HOW TO INSTALL PIKVM x86 - Oracle VirtualBox

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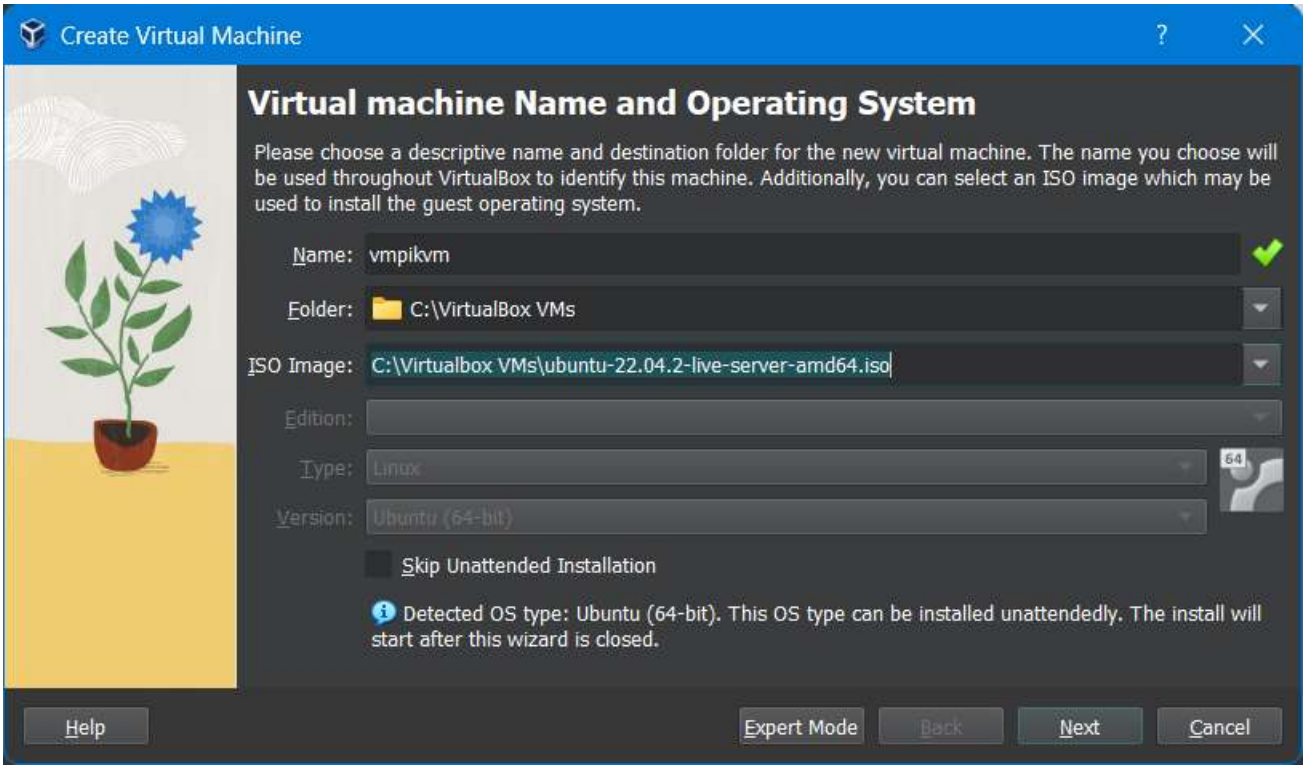
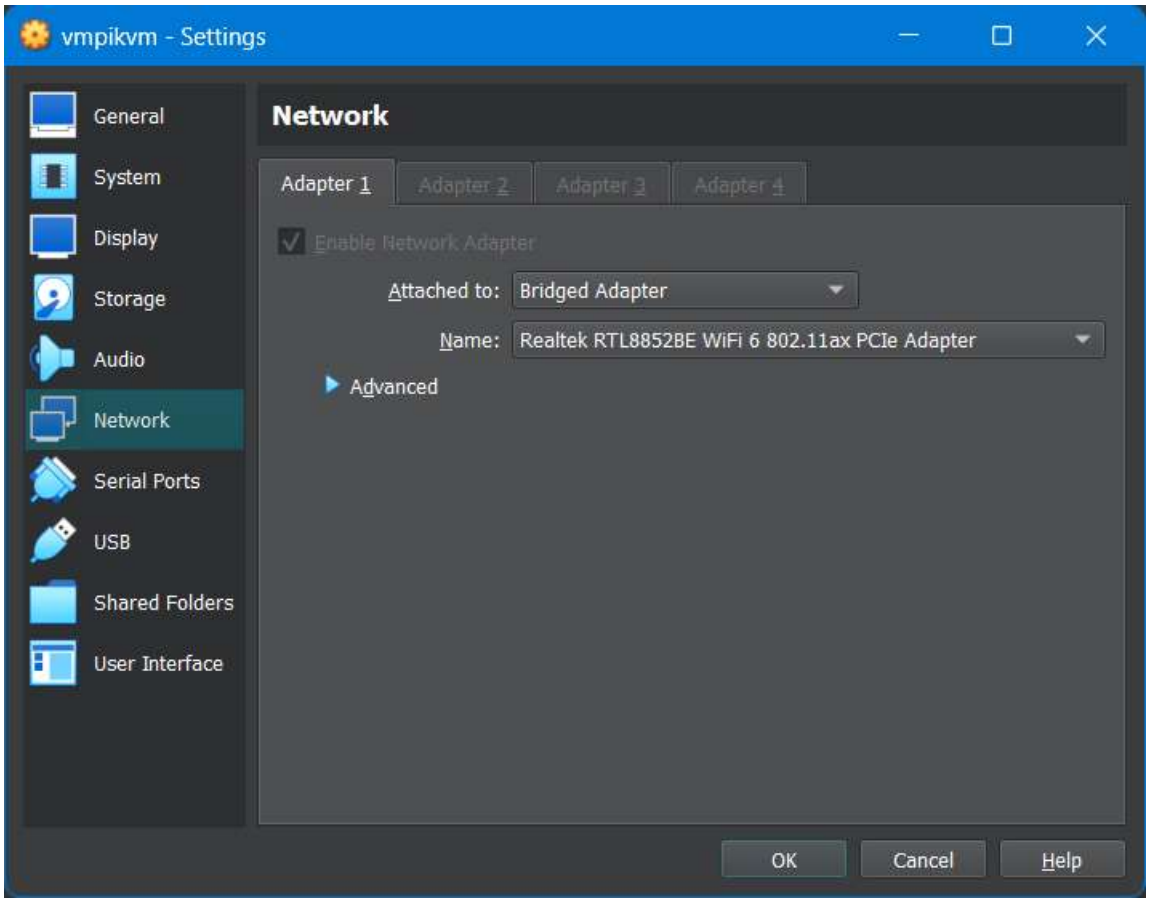
REQUIREMENTS:

