Tutorial

Build Linux distribution as a Microsoft Windows screen saver

Generate marketing novelties with your brand logo

By **Chris Ward**

On this page

Introduction

This tutorial describes how to build Linux distributions as screen savers for Microsoft Windows, with your choice of boot screen and wallpaper. The intent of this tutorial is to construct items containing your logos which can be distributed as marketing novelties. Most businesses have controls as to when their logos can be used, so be sure to get the permission you need.

All required software and data are available as open source resources and is accessible on the public internet.

Prerequisites

Make sure that the following prerequisites are fulfilled before you start building Linux distributions as screen savers for Microsoft Windows:

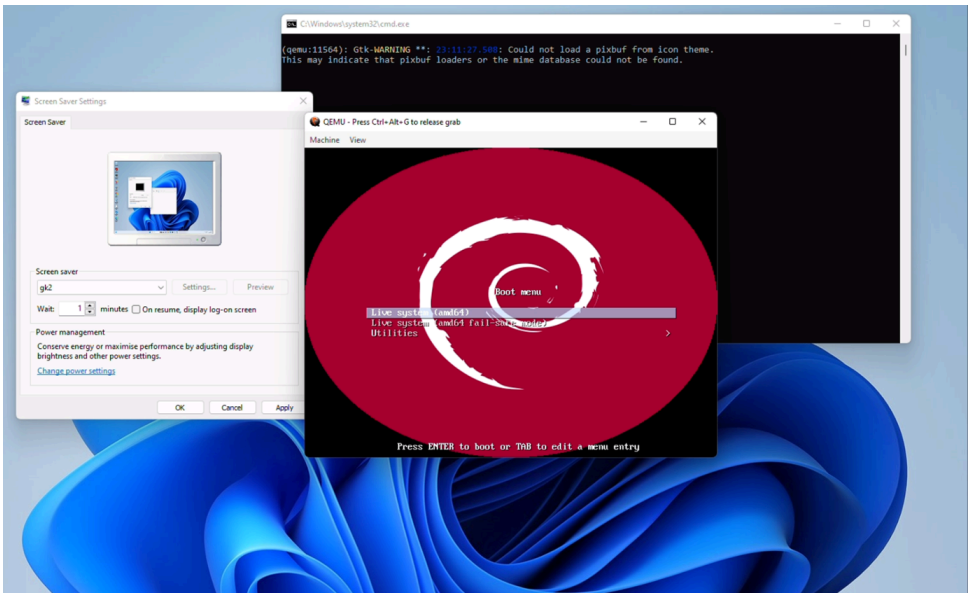
- **Hardware**: A PC running Microsoft Windows 10 or a later version, which is capable of running Windows Subsystem for Linux 2 (WSL2). WSL2 runs only on some CPUs and requires a BIOS setting to enable virtualization.

- **Internet**: An internet connection with the need to download up to 10 GB of data in all cases, and up to 100 GB of data if you choose to download all the

source code.

- **Editor**: Inkscape (an open source item available for Linux, Apple Mac, and Microsoft Windows) or commercial products such as the ones sold by Adobe to edit the required Scalable Vector Graphic (SVG) files.

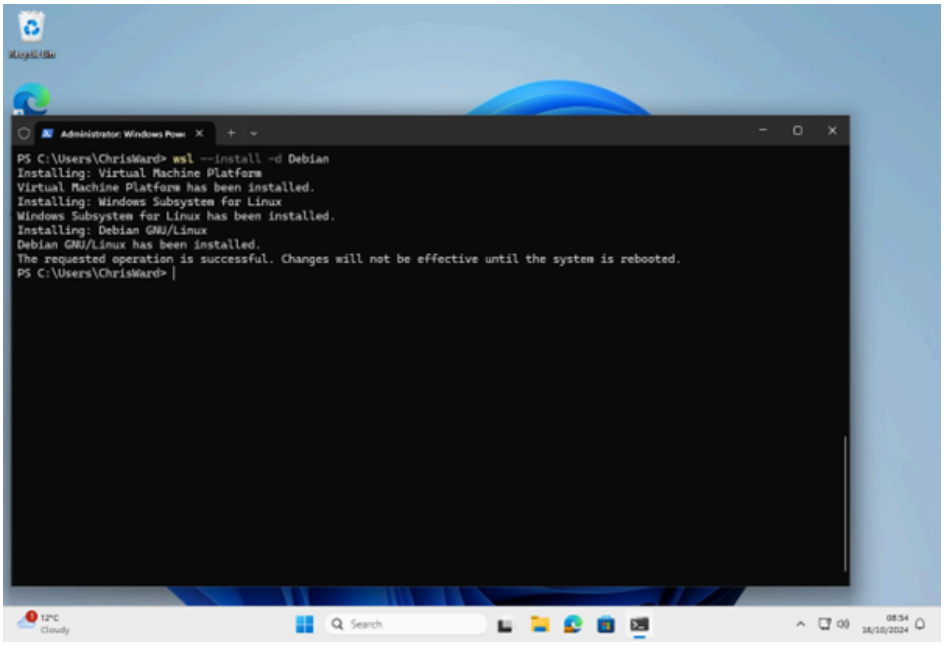
For the purpose of this tutorial, I have set up a screen saver with a Debian logo. For details, refer https://www.debian.org/logos/ . Also, refer to a video from the screen saver kicking in to the point where you can watch the kstars at: https://www.youtube.com/watch?v=J7Jc7uPmLx8



