Custom Linux ISO Creation

Pre-requisites

1. Host Machine: Ubuntu
2. Cubic ISO Creator
3. Standard Linux ISO
    1. Desktop Editions
        1. Ubuntu 20.04 LTS
        2. Ubuntu 22.04 LTS
    2. Server Editions
        1. Ubuntu 20.04 LTS
        2. Ubuntu 22.04 LTS
4. Logo and Wallpaper for Custom Linux e.g., **SkynetOS**

Getting Started

Install Cubic

```
sudo add-apt-repository ppa:cubic-wizard/release
sudo apt install --no-install-recommends cubic
```

Launch Cubic

1. Create a new directory **SkynetOS** on **/home/user/Desktop/**
2. Search Cubic in Ubuntu Applications Menu and Open **Cubic**
3. Select Destination folder as **/home/user/Desktop/SkynetOS**
4. Click Next button on Right Top

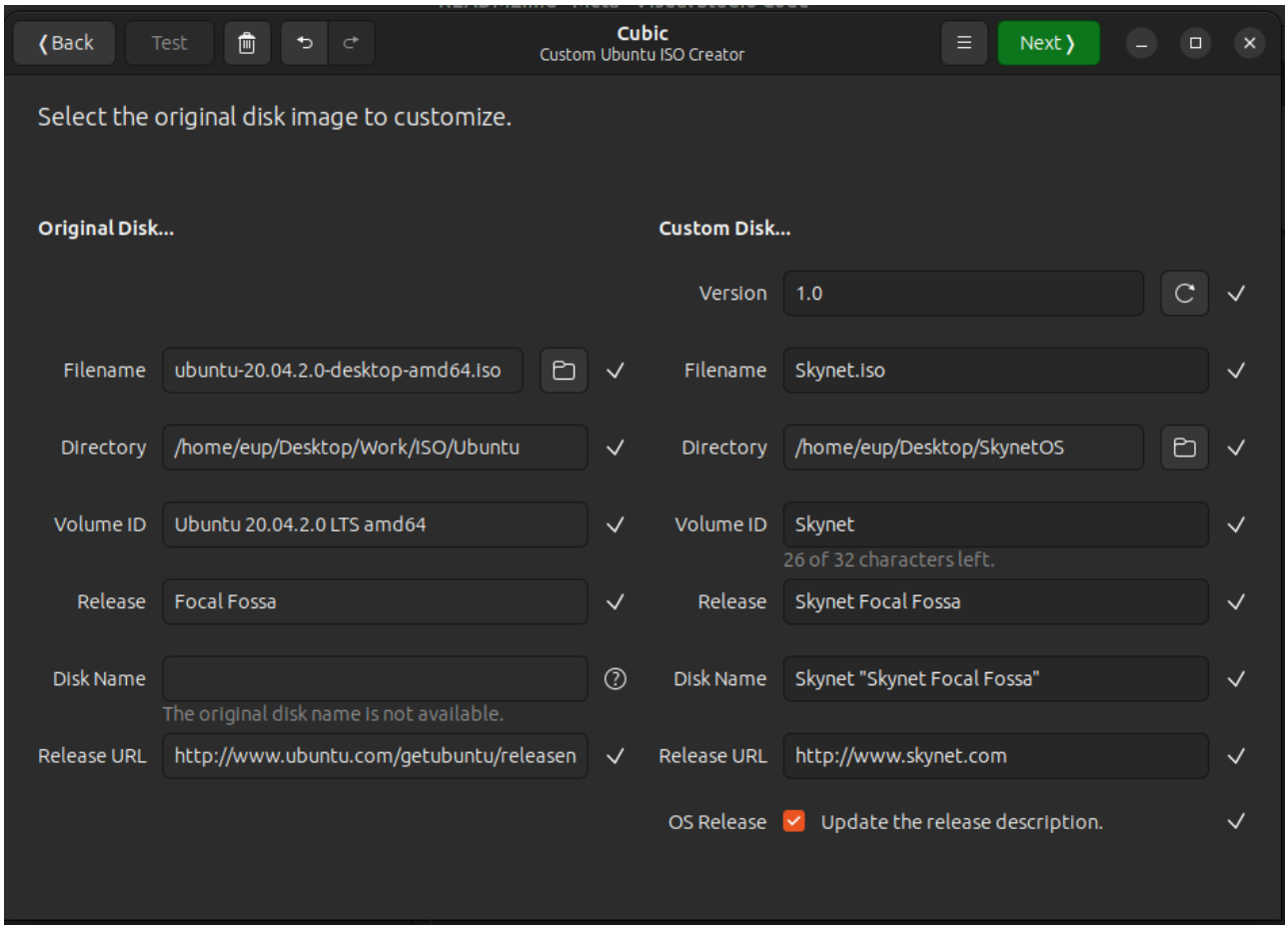
5. On the Left Pane

    1. Select Filename
    2. Select the **Source Linux ISO**, e.g., **Ubuntu 20.04 LTS.iso**

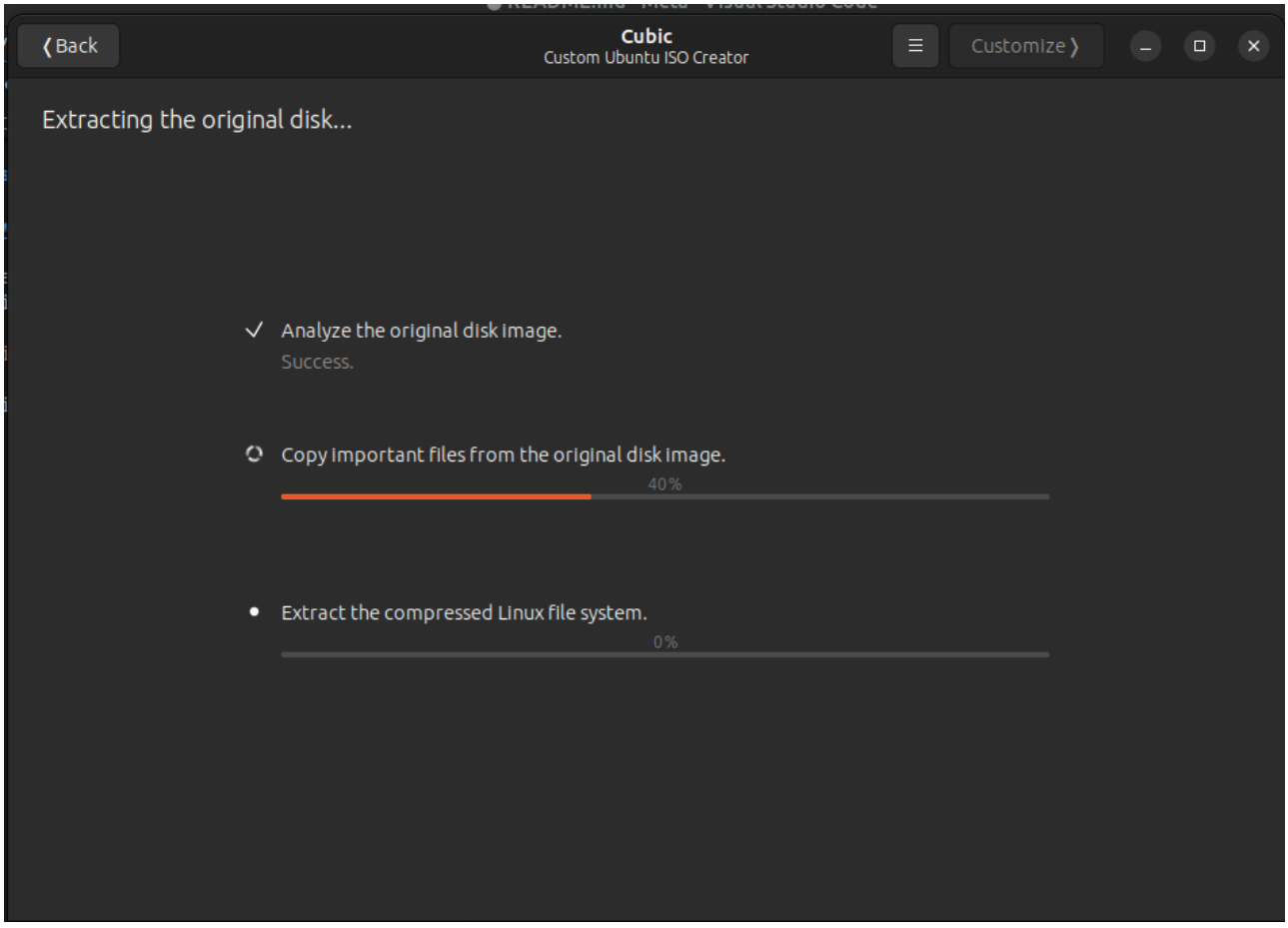
6. On the Right Pane, Change information according to requirements. E.g.,

