

Digital twins for AI based xapps in open RAN for smart agriculture in 5G



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Setup for ORAN xapp deployment

OAIC

Troubleshooting guide: [☰ trouble_shooting_guide_oaic](#)

Getting Started

1. git clone <https://github.com/openaicellular/oaic.git>
2. cd oaic
3. git submodule update --init --recursive -remote

The screenshot shows a terminal window with the following text output:

```
Activities Terminal Mar 4 12:29
srmap@srmmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic
Submodule 'asn1c' (https://gitlab.eurecom.fr/aoi asn1c.git) registered for path 'asn1c'
Submodule 'oaic-t' (https://github.com/openaicellular/oaic-t.git) registered for path 'oaic-t'
Submodule 'ric-app-ic-e2like' (https://github.com/openaicellular/ric-app-ic-e2like) registered for path 'ric-app-ic-e2like'
Submodule 'ric-app-ml-e2like' (https://github.com/openaicellular/ric-app-ml-e2like) registered for path 'ric-app-ml-e2like'
Submodule 'ric-plt-e2' (https://github.com/openaicellular/ric-plt-e2.git) registered for path 'ric-plt-e2'
Submodule 'ric-scp-kpimon' (https://github.com/openaicellular/ric-scp-kpimon.git) registered for path 'ric-scp-kpimon'
Submodule 'srsRAN-e2' (https://github.com/openaicellular/srsRAN-e2.git) registered for path 'srsRAN-e2'
Cloning into '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment'...
Cloning into '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c'...
SCloning into '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/oaic-t'...
Cloning into '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-app-ic-e2like'...
Cloning into '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-app-ml-e2like'...
Cloning into '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-plt-e2'...
Cloning into '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-scp-kpimon'...
Cloning into '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2'...
Submodule path 'RIC-Deployment': checked out 'ce46c95846189967ca96f9d68a463a570a33ca1'
Submodule 'ric-dep' (https://github.com/openaicellular/ric-plt-ric-dep.git) registered for path 'RIC-Deployment/ric-dep'
Submodule 'smo-install/multicloud-k8s' (https://github.com/onap/multicloud-k8s.git) registered for path 'RIC-Deployment/smo-install/multicloud-k8s'
Submodule 'smo-install/onap_oom' (https://gerrit.onap.org/r/oom) registered for path 'RIC-Deployment/smo-install/onap_oom'
Cloning into '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/ric-dep'...
Cloning into '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/smo-install/multicloud-k8s'...
Cloning into '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/sm o-install/onap_oom'...
Submodule path 'RIC-Deployment/ric-dep': checked out 'ef1a4928c24aa89f025412f0e2ecd2ddbf199a301'
Submodule path 'RIC-Deployment/smo-install/multicloud-k8s': checked out '8bea0a13c223aff43f08ff0cb6426379bb23e8894'
Submodule path 'RIC-Deployment/smo-install/onap_oom': checked out '9e79dd39f57135ab08f58b74b628c4ae5991e503'
Submodule path 'asn1c': checked out 'f12568d617dbf48497588f8e227d70388fa217c9'
Submodule path 'oaic-t': checked out '0eaecclal4ded12107c2456324ca381fa0161eff'
Submodule path 'ric-app-ic-e2like': checked out '135976bf8ce1b35f1c9d06f273708e1b59b96d1e'
Submodule path 'ric-app-ml-e2like': checked out '08bd969c5ac3013e6273cd01b6b4162f77e6fd8'
Submodule path 'ric-plt-e2': checked out '0251d5fc8f637f3de759442c36a3e14bf0cdef07'
Submodule path 'ric-scp-kpimon': checked out '14596b32059c8fd96fe1f2f78769a7249c3255ff'
Submodule path 'srsRAN-e2': checked out '384d343ca71e5dc6f462579370d9b9ecf85fcf59'
srmap@srmmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$
```

O-RAN Near-Real Time RIC Installation Guide

4. cd RIC-Deployment/tools/k8s/bin
 5. ./gen-cloud-init.sh

```
Submodule path 'srmap-ez' checked out 304d545ca1e5ac0f402375570d939ee081cf59  
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ cd RIC-Deployment/tools/k8s/bin  
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin$ ./gen-cloud-init.sh  
reading in values in /home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin/..etc/intra.rc  
reading in values in /home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin/..etc/openstack.rc  
reading in values in /home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin/..etc/env.rc  
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin$ 
```

6. sudo ./k8s-1node-cloud-init-k_1_16-h_2_17-d_cur.sh

```
Activities Terminal Mar 4 12:32
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin$ sudo ./k8s-lnode-cloud-init-k_1_16-h_2_17-d_cur.sh
[sudo] password for srmap:
+ echo k8s_vm_install.sh
k8s vm install.sh
+ set -x
+ export DEBIAN_FRONTEND=noninteractive
+ DEBIAN_FRONTEND=noninteractive
++ hostname -i
++ hostname
+ echo '192.168.11.128 172.17.0.1 10.244.0.0 10.244.0.1 srmap-virtual-machine'
+ printenv
SHELL=/bin/bash
COLORTERM=truecolor
SUDO_GID=1000
LANGUAG=E=en:en
SUDO_COMMAND=/k8s-lnode-cloud-init-k_1_16-h_2_17-d_cur.sh
SUDO_USER=srmap
PWD=/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin
LOGNAME=root
XAUTHORITY=/run/user/1000/gdm/Xauthority
HOME=/root
LANG=en_IN
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin$
```

```

Activities Terminal Mar 4 12:32
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin

DISPLAY=:0
SHLVL=1
HELM_HOME=/root/.helm
KUBECONFIG=/root/.kube/config
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/snap/bin
SUDO_UID=1000
MAIL=/var/mail/root
DEBIAN_FRONTEND=noninteractive
_= /usr/bin/printenv
+ IPV6IF=
+ rm -rf /opt/config
+ mkdir -p /opt/config
+A+
+ echo ''
+ echo 1.16.0
+ echo 0.7.5
+ echo 2.17.0
++ hostname -I
+-+
+ echo '192.168.11.128 172.17.0.1 10.244.0.0 10.244.0.1'
++ curl ifconfig.co
% Total    % Received % Xferd  Average Speed   Time   Time     Time Current
          Dload  Upload Total Spent   Spent  Left Speed
100  15  100  15    0      0       5  0:00:03  0:00:02  0:00:01      5
+ echo 115.247.40.254
++ hostname -I
+ echo '192.168.11.128 172.17.0.1 10.244.0.0 10.244.0.1'
+ echo __mtu__
+ echo __cinder_volume_id__
++ hostname
+ echo srmap-virtual-machine
+ ISAUTX=false
++ cat /opt/config/stack.name.txt
+ [[ srmap-virtual-machine == *aux* ]]
+ modprobe -- ip_vs
+ modprobe -- ip_vs_rr
+ modprobe -- ip_vs_wrr

Activities Terminal Mar 4 12:32
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin

++ lsb_release -r
++ sed 's/^[a-zA-Z:\t ]\+//g'
+ UBUNTU_RELEASE=20.04
+ [[ 20.04 == 16.* ]]
+ [[ 20.04 == 18.* ]]
+ [[ 20.04 == 20.* ]]
+ echo 'Installing on Ubuntu 20.04 (Focal Fossa)'
Installing on Ubuntu 20.04 (Focal Fossa)
+'[ ! '-z '' ]'
+ curl -s https://packages.cloud.google.com/apt/doc/apt-key.gpg
+ apt-key add -
OK
+A+
+ echo 'deb http://apt.kubernetes.io/ kubernetes-xenial main'
+ mkdir -p /etc/apt/apt.conf.d
+ echo 'APT::Acquire::Retries "3";'
?+
+ apt-get update
Hit:1 http://archive.ubuntu.com/ubuntu focal InRelease
Get:2 http://archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Hit:3 http://archive.ubuntu.com/ubuntu focal-backports InRelease
Get:4 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [3,129 kB]
Get:6 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:7 http://ppa.launchpad.net/ettusresearch/uhd/ubuntu focal InRelease
Get:8 http://security.ubuntu.com/ubuntu focal-security/main amd64 Packages [2,752 kB]
Get:9 http://security.ubuntu.com/ubuntu focal-security/main i386 Packages [715 kB]
Get:10 http://security.ubuntu.com/ubuntu focal-security/main Translation-en [418 kB]
Get:11 http://security.ubuntu.com/ubuntu focal-security/restricted amd64 Packages [2,606 kB]
Ign:5 https://packages.cloud.google.com/apt kubernetes-xenial InRelease
Err:12 https://packages.cloud.google.com/apt kubernetes-xenial Release
  404  Not Found [IP: 142.251.42.110 443]
Get:13 http://security.ubuntu.com/ubuntu focal-security/restricted Translation-en [363 kB]
Get:14 http://security.ubuntu.com/ubuntu focal-security/universe amd64 Packages [944 kB]
Get:15 http://security.ubuntu.com/ubuntu focal-security/universe i386 Packages [650 kB]
Get:16 http://security.ubuntu.com/ubuntu focal-security/universe Translation-en [198 kB]
712 kB/s 10s
::: 67% [4 Packages 2,285 kB/3,129 kB 73%]

```

```

Activities Terminal Mar 4 12:34
srmap@srmmap-virtual-machine: ~/Wlcom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin
Get:22 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [1,170 kB]
Get:23 http://in.archive.ubuntu.com/ubuntu focal-updates/universe Translation-en [280 kB]
Reading package lists... Done
E: The repository 'http://apt.kubernetes.io kubernetes-xenial Release' no longer has a Release file.
N: Updating from such a repository can't be done securely, and is therefore disabled by default.
N: See apt-secure(8) manpage for repository creation and user configuration details.
++ apt-get install -y virt-what curl jq netcat make ipset moreutils
+ RESe= Reading package lists...
Building dependency tree...
Reading state information...
make is already the newest version (4.2.1-1.2).
moreutils is already the newest version (0.63-1).
A netcat is already the newest version (1.206-1ubuntu1).
virt-what is already the newest version (1.19-1).
curl is already the newest version (7.68.0-1ubuntu2.21).
ipset is already the newest version (7.5-1ubuntu0.20.04.1).
jq is already the newest version (1.6-1ubuntu0.20.04.1).
0 upgraded, 0 newly installed, 0 to remove and 101 not upgraded.
+ [[ Reading package lists...
Building dependency tree...
Reading state information...
make is already the newest version (4.2.1-1.2).
moreutils is already the newest version (0.63-1).
netcat is already the newest version (1.206-1ubuntu1).
virt-what is already the newest version (1.19-1).
curl is already the newest version (7.68.0-1ubuntu2.21).
ipset is already the newest version (7.5-1ubuntu0.20.04.1).
jq is already the newest version (1.6-1ubuntu0.20.04.1).
0 upgraded, 0 newly installed, 0 to remove and 101 not upgraded. == */var/lib/dpkg/lock* ]]
+ grep virtualbox
++ virt-what
+ echo vmware
+ apt-get install -y linux-image-4.15.0-45-lowlatency
[[ Reading package lists... Done
Building dependency tree...
Activities Terminal Mar 4 12:34
srmap@srmmap-virtual-machine: ~/Wlcom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin
kubeadm kubectl kubelet kubernetes-cni
The following held packages will be changed:
  kubeadm kubectl kubelet kubernetes-cni
  0 upgraded, 0 newly installed, 4 to remove and 97 not upgraded.
After this operation, 264 MB disk space will be freed.
(Reading database ... 226535 files and directories currently installed.)
  Removing kubeadm (1.16.0-00) ...
  Removing kubectl (1.16.0-00) ...
  Removing kubelet (1.16.0-00) ...
  Removing kubernetes-cni (0.7.5-00) ...
dpkg: warning: while removing kubernetes-cni, directory '/opt' not empty so not removed
+ for PKG in kubeadm docker.io
  ++ dpkg --list
  ++ grep docker.io
  ++ tr -s ' '
  ++ cut -f3 -d ' '
+ INSTALLED_VERSION=24.0.5-0ubuntu1~20.04.1
+ '[' '!' -z 24.0.5-0ubuntu1~20.04.1 ']'
+ '[' '!' docker.io == kubeadm ']'
+ apt-get -y --allow-downgrades --allow-change-held-packages --allow-unauthenticated --ignore-hold remove docker.io
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  bridge-utils conntrack containerd cri-tools ebtables pigz runc socat ubuntu-fan
Use 'sudo apt autoremove' to remove them.
The following packages will be REMOVED:
  docker.io
The following held packages will be changed:
  docker.io
  0 upgraded, 0 newly installed, 1 to remove and 97 not upgraded.
After this operation, 113 MB disk space will be freed.
(Reading database ... 226515 files and directories currently installed.)
  Removing docker.io (24.0.5-0ubuntu1~20.04.1) ...
    '/usr/share/docker.io/contrib/nuke-graph-directory.sh' -> '/var/lib/docker/nuke-graph-directory.sh'
[[ Reading package lists... Done
Building dependency tree...

```

```

Activities Terminal Mar 4 12:35
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin

Reading state information... Done
The following NEW packages will be installed:
| kubernetes-cni
0 upgraded, 1 newly installed, 0 to remove and 97 not upgraded.
Need to get 6,473 kB in 15s (420 kB/s).
After this operation, 50.2 MB of additional disk space will be used.
Get:1 https://packages.cloud.google.com/apt kubernetes-xenial/main amd64 kubernetes-cni amd64 0.7.5-00 [6,473 kB]
Fetched 6,473 kB in 15s (420 kB/s)
Selecting previously unselected package kubernetes-cni.
(Reading database ... 226447 files and directories currently installed.)
Preparing to unpack .../kubernetes-cni_0.7.5-00_amd64.deb ...
Unpacking kubernetes-cni (0.7.5-00) ...
A Setting up kubernetes-cni (0.7.5-00) ...
+ '[' -z 1.16.0-00 ']'
+ apt-get install -y --allow-downgrades --allow-change-held-packages --allow-unauthenticated --ignore-hold kubeadm=1.16.0-00 kubelet=1.16.0-0
0 kubelet=1.16.0-00
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
| conntrack cri-tools ebttables socat
Suggested packages:
| nftables
The following NEW packages will be installed:
| conntrack cri-tools ebttables kubeadm kubelet socat
0 upgraded, 7 newly installed, 0 to remove and 98 not upgraded.
Need to get 58.1 MB of archives.
After this operation, 268 MB of additional disk space will be used.
Get:1 http://in.archive.ubuntu.com/ubuntu focal/main amd64 conntrack amd64 1:1.4.5-2 [30.3 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu focal/main amd64 ebttables amd64 2.0.11-3build1 [80.3 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu focal/main amd64 socat amd64 1.7.3.3-2 [323 kB]
Get:4 https://packages.cloud.google.com/apt kubernetes-xenial/main amd64 cri-tools amd64 1.26.0-00 [18.9 MB]
Get:5 https://packages.cloud.google.com/apt kubernetes-xenial/main amd64 kubelet amd64 1.16.0-00 [20.7 MB]
69% [Working] 4,002 kB/s 4s

```



```

Activities Terminal Mar 4 12:35
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin

Setting up socat (1.7.3.3-2) ...
Setting up cri-tools (1.26.0-00) ...
Setting up kubelet (1.16.0-00) ...
Setting up kubeadm (1.16.0-00) ...
Processing triggers for man-db (2.9.1-1) ...
+ apt-mark hold docker.io kubernetes-cni kubelet kubeadm kubectl
docker.io set on hold.
kubernetes-cni set on hold.
kubelet set on hold.
kubeadm set on hold.
kubectl set on hold.
+ kubeadm config images pull --kubernetes-version=1.16.0
[config/images] Pulled k8s.gcr.io/kube-apiserver:v1.16.0
[config/images] Pulled k8s.gcr.io/kube-controller-manager:v1.16.0
[config/images] Pulled k8s.gcr.io/kube-scheduler:v1.16.0
[config/images] Pulled k8s.gcr.io/kube-proxy:v1.16.0
[config/images] Pulled k8s.gcr.io/pause:3.1
[config/images] Pulled k8s.gcr.io/etcd:3.3.15-0
[config/images] Pulled k8s.gcr.io/coredns:1.6.2
+ NODETYPE=master
+ '[' master == master ']'
+ [[ 1.16.0 == 1.13.* ]]
+ [[ 1.16.0 == 1.14.* ]]
+ [[ 1.16.0 == 1.15.* ]]
+ [[ 1.16.0 == 1.16.* ]]
+ cat
+ cat
+ kubeadm init --config /root/config.yaml
[init] Using Kubernetes version: v1.16.0
[preflight] Running pre-flight checks
[WARNING SystemVerification]: this Docker version is not on the list of validated versions: 24.0.5. Latest validated version: 18.09
[preflight] Pulling images required for setting up a Kubernetes cluster
[preflight] This might take a minute or two, depending on the speed of your internet connection
[preflight] You can also perform this action in beforehand using 'kubeadm config images pull'
[kubelet-start] Writing kubelet environment file with flags to file "/var/lib/kubelet/kubeadm-flags.env"