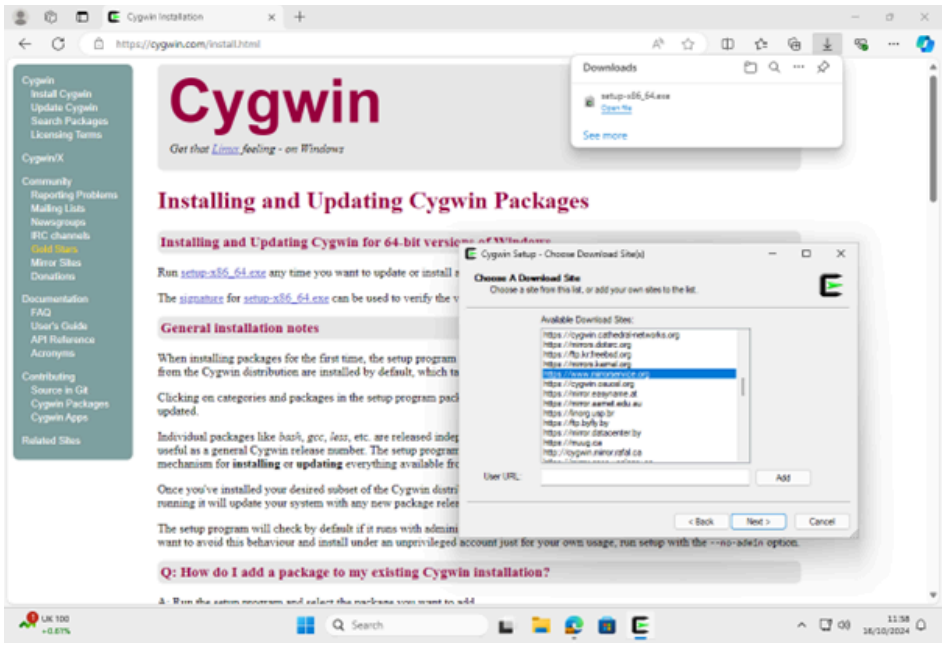
Build Linux as Windows screen saver

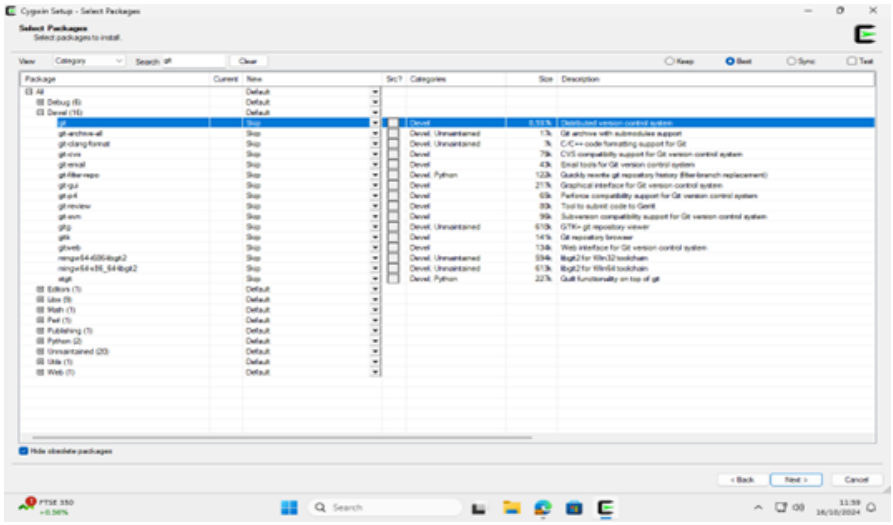
Perform the following steps to build Linux distribution as a Microsoft Windows screen saver:

1. Install WSL2 with Debian.

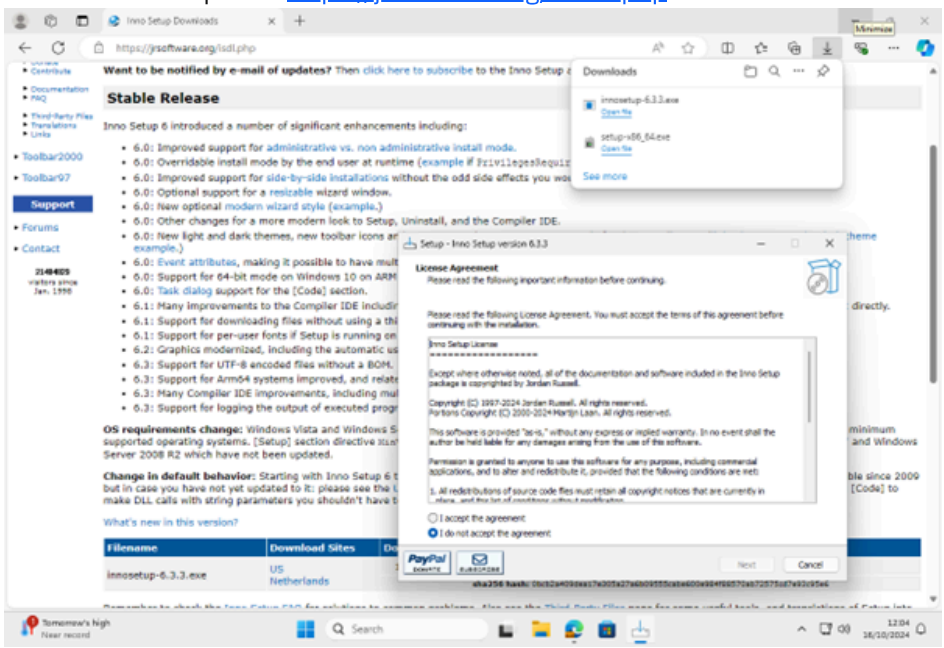


2. Install Cygwin from https://cygwin.com/ with git.

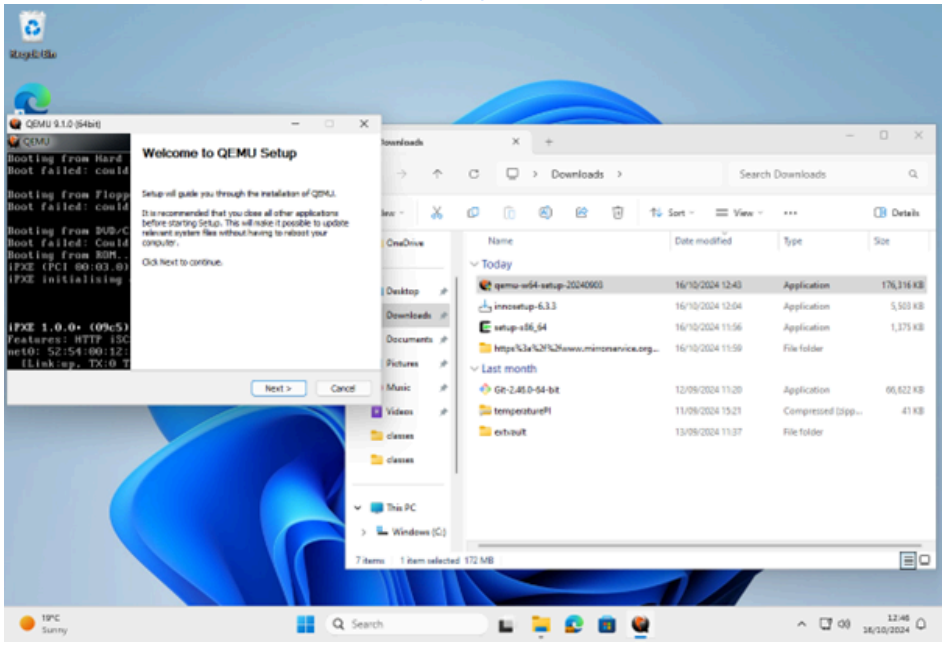




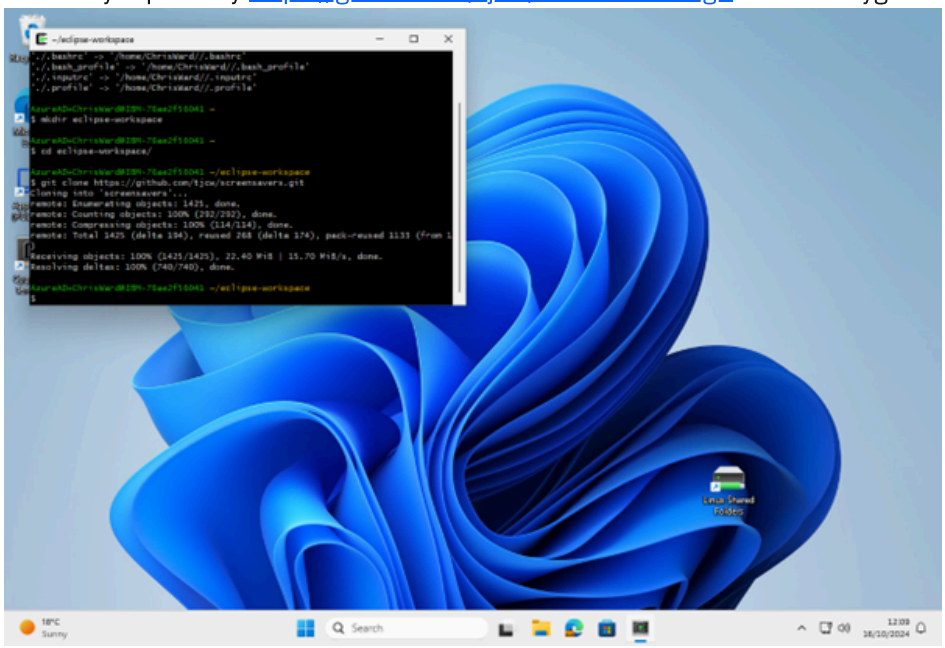
3. Install Inno Setup from https://jrsoftware.org/isinfo.php .



4. Install QEMU for Windows from https://qemu.weilnetz.de/w64/ .



5. Clone my repository https://github.com/tjcw/screensavers.git under cygwin.

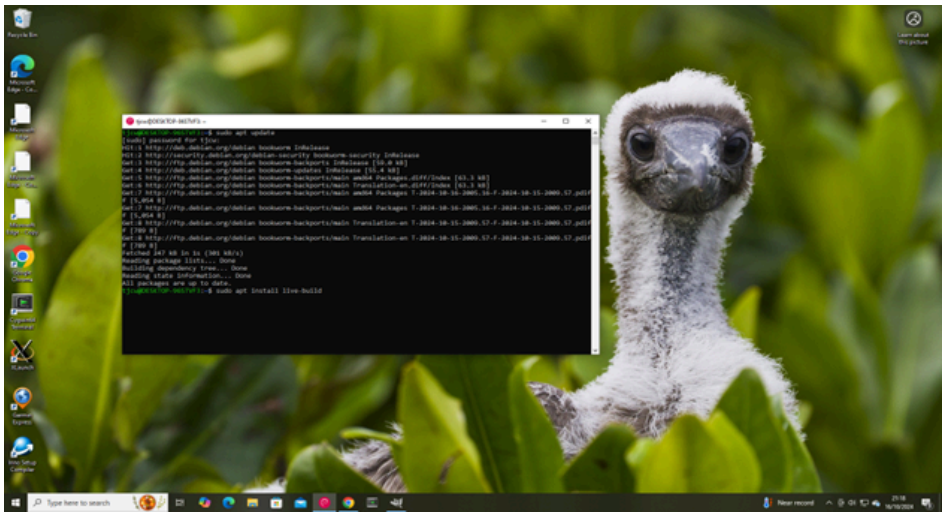


6. Clone the https://github.com/tjcw/screensavers.git repository under WSL2 into the ~/eclipse-workspace/ directory.

```
$ mkdir ~/eclipse-workspace;cd ~/eclipse-workspace; git clone https://github.com/tjcw/screensavers.git
```

7. Install `live-build` under WSL2.

```
$ sudo apt install live-build
```



```
tjcw@DESKTOP-96STVF3 ~
$ cd eclipse-workspace/

tjcw@DESKTOP-96STVF3 ~/eclipse-workspace
$ cd screensavers/

tjcw@DESKTOP-96STVF3 ~/eclipse-workspace/screensavers
$ cd packaging/
```

