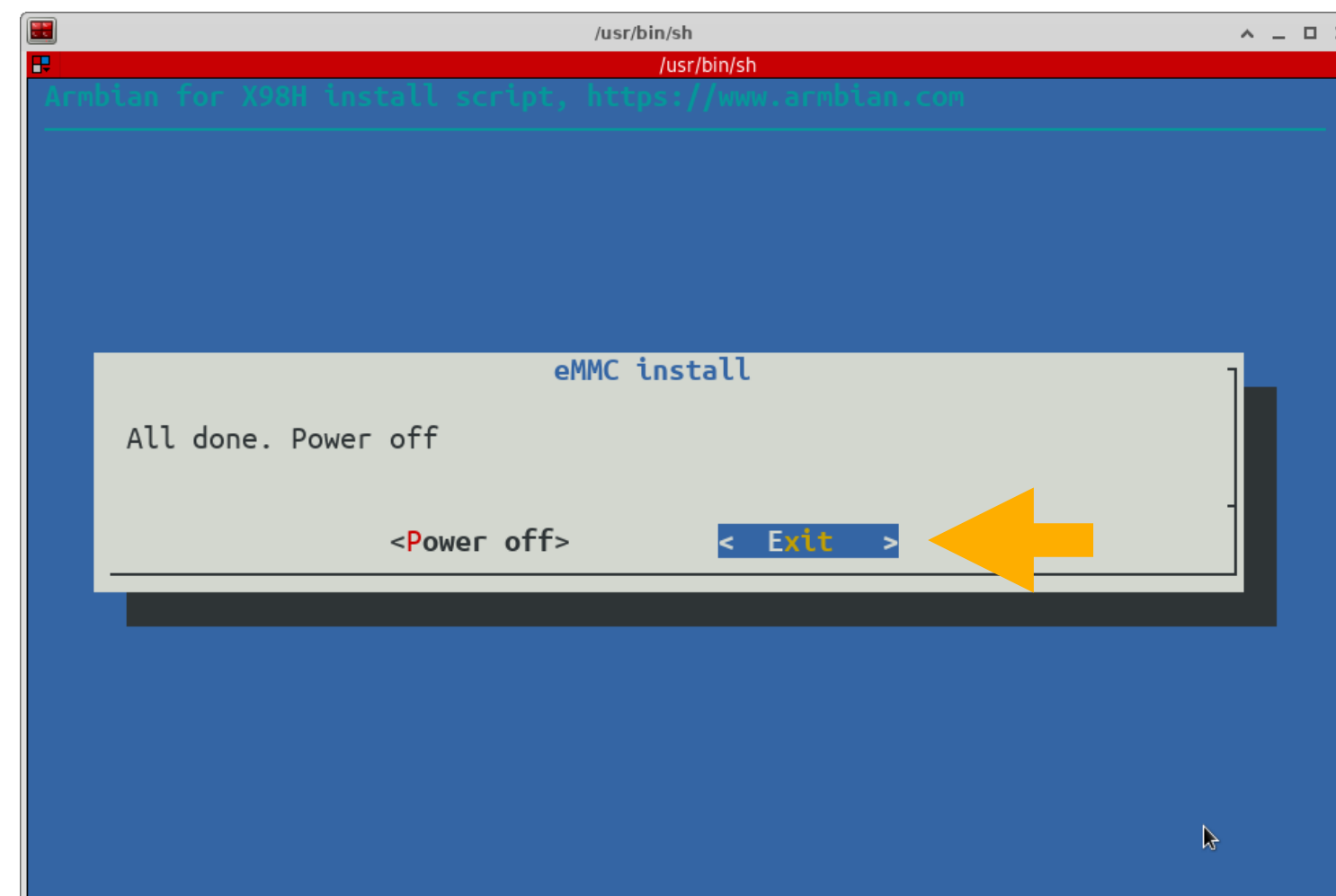
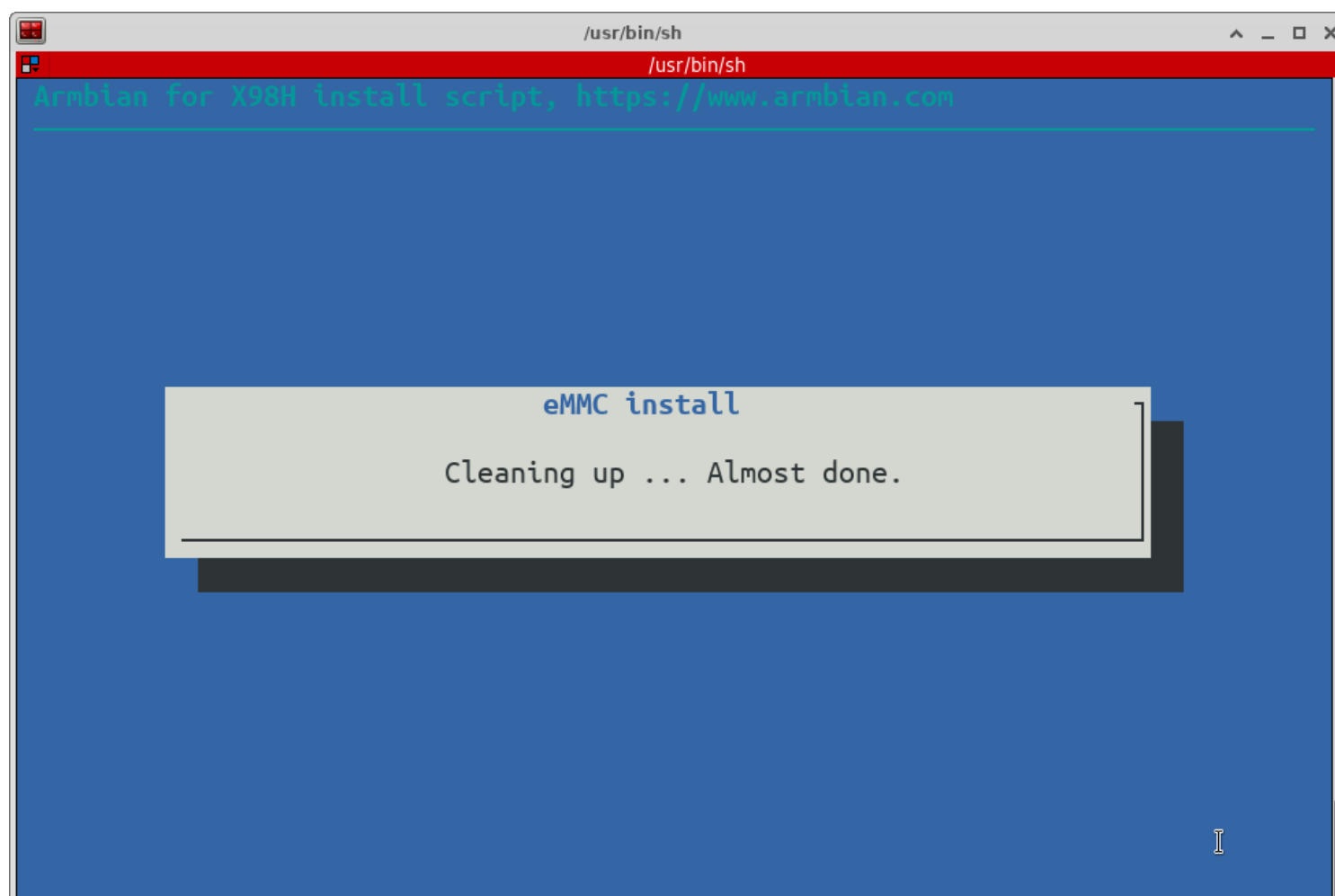
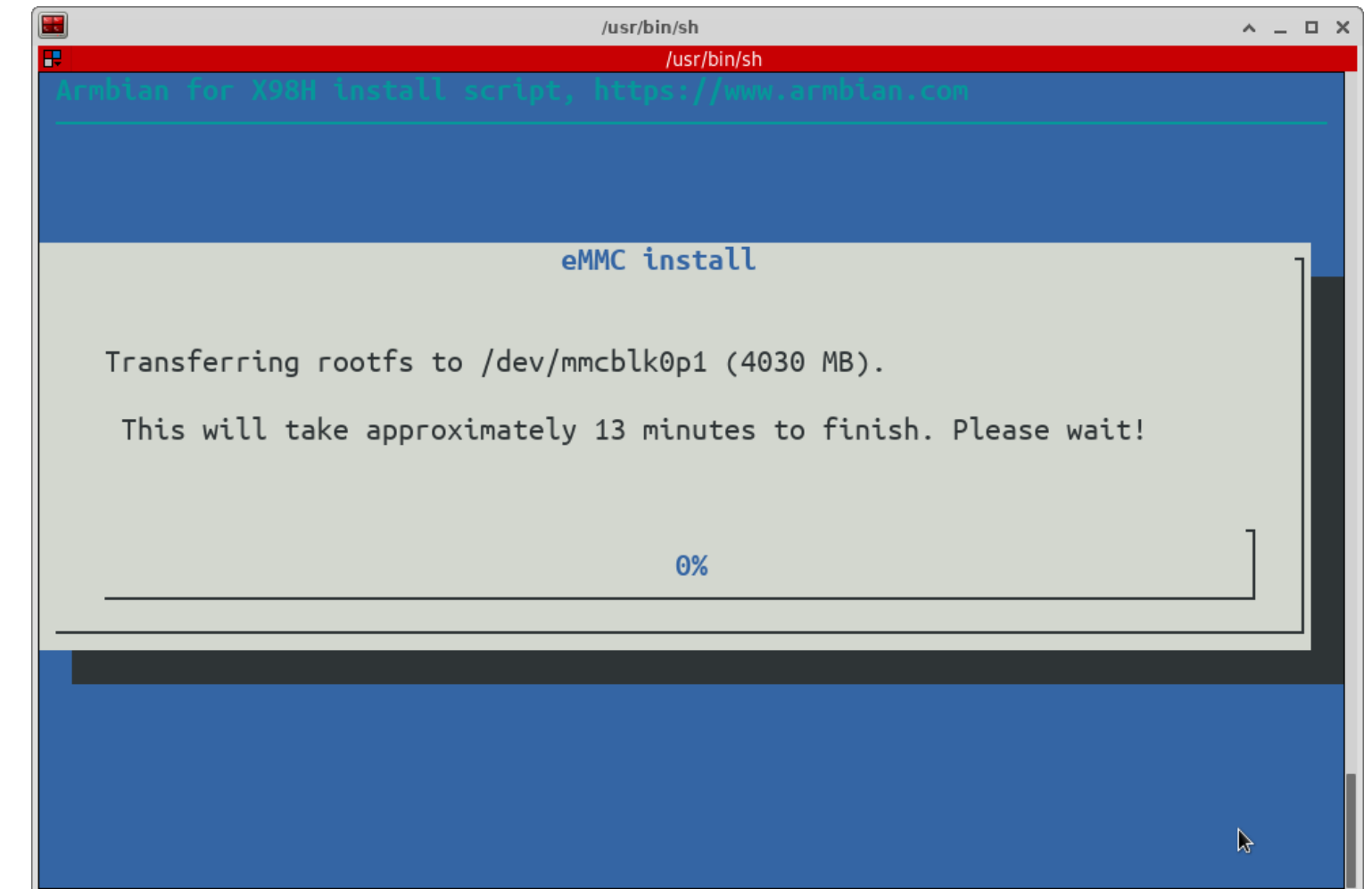
