To follow along, clone: https://github.com/svpernova09/Vagrant-Up-and-Running-Talk

Vagrant Up & Running

+ Basic Provisioning

Give feedback on this talk: https://joind.in/user/view/22057

Who is this guy?

Joe Ferguson - joe@joeferguson.me

Professionally

- Web Developer at RocketFuel
- PHP / LAMP Focused

Semi Professional

- Co-Organizer for MemphisPHP.org
- MidsouthMakers - Hackerspace Leader
- HACKmemphis.com Organizer

What is Vagrant?

- Tool for building complete dev environments
- Easy to use workflow
- Focus on automation
- Lowers Dev Environment setup time
- Increase Dev / Live Environment Parity

Terminology

Vagrant configures a Provider.

Various Providers

- Virtualbox
- VMWare
- AWS

Provisioners Configure the VM

- Puppet
- Chef
- Salt
- Shell

Getting Started

Assuming you have vagrant installed already:

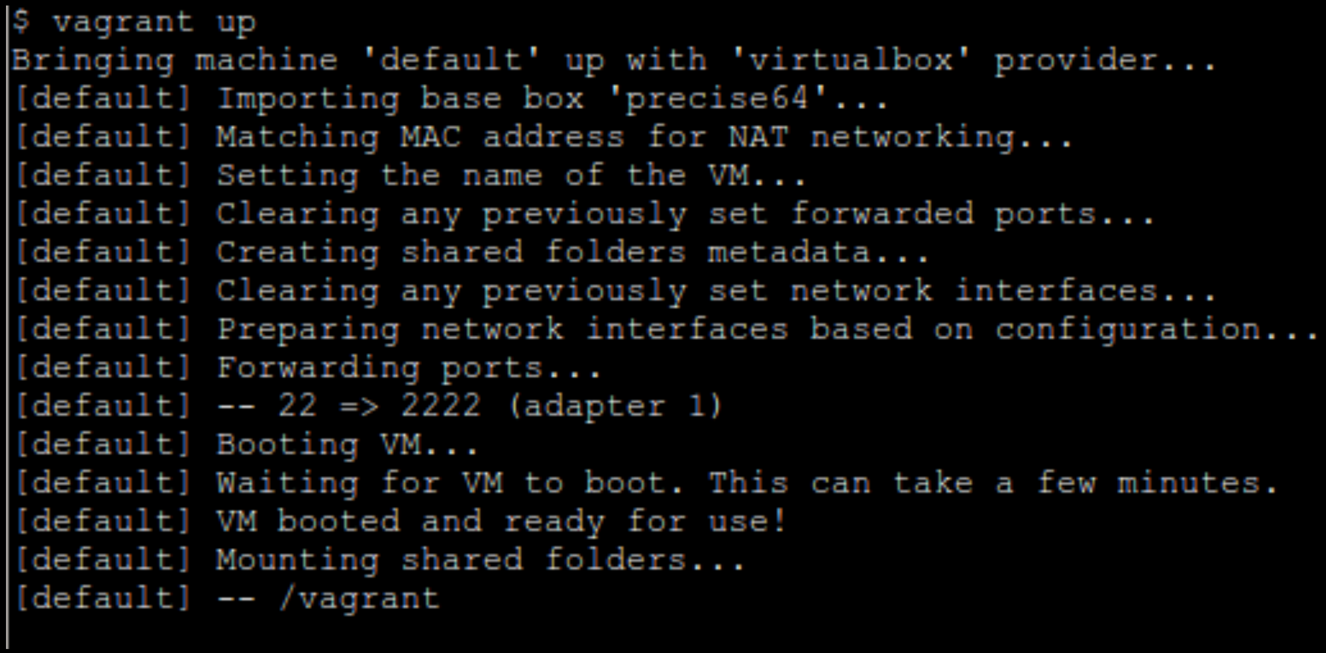
```
$ vagrant init precise32 http://files.vagrantup.com/precise32.box
$ vagrant up
```

