Migrate VMWare Linux Virtual Machine to Virtualbox - Convert VMware .VMX to .OVF (Open Virtual Format)

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VMWare Virtual Machines are usually stored in **OVA Format** which is bundle of **OVF(Open Virtualization Format)** and in multiple ***.VMDK files.**
Though other *Virtual Machines* are supposed to also support these "open virtualization format", different VM vendors implement and support it differently, therefore though in theory ***VirtualBox*** and *QEMU* are said to support *OVA Format*. Attempts to import such usually will fail. In this little article I will explain **how VMWare stored (exported) VirtualMachine machine can be succesfully imported to VirtualBox**.

1. Locate where is Virtualbox .vmx files from Window search or via dir command

I'm a console guy, so I prefer **looking for VMWare's .vmx from command line:**

C:\Users\GGEORGI7> cd c:\ C:\> dir /s *.vmx

```
 Volume in drive C is PC COE
Volume Serial Number is XXXX-XXXX
...
Directory of C:\Users\ggeorgi7\Documents\Virtual Machines\Debian 7

 06/02/14 11:06 AM 2,687 Debian 7.vmx
05/28/14 15:44 PM 370 Debian 7.vmxf
2 File(s) 3,057 bytes
```

2. Switch to wherever the VMWare virtualmachine .vmx file is located

C:\> cd \Users\ggeorgi7\Documents\Virtual Machines\Debian 7

N.B. !Make sure the VMWare Virtualmachine is Shutdown (if it is Suspended converted file will not be properly implemented inside VirtualBox!). Whether the migrated virtualhost is suspended, launch VMWare, restore its state and Shut it down properly before starting migration with ***ovftool***.

3. Remove Vmware-tools, Reset Display settings and Input D (before exporting to OVF) in VMWare

a) Remove vmware-tools

Vmware-tools kernel modules and stuff compiled specific for VMWare are no longer needed and might pose issues, thus it is always a good idea if previously installed in VMWare to wipe them out with cmd:

vmware-uninstall-tools.pl

```
[root@localhost ~]# vmware-uninstall-tools.pl
Uninstalling the tar installation of VMware Tools.

Stopping services for VMware Tools

Stopping VMware Tools services in the virtual machine:
   Guest operating system daemon:                          [  OK  ]
   Virtual Printing daemon:                                [  OK  ]
   VMware User Agent (vmware-user):                        [  OK  ]
   Blocking file system:                                   [  OK  ]
   Unmounting HGFS shares:                                 [  OK  ]
   Guest filesystem driver:                                [  OK  ]
   Guest memory manager:                                   [  OK  ]
   VM communication interface socket family:               [  OK  ]
   VM communication interface:                             [  OK  ]
   File system sync driver:                                [  OK  ]

File /usr/lib/vmware-tools/lib32/libconf/etc/pango/pangorc is backed up to
/usr/lib/vmware-tools/lib32/libconf/etc/pango/pangorc.old.0.
```

b) Reset Display Device and Input Devices

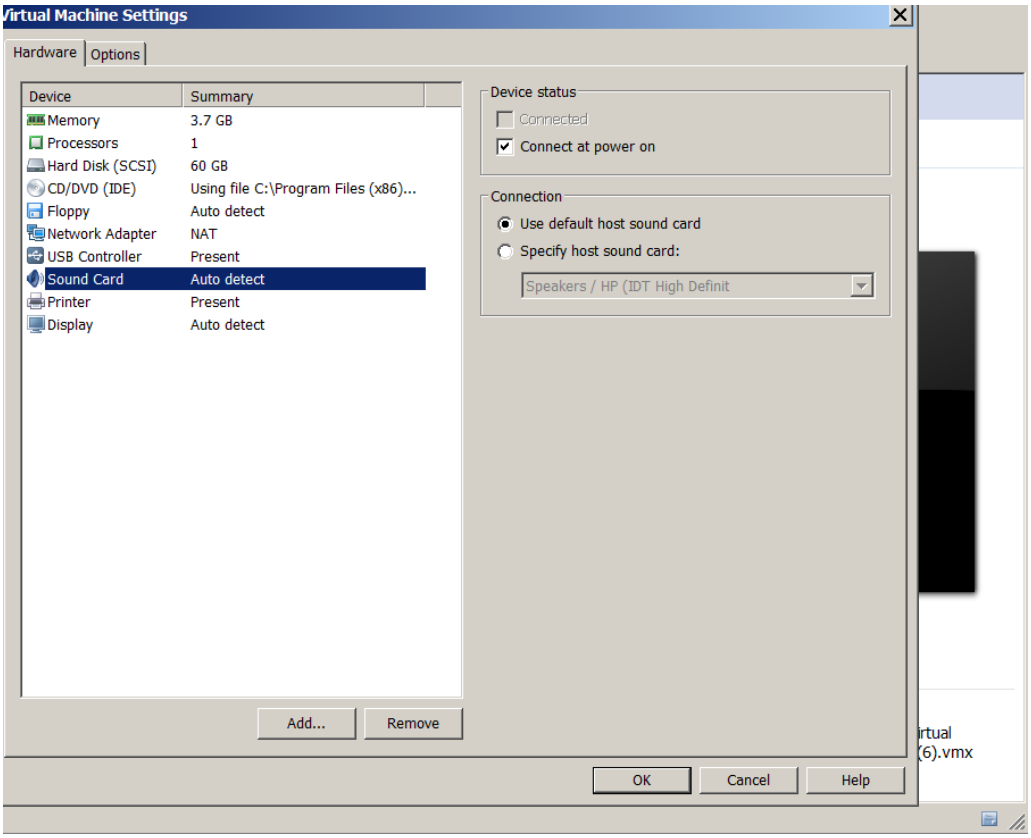
Inside VMWare virtual machine Linux host, before shutting it down run:

