Section 3: Using PuppetDB

**Estimated Video Length: 25 mins**

# Understanding Storeconfigs and PuppetDB

If you have a lot of machines, it can become hard to keep track of them all. It is also useful to have machines know about each other. PuppetDB was developed to handle these two issues, with reporting and exported resources.

What are exported resources? Well, puppetdb keeps track of all the resources defined on nodes, it keeps this information in a database. Exported resources are just like normal resources, except they are not applied to the machine the were created on, they end up in the database with an exported flag set.

Any machine which uses the same puppetdb can then "collect" these "exported resources"

We'll now build a puppetdb machine, start by downloading the yum repository, and then installing puppetdb.

With puppetdb installed, edit /etc/sysconfig/puppetdb (if memory an issue)

now we should have something listening on 8081,

go back to the puppetserver machine and enable puppetdb for storeconfigs

For an example, we'll start with a puppetserver configured to use puppetdb.

run puppet agent and go look in the database.

# Configuring PuppetDB with PostgreSQL database

We will learn how to install and configure PuppetDB with PostgreSQL database as the backend for better scalability in the MPLI Productions environment.

# Using dashboards for PuppetDB

Monitoring of the PuppetDB process itself is built in, you need to authenticate with a client certificate to view it in your browser.

Create your client certificate, run puppet agent as yourself

puppet agent -t --certname 'thomas.uphill'

sign on ca

create a p12 file.

cd ~/.puppet/ssl

openssl pkcs12 -export -in certs/burnaby.strangled.net.pem -inkey private\_keys/burnaby.strangled.net.pem -certfile certs/ca.pem -out burnaby.p12

Enter Export Password:

Verifying - Enter Export Password:

Import the certificate into your browser

preferences -> advanced -> view certificates -> import

browse to:

https://puppetdb:8081/pdb/dashboard/index.html

Several GUIs have been developed to view the data in puppet

I will show 3 such dashboards and briefly describe the installation process.

I recommend installing these services on the puppetdb machine to get as much speed as possible out of these guis.

Installation

puppetboard - installation use module

go to /srv/puppetboard/puppetboard, run the dev.py to get started.

panopuppet - installation of panopuppet is outlined on the panopuppet github page, use SCL

puppet-explorer, use the spotify module to install, run the requirements..

# Using the PuppetDB API and manipulating data

We will learn about how we can use the PuppetDB API to read and write data for MPLI Productions infrastructure.

To use the puppetdb API, we need certificates, previously we generated certificates, use those.

curl -X GET --tlsv1 --cacert certs/ca.pem --cert certs/thomas.uphill.pem --key private\_keys/thomas.uphill.pem https://puppetdb.example.com:8081/pdb/query/v4/nodes

Endpoints:

* nodes
* resources
* facts
* environments

curl to endpoints

# Understanding and using the PuppetDB API endpoints

We will learn about the different API endpoints that PuppetDB provides and the type of information that we can utilize and manipulate from them.