- Vagrant init: Create a vagrant env. here
  - Name the box precise32 and fetch it from this URL
- Start the vagrant box

Quick look at the Vagrantfile

This is the Configuration file for the VM

- Change "base" to whatever box you have
- Add URL to box (optional)
- Save Vagrantfile

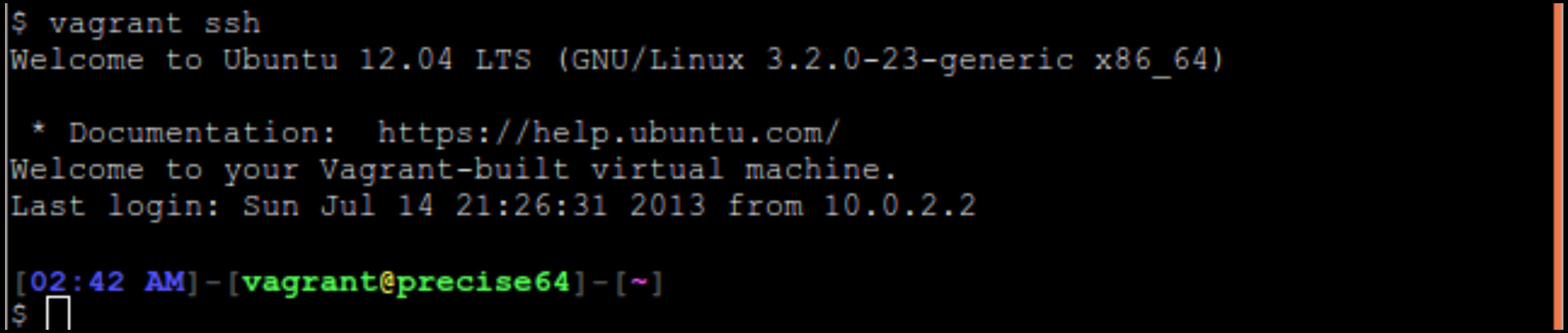


```
$ vagrant up
Bringing machine 'default' up with 'virtualbox' provider...
[default] Importing base box 'precise64'...
[default] Matching MAC address for NAT networking...
[default] Setting the name of the VM...
[default] Clearing any previously set forwarded ports...
[default] Creating shared folders metadata...
[default] Clearing any previously set network interfaces...
[default] Preparing network interfaces based on configuration...
[default] Forwarding ports...
[default] -- 22 => 2222 (adapter 1)
[default] Booting VM...
[default] Waiting for VM to boot. This can take a few minutes.
[default] VM booted and ready for use!
[default] Mounting shared folders...
[default] -- /vagrant
```

Vagrant SSH

$ vagrant ssh will dump you into the VM

On Mac OS X and Linux this is pretty easy



```
$ vagrant ssh
Welcome to Ubuntu 12.04 LTS (GNU/Linux 3.2.0-23-generic x86_64)

 * Documentation:  https://help.ubuntu.com/
Welcome to your Vagrant-built virtual machine.
Last login: Sun Jul 14 21:26:31 2013 from 10.0.2.2

[02:42 AM]-[vagrant@precise64]-[~]
$ 
```

Vagrant SSH+Windows = Extra Step

On windows, this will give a warning that it cannot find an executable 'ssh'.

