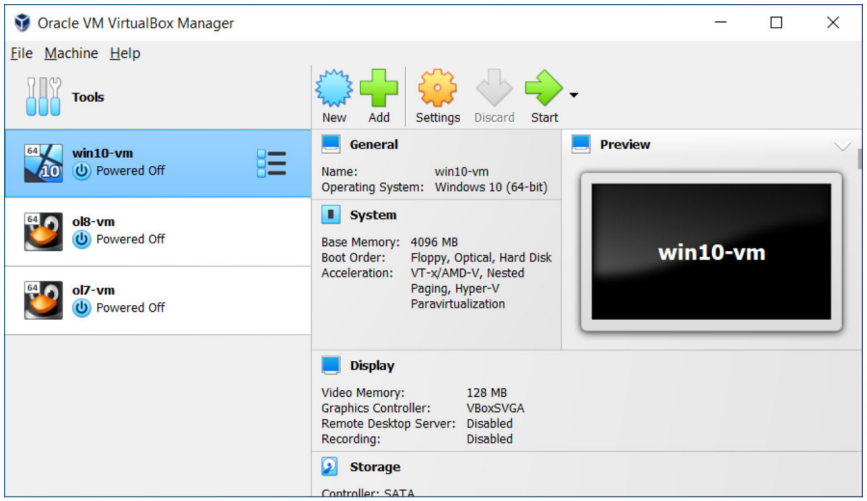
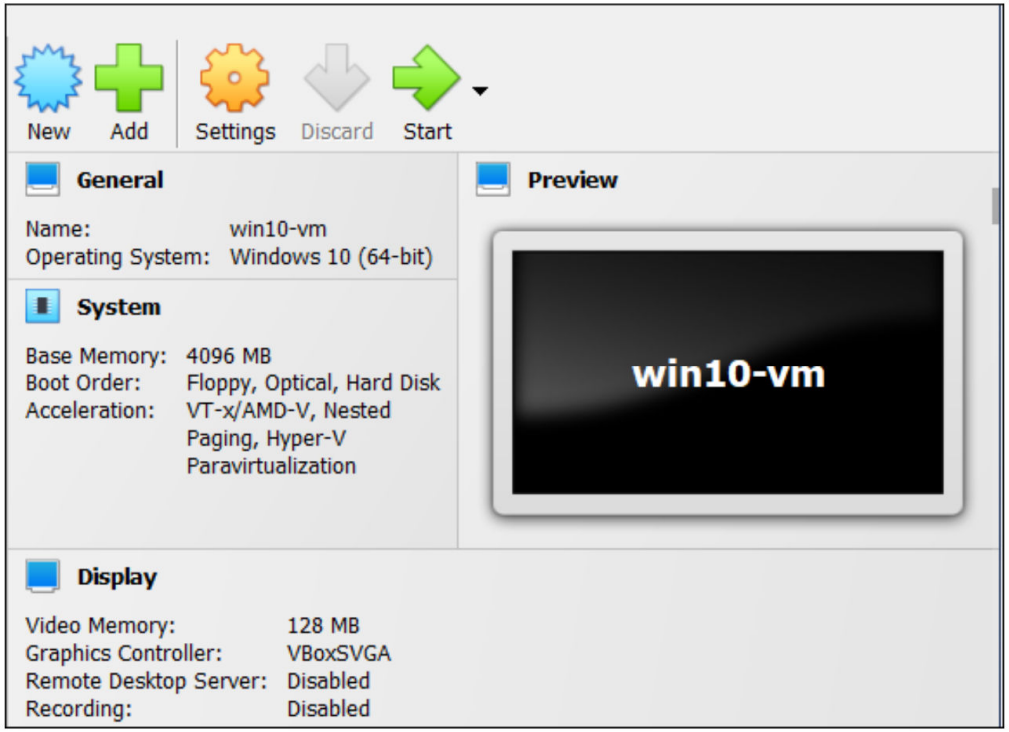
Virtualbox

