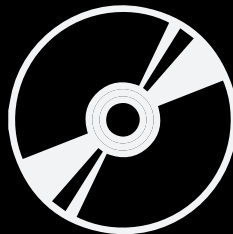




Mac OSX

Bootcamp/Virtualization



For use by: Students, employees
Version: 1.0
Date: 07-05-2014
Owner: @Hok

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Bootcamp, Parallels or VMware?

Before you begin

The following instruction is supported by the TU Delft and has been tested to be working. However, we offer this manual to you as an extra service. So in case you have a configuration or version of Mac OS X other than the one described here and you have problem installing windows on your mac, neither ICT nor a Servicepoint will be able to help you install windows on your mac.

Prerequisites

There are several solutions to run Windows software on your mac. This manual explains the most important ones and why some are better as the others. Because there are more options and each option has its own benefits, this first page is to inform you about the possibilities.

Deciding what to use



Bootcamp:

Pro's:

- Comes preinstalled with your mac; No purchase necessary!
- Uses your hardware in the most optimal way; Windows will run just as fine as on any windows PC, best for graphical intense software

Cons:

- Your drive needs to be partitioned in your original "Mac" drive and a "Windows one (the software does this automatically). This means you would have to sacrifice some of your hard drive space for the use of windows.
- You would need to re-install all printers, networks etc. as your windows acts as a "different" PC
- Everytime you need to use a windows application you would have to reboot
- Retina resolutions can give a problem, so a lower resolution has to be used

Virtualization (Parallels/VMware):

Pro's:

- Windows is integrated with your mac seamlessly; Use Windows and OSX side by side, networks and printers are shared
- Creates a "virtual hard drive"; no disk space is lost and your Windows drive can be resized/removed at any time.
- Specialist driver software is supplied; scrolling, zooming copying, pasting etc. will have a more "Mac-like" experience
- Easy installation

Cons:

- When using multiple heavy programs at the same time Windows might slow down noticeably, depending on your hardware specifications.
note: both parallels and vmware support revit, autocad and rhino
- Drains more battery while used
- Costs around €39 - 45*

* Parallels or VMware?

Parallels and VMware both offer strong software solutions, Parallels seems to have a more user-friendly interface.

Parallels (educational discount) can be purchased online at www.parallels.com for €39*

VMware (full) can be purchased at www.vmware.com/fusion for €45*

*Prices shown are the prices shown online on 07-05-2014

Free alternative Virtualbox

There is a free alternative for Parallels and VMware, this alternative is not recommended or supported by us, but some students manage to get Revit working on it.

Available at: www.virtualbox.org

Use at your own risk. Make sure you are not dependend on this software.

Installing Windows in Bootcamp

Bootcamp comes pre-installed with any macOS system and can be found in the folder "Utilities" in your Applications folder or by searching for "bootcamp" in spotlight.

Prerequisites

Make sure you have a windows 7 or lower installation DVD (or iso image) and a valid licence key. *Use the **Installing windows 7/8 manual** for information on downloading and installing windows from ma3d.*

Windows 8 is not supported on Macbooks from before 2010 (13" 2010 model not supported either)

Parts of this manual can be different depending on the version of bootcamp you have:

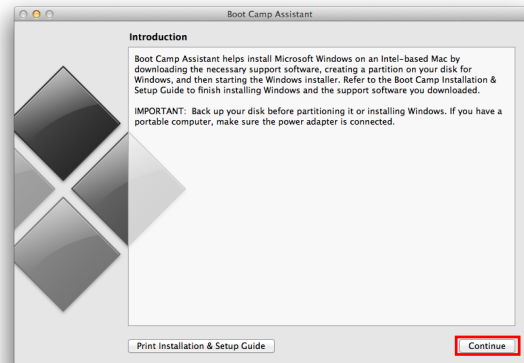
this manual was made with version 5.1.2 on a 2009 Macbook pro 15".

Setting up Bootcamp

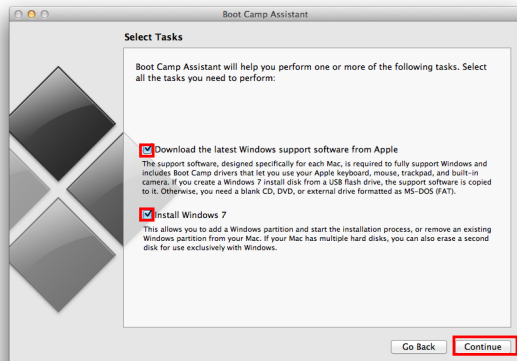
Step 1. Open the Bootcamp Assistant.



Step 2. Click Continue.



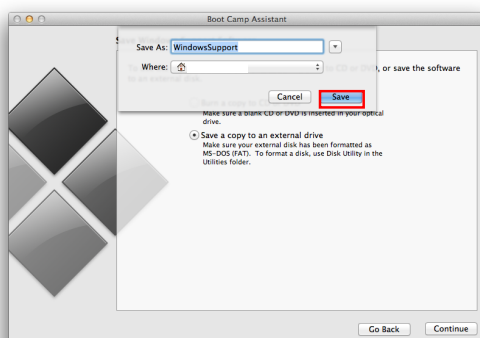
Step 3. Check all options, click continue;
When installing on a retina mac, the option also exists to create a bootable usb installdrive from an iso file since there is no DVD drive.



