LIVE MIGRATION

Multi node devstack setup:

- http://docs.openstack.org/developer/devstack/guides/multinode-lab.html
- Ignore the Network configuration part.
- For controller, change HOST_IP and floating IP range with IP of the controller node in local.conf.
- For compute, change HOST_IP and floating IP range with IP of the compute node in local.conf. And SERVICE_HOST as controller IP.
- After completing the setup, check the list of available nodes using: nova service-list
- Enable/Disable services on a node using: nova-manage service enable/disable --host=<<hostname>> --service=<<service-name>>
  Ex: nova-manage service disable --host=s2controller --service=nova-compute
- Verify that compute1 and compute2 are listed.
- Add compute1 and compute2 with IPs in /etc/hosts

Live Migrating Instances:

- Command to live-migrate instances:
  nova live-migration <<instance>> <<compute node>>

  - For instances without shared storage use –block-migrate.
- **Issues you may face:**
  - **NoLiveMigrationForConfigDriveInLibVirt**
    - Comment out force_config_drive in /etc/nova/nova.conf. It is set to true by default. Either change it to false or comment.
    - Restart nova services
    - Create a new instance and live migrate. Already existing instances don't work as the force_config_drive was true for that instance.
  - **Unacceptable CPU info: CPU doesn't have compatibility**.
    - This exception occurs when instance CPU model is different from destination host CPU model.
    - In nova.conf change the cpu_mode and cpu_model.
      cpu_mode = custom
      cpu_model = <<model name>>
    - There are a number of cpu models listed in /usr/share/libvirt/cpu_map.xml
    - Select a model having features common to both instance CPU and destination host CPU.
    - On rackspace cloud servers, changing model to gate64 in all the compute nodes worked.
    - Restart the nova services and create a new instance and then live-migrate.
  - **Live Migration failure: operation failed: Failed to connect to remote libvirt URI qemu+ssh://ubuntu@node-01/system: Cannot recv data**
    - Source host is not able to ssh destination without password.
    - Generate ssh keypair and add the public key to the destination host authorized keys.
    - http://www.tecmint.com/ssh-passwordless-login-using-ssh-keygen-in-5-easy-steps/
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- For root user: On compute1:
    - ssh-keygen -t rsa
    - This saves private and public key in .ssh folder.
    - cat .ssh/id_rsa.pub | ssh root@<<compute2IP>> 'cat >> .ssh/authorized_keys'
- For stack user:
    - ssh-keygen -t rsa
    - This saves private and public key in .ssh (/home/stack/.ssh) folder.
    - cat .ssh/id_rsa.pub | ssh stack@<<compute2IP>> 'cat >> .ssh/authorized_keys'
- Do the same for compute node2.
- Summary to provide password less ssh access:

  1. First exchange ssh keys between users who launched ./stack.sh as mentioned above.
  2. Second exchange ssh keys between root users
  3. Third allow root users to ssh without password on users mentioned in step 1.

  For example.
  user@host:~$ sudo su
  root@host:~ ssh-copy-id user@compute-1
  root@host:~ ssh-copy-id user@compute-2
- Test:
    - (root)Compute1: ssh roubuntuot@compute2
    - (root)Compute1: ssh stack@compute2
    - (stack)Compute1: ssh stack@compute2
    - (stack)Compute1: ssh root@compute2
    - Same for compute2