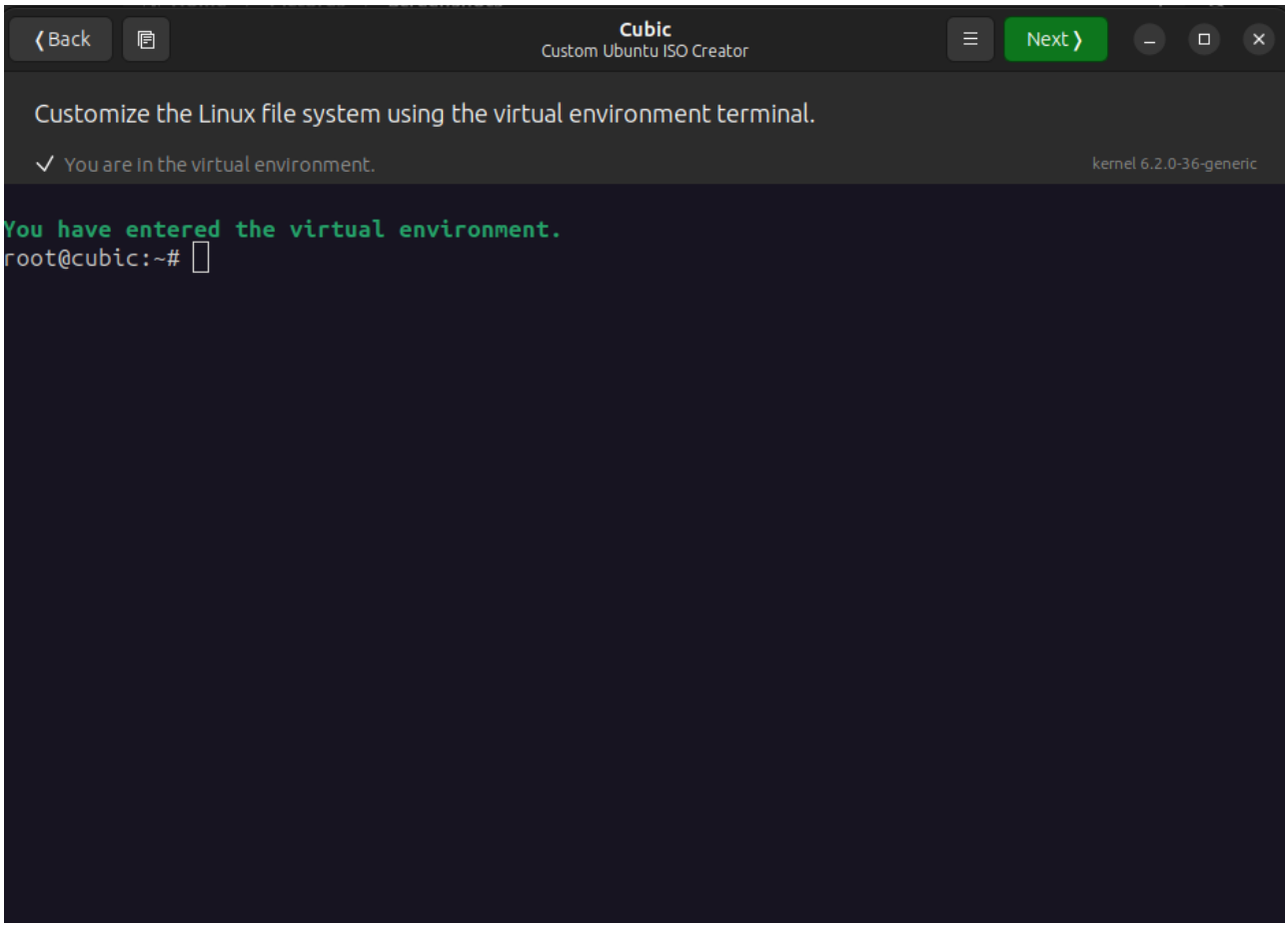
    1. Change Version as **1.0**
    2. Change Filename to **Skynet.iso**
    3. Change Volume ID to **Skynet**
    4. Change Release to **Skynet Focal Fossa**
    5. Change Release URL to **http://www.skynet.com**
    6. Make sure **OS Release** is checked

7. Click Next button on Right Top



8. Wait until loading is complete and you are redirected to terminal





9. Update Ubuntu repositories

    1. Delete all existing repositories inside **/etc/apt/sources.list**

    ```
    echo "" > /etc/apt/sources.list
    ```

    2. Add new reporitories inside **/etc/apt/sources.list** according to Ubuntu **version e.g., 20.04 or 22.04**

    ```
    # For Ubuntu 20.04
    #
    https://gist.github.com/ishad0w/788555191c7037e249a439542c53e170
    deb http://archive.ubuntu.com/ubuntu/ focal main restricted
    universe multiverse
    deb-src http://archive.ubuntu.com/ubuntu/ focal main restricted
    universe multiverse
    deb http://archive.ubuntu.com/ubuntu/ focal-updates main
    restricted universe multiverse
    deb-src http://archive.ubuntu.com/ubuntu/ focal-updates main
    restricted universe multiverse
    deb http://archive.ubuntu.com/ubuntu/ focal-security main
    restricted universe multiverse
    deb-src http://archive.ubuntu.com/ubuntu/ focal-security main
    restricted universe multiverse
    deb http://archive.ubuntu.com/ubuntu/ focal-backports main
    ```

```
restricted universe multiverse
deb-src http://archive.ubuntu.com/ubuntu/ focal-backports main
restricted universe multiverse
deb http://archive.canonical.com/ubuntu focal partner
deb-src http://archive.canonical.com/ubuntu focal partner
```

```
# For Ubuntu 22.04
#
https://gist.github.com/hakerdefo/9c99e140f543b5089e32176fe8721f5
f
deb http://archive.ubuntu.com/ubuntu/ jammy main restricted
universe multiverse
deb http://archive.ubuntu.com/ubuntu/ jammy-updates main
restricted universe multiverse
deb http://archive.ubuntu.com/ubuntu/ jammy-security main
restricted universe multiverse
deb http://archive.ubuntu.com/ubuntu/ jammy-backports main
restricted universe multiverse
deb http://archive.canonical.com/ubuntu/ jammy partner
```

3. Update Ubuntu

```
sudo apt update
```

10. Install all required packages

```
sudo apt install neofetch
neofetch
sudo apt install screen
# You can install any package here
```

11. Install Suricate

```
sudo add-apt-repository ppa:oisf/suricata-stable
sudo apt install suricata
sudo suricata-update
suricata -v
```

12. Upload Custom Linux Wallpaper e.g., SkynetOS Wallpaper

    1. Make sure you already have a Wallpaper available by name **warty-final-ubuntu.png**

```

```

```
# On Cubic Terminal
cd /usr/share/backgrounds/
mv warty-final-ubuntu.png warty-final-ubuntu_default.png
```

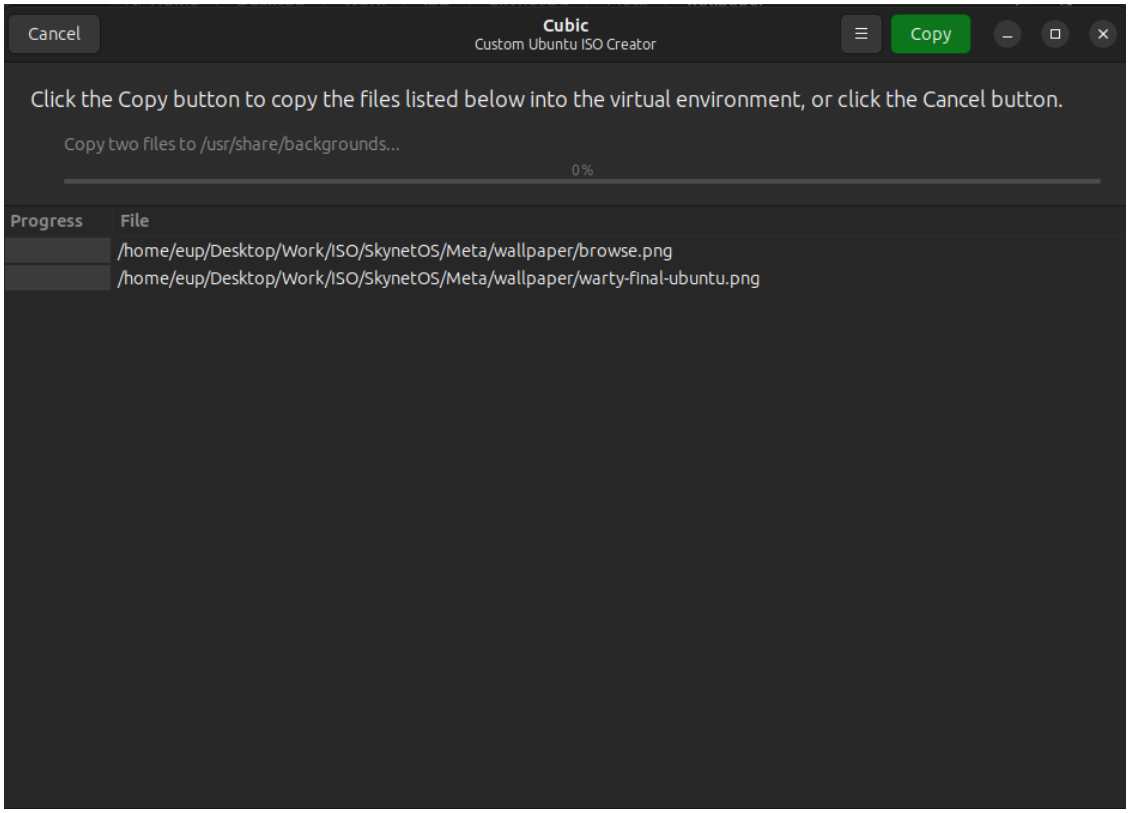
2. Upload wallpaper

    1. Click on Copy icon on Top Left, just after the BACK button.

    2. Select two images

        1. **warty-final-ubuntu.png**
        2. **browse.png**

    3. Click on Copy button on Top Right



3. Copy the **wallpaper** and **browse.png** on some other locations

```
   cp warty-final-ubuntu.png /usr/share/ubiquity-
slideshow/slides/screenshots/welcome.png
   cp warty-final-ubuntu.png /usr/share/ubiquity-
slideshow/slides/link/background.png
   mv browse.png /usr/share/ubiquity-
slideshow/slides/screenshots/browse.png
```

