

# VirtualBox

## Host

- I recommend to install VirtualBox from the Oracle repository, as you get the latest version of VirtualBox
- Add "virtualbox.list" to /etc/apt/sources.list.d

```
sudo deb http://download.virtualbox.org/virtualbox/debian stretch contrib
```

- Add Oracle VirtualBox public key:

```
wget https://www.virtualbox.org/download/oracle_vbox_2016.asc
sudo apt-key add oracle_vbox_2016.asc
wget https://www.virtualbox.org/download/oracle_vbox.asc
sudo apt-key add oracle_vbox.asc
```

- Install Virtualbox:

```
sudo apt-get update
sudo apt-get install virtualbox-7.1
```

- Download the [VirtualBox Extension Pack](#). Double click the file from within the GUI to install.
- [VirtualBox: Encryption of Disk Images](#)
- [Configuring VirtualBox autostart on Linux](#)

## Guest Network

- [VirtualBox Network Settings: Complete Guide](#)
- [Chapter 6. Virtual Networking](#)

## Guest Additions

- To upgrade the Guest Additions after upgrading the host version, download the guest additions pack, close all virtual machines, and start virtualbox as root

```
sudo virtualbox
```

- After installing the Guest Additions, close virtualbox and restart it as user

## Guest Additions for a Debian 9 guest on a Debian 7 host

- Add the following line to /etc/apt/sources.list.d:

```
deb http://ftp.debian.org/debian stretch-backports main contrib
```

- Install `virtualbox-guest-dkms`, kernel headers, and, optionally, `virtualbox-guest-x11` (for the graphical guest utilities):

```
sudo apt update
sudo apt install virtualbox-guest-dkms virtualbox-guest-x11 linux-headers-$(uname -r)
```

- Reboot the guest system.
- More info: [How to install VirtualBox Guest Additions in a Debian virtual machine](#)

## Autostart and Autostop

There are several options to autostart (and autostop) virtual machines. For a server environment with a Debian host the 1. option through `rc.local` is preferable.

1. through `rc.local`
2. through X desktop
3. through VirtualBox command line

### through `rc.local`

#### startup

1. install `rc.local` as a `systemd` service on your debian server. This emulates the *SysVinit* behavior of `rc.local` as Debian changed the default init system to *systemd* with Debian Jessie 8
2. mount encrypted file systems through `rc.local` as explained in [Encrypted partitions/folders with auto-mount](#)
3. start vms through `rc.local` headless. Since `rc.local` runs as root you need to use `runuser` to start the vm as the user who created the vm. You may also chose to put the `startvm` code into a script and add execution of the script to `rc.local`:

```
runuser -l <user> -c "vboxmanage startvm <vm-name> --type headless"
```

#### shutdown

1. put a symlink to the following script into `/lib/systemd/system-shutdown`:

```
runuser -l <user> -c "ssh <vm-name> 'sudo systemctl poweroff </dev/null &>/dev/null &'"
while [ "`runuser -l <user> -c 'vboxmanage list runningvms'`" != "" ]
do
    echo waiting for VMs to shutdown
    sleep 5
done
```

- allow <user> to execute command 'systemctl poweroff' in the vm (do not ssh into the VM as root - security!). Note that 'systemctl poweroff' is the systemd command, do not use *poweroff* or *shutdown* commands:

```
sudo visudo
<user> ALL=(root) NOPASSWD: /sbin/systemctl poweroff
```

- the scripts must be run as root so they can be executed through rc.local
- also, the server must be shut down with *systemctl* rather than *reboot* or *shutdown* for this to work

## links

- Debian [Services](#)

## through XFCE Desktop

### startup

- On the host, open **Settings** → **Session and Startup**, then add a new task under **Application Autostart** with the following command:

```
VBoxManage startvm <VM name>
```

### shutdown

- On the client, open **Settings** → **Power Manager**, then set the desired action under “When power button is pressed”

