

This tutorial teaches how to build Linux distributions as screensavers for Microsoft Windows, with your choice of boot screen and wallpaper. The intent of this 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.

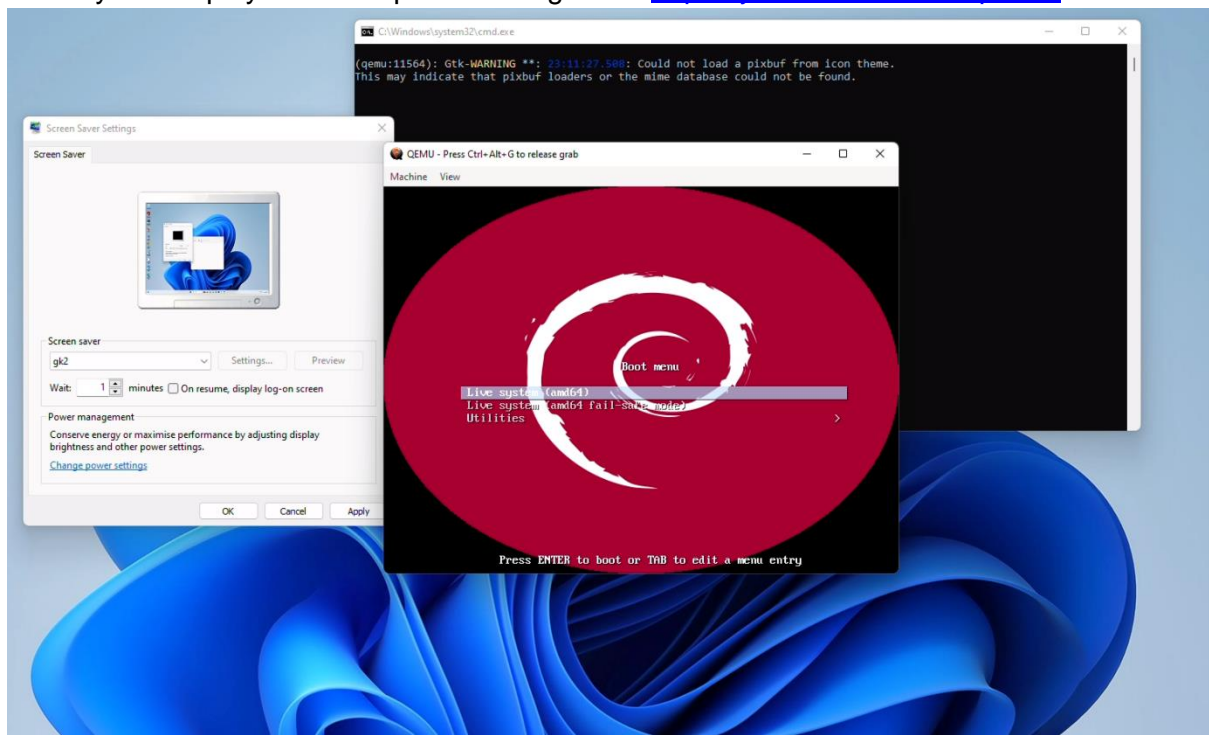
All required software and data is open source and is accessible on the public Internet.

Hardware requirement: A PC running Windows 10 or newer which is capable of running WSL2. WSL2 only runs on some CPUs and requires a BIOS setting to enable virtualization.

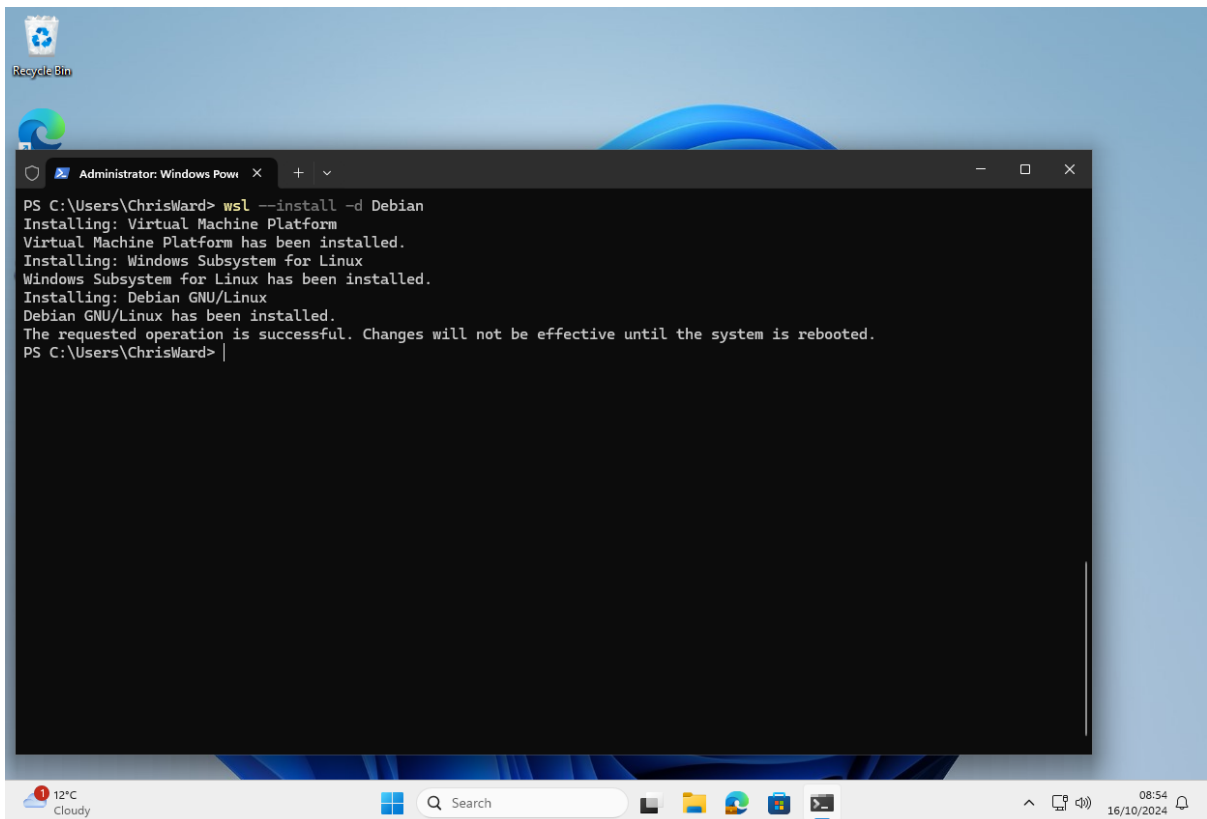
Internet requirement You will download up to 10 GB of data in all cases, and up to 100GB of data if you choose to download all the source code.

