



The Midnight Corporation

www.MidnightCorp.com

Voilà!

Varying Vagrant Vagrants

WordCamp Maine 2016

Hi there!

- My name is Michael Ackerson
- Chief geek over at The Midnight Corporation
- WordPress user since 2004
- Designer
- PHP / Python Developer
- Open source software advocate
- Semi-mechanical lich
- Once an adventurer like you, but then I took an arrow to the knee



What we're talking about today

- Local development
- Virtualbox
- Vagrant
- VVV
- Variable VVV

Finger in the Air

First, a little history

Back in the Bad Old Days

- Changes made in real time on live on the server
- 'Cowboy Coding'
- Things broke frequently
- There were no, or only dated, backups
- "It worked when I looked at it..."



(dramatization)



Local
Development



XAMPP

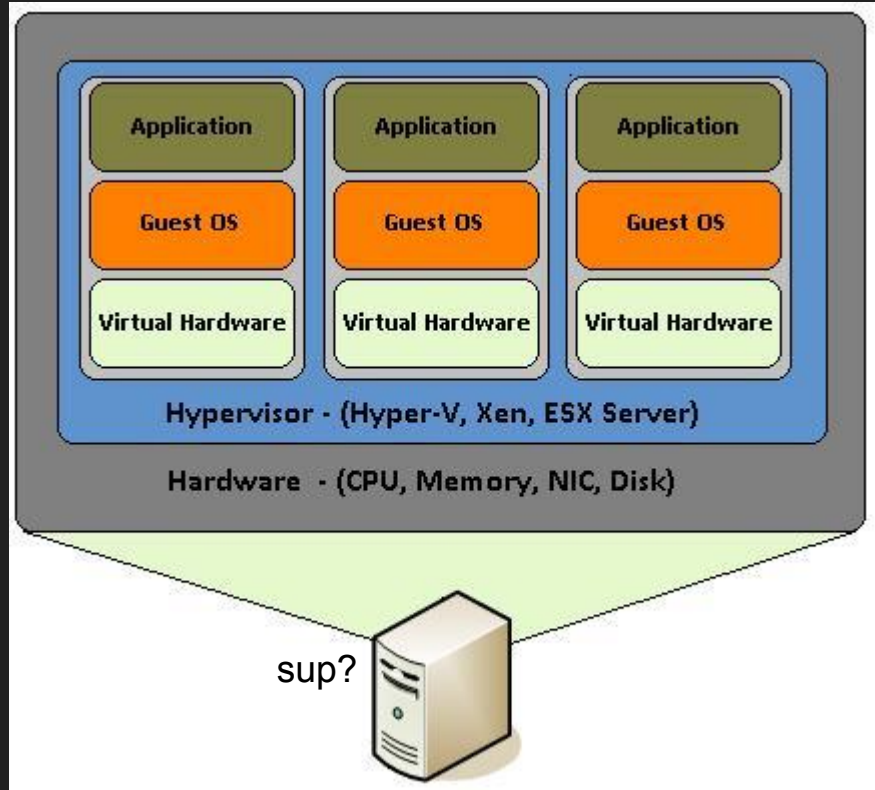
But it didn't fix everything...

- The time gap
- The personnel gap
- The tools gap

The 12 Factor Solution:

Keep development, staging, and production as similar as possible.

Virtualization



What is Virtual Box?

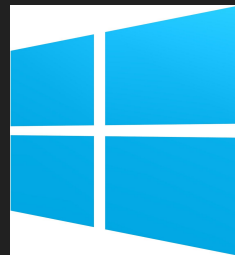
"VirtualBox is a powerful x86 and AMD64/Intel64 virtualization product for enterprise as well as home use."

Tl;dr:

Amazing free virtual computers for

Everyone!

(audience cheers)



But what about configuration?

What is Vagrant?

