

Puppet Modules

Modules helps to organize set of manifests. A module can be added under

```
#cd /etc/puppet/modules
```

A large Puppet code can be distributed into multiple manifests and organized using modules (Install,configure and start Apache service – where each of these tasks are split into different classes).

- 1. Pre-Defined Modules (forge modules)**
- 2. User-Defined Modules**

User defined Modules

```
#cd /etc/puppet/modules  
#mkdir -p nginx/manifests/  
#vi nginx/manifests/init.pp  
Class nginx {  
  exec { 'update':  
      command => '/usr/bin/apt-get update'  
  }  
  package { 'nginx':  
    ensure => installed,  
  }  
  service { 'nginx':  
    ensure => running,  
    require => package['nginx'],  
  }  
}
```

User defined Modules

Example-Module2:

```
#cd /etc/puppet/modules  
#mkdir user/manifests  
#vi user/manifests/init.pp  
  
class user {  
    user { 'testuser':  
        ensure => present,  
        comment => ' user',  
        home => '/home/testuser',  
        managehome => true  
    }  
}
```

To Run the Modules :

```
#vi /etc/puppet/manifests/site.pp
```

```
node 'pupnode1' {  
    include nginx  
}
```

```
node 'pupnode2' {  
    include user  
}
```

Node1# puppet agent -t

Node2# puppet agent -t

User defined Modules

Example-Module3:

```
#cd /etc/puppet/modules  
#mkdir apache/manifests  
#vi apache/manifests/install.pp  
  
Class install inherits apache{  
    package { 'apache2':  
        ensure => installed,  
    }  
}  
}
```

User defined Modules

```
#vi apache/manifests/start.pp  
Class start inherits apache{  
    service { 'apache2':  
        ensure      => running,  
        enable      => true,  
        require => Package['apache2'],  
    }  
}
```

User defined Modules

```
#vi apache/manifests/init.pp
```

```
Class apache{
```

```
  include install
```

```
  include start
```

```
}
```

```
#cd /etc/puppet/manifests/site.pp
```

```
include apache
```

Copy File to Nodes

```
# cd /etc/puppet  
# mkdir -p modules/mymodule/manifests  
# mkdir -p modules/mymodule/files  
# vi modules/mymodule/manifests/init.pp  
class myfile {  
    file { "filecopy":  
        path => "/var/www/html/index.html",  
        source =>  
        'puppet:///modules/mymodule/index.html',  
    }  
}
```

Copy File to Nodes

```
# vi modules/mymodule/files/index.html
```

```
<h1> Hello from Puppet Master </h1>
```

```
# vi /etc/puppet/manifests/site.pp
```

```
import 'mymodule'
```

```
include myfile
```

Node1# puppet agent -t

node2# puppet agent -t

```
*  
├── auth.conf  
├── etckeeper-commit-post  
├── etckeeper-commit-pre  
├── files  
├── fileserver.conf  
├── manifests  
│   └── site.pp  
└── modules  
    ├── exec  
    │   └── manifests  
    │       └── init.pp  
    └── user  
        └── manifests  
            └── init.pp  
├── puppet.conf  
└── templates
```

```
# mkdir -p modules/webserver/manifests
# mkdir -p modules/webserver/files
class webserver
{
  if $operatingsystem == 'Ubuntu'{
    package {'apache2':
      ensure => installed,
    }
    service {'apache2':
      ensure => running,
      require => Package['apache2'],
    }
  }
}
```

```
elsif $operatingsystem == 'CentOS'{  
    package {'httpd':  
        ensure => installed,  
    }  
    service {'httpd':  
        ensure => running,  
        require => Package['httpd'],  
    }  
}  
file{'copyfile':  
    path => '/var/www/html/index.html',  
    source => 'puppet:///modules/webserver/index.html',  
}  
}
```

```
# mkdir -p modules/appserver/{manifests ,files}
class appserver
{
  if $operatingsystem == 'Ubuntu'{
    package {'openjdk-7-jdk':
      ensure => installed,
    }
    package {'tomcat7':
      ensure => installed,
    }
    file{'copyfile':
      path => '/var/lib/tomcat7/webapps/sample.war',
      source => 'puppet:///modules/appserver/sample.war',
    }
    service {'tomcat7':
      ensure => running,
      require => Package['tomcat7'],
    }
}
```

```
elsif $operatingsystem == 'CentOS'{  
    package {'java':  
        ensure => installed,  
    }  
    package {'tomcat':  
        ensure => installed,  
    }  
    file{'copyfile':  
        path => '/var/lib/tomcat/webapps/sample.war',  
        source => 'puppet:///modules/appserver/sample.war',  
    }  
    service {'tomcat':  
        ensure => running,  
        require => Package['tomcat'],  
    } }  
}
```

Puppet Forge modules

- The modules in the Puppet Forge repository is publically-available modules, and they can be useful when we develop our own infrastructure. The Puppet Forge modules can be quickly installed with built-in **puppet module** command.

The Pre-defined modules can get from

<https://forge.puppet.com/modules>

Ex:

#puppet module install puppetlabs-apache

Master# puppet module install puppetlabs-mysql --version 3.10.0

Master# puppet module install mayflower-php --version 4.0.0-beta1

#cd /etc/puppet/modules

#vi /etc/puppet/manifest/site.pp

include '::mysql::server'

include '::php'

Agent# puppet agent -t

Agent# mysql

Agent# php -v