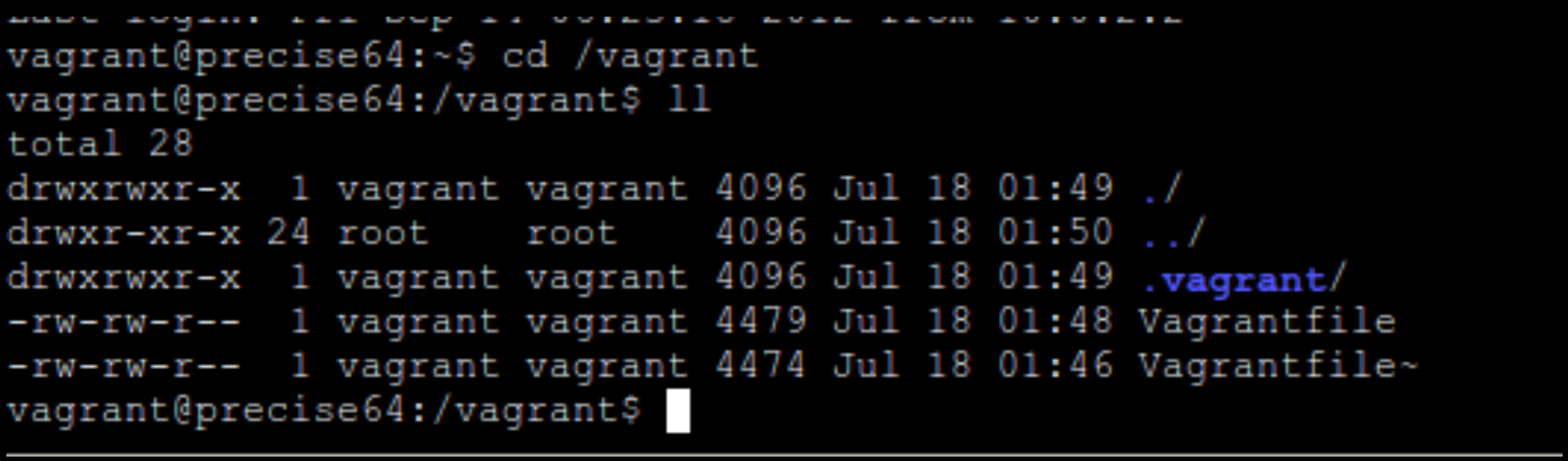
What we need to do here is open putty, configure 127.0.0.1:2222 with the private key it generated here:
C:/Users/<you>/.vagrant.d/insecure_private_key

You will need to use Puttygen to generate the key for putty to use.

The user name will be 'vagrant'

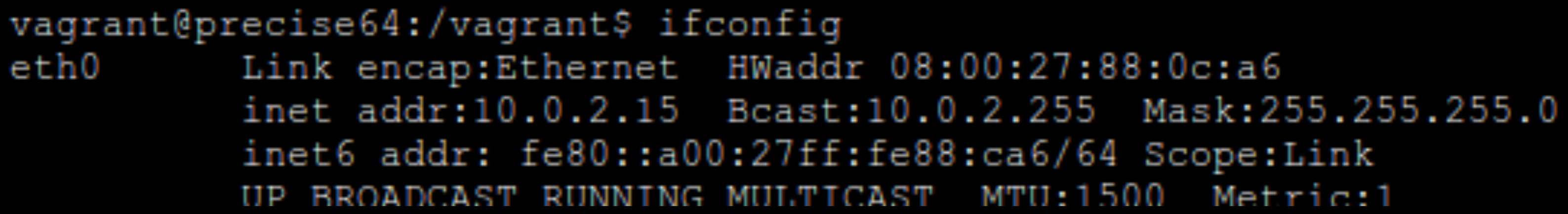
Automagic Stuff Done For You

- Vagrant folder mounted in /vagrant



```
vagrant@precise64:~$ cd /vagrant
vagrant@precise64:/vagrant$ ll
total 28
drwxrwxr-x  1 vagrant vagrant 4096 Jul 18 01:49 ./
drwxr-xr-x 24 root    root    4096 Jul 18 01:50 ../
drwxrwxr-x  1 vagrant vagrant 4096 Jul 18 01:49 .vagrant/
-rw-rw-r--  1 vagrant vagrant 4479 Jul 18 01:48 Vagrantfile
-rw-rw-r--  1 vagrant vagrant 4474 Jul 18 01:46 Vagrantfile~
vagrant@precise64:/vagrant$
```

- Internet! (In most cases)



```
vagrant@precise64:/vagrant$ ifconfig
eth0      Link encap:Ethernet  HWaddr 08:00:27:88:0c:a6
          inet addr:10.0.2.15  Bcast:10.0.2.255  Mask:255.255.255.0
          inet6 addr: fe80::a00:27ff:fe88:ca6/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
```

Where does this get you?