The required SVG (scalable vector graphic) files can be edited with Inkscape, an open source item available for Linux, Apple Mac, and Microsoft Windows; or with commercial products such as sold by Adobe.

I set up a screensaver with a Debian logo, because the screensaver is a Debian Linux <https://www.debian.org/logos/> . Here is a video from the screensaver kicking in to the point where you can play with the open source games https://youtu.be/Q_n39c8pUGw



Install WSL2 with Debian



Install cygwin from <https://cygwin.com/> with git



Cywin Installation

https://cygwin.com/install.html

Cygwin

Get that [Linux](#) feeling - on Windows

Installing and Updating Cygwin Packages

Installing and Updating Cygwin for 64-bit versions of Windows

Run [setup-x86_64.exe](#) any time you want to update or install a package from the Cygwin distribution are installed by default, which is the same as the Cygwin release number. The setup program will check by default if it runs with administrative privileges and will avoid this behaviour and install under an unprivileged account just for your own usage, run setup with the `--no-admin` option.

General installation notes

When installing packages for the first time, the setup program will check by default if it runs with administrative privileges and will avoid this behaviour and install under an unprivileged account just for your own usage, run setup with the `--no-admin` option.

Clicking on categories and packages in the setup program pack will update.

Individual packages like `bash`, `gcc`, `less`, etc. are released independently of the Cygwin release number. The setup program will check by default if it runs with administrative privileges and will avoid this behaviour and install under an unprivileged account just for your own usage, run setup with the `--no-admin` option.

Once you've installed your desired subset of the Cygwin distribution, running it will update your system with any new package releases.

The setup program will check by default if it runs with administrative privileges and will avoid this behaviour and install under an unprivileged account just for your own usage, run setup with the `--no-admin` option.

Q: How do I add a package to my existing Cygwin installation?

A: Run the setup program and select the package you want to add.

Cygwin Setup - Choose Download Site(s)

Choose a site from this list, or add your own sites to the list.

Available Download Sites:

- <https://cygwin.cathedralnetworks.org>
- <https://mirrors.dotsec.org>
- <https://ftp.kit-freebsd.org>
- <https://mirrors.kernel.org>
- <https://www.mirrorservice.org>
- <https://cygwin.osuosl.org>
- <https://mirror.easyname.at>
- <https://mirror.aarnet.edu.au>
- <https://linorg.usp.br>
- <https://ftp.byfly.by>
- <https://mirror.datacenter.by>
- <https://mug.ca>
- <http://cygwin.mirror.rafael.ca>
- <https://ftp.mirror.unipr.it>

User URL: Add

< Back Next > Cancel

Cygwin Setup - Select Packages

Select packages to install.

View Category Search: git Clear

Keep Best Sync Test

Package	Current	New	Src?	Categories	Size	Description
All		Default				
Debug (6)		Default				
Devel (16)		Default				
git		Skip		Devel	8.597k	Distributed version control system
git-archive-all		Skip		Devel, Unmaintained	17k	Git archive with submodules support
git-clang-format		Skip		Devel, Unmaintained	7k	C/C++ code formatting support for Git
git-cvs		Skip		Devel	73k	CVS compatibility support for Git version control system
git-email		Skip		Devel	43k	Email tools for Git version control system
git-filter-repo		Skip		Devel, Python	122k	Quickly rewrite git repository history (filter-branch replacement)
git-gui		Skip		Devel	217k	Graphical interface for Git version control system
git-p4		Skip		Devel	65k	Perforce compatibility support for Git version control system
git-review		Skip		Devel	80k	Tool to submit code to Gent
git-svn		Skip		Devel	99k	Subversion compatibility support for Git version control system
gitg		Skip		Devel, Unmaintained	610k	GTK+ git repository viewer
gitk		Skip		Devel	141k	Git repository browser
gitweb		Skip		Devel	134k	Web interface for Git version control system
mingw64-i686-lbgt2		Skip		Devel, Unmaintained	594k	lbgt2 for Win32 toolchain
mingw64-x86_64-lbgt2		Skip		Devel, Unmaintained	613k	lbgt2 for Win64 toolchain
stgit		Skip		Devel, Python	227k	Quilt functionality on top of git
Editors (1)		Default				
Libs (9)		Default				
Math (1)		Default				
Perl (1)		Default				
Publishing (1)		Default				
Python (2)		Default				
Unmaintained (20)		Default				
Utils (1)		Default				
Web (1)		Default				