- Laptop/PC running Oracle VirtualBox or physical laptop/desktop running ubuntu
- USB UART cable
- ch9329 serial HID
- USB HDMI capture dongle or USB loop capture

STEP-BY-STEP INSTRUCTIONS:

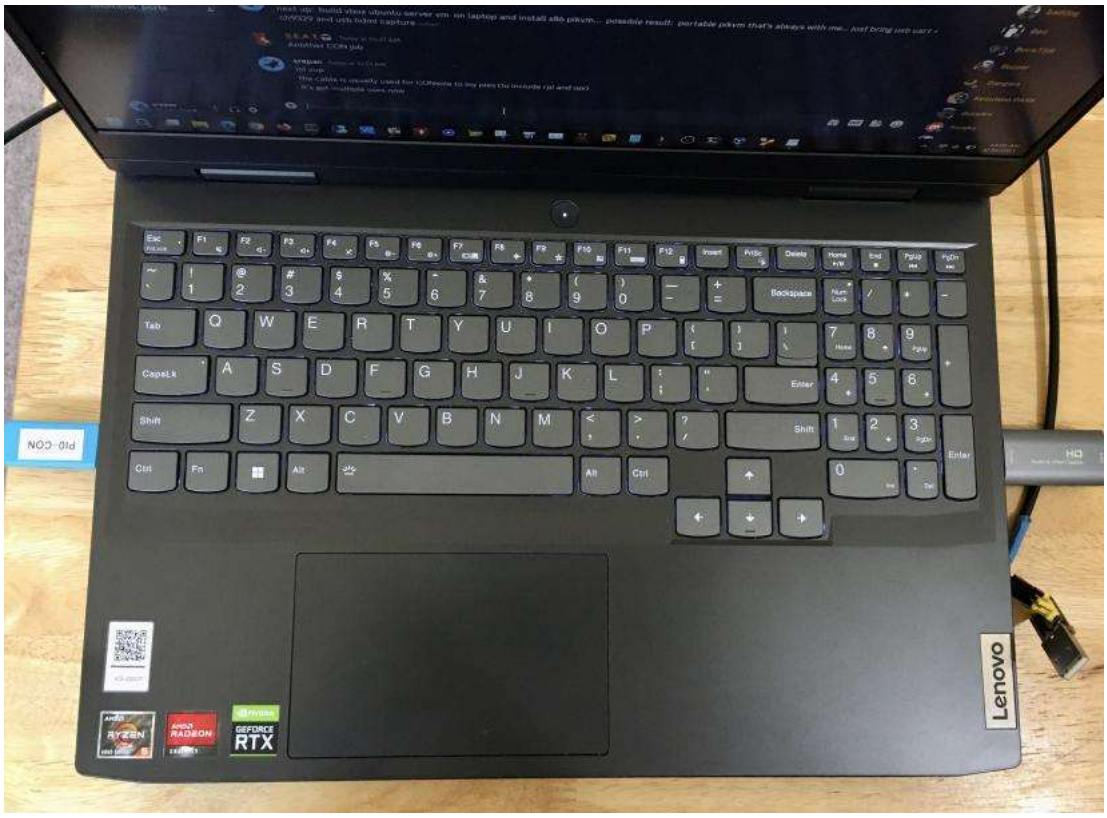
1. Create new VM and make sure network adapter is in Bridged mode.

