Containers & Config Mgmt. (Docker & Puppet & ...)

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Who am I ?

- Hacker

- Config Mgmt. Architect @ Red Hat

- Technical Blogger: The Technical Blog of James
  https://ttboj.wordpress.com/

- Physiologist (Cardiology Specialization)

- DevOps believer

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Tools

Tools: Puppet

Puppet is configuration management software that allows you to define a desired state via a declarative language, which will then hopefully converge after one run.

It can run in client-server or standalone mode. It is not provisioning or orchestration software.

https://en.wikipedia.org/wiki/Puppet_%28software%29

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Tools: Docker

Docker is container technology software for Linux that enables applications to run with individual environments and namespaces, built on technologies such as cgroups, SELinux, and libcontainer (formerly LXC).

It has an image format and also a runtime (engine).

https://en.wikipedia.org/wiki/Docker_%28software%29

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Tools: Kubernetes

Kubernetes is cluster management software used to manage groupings of containers called "pods". It is inspired by a similar proprietary cluster manager called Borg.

You define the rules for the cluster manager to follow by writing a *.json* file.

http://kubernetes.io/

Tools: Atomic

Atomic is a minimal GNU/Linux distribution that installs as a single image instead of from a set of RPM's. The full system image can be updated atomically to a newer version and ensures all components are integrated and tested together.

Additional packages and functionality is possible by adding on applications that run in containers.

https://www.projectatomic.io/

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Tools: Vagrant

Vagrant is software which creates and configures virtual development environments, and which wraps to integrate config management and virtual machine hypervisor technologies such as puppet, libvirt and docker.

You define these environments by writing *Ruby* code in a "Vagrantfile".

(heavily modified from wikipedia)

https://en.wikipedia.org/wiki/Vagrant_%28software%29

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Tools: Vagrant

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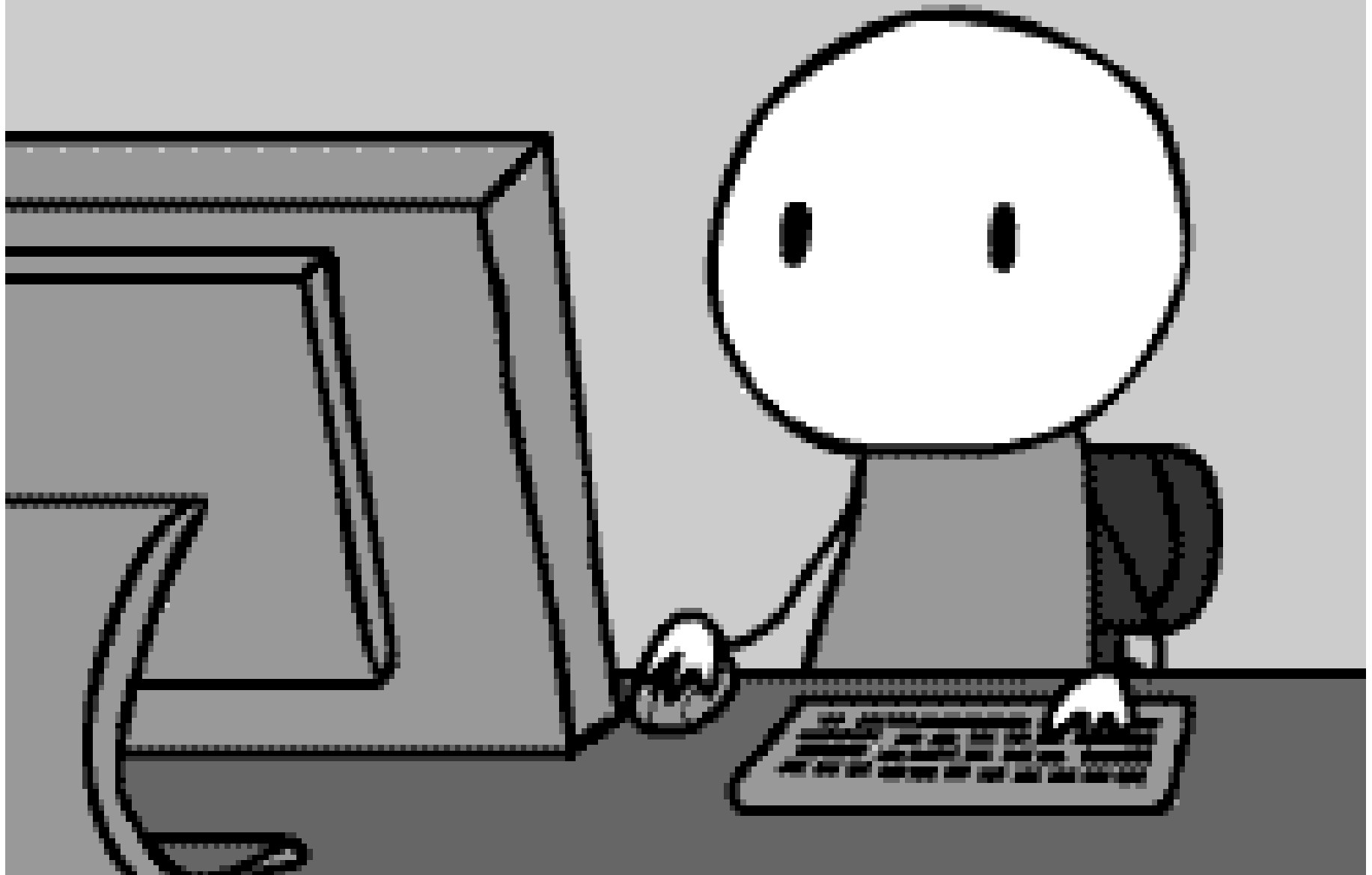You define these environments by writing *Ruby* code in a "Vagrantfile"... **Yuck!**