```

```
Activities Terminal Mar 4 12:37
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin

++ wc -l
+ NUMPODS=4
+ echo '> waiting for 4/8 pods running in namespace [kube-system] with keyword [Running]'
> waiting for 4/8 pods running in namespace [kube-system] with keyword [Running]
+ '[' 4 -lt 8 ']'
+ sleep 5
++ eval `kubectl get pods -n kube-system | grep "Running" | wc -l`
+++ kubectl get pods -n kube-system
+++ grep Running
+++ wc -l
+ NUMPODS=4
+ echo '> waiting for 4/8 pods running in namespace [kube-system] with keyword [Running]'
> waiting for 4/8 pods running in namespace [kube-system] with keyword [Running]
+ '[' 4 -lt 8 ']'
+ sleep 5
++ eval `kubectl get pods -n kube-system | grep "Running" | wc -l`
+++ kubectl get pods -n kube-system
+++ grep Running
+++ wc -l
+ NUMPODS=4
+ echo '> waiting for 4/8 pods running in namespace [kube-system] with keyword [Running]'
> waiting for 4/8 pods running in namespace [kube-system] with keyword [Running]
+ '[' 4 -lt 8 ']'
+ sleep 5
++ eval `kubectl get pods -n kube-system | grep "Running" | wc -l`
+++ kubectl get pods -n kube-system
+++ grep Running
+++ wc -l
+ NUMPODS=4
+ echo '> waiting for 4/8 pods running in namespace [kube-system] with keyword [Running]'
> waiting for 4/8 pods running in namespace [kube-system] with keyword [Running]
+ '[' 4 -lt 8 ']'
+ sleep 5
```

```
Activities Terminal Mar 4 12:37
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin [1]
[1] + 0: kubectl get pods -n kube-system
+++ grep Running
+++ wc -l
++ NUMPODS=6
+ echo '> waiting for 6/8 pods running in namespace [kube-system] with keyword [Running]'
> waiting for 6/8 pods running in namespace [kube-system] with keyword [Running]
+ '[' 6 -lt 8 ']'
+ sleep 5
++ eval "kubectl get pods -n kube-system | grep \"Running\" | wc -l"
+++ kubectl get pods -n kube-system
+++ grep Running
+++ wc -l
++ NUMPODS=8
+ echo '> waiting for 8/8 pods running in namespace [kube-system] with keyword [Running]'
> waiting for 8/8 pods running in namespace [kube-system] with keyword [Running]
+ '[' 8 -lt 8 ']'
+ kubectl taint nodes --all node.role.kubernetes.io/master-
+ kubelet status
+ cat /opt/config/helm_version.txt
+ HELMV=2.17.0
+ HELMVERSION=2.17.0
+ '[' '!' -e helm-v2.17.0-linux-amd64.tar.gz ']'
+ cd /root
+ rm -rf Helm
+ mkdir Helm
+ cd Helm
+ tar -xvf ../../helm-v2.17.0-linux-amd64.tar.gz
linux-amd64/
linux-amd64/README.md
linux-amd64/LICENSE
linux-amd64/helm
linux-amd64/tiller
+ mv linux-amd64/helm /usr/local/bin/helm
+ cd /root
+ [[ 2.17.0 == 2.* ]]

```

```

Activities Terminal Mar 4 12:38
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin
++ pwd
+ export HELM_HOME=/root/.helm
+ HELM_HOME=/root/.helm
+ echo HELM_HOME=/root/.helm
+ helm version
Client: &version.Version{SemVer:"v2.17.0", GitCommit:"a690bad98af45b015bd3dala41f6218bla451dbe", GitTreeState:"clean"}
Error: could not find a ready tiller pod
+ echo 'Waiting for Helm to be ready'
Waiting for Helm to be ready
+ sleep 15
+ helm version
Client: &version.Version{SemVer:"v2.17.0", GitCommit:"a690bad98af45b015bd3dala41f6218bla451dbe", GitTreeState:"clean"}
A Server: &version.Version{SemVer:"v2.17.0", GitCommit:"a690bad98af45b015bd3dala41f6218bla451dbe", GitTreeState:"clean"}
+ echo 'Preparing a master node (lower ID) for using local FS for PV'
Preparing a master node (lower ID) for using local FS for PV
? + kubectl get nodes
++ grep master
+-> ++ cut -f1 -d ' '
++ sort
++ head -1
+ PV_NODE_NAME=srmap-virtual-machine
+ kubectl label --overwrite nodes srmap-virtual-machine local-storage=enable
node/srmap-virtual-machine labeled
++ hostname
+ '[' srmap-virtual-machine == srmap-virtual-machine ']'
+ mkdir -p /opt/data/dashboard/data
+ echo 'Done with master node setup'
Done with master node setup
+ [[ ! -z '' ]]
+ [[ ! -z '' ]]
+ [[ ! -z '' ]]
+ [[ 1 -gt 100 ]]
+ [[ 1 -gt 100 ]]
[[[ 1 -gt 100 ]]] srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin$ 

```

7. sudo kubectl get pods -A

NAMESPACE	NAME	READY	STATUS	RESTARTS	AGE
kube-system	coredns-5644d7b6d9-l8sm9	1/1	Running	0	2m52s
kube-system	coredns-5644d7b6d9-xn7sc	1/1	Running	0	2m52s
kube-system	etcd-srmap-virtual-machine	1/1	Running	0	2m2s
kube-system	kube-apiserver-srmap-virtual-machine	1/1	Running	0	109s
kube-system	kube-controller-manager-srmap-virtual-machine	1/1	Running	0	2m13s
kube-system	kube-flannel-ds-8zk5d	1/1	Running	0	2m52s
kube-system	kube-proxy-9b4zr	1/1	Running	0	2m52s
kube-system	kube-scheduler-srmap-virtual-machine	1/1	Running	0	112s
kube-system	tiller-deploy-7d7bc87bb-7zpml	1/1	Running	0	103s

[[[1 -gt 100]]] srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin\$

8. sudo kubectl get ns ricinfra

9. sudo kubectl create ns ricinfra

```

srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin$ sudo kubectl get ns ricinfra
Error from server (NotFound): namespaces "ricinfra" not found
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin$ sudo kubectl create ns ricinfra
namespace/ricinfra created
[[[ 1 -gt 100 ]]] srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin$ 

```

10. sudo helm install stable/nfs-server-provisioner --namespace ricinfra --name nfs-release-1

```

Activities Terminal Mar 4 12:44
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin$ sudo helm install stable/nfs-server-provisioner --namespace ricinfra --name nfs-release-1
WARNING: This chart is deprecated
NAME: nfs-release-1
LAST DEPLOYED: Mon Mar  4 12:43:11 2024
NAMESPACE: ricinfra
STATUS: DEPLOYED

RESOURCES:
  ==> v1/ClusterRole
  NAME                                     AGE
  nfs-release-1-nfs-server-provisioner   0s

  ==> v1/ClusterRoleBinding
  NAME                                     AGE
  nfs-release-1-nfs-server-provisioner   0s

  ==> v1/Pod(related)
  NAME                           READY  STATUS      RESTARTS  AGE
  nfs-release-1-nfs-server-provisioner-0  0/1    ContainerCreating  0          0s

  ==> v1/Service
  NAME           TYPE      CLUSTER-IP      EXTERNAL-IP  PORT(S)
                                     AGE
  nfs-release-1-nfs-server-provisioner  ClusterIP  10.97.236.245  <none>     2049/TCP,2049/UDP,32803/TCP,32803/UDP,20048/TCP,20048/UDP,875/TCP,875/UDP,111/TCP,111/UDP,662/TCP,662/UDP  0s

  ==> v1/ServiceAccount
  NAME           SECRETS  AGE
  nfs-release-1-nfs-server-provisioner  1        0s

  ==> v1/StatefulSet
  NAME           READY  AGE
  nfs-release-1-nfs-server-provisioner  0/1    0s

Mar 4 12:44
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin$ 

  ==> v1/StatefulSet
  NAME           READY  AGE
  nfs-release-1-nfs-server-provisioner  0/1    0s

  ==> v1/StorageClass
  NAME  PROVISIONER           AGE
  nfs   cluster.local/nfs-release-1-nfs-server-provisioner  0s

  NOTES:
  The NFS Provisioner service has now been installed.

  A storage class named 'nfs' has now been created and is available to provision dynamic volumes.

  You can use this storageclass by creating a `PersistentVolumeClaim` with the correct storageClassName attribute. For example:

  ...
  kind: PersistentVolumeClaim
  apiVersion: v1
  metadata:
    name: test-dynamic-volume-claim
  spec:
    storageClassName: "nfs"
    accessModes:
      - ReadWriteOnce
    resources:
      requests:
        storage: 100Mi

  srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin$ 

```

11. `sudo kubectl patch storageclass nfs -p '{"metadata": {"annotations":{"storageclass.kubernetes.io/is-default-class":"true"}}}'`
12. `sudo apt install nfs-common`

```
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin$ sudo kubectl patch storageclass nfs -p '{"metadata": {"annotations":{"storageclass.kubernetes.io/is-default-class":"true"}}}'  
storageclass.storage.k8s.io/nfs patched  
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin$ sudo apt install nfs-common  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
nfs-common is already the newest version (1:1.3.4-2.5ubuntu3.5).  
0 upgraded, 0 newly installed, 0 to remove and 101 not upgraded.  
[ srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin$ ]
```

Step 3: Build Modified E2 docker Image

13. sudo docker run -d -p 5001:5000 --restart=always --name ric registry:2

```
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin$ sudo docker run -d -p 5001:5000 --restart=always --name ric registry:2  
docker: Error response from daemon: Conflict. The container name "/ric" is already in use by container "8e62f2e5680b7418b123442bd4fd31febcb4  
8a151c0alc44e26dc74e81a60e4". You have to remove (or rename) that container to be able to reuse that name.  
See 'docker run --help'.  
[ srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin$ ]
```

14. cd ../../..

15. cd ric-plt-e2

16. cd RIC-E2-TERMINATION

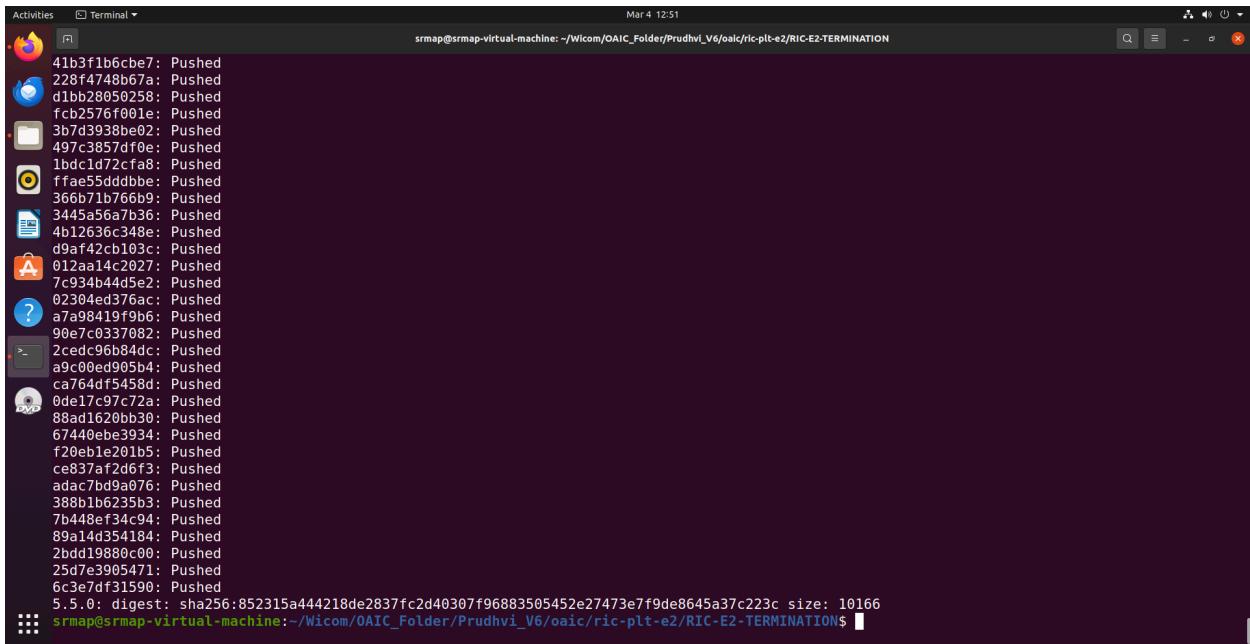
```
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/tools/k8s/bin$ cd ../../..  
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ cd ric-plt-e2/  
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-plt-e2$ cd RIC-E2-TERMINATION/  
[ srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-plt-e2/RIC-E2-TERMINATION$ ]
```

17. sudo docker build -f Dockerfile -t localhost:5001/ric-plt-e2:5.5.0 .

```
Activities Terminal Mar 4 12:49
srmap@srmapper-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-plt-e2/RIC-E2-TERMINATION
.
.
.
Step 61/70 : COPY --from=ubuntu /usr/lib/x86_64-linux-gnu/libcurl-gnutls.so.4 /usr/lib/libcurl-gnutls.so
--> Using cache
Step 62/70 : COPY --from=ubuntu /usr/lib/x86_64-linux-gnu/libcurl-gnutls.so /usr/lib/libcurl-gnutls.so
--> Using cache
--> 586ea9ad180c
Step 63/70 : COPY --from=ubuntu /usr/local/bin/rmr_probe /opt/e2/rmr_probe
--> Using cache
--> a58f74c217fb
Step 64/70 : WORKDIR /opt/e2/
--> Using cache
--> 92e52d170625
Step 65/70 : ENV LD_LIBRARY_PATH=/usr/local/lib
--> Using cache
--> 8efae789c159
Step 66/70 : ENV RMR_SEED_RT=dockerRouter.txt
--> Using cache
--> 823d629391a0
Step 67/70 : ENV E2TERM_POD_NAME=e2term
--> Using cache
--> f93785a9cdfd
Step 68/70 : RUN chmod +x /opt/e2/startup.sh /opt/e2/rmr_probe
--> Using cache
--> 348e45c9ea29
Step 69/70 : EXPOSE 38000
--> Using cache
--> de93f44f276e
Step 70/70 : CMD ["sh", "-c", "./startup.sh"]
--> Using cache
--> aea5436b22b0
Successfully built aea5436b22b0
Successfully tagged localhost:5001/ric-plt-e2:5.5.0
srmap@srmapper-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-plt-e2/RIC-E2-TERMINATION$
```

18. sudo docker push localhost:5001/ric-plt-e2:5.5.0

```
Activities Terminal Mar 4 12:51
srmap@srmapper-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-plt-e2/RIC-E2-TERMINATION
.
.
.
The push refers to repository [localhost:5001/ric-plt-e2]
4fdb0af6b0ca: Preparing
3b8130f41a4e: Preparing
bd74607f3f31: Preparing
e009f0b20160: Preparing
80445e761c94: Preparing
cee562f3dce9: Preparing
8fd15a5d3lbc: Preparing
040ec06074ea: Preparing
0f4c492ebief: Preparing
13864ac107bd1: Preparing
e3620020398b: Preparing
15984dc2b363: Preparing
2e970738eaaa: Preparing
aaef396468556: Preparing
040ec06074ea: Pushed
41b3f1b6cbe7: Pushed
228f4748b67a: Pushed
d1bb28050258: Pushed
fcb2576f001e: Pushed
3b7d3938be02: Pushed
497c3857df0e: Pushed
1bdc1d72cfab8: Pushed
ffae55dddbbe: Pushed
366b71b766b9: Pushed
3445a56a7b36: Pushed
4b12636c348e: Pushed
d9af42cb103c: Pushed
012aa14c2027: Pushed
7c934b44d5e2: Pushed
02304ed376ac: Pushed
a7a98419f9b6: Pushed
90e7c0337082: Pushed
```



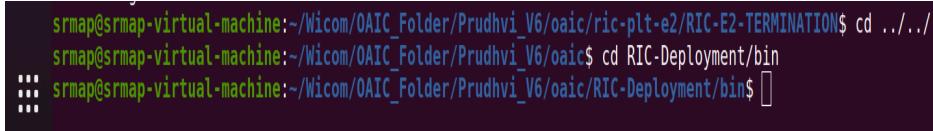
A screenshot of a Linux terminal window titled "Terminal". The window shows a list of pushed commits from a Git repository. The commits are listed with their hash codes and timestamps. The terminal window has a dark background with light-colored text. The commits listed include:

```
Activities Terminal Mar 4 12:51
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-plt-e2/RIC-E2-TERMINATION
41b3f1b6cbe7: Pushed
228f4748b67a: Pushed
d1bb28050258: Pushed
fcb2576f001e: Pushed
3b7d3938be02: Pushed
497c3857df0e: Pushed
1bdc1d72cfab: Pushed
ffae55dddbbe: Pushed
366b71b766b9: Pushed
3445a56a7b36: Pushed
4b12636c348e: Pushed
d9af42cb103c: Pushed
012aa14c2027: Pushed
7c934b44d5e2: Pushed
02304ed376ac: Pushed
a7a98419fb6: Pushed
90e7c0337082: Pushed
2cedc96b84dc: Pushed
a9c00ed905b4: Pushed
ca764df5458d: Pushed
0de17c97c72a: Pushed
88ad1620bb30: Pushed
67440ebe3934: Pushed
f20eb1e201b5: Pushed
ce837af2d6f3: Pushed
adac7bd9a076: Pushed
388b1b6235b3: Pushed
7b448ef34c94: Pushed
89a14d354184: Pushed
2bdd19880c00: Pushed
25d7e3905471: Pushed
6c3e7df31590: Pushed
5.5.0: digest: sha256:852315a444218de2837fc2d40307f96883505452e27473e7f9de8645a37c223c size: 10166
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-plt-e2/RIC-E2-TERMINATION$
```