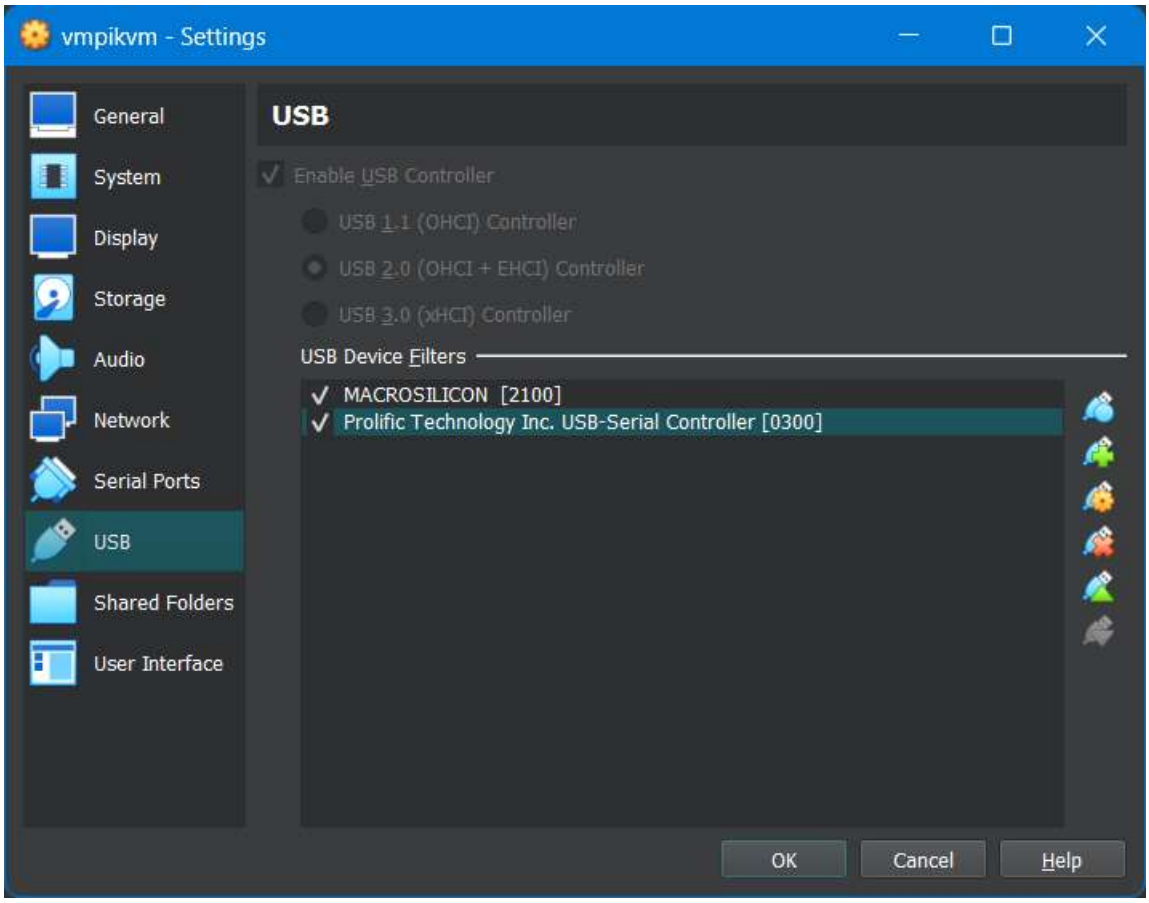




2. Passthru USB HDMI capture and USB UART + ch9329 after connecting USB HDMI dongle and USB UART to laptop/desktop.

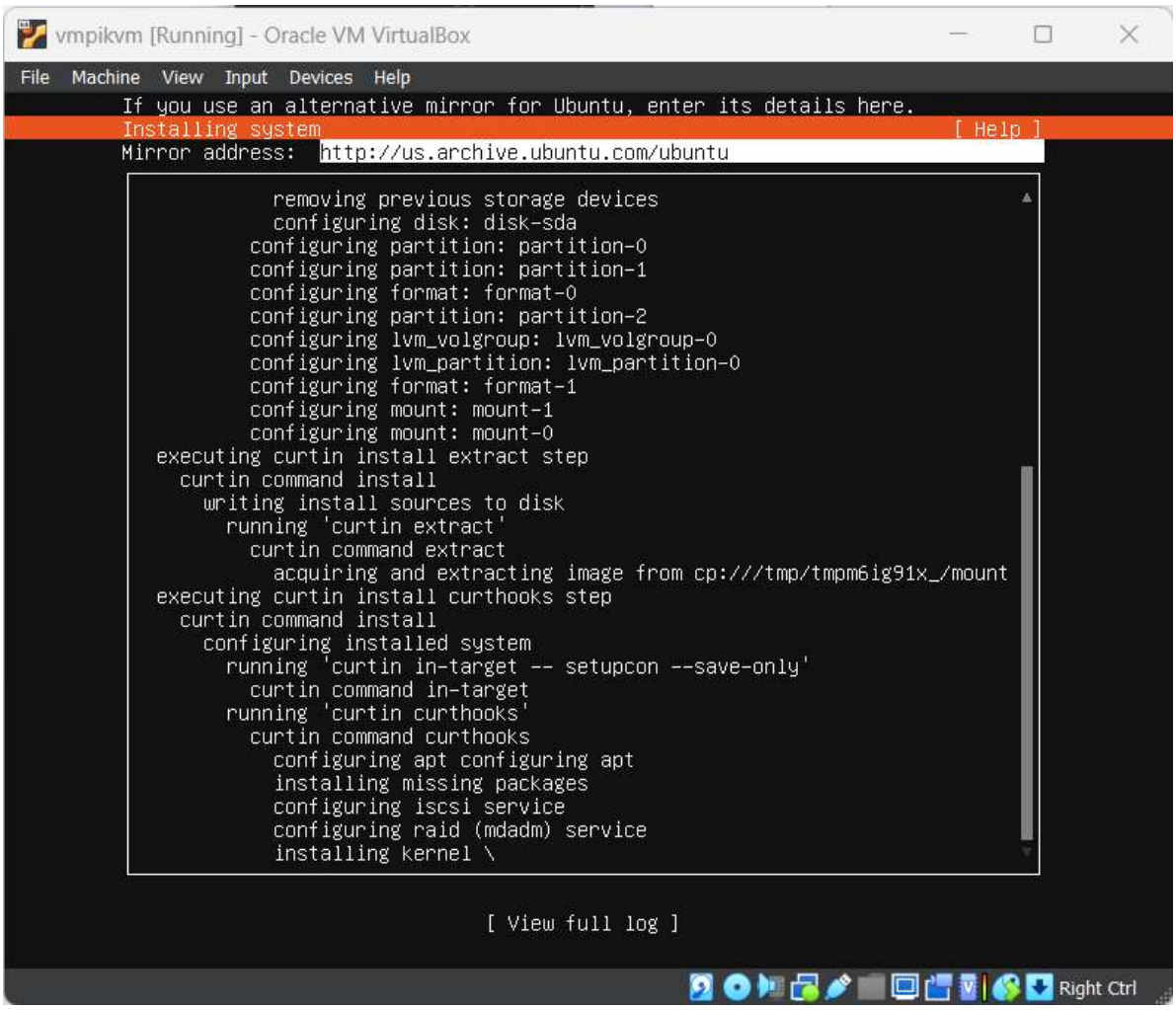

PIO-CON
GND RX TX +5V


PIO-CON
Lenovo