- A command line Virtual Machine (VM) management tool
- Automate the setup of your development environment

Learn more at:

www.vagrantup.com



```
$ vagrant init  
$ vagrant up  
$ vagrant ssh  
$ vagrant halt  
$ vagrant destroy  
$ vagrant help
```

(Don't Panic!)

```
$ mkdir ubuntu  
$ cd ubuntu  
$ vagrant init ubuntu/xenial64  
$ vagrant up  
...  
And away we go...
```


But wait, there's more....

<http://www.vagrantbox.es/>

<https://laravel.com/docs/5.2/homestead>

<https://github.com/rails/rails-dev-box>

<https://atlas.hashicorp.com/boxes/search>

So, what is VVV ?

What is Varying Vagrant Vagrants?

VVV is an open source Vagrant configuration focused on WordPress development. VVV is MIT Licensed.

VVV was started by Jeremy Felt at 10up in 2012 and transitioned to a community organization in 2014.

- 1,277 commits
- 5 branches
- 14 releases
- 83 contributors

<https://github.com/Varying-Vagrant-Vagrants/VVV>

So what's on the side of the tin?

- Ubuntu 14.04 LTS (Trusty Tahr)
- WordPress Develop, Stable & Trunk
- WP-CLI (master branch)
- nginx (mainline version)
- mysql 5.5.x
- php-fpm 7.0.x
- memcached
- PHP memcache & xdebug extensions
- PHP imagick extension
- PHPUnit
- ack-grep
- Git & Subversion
- ngrep
- dos2unix
- Composer
- phpMemcachedAdmin
- phpMyAdmin (multi-language)
- Opcache Status
- Webgrind
- NodeJs
- grunt-cli
- Mailcatcher

Installing VVV

1. Install VirtualBox 5.0.x and Vagrant 1.8.x

2. **\$ vagrant plugin install vagrant-hostsupdater**

Otherwise: manually update your hosts file

3. **\$ vagrant plugin install vagrant-triggers**

4. **\$ git clone git://github.com/Varying-Vagrant-Vagrants/VVV.git vagrant-local**

Or get the zip

5. **\$ cd vagrant-local**

6. **\$ vagrant up**

```
Terminal
File Edit View Search Terminal Help
michael@Icarus ~/Projects/wordcamp2016/vvv $ vagrant up
Bringing machine 'default' up with 'virtualbox' provider...
==> default: Checking if box 'ubuntu/trusty64' 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: Adapter 2: hostonly
==> 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
```

```
Terminal
File Edit View Search Terminal Help

==> default: Setting hostname...
==> default: Configuring and enabling network interfaces...
==> default: Mounting shared folders...
default: /srv/log => /home/michael/Projects/wordcamp2016/vvv/log
default: /srv/www => /home/michael/Projects/wordcamp2016/vvv/www
default: /vagrant => /home/michael/Projects/wordcamp2016/vvv
default: /srv/config => /home/michael/Projects/wordcamp2016/vvv/config
default: /srv/database => /home/michael/Projects/wordcamp2016/vvv/database
==> default: Machine already provisioned. Run `vagrant provision` or use the `--
provision`
==> default: flag to force provisioning. Provisioners marked to run always will
still run.
==> default: Running provisioner: shell...
default: Running: inline script
==> default: mysql stop/waiting
==> default: mysql start/running, process 7535
==> default: Running provisioner: shell...
default: Running: inline script
==> default: * Restarting nginx nginx
==> default: ...done.
==> default: Running triggers after up...
==> default: Executing command "vagrant ssh -c vagrant_up"...
==> default: Command execution finished.
michael@Icarus ~/Projects/wordcamp2016/vvv $
```

Vagrant UP!