13. Upload Custom Linux Logo e.g., **SkynetOS logo**

    1. Make sure you already have a Logo available by name **ubuntu-logo.png**
    2. Make sure the **size** of logo is small/suitable

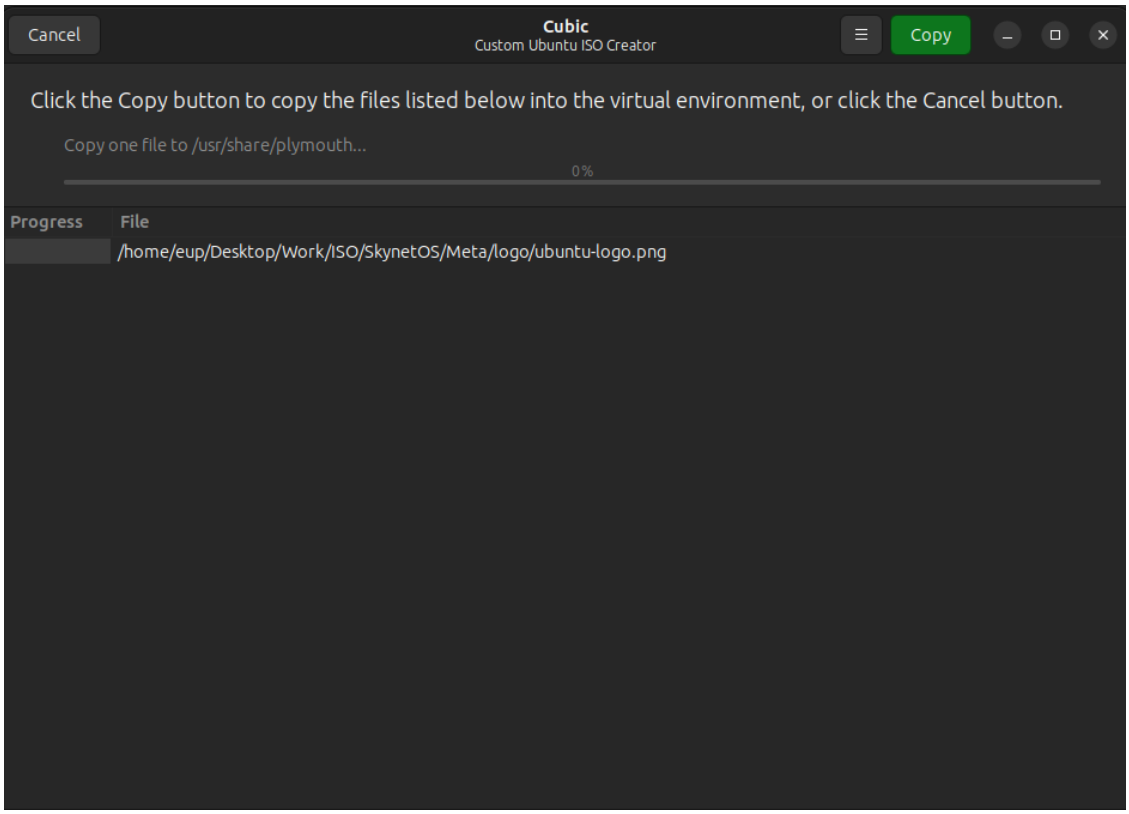
```
# On Cubic Terminal
cd /usr/share/plymouth/
mv ubuntu-logo.png ubuntu-logo_default.png
```

3. Upload Logo

    1. Click on Copy icon on Top Left, just after the BACK button.

    2. Select **ubuntu-logo.png**

    3. Click on Copy button on Top Right




```
   cp ubuntu-logo.png
/usr/share/plymouth/themes/spinner/watermark.png
```

14. Replace Ubuntu with **Skynet** in several files with these commands

```
cd /usr/share/plymouth/

for file_path in `find . -name "*.plymouth"`; do \
   echo "Updating file ${file_path}."; \
   sed -i "s|Ubuntu|Skynet|g" "${file_path}"; \
done
```

Upload Python Script

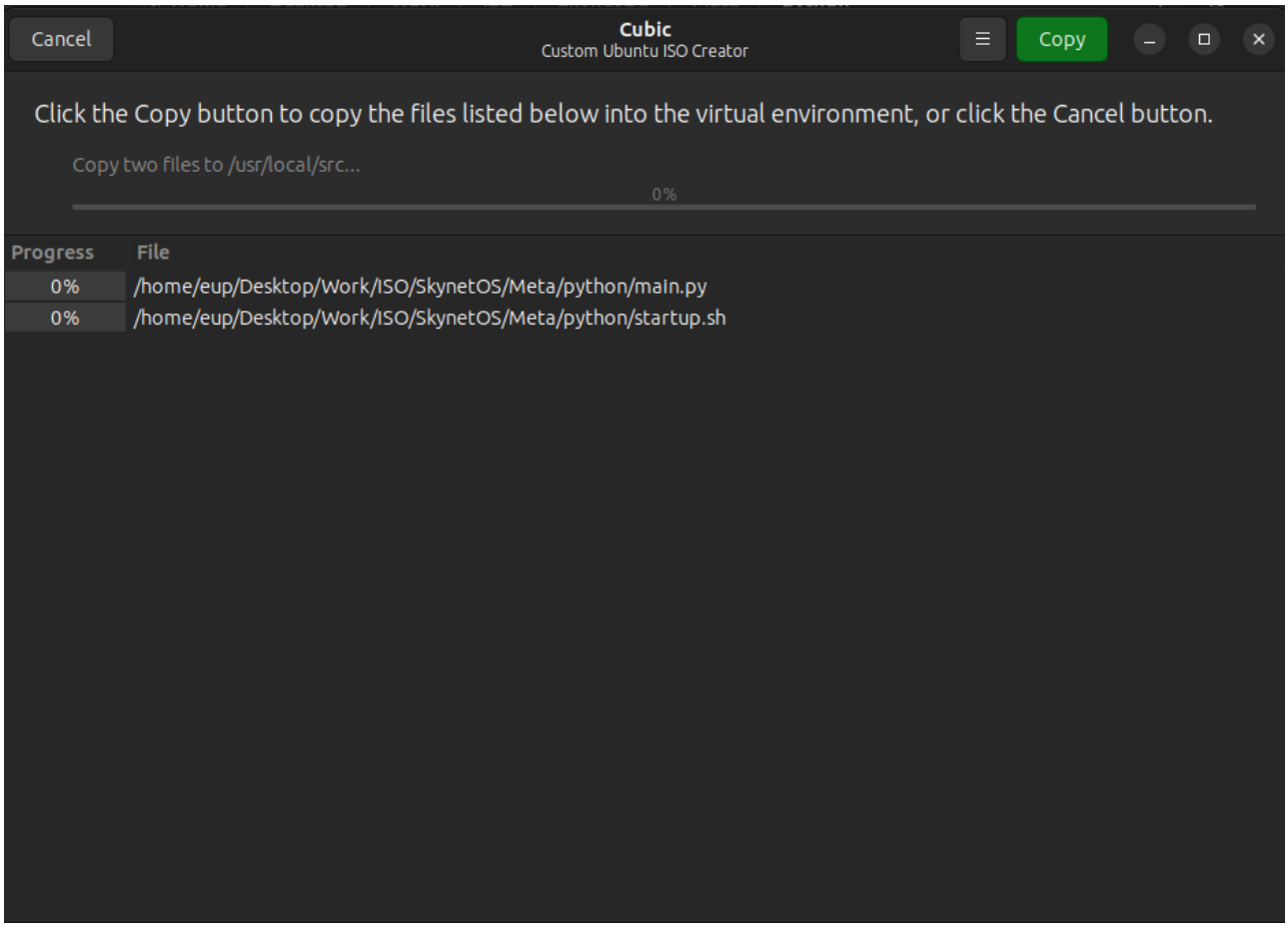
1. You can place your python script in **/usr/local/src/**

```
cd /usr/local/src/
```