Tuul Triyason, Ph.D.
School of Information Technology, KMUTT
Bangkok, Thailand

Virtualbox Manager

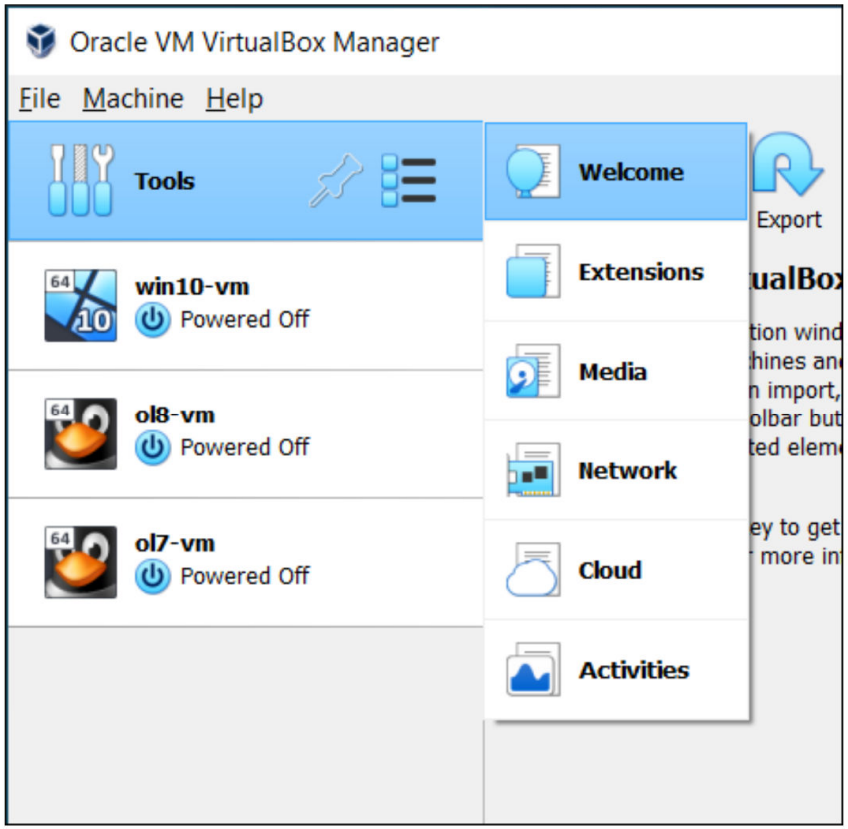


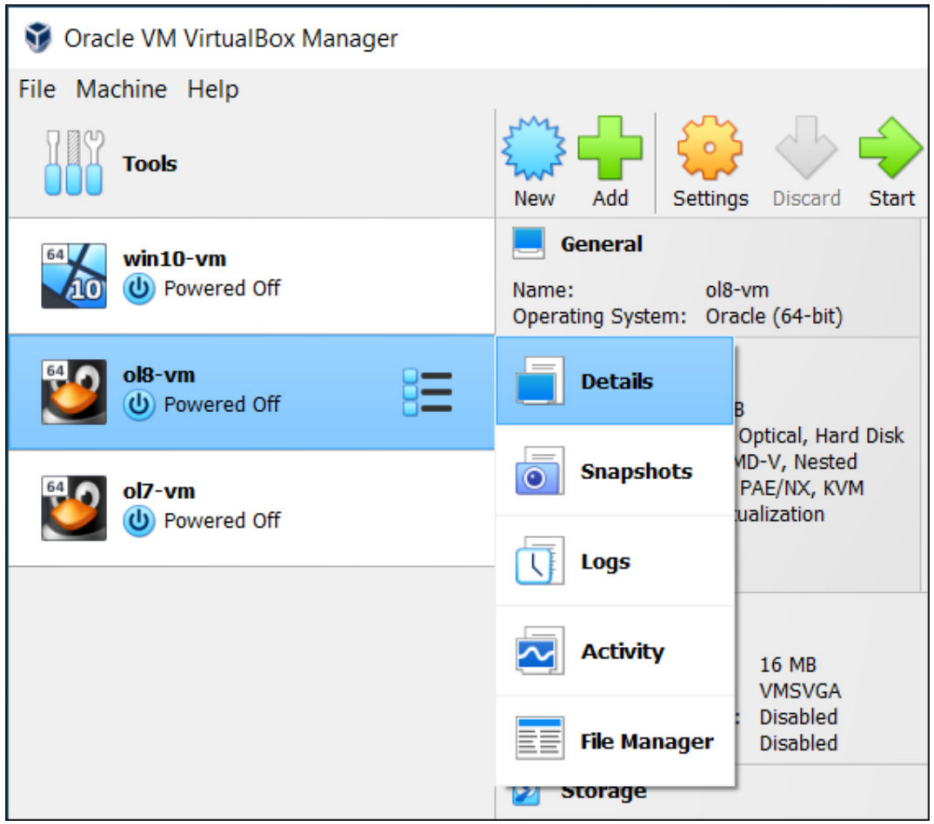
The details pane



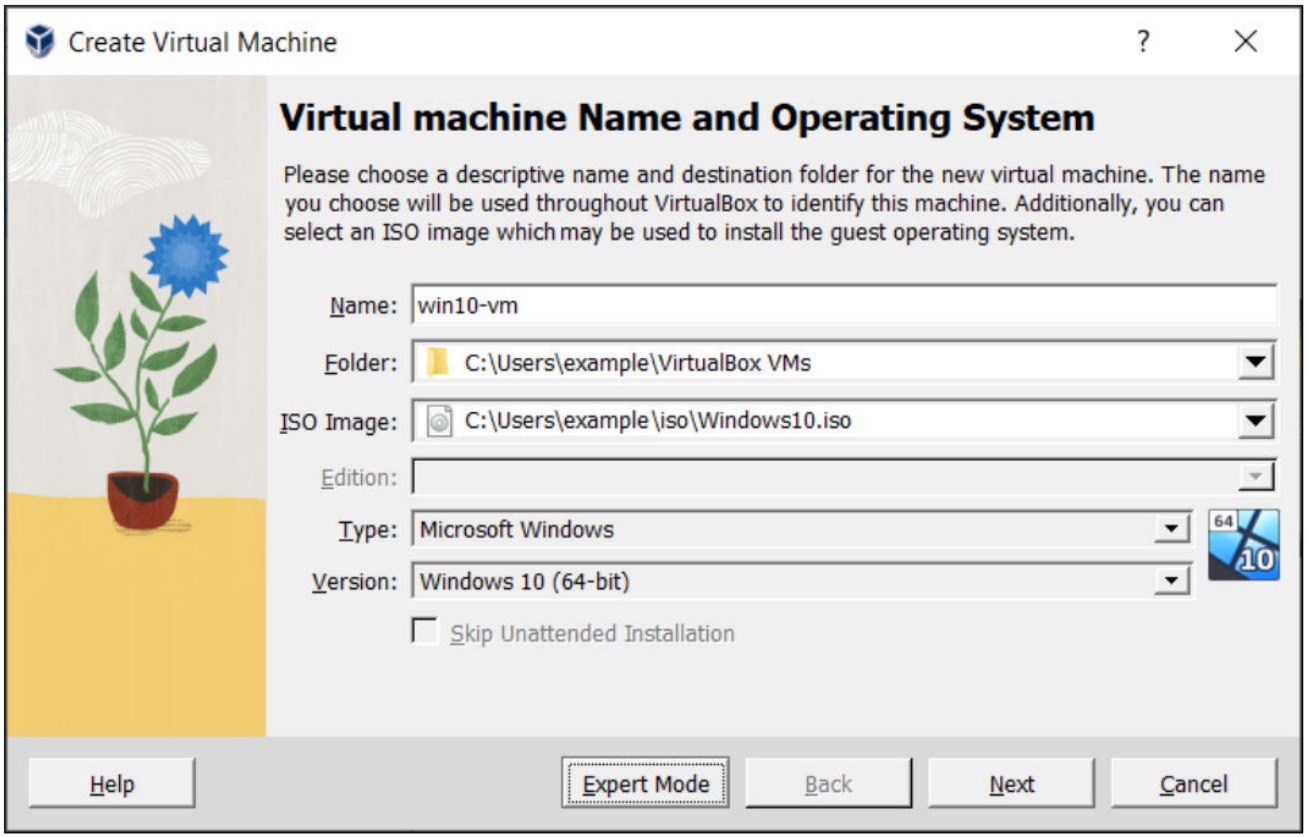
Note: If a virtual machine is running, some settings cannot be altered. You must stop the virtual machine first in order to change the setting.

