Module 8: Configuration Management with Puppet

Demo Document - 2

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Demo – 2: Puppet Module

Creating a module on the puppet master

- To create a puppet module firstly create a separate directory where you can create custom modules

    Syntax: mkdir modules

    ```
    root@edureka:~# cd /home/edureka/Documents/
    root@edureka:/home/edureka/Documents# mkdir modules

    root@edureka:/home/edureka/Documents# cd modules
    ```

- Now use the module generate command to create the basic structure of a module

    Syntax: /opt/puppetlabs/bin/puppet module generate <authorName-moduleName>

    ```
    root@edureka:/home/edureka/Documents/modules# /opt/puppetlabs/bin/puppet module generate edu-apache2
    We need to create a metadata.json file for this module.  Please answer the
    following questions; if the question is not applicable to this module, feel free
    to leave it blank.

    Puppet uses Semantic Versioning (semver.org) to version modules.
    ```

- A series of questions will be asked about the module in order to create module metadata

    ```
    Puppet uses Semantic Versioning (semver.org) to version modules.
    What version is this module?  [0.1.0]
    -->

    Who wrote this module?  [edu]
    -->

    What license does this module code fall under?  [Apache-2.0]
    -->

    How would you describe this module in a single sentence?
    -->

    Where is this module's source code repository?
    -->

    Where can others go to learn more about this module?
    -->

    Where can others go to file issues about this module?
    -->

    ----------------------------------------
    ```

▪ Now you can edit manifests in ModuleName/manifests folder

Note: Init.pp file inside the manifests folder is executed whenever a module is called. For the purpose of this demo init.pp file is edited.

▪ Edit the init.pp manifest

Syntax: vi moduleName/manifests/init.pp

```
root@edureka:/home/edureka/Documents/modules# vi apache2/manifests/init.pp
class apache2{

        exec {'apt-update':

                command => '/usr/bin/apt-get update'

        }


        package {'default-jdk':

                ensure  => present

        }


        package {'apache2':

                ensure  => present,

                require => Exec['apt-update']

        }


        exec {'apache_full_access':

                command => "/usr/sbin/ufw allow 'Apache Full'"

        }


        file {'/var/www/html/index.html':

                mode    => '0644',

                content => "<html>

                        <head><title>Demo Tutorial</title></head>

                        <body>This is the Module Demo</body>

                        </head>"

        }

}
```

- Now, build the module

  Syntax: /opt/puppetlabs/bin/puppet module build <moduleName>

```
root@edureka:/home/edureka/Documents/modules# /opt/puppetlabs/bin/puppet module build apache2
Notice: Building /home/edureka/Documents/modules/apache2 for release
Module built: /home/edureka/Documents/modules/apache2/pkg/edu-apache2-0.1.0.tar.gz
```

- After building, install the module on the master machine

  Syntax: /opt/puppetlabs/bin/puppet module install <path to tar.gz build file>

```
root@edureka:/home/edureka/Documents/modules# /opt/puppetlabs/bin/puppet module install apache2/pkg/edu-apache2-0.1.0.tar.gz
Notice: Preparing to install into /etc/puppetlabs/code/environments/production/modules ...
Notice: Downloading from https://forgeapi.puppet.com ...
Notice: Installing -- do not interrupt ...
/etc/puppetlabs/code/environments/production/modules
└── edu-apache2 (v0.1.0)
    └── puppetlabs-stdlib (v4.25.1)
```

- Now, add the module to the site.pp file in the default manifest folder

```
root@edureka:~# vi /etc/puppetlabs/code/environments/production/manifests/site.pp
```
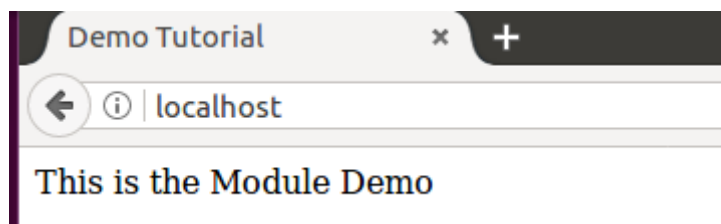
```
class {'apache2':}
```

On the puppet agent test the catalog

- Run the puppet agent test command to pull the catalog

  Syntax: /opt/puppetlabs/bin/puppet agent -t

```
root@edureka-1:~# /opt/puppetlabs/bin/puppet agent -t
Info: Using configured environment 'production'
Info: Retrieving pluginfacts
Info: Retrieving plugin
Info: Loading facts
Info: Caching catalog for edureka-1
Info: Applying configuration version '1524748985'
Notice: /Stage[main]/Apache2/Exec[apt-update]/returns: executed successfully
Notice: /Stage[main]/Apache2/Package[default-jdk]/ensure: created
Notice: /Stage[main]/Apache2/Package[apache2]/ensure: created
Notice: /Stage[main]/Apache2/Exec[apache_full_access]/returns: executed successfully
Notice: /Stage[main]/Apache2/File[/var/www/html/index.html]/content:
--- /var/www/html/index.html    2018-04-26 18:58:12.832407220 +0530
+++ /tmp/puppet-file20180426-6767-1k7vwr8       2018-04-26 18:58:24.988407220 +0530
@@ -1,375 +1,4 @@
-
+<html>
+                       <head><title>Demo Tutorial</title></head>
+                        <body> This is the Module Demo</body>
+                       </html>
\ No newline at end of file

Info: Computing checksum on file /var/www/html/index.html
Info: /Stage[main]/Apache2/File[/var/www/html/index.html]: Filebucketed /var/www/html/index.html to puppet with sum 9ad421244b28db9cb4a6857edd297ef5
Notice: /Stage[main]/Apache2/File[/var/www/html/index.html]/content: content changed '{md5}9ad421244b28db9cb4a6857edd297ef5' to '{md5}44d794a4934f2c4dfaddfaae5e866564'
Notice: Applied catalog in 319.62 seconds
```

Note: Since we changed the default index file of the apache2 localhost the change can be seen when we check the localhost on the web browser