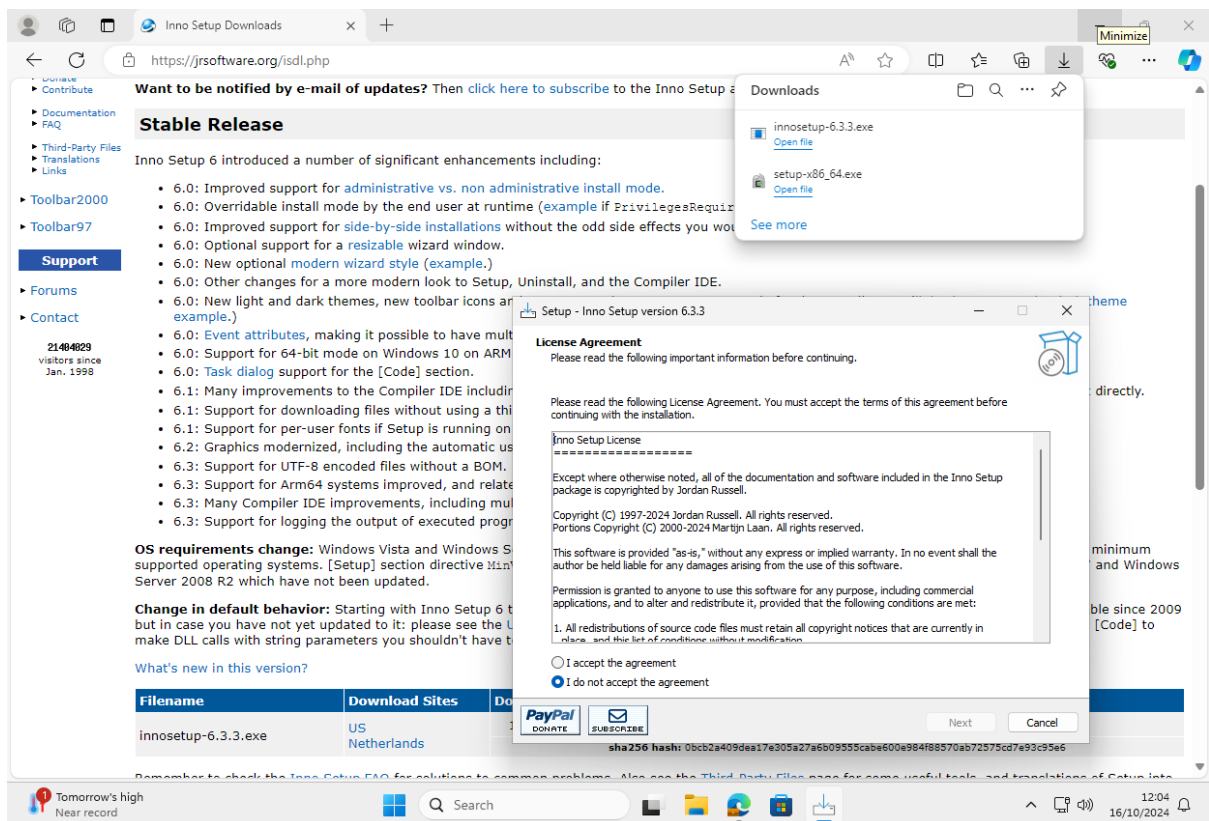
Hide obsolete packages

< Back Next > Cancel

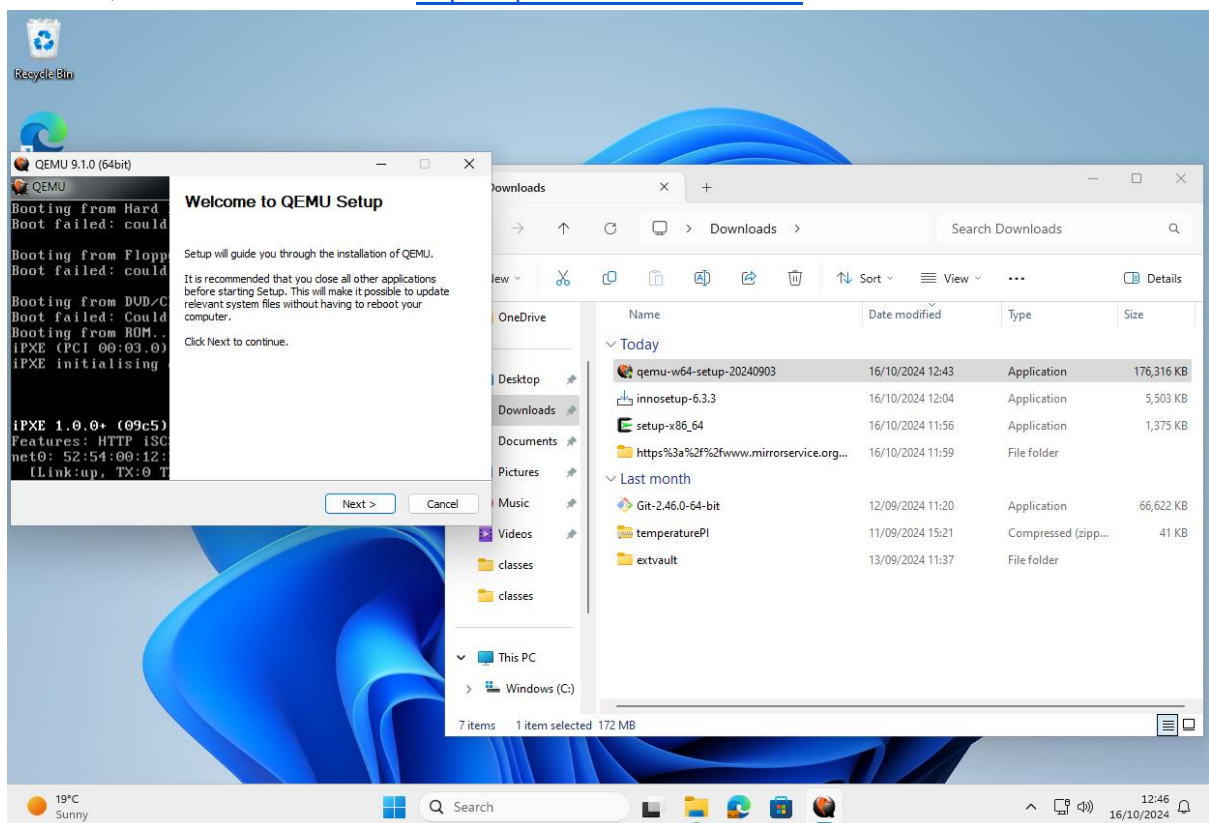