Virtualbox Global Tools & Machine Tools





Create your 1st VM



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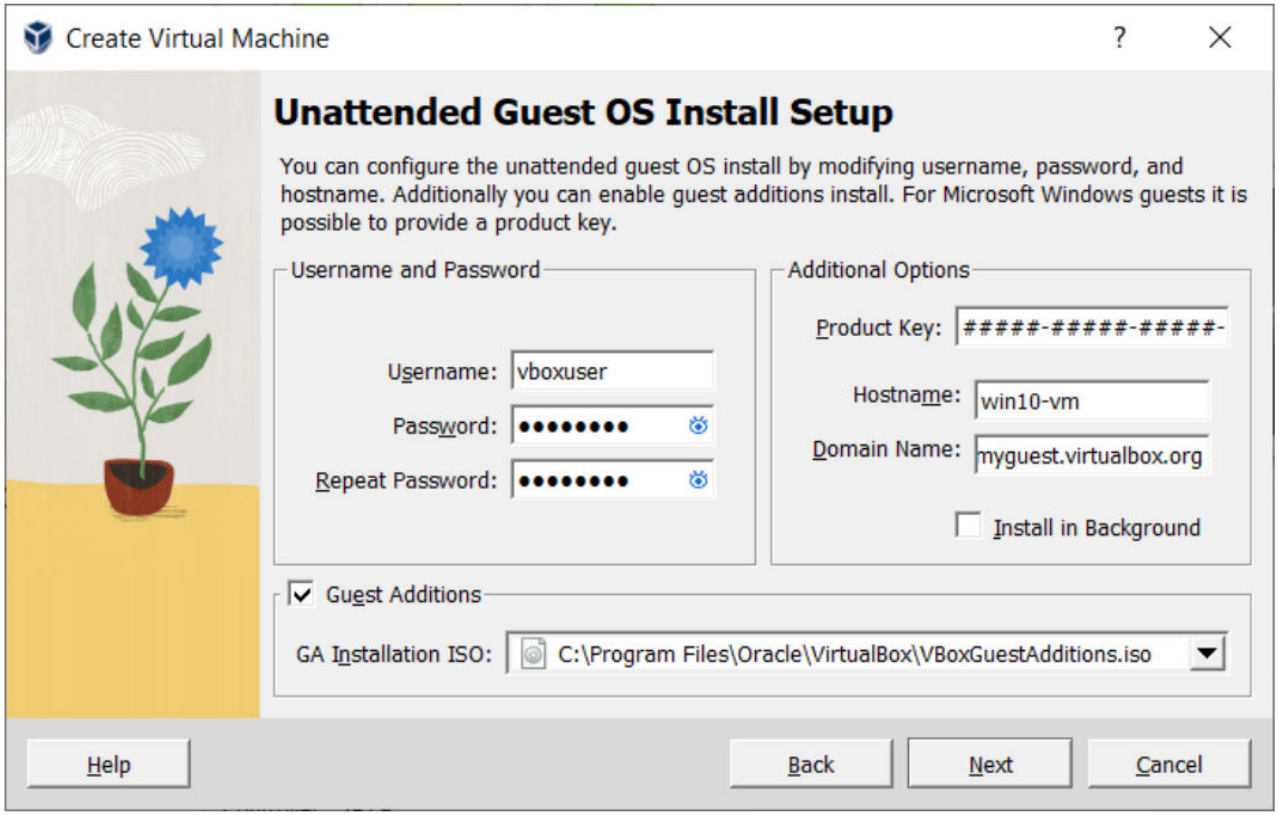
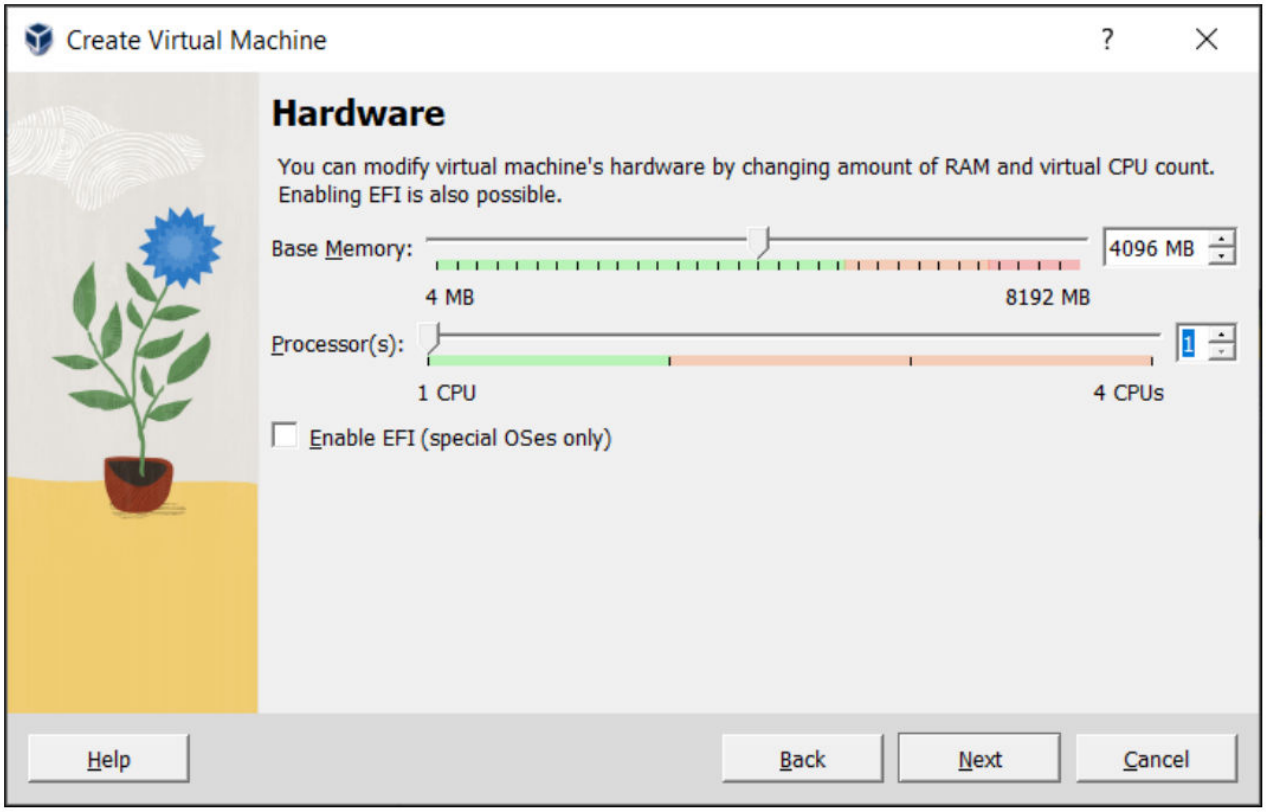


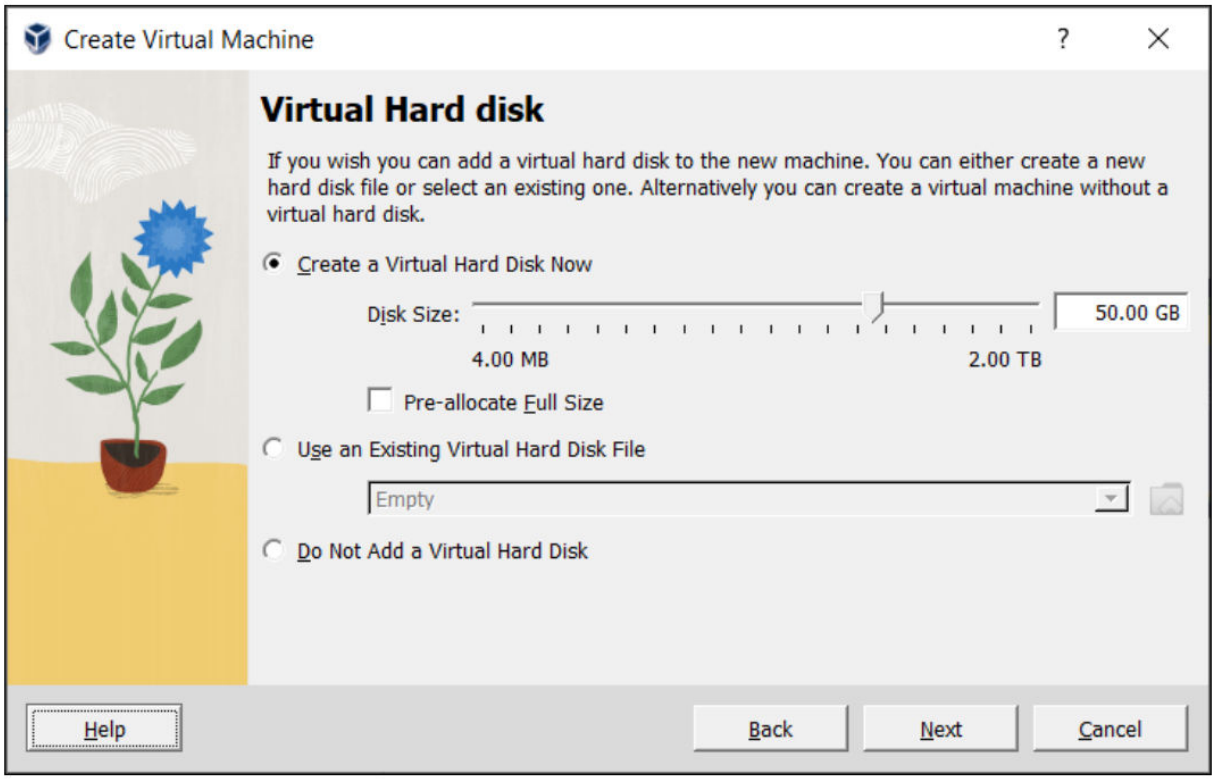
Create your 1st VM



The amount of memory selected here will be taken away from your host machine and presented to the guest OS, which will report this size as the virtual machines installed RAM.

Choose this setting carefully. The memory you give to the VM will not be available to your host OS while the VM is running, so do not specify more than you can spare.

Create your 1st VM



Note: You can skip attaching a virtual hard disk file to the new virtual machine you are creating. But you will then need to attach an hard disk later on, in order to install a guest operating system.

Running your VM

- Double-click on the VM's entry in the machine list in VirtualBox Manager.
- Select the VM's entry in the machine list in VirtualBox Manager, and click **Start** in the toolbar the top of the window.
- Go to the VirtualBox VMs folder in your system user's home directory. Find the subdirectory of the machine you want to start and double-click on the machine settings file. This file has a .vbox file extension.
- To return ownership of keyboard and mouse to your host OS, Oracle VM VirtualBox reserves a special key on your keyboard: the *Host key*. By default, this is the *right Ctrl key* on your keyboard. On a Mac host, the default Host key is the left Command key.

