

# Puppet certification 2015 study guide

The following is a study guide for the Puppet Certified Professional 2105 certification. It is based on the official [exam objectives](#) with links to the relevant documentation. When done, it would be good to take the [practice exam](#) a couple of times. I will say that I found the 2014 exam significantly more difficult than the practice exam.

## Exam Objectives

### Language

- [Identify Style Guide recommendations](#)
- [Describe language features](#)
- Identify the core resource types
  - [Language: Resources](#)
  - [Resources](#)
  - [Resource type reference](#)
- Demonstrate knowledge of classes and defines
  - [Classes](#)
  - [Defines](#)
  - [Containment](#)

### Modules

- [Describe how to use modules from the Forge](#)
- [Demonstrate knowledge of module structure](#)
- [Identify module authoring best practices](#)

# Using Puppet

- [Describe environments in Puppet](#)
- Describe the lifecycle of a Puppet run
  - [Puppet internals](#)
  - [Master/Agent communication](#)
  - [Catalog compilation](#)
- Describe Puppet ecosystem component usage
  - [Puppet components](#)
  - [Install what and where](#)
- Describe how to configure a Puppet master
  - [Installation](#)
  - [Tuning](#)

## Puppet Internals

- Describe the purpose of types and providers
  - [About Types](#)
  - [About Providers](#)
- [Describe Puppet's use of SSL certificates](#)
  - [Regenerate agent cert](#)
  - [Regenerate server certs](#)

## Classification

[Describe classification](#)

## Console

- [Describe Node Manager](#)
  - [What is it?](#)
  - [Podcast](#)
- [Describe RBAC](#)
- [Demonstrate knowledge of how to troubleshoot PE Console](#)
- [Describe reporting capabilities in PE Console](#)

# Ecosystem

- [Describe the purpose of PuppetDB](#)
  - [Demonstrate knowledge of Hiera](#)
  - Describe the usage of MCollective
    - [command line – mco](#)
    - [Vagrant demo](#)
  - [Demonstrate knowledge of Facter](#)
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## Error: undefined method downcase

I've got multiple versions of puppet installed on my machine:

- 1) 3.x for regular use
- 2) 2.7 to generate puppetdoc. Puppetdoc is buggy in 3.x so I had to install an older version

I installed puppet 2.7 in my user's .gem folder under the home dir (~/.gem). When I run puppet, I get an error:

```
Error: undefined method `downcase' for # at  
/vagrant/dev_puppet/manifests/site.pp:1 on node
```

It is either a bug in puppet 2.7 or I am missing some gems in my 2.7 .gem installation. The temporary fix is to rename .gem folder when running puppet runs on 3.x, and move it back when i need to run puppetdoc from the .gem folder.

A more elegant solution would have been to install puppet into it's own environment using rvm or something similar.

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## create\_resources and hiera

When using `create_resources` to instantiate defined resources with hiera, it is a good practice to include the last parameter to the `create_resources` function – the `defaults` parameter. The easiest thing is to set the default to an empty hash `{}`. If you don't do this AND you don't list the data item in hiera, you will see an error like:

```
Error: Could not find data item etc_host in any Hiera data
file      and      no      default      supplied      at
/vagrant/dev_puppet/modules/hosts/manifests/hiera.pp:4 on node
foo.foo.com
```

The fix is to set the default as an empty hash:

```
class hosts::hiera {

  $etc_host = hiera('etc_host', {} )
  create_resources('hosts::etchosts', $etc_host)

}
```

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