FTSE 350 +0.56%

11:59 16/10/2024

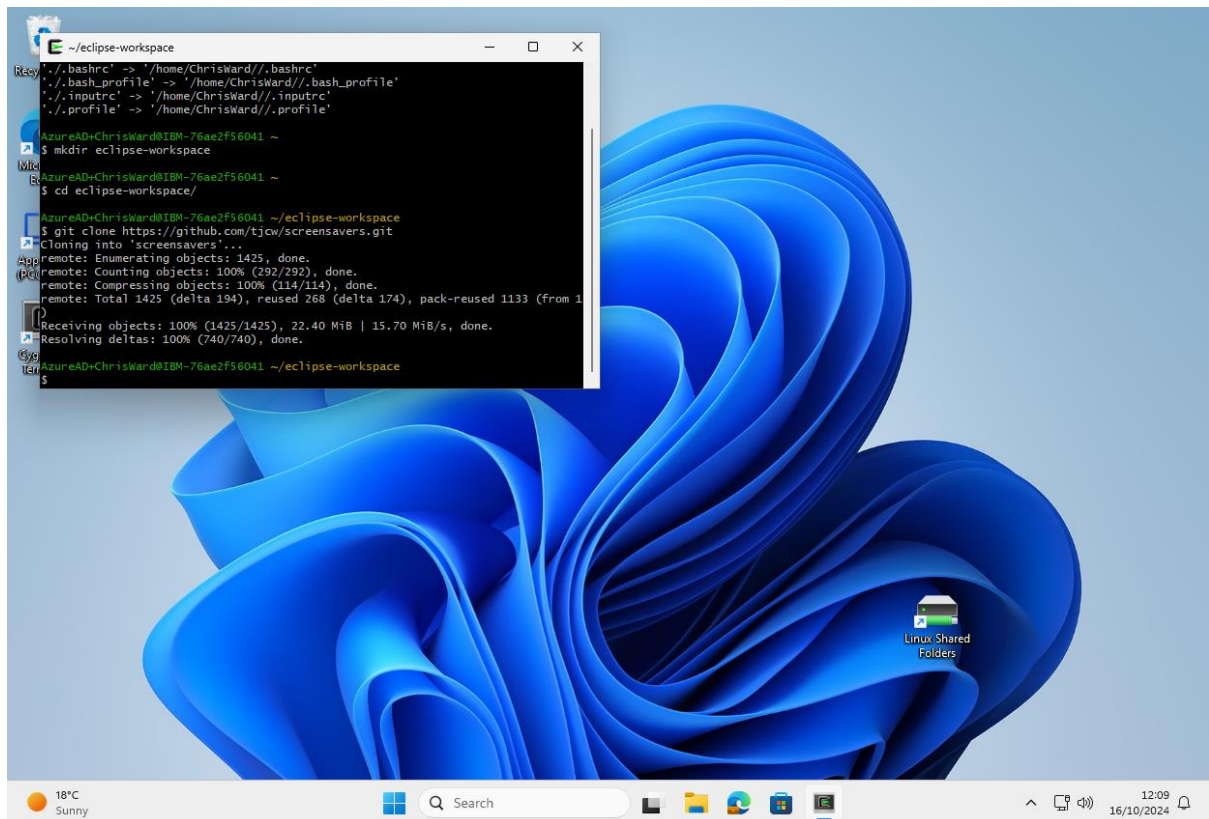
Install Inno Setup from <https://jrsoftware.org/isinfo.php>



