Magnum Master Branch Installation Pattern

1. Install Pyenv and virtualenv
   1. #pyenv
      1. git clone https://github.com/yyuu/pyenv.git ~/.pyenv
      2. echo 'export PYENV\_ROOT="~/.pyenv"' >> ~/.bash\_profile
      3. echo 'export PATH="$PYENV\_ROOT/bin:$PATH"' >> ~/.bash\_profile
      4. echo 'eval "$(pyenv init -)"' >> ~/.bash\_profile
      5. exec $SHELL
      6. export PATH=/root/.pyenv/bin:$PATH
   2. #pyenv-virtualenv
      1. git clone https://github.com/yyuu/pyenv-virtualenv.git ~/.pyenv/plugins/pyenv-virtualenv
      2. echo 'eval "$(pyenv virtualenv-init -)"' >> ~/.bash\_profile
      3. exec "$SHELL"
   3. Create V-environment
      1. sudo yum install bzip2-devel -y
      2. sudo yum install patch -y
      3. yum groupinstall "Development Tools" -y
      4. yum install zlib-devel bzip2 bzip2-devel readline-devel sqlite sqlite-devel openssl-devel -y
      5. pyenv install 2.7.5
      6. pyenv rehash
      7. pyenv virtualenv 2.7.5 magnum27
      8. eval "$(pyenv init -)"
      9. eval "$(pyenv virtualenv-init -)"
      10. pyenv shell magnum27
2. Add image to Glance
   1. wget <https://fedorapeople.org/groups/magnum/fedora-21-atomic-5.qcow2>
   2. glance image-create --name fedora-21-atomic-5 --visibility public --disk-format qcow2 --property os\_distro='fedora-atomic' --container-format bare < fedora-21-atomic-5.qcow2 --progress
3. source admin-openrc.sh
4. create keypair
   1. test -f ~/.ssh/id\_rsa.pub || ssh-keygen -t rsa -N "" -f ~/.ssh/id\_rsa
   2. nova keypair-add --pub-key ~/.ssh/id\_rsa.pub testkey
   3. verify
      1. nova keypair-list
5. make database for magnum
   1. mysql
   2. CREATE DATABASE magnum;
   3. GRANT ALL PRIVILEGES ON magnum.\* TO 'magnum'@'%' IDENTIFIED BY 'password';
   4. GRANT ALL PRIVILEGES ON magnum.\* TO 'magnum'@'localhost' IDENTIFIED BY 'password';
6. Configure magnum
   1. git clone <https://git.openstack.org/openstack/magnum>
   2. #ensure that pip is installed and lastest version before continuing
      1. pip install -U pip
   3. Install dependencies
      1. #when installing dependencies for magnum using pip, #remove setuptools-20.2.2 and install setuptools-20.1.1. #This fixes bug that prevents sqlalchemy from installing.
      2. pip install setuptools==20.1.1
      3. yum install openssl-devel -y
      4. yum install libffi-devel -y
      5. pip install tox
      6. pip install six
      7. pip install psutil
   4. pip install magnum/
   5. cd magnum
   6. tox -egenconfig
   7. mkdir -p /etc/magnum
   8. cp etc/magnum/magnum.conf.sample /etc/magnum/magnum.conf
   9. cp etc/magnum/policy.json /etc/magnum/policy.json
   10. in /etc/magnum/magnum.conf set the following
       1. verbose = true
       2. debug = true
       3. rpc\_backend = rabbit
       4. rabbit\_userid = openstack
       5. rabbit\_password = password
       6. connection = mysql://magnum:password@controller/magnum
       7. admin\_user = magnum
       8. admin\_password = password
       9. auth\_uri = http://controller:5000/v2.0/
       10. auth\_url = http://controller:35357
       11. auth\_protocol = http
       12. admin\_tenant\_name = service
       13. cert\_maganer\_type = local
       14. [api] host = controller #remove localhost IP!!!
       15. trustee\_domain\_id = DOMAIN\_ID
       16. trustee\_domain\_admin\_id = USER\_ID
       17. trustee\_domain\_admin\_password = password
       18. memcached\_servers = localhost:11211
       19. log\_dir = /var/log/magnum
   11. mkdir /var/log/magnum
   12. mkdir /var/lib/magnum/
   13. mkdir /var/lib/magnum/certificates/
   14. yum -y install python-croniter
       1. Restart all heat services after the above install.
7. Install magnum python client
   1. cd ..
   2. git clone <https://git.openstack.org/openstack/python-magnumclient>
   3. cd python-magnumclient
   4. sudo pip install -e .
8. Populate the magnum database
   1. yum install mysql-devel -y
   2. pip install mysql-python
   3. magnum-db-manage upgrade
9. Configure keystone endpoints and domain for magnum
   1. The dev guide uses keystone cli however this is depreciated and does not work. use the following cmds instead.
      1. openstack user create --domain default --password-prompt magnum
      2. openstack role add --project service --user magnum admin
      3. openstack service create --name magnum --description "magnum container service" container
      4. openstack endpoint create --region RegionOne container public <http://controller:9511/v1>
      5. openstack endpoint create --region RegionOne container internal <http://controller:9511/v1>
      6. openstack endpoint create --region RegionOne container admin <http://controller:9511/v1>
   2. Create Magnum Domain
      1. Note the DOMAIN\_ID and USER\_ID created below, they will be used to configure trusts for magnum
      2. source admin-openrc.sh
      3. openstack domain create magnum
      4. openstack user create trustee\_domain\_admin --password=password --domain=magnum
      5. openstack role add --user=trustee\_domain\_admin --domain=magnum admin
   3. start api and conductor
      1. yum -y install screen
      2. screen
      3. magnum-api
      4. CTRL+A
      5. d
      6. screen magnum-conductor
10. Add security group rules to allow access to containers and VMs
    1. nova secgroup-add-rule default icmp-1 -1 0.0.0.0/0
    2. nova secgroup-add-rule default tcp 22 22 0.0.0.0/0
11. Verify that magnum is properly installed
    1. #create a bay model
       1. magnum baymodel-create --name swarmbaymodel \  
           --image-id fedora-21-atomic-5 \  
           --keypair-id testkey \  
           --external-network-id public \  
           --dns-nameserver 8.8.8.8 \  
           --flavor-id m1.small \  
           --docker-volume-size 5 \  
           --coe swarm --tls-disabled
    2. #create a swarm bay
       1. magnum bay-create --name swarmbay --baymodel swarmbaymodel --node-count 1
    3. #create a containter
       1. magnum container-create --name test-container \  
           --image docker.io/cirros:latest \  
           --bay swarmbay \  
           --command "ping -c 4 8.8.8.8"