**Example Lab Scenario**

Here’s a step-by-step example of a lab exercise for deploying an Nginx server with Puppet:

**Lab Objective**

Deploy an Nginx server using Puppet, configured with the following settings:

* Listen on port 80.
* Serve content for example.com. (/etc/hosts)

**Steps**

1. **Create a Puppet Module**

Create a new Puppet module for Nginx:

mkdir -p ~/puppet/code/environments/production/modules/nginx/{manifests,templates}

1. **Write the Manifest**

Create init.pp in the manifests directory:

puppet

# File: ~/puppet/code/environments/production/modules/nginx/manifests/init.pp

class nginx {

package { 'nginx':

ensure => installed,

}

file { '/etc/nginx/sites-available/default':

ensure => file,

content => template('nginx/default.erb'),

notify => Service['nginx'],

}

service { 'nginx':

ensure => running,

enable => true,

subscribe => Package['nginx'],

}

}

1. **Create the Template**

Add a template for the Nginx configuration:

erb

# File: ~/puppet/code/environments/production/modules/nginx/templates/default.erb

server {

listen <%= @port %>;

server\_name <%= @server\_name %>;

location / {

root /var/www/html;

index index.html;

}

}

1. **Configure Hiera Data**

Define port and server\_name in Hiera:

yaml

# File: ~/puppet/code/environments/production/hieradata/common.yaml

nginx::port: 80

nginx::server\_name: 'example.com'

1. **Deploy with R10k**

Use R10k to deploy the environment:

r10k deploy environment -p

1. **Verify the Deployment**

Ensure Nginx is running and serving content:

curl http://publicip

**4. Summary**

* **Puppet Files**: Include manifests, Hiera data files, Puppetfile, and r10k.yaml. Each file type serves a specific role in defining and managing your Puppet infrastructure.
* **Puppet Labs**: Educational resources and hands-on labs provided by Puppet and the community help users learn and practice Puppet configurations.

By understanding and utilizing these files and resources, you can effectively manage your Puppet environments and configurations.