Install VMWare tools on Debian and Ubuntu Linux - Enable VMWare Fullscreen and copy paste between OS host and Virtual machine

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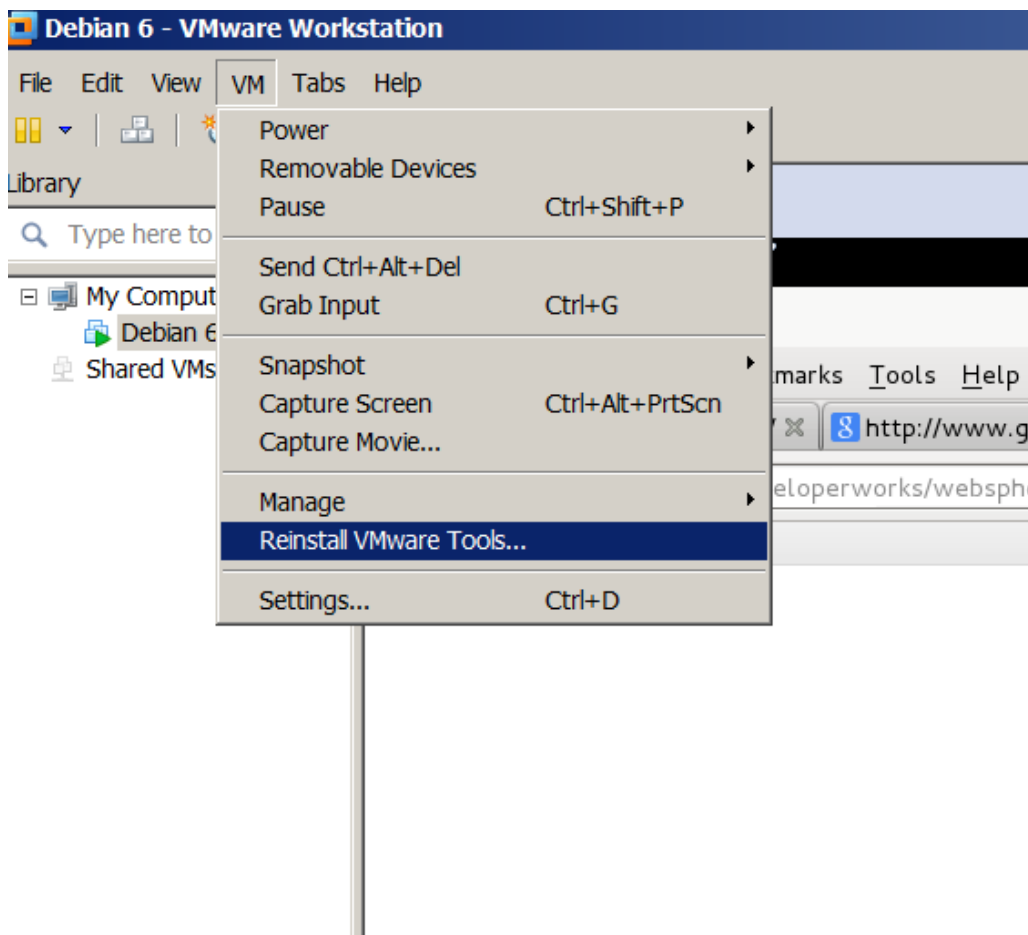

   If you need to use Virtual Machine to run some testing on heterogenous Operating Systems and you have chosen **VMWare** as a **Virtual Machine**. You will soon notice some of Virtual Machines functionality like **copy between host operating system and Virtual Machine**, **true fullscreen mode and most importantly Copy paste between your host operating system and VMWare is not working**. I'm not too much into Virtualization these days so for me it was truely shocking that a proprietary software like **VMWare, claimed to be the best and most efficient Virtual Machine** nowadays is **not supporting copy / paste, fullscreen and copy between host and guest OS.** For those arguing why I'm using VMWare at all as it is proprietary and there is already free software Virtual Machines like QEMU and Oracle's VirtualBox its simply because now I *have the chance to install and use VMWare 9 Enterprise on my work place at HP with a free Corporate license -* in other words I'm *using VMWare just for the sake of educating myself* and **would always recommend VirtualBox for those looking for good substitute free alternative to VMWare**.