2. Click on Copy icon on Top Left, just after the BACK button.

3. Select two files

    1. **main.py**
    2. **startup.sh**



4. Click on Copy button on Top Right

5. Add python script i.e., startup.sh to cronjob

```
crontab -e
```

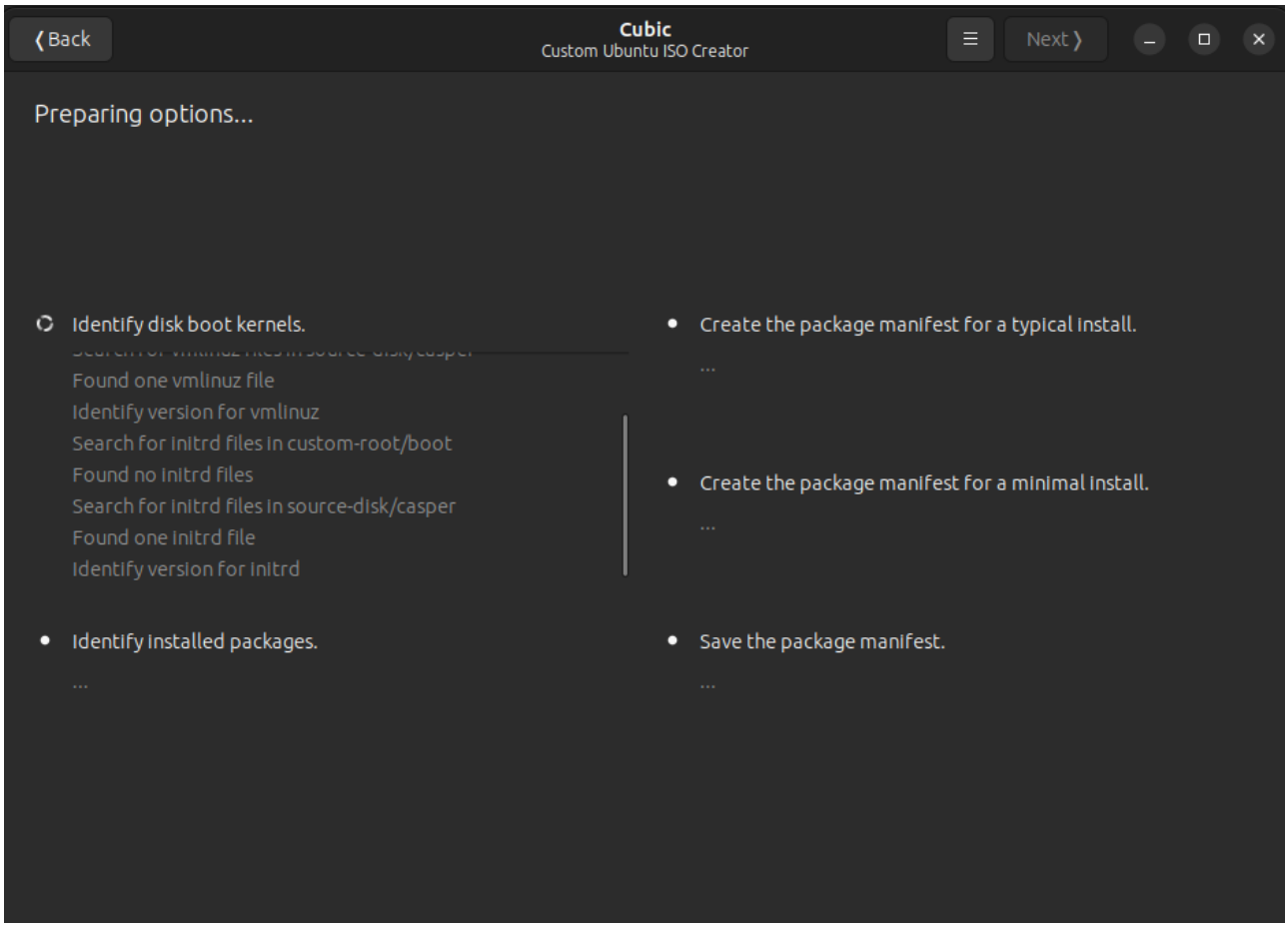
Select nano as a text editor

At the end of line, add this line

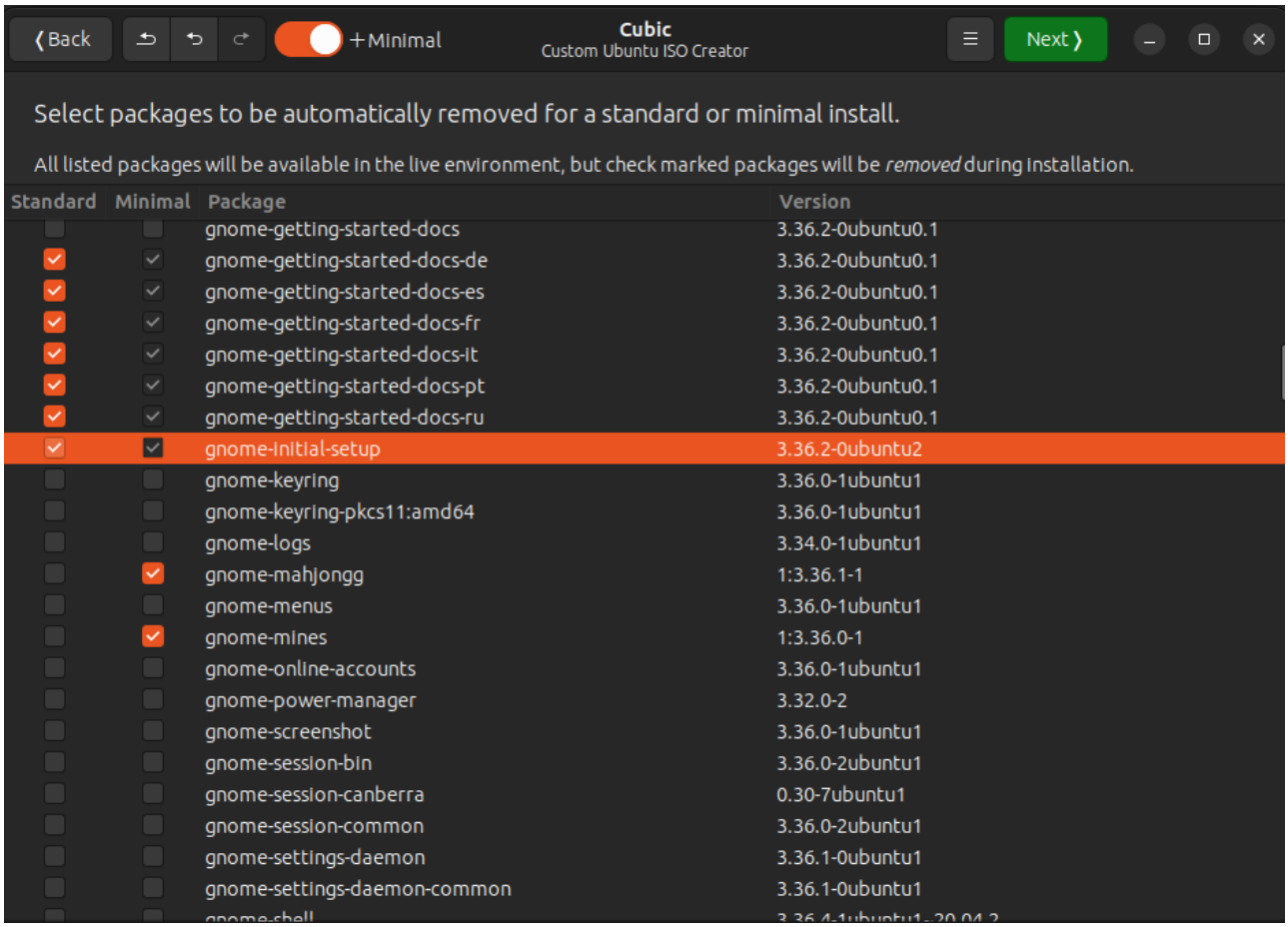
```
@reboot sleep 10; /usr/local/src/startup.sh &
```