- <http://local.wordpress.dev/> for WordPress stable
- <http://local.wordpress-trunk.dev/> for WordPress trunk
- <http://src.wordpress-develop.dev/> for the trunk development files
- <http://build.wordpress-develop.dev/> for those files built with Grunt
- <http://vvv.dev/> for a dashboard containing several useful tools

Kind of amazing, right?



vagrant@vvv: ~

File Edit View Search Terminal Help

michael@Icarus ~/Projects/wordcamp2016/vvv \$ vagrant ssh

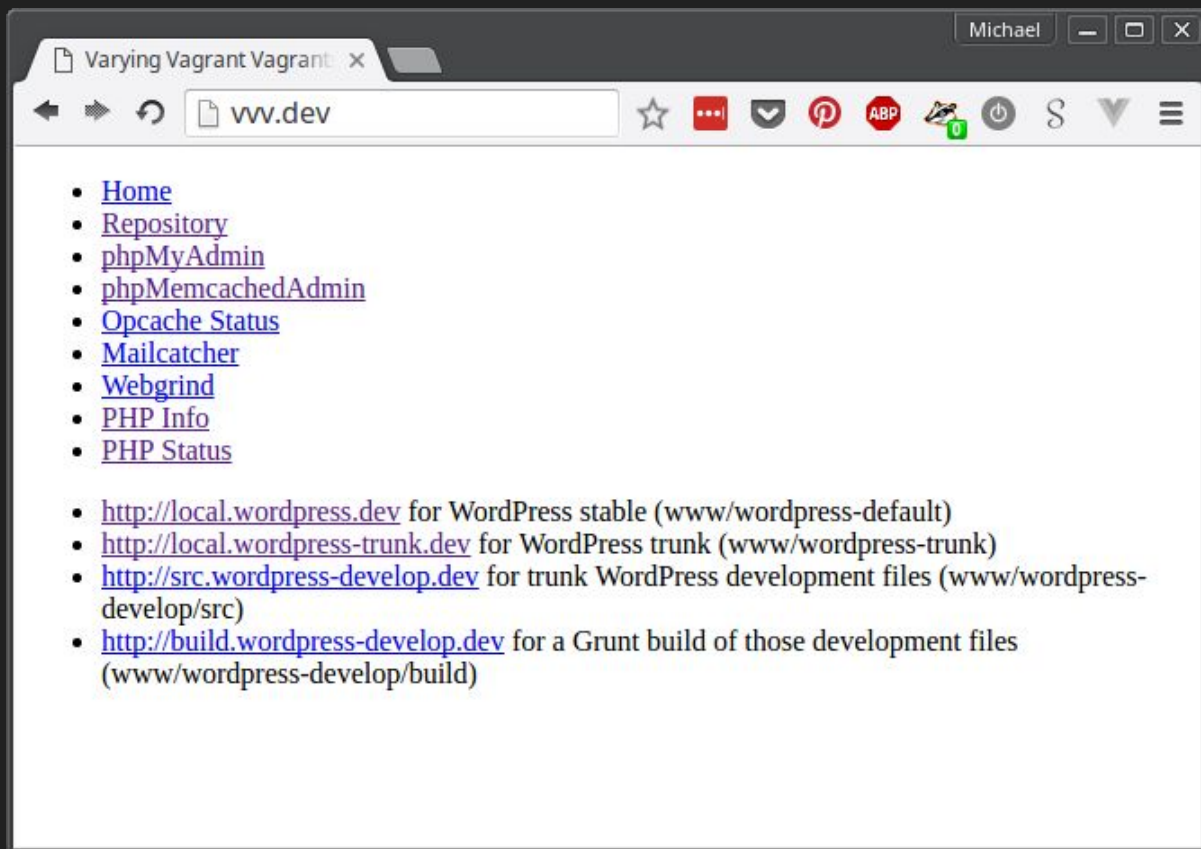
Welcome to Ubuntu 14.04.4 LTS (GNU/Linux 3.13.0-85-generic x86_64)

* Documentation: <https://help.ubuntu.com/>

System information disabled due to load higher than 1.0

Get cloud support with Ubuntu Advantage Cloud Guest:
<http://www.ubuntu.com/business/services/cloud>

vagrant@vvv:~\$



- [Home](#)
 - [Repository](#)
 - [phpMyAdmin](#)
 - [phpMemcachedAdmin](#)
 - [OpCache Status](#)
 - [Mailcatcher](#)
 - [Webgrind](#)
 - [PHP Info](#)
 - [PHP Status](#)
-
- <http://local.wordpress.dev> for WordPress stable (www/wordpress-default)
 - <http://local.wordpress-trunk.dev> for WordPress trunk (www/wordpress-trunk)
 - <http://src.wordpress-develop.dev> for trunk WordPress development files (www/wordpress-develop/src)
 - <http://build.wordpress-develop.dev> for a Grunt build of those development files (www/wordpress-develop/build)



