Managing Drupal & Subsites with Puppet

```
drupal::site { 'mysite':
  ensure => present,
}
```

Setting the Scene

Starting a new project

Think about your workflow when setting up a workspace for a new project

Some existing approaches:

- `mkdir -p sites/newsite.com/{files,modules,themes,...}`
- Drawbacks
  - Sure everything will just work the same...
  - Oh wait, *what* version of PHP did you say you're running?
  - Ok, let's try downgrading the `date` module...

Setting the Scene

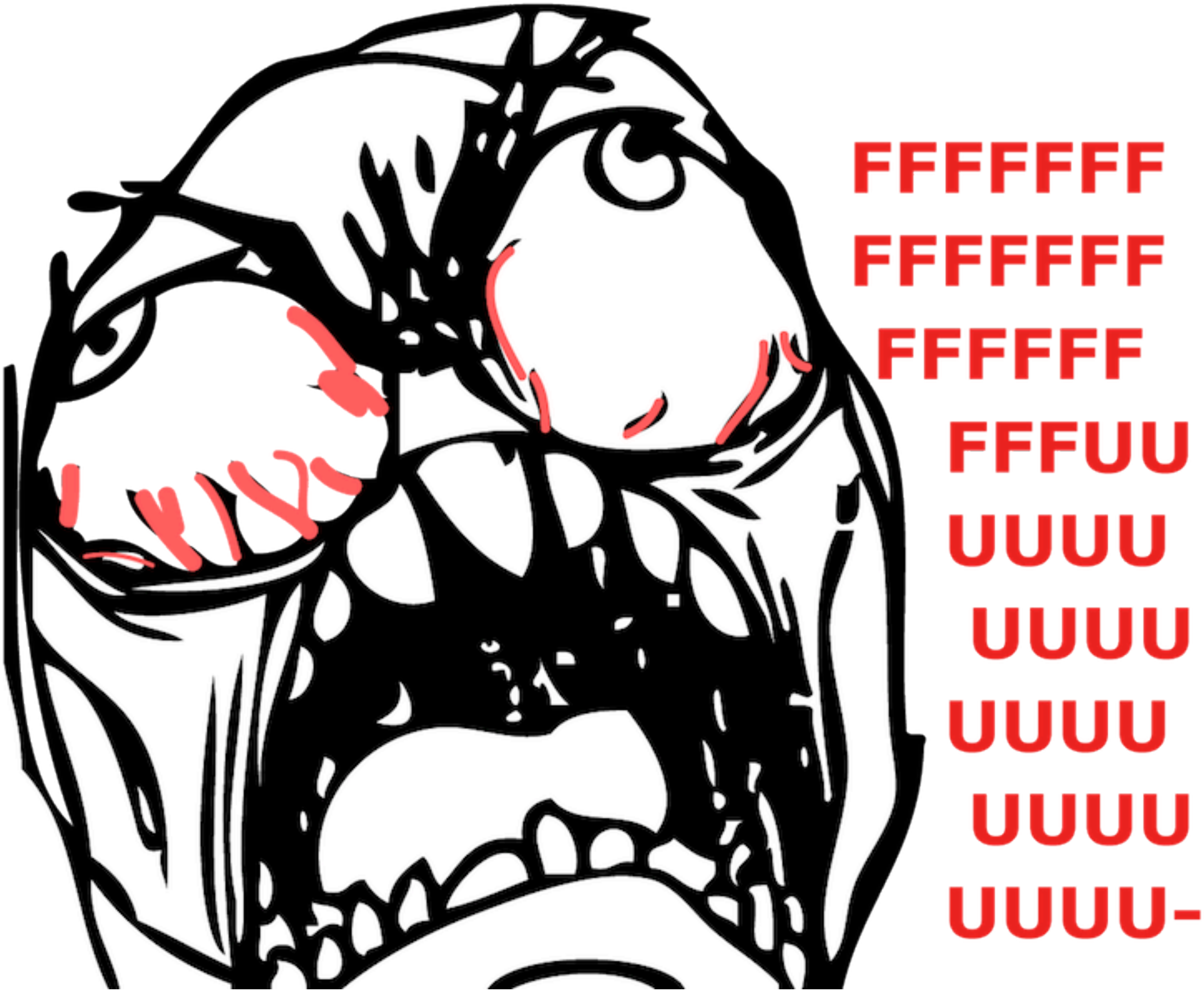
Starting a new project

Think about your workflow when setting up a workspace for a new project

Some existing approaches:

- Start from scratch:
    - Step 1: boot new virtual machine
    - Step 2: install apache, mysql, php
    - Step 3: ???
    - Step 4: Profit!
- Drawbacks:

I forgot to bump up the PHP `memory_limit`!