6. Click Next button on Right Top

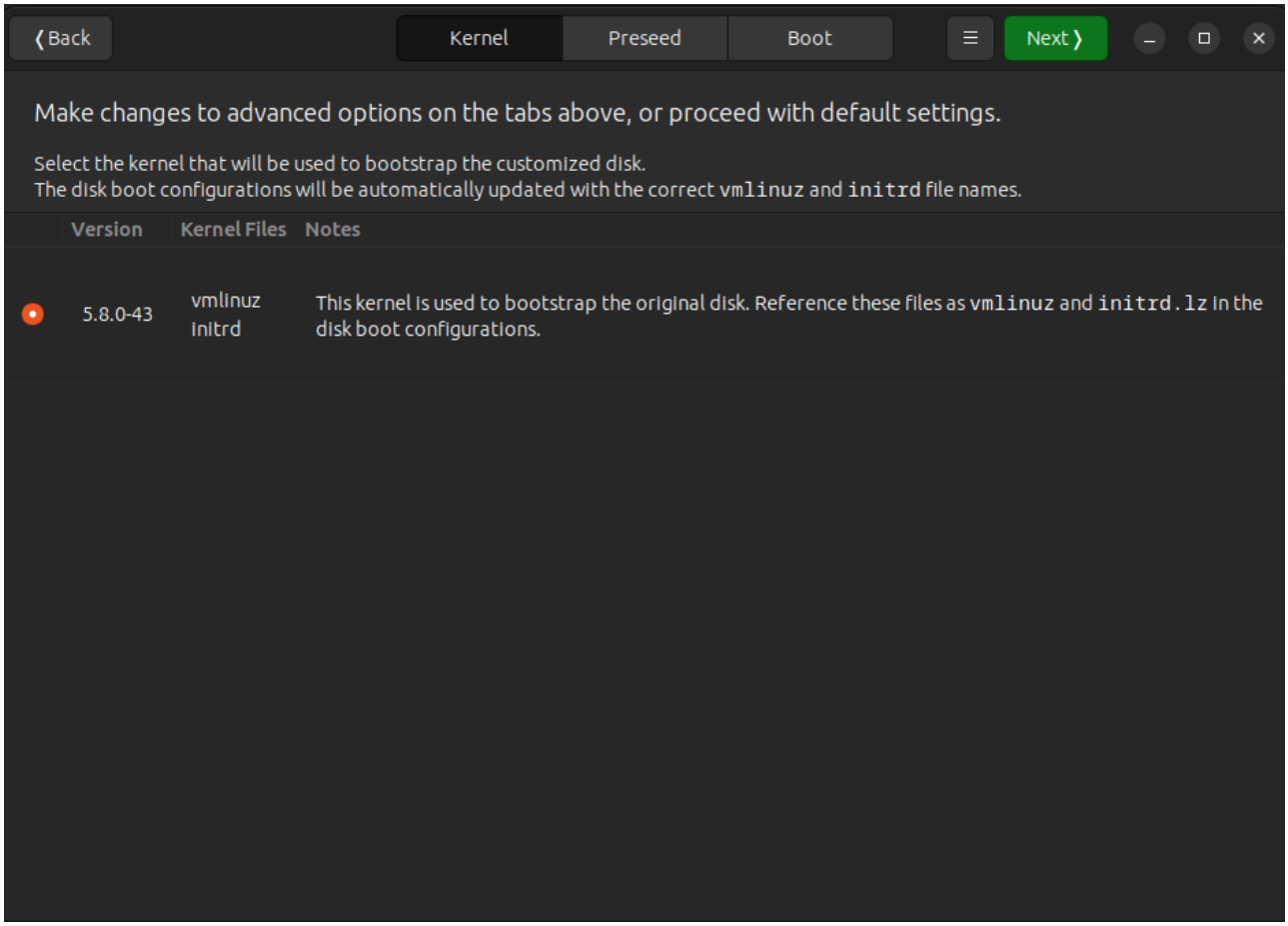
7. Wait for loading



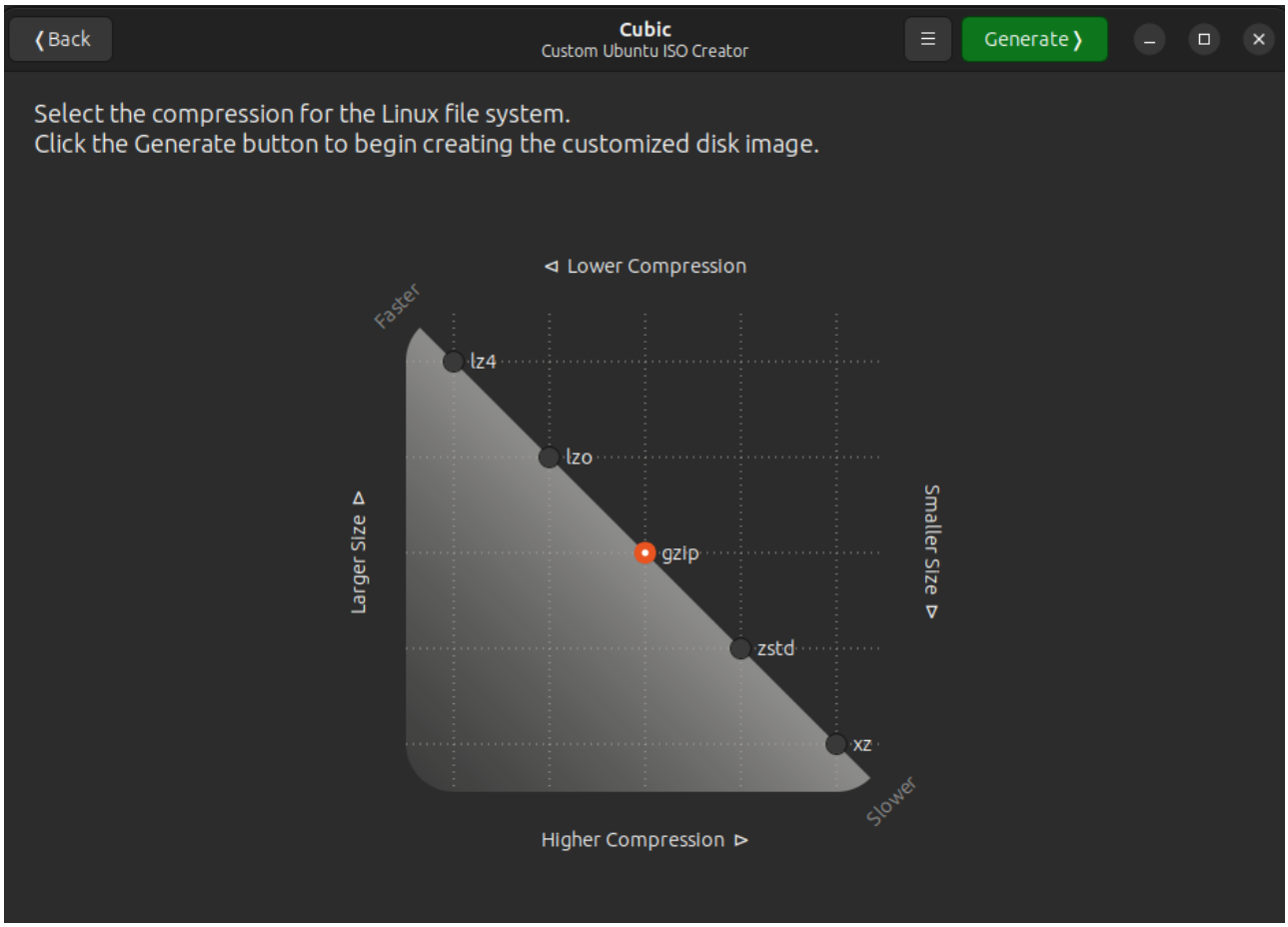
8. Select **gnome-initial-setup** and Click Next button on Right Top