RYZEN
RADEON
GEFORCE RTX

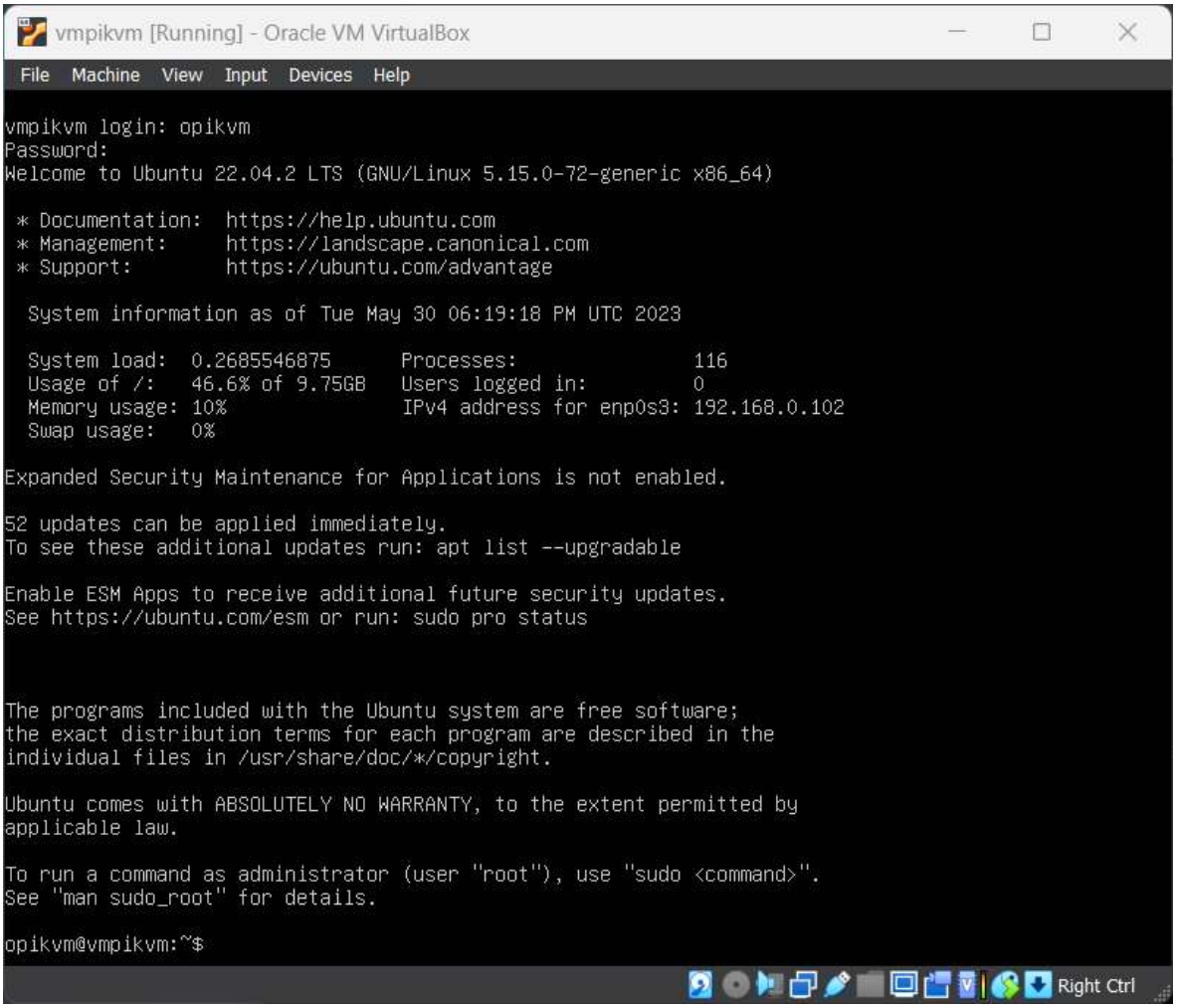


3. Proceed to install ubuntu server. During the install, create new user/password: **opikvm/opikvm**

The user will be used later to login via SSH and install pikvm x86.