mv /etc/X11/xorg.conf /etc/X11/xorg.conf.vmware

c) Remove Incomptable devices

To prevent issues with sound - its necessary to remove VMWare device created for soundcard, in order to let VirtualBox create its soundcard device on 1st boot after migration. To do so click on Virtual Machine and from context menu click **Settings** then in **Hardware tab** select **Sound Card** and **Remove**:

Settings -> Hardware -> Sound Card (Click Remove)



4. Make a Clone (Backup) of Virtual Machine

Its always a good idea to create backup of VMWare VM to be migrated just in case something goes wrong during migration, so you have a way to step back to the already working one. Once files are copied

it might be a good idea to use use some archiver like PeaZip or 7-Zip to save some disk space.

```
mkdir SomeFolder
copy Path_To_Virtual_Machine Folder_for_Backup_Virtual_Machine
```

In my case this was

```
mkdir \Temp\VMWare-machine-backup
C:\>copy "C:\Users\ggeorgi7\Documents\Virtual Machines\Debian 7"\ c:\Temp\VM
ware-machine-backup
```

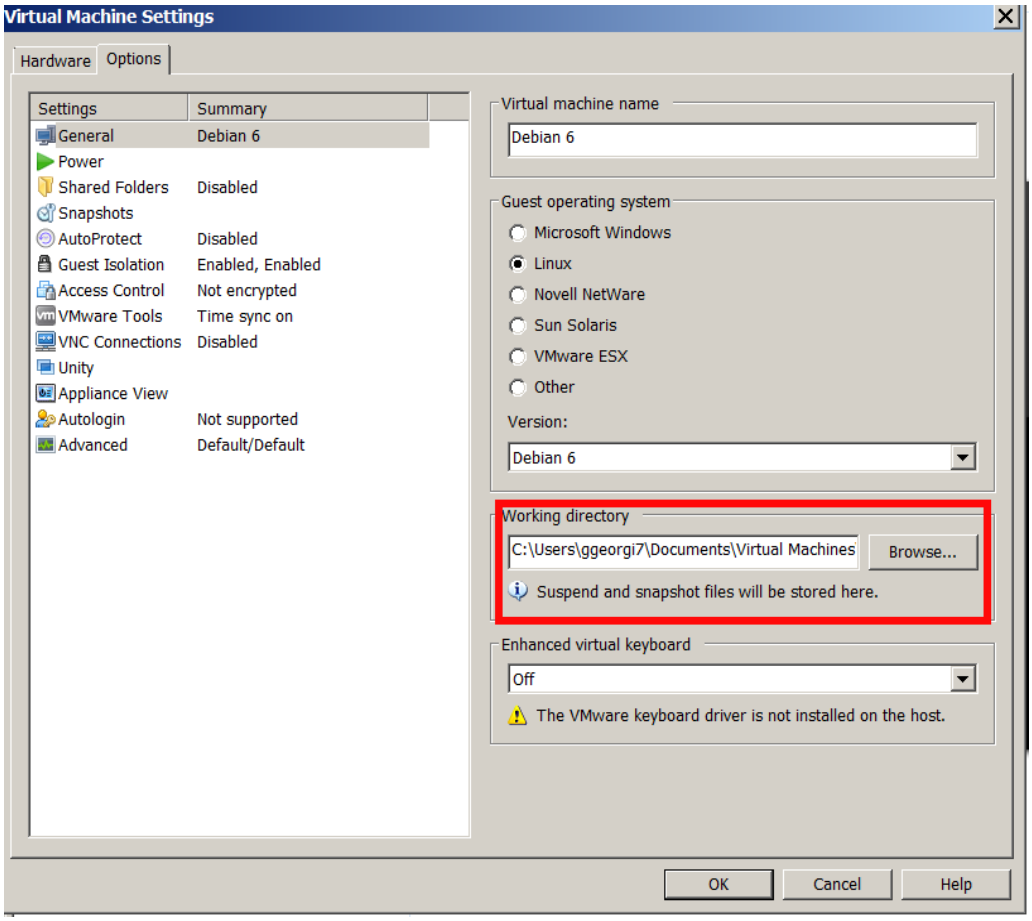
Restoring later VMWare VirtualMachines in case of some failure is done by simply **copying backuped files to *VMWare Working Directory folder***

In case if Wondering

Where is stored VMWare Virtual Machines?