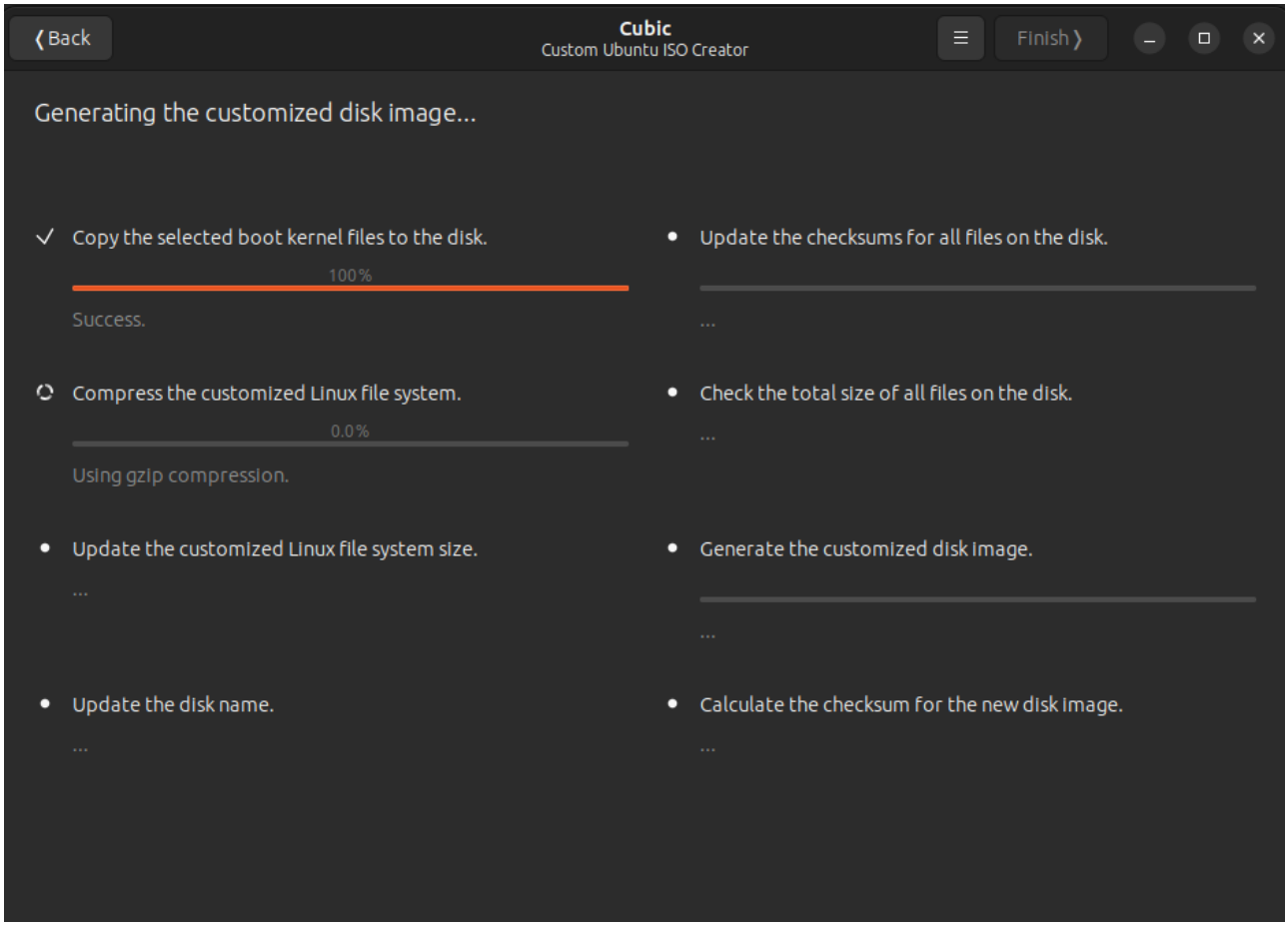


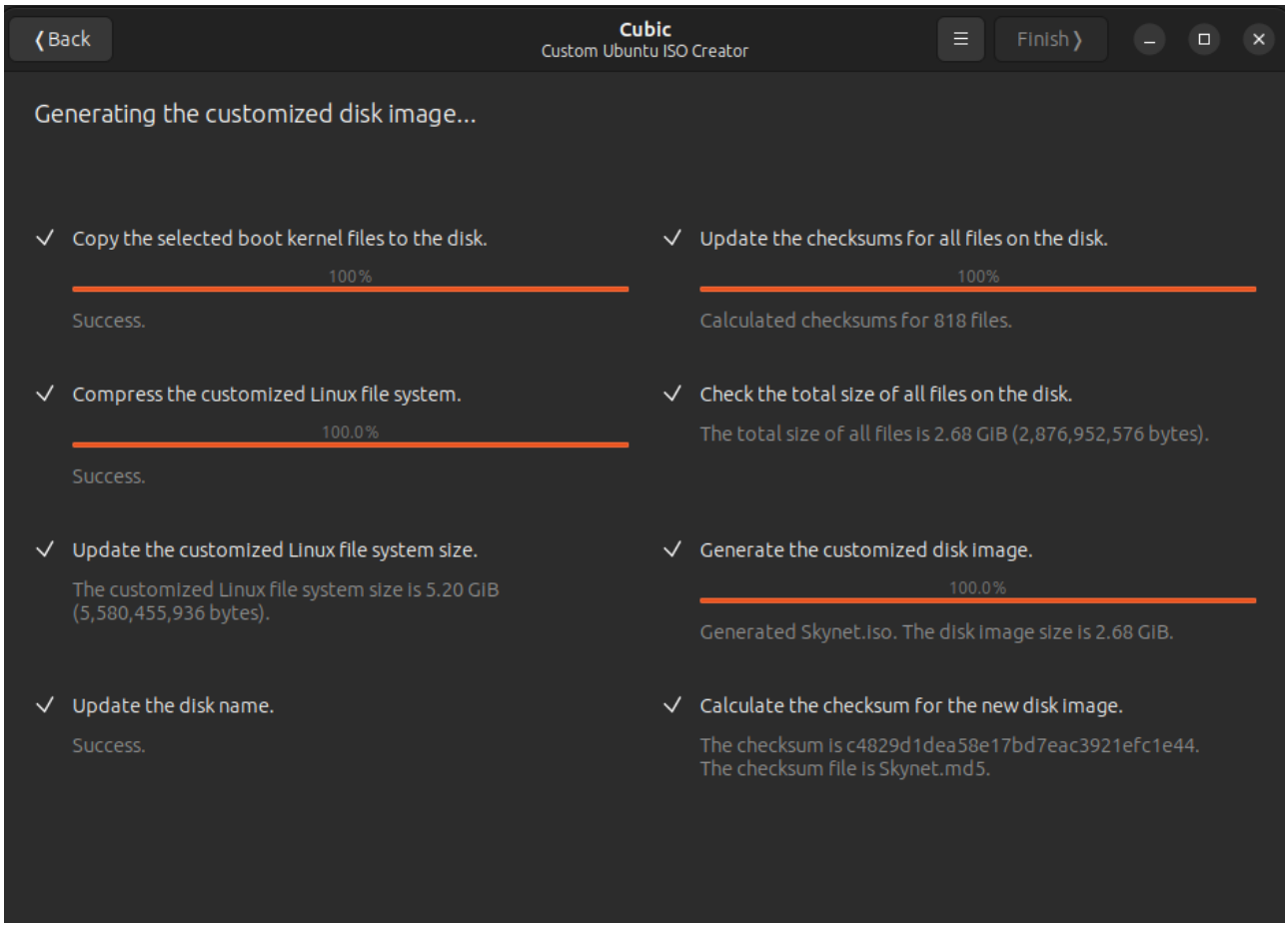
9. Click Next button on Right Top



10. Click Generate button on Right Top

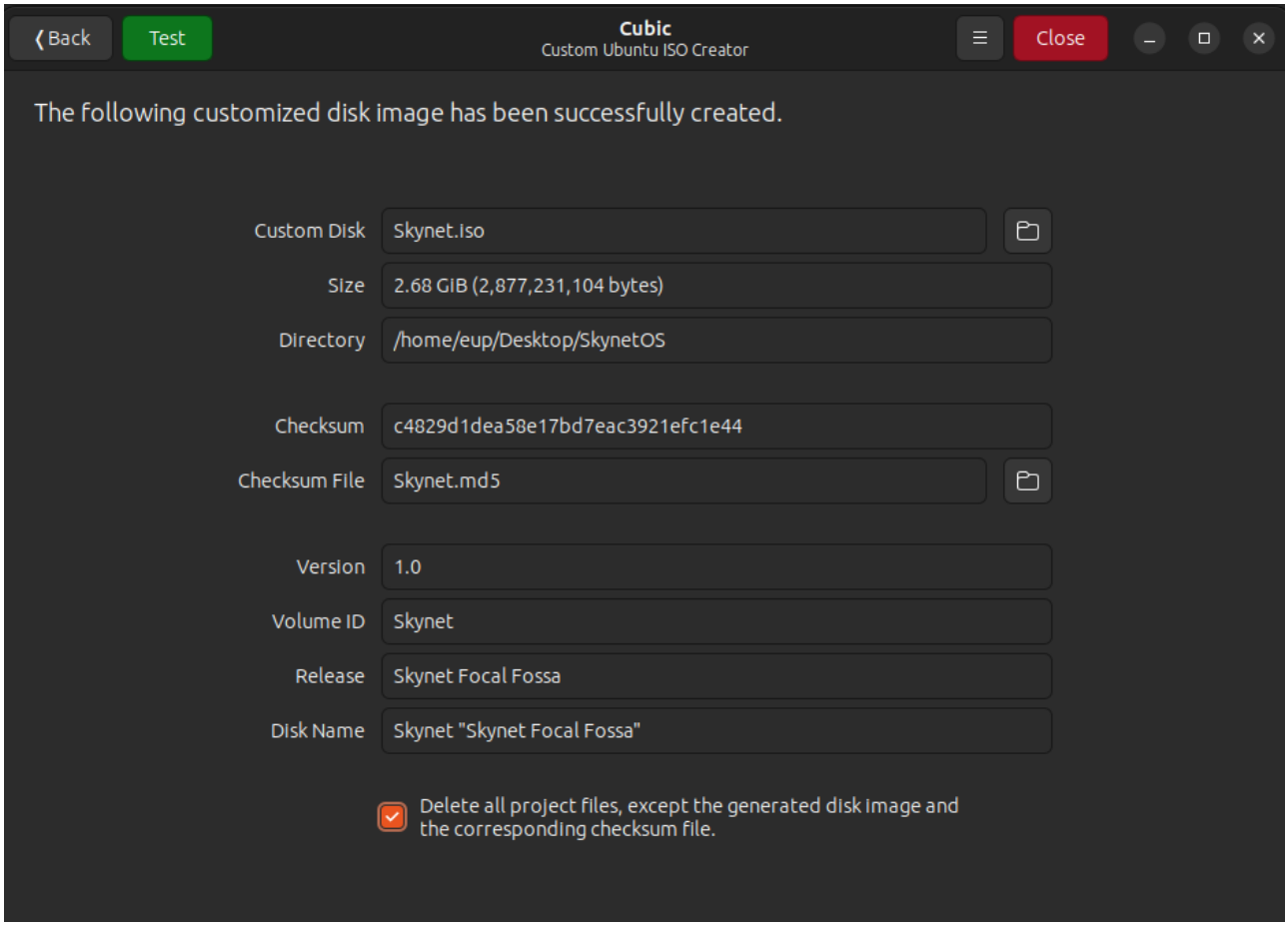

Back
Cubic
Custom Ubuntu ISO Creator
Generate
Select the compression for the Linux file system.
Click the Generate button to begin creating the customized disk image.
Lower Compression
Faster
lz4
lzo
gzip
zstd
xz
Larger Size
Smaller Size
Slower
Higher Compression


Back
Cubic
Custom Ubuntu ISO Creator
Finish
Generating the customized disk image...
Copy the selected boot kernel files to the disk.
100 %
Success.
Update the checksums for all files on the disk.
Compress the customized Linux file system.
0.0 %
Using gzip compression.
Check the total size of all files on the disk.
Update the customized Linux file system size.
Generate the customized disk image.
Update the disk name.
Calculate the checksum for the new disk image.



