



Carmelo Loiacono, Luca Mannella

Operating Systems

Academic Year 2015/2016

Version 3

Oracle VirtualBox

WHAT IT IS AND HOW TO INSTALL IT



What is VirtualBox?

- VirtualBox is a cross-platform **virtualization application** developed by Sun Microsystems (that is now part of Oracle Corporation).
- It installs on your existing Intel or AMD-based computers, whether they are running Windows, Mac, Linux or Solaris operating systems.
- It creates true virtual PCs within the actual PC on which you can install the **operating system** and the **programs** that you want.
- What you decide to install on your VM **does not affect** in any way the real system.
- It extends the capabilities of your existing computer so that it can run multiple operating systems (inside multiple virtual machines) at the same time (very used in web servers nowadays).
- VirtualBox is not the only virtualization application.
We talk about that because it's **open source** and it's one of the most used.



Why should we use it?

- In this course (and more and more often in your professional life) you need to work on a GNU/Linux system.

Basically you have 3 options:

1. **Installation from scratch:**
Replace your Windows system (with a better one).
2. **Dual Boot:**
Install a Linux distribution beside your operating system (as you can see at LABINF).
3. **Virtualization:**
Install a Linux distribution on a Virtual Machine like VirtualBox (as we will see in these slides).



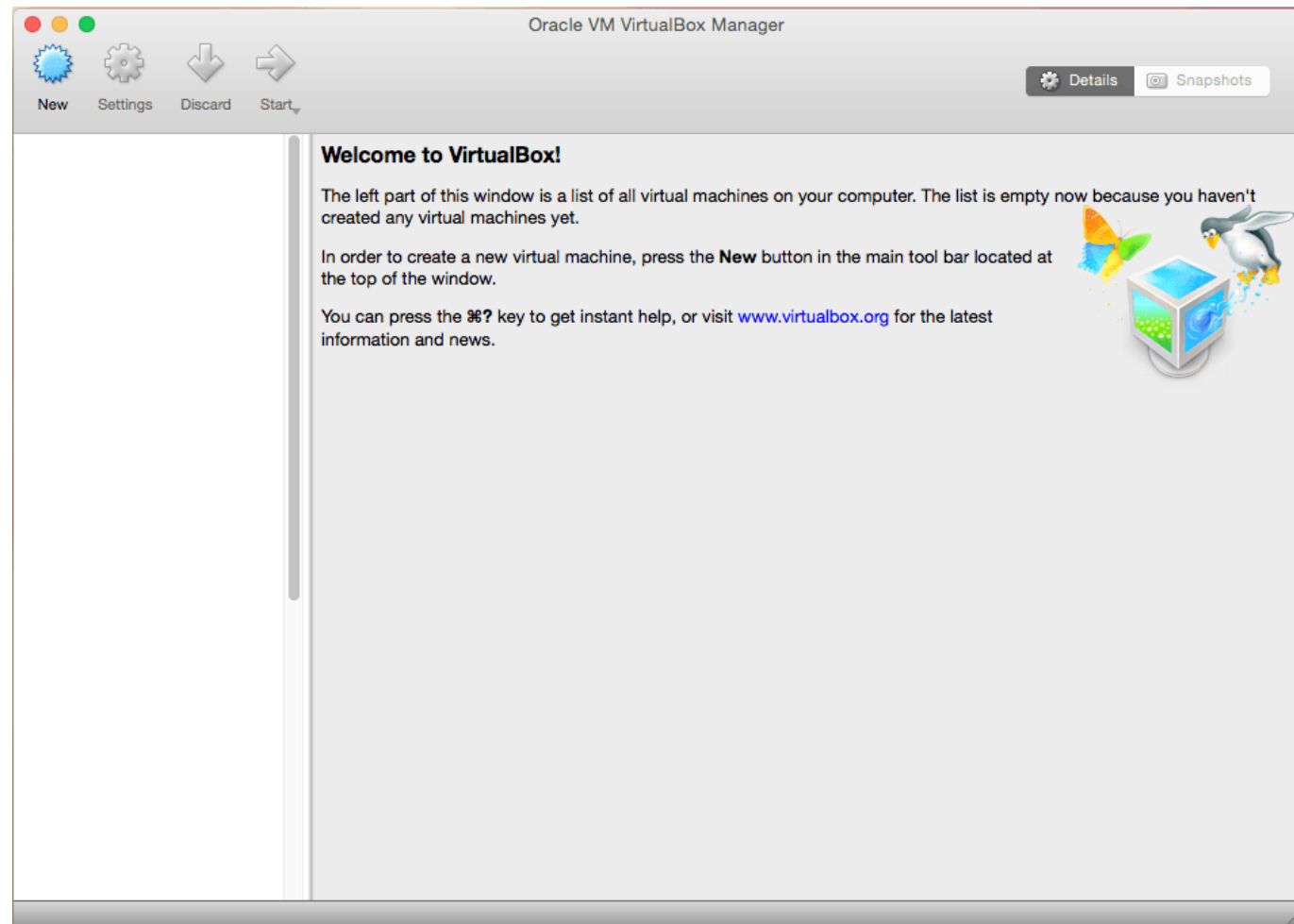
Download VirtualBox

- VirtualBox is open source so you can download it directly from its website:
<https://www.virtualbox.org/wiki/Downloads>
- Download the version for the operating system you **currently** have installed.
- After the installation you will have 2 choices:
 1. Create your own Virtual Machine
 2. Import a virtual machine pre-built.
- In these slides, for reasons of brevity, we will explain to you how to import a pre-built virtual machine. If you want create your own virtual machine from scratch (recommended approach), you can found a lot of documentation on the web or ask to us at the laboratories.