Show more

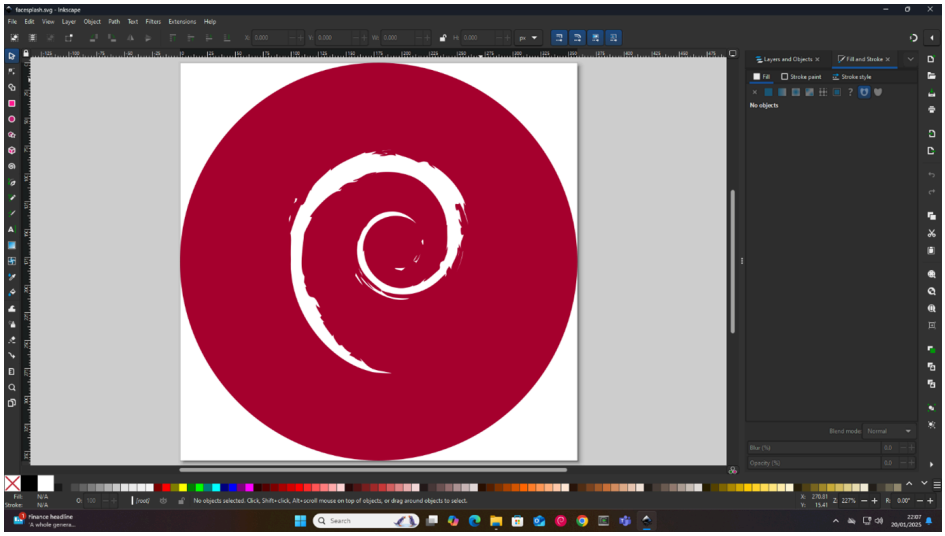
8. Cu ...nds). ...ere ar... ...se a fe... th... ...ducati...nal th...

```
tjcw@DESKTOP-96STVF3 ~/eclipse-workspace/screensavers/packag...
$ mkdir qemu

tjcw@DESKTOP-96STVF3 ~/eclipse-workspace/screensavers/packag...
$  cp -r "/cygdrive/c/Program Files/qemu/." qemu
tjcw@DESKTOP-96STVF3 ~/eclipse-workspace/screensavers/packag...
$ ./package-qemu-open.sh >fr2-open.iss
```

```
tjcw@DESKTOP-96STVF3:~/lb$ vi ~/eclipse-workspace/screensavers/

tjcw@DESKTOP-96STVF3:~/lb$ vi ~/eclipse-workspace/screensavers/
```

Show more

9. Install an SVG editor (here Inkscape from the Microsoft Store) and edit the SVG files you want to use for boot splash and wallpaper.



10. Copy the SVG files to be used as boot splash screen and wallpaper.

```
tjcw@DESKTOP-96STVF3:~/eclipse-workspace/screensavers$ cp splas
tjcw@DESKTOP-96STVF3:~/eclipse-workspace/screensavers$ cp wallp
```

Show more

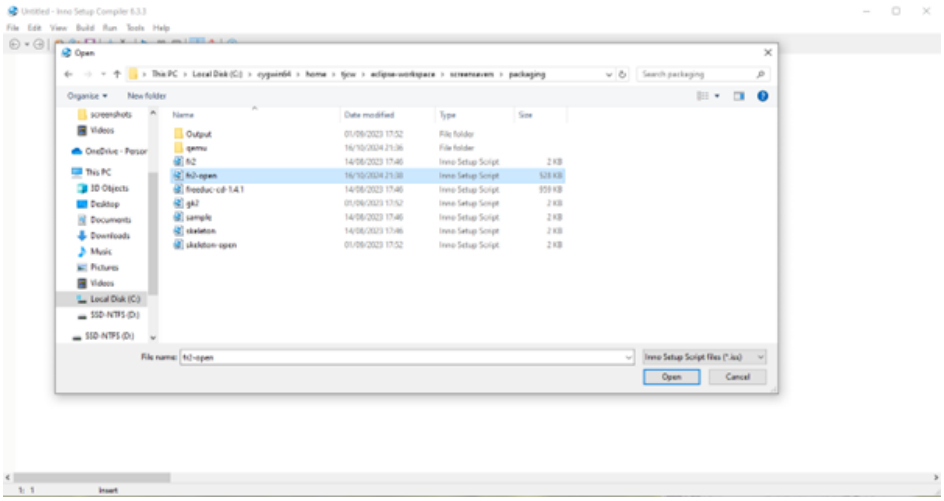
11. Run build-both under WSL2 to generate the isos.

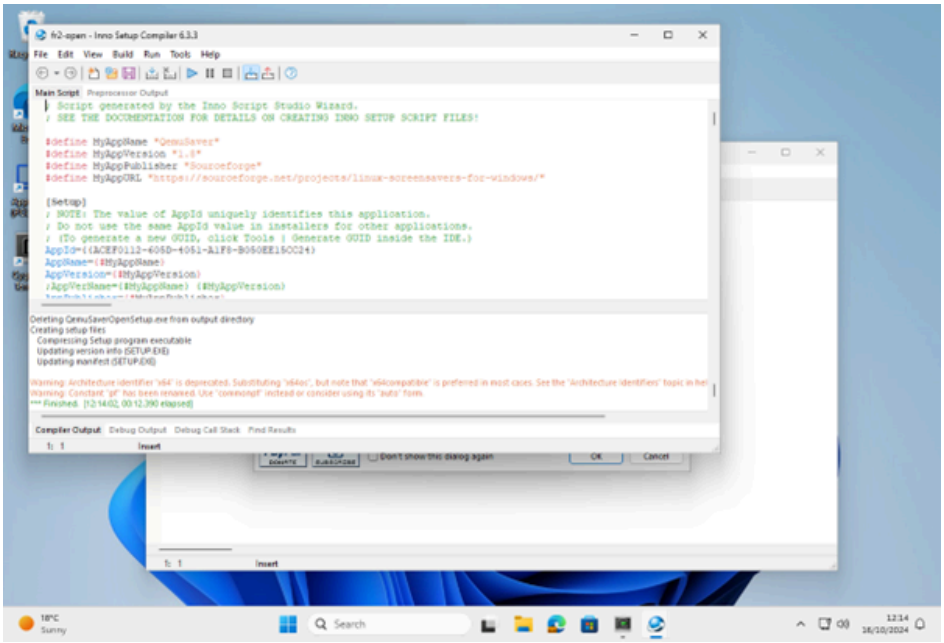
```
tjcw@DESKTOP-96STVF3:~/lb$ sudo ~/eclipse-workspace/screensaver
```