Setting the Scene

Starting a new project

Think about your workflow when setting up a workspace for a new project

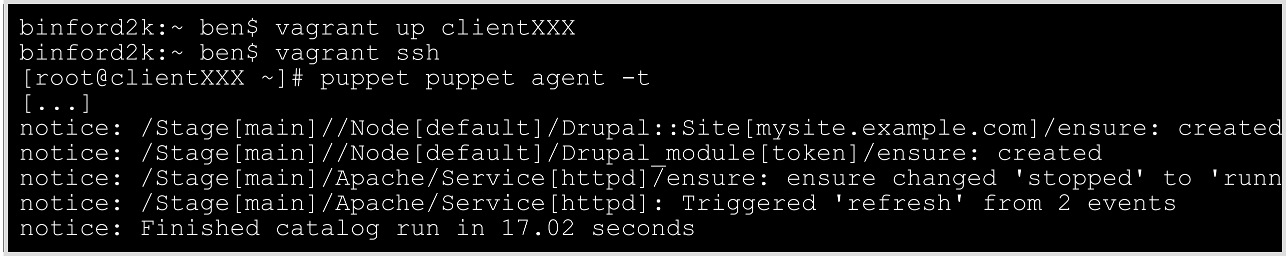
Some existing approaches:

```
#! /bin/sh

yum install apache php php-gd mysql
wget http://ftp.drupal.org/files/projects/drush-7.x-5.9.tar.gz
tar -xvzf drush-7.x-5.9.tar.gz
echo "alias drush='php ~/drush/drush.php'" >> ~/.bash_profile
source .bash_profile
cd /var/www/html
drush dl drupal
drush site-install standard --account-name=admin --account-pass=admin \
  --db-url=mysql://drupal:p@ssword@localhost/drupal
echo "Don't forget to make php.ini updates!"
```

Overview

A better workflow:



```
binford2k:~ ben$ vagrant up clientXXX
binford2k:~ ben$ vagrant ssh
[root@clientXXX ~]# puppet puppet agent -t
[...]
notice: /Stage[main]//Node[default]/Drupal::Site[mysite.example.com]/ensure: created
notice: /Stage[main]//Node[default]/Drupal_module[token]/ensure: created
notice: /Stage[main]/Apache/Service[httpd]/ensure: ensure changed 'stopped' to 'runn
notice: /Stage[main]/Apache/Service[httpd]: Triggered 'refresh' from 2 events
notice: Finished catalog run in 17.02 seconds
```

Overview

Three main topics of my talk

- Puppet enables a more efficient workflow
- Quick primer on using the Puppet language
- Using Puppet to manage Drupal sites