Install Qemu for Windows from <https://qemu.weilnetz.de/w64/>

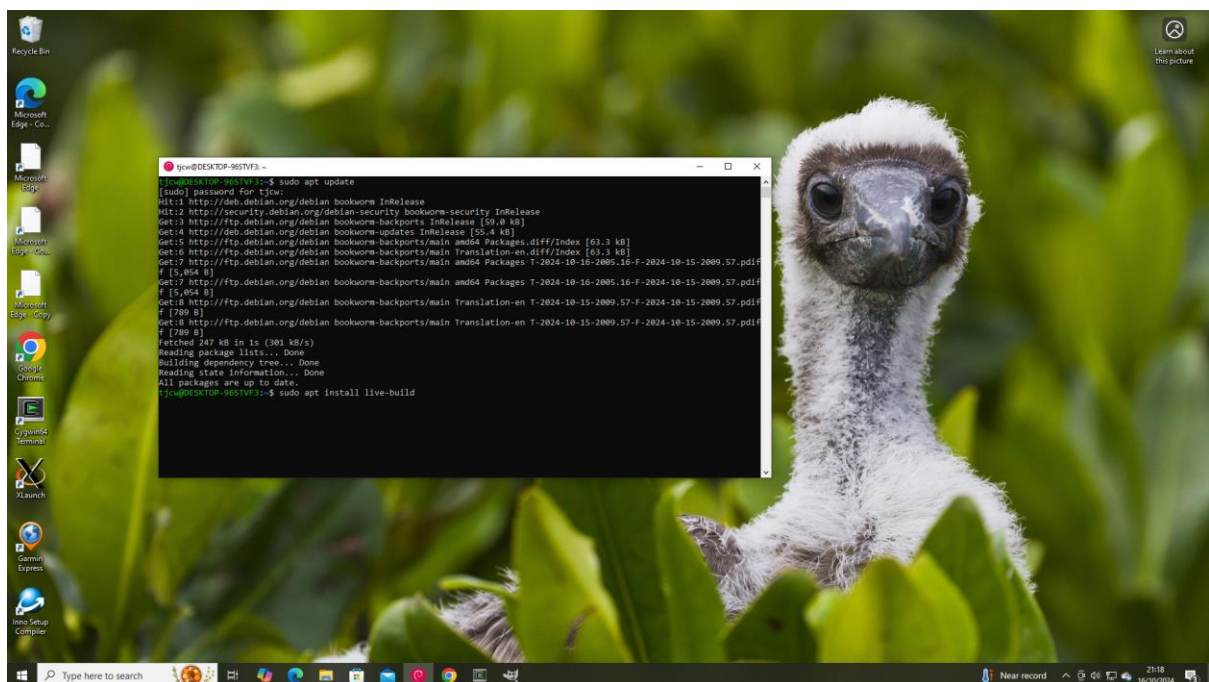


Clone my repository <https://github.com/tjcw/screensavers.git> under cygwin



Clone my repository <https://github.com/tjcw/screensavers.git> under WSL2 into directory
 ~/.eclipse-workspace/
 \$ mkdir ~/.eclipse-workspace; cd ~/.eclipse-workspace; git clone
<https://github.com/tjcw/screensavers.git>

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

Customise the selection of software to go in the isos (WSL2 commands). There are approximately 65000 packages available in Debian Linux. I chose a few thousand packages for each of 2 screensavers, one with an educational theme and one with an open source games theme.

```
tjcw@DESKTOP-96STVF3:~/lb$ vi ~/eclipse-workspace/screensavers/lb-package-  
lists/freeduc-bookworm.list.chroot
```

```
tjcw@DESKTOP-96STVF3:~/lb$ vi ~/eclipse-workspace/screensavers/lb-package-lists/gk-  
bookworm.list.chroot
```

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

```
tjcw@DESKTOP-96STVF3:~/eclipse-workspace/screensavers$ cp splash.svg  
svgs/splash.svg
```