   Before trying out VMWare, I tried **Virtualbox to emulate Linux on my HP work PC running Windows** with **VirtalBox** I was having issues with keyboard not working (*because of lack of support of USB, no full screen support and lack of copy / paste between OS-es*), I've just recently understood this is not because *Virtualbox is bad Virtualization solution* but because I forgot to *install VirtualBox Oracle*

VM VirtualBox Extension Pack which allows support for USB, enables copy paste and full screen support. The **equivalent to Virtualbox Oracle VM VirtualBox** in VMWare world is called **VMWare-Tools** and once the guest operating system is installed inside VMWare VM, its necessary to install *vmware-tools* *to enable better screen resolution and copy paste.*

  In Windows Virtual Machine installation of vmware-tools is pretty straight forward you go through VMWare's menus

VM -> Install Vmware-tools

  follow the instructions and you're done, however as always **installing VMWare-tools on Linux is little bit more complicated** you need to **run few commands from Linux installed inside the Virtual**

Machine to install vmware-tools. Here is **how vmware-tools is installed on Debian / Ubuntu / Linux Mint and rest of Debian based operating systems**:

1. Install Build essentials and gcc You need to have this installed some developer tools as well as GCC compiler in order for the *vmware-tools* **to compile a special Linux kernel module which enables extra support (integration) between the VMWare VM and the installed inside VM Linux distro**

apt-get install --yes build-essential gcc
...

2. Install appropriate Linux headers corresponding to current Linux OS installed kernel

apt-get install --yes linux-headers-$(uname -r)
....

3. Mount CD (Virtual) Content to obtain the vmware-tools version for your Linux

Be sure to have first checked from VMWare menus on menus **VM -> Intall Vmware Tools**
This step is a little bit strange but just do it without too much questioning ...

mount /dev/cdrom /mnt/
umount /media/cdrom0/
mount /media/cdrom
mount /dev/sr0 /mnt/cdrom/
mount /dev/sr0 /mnt/

Note that */dev/sr0*, might already be mounted and sometimes it might be necessary to unmount it first (don't remember exactly if I unmounted it or not)

4. Copy and Untar VMwareTools-9.2.0-799703.tar.gz

cp -rpf /media/cdrom/VMwareTools-9.2.0-799703.tar.gz /tmp/
cd /tmp/
tar -zxvvf VMwareTools-9.2.0-799703.tar.gz
...

5. Run vmware-tools installer

cd vmware-tools-distrib/
./vmware-install.pl

You will be asked multiple questions you can safely press enter to answer with default settings to all settings, hopefully if all runs okay this will *make VMWare Tools installed*

Creating a new VMware Tools installer database using the tar4 format.
Installing VMware Tools.
In which directory do you want to install the binary files?
[/usr/bin]
What is the directory that contains the init directories (rc0.d/ to rc6.d/)?
[/etc]
What is the directory that contains the init scripts?
[/etc/init.d]
In which directory do you want to install the daemon files?
[/usr/sbin]
In which directory do you want to install the library files?
[/usr/lib/vmware-tools]
The path "/usr/lib/vmware-tools" does not exist currently. This program is
going to create it, including needed parent directories. Is this what you want?
[yes]
In which directory do you want to install the documentation files?
[/usr/share/doc/vmware-tools]
The path "/usr/share/doc/vmware-tools" does not exist currently. This program
is going to create it, including needed parent directories. Is this what you
want? [yes]
The installation of VMware Tools 9.2.0 build-799703 for Linux completed
successfully. You can decide to remove this software from your system at any
time by invoking the following command: "/usr/bin/vmware-uninstall-tools.pl".
Before running VMware Tools for the first time, you need to configure it by
invoking the following command: "/usr/bin/vmware-config-tools.pl". Do you want
this program to invoke the command for you now? [yes]
Initializing...
Making sure services for VMware Tools are stopped.
Stopping VMware Tools services in the virtual machine:
Guest operating system daemon: done
Unmounting HGFS shares: done
Guest filesystem driver: done
[EXPERIMENTAL] The VMware FileSystem Sync Driver (vmsync) is a new feature that creates
backups of virtual machines. Please refer to the VMware Knowledge Base for more details on this
capability. Do you wish to enable this feature?
[no]
Before you can compile modules, you need to have the following installed...
make
gcc
kernel headers of the running kernel
Searching for GCC...
Detected GCC binary at "/usr/bin/gcc-4.6".
The path "/usr/bin/gcc-4.6" appears to be a valid path to the gcc binary.
Would you like to change it? [no]