- You get an empty VM with not much stuff

Provisioning

Four Common Provisioning Methods

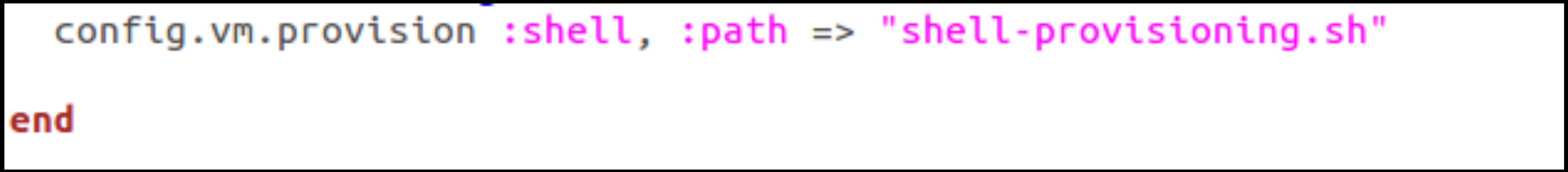
- Puppet*
- Chef
- Salt
- Shell*

*We will cover

Shell Provisioning

- Not the preferred method
- Easy if you're bash savy

Add this to your Vagrantfile before "end"



```
  config.vm.provision :shell, :path => "shell-provisioning.sh"

end
```

*Make sure you copy "shell-provisioning.sh" to the same folder that has "Vagrantfile"

Shell Provisioning

If your vagrant box is still running:

- vagrant reload

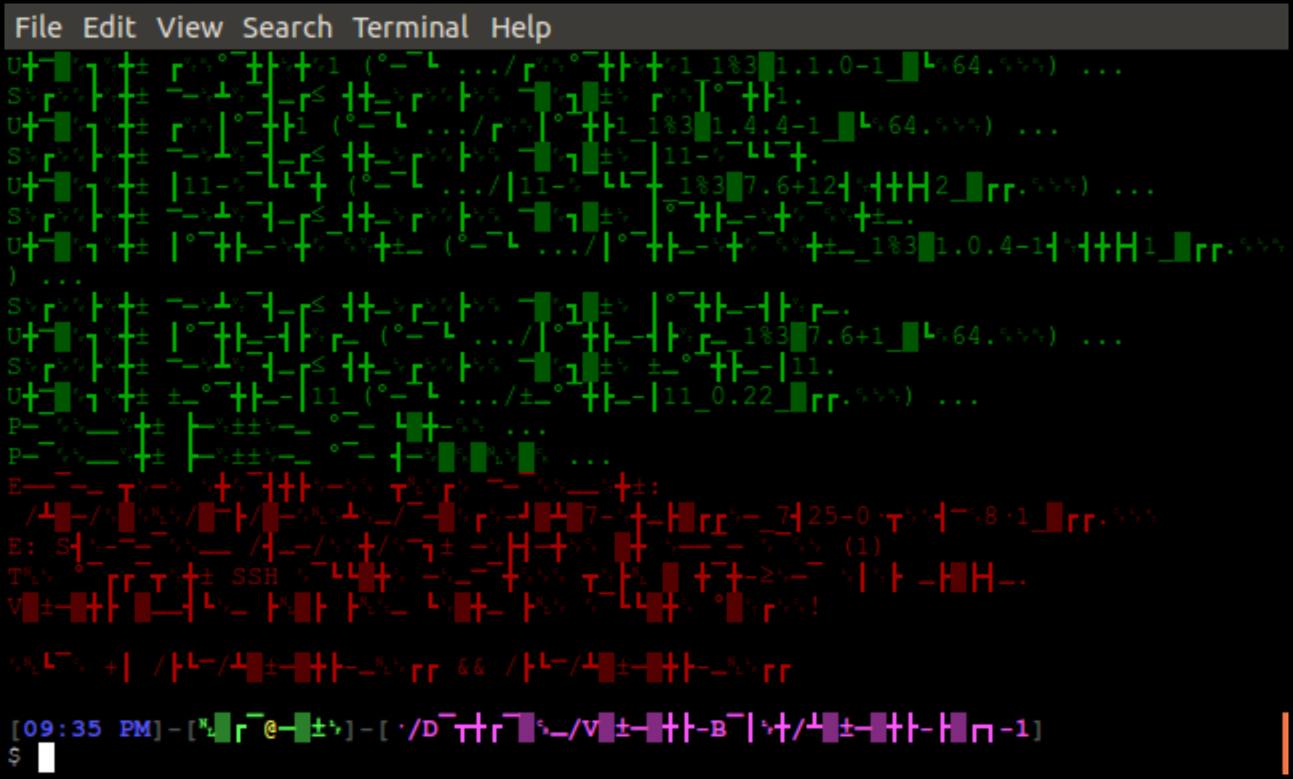
Otherwise:

- vagrant up

Vagrant will start the VM and run the provisioning shell script.

Shell Provisioning - OOPS!

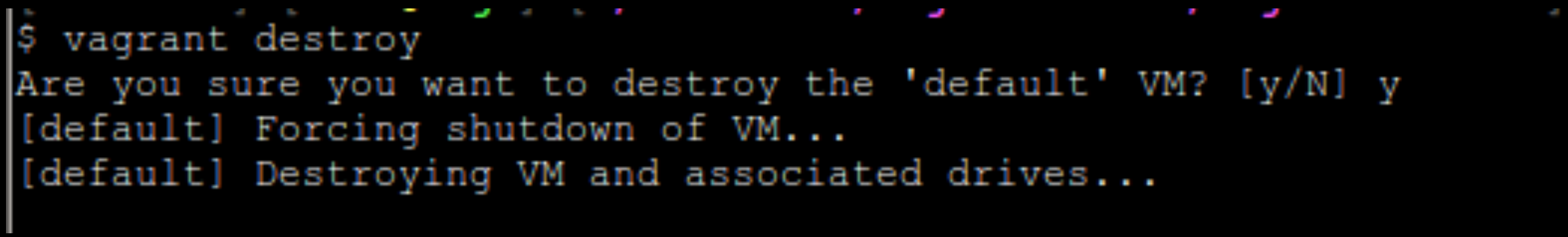
Oops!



```
[illegible]
[09:35 PM]-[illegible]
$
```

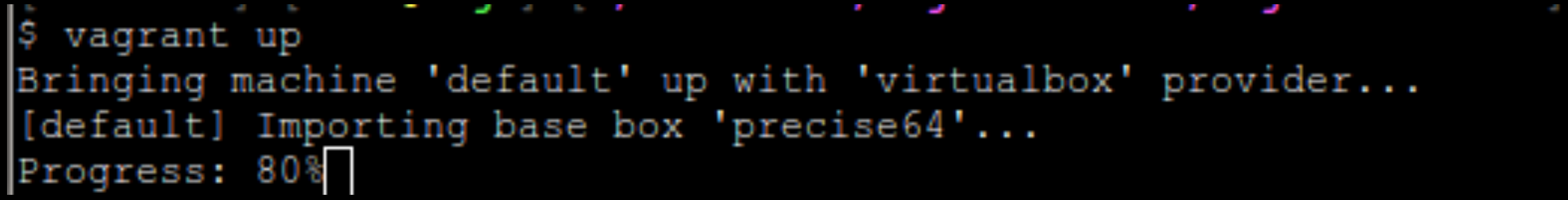
Vagrant DESTROY!