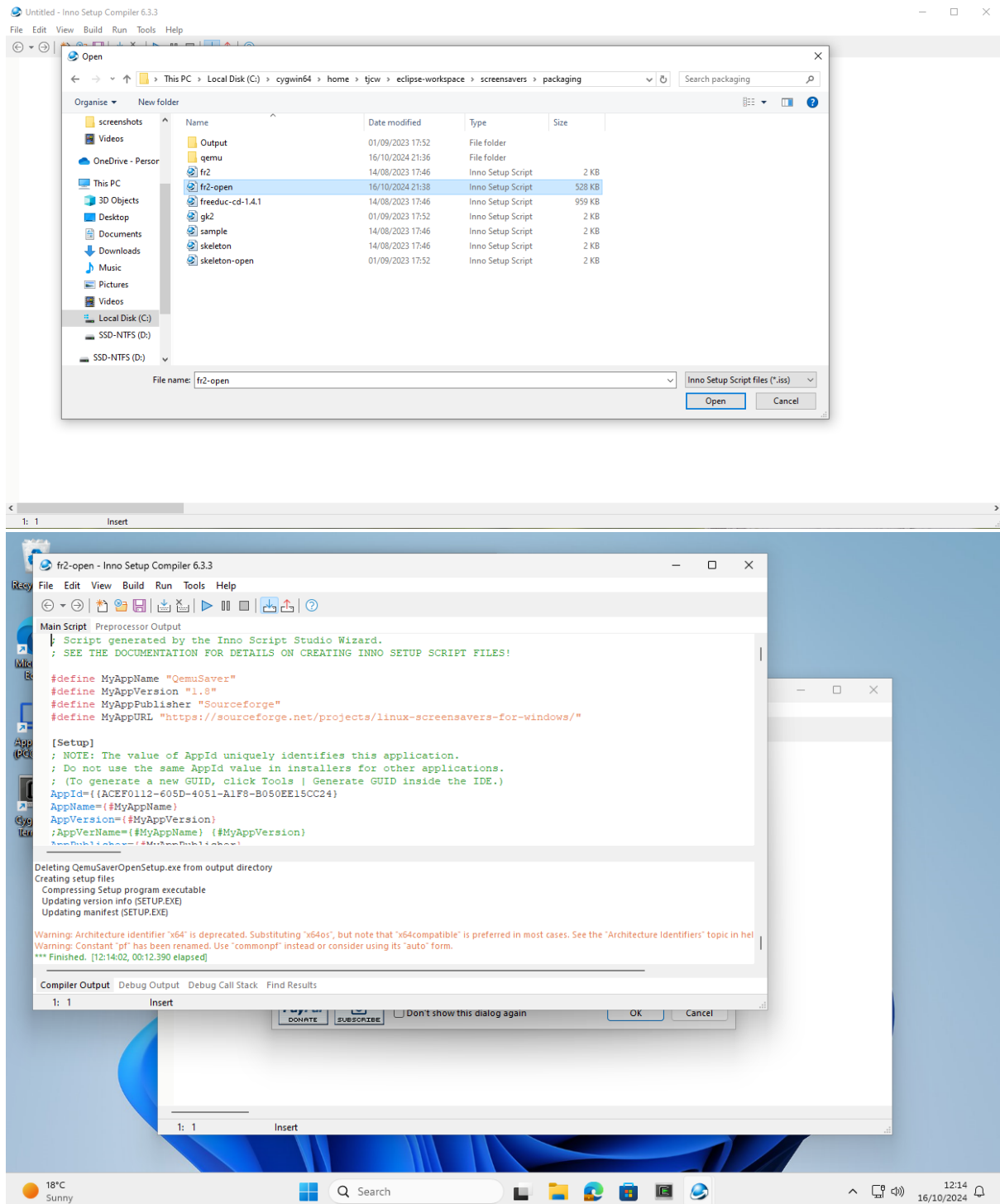
```
tjcw@DESKTOP-96STVF3:~/eclipse-workspace/screensavers$ cp wallpaper.svg  
content/common-files/home/user/face
```

Run 'build-both' under WSL2 to generate the isos

```
tjcw@DESKTOP-96STVF3:~/lb$ sudo ~/eclipse-workspace/screensavers/bin/build-both
```

Set up the install script for Inno Setup (Cygwin commands)