Variable VVV

vv create

- Halts Vagrant (if running)
- Creates a web root for the site in the `www` folder containing three files: `vvv-init.sh`, `wp-cli.yml`, and `vvv-hosts`
 - `vvv-init.sh` tells Vagrant to create a database if one does not exist and install the latest version of WordPress (via WP-CLI) the next time Vagrant is provisioned
 - `wp-cli.yml` tells WP-CLI that WordPress is in the `htdocs` folder
 - `vvv-hosts` contains the hosts entry to give your site a nice custom domain (the domain is set in the wizard)
- Creates a file in the `nginx-config` folder to handle server settings for your site
- Restarts Vagrant with `vagrant up --provision`

<https://github.com/bradp/vv>

vagrant@vov: ~

File Edit View Search Terminal Help

michael@Icarus ~/Projects/wordcamp2016/vv \$./vv create -d newsite.dev -n newsite

New VVV Site Setup

WordPress version to install (leave blank for latest version or trunk for trunk/nginx version):

Install as multisite? (y/N):

Git repo to clone as wp-content (leave blank to skip):

Local SQL file to import for database (leave blank to skip):

Remove default themes and plugins? (y/N):

Add sample content to site (y/N):

Enable WP_DEBUG and WP_DEBUG_LOG (y/N):

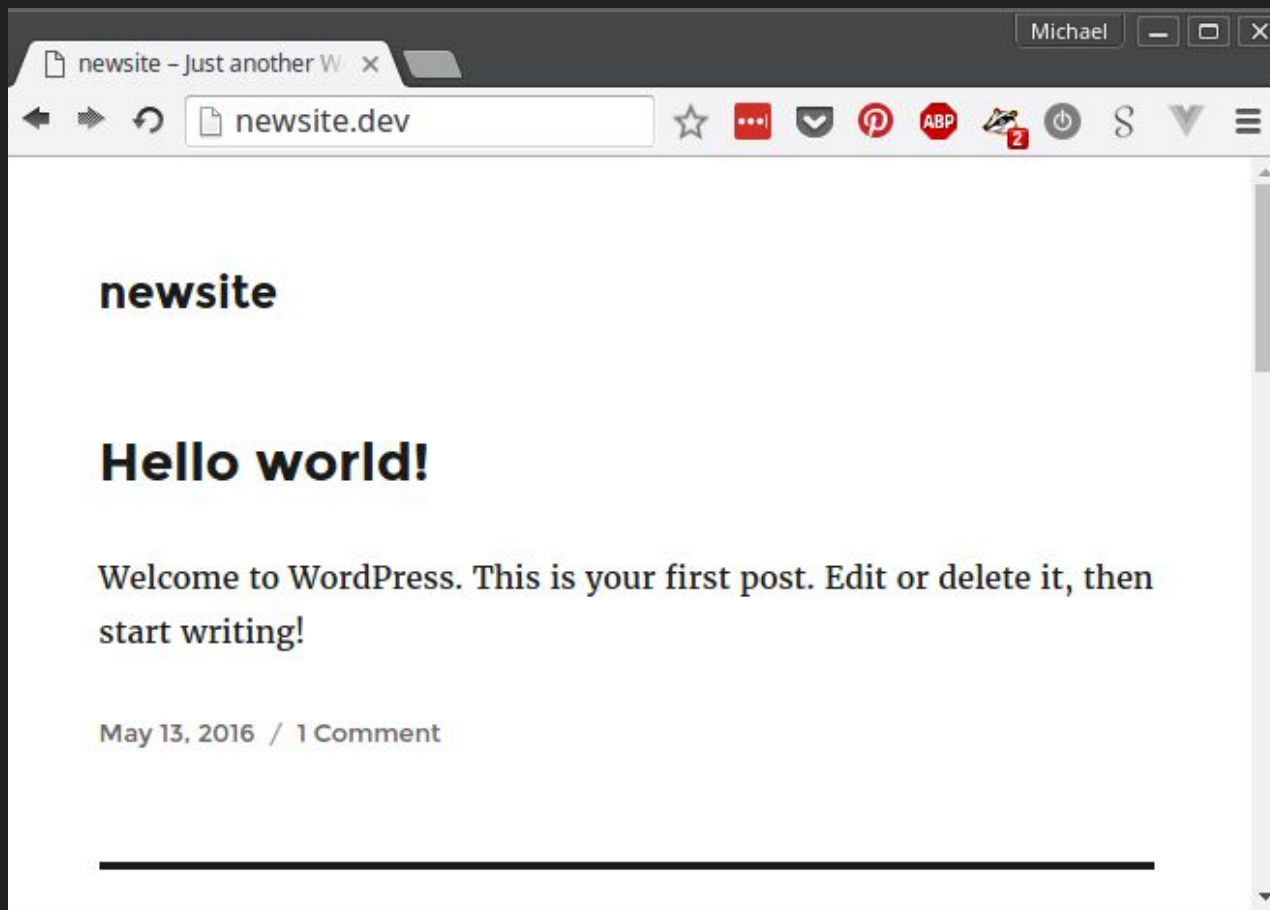
About to perform the following:

- * Halt Vagrant (if running)
- * Create directory newsite in /home/michael/Projects/wordcamp2016/vvv/www
- * Create files vv-init.sh, wp-cli.yml, and vv-hosts in directory newsite
- * Create file newsite.conf in /home/michael/Projects/wordcamp2016/vvv/config/nginx-c onfig/sites
- * Run `vagrant up --provision` to initialize site

Provisioning Vagrant will do the following:

- * Create database newsite
- * Install WordPress (release version) in the htdocs directory
- * Make the site visible at newsite.dev

Continue (y/n)? :



vagrant@vvv: ~

File Edit View Search Terminal Help

```
michael@Icarus ~/Projects/wordcamp2016/vvv $ vagrant halt
==> default: Running triggers before halt...
==> default: Executing command "vagrant ssh -c vagrant_halt"...
==> default: Database wordpress_default backed up...
==> default: Database wordpress_develop backed up...
==> default: Database wordpress_trunk backed up...
==> default: Command execution finished.
==> default: Attempting graceful shutdown of VM...
==> default: [vagrant-hostsupdater] Removing hosts
[sudo] password for michael:
```

But wait,
what about *my* snowflake?

Deployment Patterns

|--- vagrantfile

|--- /vagrant

|--- ...

|--- index.php

|--- /wp-content

...

|--- vagrantfile

|--- /vagrant

|--- ...

|--- /site1

|--- wp-content

|--- /site2

|--- wp-content

...

`config.vm.synced_folder "../", "/var/www/"`

Or just fork VVV!

Additional Add-ons

Make vagrant even **more** powerful with plugins:

- Providers (EC2, DigitalOcean, Linode)
- Provisioners
- Host Management
- *And much much more!*

<https://github.com/mitchellh/vagrant/wiki/Available-Vagrant-Plugins>

<http://vagrant-lists.github.io/>

<http://themejuice.it/>

Recap

- Virtualization lets you run virtual computers inside your main system. (It's your development Turducken).
- Virtualbox is a free Virtualization suite that anyone can use.
- Vagrant manages virtualbox to make environment setup a snap
- VVV is a Vagrant configuration to build WordPress development servers
- Variable VVV automates setting up new sites
- Vagrant configs can be shared with your team and quickly reproduced

Banish “But it worked on my computer...” forever!

Wrap up: your mission...

- Go play with virtualbox (Kali, Modern.ie, Ubuntu)
- Try out some vagrant boxes and definitely check out VVV
- ... and if VVV isn't to your taste, explore the vast world of vagrant configs

...have fun with it!



THANK YOU!

For More:

<https://github.com/mackerson/wordcamp-maine-2016-vagrant>

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