19. cd ../../

Step 4: Deploy the near-Real Time RIC

20. cd RIC-Deployment/bin



```
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-plt-e2/RIC-E2-TERMINATION$ cd ../../
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ cd RIC-Deployment/bin
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin$
```

21. sudo ./deploy-ric-platform -f

..../RECIPE_EXAMPLE/PLATFORM/example_recipe_oran_e_release_modified_e2.yaml

```

Activities Terminal Mar 4 12:54
srmap@srmap-virtual-machine:/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin
srmap@srmap-virtual-machine:/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin$ sudo ./deploy-ric-platform -f ../RECIPE_EXAMPLE/PLATFORM/
example_recipe.oran.e.release.modified.e2.yaml
+++ dirname /home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin/prepare-common-templates
++ cd /home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin
++ pwd
+ ROOT_DIR=/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin
+ helm version -c --short
+ grep -e '^v3'
+ IS_HELM3=
+ ps -x
++ grep 'helm serve'
++ grep -v grep
++ awk '{print $1}'
+ HELM_REPO PID=53385
+ '[' -z 53385 ']'
+ command='curl --silent --output /dev/null http://127.0.0.1:8879/charts'
++ seq 1 5
+ for i in $(seq 1 5)
+ curl --silent --output /dev/null http://127.0.0.1:8879/charts
+ s=0
+ break
+ '[' 0 -gt 0 ']'
+ '[' ']'
++ helm home
+ HELM_HOME=/root/.helm
+ HELM_LOCAL_REPO=/root/.helm/repository/local/
++ cat /home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin/../ric-common/Common-Template/helm/ric-common/Chart.yaml
++ grep version
++ awk '{print $2}'
+ COMMON_CHART_VERSION=3.3.2
+ helm package -d /tmp /home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin/../ric-common/Common-Template/helm/ric-common
Successfully packaged chart and saved it to: /tmp/ric-common-3.3.2.tgz
+ cp /tmp/ric-common-3.3.2.tgz /root/.helm/repository/local/
++ cat /home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin/../ric-common/Common-Template/helm/aux-common/Chart.yaml

Activities Terminal Mar 4 12:54
srmap@srmap-virtual-machine:/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin
++ grep version
++ awk '{print $2}'
+ COMMON_CHART_VERSION=3.3.2
+ helm package -d /tmp /home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin/../ric-common/Common-Template/helm/ric-common
Successfully packaged chart and saved it to: /tmp/ric-common-3.3.2.tgz
+ cp /tmp/ric-common-3.3.2.tgz /root/.helm/repository/local/
++ cat /home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin/../ric-common/Common-Template/helm/aux-common/Chart.yaml
++ grep version
++ awk '{print $2}'
+ AUX_COMMON_CHART_VERSION=3.0.0
+ helm package -d /tmp /home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin/../ric-common/Common-Template/helm/aux-common
Successfully packaged chart and saved it to: /tmp/aux-common-3.0.0.tgz
+ cp /tmp/aux-common-3.0.0.tgz /root/.helm/repository/local/
++ cat /home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin/../ric-common/Common-Template/helm/nonrtric-common/Chart.yaml
++ grep version
++ awk '{print $2}'
+ NONRTRIC_COMMON_CHART_VERSION=2.0.0
+ helm package -d /tmp /home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin/../ric-common/Common-Template/helm/nonrtric-common
Successfully packaged chart and saved it to: /tmp/nonrtric-common-2.0.0.tgz
+ cp /tmp/nonrtric-common-2.0.0.tgz /root/.helm/repository/local/
+ helm repo index /root/.helm/repository/local/
+ helm repo remove local
"local" has been removed from your repositories
+ helm repo add local http://127.0.0.1:8879/charts
"local" has been added to your repositories
namespace/ricpl created
namespace/ricxapp created
nfs storage exist
Deploying RIC infra components [infrastructure dbaas xapp-onboarder appmgr rtmgr e2mgr e2term almediator submgr vespamgr olmediator alarmmanager influxdb jaegeradapter]
configmap/ricplt-recipe created
Add cluster roles
clusterrole.rbac.authorization.k8s.io/ricplt-system-tiller created
clusterrolebinding.rbac.authorization.k8s.io/ricplt-system-tiller created
Hang tight while we grab the latest from your chart repositories...

```

```

Activities Terminal Mar 4 12:54
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin

STATUS: DEPLOYED

RESOURCES:
  ==> v1/ConfigMap
  NAME                                     DATA   AGE
  r4-infrastructure-kong-default-custom-server-blocks 1      1s
  r4-infrastructure-prometheus-alertmanager        1      1s
  r4-infrastructure-prometheus-server            5      1s

  ==> v1/Deployment
  NAME          READY  UP-TO-DATE  AVAILABLE  AGE
  deployment-tiller-ricxapp  0/1    1           0          1s
  r4-infrastructure-kong  0/1    1           0          1s
  r4-infrastructure-prometheus-alertmanager  0/1    1           0          1s
  r4-infrastructure-prometheus-server       0/1    1           0          1s

  ==> v1/Endpoints
  NAME          ENDPOINTS  AGE
  aux-entry     10.0.0.1:32443,10.0.0.1:32080  0s
  aux-entry     10.0.0.1:32443,10.0.0.1:32080  0s

  ==> v1/Job
  NAME          COMPLETIONS DURATION  AGE
  tiller-secret-generator  0/1      1s         1s

  ==> v1/Pod(related)
  NAME          READY  STATUS      RESTARTS  AGE
  deployment-tiller-ricxapp-67f67c95f4-8287k  0/1    ContainerCreating  0          1s
  r4-infrastructure-kong-646b68bd88-rz8nj        0/2    Pending      0          1s
  r4-infrastructure-prometheus-alertmanager-75dff54776-msj5z  0/2    Pending      0          1s
  r4-infrastructure-prometheus-server-5fd7695-rvzvt  0/1    Pending      0          1s
  tiller-secret-generator-8lg9h                   0/1    Pending      0          1s

  ==> v1/Secret
  NAME          TYPE   DATA   AGE

```



```

Activities Terminal Mar 4 12:54
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin

  ==> v1/Secret
  NAME          TYPE   DATA   AGE
  secret-aux-ingress-cert  Opaque  2      1s
  secret-aux-ingress-cert  Opaque  2      1s
  secret-nexus3-o-ran-sc-org-10002  kubernetes.io/dockercfg 1      1s
  secret-nexus3-o-ran-sc-org-10002  kubernetes.io/dockercfg 1      1s
  secret-nexus3-o-ran-sc-org-10002  kubernetes.io/dockercfg 1      1s
  secret-nexus3-o-ran-sc-org-10004  kubernetes.io/dockercfg 1      1s
  secret-nexus3-o-ran-sc-org-10004  kubernetes.io/dockercfg 1      1s
  secret-nexus3-o-ran-sc-org-10004  kubernetes.io/dockercfg 1      1s
  secret-plt-ingress-cert  Opaque  2      1s
  secret-plt-ingress-cert  Opaque  2      1s
  secret-ric-ca-cert      Opaque  1      1s
  secret-ric-ca-cert      Opaque  1      1s

  ==> v1/Service
  NAME          TYPE      CLUSTER-IP      EXTERNAL-IP      PORT(S)      AGE
  aux-entry     ClusterIP  10.106.94.43  <none>          80/TCP,443/TCP  1s
  aux-entry     ClusterIP  10.106.94.43  <none>          80/TCP,443/TCP  1s
  r4-infrastructure-kong-proxy  NodePort   10.111.3.193  <none>          32080:32080/TCP,32443:32443/TCP  1s
  r4-infrastructure-prometheus-alertmanager  ClusterIP  10.99.52.218  <none>          80/TCP      1s
  r4-infrastructure-prometheus-server       ClusterIP  10.100.81.109  <none>          80/TCP      1s
  service-tiller-ricxapp      ClusterIP  10.99.93.232  <none>          44134/TCP     1s

  ==> v1/ServiceAccount
  NAME          SECRETS  AGE
  r4-infrastructure-kong  1      1s
  r4-infrastructure-prometheus-alertmanager  1      1s
  r4-infrastructure-prometheus-server       1      1s
  svcacct-tiller-ricxapp      1      1s
  tiller-secret-creator-bzdmku  1      1s

  ==> v1beta1/ClusterRole
  NAME          AGE

```

```

Activities Terminal Mar 4 12:54
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin

==> v1beta1/CUSTOMRESOURCEDEFINITION
NAME                                     CREATED AT
kongconsumers.configuration.konghq.com   2024-03-04T07:23:52Z
kongcredentials.configuration.konghq.com 2024-03-04T07:23:52Z
kongingresses.configuration.konghq.com   2024-03-04T07:23:52Z
kongplugins.configuration.konghq.com     2024-03-04T07:23:52Z

==> v1beta1/Role
NAME                                     AGE
tiller-secret-creator-bzdmku-secret-create  ls
r4-infrastructure-kong                  ls
ricxapp-tiller-base                     ls
ricxapp-tiller-deployer                 ls
ricxapp-tiller-operation                ls

==> v1beta1/RoleBinding
NAME                                     AGE
tiller-secret-creator-bzdmku-secret-create  ls
svcacct-tiller-ricxapp-ricxapp-tiller-operation  ls
r4-infrastructure-kong                  ls
svcacct-tiller-ricxapp-ricxapp-tiller-deployer  ls
svcacct-tiller-ricxapp-ricxapp-tiller-base    ls

Hang tight while we grab the latest from your chart repositories...
...Successfully got an update from the "local" chart repository
...Successfully got an update from the "stable" chart repository
Update Complete.
Saving 1 charts
Downloading ric-common from repo http://127.0.0.1:8879/charts
Deleting outdated charts
NAME: r4-dbaas
LAST DEPLOYED: Mon Mar 4 12:54:08 2024
NAMESPACE: ricplt
STATUS: DEPLOYED

Activities Terminal Mar 4 12:55
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin

Saving 1 charts
Downloading ric-common from repo http://127.0.0.1:8879/charts
Deleting outdated charts
NAME: r4-e2mgr
LAST DEPLOYED: Mon Mar 4 12:55:07 2024
NAMESPACE: ricplt
STATUS: DEPLOYED
RESOURCES:
==> v1/ConfigMap
NAME                                     DATA  AGE
configmap-ricplt-e2mgr-configuration-configmap 1    0s
configmap-ricplt-e2mgr-env                2    0s
configmap-ricplt-e2mgr-router-configmap    2    0s

==> v1/Deployment
NAME          READY  UP-TO-DATE  AVAILABLE  AGE
deployment-ricplt-e2mgr  0/1    1          0         0s

==> v1/Pod(related)
NAME          READY  STATUS      RESTARTS  AGE
deployment-ricplt-e2mgr-66cdc4d6b6-tbpqf  0/1  ContainerCreating  0         0s

==> v1/Service
NAME          TYPE    CLUSTER-IP  EXTERNAL-IP  PORT(S)      AGE
service-ricplt-e2mgr-http  ClusterIP  10.100.160.85 <none>       3800/TCP    0s
service-ricplt-e2mgr-rmr  ClusterIP  10.97.57.240  <none>        4561/TCP,3801/TCP 0s

==> v1beta1/Ingress
NAME          HOSTS  ADDRESS  PORTS  AGE
ingress-ricplt-e2mgr  *      80      0s

```

```

Activities Terminal Mar 4 12:56
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin

NAMESPACE: ricplt
STATUS: DEPLOYED

RESOURCES:
  ==> v1/ConfigMap
  NAME          DATA  AGE
  alarm-appconfig   2    0s
  configmap-ricplt-alarmmanager-alarmmanagercfg  1    0s
  configmap-ricplt-alarmmanager-appconfig   2    0s
  configmap-ricplt-alarmmanager-env      3    0s

  ==> v1/Deployment
  A NAME           READY  UP-TO-DATE  AVAILABLE  AGE
  deployment-ricplt-alarmmanager  0/1    1        0         0s

  ==> v1/PersistentVolume
  NAME          CAPACITY  ACCESS MODES  RECLAIM POLICY  STATUS  CLAIM          STORAGECLASS  REASON  AGE
  pv-ricplt-alarmmanager  100Mi     RWO        Retain       Bound   ricplt/pvc-ricplt-alarmmanager  local-storage  0s

  ==> v1/PersistentVolumeClaim
  NAME          STATUS  VOLUME          CAPACITY  ACCESS MODES  STORAGECLASS  AGE
  pvc-ricplt-alarmmanager  Bound   pv-ricplt-alarmmanager  100Mi     RWO        local-storage  0s

  ==> v1/Pod(related)
  NAME           READY  STATUS        RESTARTS  AGE
  deployment-ricplt-alarmmanager-56d79dc55-zgtq9  0/1  ContainerCreating  0         0s

  ==> v1/Role
  NAME          AGE
  svcacct-ricplt-alarmmanager-ricxapp-podreader  0s

  ==> v1/RoleBinding
  NAME          AGE
  svcacct-ricplt-alarmmanager-ricxapp-podreader  0s

```

```

Activities Terminal Mar 4 12:56
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin

service-ricplt-influxdb-http  1      0s

  ==> v1/StatefulSet
  NAME          READY  AGE
  ricplt-influxdb-meta  0/1  0s

  NOTES:
  #####
  # Copyright (c) 2021 HCL Technologies Limited. #
  #
  # Licensed under the Apache License, Version 2.0 (the "License");
  # you may not use this file except in compliance with the License.
  # You may obtain a copy of the License at
  #
  #     http://www.apache.org/licenses/LICENSE-2.0
  #
  # Unless required by applicable law or agreed to in writing, software
  # distributed under the License is distributed on an "AS IS" BASIS,
  # WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
  # See the License for the specific language governing permissions and
  # limitations under the License.
  #####
  InfluxDB can be accessed via port 8086 on the following DNS name from within your cluster:

  http://ricplt-influxdb.ricplt:8086

  You can connect to the remote instance with the influx CLI. To forward the API port to localhost:8086, run the following:

  kubectl port-forward --namespace ricplt $(kubectl get pods --namespace ricplt -l app=ricplt-influxdb -o jsonpath='{ .items[0].metadata.name }') 8086:8086

  You can also connect to the influx CLI from inside the container. To open a shell session in the InfluxDB pod, run the following:

  kubectl exec -i -t --namespace ricplt $(kubectl get pods --namespace ricplt -l app=ricplt-influxdb -o jsonpath='{ .items[0].metadata.name }')

```

```

Activities Terminal Mar 4 12:57
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin

Hang tight while we grab the latest from your chart repositories...
...Successfully got an update from the "local" chart repository
...Successfully got an update from the "stable" chart repository
Update Complete.
Saving 1 charts
Deleting outdated charts
NAME: r4-jaegeradapter
LAST DEPLOYED: Mon Mar 4 12:57:04 2024
NAMESPACE: ricplt
STATUS: DEPLOYED

A RESOURCES:
--> v1/ConfigMap
? NAME          DATA  AGE
configmap-ricplt-jaegeradapter  5      0s

--> v1/Deployment
NAME           READY  UP-TO-DATE  AVAILABLE  AGE
deployment-ricplt-jaegeradapter  0/1    1          0          0s

--> v1/Pod(related)
NAME           READY  STATUS        RESTARTS  AGE
deployment-ricplt-jaegeradapter-76dbbf9c9-mvxzx  0/1    ContainerCreating  0          0s

--> v1/Service
NAME           TYPE   CLUSTER-IP  EXTERNAL-IP  PORT(S)  AGE
service-ricplt-jaegeradapter-agent  ClusterIP  10.108.71.128 <none>     5775/UDP,6831/UDP,6832/UDP  0s
service-ricplt-jaegeradapter-collector  ClusterIP  10.107.39.11 <none>     14267/TCP,14268/TCP,9411/TCP  0s
service-ricplt-jaegeradapter-query    ClusterIP  10.97.250.77 <none>     16686/TCP  0s

Mar 4 12:57
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin

Hang tight while we grab the latest from your chart repositories...
...Successfully got an update from the "local" chart repository
...Successfully got an update from the "stable" chart repository
Update Complete.
Saving 1 charts
Deleting outdated charts
NAME: r4-jaegeradapter
LAST DEPLOYED: Mon Mar 4 12:57:04 2024
NAMESPACE: ricplt
STATUS: DEPLOYED

A RESOURCES:
--> v1/ConfigMap
? NAME          DATA  AGE
configmap-ricplt-jaegeradapter  5      0s

--> v1/Deployment
NAME           READY  UP-TO-DATE  AVAILABLE  AGE
deployment-ricplt-jaegeradapter  0/1    1          0          0s

--> v1/Pod(related)
NAME           READY  STATUS        RESTARTS  AGE
deployment-ricplt-jaegeradapter-76dbbf9c9-mvxzx  0/1    ContainerCreating  0          0s

--> v1/Service
NAME           TYPE   CLUSTER-IP  EXTERNAL-IP  PORT(S)  AGE
service-ricplt-jaegeradapter-agent  ClusterIP  10.108.71.128 <none>     5775/UDP,6831/UDP,6832/UDP  0s
service-ricplt-jaegeradapter-collector  ClusterIP  10.107.39.11 <none>     14267/TCP,14268/TCP,9411/TCP  0s
service-ricplt-jaegeradapter-query    ClusterIP  10.97.250.77 <none>     16686/TCP  0s

srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin$ 