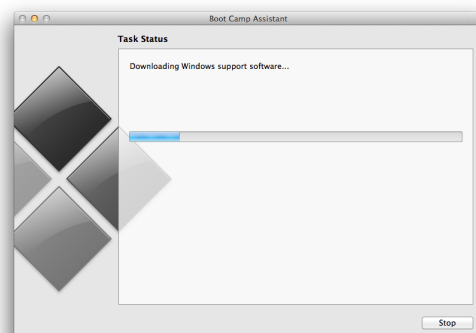
Step 4. You get the option to download the drivers to a CD or DVD or to a USB stick (make sure the USB is FAT formatted); click next.



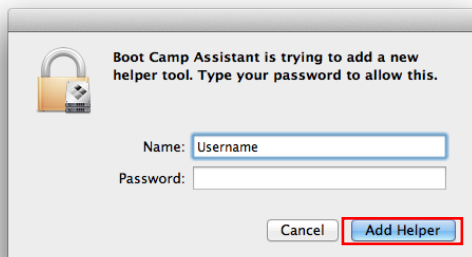
Step 5. When selecting USB, choose the USB drive as download location for the driverpackage. click save.



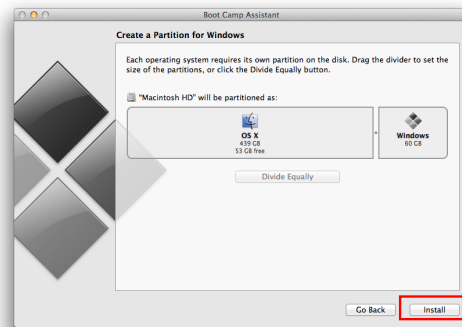
Step 6. The installer will download the driver software.



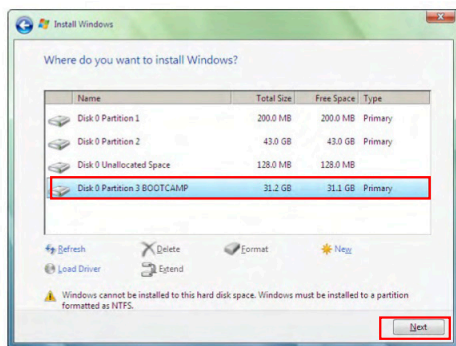
Step 7. Type in your password.



Step 8. Partition your drive in this menu; **100 GB** is recommended for the Windows partition. Make sure you have the windows installation dvd/usb inserted and choose "Install".



Step 9. Your mac will reboot on the windows installation dvd. Further installation instructions for windows can be found in the "Windows 7/8 installation" Manual; *Make sure you select the correct partition to install Windows, labeled BOOTCAMP. You will need to format it.*

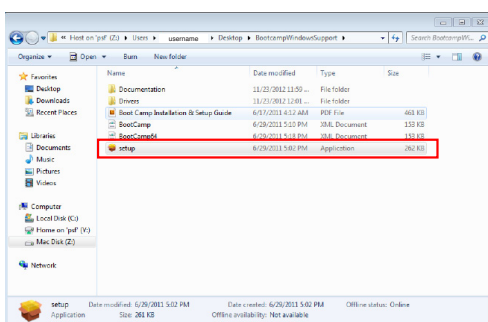


Step 10. Finish the windows installation.

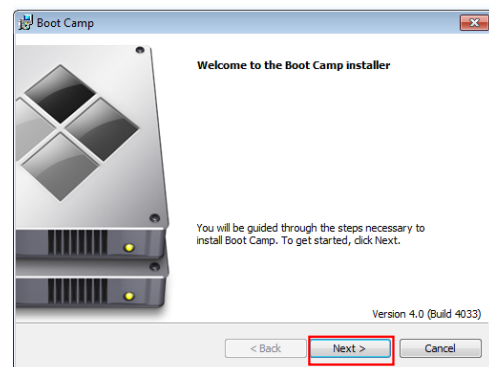


Install drivers

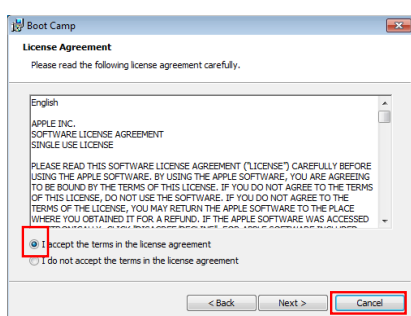
Step 11. When the Windows installation is finished, a driver installer will automatically install the mac drivers, if not you can select the driver install package from the USB. Open "Setup".



Step 12. To start the installation click "Next".



Step 13. Accept the license agreement.

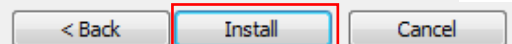


Step 14. Start the installation, also install the apple software updater.

Choose the feature you want.