Searching for a valid kernel header path...
Detected the kernel headers at "/lib/modules/3.2.0-4-amd64/build/include".
The path "/lib/modules/3.2.0-4-amd64/build/include" appears to be a valid path
to the 3.2.0-4-amd64 kernel headers.
Would you like to change it? [no]
The vmblock enables dragging or copying files between host and guest in a
Fusion or Workstation virtual environment. Do you wish to enable this feature?
[no] yes
make: Leaving directory `/tmp/vmware-root/modules/vmblock-only'

  No X install found.
Creating a new initrd boot image for the kernel.
update-initramfs: Generating /boot/initrd.img-3.2.0-4-amd64
Checking acpi hot plug done
Starting VMware Tools services in the virtual machine:
Switching to guest configuration: done
VM communication interface: done
VM communication interface socket family: done
File system sync driver: done
Guest operating system daemon: done
The configuration of VMware Tools 8.6.10 build-913593 for Linux for this
running kernel completed successfully.
You must restart your X session before any mouse or graphics changes take
effect.
You can now run VMware Tools by invoking "/usr/bin/vmware-toolbox-cmd" from the
command line or by invoking "/usr/bin/vmware-toolbox" from the command line
during an X server session.
To enable advanced X features (e.g., guest resolution fit, drag and drop, and
file and text copy/paste), you will need to do one (or more) of the following:
1. Manually start /usr/bin/vmware-user
2. Log out and log back into your desktop session; and,
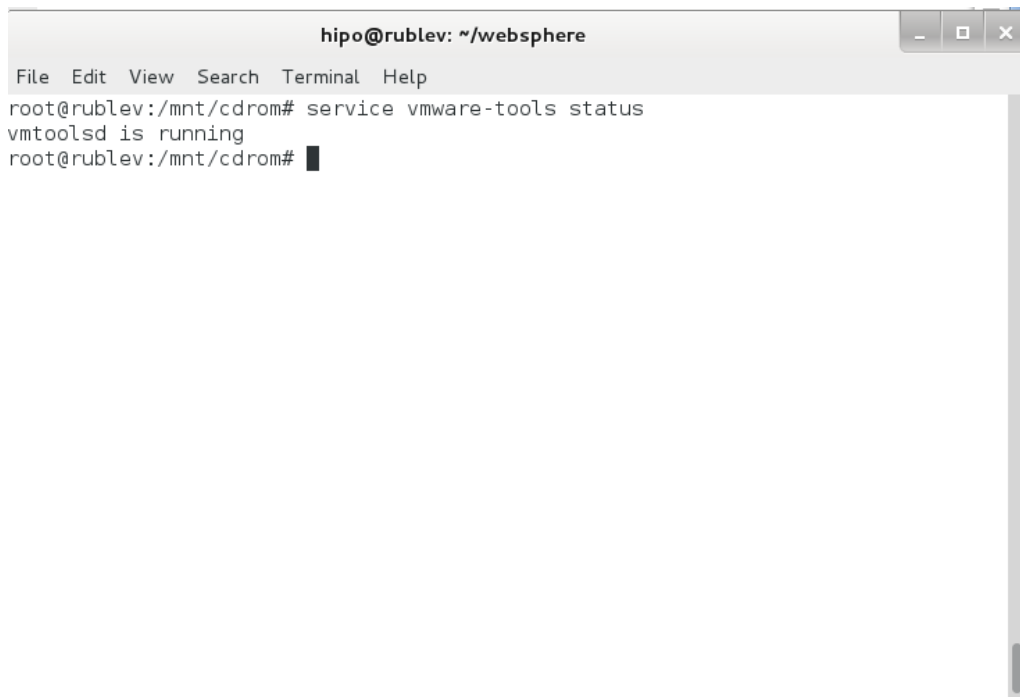3. Restart your X session.
Enjoy,
--the VMware team
Found VMware Tools CDROM mounted at /mnt. Ejecting device /dev/sr0 ...

  .To make sure **vmware-tools** compiled modules are loaded into Linux kernel inside VM, restart the
Virtual Machine. Once *Linux* boots again and you login to *gnome-terminal* to **check what is *vmware-
tools*** status (e.g. if properly loaded) run:

  service vmware-tools status
vmtoolsd is running

   This method of installing works on Debian 7 (Wheezy) but same steps should work on any Ubuntu and
rest of Debian derivatives. For Redhat (RPM) based Linux distributions to install **vmware-tools** after
mounting *cdrom drive* following above instructions you will have an rpm package instead of .tar.gz
archive so all you have to do is install the rpm, e.g. launch smth. like:

  rpm -Uhv /mnt/cdrom/VMwareTools-9.2.0-799703.i386.rpm
Cheers ;)