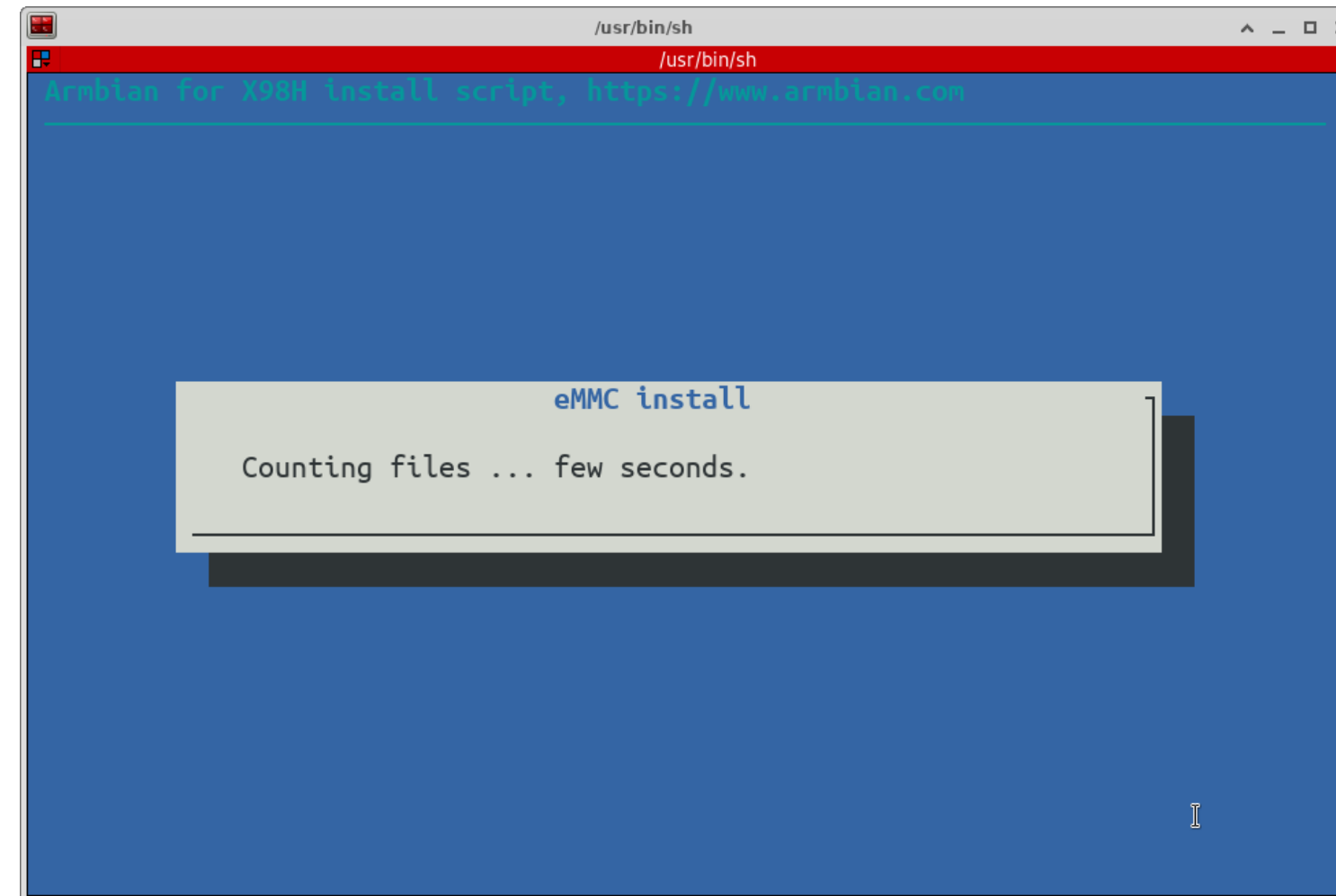
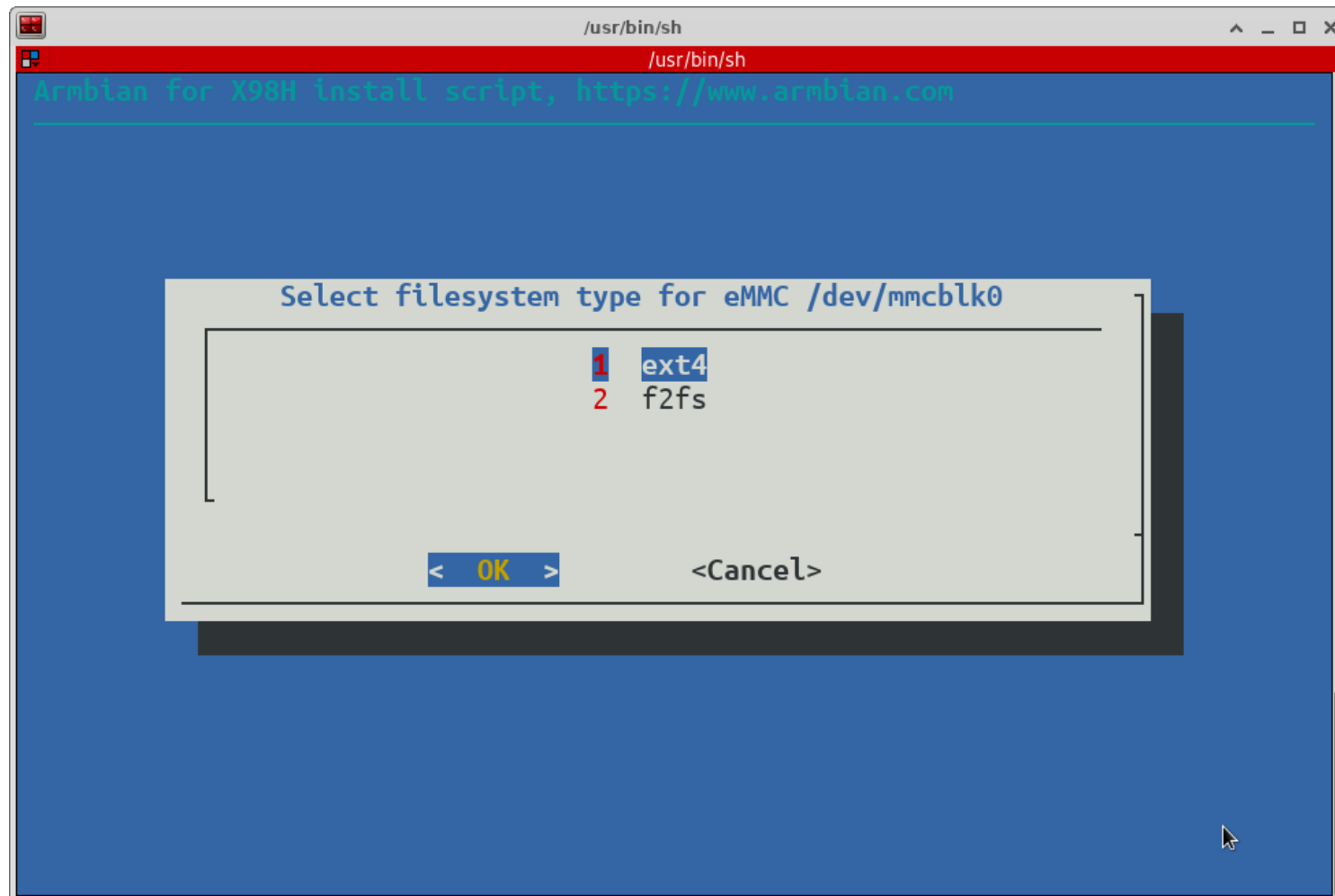
# Installing Armbian to the eMMC (Optional)

Warning: This process