

DCAC DM Setup and configuration

pnmomv6483.us.oracle.com
pnmomv6484.us.oracle.com
pnmomv6485.us.oracle.com
pnmomv6486.us.oracle.com

From Sudhesh

```
tee -a /etc/yum.conf <<EOF
proxy=http://dmz-proxy-sjc.oraclecorp.com:80

tee -a /etc/environment <<EOF
HTTP_PROXY="http://dmz-proxy-sjc.oraclecorp.com:80"
HTTPS_PROXY="http://dmz-proxy-sjc.oraclecorp.com:80"
http_proxy="http://dmz-proxy-sjc.oraclecorp.com:80"
https_proxy="http://dmz-proxy-sjc.oraclecorp.com:80"
no_proxy="127.0.0.1,localhost,.us.oracle.com,.in.oracle.com,.oraclecorp.com,10.242.0.0/16,10.96.0.0/12,
10.96.0.10,10.96.0.1,.istio-system.svc,10.244.0.0/16,.oracle.com,.oraclecloud.com,
10.218.25.239,10.218.25.240,10.218.25.241,10.218.25.243"
NO_PROXY="127.0.0.1,localhost,.us.oracle.com,.in.oracle.com,.oraclecorp.com,10.242.0.0/16,10.96.0.0/12,
10.96.0.10,10.96.0.1,.istio-system.svc,10.244.0.0/16,.oracle.com,.oraclecloud.com,
10.218.25.239,10.218.25.240,10.218.25.241,10.218.25.243"

tee -a /etc/profile <<EOF
export HTTP_PROXY=http://dmz-proxy-sjc.oraclecorp.com:80
export HTTPS_PROXY=http://dmz-proxy-sjc.oraclecorp.com:80
export http_proxy=http://dmz-proxy-sjc.oraclecorp.com:80
export https_proxy=http://dmz-proxy-sjc.oraclecorp.com:80
export NO_PROXY=127.0.0.1,localhost,.us.oracle.com,.in.oracle.com,.oraclecorp.com,10.242.0.0/16,10.96.0.0/12,
10.96.0.10,10.96.0.1,.istio-system.svc,10.244.0.0/16,.oracle.com,.oraclecloud.com,
10.218.25.239,10.218.25.240,10.218.25.241,10.218.25.243
export no_proxy=127.0.0.1,localhost,.us.oracle.com,.in.oracle.com,.oraclecorp.com,10.242.0.0/16,10.96.0.0/12,
10.96.0.10,10.96.0.1,.istio-system.svc,10.244.0.0/16,.oracle.com,.oraclecloud.com,
10.218.25.239,10.218.25.240,10.218.25.241,10.218.25.243

yum install oracle-olcne-release-el7
yum-config-manager --enable ol7_olcne14 ol7_kvm_utils ol7_addons ol7_latest ol7_UEKR6
yum-config-manager --disable ol7_olcne ol7_olcne11 ol7_olcne12 ol7_olcne13 ol7_developer olcne15

# disable swap
swapoff -a
sed -i '/swap/d' /etc/fstab

# br_netfilter
modprobe br_netfilter
sh -c 'echo "br_netfilter" > /etc/modules-load.d/br_netfilter.conf'

# set SELinux to Permissive
sed -i 's/^SELINUX=enforcing/SELINUX=permissive/' /etc/selinux/config
/usr/sbin/setenforce 0

# firewalld
firewall-cmd --add-port=8091/tcp --permanent
firewall-cmd --zone=trusted --add-interface=cni0 --permanent
firewall-cmd --add-port=8090/tcp --permanent
firewall-cmd --add-port=10250/tcp --permanent
firewall-cmd --add-port=10255/tcp --permanent
firewall-cmd --add-port=8472/udp --permanent
firewall-cmd --zone=trusted --add-interface=cni0 --permanent
firewall-cmd --add-port=6443/tcp --permanent
systemctl restart firewalld.service

#Module Enable

modprobe br_netfilter
```

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sh -c 'echo "br_netfilter" > /etc/modules-load.d/br_netfilter.conf'
tee -a /etc/sysctl.d/k8s.conf <<EOF
net.bridge.bridge-nf-call-ip6tables = 1
net.bridge.bridge-nf-call-iptables = 1
net.ipv4.ip_forward = 1
/sbin/sysctl -p /etc/sysctl.d/k8s.conf