☒ **Apple Software Update for Windows**

Install Apple Software Update to easily update Boot Camp and other Apple software



Your computer will be restarted after the installation Thats it! Make sure you install all windows updates and you're ready to go!

To choose in which operating system to boot, hold the alt-key before the apple logo appears on startup.

Installing Windows 8 in Parallels

At the time of writing (07-05-2014) Parallels (educational) can be purchased online at [www.apple.com \(store.apple.com/nl\)](http://www.apple.com/store.apple.com/nl) for €46, at parallels.com for €39 (ask for current price).

You will need a genuine copy of windows, you can request a windows key at **MA3D.com** (more information in the **"Installing Windows 7/8 manual"**) you can also download your Windows image from [ma3D](http://ma3D.com).

Install Parallels

Step 1. Open the diskimage you downloaded (.dmg) or the disk you inserted.

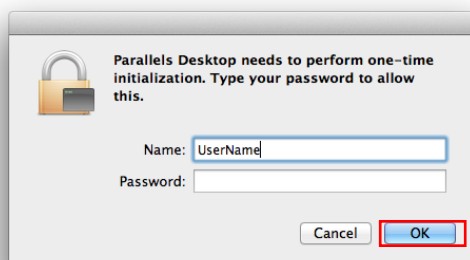


ParallelsDesktop-8
.0.1810...180.dmg

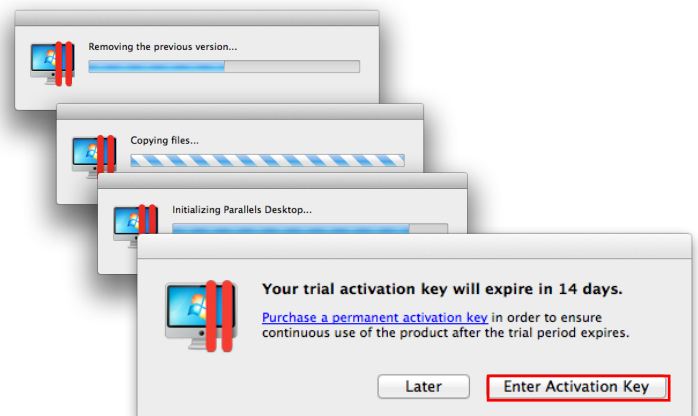
Step 2. Click the installer.



Step 3. Type in your username and password and click "OK".



Step 4. Parallels will be installed and previous versions will be removed. After you installed parallels, you might be asked to enter the activation key which can be found inside your box or in your download information. *It is also possible to start a 14-day trial, to do so click "Later".*

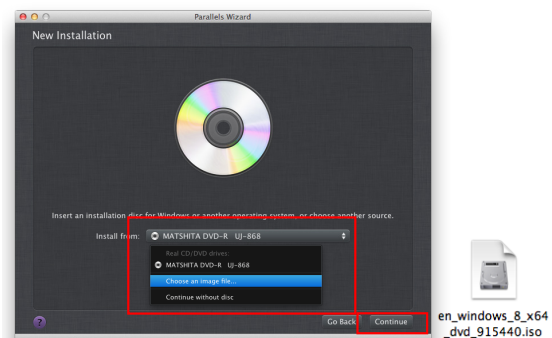


Install Windows in Parallels

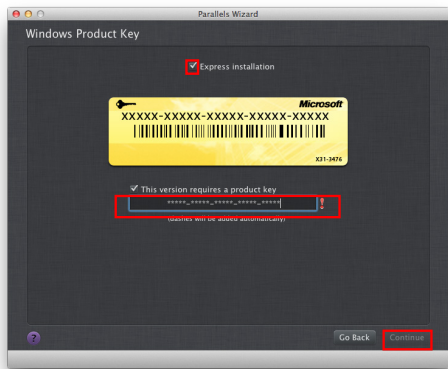
Step 1. You will be welcomed by the "Parallels Wizard, to install windows select "Install from DVD or image file".



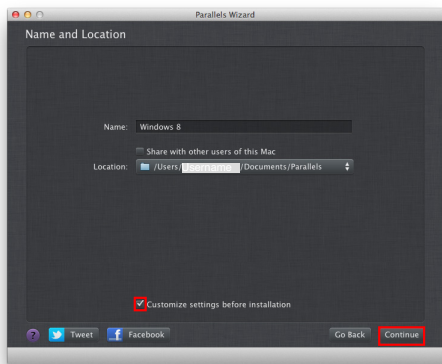
Step 2. Enter the DVD and click "continue", or select the downloaded image file.



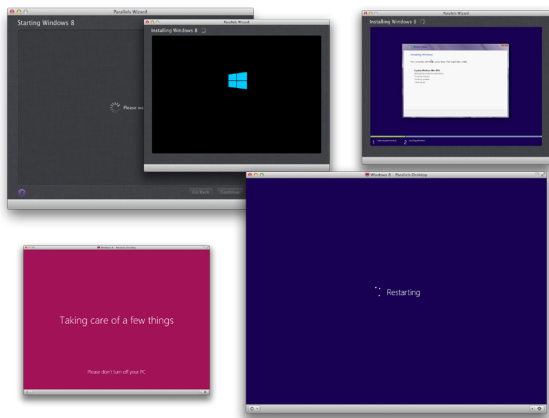
Step 3. In this screen you need to make sure "express installation" is selected and fill in the serial number you recieved from ma3d. Click "continue"



Step 5. Name your virtual machine and select "Customize settings before installation". Click "continue"



Step 7. The installation will start and parallels will enter all necessary information automatically. Sit back and relax.