Puppet Workflow

Infrastructure as Code

Executable Documentation

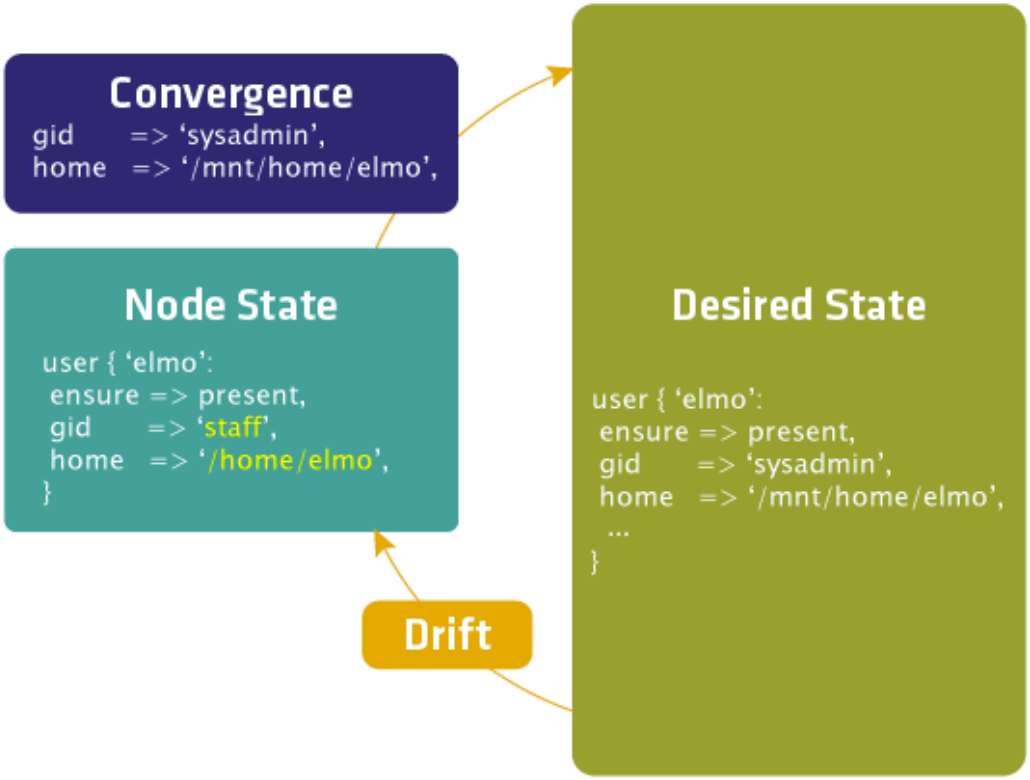
```
class someclient {
  include apache, mysql, drupal

  drupal::site { 'someclient.com':
    ensure => present,
  }

  user { 'backup':
    ensure     => present,
    home       => '/var/spool/backups',
    managehome => true,
  }
}
```

Declarative Model

Describe the state you want.



Convergence

```
gid       => 'sysadmin',
home      => '/mnt/home/elmo',
```

Node State

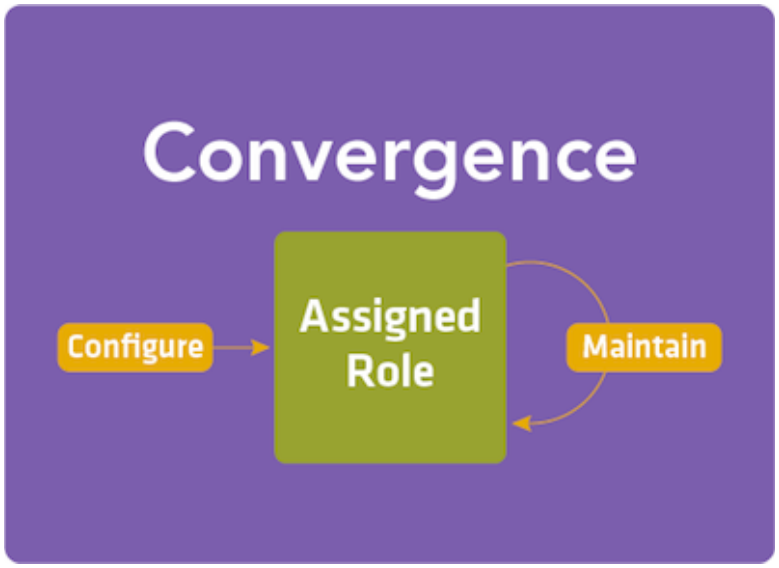
```
user { 'elmo':
 ensure => present,
 gid       => 'staff',
 home    => '/home/elmo',
}
```

Desired State

```
user { 'elmo':
 ensure => present,
 gid       => 'sysadmin',
 home    => '/mnt/home/elmo',
  ...
}
```