## through VirtualBox command line

- Configuration

```
sudo vim /etc/default/virtualbox
VBOXAUTOSTART_DB=/etc/vbox
VBOXAUTOSTART_CONFIG=/etc/vbox/autostart.cfg

sudo vim /etc/vbox/autostart.cfg
default_policy = deny
# Create an entry for each user allowed to use autostart
username = {
    allow = true
    startup_delay = 10
}

sudo chgrp vboxusers /etc/vbox
```

```
sudo chmod 1775 /etc/vbox
sudo usermod -aG vboxusers username
```

## 2. Choose VMs to automatically start and stop

```
VBoxManage setproperty autostartdbpath /etc/vbox # first time a user
configures autostart only
VBoxManage modifyvm <vmname> --autostart-enabled <on|off>
VBoxManage modifyvm <vmname> --autostop-type
<disabled|savestate|poweroff|acpishutdown>
```

## 3. Restart VirtualBox autostart service

```
sudo service vboxautostart-service restart
```

## Start VM

```
vboxmanage startvm MachineName
```

## Stop VM

- Graceful:

```
vboxmanage controlvm MachineName acpipowerbutton
```

- Forced (if unresponsive):

```
vboxmanage controlvm MachineName poweroff
```

In xfce desktop, make sure the action on Power Button is set in Settings -> Power Manager

## Stop VM before powering down host through NUT

Set different timeouts to the shutdown command used by NUT. For example, set +0 for the clients, and +1 for the host.

## Check running VMs

One of the following commands:

```
VBoxManage list runningvms
vboxmanage list vms --long | grep -e "Name:" -e "State:"
```

## Links

- [How can I tell if a virtual machine is up from the command line?](#)
- [autostop-type](#)
- [Configuring VirtualBox autostart on Linux](#)
- [How to start VirtualBox machines automatically as a service on Windows](#)

## Update VirtualBox

- Make sure to update the same way you installed the previous version, either from the Oracle repository, or from the Debian backports
- If you followed my guide, check the VirtualBox version.revision.build (e.g. 6.1.16)
- Updating the build is done by running “apt upgrade”

```
sudo apt update
sudo apt upgrade
```

- Updating to a new version or revision is done by running “apt install virtualbox-<version>.<revision>”, e.g.

```
sudo apt update
sudo apt install virtualbox-6.1
```

## Links

- [2 Ways to Install VirtualBox on Debian 9 Stretch](#)

## Manage VirtualBox through CLI

### Extension Pack

- Remove old extension pack

```
sudo vboxmanage extpack uninstall "Oracle VM VirtualBox Extension Pack"
```

- Download current extension pack from [Download VirtualBox](#) and install

```
wget
https://download.virtualbox.org/virtualbox/6.1.30/Oracle_VM_VirtualBox_
Extension_Pack-6.1.30.vbox-extpack
sudo vboxmanage extpack install
Oracle_VM_VirtualBox_Extension_Pack-6.1.30.vbox-extpack
```

## Run VM

- `vboxmanage startvm "<vm_name>" --type headless`

## Hold back upgrade

- `sudo apt-mark hold virtualbox-6.1`
- `sudo apt-mark unhold virtualbox-6.1`

## Links

- [VBoxManage extpack](#)
- [Oracle VirtualBox Extension Pack](#)
- [How to Exclude Specific Package from apt-get Upgrade](#)

## Network speed

- google "virtualbox nic reported speed"
- [All of my VMs have slow internet speeds](#)
- Speed test:

```
sudo apt install speedtest-cli  
speedtest-cli --secure
```

Download Calypso/Olympus: 93.17/816.00 Mbit/s, Upload: 13.38/410.63 Mbit/s

From:

<https://wiki.condrau.com/> - **Bernard's Wiki**

Permanent link:

<https://wiki.condrau.com/deb12:virtualbox>

Last update: **2025/11/07 13:24**