```

srsRAN with E2 Agent Installation Guide

22. sudo apt-get install build-essential cmake libfftw3-dev libmbedTLS-dev libboost-program-options-dev libconfig++-dev libsctp-dev libtool autoconf
23. sudo apt-get install libzmq3-dev

```

[A] srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin$ sudo apt-get install build-essential cmake libfftw3-dev libmbedTLS-dev libboost-program-options-dev libconfig++-dev libsctp-dev libtool autoconf
Reading package lists... Done
Building dependency tree
Reading state information... Done
libautoconf is already the newest version (2.69-11.1).
libboost-program-options-dev is already the newest version (1.71.0.0ubuntu2).
libfftw3-dev is already the newest version (3.3.8-2ubuntu1).
libsctp-dev is already the newest version (1.0.18+dfsg-1).
libtool is already the newest version (2.4.6-14).
libconfig++-dev is already the newest version (1.5-0.4build1).
libmbedTLS-dev is already the newest version (2.16.4-1ubuntu2).
build-essential is already the newest version (12.8ubuntu1.1).
cmake is already the newest version (3.16.3-1ubuntu1.20.04.1).
0 upgraded, 0 newly installed, 0 to remove and 101 not upgraded.
srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin$ sudo apt-get install libzmq3-dev
Reading package lists... Done
Building dependency tree
Reading state information... Done
libzmq3-dev is already the newest version (4.3.2-2ubuntu1).
0 upgraded, 0 newly installed, 0 to remove and 101 not upgraded.
[[ srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin$ ]]

```

24. sudo add-apt-repository ppa:ettusresearch/uhd

```

[srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin$ sudo add-apt-repository ppa:ettusresearch/uhd
More info: https://launchpad.net/~ettusresearch/+archive/ubuntu/uhd
Press [ENTER] to continue or Ctrl-c to cancel adding it.

Hit:1 http://in.archive.ubuntu.com/ubuntu focal InRelease
Get:2 http://in.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Hit:3 http://in.archive.ubuntu.com/ubuntu focal-backports InRelease
Hit:5 http://security.ubuntu.com/ubuntu focal-security InRelease
Hit:6 http://ppa.launchpad.net/ettusresearch/uhd/ubuntu focal InRelease
Ign:4 https://packages.cloud.google.com/apt kubernetes-xenial InRelease
Err:7 https://packages.cloud.google.com/apt kubernetes-xenial Release
  404  Not Found [IP: 142.251.42.110 443]
Reading package lists... Done
E: The repository 'http://apt.kubernetes.io kubernetes-xenial Release' no longer has a Release file.
N: Updating from such a repository can't be done securely, and is therefore disabled by default.
N: See apt-secure(8) manpage for repository creation and user configuration details.
[[ srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin$ ]]

```

25. sudo apt-get update

26. sudo apt-get install libuhd-dev

```

[W: See apt-secure(8) manpage for repository creation and user configuration details.
[srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin$ sudo apt-get update
Hit:1 http://in.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://in.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://in.archive.ubuntu.com/ubuntu focal-backports InRelease
Hit:5 http://security.ubuntu.com/ubuntu focal-security InRelease
Hit:6 http://ppa.launchpad.net/ettusresearch/uhd/ubuntu focal InRelease
Get:4 https://packages.cloud.google.com/apt kubernetes-xenial InRelease [8,993 B]
Fetched 8,993 B in 13s (709 B/s)
Reading package lists... Done
[srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin$ sudo apt-get install libuhd-dev libuhd4.1.0 uhd-host
Reading package lists... Done
Building dependency tree
Reading state information... Done
libuhd-dev is already the newest version (4.6.0.0-0ubuntu1-focal).
uhd-host is already the newest version (4.6.0.0-0ubuntu1-focal).
The following NEW packages will be installed:
  libuhd4.1.0
0 upgraded, 1 newly installed, 0 to remove and 101 not upgraded.
Need to get 0 B/3,375 kB of archives.
After this operation, 14.6 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
(Reading database ... 226535 files and directories currently installed.)
Preparing to unpack .../libuhd4.1.0_4.1.0.4-0ubuntu1_focal_amd64.deb ...
Unpacking libuhd4.1.0_amd64 (4.1.0.4-0ubuntu1-focal) ...
dpkg: error processing archive /var/cache/apt/archives/libuhd4.1.0_4.1.0.4-0ubuntu1_focal_amd64.deb (--unpack):
  trying to overwrite '/usr/share/uhd/cal metadata.fbs', which is also in package libuhd4.6.0_amd64 4.6.0.0-0ubuntu1-focal
Errors were encountered while processing:
/var/cache/apt/archives/libuhd4.1.0_4.1.0.4-0ubuntu1_focal_amd64.deb
E: Sub-process /usr/bin/dpkg returned an error code (1)
[[ srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin$ ]]

```

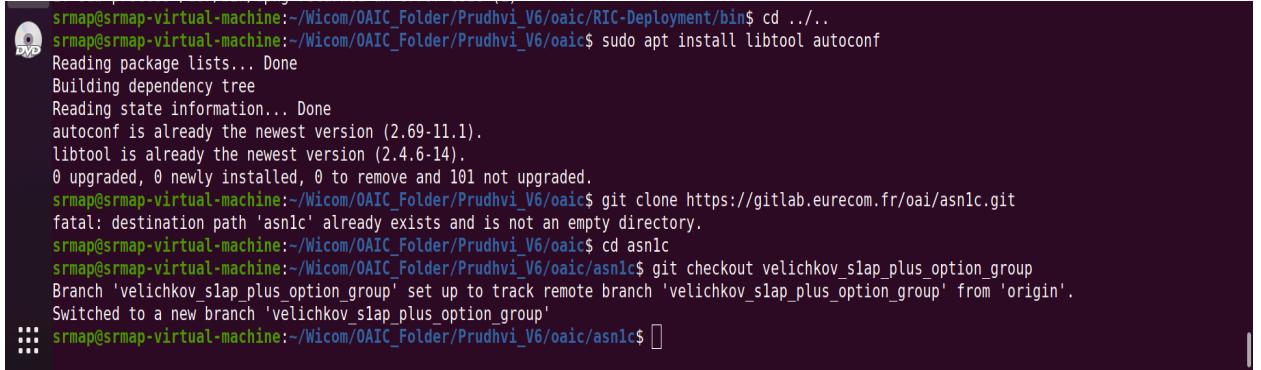
Error Message: Errors were encountered while processing:

/var/cache/apt/archives/libuhd4.1.0_4.1.0.4-0ubuntu1_focal_amd64.deb

E: Sub-process /usr/bin/dpkg returned an error code (1)

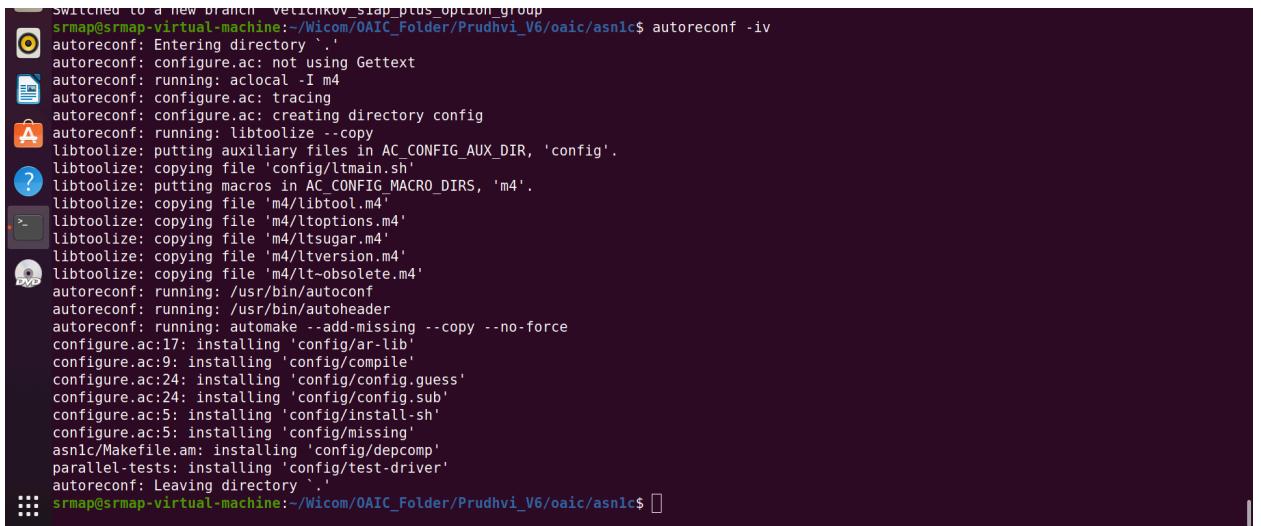
asn1c Compiler Installation

```
27. cd ../..  
28. sudo apt install libtool autoconf  
29. git clone https://gitlab.eurecom.fr/oai/asn1c.git  
30. cd asn1c  
31. git checkout velichkov_slap_plus_option_group
```



```
srmmap@srmmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/bin$ cd ../..  
srmmap@srmmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ sudo apt install libtool autoconf  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
libtool is already the newest version (2.4.6-14).  
0 upgraded, 0 newly installed, 0 to remove and 101 not upgraded.  
srmmap@srmmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ git clone https://gitlab.eurecom.fr/oai/asn1c.git  
fatal: destination path 'asn1c' already exists and is not an empty directory.  
srmmap@srmmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ cd asn1c  
srmmap@srmmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c$ git checkout velichkov_slap_plus_option_group  
Branch 'velichkov_slap_plus_option_group' set up to track remote branch 'velichkov_slap_plus_option_group' from 'origin'.  
Switched to a new branch 'velichkov_slap_plus_option_group'  
srmmap@srmmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c$
```

```
32. autoreconf -iv
```



```
autoreconf: Entering directory `.'  
autoreconf: configure.ac: not using Gettext  
autoreconf: running: aclocal -I m4  
autoreconf: config.guess: tracing  
autoreconf: config.guess: creating directory config  
autoreconf: running: libtoolize --copy  
libtoolize: putting auxiliary files in AC_CONFIG_AUX_DIR, 'config'.  
libtoolize: copying file 'config/ltsugar.m4'  
libtoolize: putting macros in AC_CONFIG_MACRO_DIRS, 'm4'.  
libtoolize: copying file 'm4/libtool.m4'  
libtoolize: copying file 'm4/ltoptions.m4'  
libtoolize: copying file 'm4/ltsugar.m4'  
libtoolize: copying file 'm4/lversion.m4'  
libtoolize: copying file 'm4/lt-obsolete.m4'  
autoreconf: running: /usr/bin/autoconf  
autoreconf: running: /usr/bin/autoheader  
autoreconf: running: automake --add-missing --copy --no-force  
configure.ac:17: installing 'config/ar-lib'  
configure.ac:9: installing 'config/compile'  
configure.ac:24: installing 'config/config.guess'  
configure.ac:24: installing 'config/config.sub'  
configure.ac:5: installing 'config/install-sh'  
configure.ac:5: installing 'config/missing'  
asn1c/Makefile.am: installing 'config/depcomp'  
parallel-tests: installing 'config/test-driver'  
autoreconf: Leaving directory `.'  
srmmap@srmmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c$
```

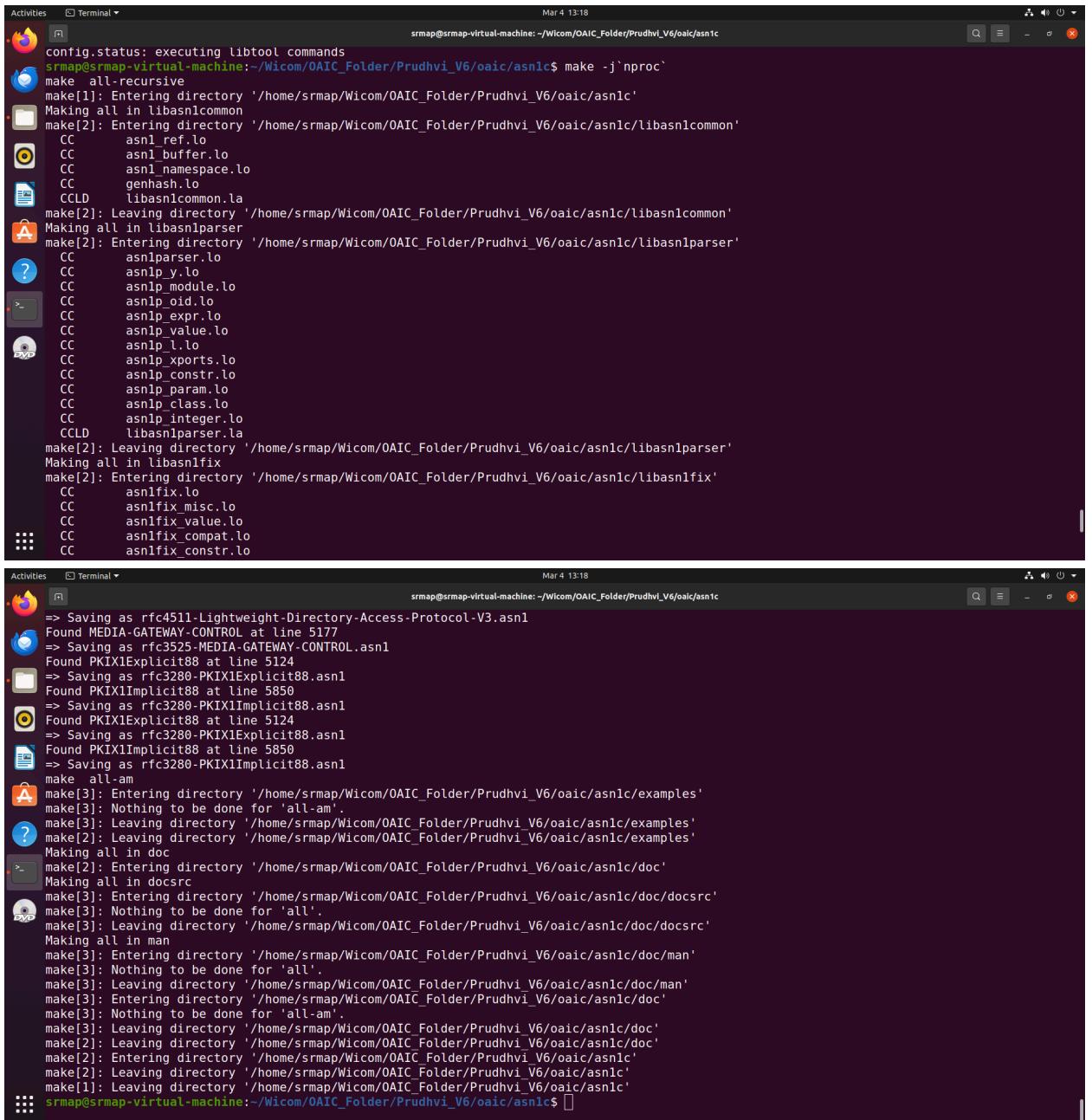
33. ./configure

The image shows two terminal windows side-by-side. Both are running on a Linux desktop environment with a dark theme. The top terminal window has the title "Activities Terminal" and the command "srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c\$./configure". It displays the output of the "autoreconf" command, which performs various checks and configurations for the build system. The bottom terminal window has the title "Activities Terminal" and the command "srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c\$". It displays the output of the "config.status" command, which creates configuration files for the project. Both terminals show the command prompt again at the end.

```
autoreconf: Leaving directory `.'
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c$ ./configure
checking for a BSD-compatible install... /usr/bin/install -c
checking whether build environment is sane... yes
checking for a thread-safe mkdir -p... /usr/bin/mkdir -p
checking for gawk... no
checking for mawk
checking whether make sets $(MAKE)... yes
checking whether make supports nested variables... yes
checking for gcc... gcc
checking whether the C compiler works... yes
checking for C compiler default output file name... a.out
checking for suffix of executables...
checking whether we are cross compiling... no
checking for suffix of object files... o
checking whether we are using the GNU C compiler... yes
checking whether gcc accepts -g... yes
checking for gcc option to accept ISO C89... none needed
checking whether gcc understands -c and -o together... yes
checking whether make supports the include directive... yes (GNU style)
checking dependency style of gcc... gcc3
checking how to run the C preprocessor... gcc -E
checking whether ln -s works... yes
checking whether make sets $(MAKE)... (cached) yes
checking for bison... no
checking for byacc... no
checking for flex... no
checking for lex... no
checking for ar... ar
checking the archiver (ar) interface... ar
checking for g++... g++
checking whether we are using the GNU C++ compiler... yes
checking whether g++ accepts -g... yes
checking dependency style of g++... gcc3
checking build system type... x86_64_pc-linux-gnu

srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c$ checking for library containing getopt... none required
checking for strtoll... yes
checking for mergesort... no
checking for mkstemp... yes
checking for timegm... yes
checking whether strcasecmp is declared... yes
checking whether vasprintf is declared... no
checking for pandoc... no
checking that generated files are newer than configure... done
configure: creating ./config.status
config.status: creating tests/tests-c-compiler/check-src/Makefile
config.status: creating tests/tests-asn1c-compiler/Makefile
config.status: creating tests/tests-asn1c-smoke/Makefile
config.status: creating tests/tests-randomized/Makefile
config.status: creating tests/tests-c-compiler/Makefile
config.status: creating tests/tests-skeletons/Makefile
config.status: creating libasn1compiler/Makefile
config.status: creating libasn1common/Makefile
config.status: creating libasn1parser/Makefile
config.status: creating libasn1print/Makefile
config.status: creating libasn1fix/Makefile
config.status: creating doc/docsrc/Makefile
config.status: creating skeletons/Makefile
config.status: creating examples/Makefile
config.status: creating doc/man/Makefile
config.status: creating tests/Makefile
config.status: creating asn1c/Makefile
config.status: creating doc/Makefile
config.status: creating Makefile
config.status: creating config.h
config.status: executing depfiles commands
config.status: executing libtool commands
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c$
```