Maintaining State

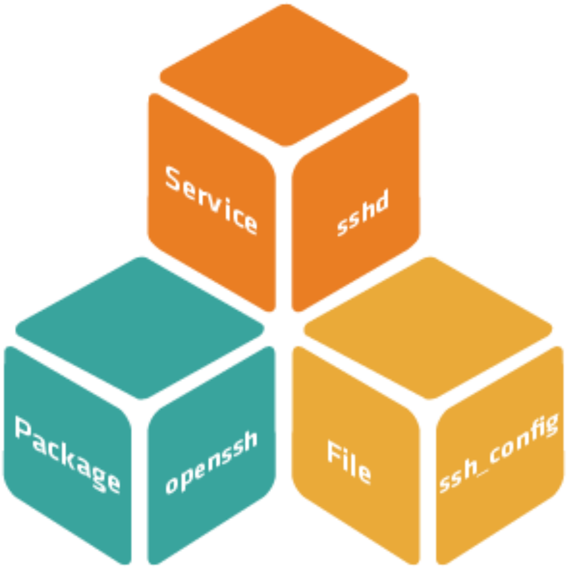
- You provision a node.
- Puppet configures it.
- Puppet maintains the desired state.



Puppet Language Primer

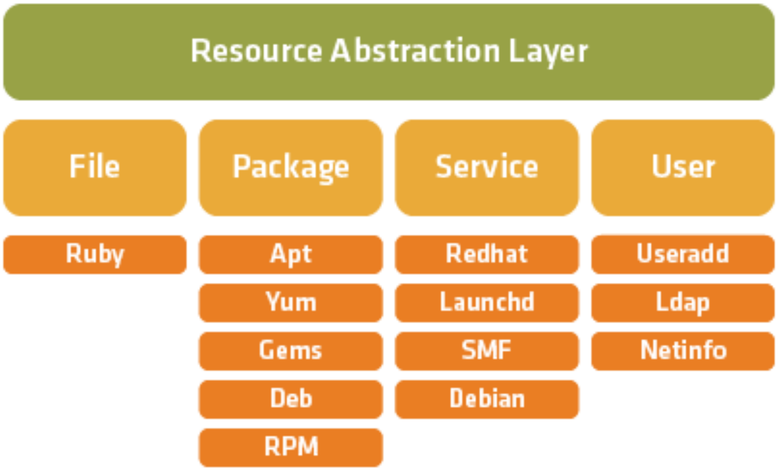
Puppet Resources

- Resources are building blocks.
- They can be combined to make larger components.
- Together they can model the expected state of your system.



Resource Abstraction Layer

Provides a consistent model for resources across supported platforms.



Resource Abstraction Layer

File

Ruby

Package

Apt

Yum

Gems

Deb

RPM

Service

Redhat

Launchd

SMF

Debian

User

Useradd

Ldap

Netinfo

Puppet Classes

Classes define a collection of resources that are managed together as a single unit.

```
# /etc/puppetlabs/puppet/modules/ssh/manifests/init.pp

class ssh {

  package  { 'openssh':
    ensure => present,
  }

  file { '/etc/ssh/sshd_config':
    ensure  => file,
    owner   => 'root',
    group   => 'root',
    mode    => '0644',
    source  => 'puppet:///modules/ssh/sshd_config',
    require => Package['openssh'],
  }

  service { 'sshd':
    ensure    => running,
    enable    => true,
    subscribe => File['/etc/ssh/ssh_config'],
  }

}
```

Modules

Modules are directories that contain configuration.