Run Inno Setup to create the installers

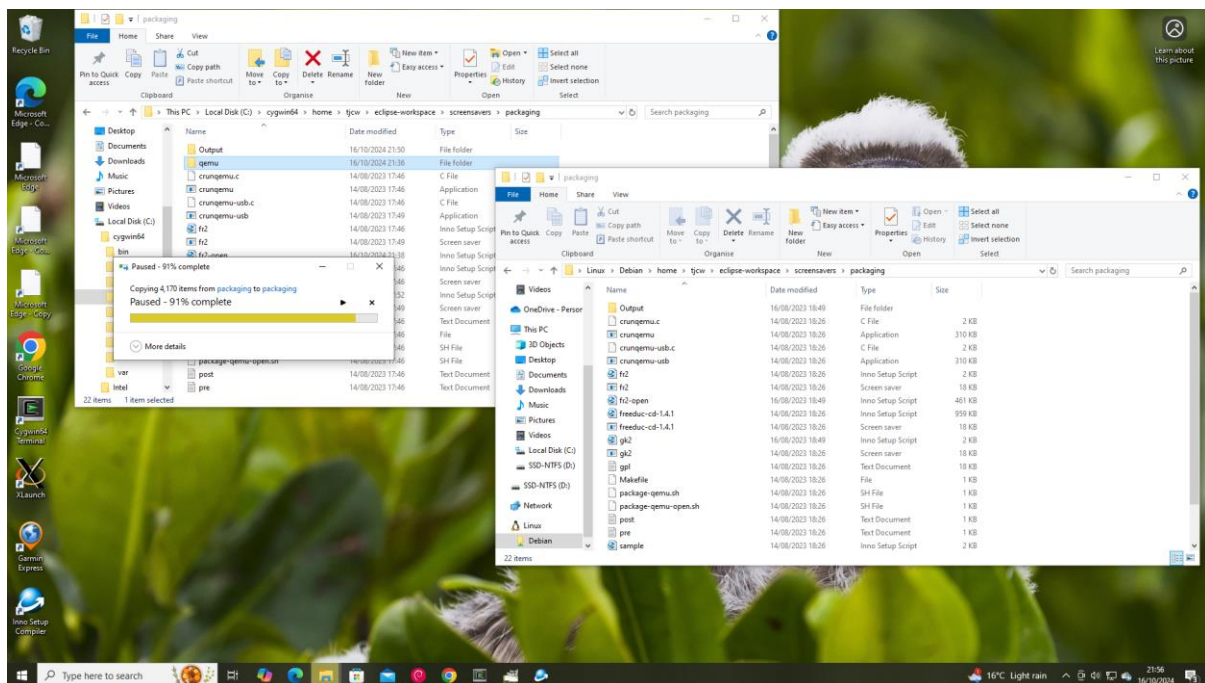


After opening 'fr2.iss', choose 'Build/Compile'.
Transfer the installers and 'Qemu for Windows' to WSL2

```
tjcw@DESKTOP-96STVF3:~/assembly/QemuSaverOpen/unzip$ zip -r
../QemuSaverOpen.zip .
tjcw@DESKTOP-96STVF3:~/assembly/GamesKnoppix2/unzip$ zip -r
../GamesKnoppix2.zip .
```

```
mv ~/eclipse-workspace/screensavers/packaging/qemu
~/assembly/QemuSaverOpen/unzip/
cp ~/eclipse-workspace/screensavers/packaging/Output/QemuSaverOpenSetup.exe
~/assembly/QemuSaverOpen/unzip/
cp ~/eclipse-workspace/screensavers/packaging/fr2.scr
~/assembly/QemuSaverOpen/unzip/extras/
ln ~/lb/isos/freeduc-bookworm.iso ~/assembly/QemuSaverOpen/unzip/extras/fr2.iso

cp ~/eclipse-workspace/screensavers/packaging/Output/GamesKnoppix2Setup.exe
~/assembly/GamesKnoppix2/unzip/
cp ~/eclipse-workspace/screensavers/packaging/gk2.scr
~/assembly/GamesKnoppix2/unzip/extras/
ln ~/lb/isos/gk-bookworm.iso ~/assembly/GamesKnoppix2/unzip/extras/gk2.iso
tjcw@DESKTOP-96STVF3:~/eclipse-workspace/screensavers/bin$
```



Set up the unzipped files by running “setup_assembly”

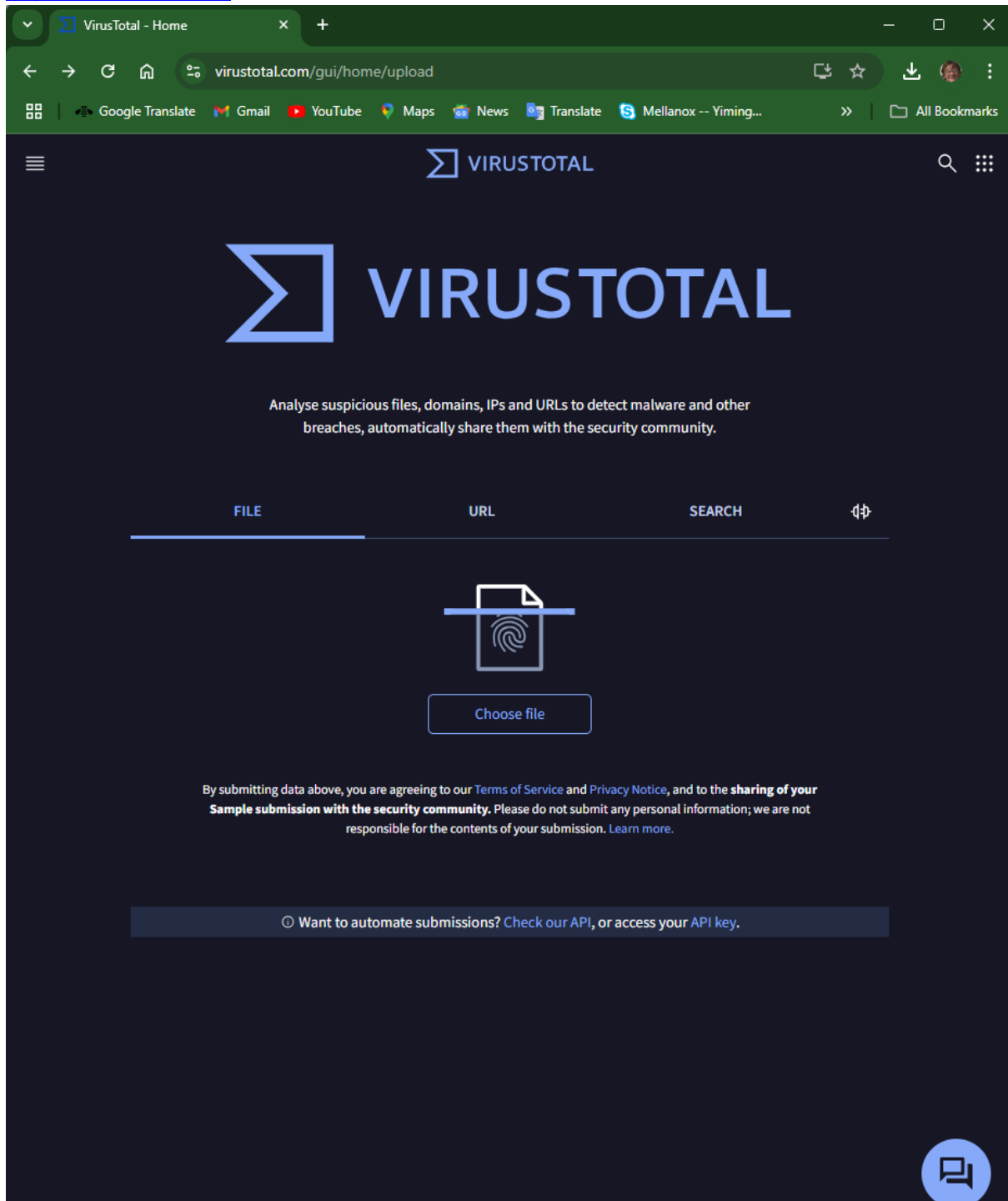
Zip up the ISOs, the installers, and ‘QEMU for Windows’