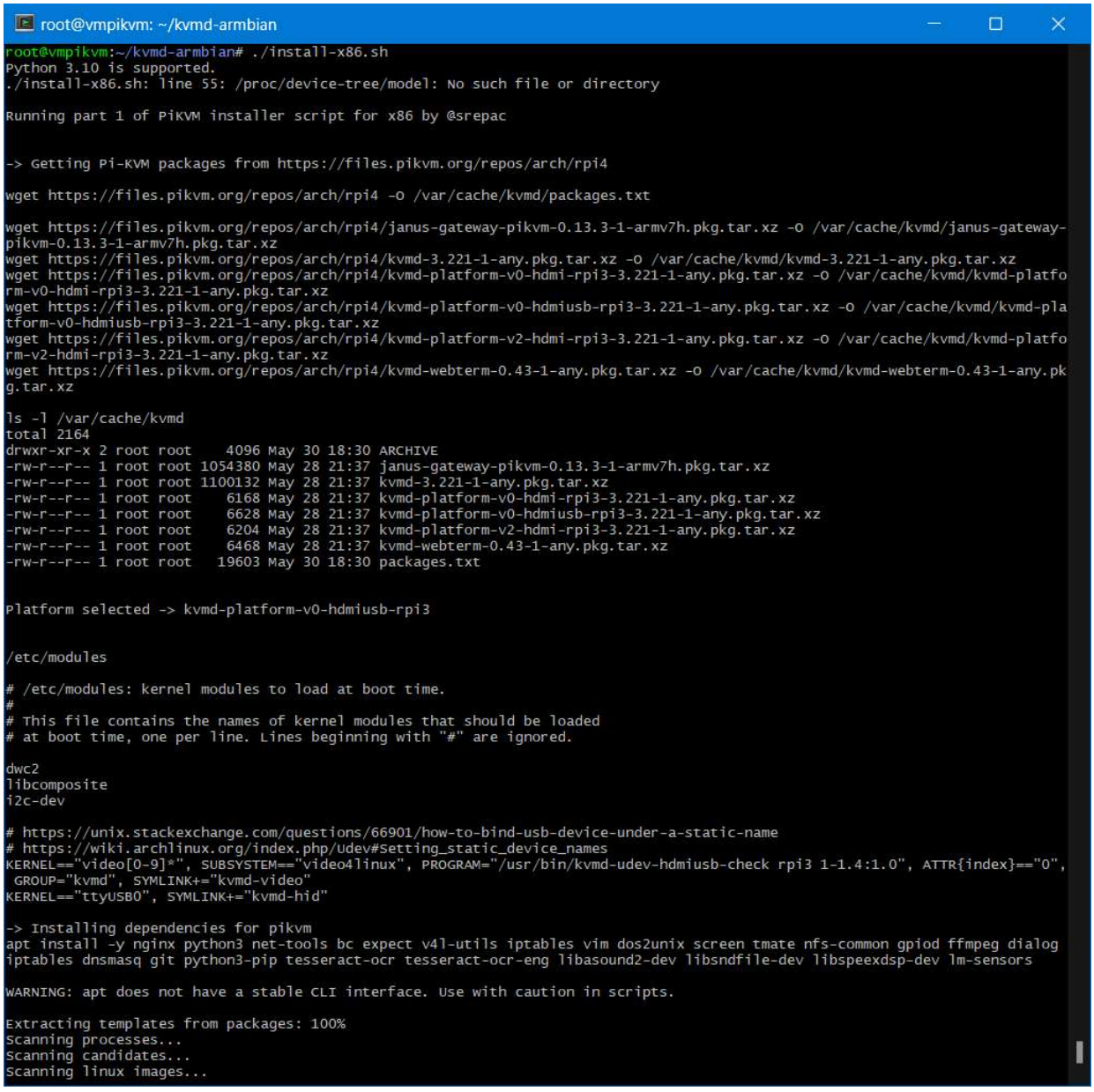
4. Login to console/SSH with user/password: **opikvm/opikvm**

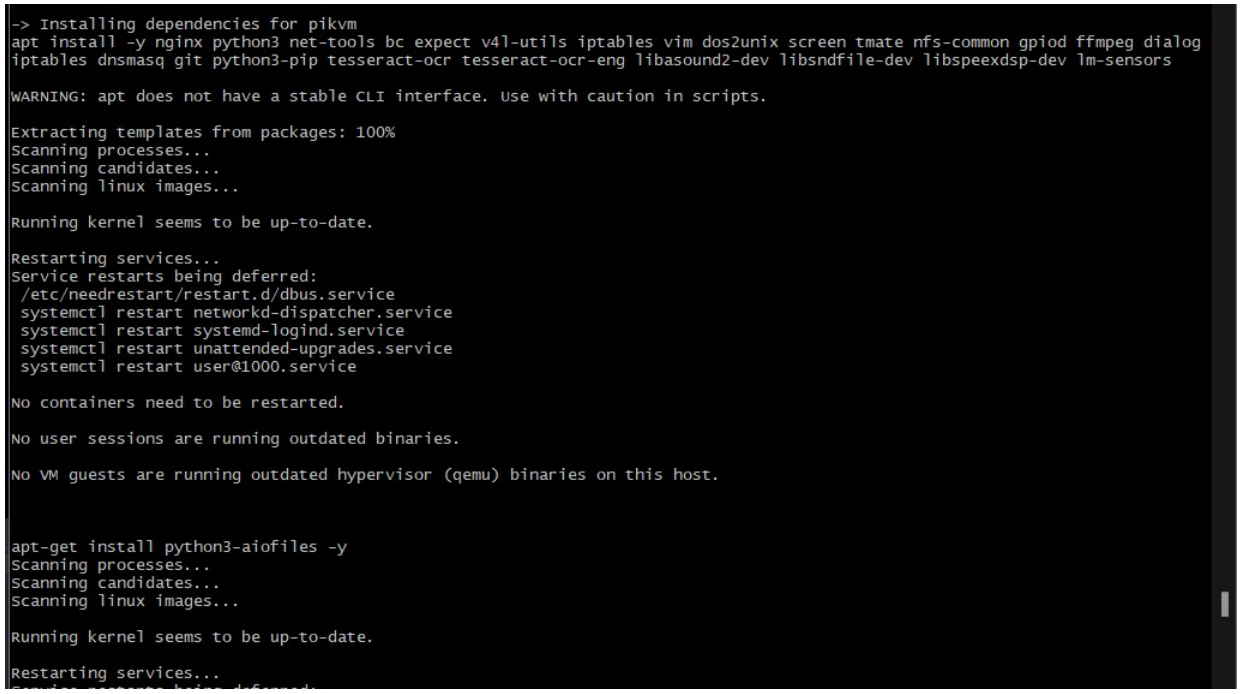


5. Run the following commands (as root) to get the kvmd-armbian git clone and the install-x86.sh script and run part 1 of the installer. Press ENTER when asked to reboot.

```
sudo su -
apt update
apt upgrade -y

apt install -y git vim make python3-dev gcc
git clone https://github.com/srepac/kvmd-armbian.git
cd kvmd-armbian/
wget https://kvmnerds.com/RPiKVM/kvmd-armbian/x86/install-x86.sh
chmod +x install-x86.sh
./install-x86.sh
```