34. make -j`nproc`



```
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c$ make -j`nproc`
config.status: executing libtool commands
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c$ make -j`nproc`
make all-recursive
make[1]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c'
  Making all in libasn1common
make[2]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/libasn1common'
    CC      asn1_ref.lo
    CC      asn1_buffer.lo
    CC      asn1_namespace.lo
    CC      genhash.lo
  CCLD    libasn1common.la
make[2]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/libasn1common'
  Making all in libasn1parser
make[2]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/libasn1parser'
    CC      asn1parser.lo
    CC      asn1p_y.lo
    CC      asn1p_module.lo
    CC      asn1p_oid.lo
    CC      asn1p_expr.lo
    CC      asn1p_value.lo
    CC      asn1p_l.lo
    CC      asn1p_xports.lo
    CC      asn1p_constr.lo
    CC      asn1p_param.lo
    CC      asn1p_class.lo
    CC      asn1p_integer.lo
  CCLD    libasn1parser.la
make[2]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/libasn1parser'
  Making all in libasn1fix
make[2]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/libasn1fix'
    CC      asn1fix.lo
    CC      asn1fix_misc.lo
    CC      asn1fix_value.lo
    CC      asn1fix_compat.lo
    CC      asn1fix_Constr.lo
make[2]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/libasn1fix'

srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c$ 
--> Saving as rfc4511-Lightweight-Directory-Access-Protocol-V3.asn1
Found MEDIA-GATEWAY-CONTROL at line 5177
--> Saving as rfc3525-MEDIA-GATEWAY-CONTROL.asn1
Found PKIX1Explicit88 at line 5124
--> Saving as rfc3280-PKIX1Explicit88.asn1
Found PKIX1Implicit88 at line 5850
--> Saving as rfc3280-PKIX1Implicit88.asn1
Found PKIX1Explicit88 at line 5124
--> Saving as rfc3280-PKIX1Explicit88.asn1
Found PKIX1Implicit88 at line 5850
--> Saving as rfc3280-PKIX1Implicit88.asn1
make all-am
make[3]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/examples'
make[3]: Nothing to be done for 'all-am'.
make[2]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/examples'
make[2]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/examples'
  Making all in doc
make[2]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc'
  Making all in docsrc
make[3]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc/docsrc'
make[3]: Nothing to be done for 'all'.
make[3]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc/docsrc'
  Making all in man
make[3]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc/man'
make[3]: Nothing to be done for 'all'.
make[3]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc/man'
make[3]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc'
make[3]: Nothing to be done for 'all-am'.
make[3]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc'
make[2]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc'
make[2]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c'
make[2]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c'
make[1]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c'
```

35. sudo make install

The image shows two terminal windows side-by-side, both titled "Activities Terminal". The top terminal window is running on "srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c\$ sudo make install". It displays the command being run and the output of the "make install" process. The bottom terminal window is also running on "srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c\$ sudo make install" and shows a similar sequence of directory entries and file compilations. Both terminals are set against a dark background with light-colored text.

```
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c$ sudo make install
[sudo] password for srmap:
Making install in libasn1common
make[1]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/libasn1common'
make[2]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/libasn1common'
make[2]: Nothing to be done for 'install-exec-am'.
make[2]: Nothing to be done for 'install-data-am'.
make[2]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/libasn1common'
Making install in libasn1parser
make[1]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/libasn1parser'
./expr-h.pl asnlp_expr.h > asnlp_expr_str.h
      CC      asnlp_parser.lo
      CC      asnlp_y.lo
      CC      asnlp_l.lo
      CC      asnlp_module.lo
      CC      asnlp_oid.lo
      CC      asnlp_value.lo
      CC      asnlp_expr.lo
      CC      asnlp_exports.lo
      CC      asnlp_constr.lo
      CC      asnlp_param.lo
      CC      asnlp_class.lo
      CCLD   libasn1parser.la
make[2]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/libasn1parser'
make[2]: Nothing to be done for 'install-exec-am'.
make[2]: Nothing to be done for 'install-data-am'.
make[2]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/libasn1parser'
make[1]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/libasn1parser'
Making install in libasn1fix
make[1]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/libasn1fix'
      CC      asn1fix.lo
      CC      asn1fix_misc.lo
      CC      asn1fix_value.lo
      CC      asn1fix_compat.lo
      CC      asn1fix_constr.lo
      CC      asn1fix_cstring.lo
      CC      asn1fix_retrieve.lo
      CC      asn1fix_bitstring.lo
      CC      asn1fix_constraint.lo
      CC      asn1fix_integer.lo
      CC      asn1fix_range.lo
      CC      asn1fix_deref.lo
      CC      asn1fix_derefv.lo
      CC      asn1fix_export.lo
      CC      asn1fix_param.lo
      CC      asn1fix_class.lo
      CC      asn1fix_tags.lo
      CC      asn1fix_enum.lo
      CC      asn1fix_cws.lo
      CC      asn1fix_constraint_compat.lo
      CCLD   libasn1fix.la
make[2]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/libasn1fix'
make[2]: Nothing to be done for 'install-exec-am'.
make[2]: Nothing to be done for 'install-data-am'.
make[2]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/libasn1fix'
make[1]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/libasn1fix'
Making install in libasn1print
make[1]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/libasn1print'
      CC      asn1print.lo
```

```

Activities Terminal Mar 4 13:20
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic asn1c
make[4]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/tests/tests-c-compiler'
make[3]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/tests/tests-c-compiler'
make[2]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/tests/tests-c-compiler'
Making install in tests-randomized
make[2]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/tests/tests-randomized'
make[3]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/tests/tests-randomized'
make[3]: Nothing to be done for 'install-exec-am'.
make[3]: Nothing to be done for 'install-data-am'.
make[3]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/tests/tests-randomized'
make[2]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/tests'
make[3]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/tests'
make[3]: Nothing to be done for 'install-exec-am'.
make[3]: Nothing to be done for 'install-data-am'.
make[3]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/tests'
make[2]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/tests'
make[1]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/tests'
Making install in examples
make[1]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/examples'
make install-am
make[2]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/examples'
make[3]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/examples'
/usr/bin/mkdir -p '/usr/local/bin'
/usr/bin/install -c crfc2asn1.pl '/usr/local/bin'
make[3]: Nothing to be done for 'install-data-am'.
make[3]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/examples'
make[2]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/examples'
make[1]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/examples'
Making install in doc
make[1]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc'
Making install in docsrc
make[2]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc/docsrc'
make[3]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc/docsrc'
make[3]: Nothing to be done for 'install-exec-am'.
make[3]: Nothing to be done for 'install-data-am'.
make[1]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc'
make[1]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/docsrc'
make[2]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc/docsrc'
make[3]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc/docsrc'
make[3]: Nothing to be done for 'install-exec-am'.
make[1]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc'
make[1]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc/man'
make[3]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc/man'
make[3]: Nothing to be done for 'install-exec-am'.
/usr/bin/mkdir -p '/usr/local/share/man/man1'
/usr/bin/install -c -m 644 asn1c.1 unber.1 enber.1 '/usr/local/share/man/man1'
make[3]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc/man'
make[2]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc/man'
make[2]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc'
make[3]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc'
make[3]: Nothing to be done for 'install-exec-am'.
/usr/bin/mkdir -p '/usr/local/share/doc/asn1c'
/usr/bin/install -c -m 644 ./asn1c-quick.pdf ./asn1c-usage.pdf '/usr/local/share/doc/asn1c'
make[3]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc'
make[2]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc'
make[1]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c/doc'
make[1]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c'
make[2]: Entering directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c'
make[2]: Nothing to be done for 'install-exec-am'.
/usr/bin/mkdir -p '/usr/local/share/doc/asn1c'
/usr/bin/install -c -m 644 README.md INSTALL.md REQUIREMENTS.md FAQ ChangeLog BUGS '/usr/local/share/doc/asn1c'
make[2]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c'
make[1]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c'
make[1]: Leaving directory '/home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/asn1c'

Mar 4 13:21
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic asn1c

```

36. sudo ldconfig

37. cd ..

```

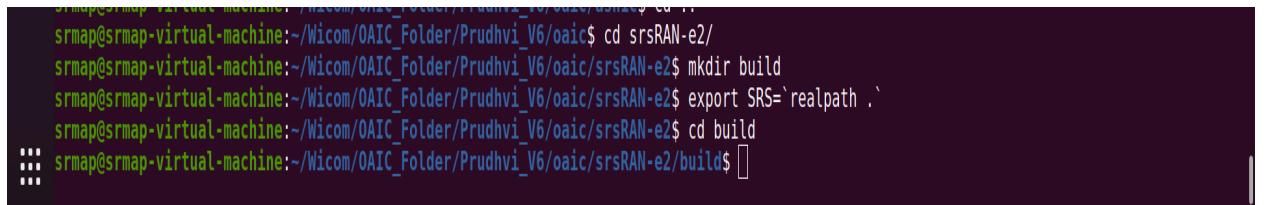
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic asn1c$ sudo ldconfig
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic asn1c$ cd ..
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ 

```

srsRAN with E2 agent Installation

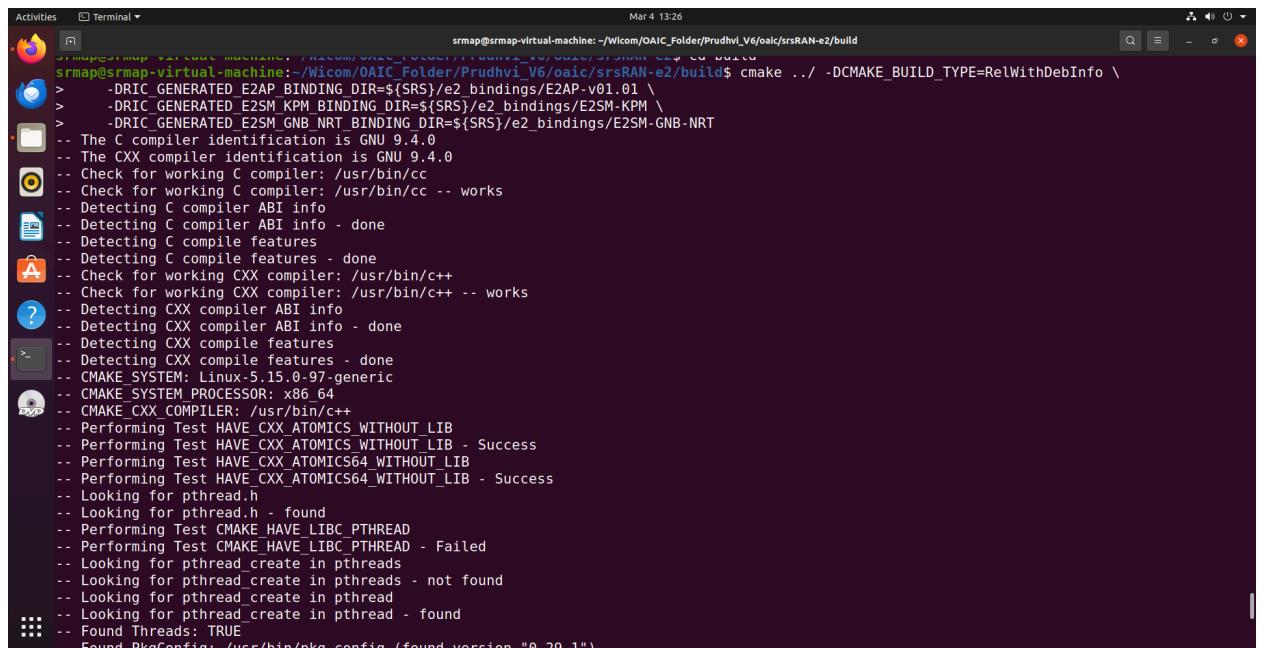
Installation from Source

```
38. cd srsRAN-e2  
39. mkdir build  
40. export SRS=`realpath .`  
41. cd build
```



```
srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ cd srsRAN-e2/  
srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2$ mkdir build  
srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2$ export SRS='`realpath .`'  
srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2$ cd build  
[...]  
srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/build$
```

```
42. cmake .. -DCMAKE_BUILD_TYPE=RelWithDebInfo \
    -DRIC_GENERATED_E2AP_BINDING_DIR=${SRS}/e2_bindings/E2AP-v01.01 \
    -DRIC_GENERATED_E2SM_KPM_BINDING_DIR=${SRS}/e2_bindings/E2SM-KPM \
    -DRIC_GENERATED_E2SM_GNB_NRT_BINDING_DIR=${SRS}/e2_bindings/E2SM-GNB-NRT
```



```
Activities Terminal Mar 4 13:26  
srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/build  
> -DRIC_GENERATED_E2AP_BINDING_DIR=${SRS}/e2_bindings/E2AP-v01.01 \
> -DRIC_GENERATED_E2SM_KPM_BINDING_DIR=${SRS}/e2_bindings/E2SM-KPM \
> -DRIC_GENERATED_E2SM_GNB_NRT_BINDING_DIR=${SRS}/e2_bindings/E2SM-GNB-NRT  
-- The C compiler identification is GNU 9.4.0  
-- The CXX compiler identification is GNU 9.4.0  
-- Check for working C compiler: /usr/bin/cc  
-- Check for working C compiler: /usr/bin/cc -- works  
-- Detecting C compiler ABI info  
-- Detecting C compiler ABI info - done  
-- Detecting C compile features  
-- Detecting C compile features - done  
-- Check for working CXX compiler: /usr/bin/c++
-- Check for working CXX compiler: /usr/bin/c++ -- works  
-- Detecting CXX compiler ABI info  
-- Detecting CXX compiler ABI info - done  
-- Detecting CXX compile features  
-- Detecting CXX compile features - done  
-- CMAKE SYSTEM: Linux-5.15.0-97-generic  
-- CMAKE SYSTEM PROCESSOR: x86_64  
-- CMAKE_CXX_COMPILER: /usr/bin/c++
-- Performing Test HAVE_CXX_ATOMICS WITHOUT_LIB
-- Performing Test HAVE_CXX_ATOMICS WITHOUT_LIB - Success
-- Performing Test HAVE_CXX_ATOMICS64 WITHOUT_LIB
-- Performing Test HAVE_CXX_ATOMICS64 WITHOUT_LIB - Success
-- Looking for pthread.h
-- Looking for pthread.h - found
-- Performing Test CMAKE_HAVE_LIBC_PTHREAD
-- Performing Test CMAKE_HAVE_LIBC_PTHREAD - Failed
-- Looking for pthread_create in pthreads
-- Looking for pthread_create in pthreads - not found
-- Looking for pthread_create in pthread
-- Looking for pthread_create in pthread - found
-- Found Threads: TRUE
Found PkgConfig: /usr/bin/pkg-config (found version "0.29.1")
```

```

Activities Terminal Mar 4 13:26
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/build
-- Performing Test CND_ENABLE_CUST_SKIQ - Success
-- SKIQ LIBRARIES SKIQ_LIBRARY-NOTFOUND SKIQ_LIBRARY_GLIB-NOTFOUND SKIQ_LIBRARY_USB-NOTFOUND
-- SKIQ INCLUDE DIRS SKIQ_INCLUDE_DIRS-NOTFOUND
-- Could NOT find SKIQ (missing: SKIQ_LIBRARIES SKIQ_INCLUDE_DIRS)
-- Checking for module 'libbladeRF'
--   No package 'libbladeRF' found
-- libbladeRF not found.
-- FINDING SOAPY.
-- Checking for module 'SoapySDR'
--   No package 'SoapySDR' found
-- libSOAPYSDR not found.
-- FINDING ZEROMQ.
-- Checking for module 'ZeroMQ'
--   No package 'ZeroMQ' found
-- Found libZEROMQ: /usr/include, /usr/lib/x86_64-linux-gnu/libzmq.so
-- Found Boost: /usr/lib/x86_64-linux-gnu/cmake/Boost-1.71.0/BoostConfig.cmake (found suitable version "1.71.0", minimum required is "1.35")
found components: program options
-- SRSQt LIBRARIES SRSQt_LIBRARIES-NOTFOUND
-- SRSQt INCLUDE DIRS SRSQt_INCLUDE_DIRS-NOTFOUND
-- Could NOT find SRSQt (missing: SRSQt_LIBRARIES SRSQt_INCLUDE_DIRS)
-- Could NOT find libbwd (missing: LIBBWD_LIBRARY LIBBWD_INCLUDE_DIR)
-- Could NOT find libbfbd (missing: LIBBFBD_LIBRARY LIBBFBD_INCLUDE_DIR)
-- Could NOT find libdwarf (missing: LIBDWARF_LIBRARY LIBDWARF_INCLUDE_DIR LIBELF_LIBRARY LIBELF_INCLUDE_DIR)
-- Found Backward: /home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/cmake/modules
-- Backward-cpp found, but external libraries are missing.
-- Performing Test HAVE_WNO_UNUSED_BUT_SET_VARIABLE - Success
-- Performing Test HAVE_WNO_UNUSED_BUT_SET_VARIABLE - Success
-- Performing Test HAVE_SSE
-- Performing Test HAVE_SSE - Success
-- SSE4.1 is enabled - target CPU must support it
-- Performing Test HAVE_AVX
-- Performing Test HAVE_AVX - Success
-- AVX is enabled - target CPU must support it
-- Performing Test HAVE_AVX2
-- Performing Test HAVE_AVX2 - Success
-- AVX2 is enabled - target CPU must support it

Activities Terminal Mar 4 13:26
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/build
-- No package 'sctp' found
-- SCTP LIBRARIES: /usr/lib/x86_64-linux-gnu/libsctp.so
-- SCTP INCLUDE DIRS: /usr/include
-- Found SCTP: /usr/lib/x86_64-linux-gnu/libsctp.so
-- No post-build command defined
-- No post-build command defined
-- Building with srseUE
-- No post-build command defined
-- No post-build-UE command defined
-- Building with srseNB
-- Found LibConfig++: /usr/lib/x86_64-linux-gnu/libconfig++.so
-- static LibConfig++ path: /usr/lib/x86_64-linux-gnu/libconfig++.a
-- Found LibConfig: /usr/lib/x86_64-linux-gnu/libconfig.so
-- static LibConfig path: /usr/lib/x86_64-linux-gnu/libconfig.a
-- Checking for module 'sctp'
--   No package 'sctp' found
-- SCTP LIBRARIES: /usr/lib/x86_64-linux-gnu/libsctp.so
-- SCTP INCLUDE DIRS: /usr/include
-- No post-build-ENB command defined
-- Building with srsePC
-- Found LibConfig++: /usr/lib/x86_64-linux-gnu/libconfig++.so
-- static LibConfig++ path: /usr/lib/x86_64-linux-gnu/libconfig++.a
-- Found LibConfig: /usr/lib/x86_64-linux-gnu/libconfig.so
-- static LibConfig path: /usr/lib/x86_64-linux-gnu/libconfig.a
-- Checking for module 'sctp'
--   No package 'sctp' found
-- SCTP LIBRARIES: /usr/lib/x86_64-linux-gnu/libsctp.so
-- SCTP INCLUDE DIRS: /usr/include
-- No post-build-EPC command defined
-- Configuring done
-- Generating done
-- Build files have been written to: /home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/build
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/build$ 