will permanently overwrite your original OS. Once finished, the microSD card will no longer be required for booting



# Installing Armbian to the eMMC (Optional)

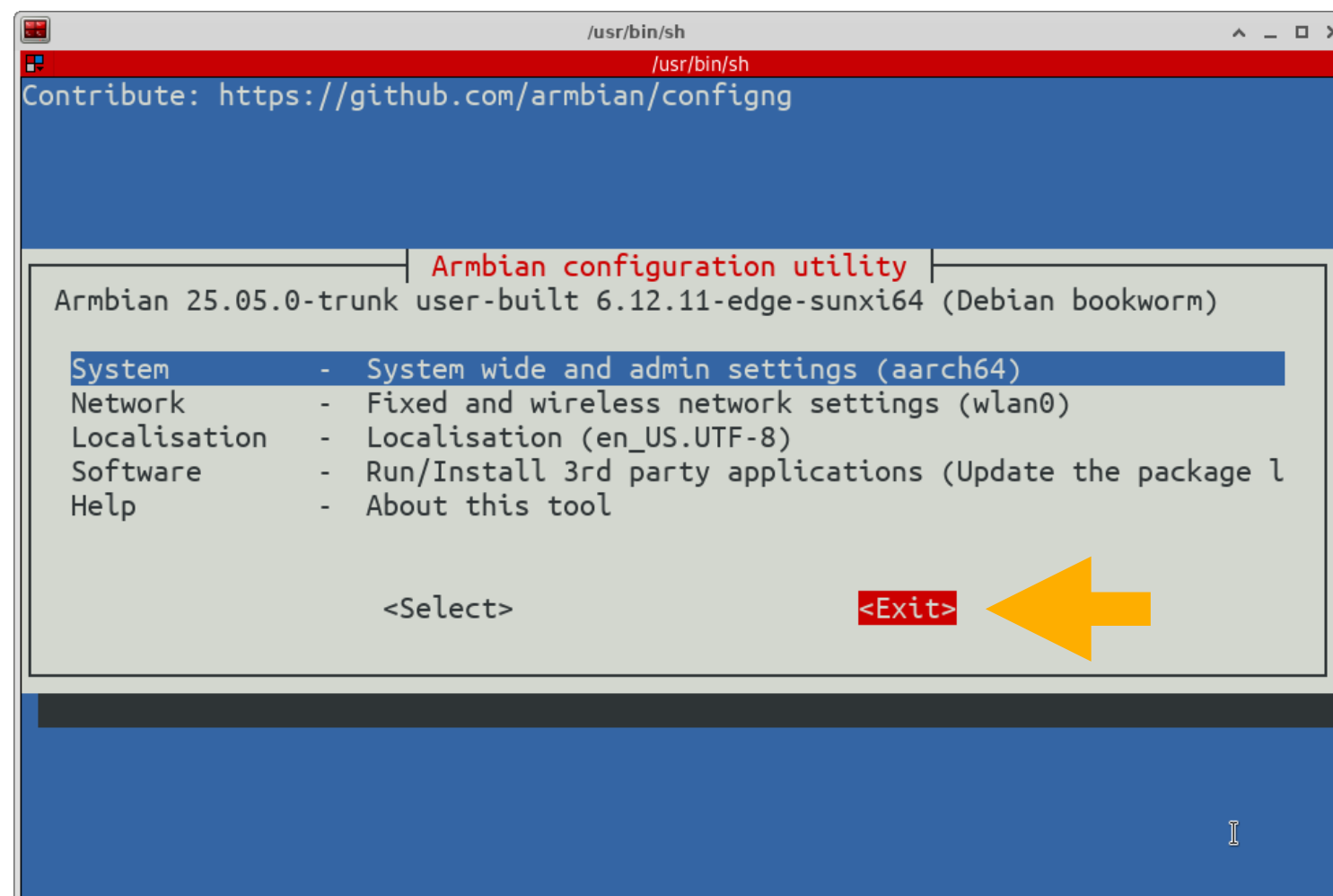
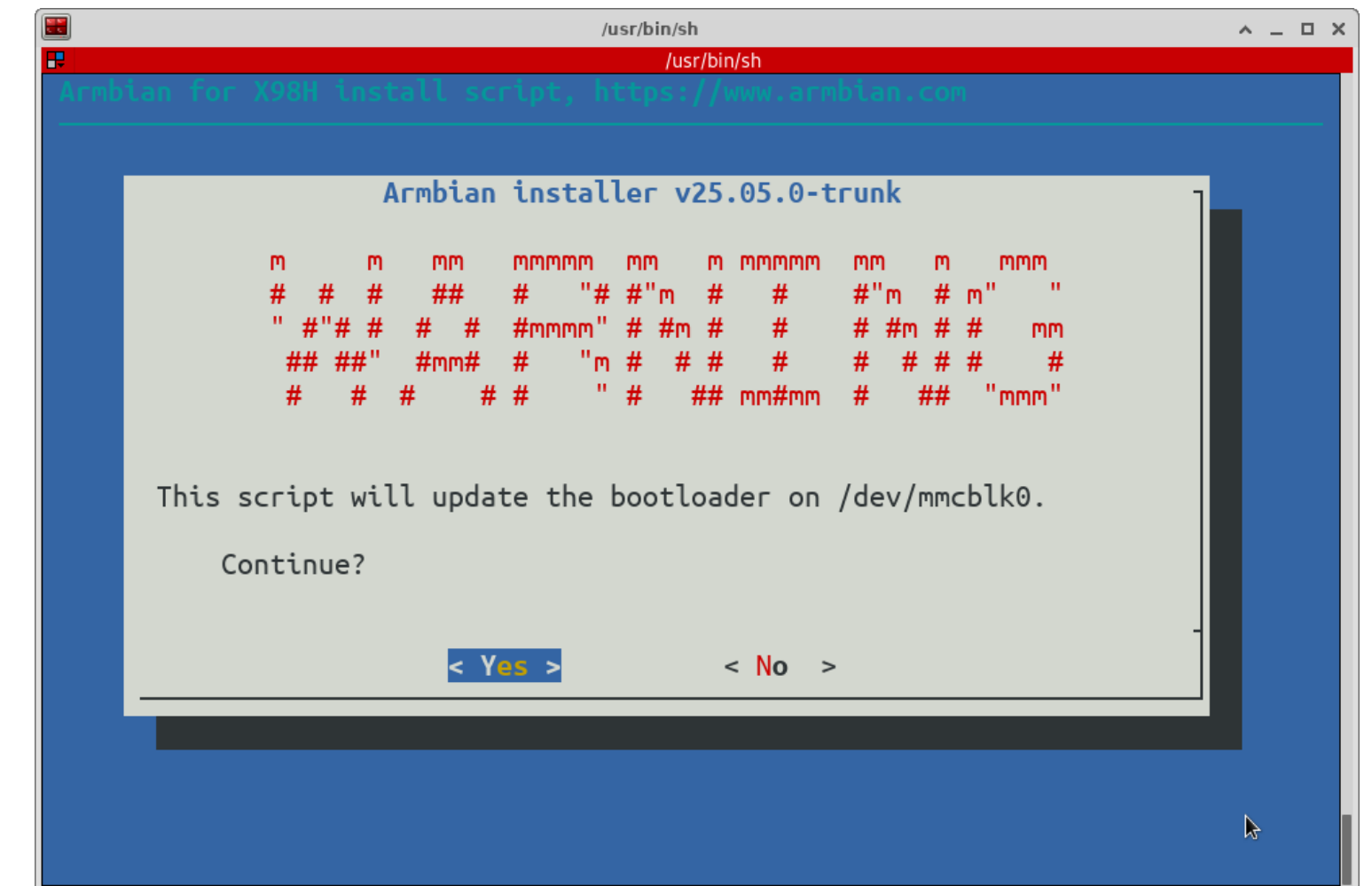
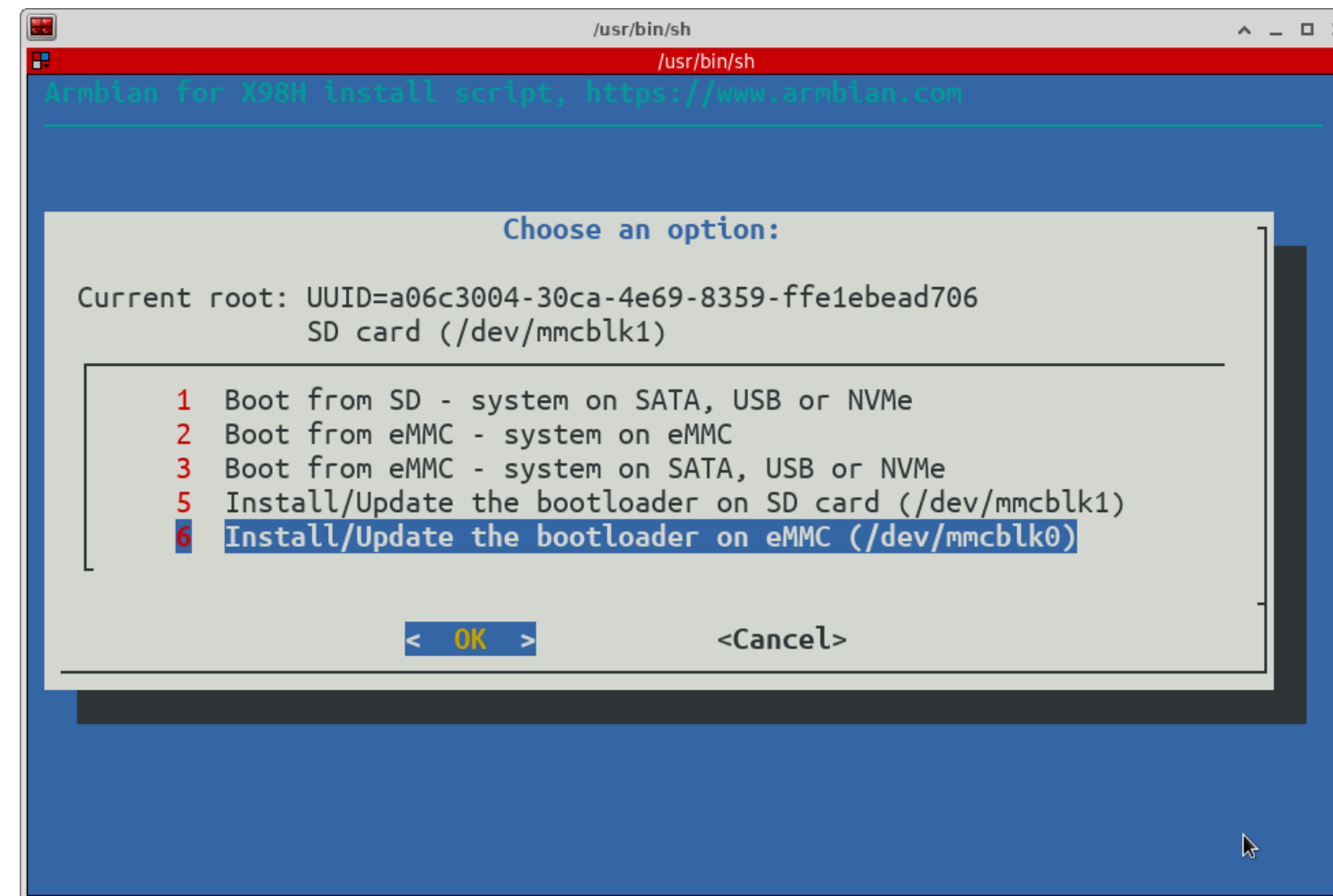