# install the Platform Agent package and utilities
yum install -y olcne-agent olcne-utils olcnectl olcne-api-server

# enable agent
systemctl enable olcne-agent.service

#Crio Proxy Config

mkdir /etc/systemd/system/crio.service.d

tee -a /etc/systemd/system/crio.service.d/proxy.conf <<EOF
HTTP_PROXY="http://dmz-proxy-sjc.oraclecorp.com:80"
HTTPS_PROXY="http://dmz-proxy-sjc.oraclecorp.com:80"
http_proxy="http://dmz-proxy-sjc.oraclecorp.com:80"
https_proxy="http://dmz-proxy-sjc.oraclecorp.com:80"
no_proxy="127.0.0.1,localhost,.us.oracle.com,.in.oracle.com,.oraclecorp.com,10.242.0.0/16,10.96.0.0/12,
10.96.0.10,10.96.0.1,.istio-system.svc,10.244.0.0/16,.oracle.com,.oraclecloud.com,
10.218.25.239,10.218.25.240,10.218.25.241,10.218.25.243"
NO_PROXY="127.0.0.1,localhost,.us.oracle.com,.in.oracle.com,.oraclecorp.com,10.242.0.0/16,10.96.0.0/12,
10.96.0.10,10.96.0.1,.istio-system.svc,10.244.0.0/16,.oracle.com,.oraclecloud.com,
10.218.25.239,10.218.25.240,10.218.25.241,10.218.25.243"

```

Installation and setup

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update /etc/yum.conf with proxy=http://www-proxy-hqdc.us.oracle.com:80
#create a repo under /etc/yum.repos.d/
export http_proxy=http://www-proxy-hqdc.us.oracle.com:80
cd /etc/yum.repos.d/
copy contents from http://yum.oracle.com/public-yum-ol7.repo create a oracl7.repo

yum update --security
yum install -y oracle-olcne-release-el7
yum-config-manager --enable ol7_olcne14 ol7_kvm_utils ol7_addons ol7_latest ol7_UEKR6
yum-config-manager --disable ol7_olcne ol7_olcne11 ol7_olcne12 ol7_olcne13 ol7_developer

systemctl enable --now chronyd.service
swapoff -a
sed -i '/ swap /d' /etc/fstab

#operator node
firewall-cmd --add-port=8091/tcp --permanent
systemctl restart firewalld.service

#Worker Nodes
firewall-cmd --zone=trusted --add-interface=cni0 --permanent
firewall-cmd --add-port=8090/tcp --permanent
firewall-cmd --add-port=10250/tcp --permanent
firewall-cmd --add-port=10255/tcp --permanent
firewall-cmd --add-port=8472/udp --permanent
systemctl restart firewalld.service

#Control Plane Nodes
firewall-cmd --zone=trusted --add-interface=cni0 --permanent
firewall-cmd --add-port=8090/tcp --permanent
firewall-cmd --add-port=10250/tcp --permanent
firewall-cmd --add-port=10255/tcp --permanent
firewall-cmd --add-port=8472/udp --permanent
firewall-cmd --add-port=6443/tcp --permanent
systemctl restart firewalld.service

#Kubernetes control plane nodes run

firewall-cmd --add-port=10251/tcp --permanent
firewall-cmd --add-port=10252/tcp --permanent
firewall-cmd --add-port=2379/tcp --permanent
firewall-cmd --add-port=2380/tcp --permanent
systemctl restart firewalld.service

#br_netfilter Module

lsmod|grep br_netfilter
modprobe br_netfilter
sh -c 'echo "br_netfilter" > /etc/modules-load.d/br_netfilter.conf'

#Bridge Tunable Parameters
/sbin/sysctl -p /etc/sysctl.d/k8s.conf

#NAT only for worker nodes
ip addr add 192.168.64.6/32 dev ens5
ip addr add 192.168.192.2/18 dev ens5

```

Configuration

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#installation
#To set up the operator node

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update /etc/yum.conf with proxy=http://www-proxy-hqdc.us.oracle.com:80

#create a repo under /etc/yum.repos.d/
export http_proxy=http://www-proxy-hqdc.us.oracle.com:80
cd /etc/yum.repos.d/
copy contents from http://yum.oracle.com/public-yum-ol7.repo create a oracl7.repo

##### Only Master or operator Node ##### Start
yum install olcnetctl olcne-api-server olcne-utils
systemctl enable olcne-api-server.service
##### Only Master or operator Node ##### END

yum install olcne-agent olcne-utils
systemctl enable olcne-agent.service

/sbin/sysctl -p /etc/sysctl.d/k8s.conf

mkdir /etc/systemd/system/crio.service.d
vi proxy.conf
[Service]
[Service]
Environment="HTTP_PROXY=http://pdit-b2b-proxy.oraclecorp.com:80"
Environment="HTTPS_PROXY=http://pdit-b2b-proxy.oraclecorp.com:80"
Environment="NO_PROXY=127.0.0.1,localhost,.us.oracle.com,.in.oracle.com,.oraclecorp.com,10.96.0.0/12,140.84.226.198"