```

43. make -j`nproc`

```

Activities Terminal Mar 4 13:28
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/build
[ 36%] Built target srsran_gnb
Scanning dependencies of target srsran_gnb
Scanning dependencies of target srsran_asn1
Scanning dependencies of target gen_build_info
Scanning dependencies of target srsran_agc
Scanning dependencies of target support
Scanning dependencies of target srsran_phy_common
Scanning dependencies of target srsran_fec
Scanning dependencies of target srsran_ch_estimation
-- Generating build info.h
[ 0%] Built target gen_build_info
Scanning dependencies of target srsran_mimo
[A] [ 0%] Building C object lib/src/phy/agc/CMakeFiles/srsran_agc.dir/agc.c.o
[ 0%] Building C object lib/src/phy/common/CMakeFiles/srsran_phy_common.dir/phy_common.c.o
[ 0%] Building C object lib/src/phy/gnb/CMakeFiles/srsran_gnb.dir/gnb_dl.c.o
[ 0%] Building CXX object lib/src/support/CMakeFiles/support.dir/emergency_handlers.cc.o
[ 0%] Building CXX object lib/src/asnl/CMakeFiles/srsran_asnl.dir/liblte_common.cc.o
[ 0%] Building C object lib/src/phy/mimo/CMakeFiles/srsran_mimo.dir/layermap.c.o
[ 0%] Building C object lib/src/phy/fec/CMakeFiles/srsran_fec.dir/cbsegm.c.o
[ 0%] Building C object lib/src/phy/ch_estimation/CMakeFiles/srsran_ch_estimation.dir/chest_common.c.o
[ 0%] Building C object lib/src/phy/ch_estimation/CMakeFiles/srsran_ch_estimation.dir/chest_dl.c.o
[ 0%] Built target srsran_agc
[ 0%] Building C object lib/src/phy/ch_estimation/CMakeFiles/srsran_ch_estimation.dir/chest_dl_nbiot.c.o
[ 0%] Building CXX object lib/src/asnl/CMakeFiles/srsran_asnl.dir/liblte_mme.cc.o
[ 0%] Building C object lib/src/phy/mimo/CMakeFiles/srsran_mimo.dir/precoding.c.o
[ 0%] Building C object lib/src/phy/gnb/CMakeFiles/srsran_gnb.dir/gnb_ul.c.o
[ 0%] Building C object lib/src/phy/common/CMakeFiles/srsran_phy_common.dir/phy_common_sl.c.o
[ 0%] Building CXX object lib/src/asnl/CMakeFiles/srsran_asnl.dir/gtpc.cc.o
[ 0%] Built target srsran_gnb
Scanning dependencies of target srsran_phch
[ 1%] Building C object lib/src/phy/fec/CMakeFiles/srsran_fec.dir/softbuffer.c.o
[ 1%] Building C object lib/src/phy/common/CMakeFiles/srsran_phy_common.dir/phy_common_nr.c.o
[ 1%] Building C object lib/src/phy/phch/CMakeFiles/srsran_phch.dir/cqic.c.o
[ 1%] Building C object lib/src/phy/phch/CMakeFiles/srsran_phch.dir/proc.c.o
[B] [ 1%] Built target srsran_phch

Activities Terminal Mar 4 13:29
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/build
[ 36%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/ /e2_bindings/E2SM-GNB-NRT/constr_CHOICE.c.o
[ 36%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/ /e2_bindings/E2SM-GNB-NRT/constr_SEQUENCE.c.o
[ 36%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/ /e2_bindings/E2SM-GNB-NRT/constr_SEQUENCE_OF.c.o
[ 36%] Building CXX object srsenb/src/stack/ngap/CMakeFiles/srsgnb_ngap.dir/ngap_ue.c.o
[ 37%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/ /e2_bindings/E2SM-GNB-NRT/constr_SET_OF.c.o
[ 37%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/ /e2_bindings/E2SM-GNB-NRT/constr_TYPE.c.o
[ 37%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/ /e2_bindings/E2SM-GNB-NRT/constraints.c.o
[ 37%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/ /e2_bindings/E2SM-GNB-NRT/der_encoder.c.o
[ 37%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/ /e2_bindings/E2SM-GNB-NRT/per_decoder.c.o
[ 37%] Linking CXX static library libsrgnb_rrc.a
[ 37%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/ /e2_bindings/E2SM-GNB-NRT/per_encoder.c.o
[ 37%] Built target srsgnb_rrc
[A] [ 37%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/ /e2_bindings/E2SM-GNB-NRT/per_opentype.c.o
[ 37%] Building CXX object srsenb/src/stack/ngap/CMakeFiles/srsgnb_ngap.dir/ngap_ue_proc.c.o
[ 37%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/ /e2_bindings/E2SM-GNB-NRT/per_support.c.o
[ 37%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/ /e2_bindings/E2SM-GNB-NRT/xer_decoder.c.o
[ 37%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/ /e2_bindings/E2SM-GNB-NRT/xer_encoder.c.o
[ 37%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/ /e2_bindings/E2SM-GNB-NRT/xer_support.c.o
[ 37%] Building CXX object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/e2ap_encode.c.o
[ 37%] Building CXX object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/e2ap_generate.c.o
[ 37%] Building CXX object srsenb/src/stack/rrc/CMakeFiles/srsue_rrc.dir/rrc_rlf_report.cc.o
[ 37%] Building CXX object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/ngap_ue_decode.c.o
[ 37%] Building CXX object srsenb/src/stack/rrc/CMakeFiles/srsue_rrc.dir/phy_controller.cc.o
[ 37%] Building CXX object srsenb/src/stack/ngap/CMakeFiles/srsgnb_ngap.dir/ngap_ue_bearer_manager.c.o
[ 37%] Linking CXX static library libsrsenb_slap.a
[ 37%] Built target srsenb_slap
Scanning dependencies of target srsgnb_upper
[ 38%] Building CXX object srsenb/src/stack/upper/CMakeFiles/srsgnb_upper.dir/sdap.c.o
[ 38%] Linking CXX static library libsrgnb_ngap.a
[ 38%] Built target srsgnb_ngap
Scanning dependencies of target sched_nr_test_suite
[ 38%] Building CXX object srsenb/test/mac/nr/CMakeFiles/sched_nr_test_suite.dir/sched_nr_common_test.cc.o
[ 38%] Building CXX object srsenb/test/mac/nr/CMakeFiles/sched_nr_test_suite.dir/sched_nr_ue_ded_test_suite.cc.o

```

```

Activities Terminal Mar 4 13:29
srmap@srmap-virtual-machine: ~/Wicom/OAI_C_Folder/Prudhvi_V6/oai/srsRAN-e2/build

[ 48%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/_/_/e2_bindings/E2SM-KPM/ber_decoder.c.o
[ 48%] Building CXX object srsepc/src/mme/CMakeFiles/srsepc_mme.dir/slap_erab_mgmt_proc.cc.o
[ 48%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/_/_/e2_bindings/E2SM-KPM/ber_tlv_length.c.o
[ 49%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/_/_/e2_bindings/E2SM-KPM/ber_tlv_tag.c.o
[ 49%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/_/_/e2_bindings/E2SM-KPM/constr_CHOICE.c.o
[ 49%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/_/_/e2_bindings/E2SM-KPM/constr_SEQUENCE.c.o
[ 49%] Building CXX object lib/src/common/CMakeFiles/srsran_common.dir/crash_handler.cc.o
[ 49%] Building C object lib/src/common/CMakeFiles/srsran_common.dir/gen_mch_tables.c.o
[ 49%] Building CXX object lib/src/common/CMakeFiles/srsran_common.dir/liblte_security.cc.o
Scanning dependencies of target csi_rs_pattern_test
[ 50%] Building C object lib/src/phy/ch_estimation/test/CMakeFiles/csi_rs_pattern_test.dir/csi_rs_pattern_test.c.o
[ 50%] Linking CXX executable csi_rs_pattern_test
[ 50%] Built target csi_rs_pattern_test
[ 50%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/_/_/e2_bindings/E2SM-KPM/constr_SEQUENCE_OF.c.o
[ 50%] Building CXX object lib/src/common/CMakeFiles/srsran_common.dir/mac_pcaps.cc.o
[ 50%] Building CXX object srsenb/src/stack/mac/CMakeFiles/srsenb_mac.dir/ue.cc.o
[ 50%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/_/_/e2_bindings/E2SM-KPM/constr_SET_OF.c.o
[ 50%] Building CXX object srsenb/src/stack/mac/nr/CMakeFiles/srsqnb_mac.dir/ue_nr.cc.o
[ 50%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/_/_/e2_bindings/E2SM-KPM/constr_TYPE.c.o
[ 50%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/_/_/e2_bindings/E2SM-KPM/constraints.c.o
[ 50%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/_/_/e2_bindings/E2SM-KPM/der_encoder.c.o
[ 50%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/_/_/e2_bindings/E2SM-KPM/per_decoder.c.o
[ 50%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/_/_/e2_bindings/E2SM-KPM/per_encoder.c.o
[ 50%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/_/_/e2_bindings/E2SM-KPM/per_opentype.c.o
[ 50%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/_/_/e2_bindings/E2SM-KPM/per_support.c.o
[ 51%] Building CXX object lib/src/common/CMakeFiles/srsran_common.dir/mac_pcaps_base.cc.o
[ 51%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/_/_/e2_bindings/E2SM-KPM/xer_decoder.c.o
[ 52%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/_/_/e2_bindings/E2SM-KPM/xer_encoder.c.o
[ 52%] Building CXX object lib/src/common/CMakeFiles/srsran_common.dir/nas_pcaps.cc.o
[ 52%] Building C object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/_/_/_/e2_bindings/E2SM-KPM/xer_support.c.o
[ 52%] Building CXX object srsepc/src/mme/CMakeFiles/srsepc_mme.dir/slap_mgmt_proc.cc.o
[ 52%] Building CXX object srsenb/src/ric/CMakeFiles/srsenb_ric.dir/e2sm_kpm.cc.o

Activities Terminal Mar 4 13:31
srmap@srmap-virtual-machine: ~/Wicom/OAI_C_Folder/Prudhvi_V6/oai/srsRAN-e2/build

[ 80%] Linking CXX executable rlc_am_control_test
[ 80%] Built target rlc_am_control_test
Scanning dependencies of target slap_asn1
[ 80%] Building CXX object lib/src/mac/CMakeFiles/srsran_mac.dir/mac_rar_pdu_nr.cc.o
[ 80%] Building CXX object lib/src/asn1/CMakeFiles/slap_asn1.dir/slap.cc.o
[ 80%] Linking CXX executable rlc_um_test
[ 80%] Built target rlc_um_test
Scanning dependencies of target rrc_nr_asn1
[ 81%] Building CXX object lib/src/asn1/CMakeFiles/rrc_nr_asn1.dir/rrc_nr.cc.o
[ 81%] Linking CXX static library libsrssran_mac.a
[ 81%] Built target srsran_mac
[ 81%] Building CXX object lib/src/asn1/CMakeFiles/rrc_nr_asn1.dir/rrc_nr_utils.cc.o
[ 81%] Linking CXX executable rlc_am_test
Scanning dependencies of target ngap_nr_asn1
[ 81%] Building CXX object lib/src/asn1/CMakeFiles/ngap_nr_asn1.dir/ngap.cc.o
[ 81%] Built target rlc_am_test
Scanning dependencies of target nas_5g_msg
[ 81%] Building CXX object lib/src/asn1/CMakeFiles/nas_5g_msg.dir/nas_5g_msg.cc.o
[ 81%] Linking CXX static library libenb_cfg_parser.a
[ 81%] Built target enb_cfg_parser
[ 81%] Building CXX object lib/src/asn1/CMakeFiles/rrc_asn1.dir/rrc/bcch_msg.cc.o
[ 81%] Building C object lib/src/phy/rf/CMakeFiles/srsran_rf.dir/rf_zmq_imp.c.o
[ 81%] Linking CXX executable rlc_am_nr_pdu_test
[ 81%] Built target rlc_am_nr_pdu_test
[ 81%] Building CXX object lib/src/asn1/CMakeFiles/rrc_asn1.dir/rrc/common.cc.o
[ 81%] Building C object lib/src/phy/rf/CMakeFiles/srsran_rf.dir/rf_zmq_imp_tx.c.o
[ 81%] Building C object lib/src/phy/rf/CMakeFiles/srsran_rf.dir/rf_zmq_imp_rx.c.o
[ 81%] Linking CXX shared library libsrssran_rf.so
[ 81%] Built target srsran_rf
[ 81%] Building CXX object lib/src/asn1/CMakeFiles/rrc_asn1.dir/rrc/common_ext.cc.o
Scanning dependencies of target asn1_utils_test
[ 81%] Building CXX object lib/test/asn1/CMakeFiles/asn1_utils_test.dir/asn1_utils_test.cc.o
[ 81%] Building CXX object lib/src/asn1/CMakeFiles/nas_5g_msg.dir/nas_5g_ies.cc.o