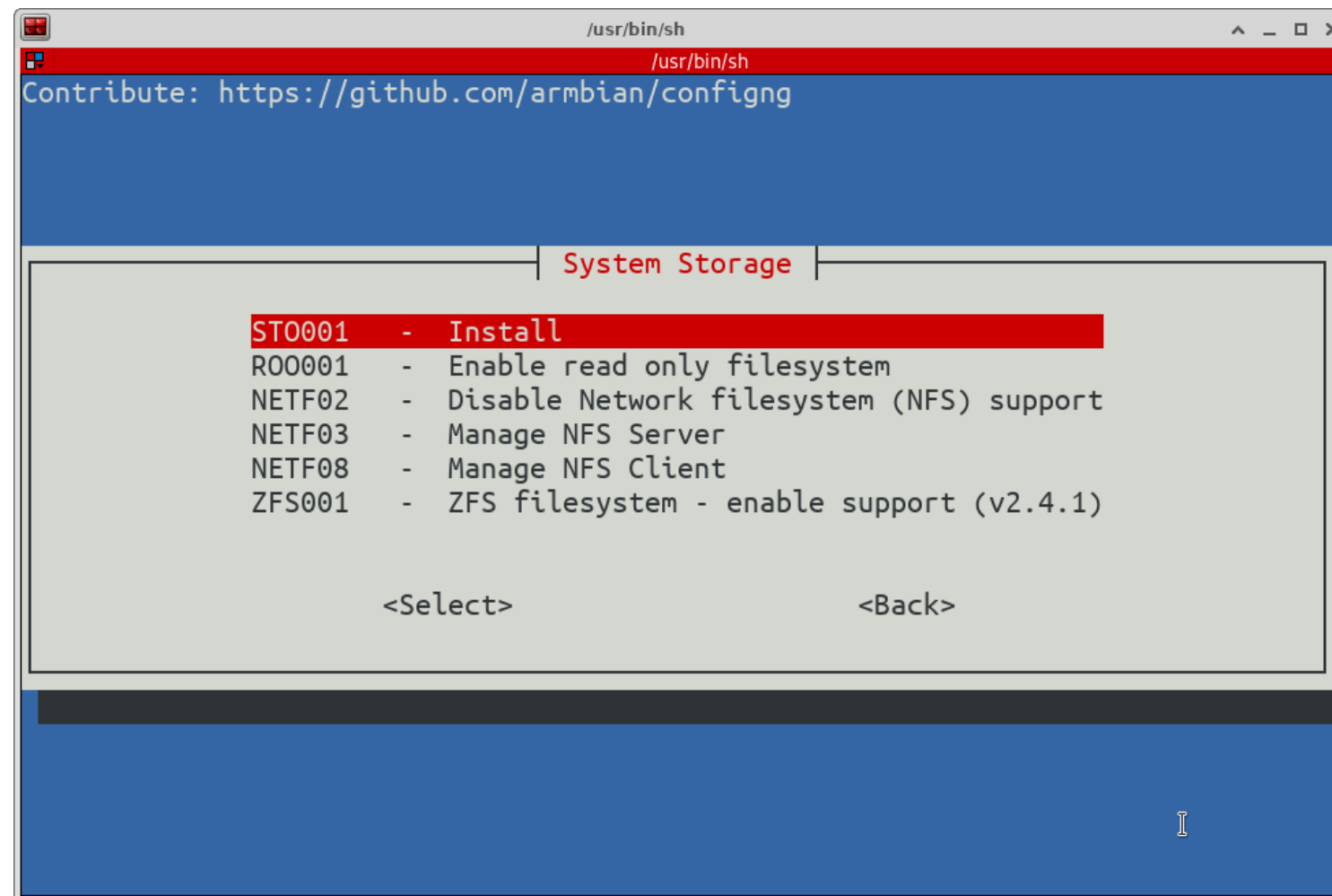
Warning: This process will permanently overwrite your original OS. Once finished, the microSD card will no longer be required for booting



Do not Power off

# Installing Armbian to the eMMC (Optional)

Warning: This process will permanently overwrite your original OS. Once finished, the microSD card will no longer be required for booting



- Power off the device
- Remove the microSD card
- Power on the device to boot from eMMC

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