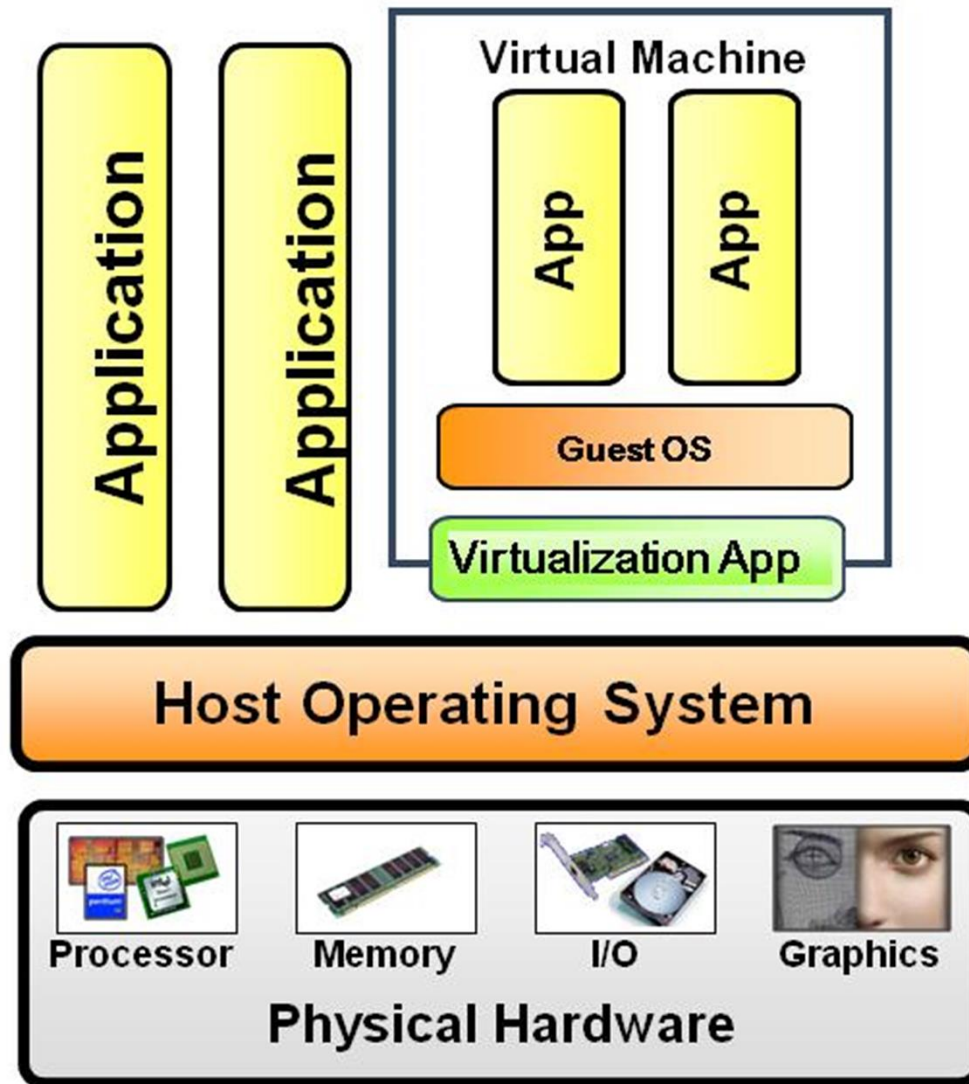


Virtual Box and Vagrant

What is virtualization

- *Hardware virtualization* or *platform virtualization* refers to the creation of a [virtual machine](#) that acts like a real computer with an operating system
- For example, a computer that is running [Microsoft Windows](#) may host a virtual machine that looks like a computer with the [Ubuntu Linux](#) operating system
- The [host machine](#) is the actual machine on which the virtualization takes place, and the *guest machine* is the virtual machine
- The software or [firmware](#) that creates a virtual machine on the host hardware is called a [hypervisor](#) or *Virtual Machine Manager*

Virtualization contd..



