

# Module 8: Configuration Management with Puppet

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Demo Document - 3

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## Demo – 3: Puppet In Class Project

Using Puppet to deploy application on servers

1. Generate a Puppet Module to gather all the artifacts in one place

Syntax: `/opt/puppetlabs/bin/puppet module generate author-moduleName`

```
edureka@master:~/inClass$ /opt/puppetlabs/bin/puppet module generate edu-devopsin
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.
What version is this module? [0.1.0]
--> 1.0.1
```

2. Create a files directory in you module directory and then copy the addressbook.war file and the Dockerfile in it

```
edureka@master:~/inClass$ mkdir devopsin/files
edureka@master:~/inClass$ cp /home/edureka/Downloads/addressbook.war /home/edureka/inClass/devopsin/files/
edureka@master:~/inClass$ cp /home/edureka/Downloads/Dockerfile /home/edureka/inClass/devopsin/files/
edureka@master:~/inClass$ ls devopsin/files/
addressbook.war  Dockerfile
```

3. Create a manifest to install docker on the slave machines

Syntax: `vi moduleName/manifests/install.pp`

```
class devopsin::install {
    exec {'apt-update':
        command => '/usr/bin/apt-get update'
    }

    package{'docker.io':
        ensure => present
    }
}
```

4. Now create another manifest to copy the addressbook.war and Dockerfile files to the slave servers and then build the docker image and run it as a container

Syntax: vi moduleName/manifests/deploy.pp

```
class devopsin::deploy {
    file {'/home/edureka/Downloads/inClass':
        ensure => directory,
        mode   => '0777'
    }

    file {'/home/edureka/Downloads/inClass/addressbook.war':
        mode   => '0777',
        source => "puppet:///modules/devopsin/addressbook.war"
    }

    file {'/home/edureka/Downloads/inClass/Dockerfile':
        mode   => '0777',
        source => "puppet:///modules/devopsin/Dockerfile"
    }

    exec {'Docker-build':
        cwd      => '/home/edureka/Downloads/inClass/',
        command => '/usr/bin/docker build . -t edureka/inclass'
    }

    exec {'Docker-run':
        cwd      => '/home/edureka/Downloads/inClass/',
        command => '/usr/bin/docker run -it -d -p 8083:8080
edureka/inclass'
    }
}
```

- Now call both the manifests inside the default init.pp manifest in the module

Syntax: vi moduleName/manifests/init.pp

```
class devopsin {  
    class {'devopsin::install':}  
    class {'devopsin::deploy':}  
}
```

- Build and install the module

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

```
root@master:/home/edureka/inClass# /opt/puppetlabs/bin/puppet module build devopsin  
Notice: Building /home/edureka/inClass/devopsin for release  
Module built: /home/edureka/inClass/devopsin/pkg/edu-devopsin-1.0.1.tar.gz  
root@master:/home/edureka/inClass# /opt/puppetlabs/bin/puppet module install /home/edureka/inClass/devopsin/pkg/edu-devopsin-1.0.1.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-devopsin (v1.0.1)  
   └─ puppetlabs-stdlib (v5.1.0)
```

- Call the module inside you default manifest(site.pp)

Syntax: sudo vi /etc/puppetlabs/code/environments/production/manifests/site.pp

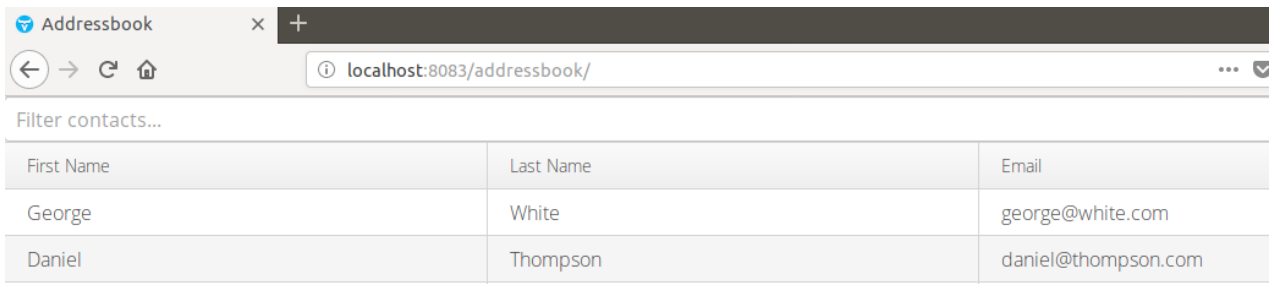
```
class {'devopsin'}
```

- Now apply the catalogue on the slave machine

On slave machine:

```
root@slave2:/home/edureka# /opt/puppetlabs/bin/puppet agent -t  
Info: Using configured environment 'production'  
Info: Retrieving pluginfacts  
Info: Retrieving plugin  
Info: Loading facts  
Info: Caching catalog for slave2  
Info: Applying configuration version '1543469925'  
Notice: /Stage[main]/Devopsin::Install/Exec[apt-update]/returns: executed successfully  
Notice: /Stage[main]/Devopsin::Install/Package[docker.io]/ensure: created  
Notice: /Stage[main]/Devopsin::Deploy/File[/home/edureka/Downloads/inClass]/ensure: created  
Notice: /Stage[main]/Devopsin::Deploy/File[/home/edureka/Downloads/inClass/addressbook.war]/ensure: defined content as '{md5}e8dfa3b6e43a67ebb  
ae13166067a4196'  
Notice: /Stage[main]/Devopsin::Deploy/File[/home/edureka/Downloads/inClass/Dockerfile]/ensure: defined content as '{md5}6f4f0c736522d2b56a5bcb  
ea25f19eb1'  
Notice: /Stage[main]/Devopsin::Deploy/Exec[Docker-build]/returns: executed successfully  
Notice: /Stage[main]/Devopsin::Deploy/Exec[Docker-run]/returns: executed successfully  
Info: Creating state file /opt/puppetlabs/puppet/cache/state/state.yaml  
Notice: Applied catalog in 167.72 seconds
```

9. Check localhost:8083/addressbook on your slave browser to verify



First Name	Last Name	Email
George	White	george@white.com
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