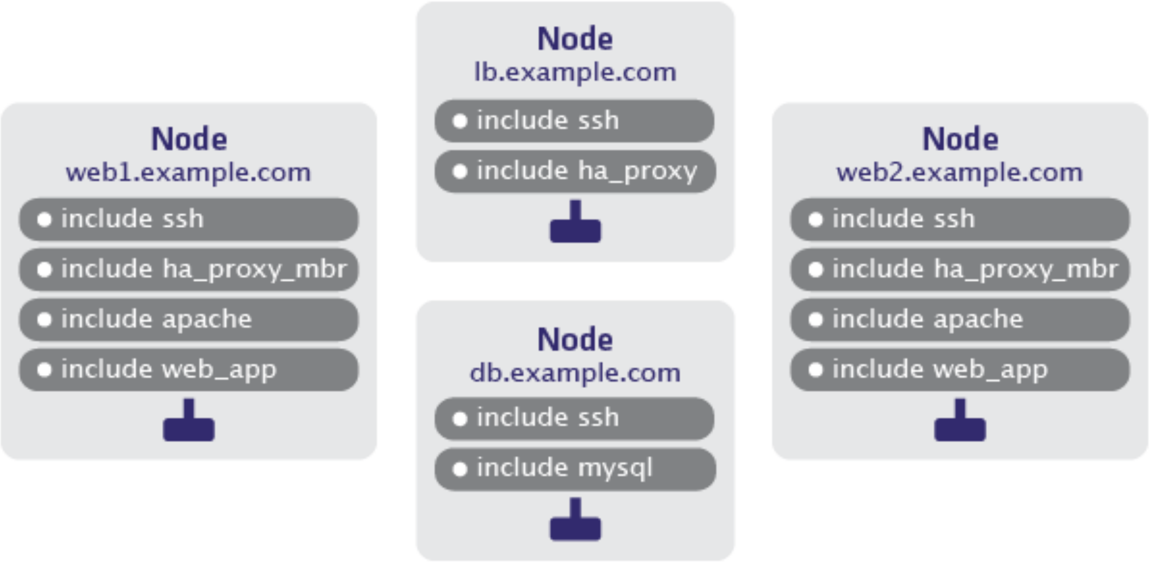
- Designed to encapsulate everything related to a given configuration
- They have a hierarchy convention that enable the following:
  - auto-loading of classes
  - file-serving for templates and files
  - auto-delivery of custom Puppet extensions
  - easy sharing with others

Node Definitions

Multiple classes are declared together to represent a role.

For example, to build a web application on `oscar.example.com`:

```
node 'oscar.example.com' {
    include ssh
    include apache
    include mysql
    include web-app
}
```



Learning More

Many resources available for learning

- Learning Puppet tutorial
    - http://docs.puppetlabs.com/learning/
    - Seriously, go there

- Training classes
    - http://puppetlabs.com/training/
        - Fundamentals
        - Advanced
        - Extending Puppet

- IRC and all that jazz
    - `#puppet`
    - http://groups.google.com/group/puppet-users

Managing Drupal With Puppet

Managing Drupal

A Drupal install consists of:

- Running services
    - A webserver
    - A database

- Packages installed
    - services and dependencies
    - PHP, extensions, and dependencies
    - Drupal itself
    - Drush (for sanity's sake)

- Configuration
    - docroot
    - `settings.php`
    - `php.ini`
    - `sites/*`

Managing Drupal

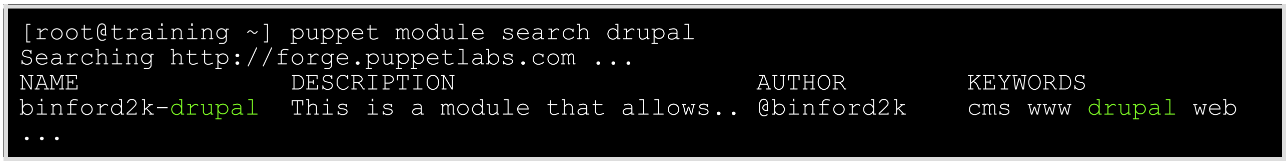
But don't reinvent the wheel

- Module enables management of multisite Drupal
- Manages package and configuration of default instance
- Resource types
    - subsites
    - variables
    - modules
    - themes
- Configuration
    - customize many aspects of site

