* Add image to glance
  + wget <https://fedorapeople.org/groups/magnum/fedora-21-atomic-5.qcow2>
  + 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
* source admin-openrc.sh
* create keypair
  + test -f ~/.ssh/id\_rsa.pub || ssh-keygen -t rsa -N "" -f ~/.ssh/id\_rsa
  + nova keypair-add --pub-key ~/.ssh/id\_rsa.pub testkey
  + verify
    - nova keypair-list
* make database for magnum
  + mysql
  + CREATE DATABASE magnum;
  + GRANT ALL PRIVILEGES ON magnum.\* TO 'magnum'@'%' IDENTIFIED BY 'password';
  + GRANT ALL PRIVILEGES ON magnum.\* TO 'magnum'@'localhost' IDENTIFIED BY 'password';
  + GRANT ALL PRIVILEGES ON magnum.\* TO 'magnum'@'192.168.32.141' IDENTIFIED BY 'password';
* configure magnum
  + git clone <https://git.openstack.org/openstack/magnum> --branch stable/liberty
  + pip install magnum/
  + mkdir -p /etc/magnum
  + cp etc/magnum/magnum.conf.sample /etc/magnum/magnum.conf
  + cp etc/magnum/policy.json /etc/magnum/policy.json
  + in /etc/magnum/magnum.conf set the following
    - rabbit userid
    - rabbit password
    - mysql connection string
    - keystone account username
    - keystone account password
    - admin identity api endpoint
    - public identity api endpoint
    - notification driver\*
* install magnum python client
  + git clone <https://git.openstack.org/openstack/python-magnumclient> --branch stable/liberty
  + cd python-magnumclient
  + sudo pip install -e .
* populate the magnum database
  + magnum-db-manage upgrade
* Configure keystone endpoints for magnum
  + The dev guide uses keystone cli however this is depreciated and does not work. use the following cmds
    - openstack user create --domain default --password-prompt magnum
    - openstack role add --project service --user magnum admin
    - openstack service create --name magnum --description "magnum container service" container
    - openstack endpoint create --region RegionOne container public <http://controller:9511/v1>
    - openstack endpoint create --region RegionOne container internal <http://controller:9511/v1>
    - openstack endpoint create --region RegionOne container public <http://controller:9511/v1>
* start api and conductor
  + yum -y install screen
  + screen
  + magnum-api
  + CTRL+A
  + d
  + screen magnum-conductor
* verify that magnum is properly installed
  + magnum baymodel-create --name k8sbaymodel \  
     --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 \  
     --network-driver flannel \  
     --coe kubernetes