Show more

12. Set up the installation script for Inno Setup (Cygwin commands).

13. Run Inno Setup to create the installers.





14. After opening the ‘fr2.iss’ file, click Build --> Compile.

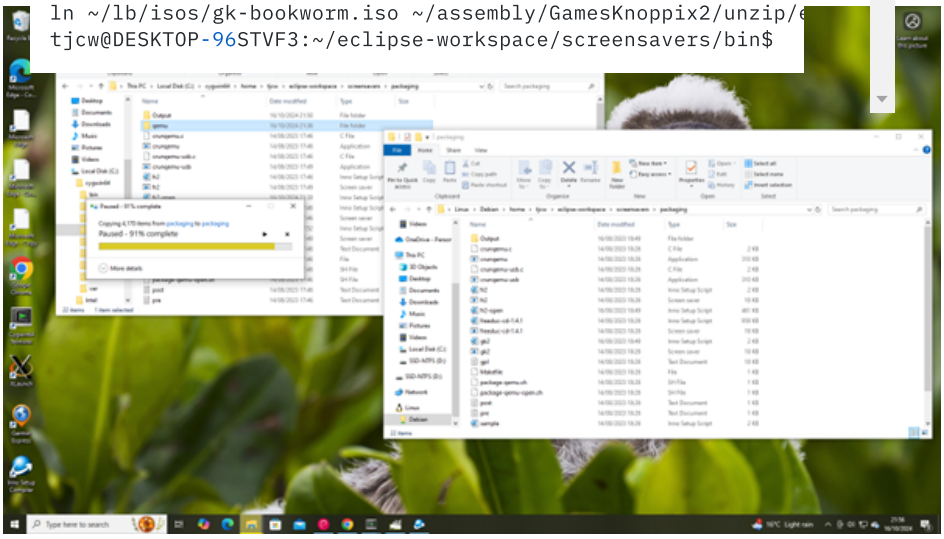
15. Transfer the installers and ‘Qemu for Windows’ to WSL2.

16. Set up the extracted files by running the `setup_assembly` command.

```
tjcw@DESKTOP-96STVF3:~/eclipse-workspace/screensavers/bin$ ca
#!/bin/bash -x
mkdir -p ~/assembly/QemuSaverOpen/unzip/extras ~/assembly/Gar
mv ~/eclipse-workspace/screensavers/packaging/qemu ~/assembly
cp ~/eclipse-workspace/screensavers/packaging/Output/QemuSave
cp ~/eclipse-workspace/screensavers/packaging/fr2.scr ~/asser
ln ~/lb/isos/freeduc-bookworm.iso ~/assembly/QemuSaverO
```

Show more

```
cp ~/eclipse-workspace/screensavers/packaging/Output/GamesKno
cp ~/eclipse-workspace/screensavers/packaging/gk2.scr ~/asser
ln ~/lb/isos/gk-bookworm.iso ~/assembly/GamesKnoppix2/unzip/e
tjcw@DESKTOP-96STVF3:~/eclipse-workspace/screensavers/bin$
```



Compress the ISO files, the installers, and ‘QEMU for Windows’

