



1. Introducció a Vagrant



MP01-Sistemes Informàtics
CFGS Desenvolupament d'Aplicacions Multiplataforma
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STORYTELLING.
CRAFT. TECHNOLOGY.

```
  // www/wp-content/themes/jan3/
  //antu@54.235.66.45~
  //~/./sh/jan3site_prod_pair.pem

  // and trigger compass, jshint, uglify and livereload
  // all true

  assets/less/*/*', 'assets/less/site/*'],
  less)

  { livereload: true },
  ['style.css', 'assets/js/*/*.js', 'assets/js/main_release.js', '*.html', '*/**/*.*']

  // registerTask('deploy', [less', 'requirejsmain', 'requirejsparticle', 'syncstaging']);
  // grunt.registerTask('deployprod', ['requirejsmain', 'requirejsparticle', 'less', 'syncprod']);
  // grunt.registerTask('build', ['requirejs', 'less']);

  // register task
  // grunt.registerTask('default', ['watch']);
```



Internal Server Error

The server encountered an internal error or misconfiguration and was unable to complete your request.

Please contact the server administrator, webmaster@mysite.com, and inform them of the time the error occurred, and anything you might have done that may have caused the error.

More information about this error may be available in the server error log.

Additionally, a 404 Not Found error was encountered while trying to use an ErrorDocument to handle the request.

Apache/2.2.22 (Unix) mod_ssl/2.2.22 OpenSSL/1.0.2-fips PHP/5.3.13 Server at www.mysite.com Port 443

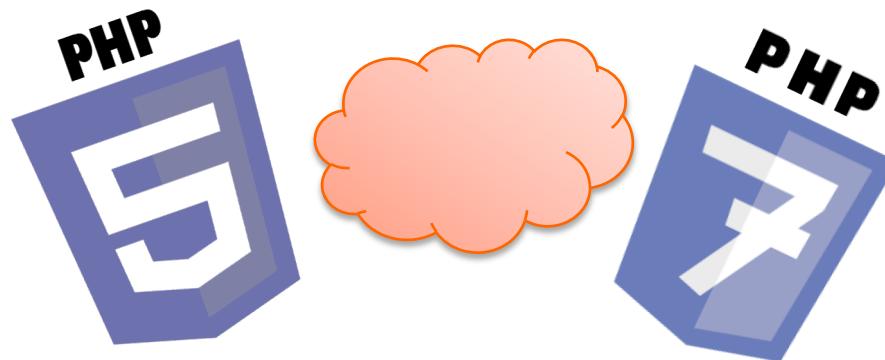
FrontPage/5.0.2.2635 PHP/5.3.13 Server at www.mysite.com Port 80

Què és Vagrant?

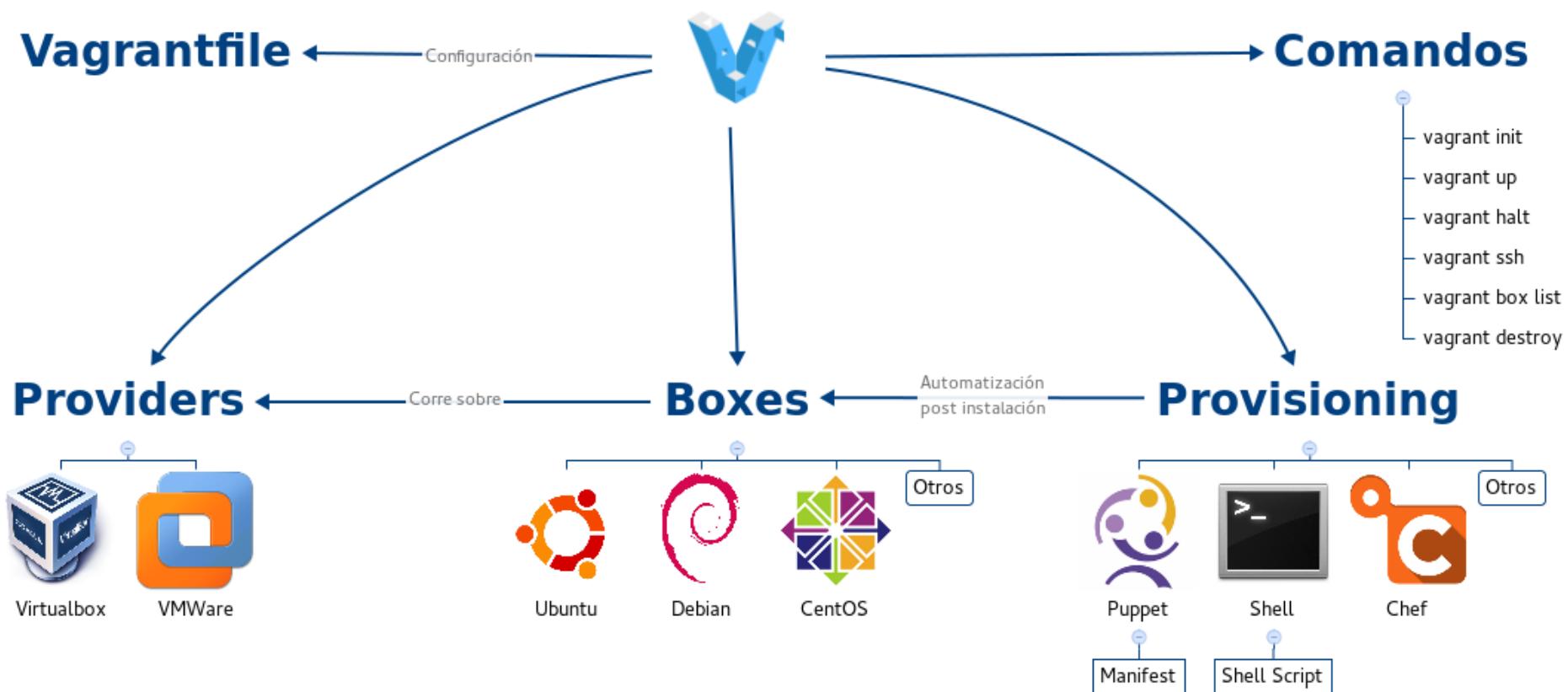
- Eina per crear i gestionar entorns virtuals de forma senzilla i automatitzada de Hashicorp.
- Simplifica les tasques d'automatització i desplegament (devops).
- Permet provisionar sobre VirtualBox, VMware, hyperV i clouds (AWS, Azure, etc.)
- Es pot utilitzar amb eines de aprovisionament com Chef, Puppet o Ansible.