Check in:

VM -> Settings -> Options



5. Use VMWare ovftool.exe to convert .VMX to Open Virtualization Format (.OVF)

Though ***export from .VMX to .OVF it can be also done from VMWare GUI from:***

File -> Export to OVF

Anyways I think it is *better to do it via* ***OVFTool console tool***:

The *most common location* for ***VMWare Workstation*** is:

C:\Program Files (x86)\Vmware\Vmware Workstation\OVFTool

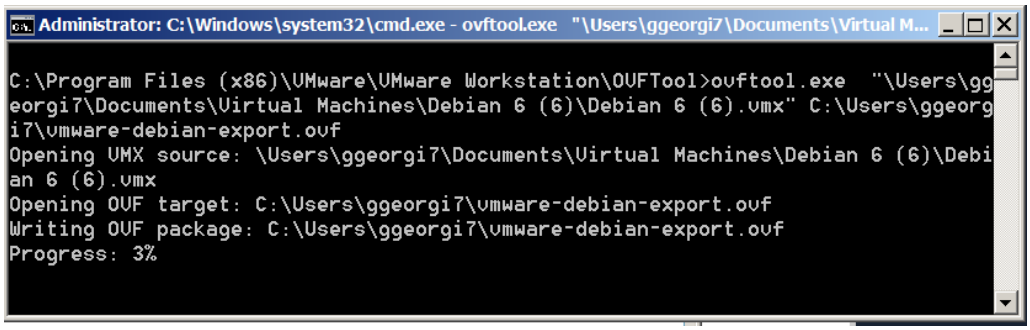
For VMware Player it is:

C:\Program Files (x86)\Vmware\Vmware Player\OVFTool

Very important thing to mention here is you have to be cautious, **Never to run together VMWare and VirtualBox**.
!! Before proceeding to next OVTool .vmx to .ovf migration Shutdown the VirtualMachine and as a best practice close VMware completely.

cd Location-directory-ofOVFTool
ovftool.exe Path-folder-to_VMVM_file.vmx Path-folder_to_VM_exportVM_file_export.ovf

C:\> cd "\Program Files (x86)\VMware\VMware Workstation"\OVFTool
C:\Program Files (x86)\VMware\VMware Workstation\OVFTool>ovftool.exe "\Users\ggeorgi7\Documents\Virtual Machines\Debian 7\Debian 7.vmx" C:\Users\ggeorgi7\vmware-debian-export.ovf



Convertion will take about 30 minutes on a normal computer hardware lets say (Dual Core PC 2Ghz with 4 Gb of RAM).
If you get a “failed to open disk” error during convertion, its likely that the virtual machine is still running or wasn’t shut down properly - boot the virtual machine and perform a shut down.

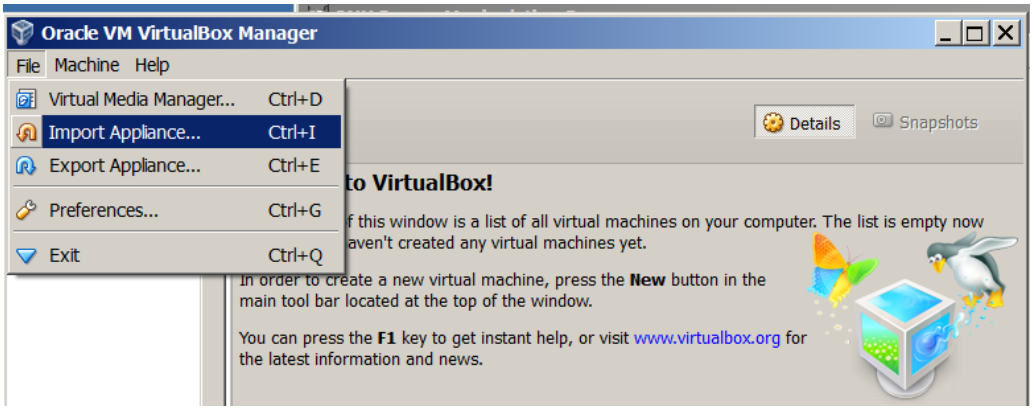
6. Launch VirtualBox, Install Guest Additions to enable Copy / Paste and USB support in Virtual Machine