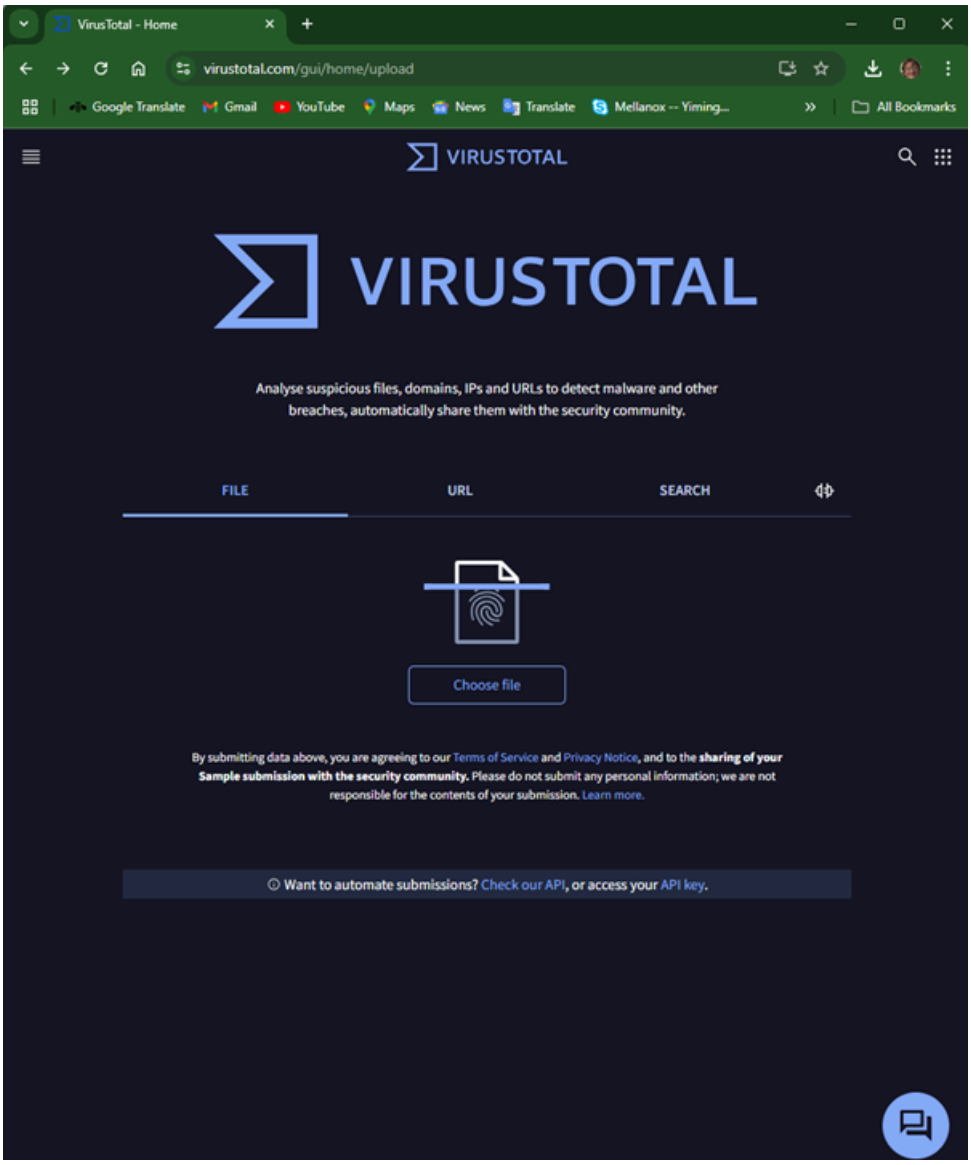
17. Transfer the ZIP files from WSL2 to Windows.

