

# **Nova-Values.yaml**

- So the file starts with the LABELLING. It basically tells about the identity of several things like API-metadata, job, proxy, osapi, scheduler, and test in key-value form.
- Then comes the IMAGES part of any instance. This contains the local registry and docker.io images of several steps and jobs that are to be done.
- The third is the jobs section. It contains all the steps that are to be performed like cell setup and service cleaner.
- Next is the BOOTSTRAP. It contains all the parameters of the configurations, storage info, computations, etc. More correctly we can say that they contain flavors. Flavors define the compute, memory, and storage capacity of nova like m1\_tiny, m1\_small, m1\_medium, and m1\_large. These are different options according to their different computations, storage, and memory.
- Now comes the NETWORK part. Here we have several options like openvswitch, linuxbridge and sriov for the backend part. These things are network switch that allows hypervisors to virtualize the networking. The main difference between openvswitch and linuxbridge is that ovs supports more tunnel protocols GRE, VxLAN, etc. Whereas linuxbridge only supports GRE but linuxbridge is considered to be more stable. In this we use ingress for entry, Novncproxy is also used here for connecting to the VNC server. VNC is used for accessing the console of virtual machines. We can also use spice proxy which is an alternative of novnc proxy. If we will enable the ssh in the network section then different types of keytypes will be used like rsa, dsa, ecdsa and ed25519.
- Next is the DEPENDENCIES part. Here in the dynamic part we can use openvswitch(ovs). Since ovs is a network switch so for that we will use neutron. Similarly we can do the same thing with linuxbridge and sriov. For the static part we will use api and initialise some jobs and services like nova-db sync, nova-rabbit, oslo messaging, and oslo db. Oslo is used to manage the API that is why it is used here. We will also use

libvirt application and its components. Libvirt is the virtualization driver, used to manage different platforms.

We also use ironic which fully manages bare metal infrastructure. The scheduler will also come into the picture with its job.

- Then comes CONSOLE and since it is console then we know that we will definitely use either novnc or spice.
- Then there is section for CEPH-CLIENT which will use pvc-ceph-client key.

- Then comes the CONFIGURATION part

- # which starts with the SECURITY section for which we can do several things like disable access to the entire file system except for some directories that are explicitly allowed, TraceEnable Off.

- # SOFTWARE: Here we are using apache2.

- # Then in the CEPH section we are using cinder as ceph is basically for storage , There is also a secret uuid.

- # RALLY-TESTS: Here we will several tests. In the test there is runner that manages concurrency, times and count. It also has SLA which tells about the availability of a service.

- # NOVA-SUDOERS : the sudoers file supports rootwrap, means to allow unprivileged user to run number of actions as the root user.

- # Then there is API-AUDIT-MAP which will inspect the api and perform several things like enable, disable, delete , startup, shutdown , etc.

- # Then there is rootwrap-filters whose compute sections tells about the different commands like kpartx which discovers and map table partition, then there is tune2fs that allows the system admin to adjust various filesystem parameters. There is also losteup that associates loop devices with regular or block files. Ovs-vsctl : connects to ovssdb server that maintain an openvswitch config db.

- Ebrctl stands for bridge control

- Mmctl is used for Mattermost server

- Ovs-ofctl for monitoring and administering

- Isctadm : allowing discovery and login to iscsi targets : iscsi: storage protocol that encaps scsi frames over ip networks

- Aoe-revalidate: aoe driver to revalidate the disk size of an open aoe device:

- E2fsck : checks the family of file systems.

- Ip tables: configures the ip packet filter rules

- Arping: sends req to neighbour host.

Dhcp: network management protocol used to dynamically assign an ip address to any device or node.

Kill\_dnsmasq: kills DNS caching

Qemu : provides diff set of hardware and device models for machine.

Shred : completely delete file form harddisk.

# Then we use NOVA-IRONIC that provisions virtual machine.

# Also there is libvirt.

# in the NOVA section of conf several things are done like ram allocation, disk allocation,

Use of neutron

Use of NOVNC

Use of SPICE

Use of IRONIC

Use of AMQP which is a message oriented middleware.

# we will also use RABBITMQ that acts as a message-queue.

- Then there is SECERT part that tells about the IDENTITY of admin using nova-keystone-admin.

There is oslo-db service, oslo-db messaging.

There is also tls since things are going to remain secret

- In the ENDPOINTS we have

Local image registry i.e docker registry.

Hosts

FQDN override : portion of url that fully identifies the server program that an internet is request to.

Oslo-db containing username, passwords, secret and tls.

In OSLO-CACHE memcache service is used and encrypted key is used and auth will be used to define the value of keystone

# Now in the IMAGE section we use GLANCE .

In the compute part we will do the same things like novnc proxy, spice, placement(fqdn will be used), http scheme

# Now in the network section, since it is network we will use neutron and neutron server.

# In the BAREMETAL we use IRONIC.

# FLUENTD runs as a forwarding service that receives event entries and routes the log files to the appropriate destination.

- POD section contains

# RPC : this one used for RABBITMQ

# CONDUCTOR telling about the liveness.

# novnc proxy

# SCHEDULER is used.

# in the security-context we do the initialisation part  
# Now in the COMPUTE\_SSH part as it provides secure shell we  
perform everything that we were doing till now .

- NETWORK-POLICY : We will use nova-ingress and then egress.
- HELM3 HOOK won't work with helm 2.
- HEALTH-PROBE
- TLS : provides secure tunnel therefore IDENTITY, OSLO MESSAGING and OSLO-DB is used.