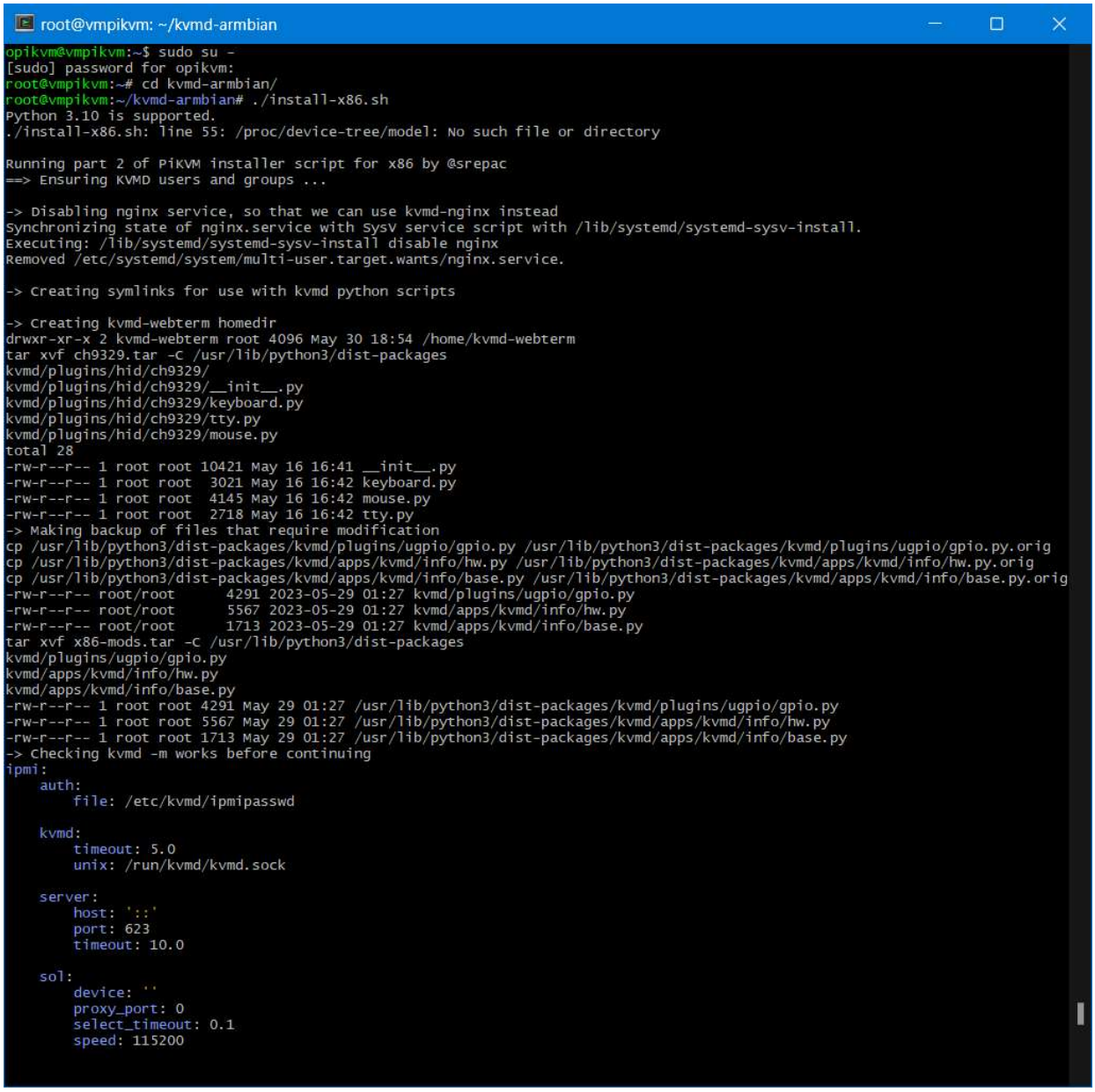

root@vmpikvm: ~/kvmd-armbian
root@vmpikvm:~/kvmd-armbian# ./install-x86.sh
Python 3.10 is supported.
./install-x86.sh: line 55: /proc/device-tree/model: No such file or directory
Running part 1 of PiKVM installer script for x86 by @srepac
-> Getting Pi-KVM packages from https://files.pikvm.org/repos/arch/rpi4
wget https://files.pikvm.org/repos/arch/rpi4 -O /var/cache/kvmd/packages.txt
wget https://files.pikvm.org/repos/arch/rpi4/janus-gateway-pikvm-0.13.3-1-armv7h.pkg.tar.xz -O /var/cache/kvmd/janus-gateway-pikvm-0.13.3-1-armv7h.pkg.tar.xz
wget https://files.pikvm.org/repos/arch/rpi4/kvmd-3.221-1-any.pkg.tar.xz -O /var/cache/kvmd/kvmd-3.221-1-any.pkg.tar.xz
wget https://files.pikvm.org/repos/arch/rpi4/kvmd-platform-v0-hdmi-rpi3-3.221-1-any.pkg.tar.xz -O /var/cache/kvmd/kvmd-platform-v0-hdmi-rpi3-3.221-1-any.pkg.tar.xz
wget https://files.pikvm.org/repos/arch/rpi4/kvmd-platform-v0-hdmiusb-rpi3-3.221-1-any.pkg.tar.xz -O /var/cache/kvmd/kvmd-platform-v0-hdmiusb-rpi3-3.221-1-any.pkg.tar.xz
wget https://files.pikvm.org/repos/arch/rpi4/kvmd-platform-v2-hdmi-rpi3-3.221-1-any.pkg.tar.xz -O /var/cache/kvmd/kvmd-platform-v2-hdmi-rpi3-3.221-1-any.pkg.tar.xz
wget https://files.pikvm.org/repos/arch/rpi4/kvmd-webterm-0.43-1-any.pkg.tar.xz -O /var/cache/kvmd/kvmd-webterm-0.43-1-any.pkg.tar.xz
ls -l /var/cache/kvmd
total 2164
drwxr-xr-x 2 root root   4096 May 30 18:30 ARCHIVE
-rw-r--r-- 1 root root 1054380 May 28 21:37 janus-gateway-pikvm-0.13.3-1-armv7h.pkg.tar.xz
-rw-r--r-- 1 root root 1100132 May 28 21:37 kvmd-3.221-1-any.pkg.tar.xz
-rw-r--r-- 1 root root   6168 May 28 21:37 kvmd-platform-v0-hdmi-rpi3-3.221-1-any.pkg.tar.xz
-rw-r--r-- 1 root root   6628 May 28 21:37 kvmd-platform-v0-hdmiusb-rpi3-3.221-1-any.pkg.tar.xz
-rw-r--r-- 1 root root   6204 May 28 21:37 kvmd-platform-v2-hdmi-rpi3-3.221-1-any.pkg.tar.xz
-rw-r--r-- 1 root root   6468 May 28 21:37 kvmd-webterm-0.43-1-any.pkg.tar.xz
-rw-r--r-- 1 root root   19603 May 30 18:30 packages.txt
Platform selected -> kvmd-platform-v0-hdmiusb-rpi3
/etc/modules
/etc/modules: kernel modules to load at boot time.
#
This file contains the names of kernel modules that should be loaded
at boot time, one per line. Lines beginning with "#" are ignored.
dwc2
libcomposite
i2c-dev
# https://unix.stackexchange.com/questions/66901/how-to-bind-usb-device-under-a-static-name
# https://wiki.archlinux.org/index.php/Udev#Setting_static_device_names
KERNEL=="video[0-9]*", SUBSYSTEM=="video4linux", PROGRAM="/usr/bin/kvmd-udev-hdmiusb-check rpi3 1-1.4:1.0", ATTR{index}=="0", GROUP="kvmd", SYMLINK+="kvmd-video"
KERNEL=="ttyUSB0", SYMLINK+="kvmd-hid"
-> Installing dependencies for pikvm
apt install -y nginx python3 net-tools bc expect v4l-utils iptables vim dos2unix screen tmate nfs-common gpiod ffmpeg dialog iptables dnsmasq git python3-pip tesseract-ocr tesseract-ocr-eng libasound2-dev libsndfile-dev libspeexdsp-dev lm-sensors
WARNING: apt does not have a stable CLI interface. Use with caution in scripts.
Extracting templates from packages: 100%
Scanning processes...
Scanning candidates...
Scanning linux images...