Resetting your vagrant box is very easy



```
$ vagrant destroy
Are you sure you want to destroy the 'default' VM? [y/N] y
[default] Forcing shutdown of VM...
[default] Destroying VM and associated drives...
```

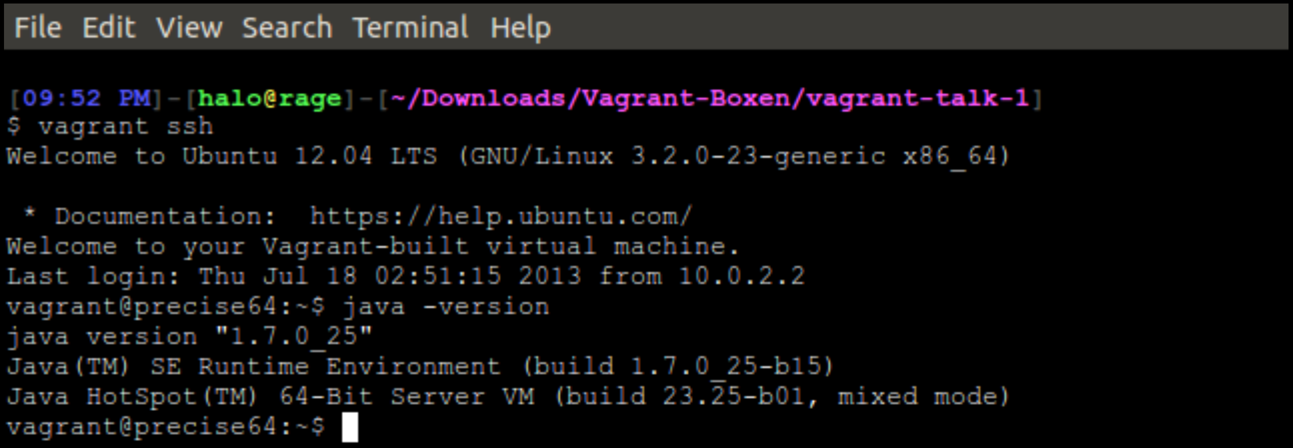
Afterwards, just vagrant up again to start over



```
$ vagrant up
Bringing machine 'default' up with 'virtualbox' provider...
[default] Importing base box 'precise64'...
Progress: 80%
```

Back and now provisioned

All set and ready to develop!



```
[09:52 PM]-[halo@rage]-[~/Downloads/Vagrant-Boxen/vagrant-talk-1]
$ vagrant ssh
Welcome to Ubuntu 12.04 LTS (GNU/Linux 3.2.0-23-generic x86_64)

 * Documentation:  https://help.ubuntu.com/
Welcome to your Vagrant-built virtual machine.
Last login: Thu Jul 18 02:51:15 2013 from 10.0.2.2
vagrant@precise64:~$ java -version
java version "1.7.0_25"
Java(TM) SE Runtime Environment (build 1.7.0_25-b15)
Java HotSpot(TM) 64-Bit Server VM (build 23.25-b01, mixed mode)
vagrant@precise64:~$
```

There is a BETTER way

Enter: Puppet - https://puppetlabs.com/

Why puppet?

- Open Source Version
- Community Support
- Easier to grasp than Bash / Chef*

*for non-bash and non-ruby devs

Puppet: Learn from others

The simplistic syntax makes puppet manifests very easy to read and learn from.

PuPHPet - https://puphpet.com/

- Geared towards PHP, but flexible
- Creates manifests for you
- Great to learn from

It's always nice to share...

Once you have a box configured, you can use vagrant box to package it up to share with your other developers.

This provides an easy way to ensure a team of developers are always on the same version and operating system that matches the live environment as closely as possible.

Links / Q & A

Links:

- Vagrant: http://www.vagrantup.com
- Vagrant Boxes: http://www.vagrantbox.es
- Make Vagrant Up Yours: https://jtreminio.com/2013/06/make_vagrant_up_yours
- PuPHPet: https://puphpet.com/
- Vagrant: Up and Running: http://shop.oreilly.com/product/0636920026358.do

Provisioning:

- Puppet: https://puppetlabs.com/puppet/puppet-open-source/
- Chef: http://docs.opscode.com/
- Salt: https://github.com/saltstack