**Docker Puppet Example**

The [Puppet Docker module](https://forge.puppetlabs.com/garethr/docker) is a great way of installing and managing Docker on a host, but it also allows for some basic container management. This repo contains a fairly advanced example using Puppet, Docker, Consul and Vagrant.

**Usage**

vagrant up --provider virtualbox

vagrant provision

This will take a little time as it launches three virtual machines and downloads lots of software for them.

**What happened?**

Once up you should be able to access [10.20.1.13](http://10.20.1.13/) and it should print the text *client-appserver-2*.

The text is coming from a docker container on the host client-appserver-2, proxied through the nginx on client-webserver-3.

So far, not very interesting.

**Next**

INSTANCES=4 vagrant up --provider virtualbox

vagrant provision client-webserver-3

Here we're launching a fourth virtual machine, another application server. We're then kicking the webserver to update it's configuration.

Note that you can increase the INSTANCES count until you run out of computer, it will launch alternating webservers and application servers and running provision on the webservers will add any new app servers the proxy.

Visit [10.20.1.13](http://10.20.1.13/) again and refresh a few times, it should print *client-appserver-2* or *client-appserber-4*, regularly swapping between the two.

**Under the hood**

1. The first instance (master-1) acts as a Consul master
2. The second instance (client-appserver-2) installs docker, downloads the official nginx docker image and runs a container based on that image. It also regisers a service in Consul pointing at the container port
3. The third instance (client-webserver-3) installs nginx and checks Consul (via the [Consul Hiera backend](https://github.com/lynxman/hiera-consul/)) for any services, automatically creating a proxy if it finds any

For those unfamiliar with the Puppet roles and profiles pattern the interesting Puppet code is found in the [application profile](https://github.com/garethr/puppet-docker-example/blob/master/modules/profiles/manifests/application.pp) and the [webserver profile](https://github.com/garethr/puppet-docker-example/blob/master/modules/profiles/manifests/webserver.pp).

**Improvements**

This could be improved by running Puppet as an agent on each of the machines, which would remove the need for the additional provisioning runs. You could also trigger a Puppet run whenever a new application server is added by watching the Consul API with [Confd](https://github.com/kelseyhightower/confd) or similar.