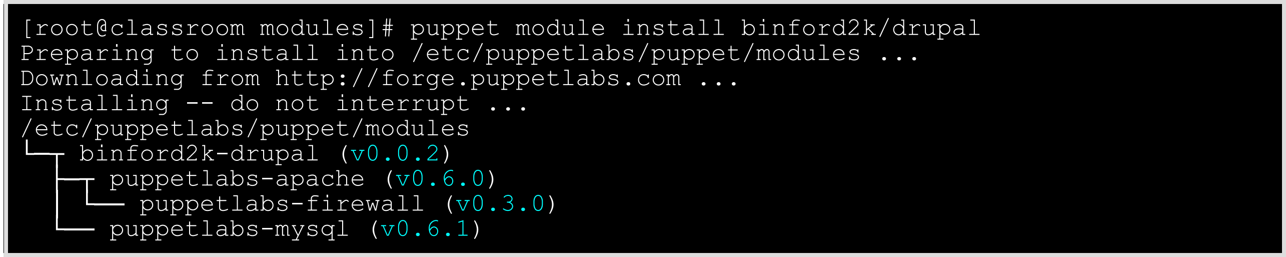
Managing Drupal

Getting the module

http://forge.puppetlabs.com/binford2k/drupal



```
[root@training ~] puppet module search drupal
Searching http://forge.puppetlabs.com ...
NAME              DESCRIPTION                    AUTHOR        KEYWORDS
binford2k-drupal  This is a module that allows.. @binford2k    cms www drupal web
...
```



```
[root@classroom modules]# puppet module install binford2k/drupal
Preparing to install into /etc/puppetlabs/puppet/modules ...
Downloading from http://forge.puppetlabs.com ...
Installing -- do not interrupt ...
/etc/puppetlabs/puppet/modules
└─┬ binford2k-drupal (v0.0.2)
  ├─┬ puppetlabs-apache (v0.6.0)
  │ └── puppetlabs-firewall (v0.3.0)
  └── puppetlabs-mysql (v0.6.1)
```

Managing Drupal

Using the module to manage Drupal

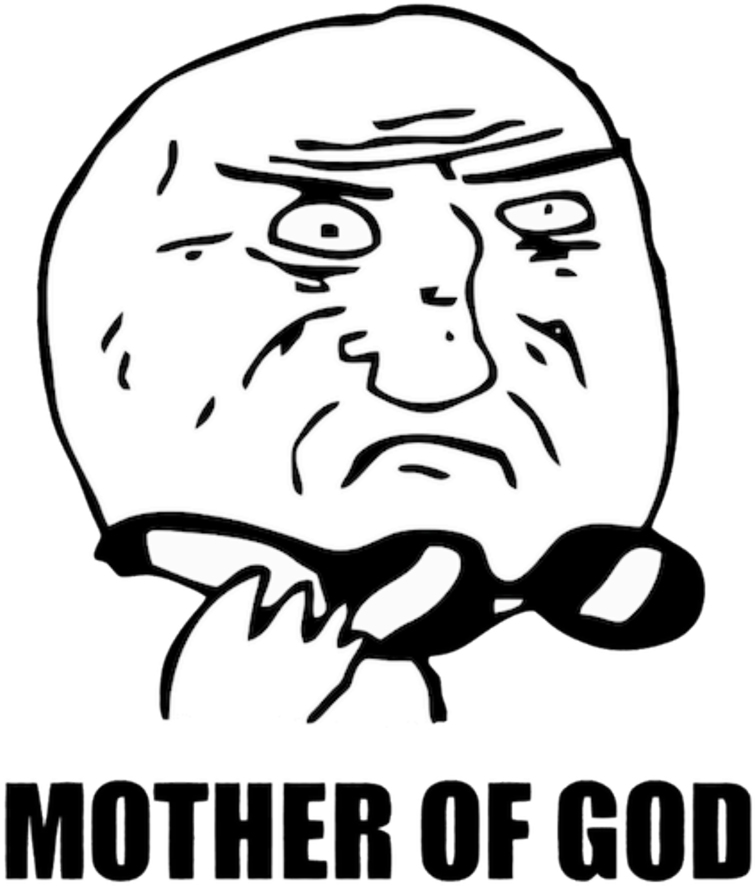
```
node 'clientXYZ.dynamic.vm' {
  include apache, mysql

  host { 'mysite.example.com':
    ensure => present,
    ip     => $::ipaddress,
  }

  class { 'drupal':
    managedatabase => true,
  }
  drupal::site { 'mysite.example.com':
    database       => 'mysite',
    dbuser         => 'myuser',
    admin_password => 'derple',
    managevhost    => true,
    managedatabase => true,
  }
  drupal_module { 'mysite.example.com::token':
    ensure  => present,
  }
}
```