Typing Special Character

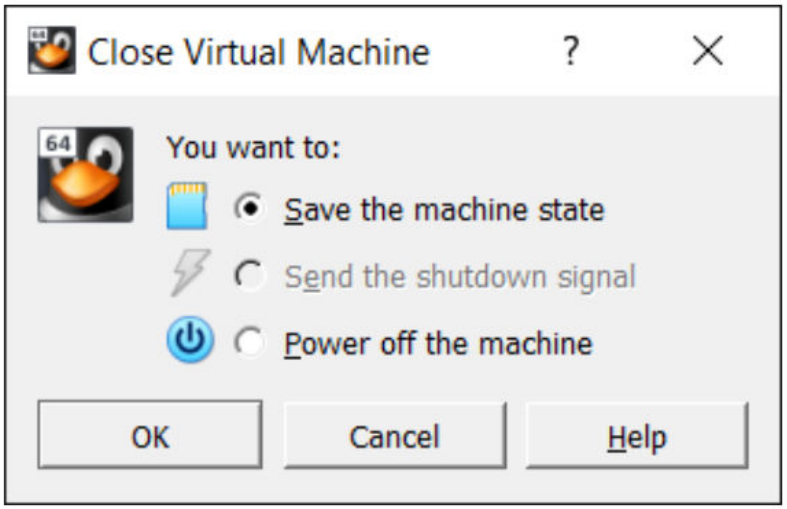
- Host OS reserve certain key combinations for themselves. For example, you cannot use the **Ctrl+Alt+Delete** combination to reboot the guest OS in your VM, because this key combination is reserved by the host OS.
- Use the items in the **Input**, **Keyboard** menu of the virtual machine window. This menu includes the settings **Insert Ctrl+Alt+Delete** and **Insert Ctrl+Alt+Backspace**. However, the latter setting affects only Linux guests or Oracle Solaris guests. This menu also includes an option for inserting the Host key combination.
- Use special key combinations with the Host key, which is normally the right Ctrl key. Virtualbox then translates the following key combinations for the VM:
  - **Host key + Del** sends **Ctrl + Alt + Del** to reboot the guest OS.
  - **Host key + Backspace** sends **Ctrl + Alt + Backspace** to restart the graphical user interface of a Linux or Oracle Solaris guest.
  - **Host key + Function key**. For example, use this key combination to simulate **Ctrl + Alt + Fx** to switch between virtual terminal in a Linux guest.

Resizing the Machine's Window

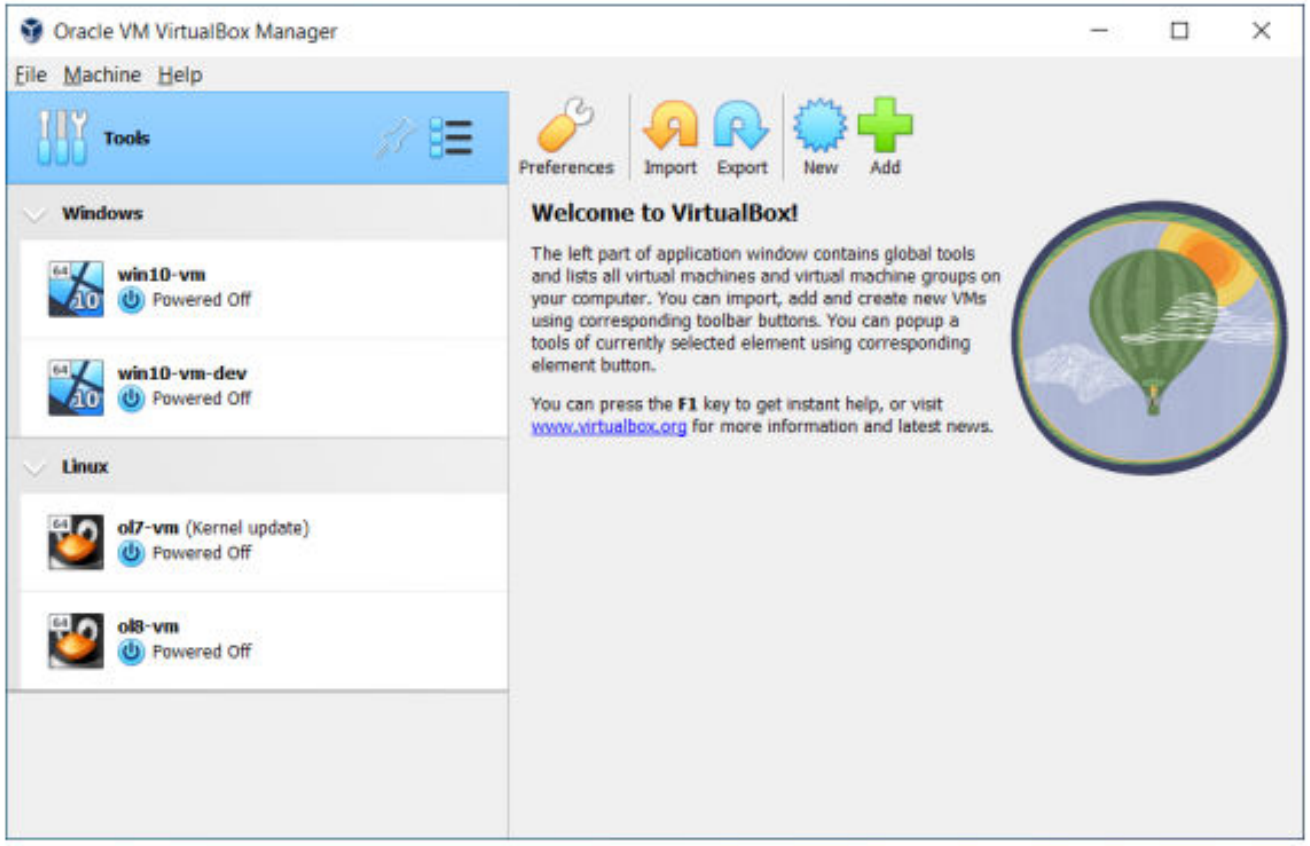
- You can resize the VM's window while that VM is running. When you do the window is scaled as follow:
  - If you have **scaled mode** enabled, then the virtual machine's screen will be scaled to the size of the window. To enable scaled mode, press **Host key + C**, or select **Scaled Mode** from the **View** menu in the VM window. To leave scaled mode, press **Host key + C** again.
  - The aspect ratio of the guest screen is preserved when resizing the window. To ignore the aspect ratio, press **Shift** during the resize operation.
  - If you have the Guest Additions installed and they support automatic **resizing**, the Guest Additions will automatically adjust the screen resolution of the guest OS.