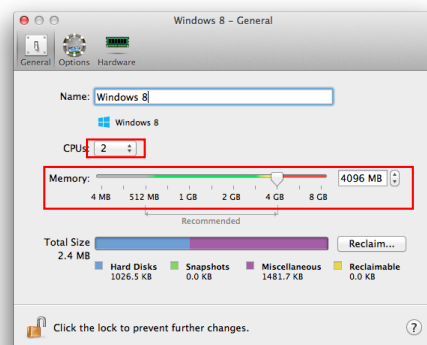
Step 9. A windows applications folder will be added to your dock. If this is unwanted you can drag it out anytime.



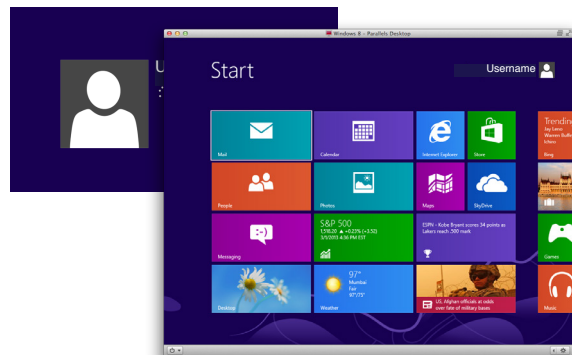
Step 4. In the following window, select "Like a PC"



Step 6. In the settings menu adjust the virtual machine as you like; *Recommended settings may differ for your system, an 8gb ram mac could best select 4gb memory (4gb would mean 2gb memory, 1/2 of your memory) and CPU can be set to 2.*



Step 8. Parallels will install the necessary drivers automatically, give it some time. When that's finished, You're all set to go!



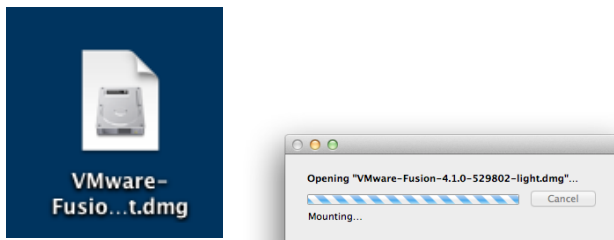
Installing VMware Fusion and Windows 7

You can buy and download VMware Fusion from: <http://vmware.com/fusion>

You'll also need a genuine Windows Installation disc. Refer to the **Installing Windows 7/8 manual** that is also available for instructions on how to obtain a student version of Windows 7/8. For modern Intel based Macbook Pro systems with 4 Gigabyte of RAM memory or more, we recommend the 64-bits version of Windows 7/8 Home or Professional. Otherwise use the 32-bit version.

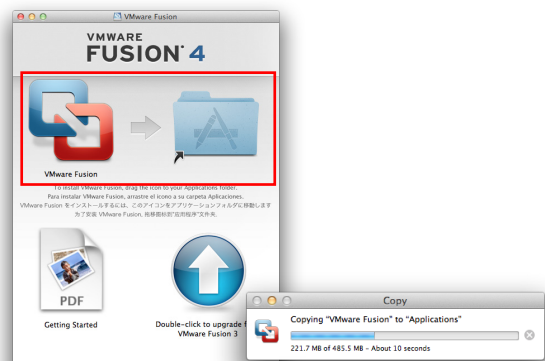
Install VMware Fusion

Step 1. Open the VMware Fusion installer (.dmg) that you've downloaded.



Step 2. Install VMware Fusion by dragging the icon (left) to the Applications folder (right).

Note that there's also the Getting Started documentation (PDF) in this window. You may want to drag it to your desktop or documents folder for future reference.

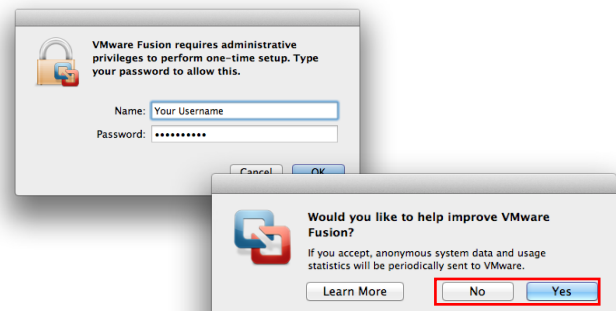


Step 3. Open your Applications folder and double-click the VMware Fusion icon.