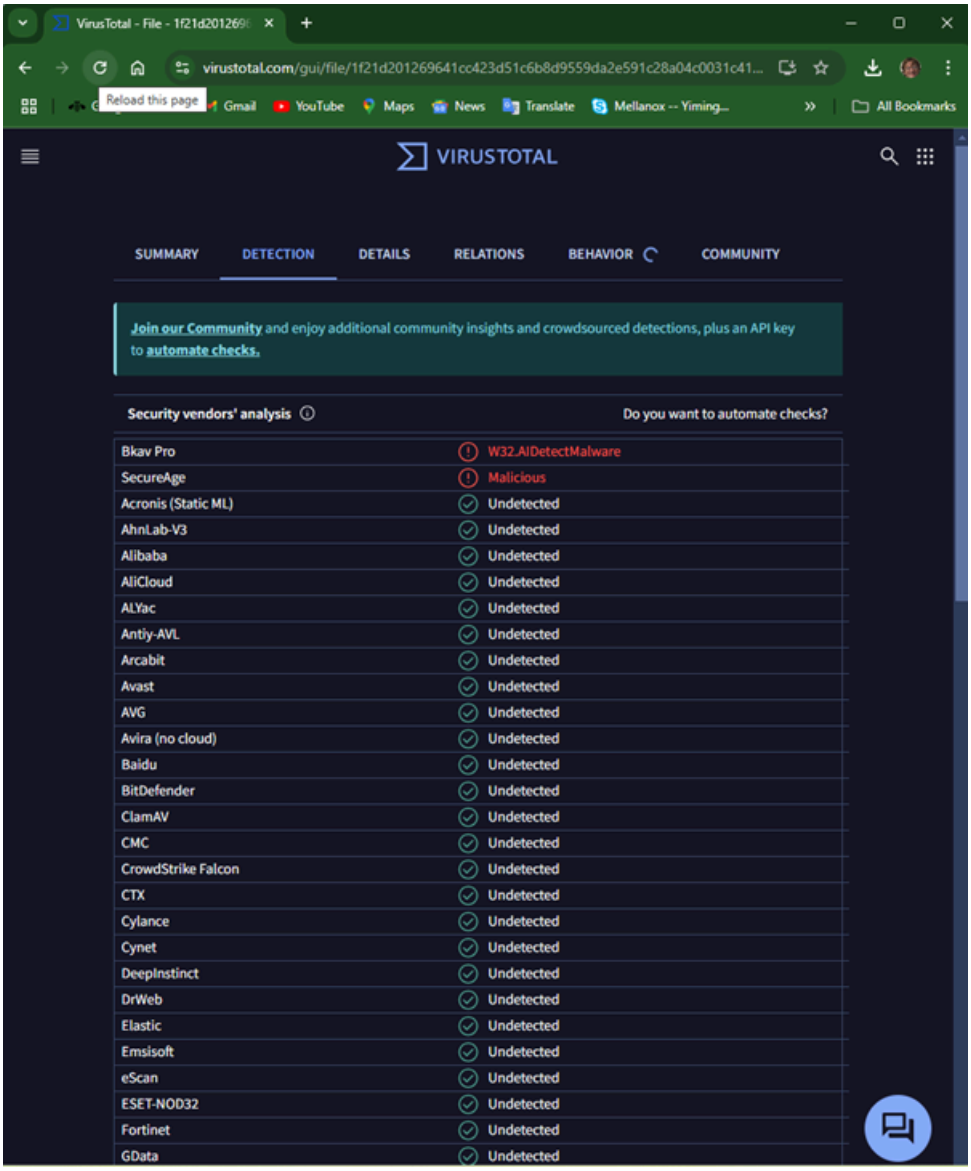
Test

Extract each ZIP file and run the installer executable files. Sometimes the installers are detected as malware, but they are not malware. So, if necessary, add the QemuSaverOpen and GamesKnoppix2 directories to the exclusion list.

Go to screensaver settings and select fr2 or gk2.

If you want, you can gain confidence that the installers aren’t malware by uploading them to https://virustotal.com


VirusTotal - Home
virustotal.com/gui/home/upload
Google Translate
Gmail
YouTube
Maps
News
Translate
Mellanox -- Yiming...
All Bookmarks
VIRUSTOTAL
VIRUSTOTAL
Analyse suspicious files, domains, IPs and URLs to detect malware and other breaches, automatically share them with the security community.
FILE
URL
SEARCH
Choose file
By submitting data above, you are agreeing to our Terms of Service and Privacy Notice, and to the sharing of your Sample submission with the security community. Please do not submit any personal information; we are not responsible for the contents of your submission. Learn more.
Want to automate submissions? Check our API, or access your API key.



Source code

Optionally, run the `~/eclipse-workspace/bin/fetch_source` command to fetch the source code for all the components. You will need the source code if you propose to distribute the screensavers, as recipients may ask you for it. The `fetch_source` command downloads more than 100 GB of data, which may stress the available internet connection.

```
#!/bin/bash
# Fetch the qemu source
git clone https://repo.or.cz/qemu/ar7.git
# Fetch the inno setup source
git clone https://github.com/jrsoftware/issrc.git
# Fetch the rufus source
git clone https://github.com/pbatard/rufus.git
# Fetch the Debian source
iso_dir=http://cdimage.debian.org/debian-cd/current/source/iso·
wget ${iso_dir}/SHA512SUMS
```

Show more

```
while read sha512 name
do
  wget isodir/{iso_dir}/isodir/{name}
done <SHA512SUMS
# Check the checksums
sha512sum -c SHA512SUMS#!/bin/bash
# Fetch the qemu source
git clone https://repo.or.cz/qemu/ar7.git
# Fetch the inno setup source
git clone https://github.com/jrsoftware/issrc.git
# Fetch the rufus source
git clone https://github.com/pbatard/rufus.git
# Fetch the Debian source
iso_dir=http://cdimage.debian.org/debian-cd/current/source/iso·
wget ${iso_dir}/SHA512SUMS
while read sha512 name
do
  wget isodir/{iso_dir}/isodir/{name}
done <SHA512SUMS
# Check the checksums
sha512sum -c SHA512SUMS
```

- https://www.researchgate.net/publication/272094609_Linux_screensaver_for_Win

- An updated publication about running Linux as a Windows screensaver: https://www.linux.com/news/linux-as-a-screensaver-for-windows-the-gift-of-open-source-games-and-sboms-for-the-holidays/

- Location on SourceForge where the screensavers are available for download: https://sourceforge.net/projects/linux-screensavers-for-windows/files/release1/ https://sourceforge.net/projects/linux-screensavers-for-windows/files/release3/

23 January 2025

Legend

Categories

Linux

Interested in generative AI?

Learn generative AI skills →