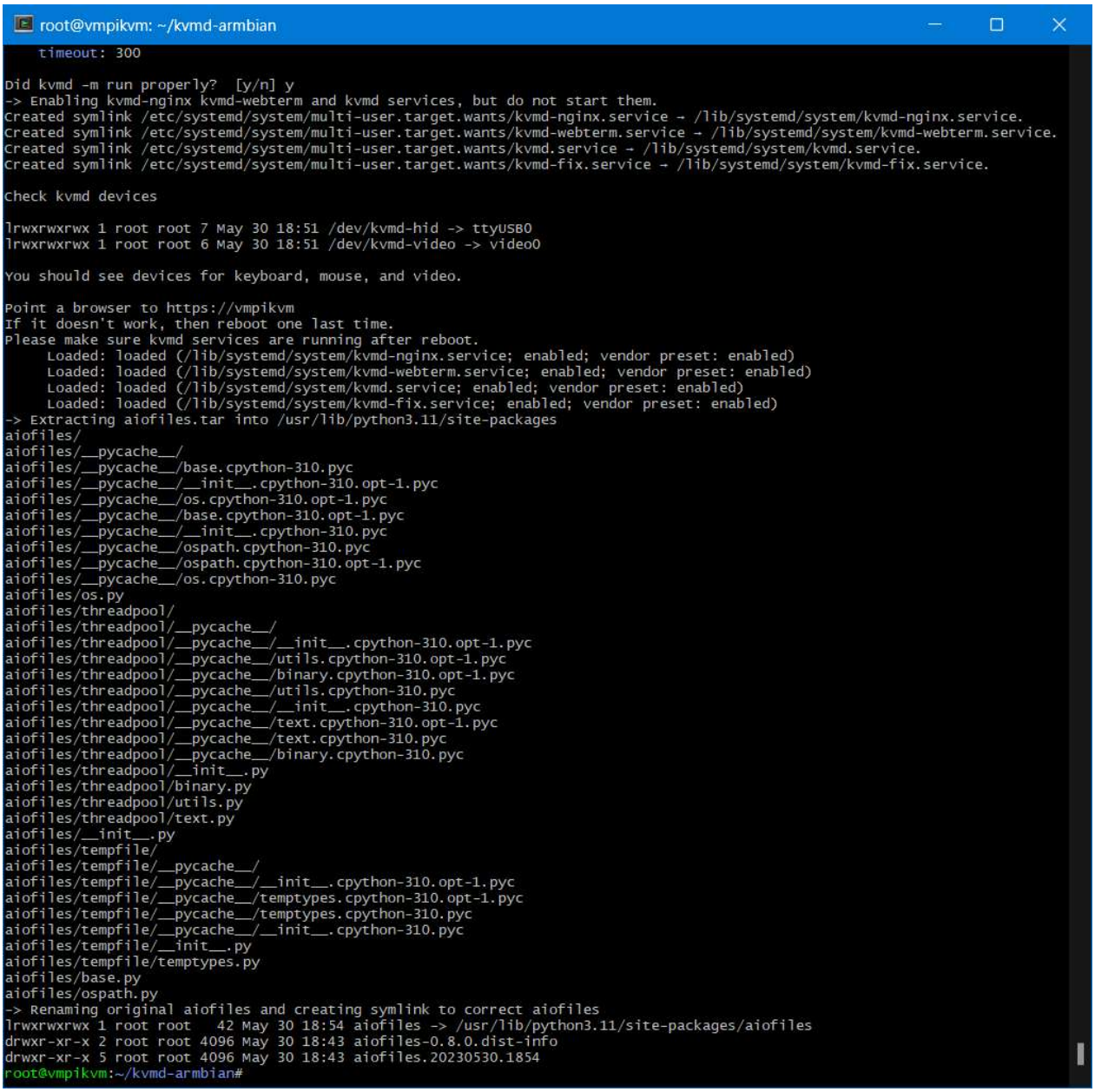


NOTE: During the install, whenever you see "**Restart services...**" while running install-x86.sh, please press ENTER key. If you don't ubuntu will be waiting for you in order to go to the next command.

6. Log back in as opikvm/opikvm and run part 2 of installer after reboot (as root).

```
sudo su -
cd kvmd-armbian/
./install-x86.sh
```


root@vmpikvm: ~/kvmd-armbian
opikvm@vmpikvm:~$ sudo su -
[sudo] password for opikvm:
root@vmpikvm:~# cd kvmd-armbian/
root@vmpikvm:~/kvmd-armbian# ./install-x86.sh
Python 3.10 is supported.
./install-x86.sh: line 55: /proc/device-tree/model: No such file or directory
Running part 2 of PiKVM installer script for x86 by @srepac
==> Ensuring KVMD users and groups ...
-> Disabling nginx service, so that we can use kvmd-nginx instead
Synchronizing state of nginx.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install disable nginx
Removed /etc/systemd/system/multi-user.target.wants/nginx.service.
-> Creating symlinks for use with kvmd python scripts
-> Creating kvmd-webterm homedir
drwxr-xr-x 2 kvmd-webterm root 4096 May 30 18:54 /home/kvmd-webterm
tar xvf ch9329.tar -C /usr/lib/python3/dist-packages
kvmd/plugins/hid/ch9329/
kvmd/plugins/hid/ch9329/__init__.py
kvmd/plugins/hid/ch9329/keyboard.py
kvmd/plugins/hid/ch9329/tty.py
kvmd/plugins/hid/ch9329/mouse.py
total 28
-rw-r--r-- 1 root root 10421 May 16 16:41 __init__.py
-rw-r--r-- 1 root root 3021 May 16 16:42 keyboard.py
-rw-r--r-- 1 root root 4145 May 16 16:42 mouse.py
-rw-r--r-- 1 root root 2718 May 16 16:42 tty.py
-> Making backup of files that require modification
cp /usr/lib/python3/dist-packages/kvmd/plugins/ugpio/gpio.py /usr/lib/python3/dist-packages/kvmd/plugins/ugpio/gpio.py.orig
cp /usr/lib/python3/dist-packages/kvmd/apps/kvmd/info/hw.py /usr/lib/python3/dist-packages/kvmd/apps/kvmd/info/hw.py.orig