Saving the State of the Machine

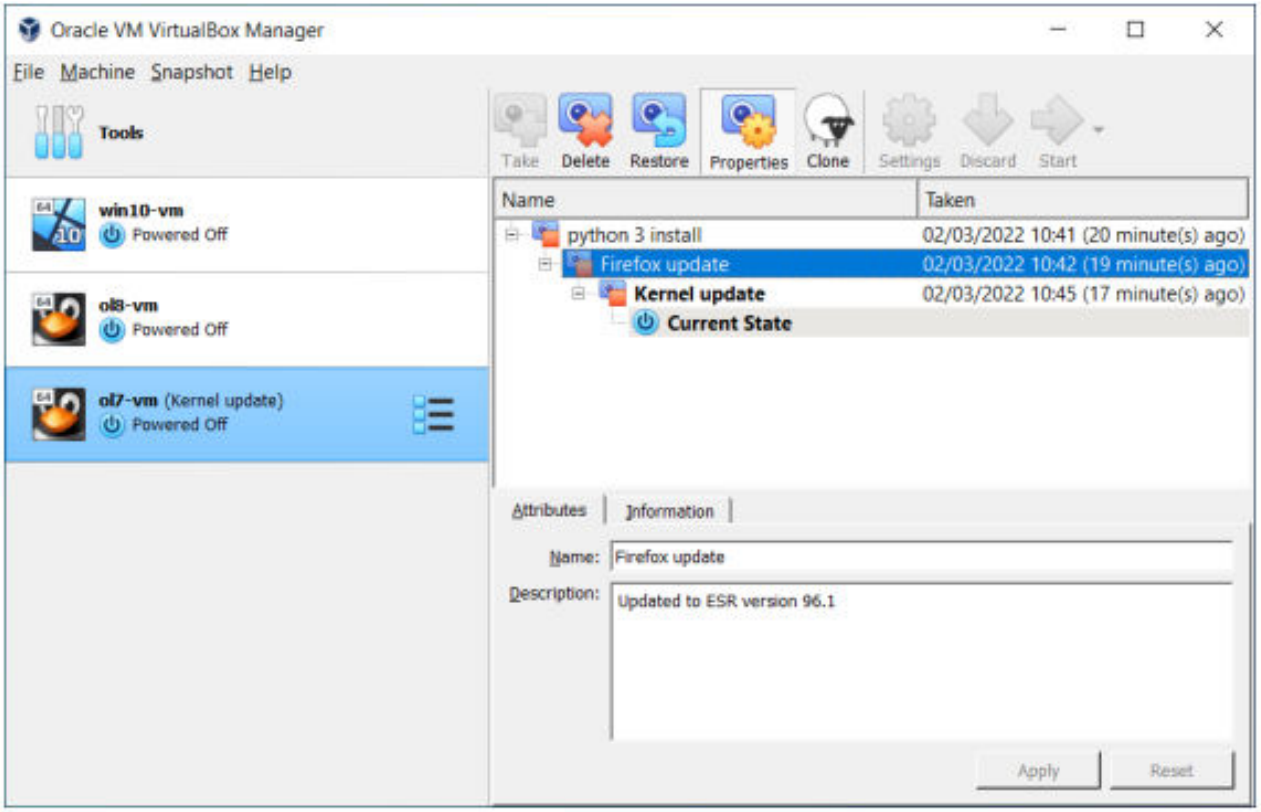
- When you click on the **Close** button of your VM window, at the top right of the window, Virtualbox asks you whether you want to save or power off the VM.



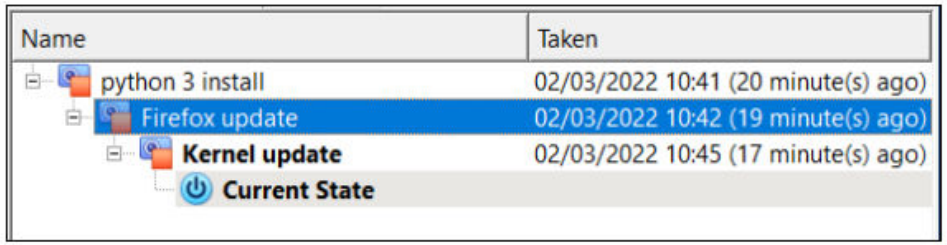
Using VM Groups



Snapshots


Oracle VM VirtualBox Manager
File Machine Snapshot Help
Tools
win10-vm
Powered Off
ol8-vm
Powered Off
ol7-vm (Kernel update)
Powered Off
Take
Delete
Restore
Properties
Clone
Settings
Discard
Start
Name
Taken
python 3 install
02/03/2022 10:41 (20 minute(s) ago)
Firefox update
02/03/2022 10:42 (19 minute(s) ago)
Kernel update
02/03/2022 10:45 (17 minute(s) ago)
Current State
Attributes
Information
Name:
Firefox update
Description:
Updated to ESR version 96.1
Apply
Reset

Taking, Restoring, and Deleting Snapshots



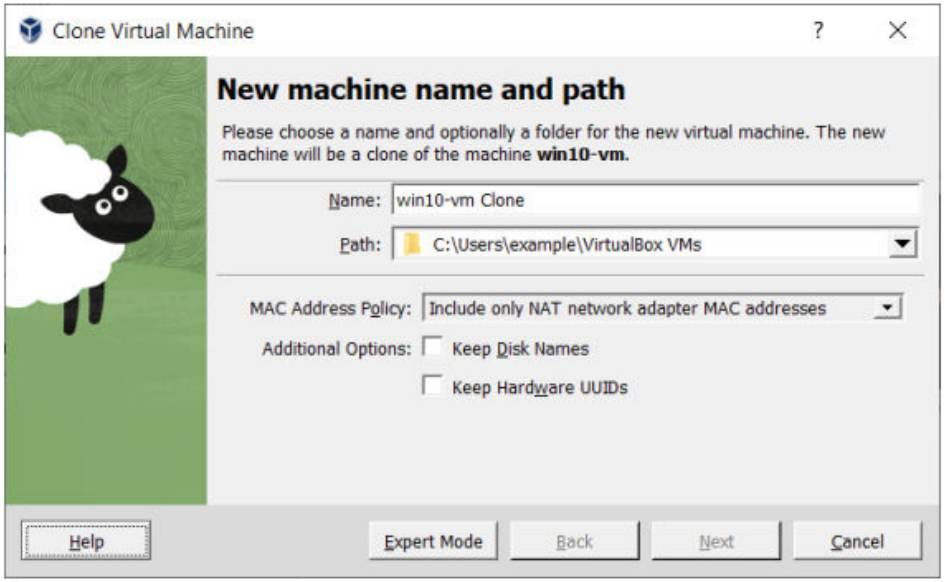
- Restoring a snapshot will affect the virtual hard drives that are connected to your VM, as the entire state of the virtual hard drive will be reverted as well.
- This means also that all files that have been created since the snapshot and all other file changes *will be lost.* In order to prevent such data loss while still making use of the snapshot feature, it is possible to add a second hard drive in *write-through* mode using the VBoxManage interface and use it to store your data.

Removing and Moving Virtual Machines

- **Removing a VM**: To remove a VM, right-click on the VM in the Virtualbox Manager machine list and select **Remove**.
- **Moving a VM**: To move a VM to a new location on the host, right-click on the VM in the Virtualbox manager's machine list and select **Move**.