```

```

Activities Terminal Mar 4 13:32
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/build
[ 91%] Linking CXX executable proc_ra_nr_test
[ 91%] Building CXX object srsenb/test/mac/CMakeFiles/sched_test_rand.dir/sched_test_rand.cc.o
[ 91%] Built target proc_ra_nr_test
Scanning dependencies of target sched_cqi_test
[ 91%] Building CXX object srsenb/test/mac/CMakeFiles/sched_cqi_test.dir/sched_cqi_test.cc.o
[ 91%] Linking CXX executable sched_lc_ch_test
[ 91%] Built target sched_lc_ch_test
Scanning dependencies of target sched_benchmark_test
[ 91%] Building CXX object srsenb/test/mac/CMakeFiles/sched_benchmark_test.dir/sched_benchmark.cc.o
[ 92%] Linking CXX executable mac_nr_test
[ 92%] Linking CXX executable sched_dci_test
[ 92%] Built target sched_dci_test
Scanning dependencies of target sched_phy_resource_test
[ 92%] Building CXX object srsenb/test/mac/CMakeFiles/sched_phy_resource_test.dir/sched_phy_resource_test.cc.o
[ 92%] Built target mac_nr_test
Scanning dependencies of target sched_grid_test
[ 92%] Building CXX object srsenb/test/mac/CMakeFiles/sched_grid_test.dir/sched_grid_test.cc.o
[ 92%] Linking CXX executable sched_cqi_test
[ 92%] Linking CXX executable sched_tpc_test
[ 92%] Built target sched_cqi_test
Scanning dependencies of target enb_phy_test
[ 92%] Building CXX object srsenb/test/phy/CMakeFiles/enb_phy_test.dir/enb_phy_test.cc.o
[ 92%] Built target sched_tpc_test
Scanning dependencies of target gtpu_test
[ 93%] Building CXX object srsenb/test/upper/CMakeFiles/gtpu_test.dir/gtpu_test.cc.o
[ 93%] Linking CXX executable sched_ue_cell_test
[ 93%] Linking CXX executable sched_phy_resource_test
[ 93%] Built target sched_ue_cell_test
Scanning dependencies of target plmn_test
[ 93%] Building CXX object srsenb/test/upper/CMakeFiles/plmn_test.dir/plmn_test.cc.o
[ 93%] Built target sched_phy_resource_test
Scanning dependencies of target test_helpers
[ 93%] Building CXX object srsenb/test/rrc/CMakeFiles/test_helpers.dir/test_helpers.cc.o
[ 93%] Built target test_helpers
Mar 4 13:33
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/build
Scanning dependencies of target rrc_meascfg_test
[ 99%] Building CXX object srsenb/test/rrc/CMakeFiles/rrc_meascfg_test.dir/rrc_meascfg_test.cc.o
[ 99%] Linking CXX executable rrc_rlf_report_test
[ 99%] Linking CXX executable nas_test
[ 99%] Built target nas_test
Scanning dependencies of target erab_setup_test
[ 99%] Building CXX object srsenb/test/rrc/CMakeFiles/erab_setup_test.dir/erab_setup_test.cc.o
[ 99%] Built target rrc_rlf_report_test
Scanning dependencies of target rrc_nr_test
[ 99%] Building CXX object srsenb/test/rrc/CMakeFiles/rrc_nr_test.dir/rrc_nr_test.cc.o
[100%] Linking CXX executable sched_ca_test
[100%] Built target sched_ca_test
[100%] Building CXX object srsenb/src/CMakeFiles/srsenb.dir/enb.cc.o
[100%] Building CXX object srsue/src/CMakeFiles/srsue.dir/metrics_stdout.cc.o
[100%] Building CXX object srsue/src/CMakeFiles/srsue.dir/metrics_csv.cc.o
[100%] Building CXX object srsue/src/CMakeFiles/srsue.dir/metrics_json.cc.o
[100%] Linking CXX executable rrc_meas_test
[100%] Linking CXX executable srsue
[100%] Building CXX object srsenb/src/CMakeFiles/srsenb.dir/metrics_stdout.cc.o
[100%] Built target rrc_meas_test
[100%] Building CXX object srsenb/src/CMakeFiles/srsenb.dir/metrics_csv.cc.o
[100%] Linking CXX executable erab_setup_test
[100%] Linking CXX executable rrc_nr_test
[100%] Built target srsue
[100%] Building CXX object srsenb/src/CMakeFiles/srsenb.dir/metrics_json.cc.o
[100%] Linking CXX executable rrc_meascfg_test
[100%] Built target erab_setup_test
[100%] Built target rrc_nr_test
[100%] Built target rrc_meascfg_test
[100%] Linking CXX executable srsenb
[100%] Built target srsenb
[100%] Linking CXX executable rrc_mobility_test
[100%] Built target rrc_mobility_test
[100%] Built target rrc_mobility_test
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/build$ 

```

44. sudo make install

```
[Activities] Terminal Mar 4 13:34 srmmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/build [100%] Built target rrc_mobility_test srmmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/build$ sudo make install Install the project.. -- Install configuration: "RelWithDebInfo" -- Installing: /usr/local/bin/srsran_install_configs.sh -- Up-to-date: /usr/local/include -- Up-to-date: /usr/local/include/srsran -- Up-to-date: /usr/local/include/srsran/radio -- Installing: /usr/local/include/srsran/radio/radio_null.h -- Installing: /usr/local/include/srsran/radio/radio_metrics.h -- Installing: /usr/local/include/srsran/radio/radio_base.h -- Installing: /usr/local/include/srsran/radio/radio.h -- Installing: /usr/local/include/srsran/radio/channel_mapping.h -- Installing: /usr/local/include/srsran/radio/rf_timestamp.h -- Installing: /usr/local/include/srsran/radio/rf_buffer.h -- Up-to-date: /usr/local/include/srsran/interfaces -- Installing: /usr/local/include/srsran/interfaces/ue_phy_interfaces.h -- Installing: /usr/local/include/srsran/interfaces/ue_nas_interfaces.h -- Installing: /usr/local/include/srsran/interfaces/phy_interface_types.h -- Installing: /usr/local/include/srsran/interfaces/enb_interfaces.h -- Installing: /usr/local/include/srsran/interfaces/enb_slap_interfaces.h -- Installing: /usr/local/include/srsran/interfaces/pdcp_interface_types.h -- Installing: /usr/local/include/srsran/interfaces/enb_metrics_interface.h -- Installing: /usr/local/include/srsran/interfaces/ue_mac_interfaces.h -- Installing: /usr/local/include/srsran/interfaces/ue_usim_interfaces.h -- Installing: /usr/local/include/srsran/interfaces/ue_gw_interfaces.h -- Installing: /usr/local/include/srsran/interfaces/gnb_ngap_interfaces.h -- Installing: /usr/local/include/srsran/interfaces/enb_rlc_interfaces.h -- Installing: /usr/local/include/srsran/interfaces/enb_slicer_interface.h -- Installing: /usr/local/include/srsran/interfaces/enb_command_interface.h -- Installing: /usr/local/include/srsran/interfaces/enb_time_interface.h -- Installing: /usr/local/include/srsran/interfaces/ue_nr_interfaces.h -- Installing: /usr/local/include/srsran/interfaces/enb_phy_interfaces.h -- Installing: /usr/local/include/srsran/interfaces/ue_rlc_interfaces.h -- Installing: /usr/local/include/srsran/interfaces/enb_x2_interfaces.h Activities Terminal Mar 4 13:34 srmmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/build [Activities] Terminal Mar 4 13:34 srmmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/build -- Installing: /usr/local/lib/librrc_asn1.a -- Installing: /usr/local/lib/libslap_asn1.a -- Installing: /usr/local/lib/librrc_nr_asn1.a -- Installing: /usr/local/lib/libngap_nr_asn1.a -- Installing: /usr/local/lib/libnas_5g_msg.a -- Installing: /usr/local/lib/libssrсан_common.a -- Installing: /usr/local/lib/libssrсан_mac.a -- Installing: /usr/local/lib/libssrсан_phy.a -- Installing: /usr/local/lib/libssrсан_rf.so.21.10.0 -- Up-to-date: /usr/local/lib/libssrсан_rf.so.0 -- Up-to-date: /usr/local/lib/libssrсан_rf.so -- Installing: /usr/local/lib/libssrсан_radio.a -- Installing: /usr/local/lib/libssrсан_rlc.a -- Installing: /usr/local/lib/libssrсан_pdcp.a -- Installing: /usr/local/lib/libssrсан_gtpu.a -- Installing: /usr/local/lib/libssrсан_log.a -- Installing: /usr/local/include/srsran/version.h -- Installing: /usr/local/share/srsran/ue.conf.example -- Installing: /usr/local/bin/srsue -- Set runtime path of "/usr/local/bin/srsue" to "" -- Installing: /usr/local/share/srsran/enb.conf.example -- Installing: /usr/local/share/srsran/rb.conf.example -- Installing: /usr/local/share/srsran/rr.conf.example -- Installing: /usr/local/share/srsran/sib.conf.example -- Installing: /usr/local/share/srsran/slice_db.csv.example -- Installing: /usr/local/bin/srsenb -- Set runtime path of "/usr/local/bin/srsenb" to "" -- Installing: /usr/local/share/srsran/epc.conf.example -- Installing: /usr/local/share/srsran/mbms.conf.example -- Installing: /usr/local/share/srsran/user_db.csv.example -- Installing: /usr/local/bin/srsep_if_masq.sh -- Installing: /usr/local/bin/srsep -- Installing: /usr/local/bin/srsnmbm Activities Terminal Mar 4 13:34 srmmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/build$ ]
```

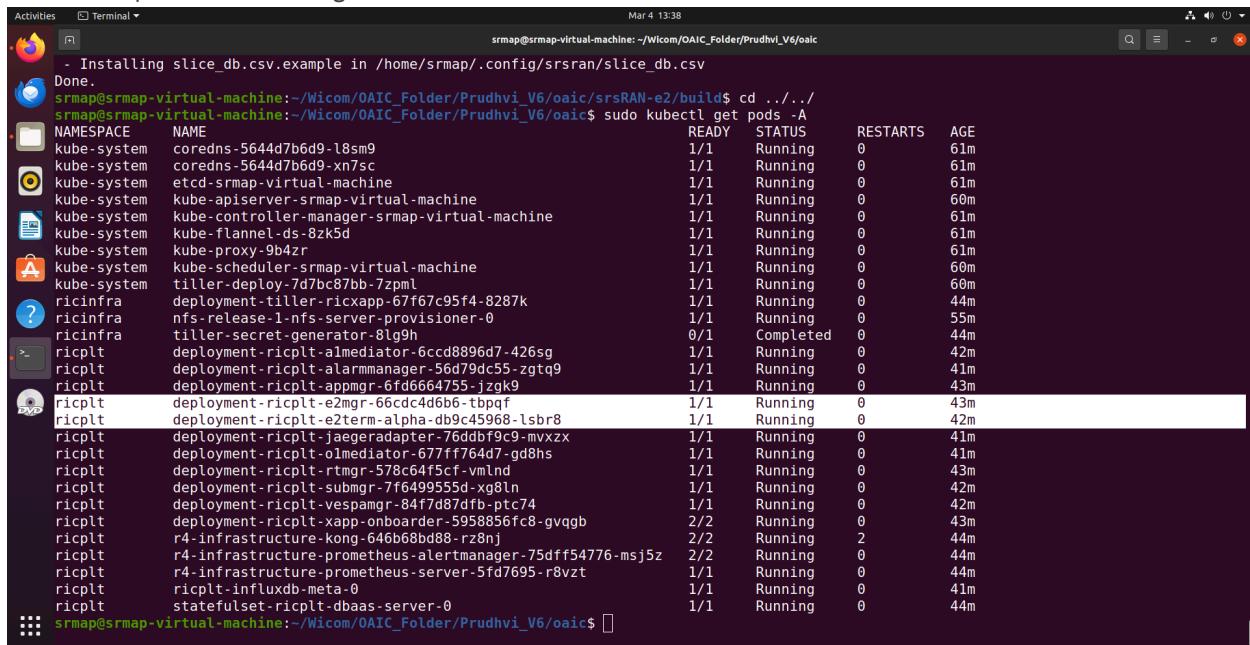
```
45. sudo ldconfig  
46. srsran_install_configs.sh user -force  
47. cd ../../
```

```

--> ./installing.sh
srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/build$ sudo ldconfig
srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/build$ srsran_install_configs.sh user --force
Force overwrite called. Overwriting any existing configuration files.
Is this OK? [y/n]: y
Installing srsRAN configuration files:
- Installing ue.conf.example in /home/srmap/.config/srsran/ue.conf
- Installing enb.conf.example in /home/srmap/.config/srsran/enb.conf
- Installing sib.conf.example in /home/srmap/.config/srsran/sib.conf
- Installing rr.conf.example in /home/srmap/.config/srsran/rr.conf
- Installing rb.conf.example in /home/srmap/.config/srsran/rb.conf
- Installing epc.conf.example in /home/srmap/.config/srsran/epc.conf
- Installing mbms.conf.example in /home/srmap/.config/srsran(mbms.conf
- Installing user_db.csv.example in /home/srmap/.config/srsran/user_db.csv
- Installing slice_db.csv.example in /home/srmap/.config/srsran/slice_db.csv
Done.
srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/build$ cd ../../
srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ 
```

→ Terminal-1

Check all pods are running



```

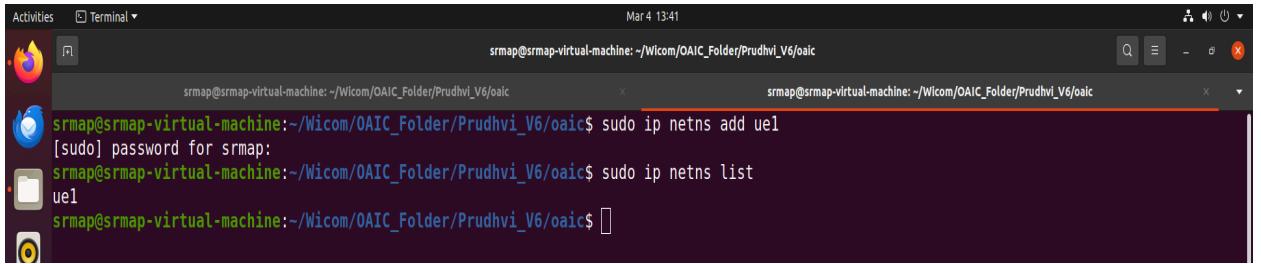
Activities Terminal Mar 4 13:38
srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ kubectl get pods -A
- Installing slice_db.csv.example in /home/srmap/.config/srsran/slice_db.csv
Done.
srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/srsRAN-e2/build$ cd ../../
srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ sudo kubectl get pods -A
NAMESPACE     NAME           READY   STATUS    RESTARTS   AGE
kube-system   coredns-5644d7bd9-l8sm9   1/1     Running   0          61m
kube-system   coredns-5644d7bd9-xn7sc   1/1     Running   0          61m
kube-system   etcd-srmapper-virtual-machine   1/1     Running   0          61m
kube-system   kube-apiserver-srmapper-virtual-machine   1/1     Running   0          60m
kube-system   kube-controller-manager-srmapper-virtual-machine   1/1     Running   0          61m
kube-system   kube-flannel-ds-8zk5d   1/1     Running   0          61m
kube-system   kube-proxy-9b4zr   1/1     Running   0          61m
kube-system   kube-scheduler-srmapper-virtual-machine   1/1     Running   0          60m
kube-system   tiller-deploy-7d7bc87bb-7zpm1   1/1     Running   0          60m
ricinfra      deployment-tiller-ricxapp-67f67c95f4-8287k   1/1     Running   0          44m
ricinfra      nfs-release-1-nfs-server-provisioner-0   1/1     Running   0          55m
ricinfra      tiller-secret-generator-8lg9h   0/1     Completed  0          44m
riplt        deployment-riplt-almediator-6ccd8896d7-426sg   1/1     Running   0          42m
riplt        deployment-riplt-alarmmanager-56d79dc55-zgtq9   1/1     Running   0          41m
riplt        deployment-riplt-appmgr-6fd6664755-jzgk9   1/1     Running   0          43m
riplt        deployment-riplt-e2mgr-66cdc4d6b6-tbpaf   1/1     Running   0          43m
riplt        deployment-riplt-e2term-alpha-db9c45968-lsbr8   1/1     Running   0          42m
riplt        deployment-riplt-jaegeradapter-76ddbf9c9-mvxxz   1/1     Running   0          41m
riplt        deployment-riplt-olmediator-677ff764d7-gd8hs   1/1     Running   0          41m
riplt        deployment-riplt-rtmgr-578c64f5cf-vmlnd   1/1     Running   0          43m
riplt        deployment-riplt-submgr-7f6499555d-xg8ln   1/1     Running   0          42m
riplt        deployment-riplt-vespamgr-84f7d87dfb-ptc74   1/1     Running   0          42m
riplt        deployment-riplt-xapp-onboarder-5958856fc8-gvqgb   2/2     Running   0          43m
riplt        r4-infrastructure-kong-646b68bd88-r28nj   2/2     Running   2          44m
riplt        r4-infrastructure-prometheus-alertmanager-75dff54776-msj5z   2/2     Running   0          44m
riplt        r4-infrastructure-prometheus-server-5fd7695-r8vzt   1/1     Running   0          44m
riplt        riplt-influxdb-meta-0   1/1     Running   0          41m
riplt        statefulset-riplt-dbaas-server-0   1/1     Running   0          44m
srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ 
```

All are running perfectly

Setup your own 5G Network

Running the EPC

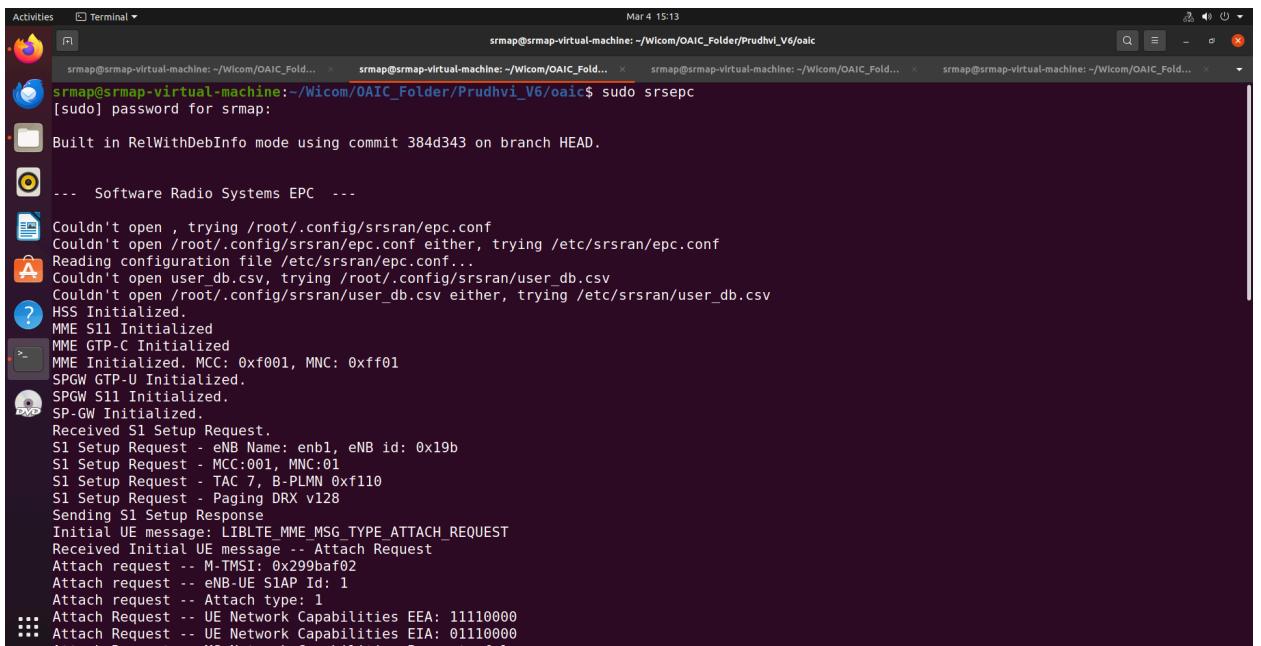
```
48. sudo ip netns add ue1  
49. sudo ip netns list
```



The screenshot shows a terminal window with two tabs. The current tab is titled 'srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic'. The command 'sudo ip netns add ue1' is being typed into the terminal. The password prompt '[sudo] password for srmap:' is visible. Below the command, the output 'ue1' is shown. The previous tab is also titled 'srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic\$'.