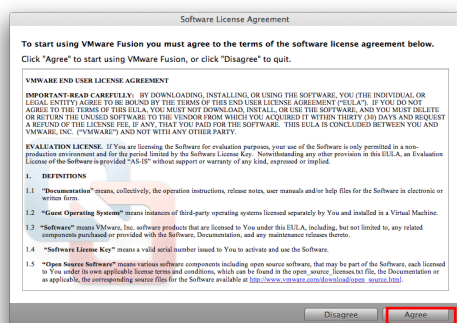


Step 4. You may be prompted to provide your credentials for administrative privileges.

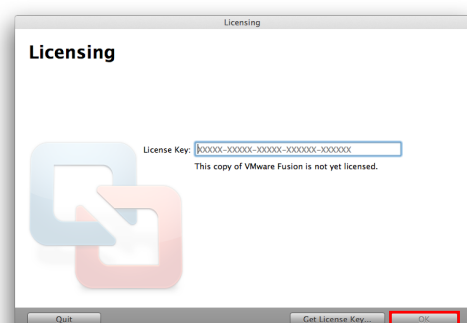
You're offered a choice whether you'd like to participate anonymously to improve the product. Make your choice by clicking yes or no.



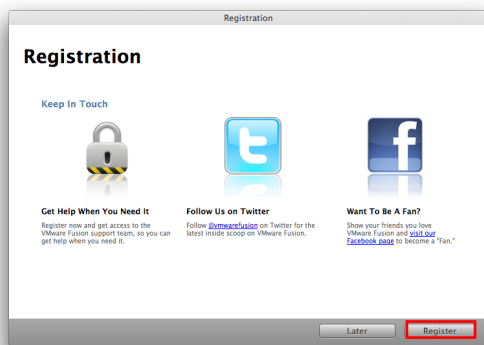
Step 5. A window with Software License Agreement is displayed. Click **Agree** when you agree with the SLA.



Step 6. Enter your License Key or Click Get License Key to acquire one. Click **OK** when finished.



Step 7. You can register with VMware. Click Register to sign up or click **Later**.



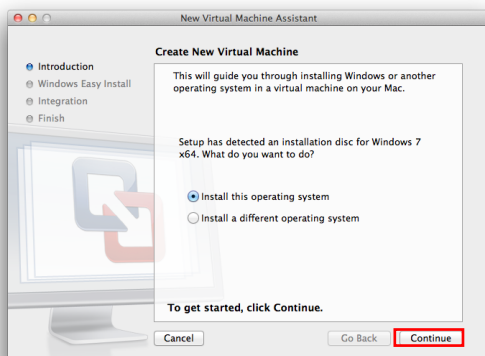
Step 8. The Virtual Machine Library is displayed. Here you can create a new Virtual Machine, or migrate an existing Bootcamp partition into a Virtual Machine.

In this manual we're creating a new VM from scratch. Insert a Windows Installation DVD into your optical drive. Click **Create New**.



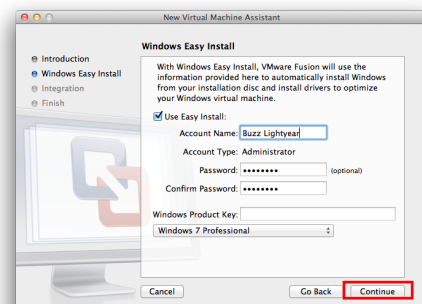
Installing Windows 7 in VMware Fusion

Step 1. Make sure the right installation source is selected. Click **Continue**.

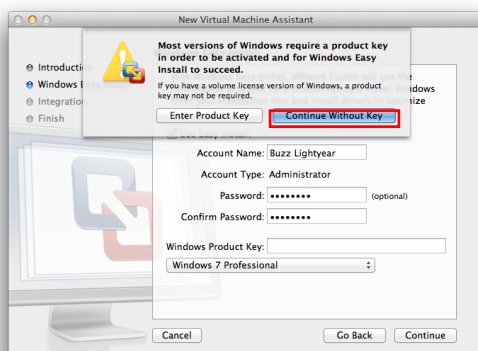


Step 2. Set a username you wish to use for your Windows installation. If you already have your Windows Product Key, enter it here. You can also leave it empty and enter it later (within 30 days).

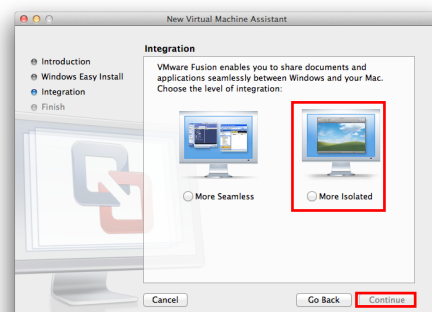
Click **Continue**.



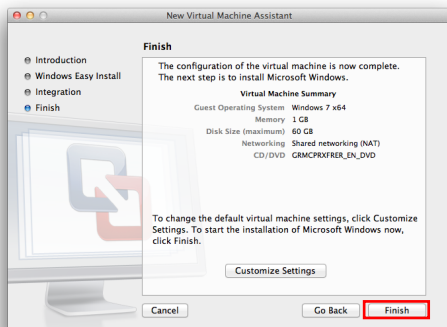
Step 3. When you didn't enter your product key yet, you'll get a warning. Click Continue Without Key.