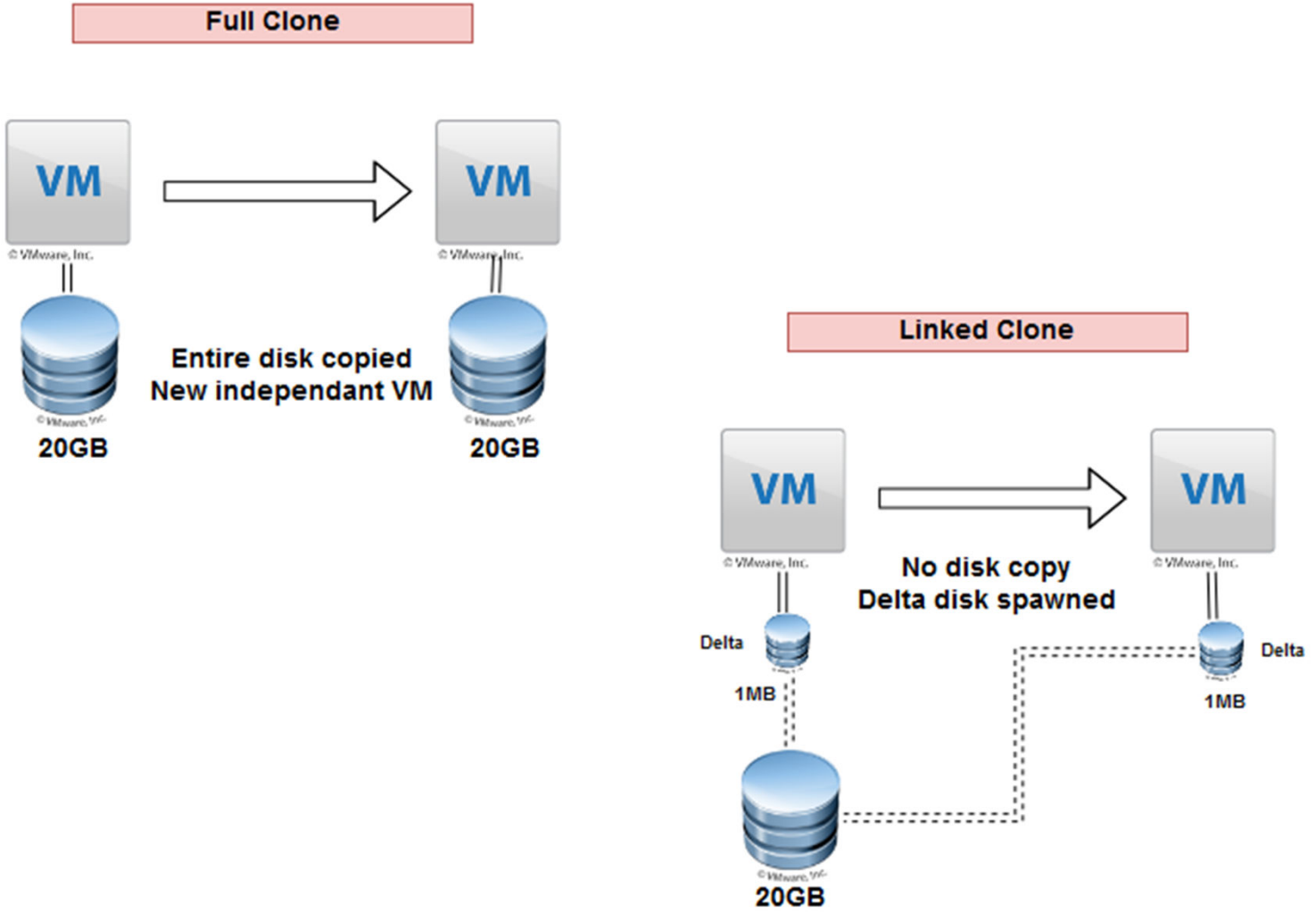
Cloning VM

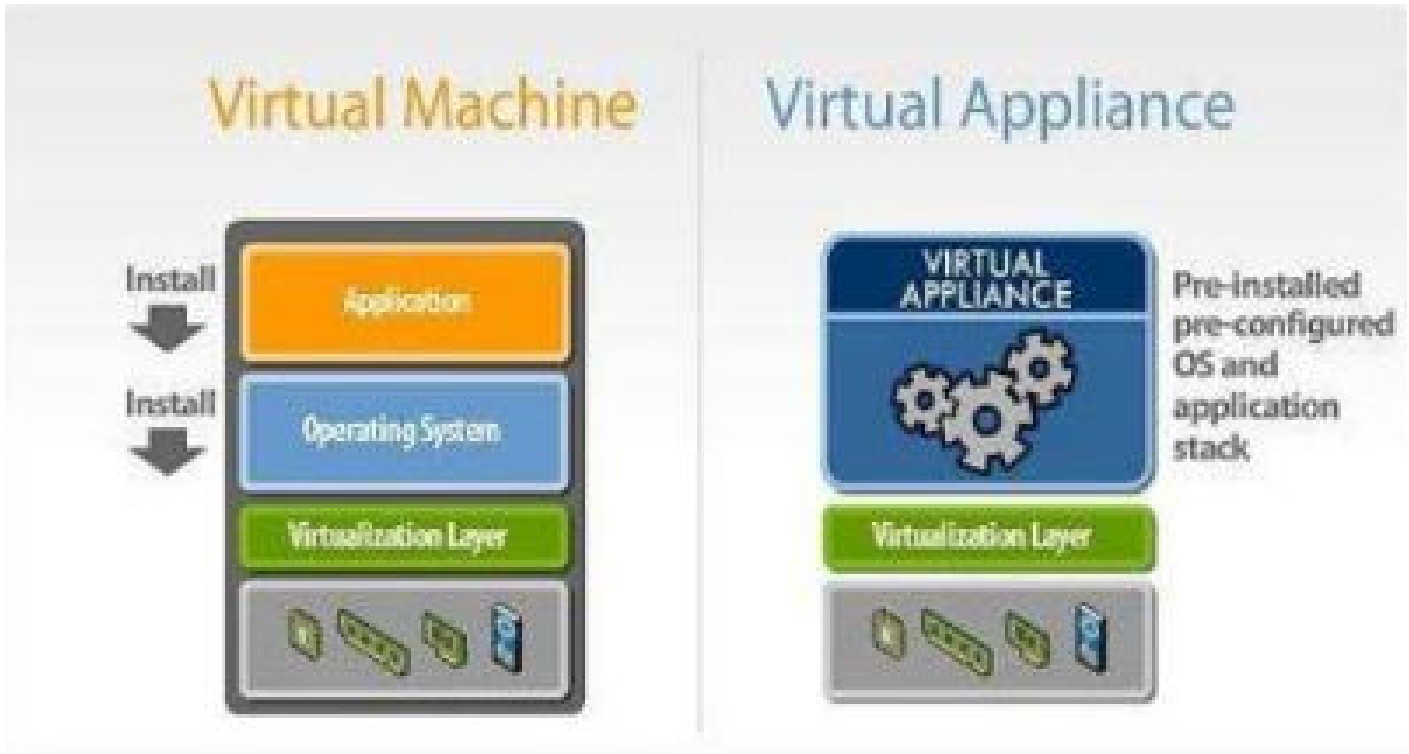
- The Clone menu item is disabled while a VM is running.



Clone Type

- **Full Clone**: Copies all dependent disk images to the new VM folder. A full clone can operate fully without the source VM.
- **Linked Clone**: Creates new differencing disk images based on the source VM disk images. If you select the current state of the source VM as the clone point, Virtualbox creates a new snapshot.


Full Clone
VM
VM
Entire disk copied
New independant VM
20GB
20GB
Linked Clone
VM
VM
No disk copy
Delta disk spawned
Delta
1MB
Delta
1MB
20GB


Virtual Machine
Virtual Appliance
Install
Application
Install
Operating System
Virtualization Layer
VIRTUAL APPLIANCE
Pre-installed pre-configured OS and application stack
Virtualization Layer