Pensat pels desenvolupadors

- Tenir entorns de desenvolupament semblants als de producció.
- Disposar d'entorns sense haver de perdre temps amb configuracions.
- Facilita la feina treballar amb diferents versions.



Conceptes bàsics



Conceptes bàsics

- **Proveïdors:** els sistemes que gestionen les màquines virtuals (virtualitzadors o clouds).
- **Box:** imatges base a partir de les quals Vagrant crea els entorns virtuals.
- **Aprovisionadors:** Software que permet automatitzar la gestió de les VM.

Conceptes bàsics

- **Vagrantfile**: script en Ruby on es defineix l'entorn virtual que es crea a partir d'un box.
- En aquest arxiu es defineixen coses com:
 - Box a utilitzar
 - Carpetes compartides
 - Configuració de xarxa
 - Configuracions posteriors

Boxes

- Es pueden crear a partir de VM.
- Repositorio de boxes

The screenshot shows the Vagrant Cloud website's search interface. At the top, there is a blue header bar with the HashiCorp Vagrant Cloud logo, a search bar, and links for "Pricing", "Vagrant", "Help", "Create an Account", and "Sign In". Below the header, the main title is "Discover Vagrant Boxes". A search input field contains the placeholder text "Search for boxes by operating system, included software, architecture and more". To the right of the search input is a magnifying glass icon. Below the search bar, there are filters for "Provider" (with options "any", "virtualbox", "vmware", "libvirt", and "more") and sorting options ("Sort by" dropdown with "Downloads", "Recently Created", and "Recently Updated"). The main content area displays a list of four Vagrant boxes:

Provider	Name	Version	Downloads	Released
virtualbox	ubuntu/trusty64	20190403.0.0	30,357,674	about 18 hours ago
hyperv, parallels, virtualbox, vmware_desktop	laravel/homestead	7.1.0	13,435,933	2 months ago
hyperv, virtualbox, vmware_fusion	hashicorp/precise64	1.1.0	6,728,202	about 5 years ago
hyperv, libvirt, virtualbox, vmware, and 3 more providers	centos/7	1902.01	4,923,401	about 1 month ago

Proveïdor

- Abans d'instal·lar Vagrant cal tenir instal·lat el virtualitzador que es vulgui utilitzar.
- **Recomanació VirtualBox** tot i que amb hyperV o Parallels també funciona.
- En el cas de hyperV té una sèrie de limitacions que fa que sigui una mica més complicada la posada en marxa.

Instal·lació Vagrant

- És una eina gratuïta i open source (Llicència MIT) i Multiplataforma.



HashiCorp

Download Vagrant

Below are the available downloads for the latest version of Vagrant (2.0.0). Please download the proper package for your operating system and architecture.