cp /usr/lib/python3/dist-packages/kvmd/apps/kvmd/info/base.py /usr/lib/python3/dist-packages/kvmd/apps/kvmd/info/base.py.orig
-rw-r--r-- root/root   4291 2023-05-29 01:27 kvmd/plugins/ugpio/gpio.py
-rw-r--r-- root/root   5567 2023-05-29 01:27 kvmd/apps/kvmd/info/hw.py
-rw-r--r-- root/root   1713 2023-05-29 01:27 kvmd/apps/kvmd/info/base.py
tar xvf x86-mods.tar -C /usr/lib/python3/dist-packages
kvmd/plugins/ugpio/gpio.py
kvmd/apps/kvmd/info/hw.py
kvmd/apps/kvmd/info/base.py
-rw-r--r-- 1 root root 4291 May 29 01:27 /usr/lib/python3/dist-packages/kvmd/plugins/ugpio/gpio.py
-rw-r--r-- 1 root root 5567 May 29 01:27 /usr/lib/python3/dist-packages/kvmd/apps/kvmd/info/hw.py
-rw-r--r-- 1 root root 1713 May 29 01:27 /usr/lib/python3/dist-packages/kvmd/apps/kvmd/info/base.py
-> Checking kvmd -m works before continuing
ipmi:
auth:
file: /etc/kvmd/ipmipasswd
kvmd:
timeout: 5.0
unix: /run/kvmd/kvmd.sock
server:
host: '::'
port: 623
timeout: 10.0
sol:
device: ''
proxy_port: 0
select_timeout: 0.1
speed: 115200



7. Connect the ch9329 and HDMI to your target system and enjoy!

The Open Source IP-KVM

Server: vmpikvm

Please note that when you are working with a KVM session or another application that captures the keyboard, you can't use some keyboard shortcuts such as Ctrl+Alt+Del (which will be caught by your OS) or Ctrl+W (caught by your browser).

To override this limitation you can use Google Chrome or Chromium in application mode.

```
# On Linux using Chromium/Chrome via any terminal:
$ `which chromium 2>/dev/null || which chrome 2>/dev/null || which google-chrome` --app="https://vmpikvm/"

# On MacOS using Terminal application:
$ /Applications/Google\ Chrome.app/Contents/MacOS/Google\ Chrome --app="https://vmpikvm/"

# On Windows via cmd.exe:
C:\> start chrome --app="https://vmpikvm/"
```