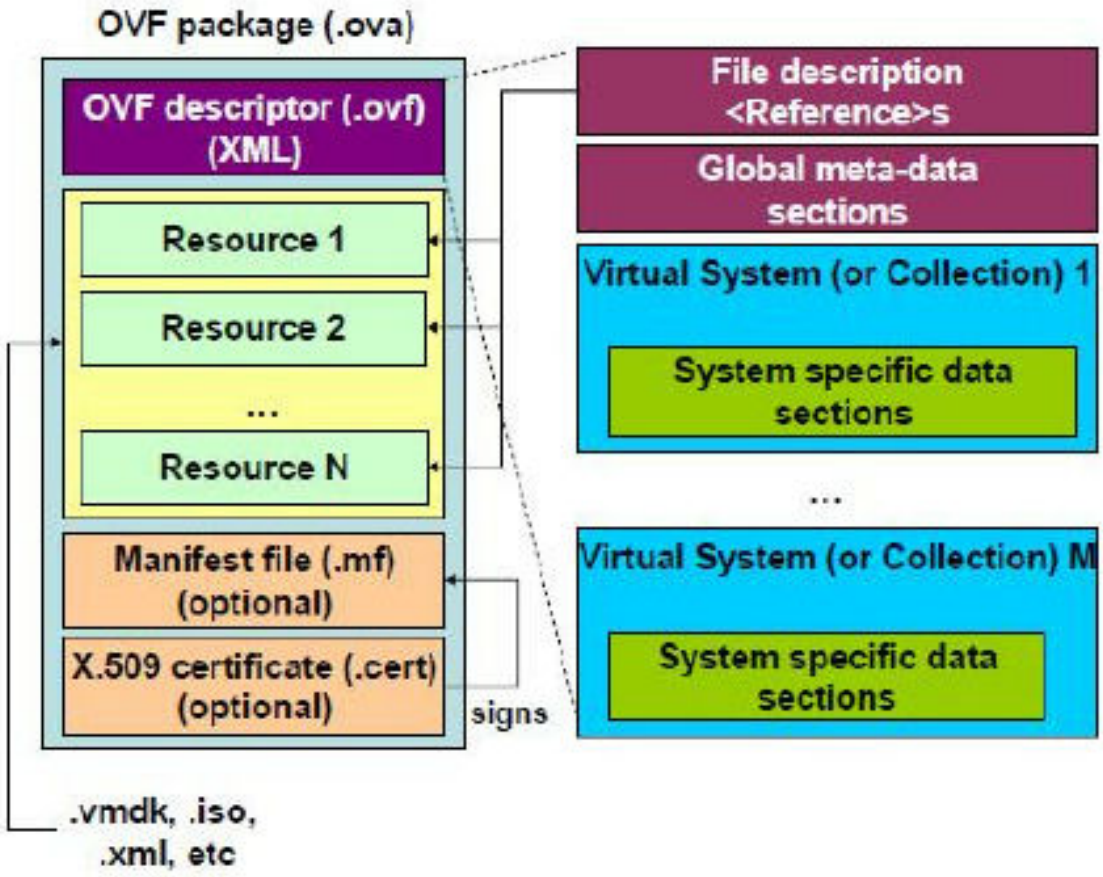
Importing and Exporting Virtual Machines

Virtualbox can import and export VMs in the following formats:

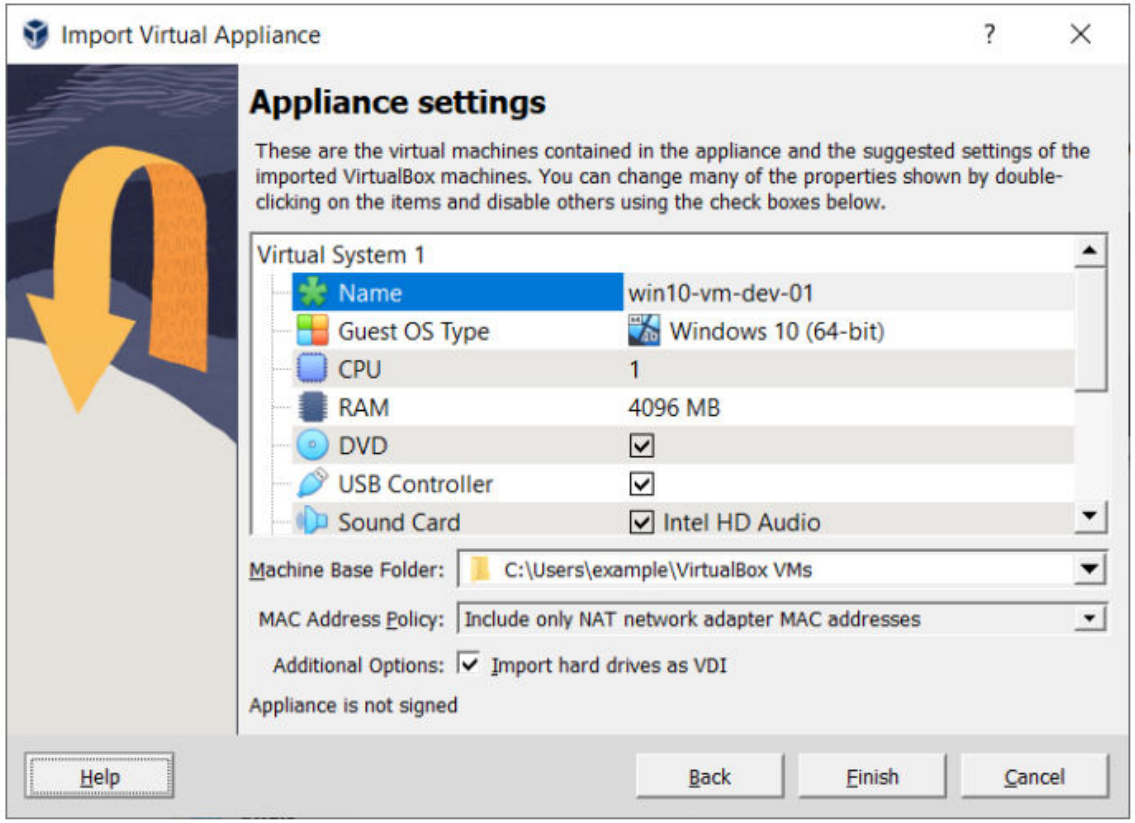
- **Open Virtualization Format (OVF, OVA)**. This is the industry-standard format.
- **Cloud service formats**. Export to and import from cloud services such as Oracle Cloud Infrastructure is supported.

OVF Format

- They can come in several files, as one or several disk images, typically in the widely-used VMDK format. They also include a textual description file in an XML dialect with an .ovf extension. These files must then reside in the same directory for Virtualbox to be able to import them.
- The above files can be packed together into a single archive file, typically with an .ova extension.
- OVF cannot describe snapshots that were taken for a VM. As a result, when you export a VM that has snapshots, only the current state of the VM will be exported.


OVF package (.ova)
OVF descriptor (.ovf) (XML)
Resource 1
Resource 2
...
Resource N
Manifest file (.mf) (optional)
X.509 certificate (.cert) (optional)
signs
.vmdk, .iso, .xml, etc
File description <Reference>s
Global meta-data sections
Virtual System (or Collection) 1
System specific data sections
...
Virtual System (or Collection) M
System specific data sections

Importing an Appliance in OVF Format



Preferences

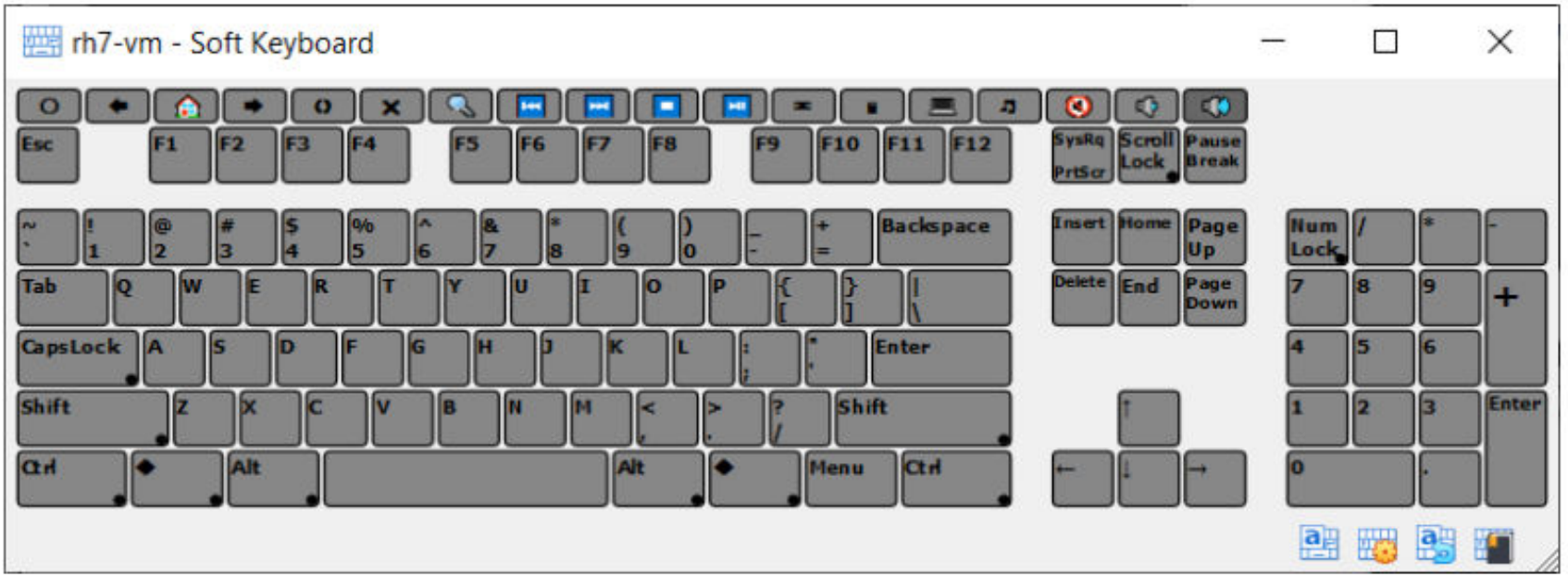
- **General**: Enables you to specify the default directory for VM files, and the VRDP Authentication Library.
- **Input**: Enables you to specify keyboard shortcuts, such as Host key
- **Update**: Enables you to specify various settings for Automatic Updates.
- **Language**: Enables you to specify the language used for menus, labels and text in Vbox Manager.
- **Display**: Enables you to specify the screen resolution, and its width and height.
- **Proxy**: Enables you to configure an HTTP Proxy Server.
- **Interface**: Enables you to select a color theme for the Vbox Manager UI.