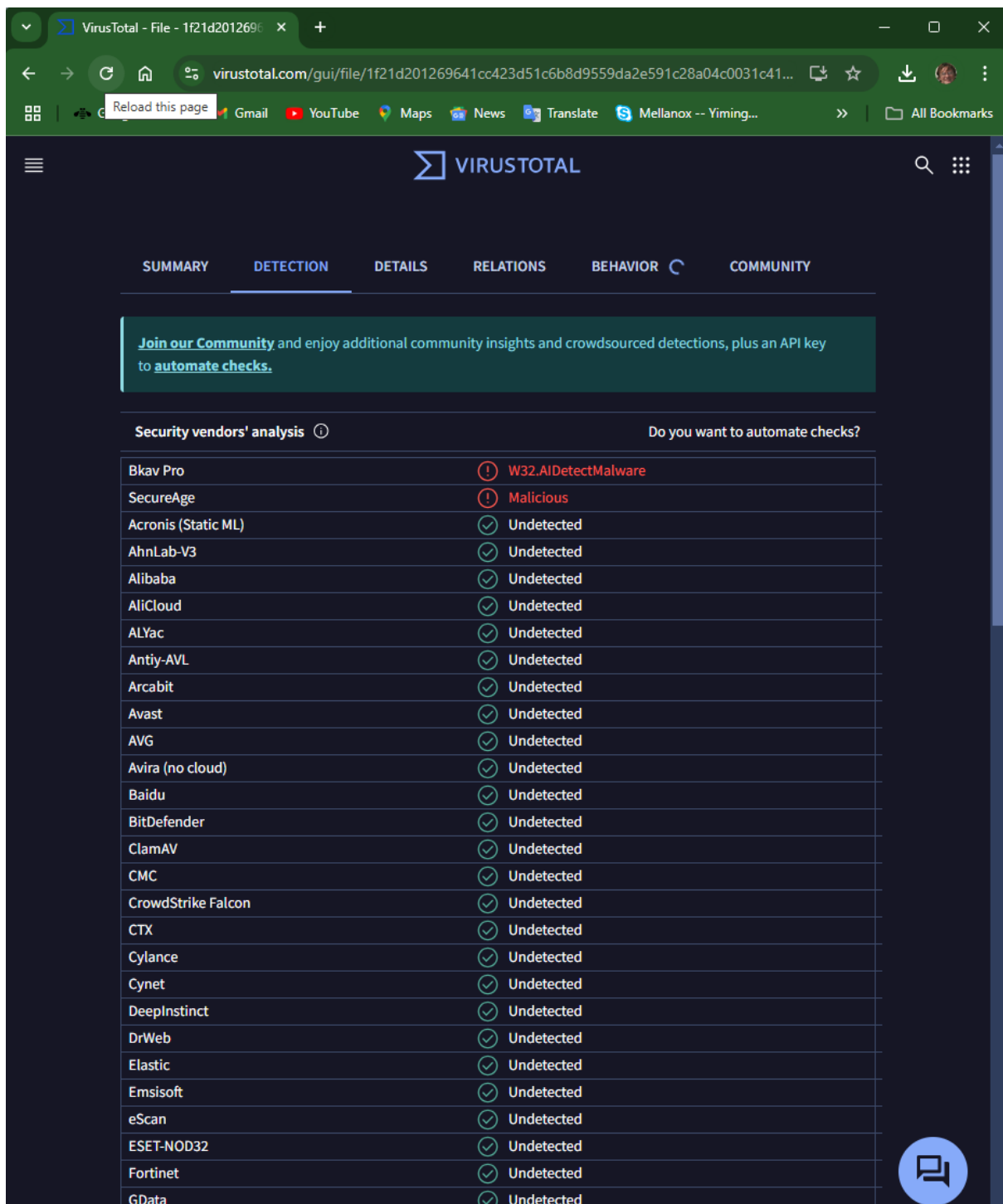
Transfer the zip files from WSL2 to Windows

Test

Extract each zip file and run the installer exes. Sometimes the installers are detected as malware. They aren't 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>





Source code

Optionally, run `~/eclipse-workspace/bin/fetch_source` to fetch the source code for all components. You will need the source code if you propose to distribute the screensavers, as recipients may ask you for it. 'fetch-source' will download 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-dvd
wget ${iso_dir}/SHA512SUMS
while read sha512 name
do
    wget ${iso_dir}/${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-dvd
wget ${iso_dir}/SHA512SUMS
while read sha512 name
do
    wget ${iso_dir}/${name}
done <SHA512SUMS
# Check the checksums
sha512sum -c SHA512SUMS
```

Bibliography

https://www.researchgate.net/publication/272094609_Linux_screensaver_for_Windows First 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/> Updated publication about running Linux as a Windows screensaver

<https://sourceforge.net/projects/linux-screensavers-for-windows/files/release1/> Location on SourceForge where the screensavers in the above article are available for download