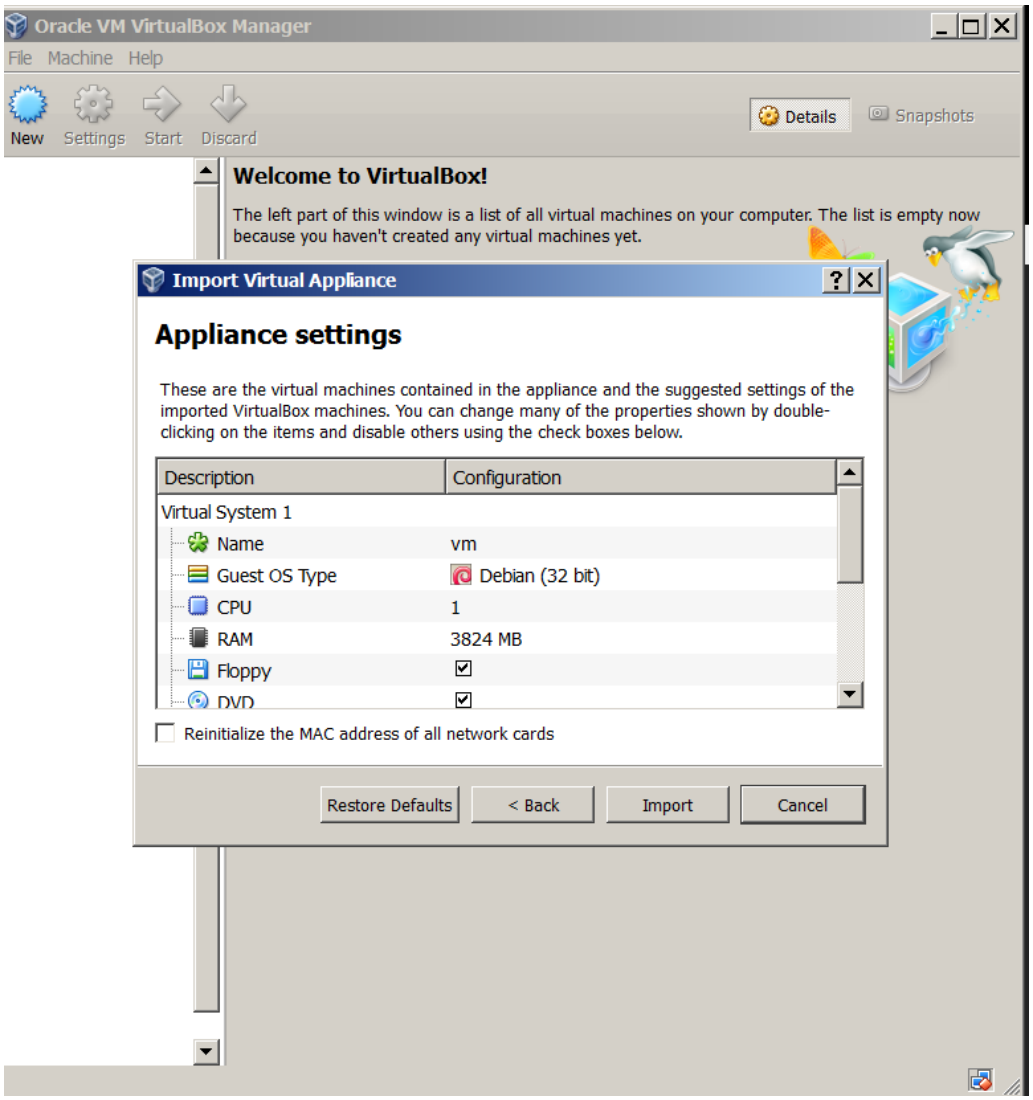
After the process completes, you can boot the virtual machine. If you haven't earlier uninstalled vmware-tools **uninstall VMware Tools**, and **install VirtualBox’s Guest Additions (**in order to *allow Copy / Paste between VirtualBox and guess OS*).

7. Launch VirtualBox and Import exported .OVF

Once Virtual Machine is exported, to **import it into VirtualBox, launch VirtualBox** and choose:

File -> Import Appliance




Oracle VM VirtualBox Manager
File Machine Help
New Settings Start Discard
Details Snapshots
Welcome to VirtualBox!
The left part of this window is a list of all virtual machines on your computer. The list is empty now because you haven't created any virtual machines yet.
Import Virtual Appliance
Appliance settings
These are the virtual machines contained in the appliance and the suggested settings of the imported VirtualBox machines. You can change many of the properties shown by double-clicking on the items and disable others using the check boxes below.
Description
Configuration
Virtual System 1
Name
vm
Guest OS Type
Debian (32 bit)
CPU
1
RAM
3824 MB
Floppy
DVD
Reinitialize the MAC address of all network cards
Restore Defaults
< Back
Import
Cancel