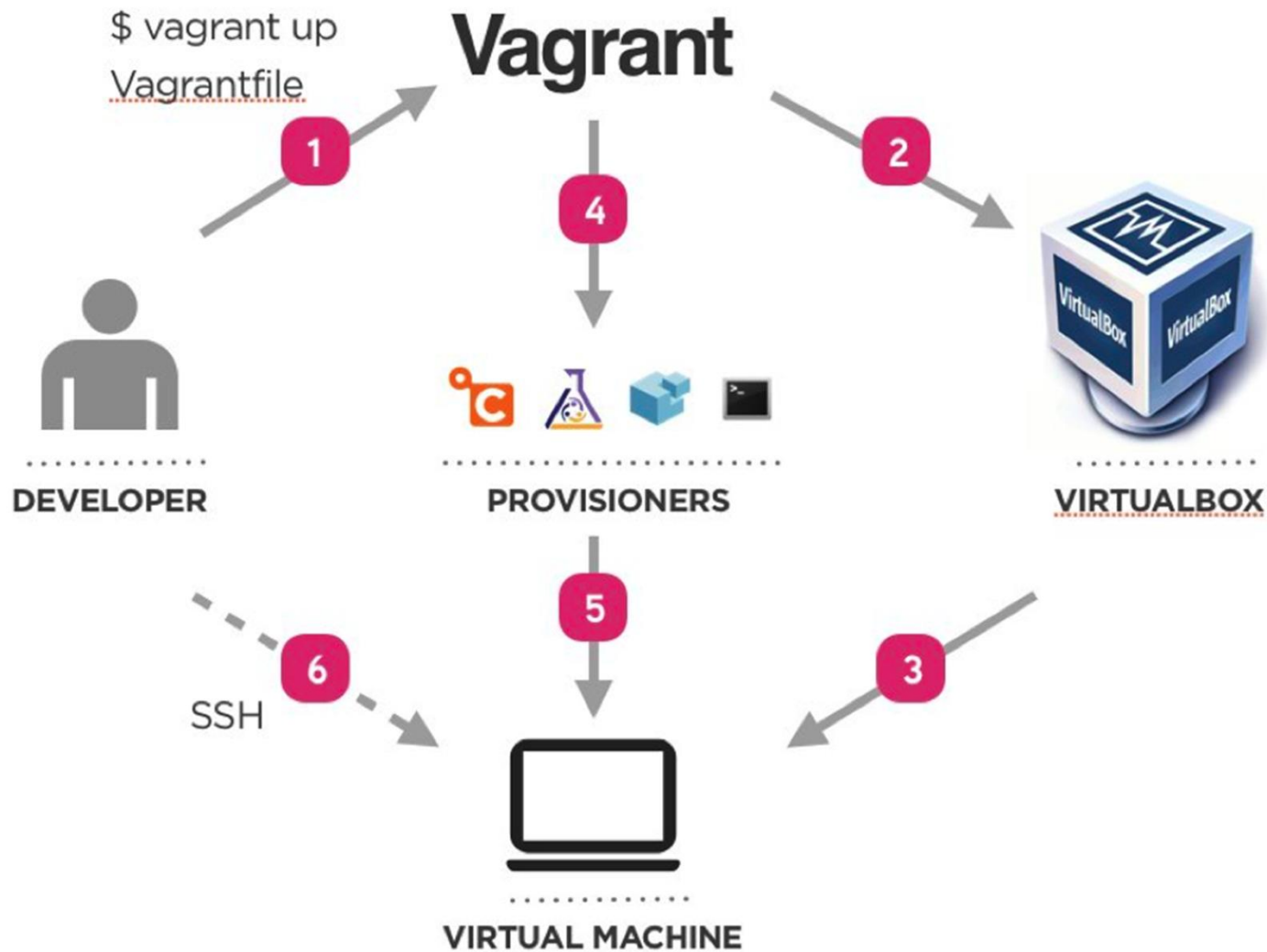
Oracle Virtual Box

- **Oracle VM VirtualBox** is a free and open-source [hypervisor](#) for [x86](#) computers currently being developed by [Oracle Corporation](#)
- Terminology –
 - Host operating system - operating system of the physical computer on which VirtualBox was installed
 - Guest operating system - operating system that is running inside the virtual machine
 - Virtual machine (VM)
 - Guest Additions. - special software packages which are shipped with VirtualBox but designed to be installed *inside* a VM to improve performance of the guest OS and to add extra features

Vagrant by Hashicorp

- Vagrant is a tool for building and managing virtual machine environments
- easy-to-use workflow and focus on automation,
- Vagrant lowers development environment setup time
- Machines are provisioned on top of VirtualBox, VMware, AWS etc

Vagrant by Hashicorp



Vagrant - terminology

- Vagrantfile - The primary function of the Vagrantfile is to describe the type of machine required for a project, and how to configure
- Vagrant is meant to run with one Vagrantfile per project, and the Vagrantfile is supposed to be committed to version control.
- This allows other developers involved in the project to check out the code, run vagrant up, and be on their way.
- Vagrantfiles are portable across every platform Vagrant supports
- Syntax of Vagrantfiles is [Ruby](#)
- Knowledge of the Ruby programming language is not necessary to make modifications to the Vagrantfile

Vagrant Boxes

- Boxes are the package format for Vagrant environments
- A box can be used by anyone on any platform that Vagrant supports to bring up an identical working environment
- The `vagrant box` utility provides all the functionality for managing boxes
- Discovering Boxes
 - easiest way to find boxes is to look on the [public Vagrant box catalog](#) for a box matching your use case
 - Adding a box from the catalog is very easy –
 - `vagrant box add USER/BOX`
 - `vagrant box add hashicorp/precise64`
 - `vagrant init hashicorp/precise64`

Provision using Vagrantfile

- You can also provision using the Vagrantfile

```
Vagrant.configure("2") do |config|  
  config.vm.box = "hashicorp/precise64"  
end
```

Installing VirtualBox and Vagrant

- Software Requirements
 - VirtualBox 5.2.6
 - Vagrant 2.0.2 for Windows
 - Putty – SSH client for Windows
- <https://www.virtualbox.org/wiki/Downloads>
- <https://www.vagrantup.com/downloads.html>
- <https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html>
- Install Virtualbox followed by Vagrant
- Install Putty