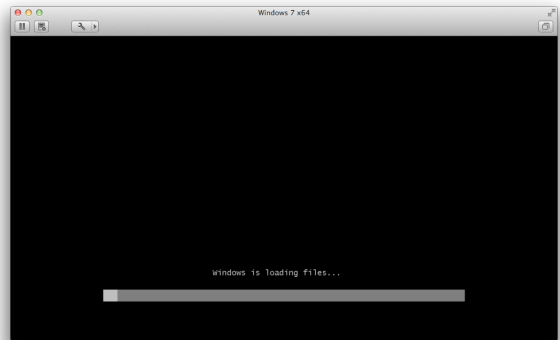
Step 4. VMware Fusion offers you a choice whether to integrate the VM with your OS X installation or to isolate it. An integrated VM makes all your OS X files available in Windows by default, but it may be a security risk. We recommend the More Isolated VM. Click Continue.



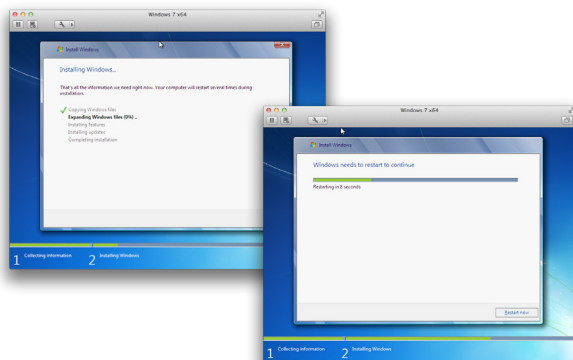
Step 5. VMware shows the configuration of the VM that will be created. These settings can be changed later. Click **Finish**.



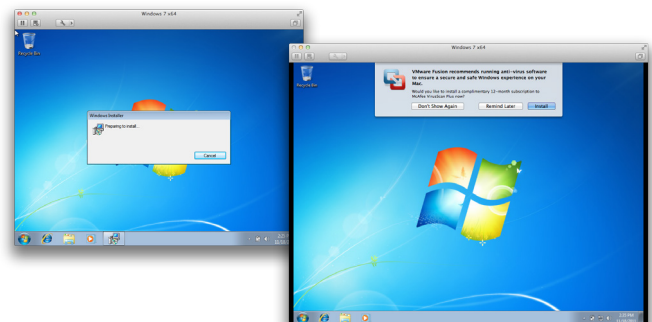
Step 6. VMware will start the newly created Virtual Machine. The installation of Windows will start automatically.



Step 7. The Windows setup should continue automatically without any user intervention.



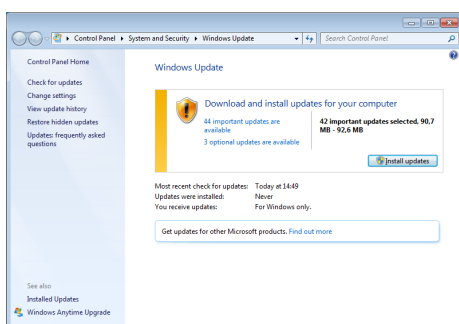
Step 8. Once the main Windows Setup has completed and your Windows is booted for the first time, VMware will automatically install the drivers that are needed.



Step 9. That's it.

First task now is to install all Windows Updates that are available (Start > Windows Update). You may need to repeat this step a few times, restarting your VM inbetween updates.

When there are no more updates available you can continue and install the Windows software applications you need.



Installing Virtualbox and Windows 8

You can download Virtualbox free from: <http://virtualbox.org>

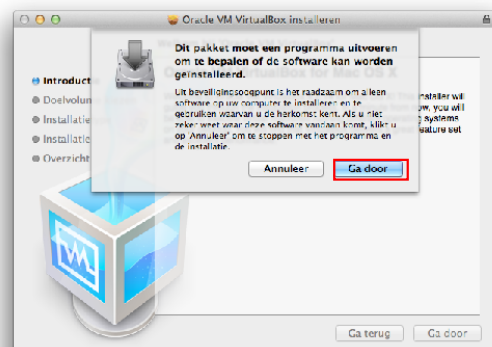
You'll also need a genuine Windows Installation disc. Refer to the **Installing Windows 8 manual** that is also available for instructions on how to obtain a student version of Windows 8. For modern Intel based Macbook Pro systems with 4 Gigabyte of RAM memory or more, we recommend the 64-bits version of Windows 8 Home or Professional. Otherwise use the 32-bit version.

Use of this software is not fully supported at @hok, (you're always welcome to stop by, but we do not guarantee we can find a fix for any problems). But ever since it's free it's an easy place to start with virtualization, just don't expect too much!

Installing Virtualbox

Step 1. Open the .dmg you downloaded from virtualbox.org, and click the installer.

Step 2. Click **Continue**.



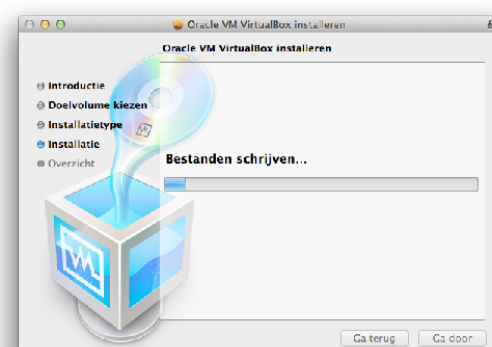
Step 3. Click **Continue**.