You can find the [SHA256 checksums for Vagrant 2.0.0](#) online and you can [verify the checksum's signature file](#), which has been signed using HashiCorp's GPG key. You can also [download older versions of Vagrant](#) from the releases service.



Debian
32-bit | 64-bit



Windows
32-bit | 64-bit



Centos
32-bit | 64-bit



Mac OS X
64-bit

I com començó

- Crearem una carpeta anomenada Vagrant al disc.
- Crearem el nostre primer entorn:
`mkdir alpine`
`cd alpine`
`vagrant init generic/alpine38`
`vagrant up`

I com començó

```
mkdir alpine
```

```
cd alpine
```

```
vagrant init generic/alpine38
```

```
vagrant up
```

- Es crea un arxiu *Vagrantfile* que contindrà la configuració.
- A l'especificar el box a utilitzar, el buscarà a la màquina local, al no estar, el descarregarà dels servidors de Hashicorp.

I com començó

mkdir alpine

cd alpine

vagrant init generic/alpine38

vagrant up

- S'inicia la màquina amb la configuració definida a l'arxiu Vagrantfile.

I com començó

```
[iMac-de-Carlos:alpine38 cam$ vagrant up ]  
Bringing machine 'default' up with 'virtualbox' provider...  
==> default: Checking if box 'generic/alpine38' version '1.9.8' is up to date...  
==> default: Clearing any previously set forwarded ports...  
==> default: Clearing any previously set network interfaces...  
==> default: Preparing network interfaces based on configuration...  
    default: Adapter 1: nat  
==> default: Forwarding ports...  
    default: 22 (guest) => 2222 (host) (adapter 1)  
==> default: Running 'pre-boot' VM customizations...  
==> default: Booting VM...  
==> default: Waiting for machine to boot. This may take a few minutes...  
    default: SSH address: 127.0.0.1:2222  
    default: SSH username: vagrant  
    default: SSH auth method: private key  
==> default: Machine booted and ready!  
==> default: Machine already provisioned. Run 'vagrant provision' or use the '--provision'  
==> default: flag to force provisioning. Provisioners marked to run always will still run.  
iMac-de-Carlos:alpine38 cam$ ]
```

I com començó

- Ara comprovem l'estat de la màquina:

```
[iMac-de-Carlos:alpine38 car]$ vagrant status
Current machine states:

default           running (virtualbox)

The VM is running. To stop this VM, you can run `vagrant halt` to
shut it down forcefully, or you can run `vagrant suspend` to simply
suspend the virtual machine. In either case, to restart it again,
simply run `vagrant up`.
[...]
```

Vagrantfile

```
# -*- mode: ruby -*-
# vi: set ft=ruby :

# All Vagrant configuration is done below. The "2" in Vagrant.configure
# configures the configuration version (we support older styles for
# backwards compatibility). Please don't change it unless you know what
# you're doing.
Vagrant.configure("2") do |config|
  # The most common configuration options are documented and commented below.
  # For a complete reference, please see the online documentation at
  # https://docs.vagrantup.com.

  # Every Vagrant development environment requires a box. You can search for
  # boxes at https://vagrantcloud.com/search.
  config.vm.box = "generic/alpine38" ← Indica quina box s'utilitza

  # Disable automatic box update checking. If you disable this, then
  # boxes will only be checked for updates when the user runs
  # `vagrant box outdated`. This is not recommended.
  # config.vm.box_check_update = false

  # Create a forwarded port mapping which allows access to a specific port
  # within the machine from a port on the host machine. In the example below,
  # accessing "localhost:8080" will access port 80 on the guest machine.
  # NOTE: This will enable public access to the opened port
  # config.vm.network "forwarded_port", guest: 80, host: 8080 ← Redirecció de ports

  # Create a forwarded port mapping which allows access to a specific port
  # within the machine from a port on the host machine and only allow access
  # via 127.0.0.1 to disable public access
  # config.vm.network "forwarded_port", guest: 80, host: 8080, host_ip: "127.0.0.1"

  # Create a private network, which allows host-only access to the machine
```

Sobre la persistència...

- Normalment les màquines es destrueixen en acabar de treballar.
- No han de contenir res que hagi de ser persistent.
- Les dades persistents les tindrem a la carpeta de la màquina física.
- La carpeta de la màquina Vagrant es mapeja com /vagrant.

Per acabar

- La màquina es pot pausar, parar o destruir.
- Aquesta última opció ens permet alliberar espai a disc.

vagrant destroy

Sobre els box

- Els box descarregats es troben emmagatzemats a la màquina física.
- Es comprova canvis a l'origen per actualitzar.
- La descàrrega pot ser lenta si el box és gran.

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