When you start VirtualBox for the first time, a window like the following should come up:

This window is called the "**VirtualBox Manager**". On the left, you can see a pane that will later list all your virtual machines. Since you have not created any, the list is empty. A row of buttons above it allows you to create new VMs and work on existing VMs, once you have some. The pane on the right displays the properties of the virtual machine currently selected, if any. Again, since you don't have any machines yet, the pane displays a welcome message.



Import a Virtual Machine

- You can find “ready-to-use” virtual machine on several websites, for example on these links:
 - <http://virtualboxes.org/images/>
 - <https://virtualboximages.com/>
- We advise you to download a version **LTS** (*Long Term Supported*) for having greater stability.
- When you download a virtual machine created by someone else it is important to check the required password (sometimes username and password are equal).
- If you don't find username and password when you download a virtual machine you can try on of these values:
 - Username: *Distribution Name*, “root”, “ubuntu”, “virtualbox”, “linux”, “admin”
 - Password: “reverse”, “toor” or one of the previous values (password equal to username).



Import a Virtual Machine (.vbox + .vdi)

- This kind of virtual machine does not require a configuration by the application, they are already configured and it is necessary just to add them to the application.
- For example you can download this Ubuntu 12.04 - LTS that is a 32 bits version with these credentials:
 - *username:* **ubuntu**
 - *password:* **reverse**
- After you have downloaded VirtualBox and the desired virtual machine select "**Machine**" -> "**Add**" from the Manager window. In the file dialog that comes up, navigate to the file that you have downloaded with **.vbox** extension.