11. Wait for ISO creation

12. Make Sure to check: **Delete all files** at the bottom



13. Close Cubic

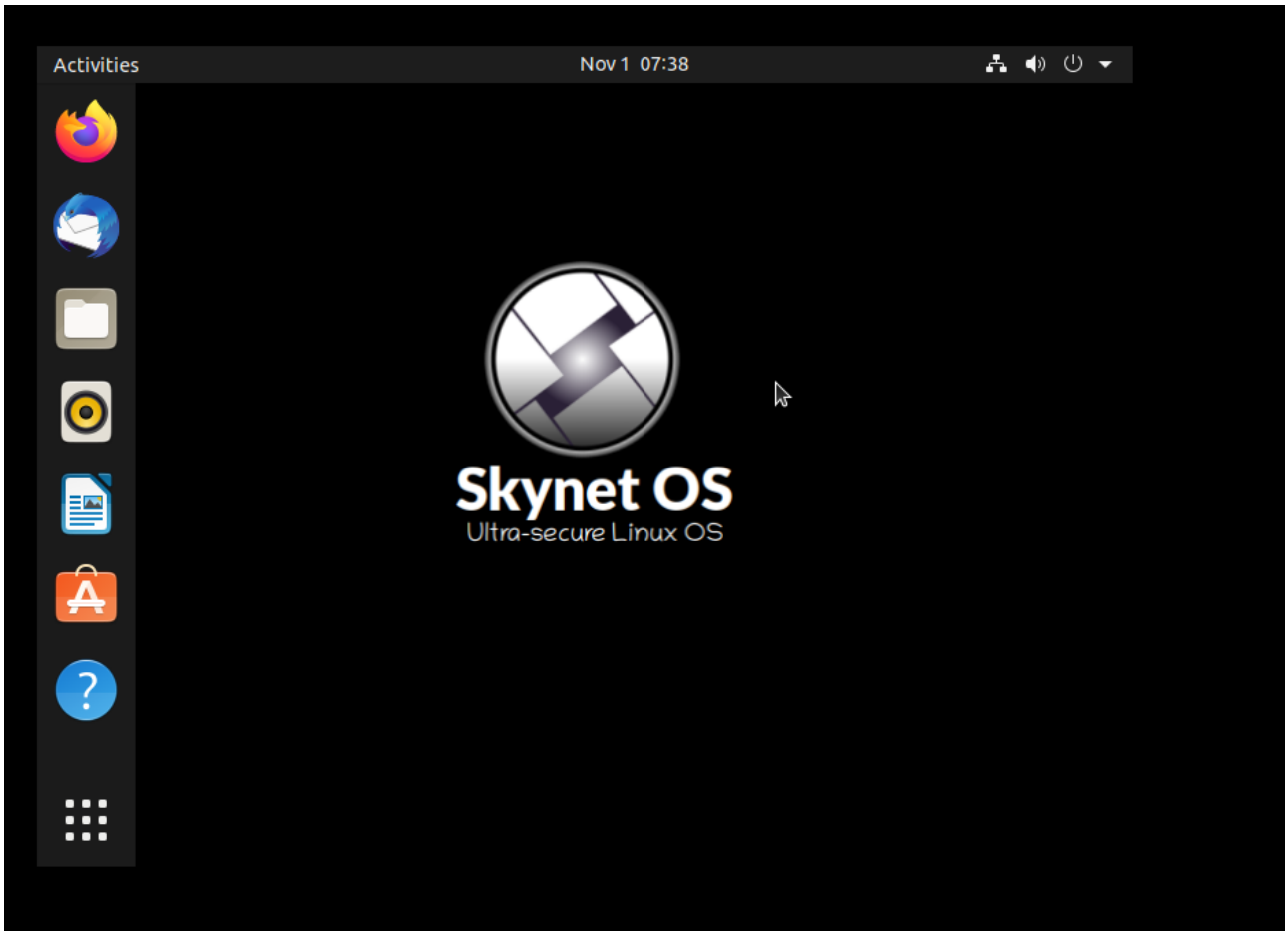
Your custom **SkynetOS.iso** is ready in **Desktop/SkynetOS/SkynetOS.iso**

Install SkynetOS

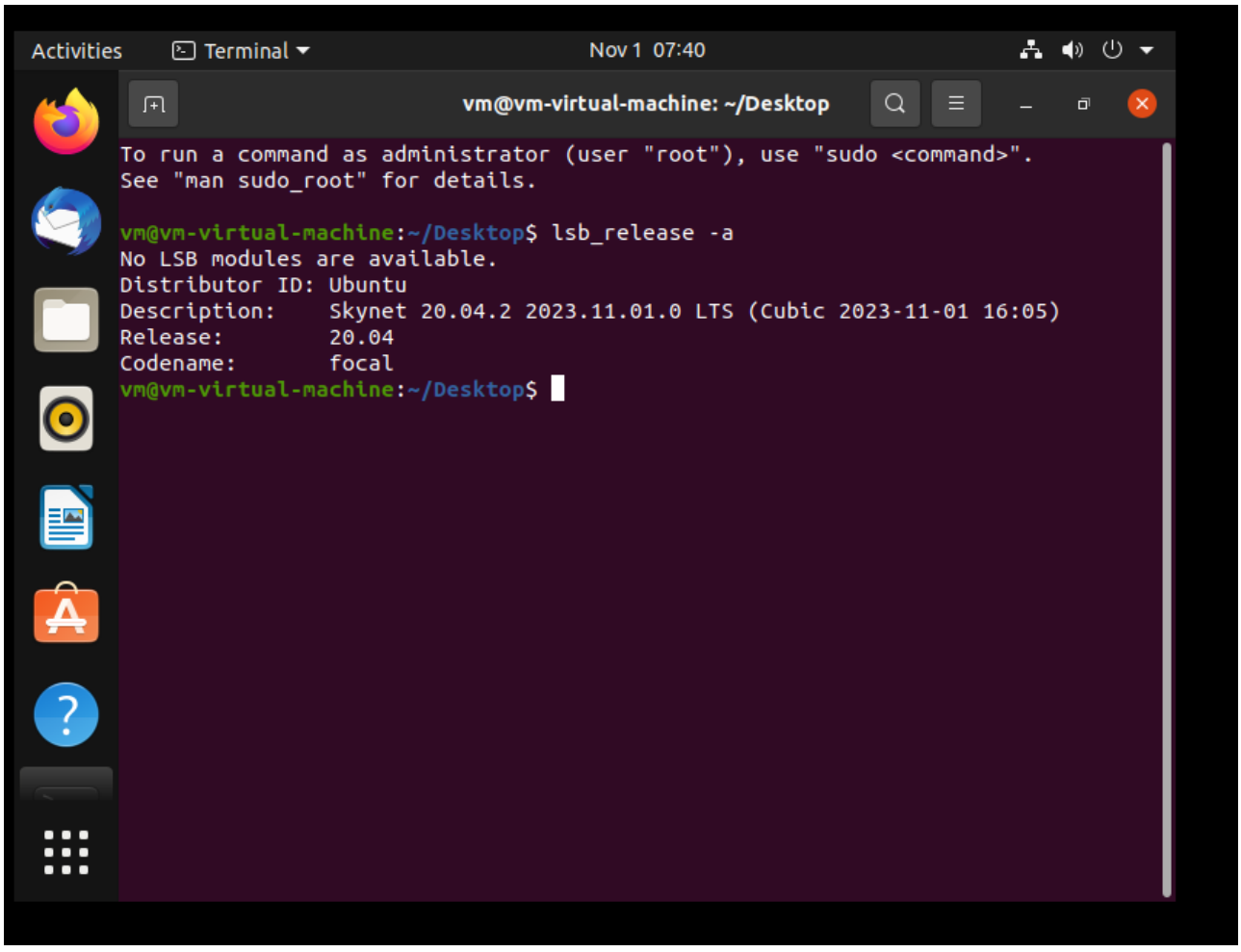
1. Install OS just like Ubuntu installation
2. You will notice following new features during installation
    1. New **Wallpaper**
    2. New **Logo**
    3. New **Images**
    4. Ubuntu will be replaced by **Skynet** everywhere

