



Keeping Emulation Environments Portable  
FP7-ICT-231954

# How to

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## Create a FAT 16/32 disk image

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## 1 Introduction

This document explains how to create a Qemu hard disk image and how to install an operating system on this disk image (Windows 98, in this case, but it could be another OS running on an x86 machine). It is assumed you already have a Windows 98 CD-ROM. After the installation of the operating system, an older application is installed inside the operating system.

This is *not* a tutorial for Qemu, it is only meant to quickly create an OS-image with a custom application installed inside it so that it can be inserted in the Emulation Framework. If you want to know more about Qemu, please go to: <http://en.wikibooks.org/wiki/QEMU>



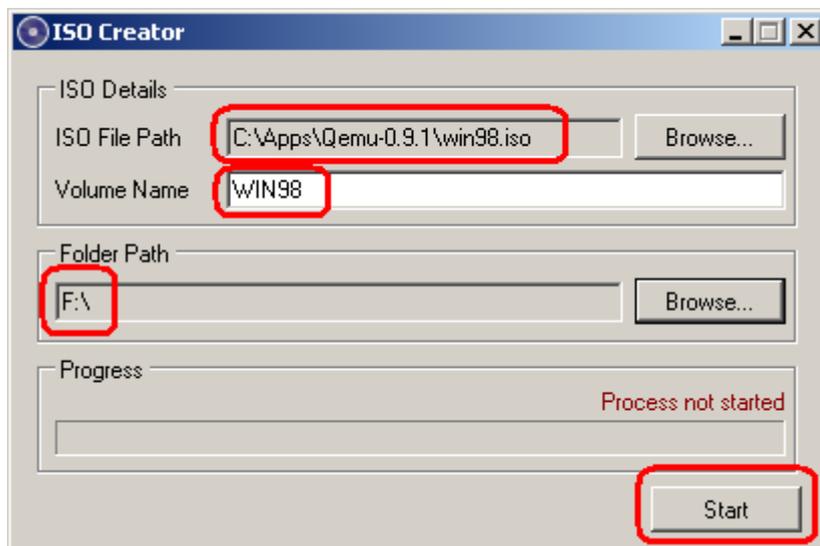
## 2 Get Qemu

Go to <http://www.h7.dion.ne.jp/~qemu-win/> and download the (zipped) installer for Windows. If you want to build an installer yourself, go to <http://wiki.qemu.org/Download> and get the source code for Qemu. Install Qemu on your PC (the location in which you have installed it, will be denoted as **%QHOME%** from now on).

### 3 Create an ISO image from your OS

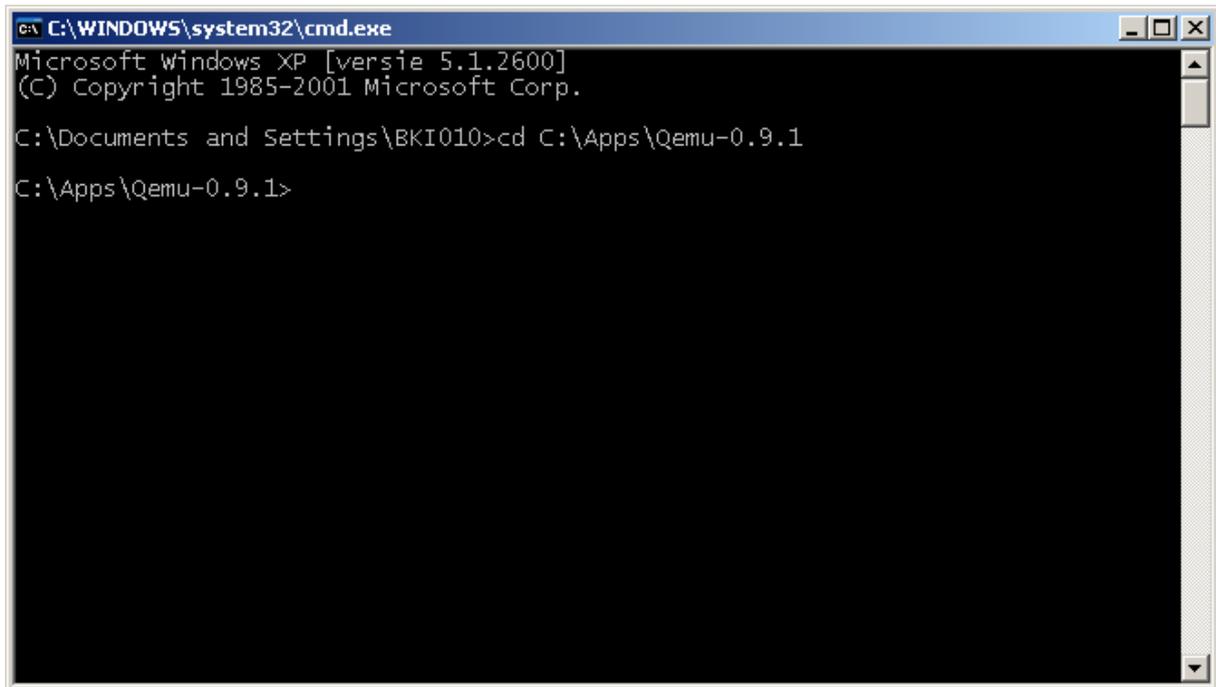
Download and install ISO Creator from: <http://sourceforge.net/projects/iso-creator-cs/> . Put your Windows CD in the CD/DVD tray of your computer and create an ISO image from it by:

- launching ISO Creator ;
- provide a path where to save the ISO file (%QHOME%\win98.iso, in the image below);
- giving it a volume name;
- selecting the volume name where the Windows CD resides (F:\ in the image below);
- and finally pressing the start button.



## 4 Creating a Qemu hard disk image

Open a command prompt (Start → Run → 'cmd.exe' → OK) and navigate to %QHOME%:

A screenshot of a Windows command prompt window. The title bar reads 'C:\WINDOWS\system32\cmd.exe'. The window content shows the following text: 'Microsoft Windows XP [version 5.1.2600]', '(C) Copyright 1985-2001 Microsoft Corp.', 'C:\Documents and Settings\BKI010>cd C:\Apps\Qemu-0.9.1', and 'C:\Apps\Qemu-0.9.1>'. The prompt is currently at the end of the last line.

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\BKI010>cd C:\Apps\Qemu-0.9.1
C:\Apps\Qemu-0.9.1>
```

To create a Qemu hard disk image, execute the following command from the prompt:

```
qemu-img create hd512_win98.img 512M
```

which will create an empty hard disk image of 512 MB with the name **hd512\_win98.img**.

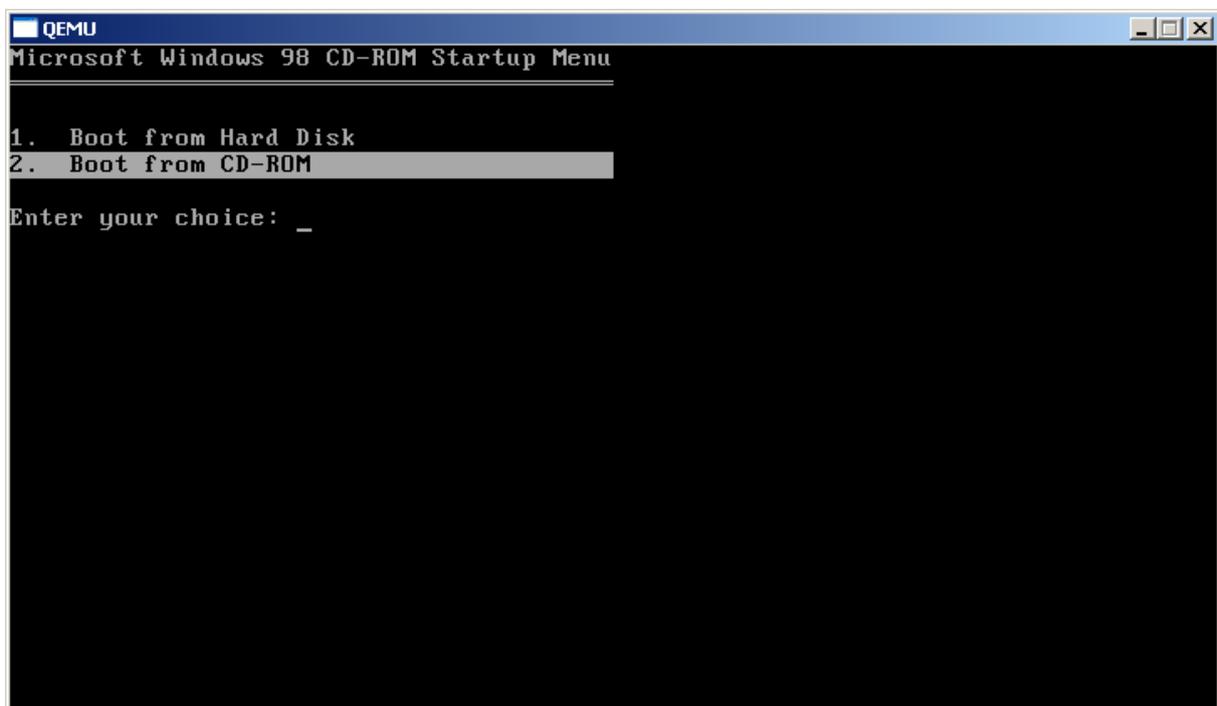
## 5 Install Windows on the hard disk image

Now we need to boot the CD-ROM with Windows 98 on it and install this OS onto our empty hard disk image. Do this by executing the following command from **%QHOME%**:

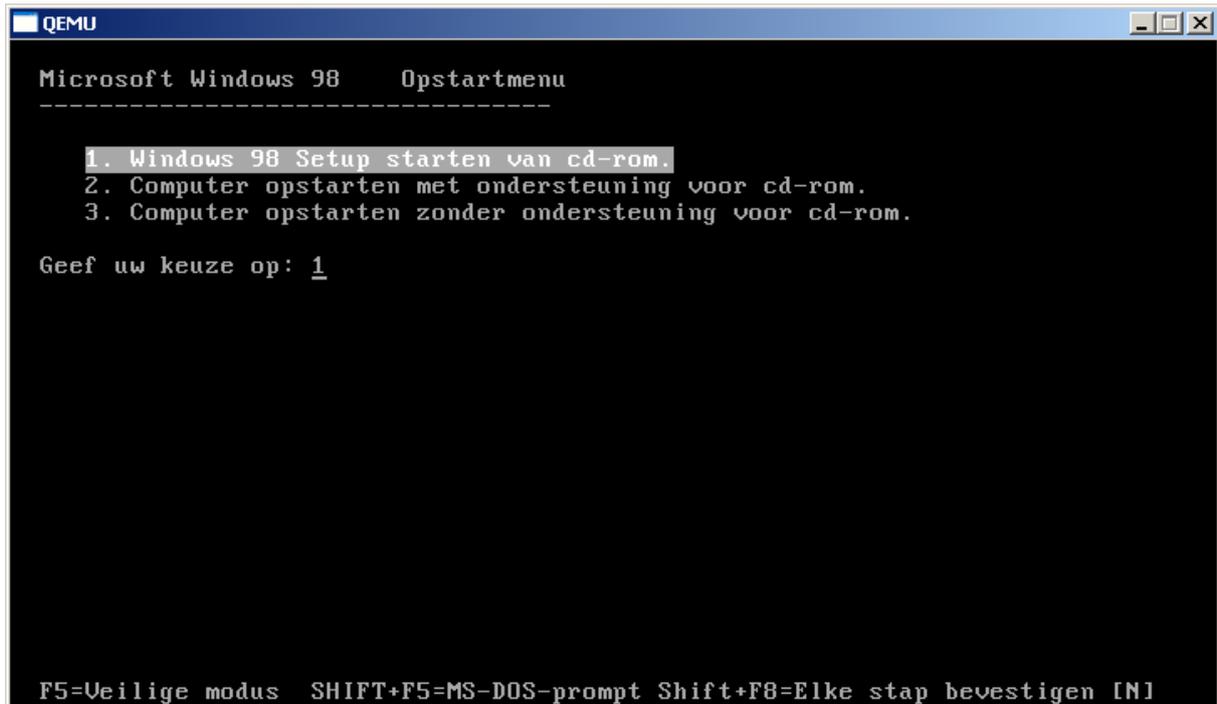
```
qemu -L . -m 256 -hda hd512_win98.img -cdrom win98.iso -boot d
```

(mind the '.' between '-L' and '-m')