(heavily modified from wikipedia)

https://en.wikipedia.org/wiki/Vagrant_%28software%29

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I want to hack on and demo all these tools, but do I *love* fighting with ruby to do so?

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Can we do better?

YES!

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Can we do better?

YES!

Follow the D.R.Y. principle...

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Can we do better?

YES!

Follow the D.R.Y. principle...

https://en.wikipedia.org/wiki/Don%27t_repeat_yourself

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Tools: Oh-My-Vagrant

Oh-My-Vagrant is the common intersection of code that I kept *rewriting* each time I built a Vagrant based development environment.

It is meant for developers who want the power of Vagrant but who want to avoid duplicating work and rewriting "solved" *Ruby* code.
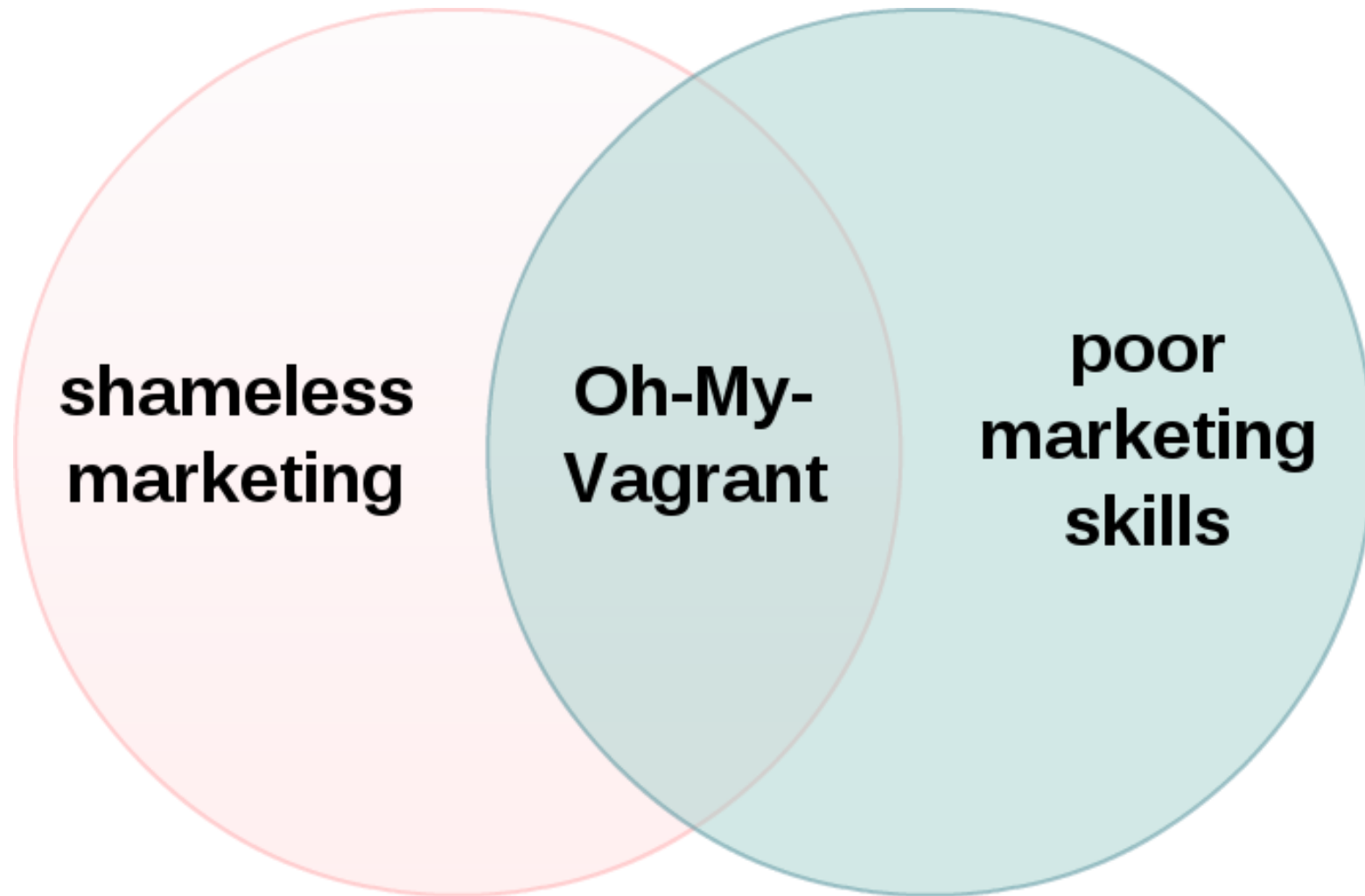
It can also be used as a template for new Vagrant projects, or as a reference for existing ones.

Tools: Oh-My-Vagrant

And the project comes with a cool name so you can be 23% more *133t* when your friends see you hacking on things.

It's also the intersection of my shameless attempt at marketing, and my poor marketing skills.

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What's in a name?

shameless marketing   Oh-My-Vagrant   poor marketing skills

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Architectures

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Architectures

0: run puppet to configure container host

1: run puppet to build (masterless/masterful)

2: run puppet on first run

3: run puppet to make changes

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Demo time

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Demo time

- Basics (vup, vscreen, vsftp, vcssh, omv.yaml, ...)

- Subscription manager

- Extern

- Docker

- Kubernetes

- Atomic

- Puppet-SPC (on Atomic if internet is fast)

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How can you help?

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How can you help?

- Use it

- Test it

- Patch it

- Share it

- Document it

- Star it

- Blog it

- Tweet it

- Discuss it

- Hack it...

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How can you help?

Rate it !

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Red Hat funds good hackers so that we can...

- Work on open source / free software things...

- Speak at events like this...

- Hack on good products and solutions...

- For access to products, solutions, and support, visit:

https://redhat.com/

Learn more

- The Technical Blog of James:
  https://ttboj.wordpress.com/

- Puppet super privileged container:
  https://ttboj.wordpress.com/2015/06/12/a-super-privileged-puppet-container/

- Oh-My-Vagrant:
  https://github.com/purpleidea/oh-my-vagrant

- Contact me if you have any other questions:
  purpleidea @ { irc, twitter, redhat.com, gmail.com }

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Q & A ?

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Thank you & Happy Hacking !

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