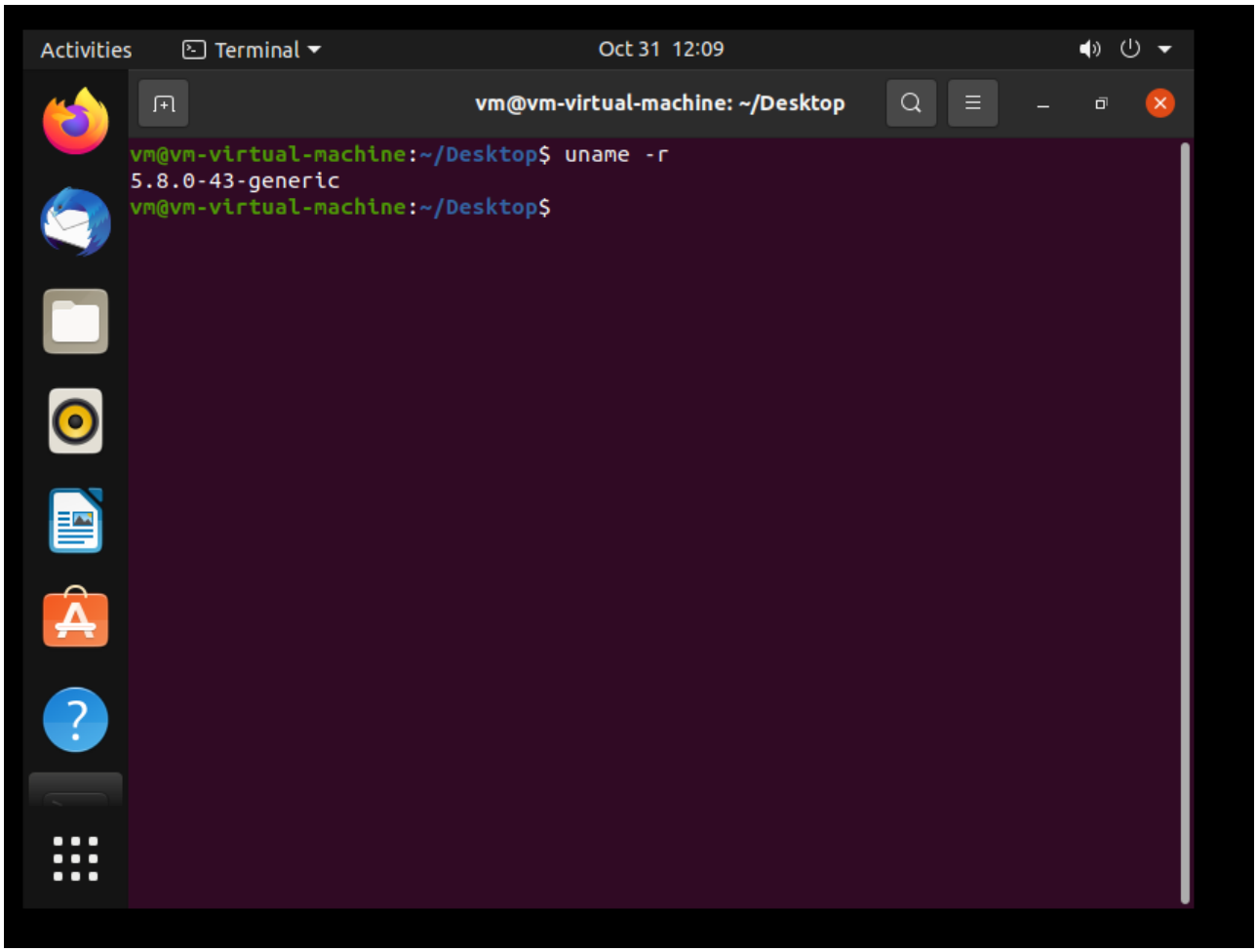
Boot into SkynetOS

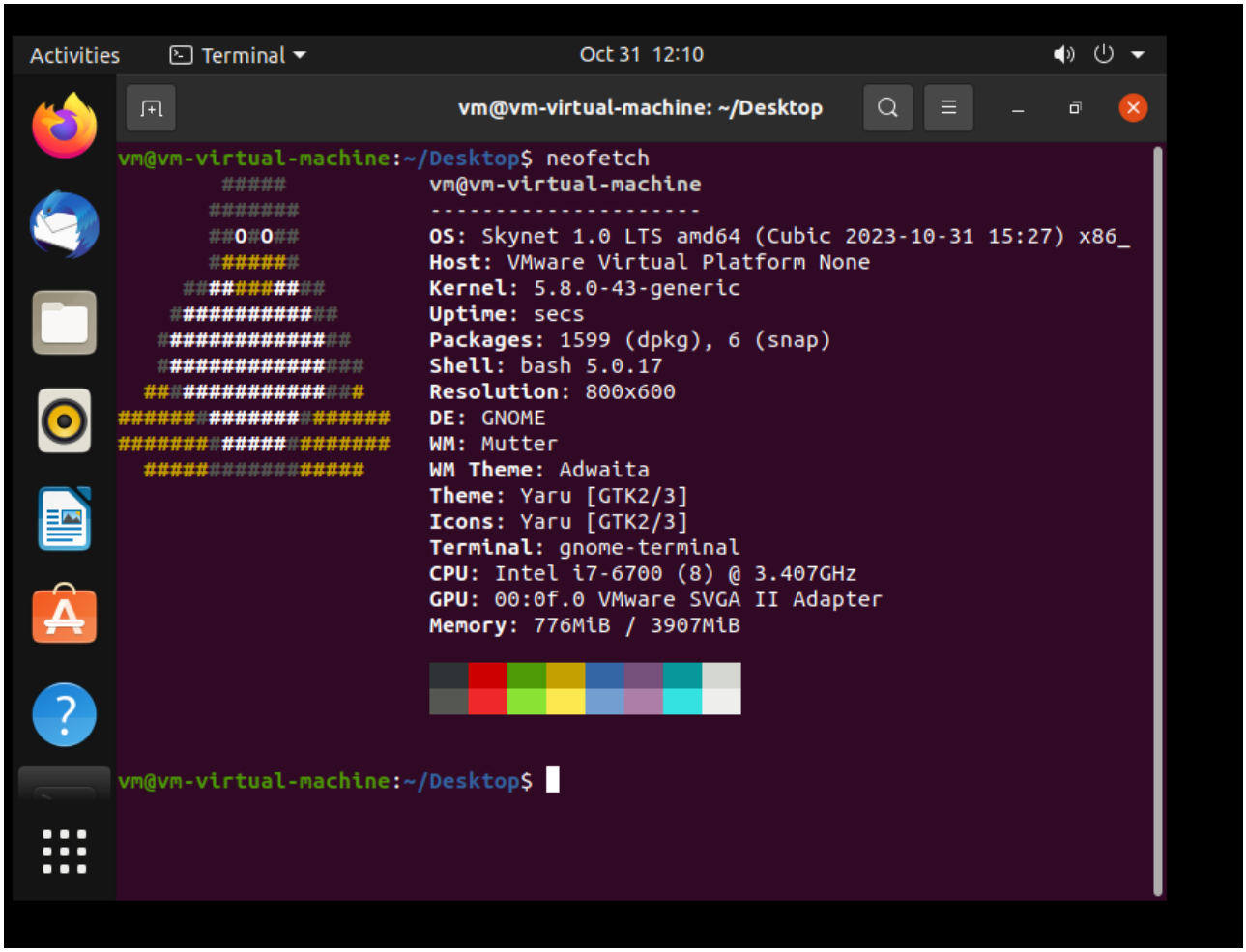
1. Welcome to **SkynetOS** with a new **Logo** and **Wallpaper**

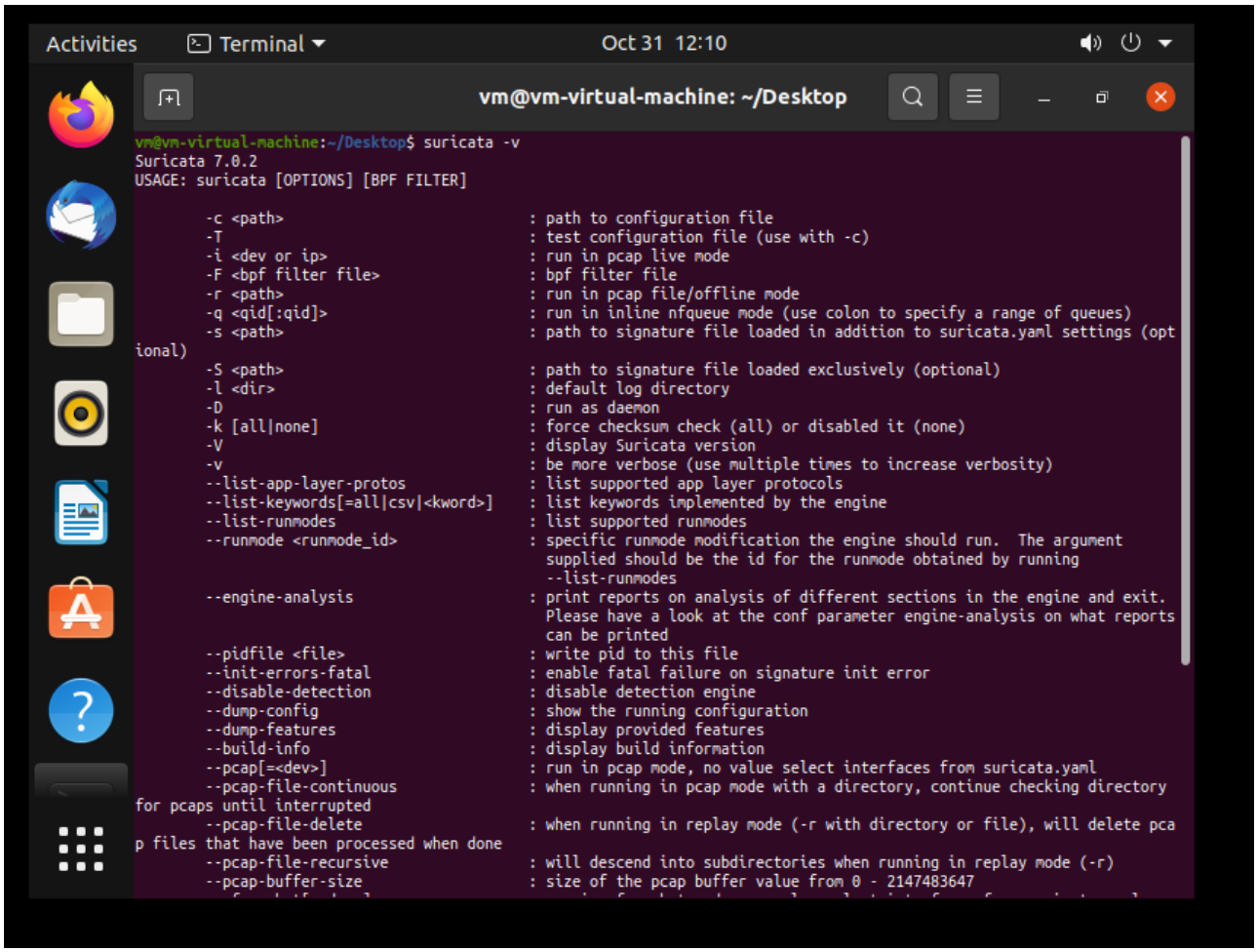


2. Launch terminal and test packages




Activities
Terminal
Oct 31 12:09
vm@vm-virtual-machine: ~/Desktop
vm@vm-virtual-machine:~/Desktop$ uname -r
5.8.0-43-generic
vm@vm-virtual-machine:~/Desktop$


Activities
Terminal
Oct 31 12:10
vm@vm-virtual-machine: ~/Desktop
vm@vm-virtual-machine:~/Desktop$ neofetch
vm@vm-virtual-machine
OS: Skynet 1.0 LTS amd64 (Cubic 2023-10-31 15:27) x86_
Host: VMware Virtual Platform None
Kernel: 5.8.0-43-generic
Uptime: secs
Packages: 1599 (dpkg), 6 (snap)
Shell: bash 5.0.17
Resolution: 800x600
DE: GNOME
WM: Mutter
WM Theme: Adwaita
Theme: Yaru [GTK2/3]
Icons: Yaru [GTK2/3]
Terminal: gnome-terminal
CPU: Intel i7-6700 (8) @ 3.407GHz
GPU: 00:0f.0 VMware SVGA II Adapter
Memory: 776MiB / 3907MiB
vm@vm-virtual-machine:~/Desktop$



Python Development

1. Python script is running in the background **screen**
2. Use this command open the background screen

   ```
   sudo screen -r startupPython
   ```

   You will see **Hello World!** printing infinitely
3. For development:

   ```
   cd /usr/local/src/main.py
   ```

Happy Coding 😀