#disable docker
systemctl disable --now docker.service
systemctl disable --now containerd.service

# All servers
Open /etc/auto.master file and comment the below line:
#/usr/local/remote ldap:automountMapName=auto_remote_x86_64_redhat_70_default_0,ou=automount,ou=hq,ou=us,
ou=pdit,o=nl,dc=oracle,dc=com tcp
reload the autofs
systemctl reload autofs.service
Verify whether the below line mentioned is in /etc/pam.d/ file. If not, Add the below line:
session include system-auth

#To set up a load balancer on Oracle Cloud Infrastructure: This need to be verified

#Open port 6444. When you use a virtual IP address, the Kubernetes API server port
#is changed from the default of 6443 to 6444. The load balancer listens on port 6443
#and receives the requests and passes them to the Kubernetes API server.

firewall-cmd --add-port=6444/tcp
firewall-cmd --add-port=6444/tcp --permanent

#Enable the Virtual Router Redundancy
firewall-cmd --add-protocol=vrrp
firewall-cmd --add-protocol=vrrp --permanent

#Creating and Copying Certificates

cd /etc/olcne

echo 'generating certificates'

./gen-certs-helper.sh \
--cert-request-organization-unit "MOS" \
--cert-request-organization "Oracle" \
--cert-request-locality "BNG" \
--cert-request-state "KA" \
--cert-request-country "IN" \
--cert-request-common-name "DCAC" \
--nodes pnmomv6483.us.oracle.com,pnmomv6483.us.oracle.com,pnmomv6484.us.oracle.com,pnmomv6485.us.oracle.com,
pnmomv6486.us.oracle.com

vi
root ALL = (ALL) NOPASSWD:ALL

```

```

echo 'copying certificates to all nodes'

bash -ex configs/certificates/olcne-transfer-certs.sh 2> /dev/null

echo 'certificates copied to all nodes'

-u olcne ls /etc/olcne/configs/certificates/production/

##### Master only #####
/etc/olcne/bootstrap-olcne.sh \
--secret-manager-type file \
--olcne-node-cert-path /etc/olcne/configs/certificates/production/node.cert \
--olcne-ca-path /etc/olcne/configs/certificates/production/ca.cert \
--olcne-node-key-path /etc/olcne/configs/certificates/production/node.key \
--olcne-component api-server
##### END #####

#### Nodes ####
/etc/olcne/bootstrap-olcne.sh \
--secret-manager-type file \
--olcne-node-cert-path /etc/olcne/configs/certificates/production/node.cert \
--olcne-ca-path /etc/olcne/configs/certificates/production/ca.cert \
--olcne-node-key-path /etc/olcne/configs/certificates/production/node.key \
--olcne-component agent

####

systemctl status olcne-api-server.service #master
systemctl status olcne-agent.service #worker

olcnectl --api-server 127.0.0.1:8091 environment create --environment-name myenvironment \
--update-config \
--secret-manager-type file \
--olcne-node-cert-path /etc/olcne/configs/certificates/production/node.cert \
--olcne-ca-path /etc/olcne/configs/certificates/production/ca.cert \
--olcne-node-key-path /etc/olcne/configs/certificates/production/node.key

#####master only#####

olcnectl --api-server 127.0.0.1:8091 environment create --environment-name myenvironment \
--update-config \
--secret-manager-type file \
--olcne-node-cert-path /etc/olcne/configs/certificates/production/node.cert \
--olcne-ca-path /etc/olcne/configs/certificates/production/ca.cert \
--olcne-node-key-path /etc/olcne/configs/certificates/production/node.key

olcnectl --api-server 127.0.0.1:8091 module list --environment-name myenvironment

olcnectl --api-server 127.0.0.1:8091 module create --environment-name myenvironment \
--module kubernetes --name mycluster \
--container-registry container-registry.oracle.com/olcne \
--apiserver-advertise-address <xx.xx.xx.xx> \
--master-nodes pnmomv6483.us.oracle.com:8090 \
--worker-nodes pnmomv6484.us.oracle.com:8090,pnmomv6485.us.oracle.com:8090,pnmomv6486.us.oracle.com:8090

olcnectl --api-server 127.0.0.1:8091 module validate --environment-name myenvironment \
--name mycluster

```

PROXY changes

```
vi /etc/yum.conf
vi /etc/profile
vi /etc/systemd/system/crio.service.d/proxy.conf

:%s/dmz-proxy-adcq7.us.oracle.com/dmz-proxy-sjc.oraclecorp.com

systemctl daemon-reload
systemctl restart crio.service
```