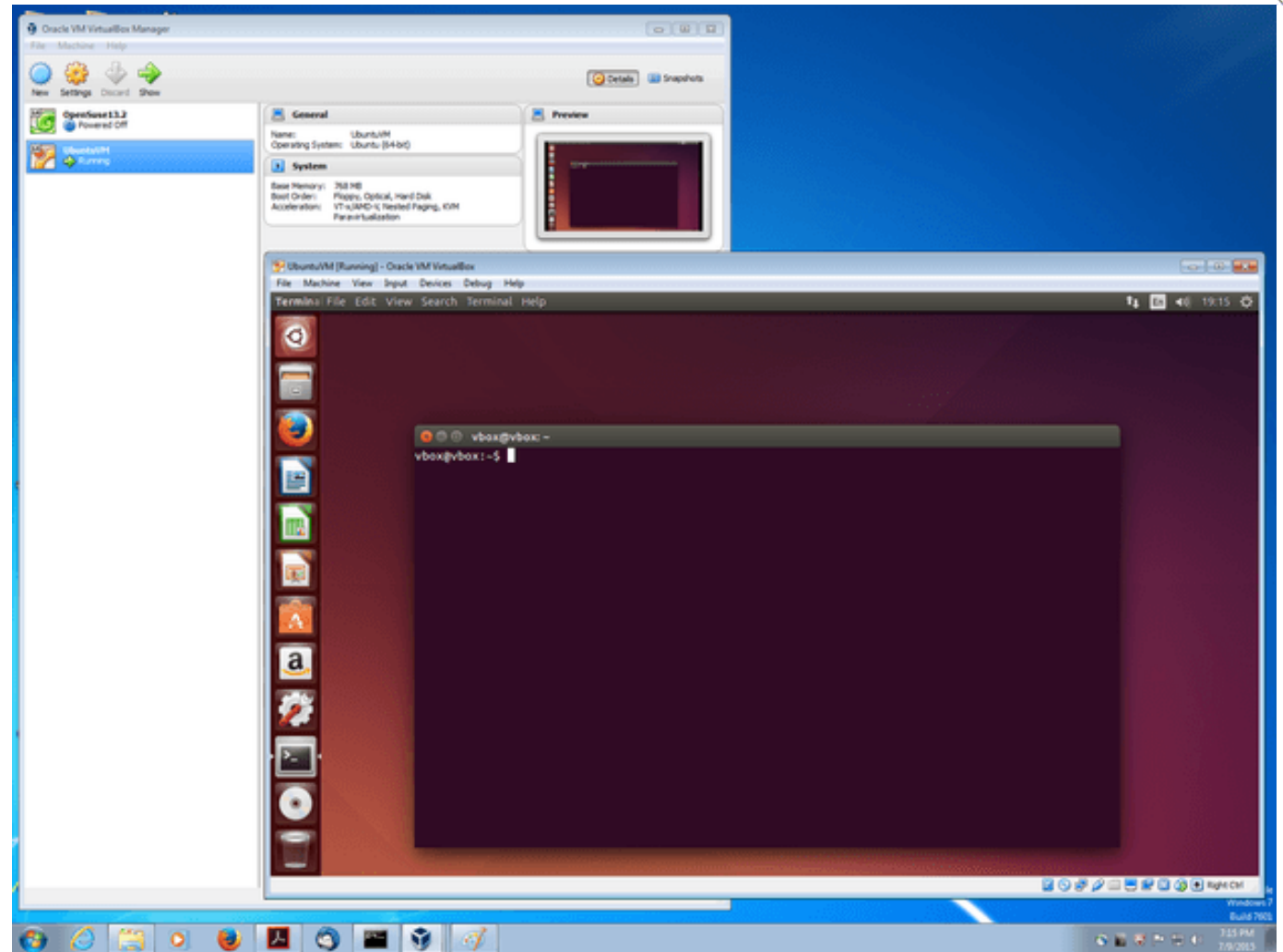
Import a Virtual Machine (.ovf or .ova)

- After you have downloaded VirtualBox and the desired virtual machine select "**File**" -> "**Import appliance**" from the Manager window. In the file dialog that comes up, navigate to the file that you have downloaded with either the **.ovf** or the **.ova** file extension.
- After that follow the instruction on the screen.



Running Virtual Machine

After the configuration of the machine you will get something like that.



More Information

- If you want more information about VirtualBox or virtual machines you can ask to us (or to Google) or click on these links:

1. <https://www.virtualbox.org>
2. <https://www.virtualbox.org/manual/>
3. <https://en.wikipedia.org/wiki/VirtualBox>
4. https://en.wikipedia.org/wiki/Virtual_machine