Step 4. Click **Install**.

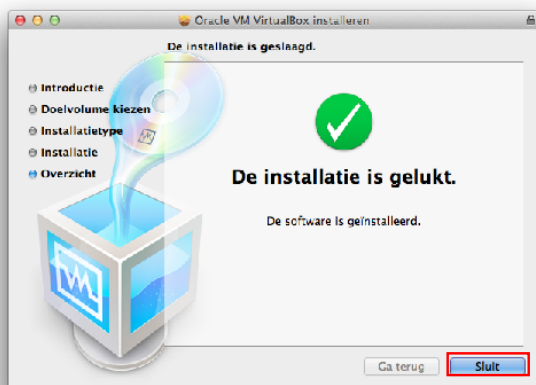


Step 5. Enter your Password and Username

Step 6. The installer will now install all files



Step 7. Click **Close** and open the "Virtualbox" Application which you will find in your "Applications" Folder.

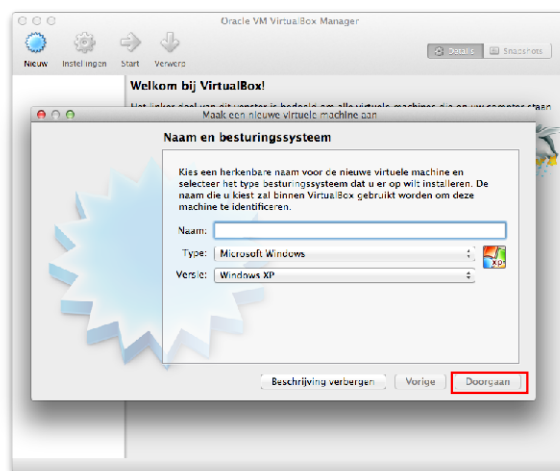


Install Windows in Virtualbox

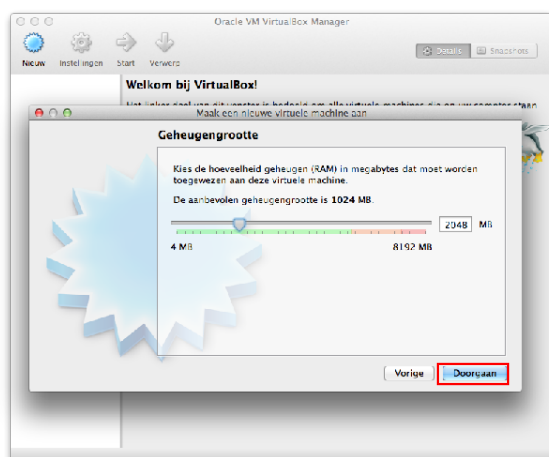
Step 1. Click **New**.



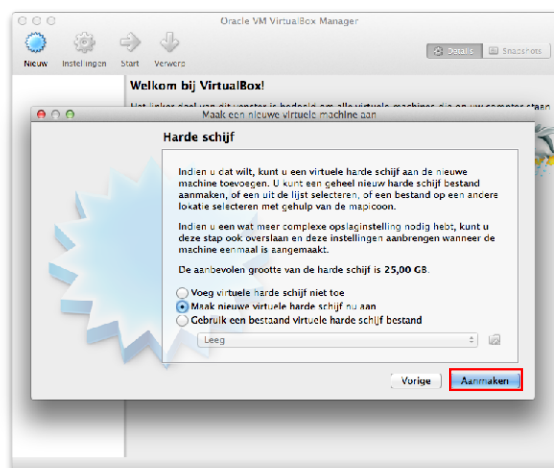
Step 2 Name your virtual machine (e.g. Windows 8) and select the proper system from the dropdown menu. Click **Continue**.



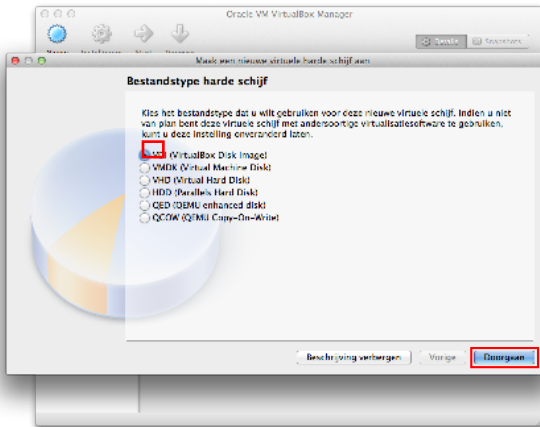
Step 3. Give some RAM to your machine (between 1024 and 2048). Click **Next**.



Step 4. Choose **Create new**. Click **Next**.