*This setting is only available on Windows host platforms.

Alternative Front-Ends

- **VirtualBox Manager** UI
- **VBoxManage** (A command-line interface)
- **VBoxHeadless** (A front-end that produces no visible output on the host at all, but can act as RDP server if the Vbox Remote Desktop Extension (VRDE) is installed and enabled for the VM.

Soft Keyboard

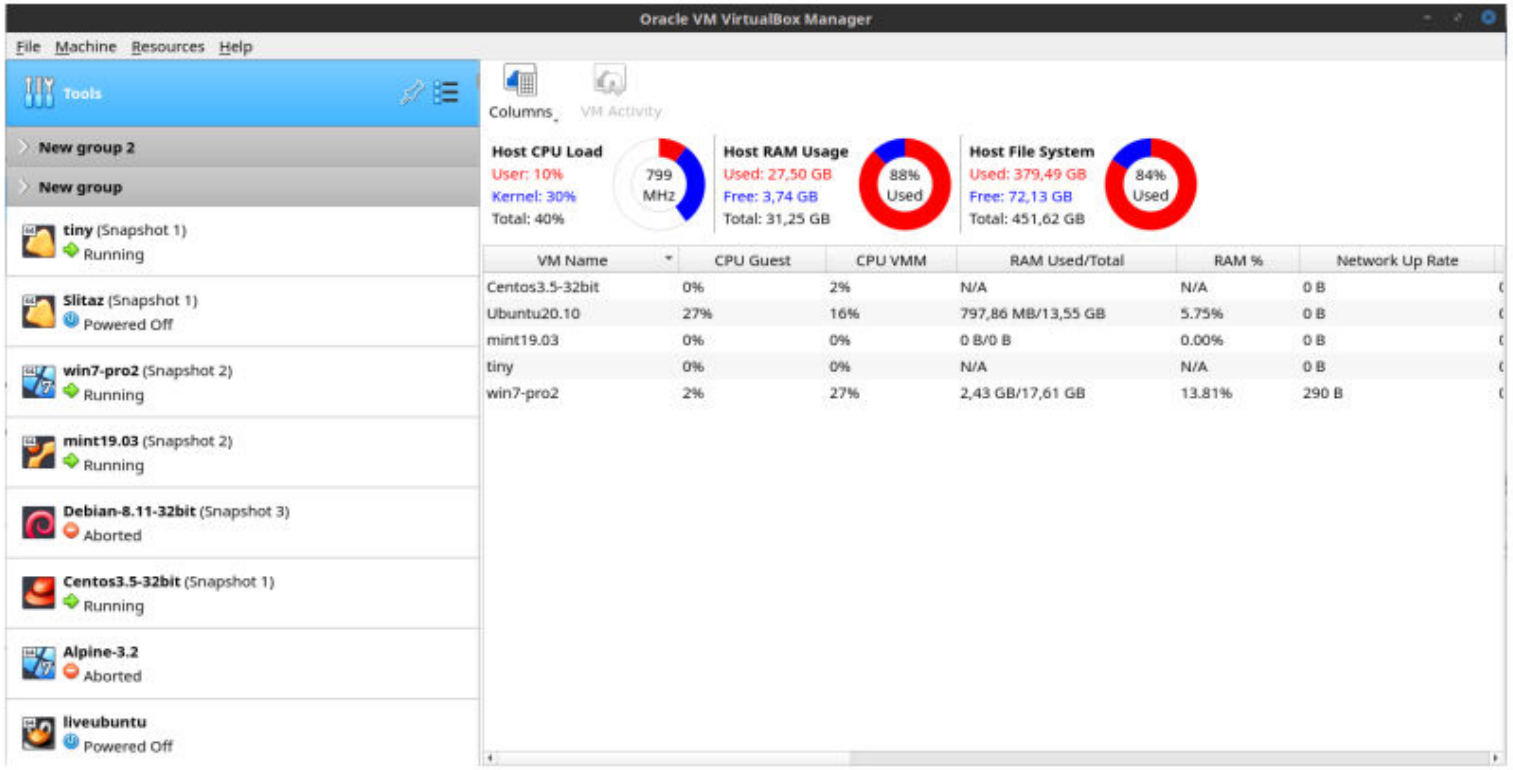


In the guest VM window, select **Input**, **Keyboard**, **Soft Keyboard**

Monitoring of VMs

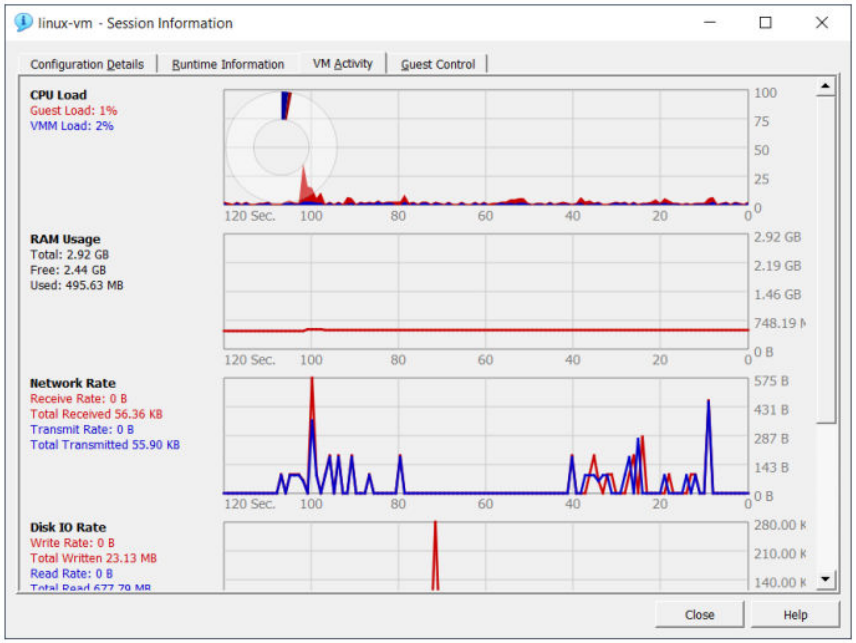
- **VM Activity Overview**: Displays an overview of performance metrics for all running VMs.
- **Session Information Dialog**: Displays configuration and runtime information for the selected guest system.

VM Activity Overview



Session Information Dialog

- To display the Session Information Dialog, select **Machine**, **Session Information** in the guest VM.



The Log Viewer