Managing Drupal

Using the module to manage Drupal



Managing Drupal

See it in action

Conclusion

Recap

Three main topics of my talk

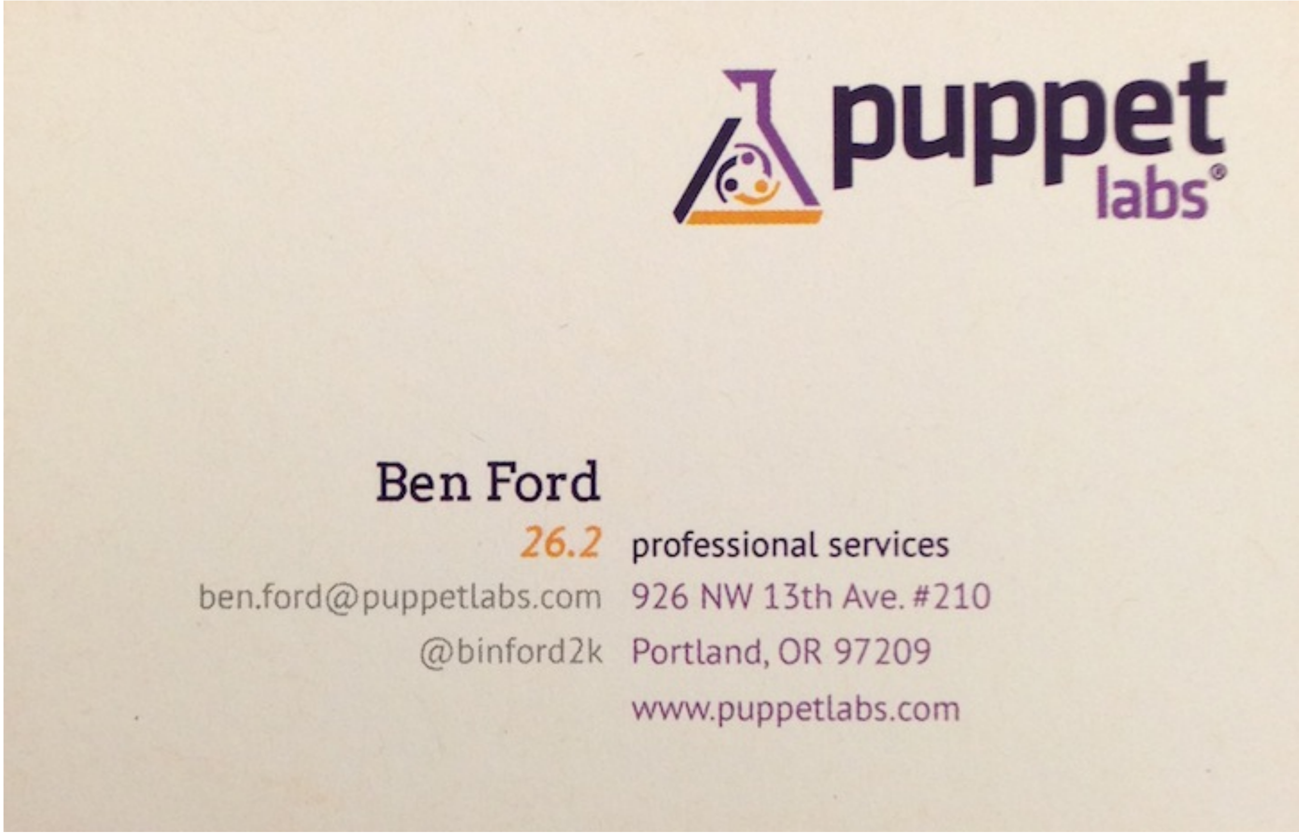
- Puppet enables a more efficient workflow
  - describe what you want
  - let Puppet figure out how to make it happen
  - *you* do something that builds value

- Quick primer on using the Puppet language
  - http://docs.puppetlabs.com/learning/
  - http://puppetlabs.com/training/

- Using Puppet to manage Drupal sites
  - `puppet module install binford2k/drupal`

Questions?

Thanks for coming!



puppet labs®

Ben Ford

26.2 professional services

ben.ford@puppetlabs.com
@binford2k

926 NW 13th Ave. #210
Portland, OR 97209
www.puppetlabs.com