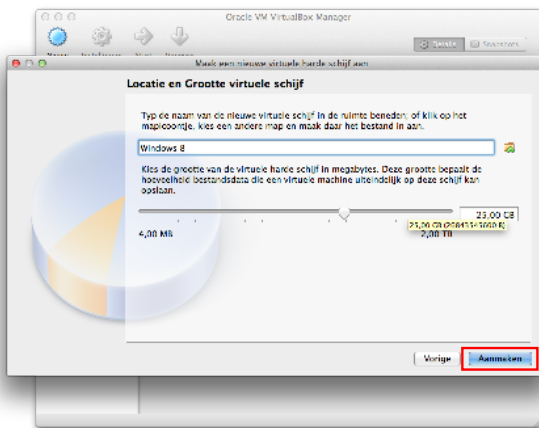
Step 5. Select your preferred filetype, **VDI** will do just fine, if you also use parallels select **HDD**. Click **Next**.



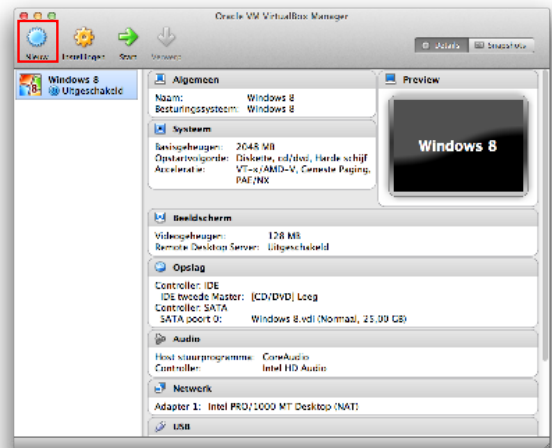
Step 6. "Dynamical" is the best option. Click **Next**.



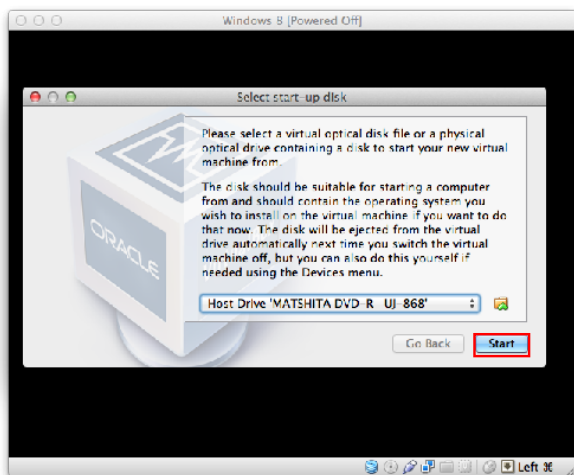
Step 7. Name your disk; if you selected "Dynamical" leave the settings as is. (*Otherwise select a minimum of 60gb*).



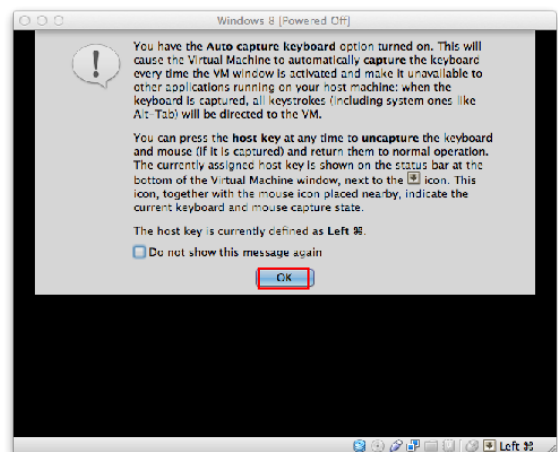
Step 8. You will be brought back to the main screen; select the start button to start your virtual machine.



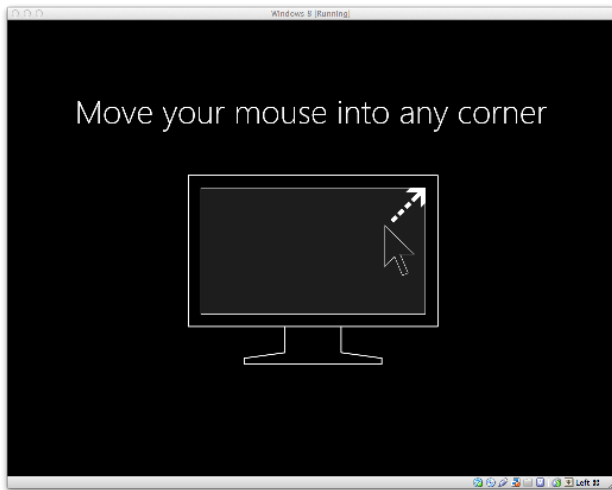
Step 9. Now enter the Windows 8 CD or select the downloaded .iso from MA3D and "Start".



Step 10. You may receive a warning, read it carefully and tick the do not show again button. Click "OK".



Step 11. The installation will continue as described in the "Windows 8 installation" Manual.



Step 12. When the installation is finished, select **Install guest additions...** from the devices menu, this will enable Windows to change resolution freely when you resize the window.

That's it, enjoy your Virtualbox installation and if you have any questions please go to:

<https://forums.virtualbox.org>