And choose option 2 from the following screen:



Then select option 1 from the following screen:

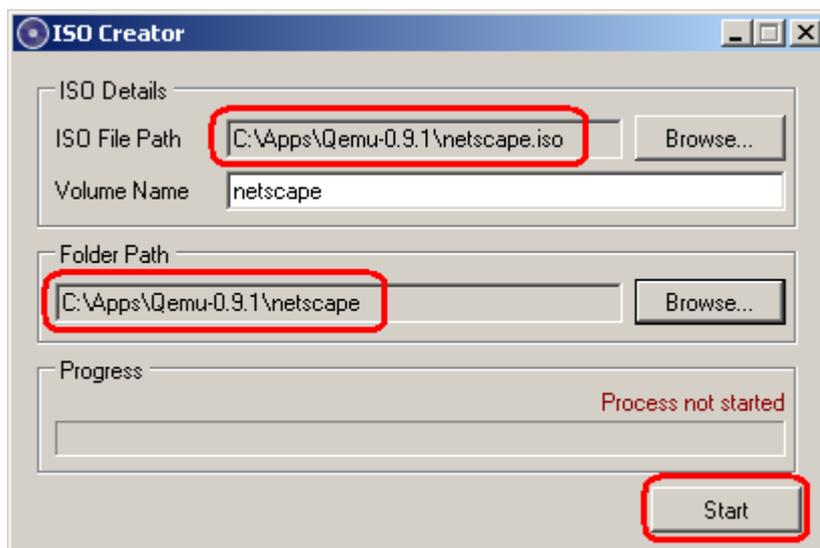


and follow the rest of the instructions to complete the installation procedure.

## 6 Install an application under MS Windows

Let's say you want to install Netscape Navigator (an old web browser) from the '98 era. Download this old app from <http://www.oldapps.com/netscape.php> and save it in `%QHOME%\netscape`

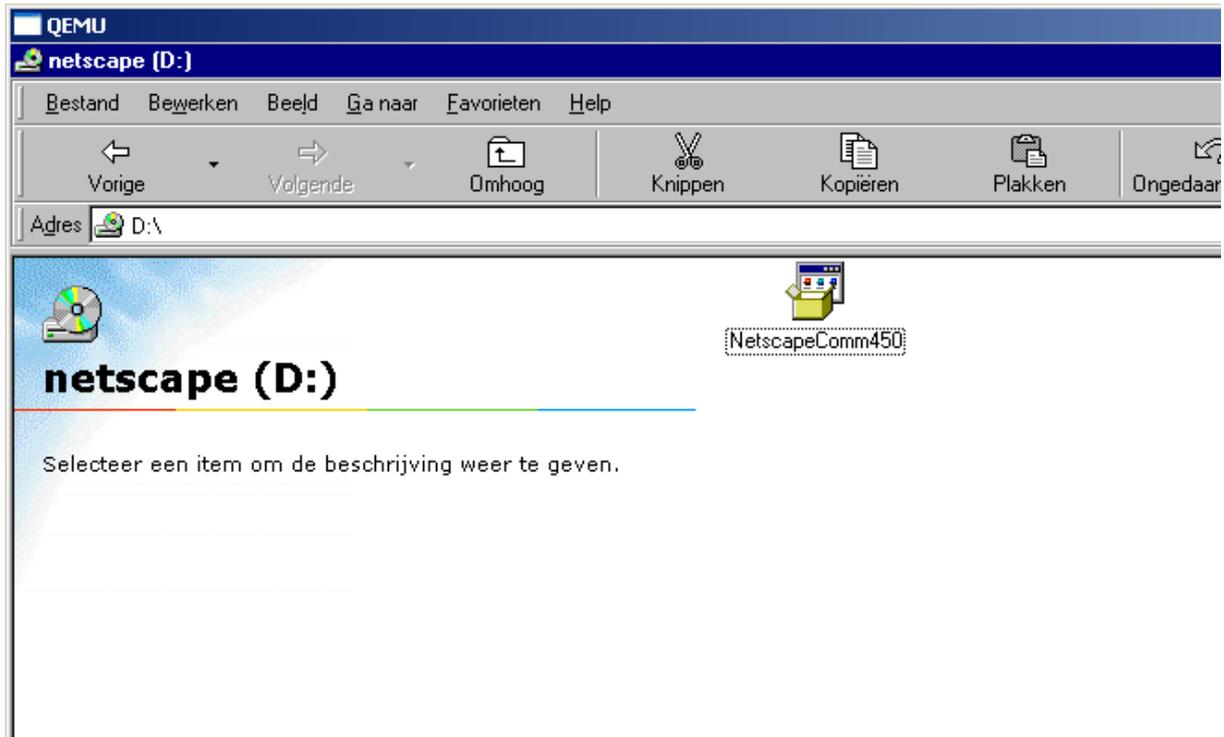
We now need to create an ISO image from the folder containing the Netscape installer and attach this ISO as a CD-ROM to our Windows image. Start ISO Creator and do the following:



Now start Windows 98 and attach the Netscape ISO to it like this:

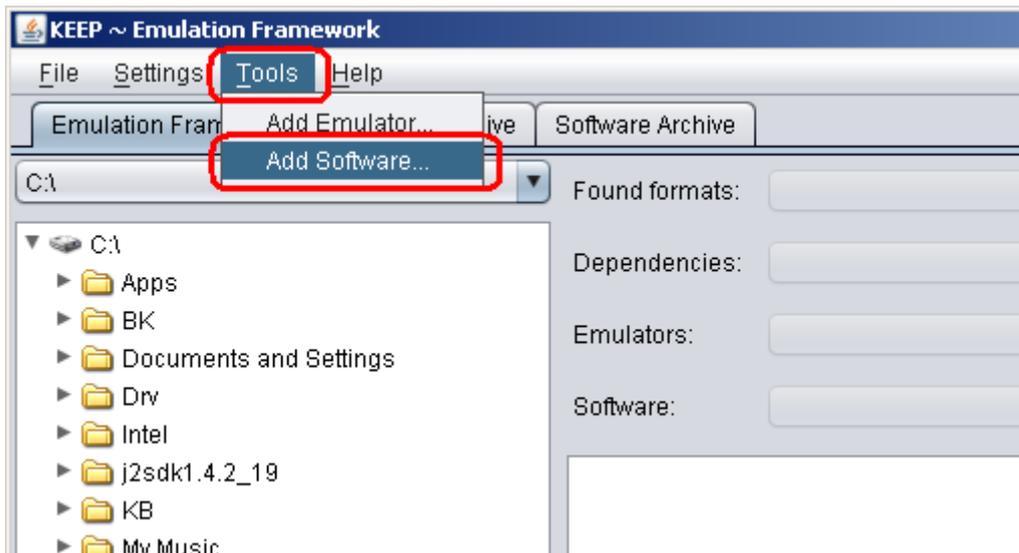
```
qemu -L . -m 256 -hda hd512_win98.img -cdrom netscape.iso
```

As you can see, the Netscape installer is now attached as a CD-ROM image:



which you can now install inside Windows 98.

The Qemu image, `hd512_win98.img`, must now be zipped (compressed or uncompressed) and can then be inserted it in the Software Archive by choosing **Tools** → **Add Software...** in the Emulation Framework test GUI:



## 7 Problem solving

If you experience any troubles, please browse to the Emulation Framework support website, available at:

<http://sourceforge.net/projects/emuframework/support>

Or visit the overall project website: <http://emuframework.sf.net>