→ Terminal-2

```
50. sudo srsepc
```



The screenshot shows a terminal window with four tabs. The current tab is titled 'srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic\$ sudo srsepc'. The password prompt '[sudo] password for srmap:' is visible. The terminal displays the logs of the Software Radio Systems EPC initialization process. It starts with 'Built in RelWithDebInfo mode using commit 384d343 on branch HEAD.' and continues with various log entries related to the initialization of MME, HSS, SPGW, and S1 interface requests.

```
Built in RelWithDebInfo mode using commit 384d343 on branch HEAD.  
--- Software Radio Systems EPC ---  
Couldn't open , trying /root/.config/srsran/epc.conf  
Couldn't open /root/.config/srsran/epc.conf either, trying /etc/srsran/epc.conf  
Reading configuration file /etc/srsran/epc.conf...  
Couldn't open user_db.csv, trying /root/.config/srsran/user_db.csv either, trying /etc/srsran/user_db.csv  
HSS Initialized.  
MME S11 Initialized  
MME GTP-C Initialized  
MME Initialized. MCC: 0x001, MNC: 0xffff  
SPGW GTP-U Initialized.  
SP-GW Initialized.  
Received S1 Setup Request.  
S1 Setup Request - eNB Name: enb1, eNB id: 0x19b  
S1 Setup Request - MCC:001, MNC:01  
S1 Setup Request - TAC 7, B-PLMN 0xf110  
S1 Setup Request - Paging DRX v128  
Sending S1 Setup Response  
Initial UE message: LIBLTE_MME_MSG_TYPE_ATTACH_REQUEST  
Received Initial UE message -- Attach Request  
Attach request -- M-TMSI: 0x299baf02  
Attach request -- eNB-UE SIAP Id: 1  
Attach request -- Attach type: 1  
Attach Request -- UE Network Capabilities EEA: 11110000  
Attach Request -- UE Network Capabilities EIA: 01110000  
Attach Request -- UE Network Capabilities DNN: default
```

```
Activities Terminal Mar 4 15:15
srmap@srmapper-virtual-machine: ~/Wlcom/OAIC_Fold... srmap@srmapper-virtual-machine: ~/Wlcom/OAIC_Fold... srmap@srmapper-virtual-machine: ~/Wlcom/OAIC_Fold... srmap@srmapper-virtual-machine: ~/Wlcom/OAIC_Fold...
Received S1 Setup Request.
S1 Setup Request - eNB Name: enb1, eNB id: 0x19b
S1 Setup Request - MCC:001, MNC:01
S1 Setup Request - TAC 7, B-PLMN 0xf110
S1 Setup Request - Paging DRX v128
Sending S1 Setup Response
Initial UE message: LIBLTE_MME_MSG_TYPE_ATTACH_REQUEST
Received Initial UE message -- Attach Request
Attach request -- M-TMSI: 0x299ba0f2
Attach request -- eNB-UE SIAP Id: 1
Attach request -- Attach type: 1
Attach Request -- UE Network Capabilities EEA: 11110000
Attach Request -- UE Network Capabilities EIA: 01110000
Attach Request -- MS Network Capabilities Present: false
PDN Connectivity Request -- EPS Bearer Identity requested: 0
PDN Connectivity Request -- Procedure Transaction Id: 1
PDN Connectivity Request -- ESM Information Transfer requested: false
UL NAS: Received Identity Response
ID Response -- IMSI: 001010123456789
Downlink NAS: Sent Authentication Request
UL NAS: Received Authentication Response
Authentication Response -- IMSI 001010123456789
UE Authentication Accepted.
Generating KeNB with UL NAS COUNT: 0
Downlink NAS: Sending NAS Security Mode Command.
UL NAS: Received Security Mode Complete
Security Mode Command Complete -- IMSI: 001010123456789
Getting subscription information -- QCI 7
Sending Create Session Request.
Creating Session Response -- IMSI: 1010123456789
Creating Session Response -- MME control TEID: 1
Received GTP-C PDU. Message type: GTPC_MSG_TYPE_CREATE_SESSION_REQUEST
SPGW: Allocated Ctrl TEID 1
SPGW: Allocated User TEID 1

Activities Terminal Mar 4 15:15
srmap@srmapper-virtual-machine: ~/Wlcom/OAIC_Fold... srmap@srmapper-virtual-machine: ~/Wlcom/OAIC_Fold... srmap@srmapper-virtual-machine: ~/Wlcom/OAIC_Fold... srmap@srmapper-virtual-machine: ~/Wlcom/OAIC_Fold...
SPGW: Allocated Ctrl TEID 1
SPGW: Allocated User TEID 1
SPGW: Allocate UE IP 172.16.0.2
Received Create Session Response
Create Session Response -- SPGW control TEID 1
Create Session Response -- SPGW S1-U Address: 127.0.1.100
SPGW Allocated IP 172.16.0.2 to IMSI 001010123456789
Adding attach accept to Initial Context Setup Request
Sent Initial Context Setup Request. E-RAB id 5
Received Initial Context Setup Response
E-RAB Context Setup. E-RAB id 5
E-RAB Context -- eNB TEID 0x1; eNB GTP-U Address 127.0.1.1
UL NAS: Received Attach Complete
Unpacked Attached Complete Message. IMSI 1010123456789
Unpacked Activate Default EPS Bearer message. EPS Bearer id 5
Received GTP-C PDU. Message type: GTPC_MSG_TYPE MODIFY_BEARER_REQUEST
Sending EMM Information
Received UE Context Release Request. MME-UE SIAP Id 1
There are active E-RABs, send release access bearers request
Received GTP-C PDU. Message type: GTPC_MSG_TYPE_RELEASE_ACCESS_BEARERS_REQUEST
Received UE Context Release Complete. MME-UE SIAP Id 1
UE Context Release Completed.
SCTP Association Shutdown. Association: 4
Deleting eNB context. eNB Id: 0x19b
Releasing UEs context
No UEs to be released
Received S1 Setup Request.
S1 Setup Request - eNB Name: enb1, eNB id: 0x19b
S1 Setup Request - MCC:001, MNC:01
S1 Setup Request - TAC 7, B-PLMN 0xf110
S1 Setup Request - Paging DRX v128
Sending S1 Setup Response
```

→ Terminal-3

```
51. export E2NODE_IP=`hostname -I | cut -f1 -d' '`  
52. export E2NODE_PORT=5006  
53. export E2TERM_IP=`sudo kubectl get svc -n ricplt --field-selector  
    metadata.name=service-ricplt-e2term-sctp-alpha -o  
    jsonpath='{.items[0].spec.clusterIP}'`
```

```

Activities Terminal Mar 4 15:20
srmap@srmapper-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic
srmap@srmapper-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ export E2NODE_IP=`hostname -I | cut -f1 -d' '`
srmap@srmapper-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ export E2NODE_PORT=5006
srmap@srmapper-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ export E2TERM_IP=`sudo kubectl get svc -n ricplt --field-selector metadata.name=service-ricplt-e2term-sctp-alpha -o jsonpath='{.items[0].spec.clusterIP}'`"
[sudo] password for srmap:
srmap@srmapper-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ sudo srssenb --enb.n_prb=50 --enb.name=enb1 --enb.enb_id=0x19B \

```

54. `sudo srssenb --enb.n_prb=50 --enb.name=enb1 --enb.enb_id=0x19B \
--rf.device_name=zmq
--rf.device_args="fail_on_disconnect=true,tx_port0=tcp://*:2000,rx_port0=tcp://localhost:2001,tx_port1=tcp://*:2100,rx_port1=tcp://localhost:2101,id=enb,base_srate=23.04e6" \
--ric.agent.remote_ipv4_addr=${E2TERM_IP} --log.all_level=warn
--ric.agent.log_level=debug --log.filename=stdout
--ric.agent.local_ipv4_addr=${E2NODE_IP} --ric.agent.local_port=${E2NODE_PORT}`

```

Activities Terminal Mar 4 15:22
srmap@srmapper-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic
srmap@srmapper-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ sudo srssenb --enb.n_prb=50 --enb.name=enb1 --enb.enb_id=0x19B --rf.device_name=zmq \
--rf.device_args="fail_on_disconnect=true,tx_port0=tcp://*:2000,rx_port0=tcp://localhost:2001,tx_port1=tcp://*:2100,rx_port1=tcp://localhost:2101,id=enb,base_srate=23.04e6" \
--ric.agent.remote_ipv4_addr=${E2TERM_IP} --log.all_level=warn --ric.agent.log_level=debug --log.filename=stdout \
--ric.agent.local_ipv4_addr=${E2NODE_IP} --ric.agent.local_port=${E2NODE_PORT}
[sudo] password for srmap:
--- Software Radio Systems LTE eNodeB ---

Couldn't open , trying /root/.config/srsran/enb.conf
Couldn't open /root/.config/srsran/enb.conf either, trying /etc/srsran/enb.conf
Reading configuration file /etc/srsran/enb.conf...
Couldn't open sib.conf, trying /root/.config/srsran/sib.conf
Couldn't open /root/.config/srsran/sib.conf either, trying /etc/srsran/sib.conf
Couldn't open rr.conf, trying /root/.config/srsran/rr.conf
Couldn't open /root/.config/srsran/rr.conf either, trying /etc/srsran/rr.conf
Couldn't open rb.conf, trying /root/.config/srsran/rb.conf
Couldn't open /root/.config/srsran/rb.conf either, trying /etc/srsran/rb.conf

Built in RelWithDebInfo mode using commit 384d343 on branch HEAD.

2024-03-04T09:37:03.649274 [ENB] [I] Using binary srssenb with arguments: --enb.n_prb=50 --enb.name=enb1 --enb.enb_id=0x19B --rf.device_name=zmq \
--rf.device_args="fail_on_disconnect=true,tx_port0=tcp://*:2000,rx_port0=tcp://localhost:2001,tx_port1=tcp://*:2100,rx_port1=tcp://localhost:2101,id=enb,base_srate=23.04e6" \
--ric.agent.remote_ipv4_addr=10.104.181.131 --log.all_level=warn --ric.agent.log_level=debug --log.filename=stdout \
--ric.agent.local_ipv4_addr=192.168.11.128 --ric.agent.local_port=5006
2024-03-04T09:37:03.6832904 [ENB] [I] Built in RelWithDebInfo mode using commit 384d343 on branch HEAD.
2024-03-04T09:37:03.683533 [ENB] [I] Using sync queue size of one for ZMQ based radio.
2024-03-04T09:37:03.748036 [COMM] [D] [0] Setting RTO_INFO options on SCTP socket. Association 0, Initial RTO 3000, Minimum RTO 1000, Maximum RTO 6000
2024-03-04T09:37:03.748038 [COMM] [D] [0] Setting SCTP_INITMSG options on SCTP socket. Max attempts 3, Max init attempts timeout 5000
2024-03-04T09:37:03.748050 [COMM] [D] [0] Successfully bound to address 127.0.1.1:0
2024-03-04T09:37:03.748152 [COMM] [D] [0] RxSockets: socket fd=5 has been registered.
2024-03-04T09:37:03.748232 [COMM] [D] [0] Successfully bound to address 127.0.1.1:2152
2024-03-04T09:37:03.748234 [COMM] [D] [0] RxSockets: socket fd=6 has been registered.

Opening 2 channels in RF device=zmq with args=fail_on_disconnect=true,tx_port0=tcp://localhost:2001,rx_port0=tcp://localhost:2001,tx_port1=tcp://*:2100,rx_port1=tcp://*:2101,id=enb,base_srate=23.04e6

```

```

Activities Terminal Mar 4 15:23
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold...
CH0 fail_on_disconnect=true
CH1 rx_port=tcp://localhost:2101
CH1 tx_port=tcp://*:2100
Current sample rate is 11.52 MHz with a base rate of 23.04 MHz (x2 decimation)
Current sample rate is 11.52 MHz with a base rate of 23.04 MHz (x2 decimation)
Setting frequency: DL=2680.0 MHz, UL=2560.0 MHz for cc_idx=0 nof_prb=50
2024-03-04T09:37:04.311016 [RIC] [D] [0] log_level = debug
2024-03-04T09:37:04.311018 [E2SM] [I] [0] kpm: building function list
2024-03-04T09:37:04.313236 [RIC] [I] [0] added model ORAN-E2SM-KPM
2024-03-04T09:37:04.313249 [RIC] [I] [0] added model ORAN-E2SM-gNB-NRT
2024-03-04T09:37:04.313249 [RIC] [D] [0] model ORAN-E2SM-KPM function ORAN-E2SM-KPM (function_id 0) enabled and registered
2024-03-04T09:37:04.313250 [RIC] [D] [0] model ORAN-E2SM-gNB-NRT function ORAN-E2SM-gNB-NRT (function_id 1) enabled and registered
2024-03-04T09:37:04.313250 [RIC] [D] [0] RIC state -> INITIALIZED

Setting frequency: DL=1842.5 MHz, UL=1747.5 MHz for cc_idx=1 nof_prb=52

==== eNodeB started ====
Type <*> to view trace
2024-03-04T09:37:04.318021 [COMM] [D] [0] Setting RTO_INFO options on SCTP socket. Association 0, Initial RTO 3000, Minimum RTO 1000, Maximum RTO 6000
2024-03-04T09:37:04.318023 [COMM] [D] [0] Setting SCTP_INITMSG options on SCTP socket. Max attempts 3, Max init attempts timeout 5000
2024-03-04T09:37:04.318033 [COMM] [D] [0] Successfully bound to address 192.168.11.128:5006
<E2AP-PDU>
    <initiatingMessage>
        <procedureCode>1</procedureCode>
        <criticality><reject/></criticality>
        <value>
            <*>
        </value>
    </initiatingMessage>

```

```

Activities Terminal Mar 4 15:23
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold...
<value>
    <E2setupRequest>
        <protocolIEs>
            2024-03-04T09:37:04.320428 [COMM] [D] [0] RxSockets: socket fd=24 has been registered.
2024-03-04T09:37:04.320439 [RIC] [D] [0] RIC state -> CONNECTED
2024-03-04T09:37:04.320440 [RIC] [I] [0] connected to RIC on 10.104.181.131
<E2setupRequestIEs>
    <id>3</id>
    <criticality><reject/></criticality>
    <value>
        <GlobalE2node-ID>
            <eNB>
                <global-eNB-ID>
                    <pLMN-Identity>00 F1 10</pLMN-Identity>
                    <eNB-ID>
                        <macro-eNB-ID>
                            00000000000110011011
                        </macro-eNB-ID>
                    </eNB-ID>
                </global-eNB-ID>
            </eNB>
        </GlobalE2node-ID>
    </value>
</E2setupRequestIEs>
<E2setupRequestIEs>
    <id>10</id>
    <criticality><reject/></criticality>
    <value>
        <RANfunctions-List>
            <ProtocolIE-SingleContainer>
                <id>8</id>
                <criticality><reject/></criticality>
            </ProtocolIE-SingleContainer>
        </RANfunctions-List>
    </value>
</E2setupRequestIEs>

```

```

Activities Terminal Mar 4 15:23
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... </E2setupRequest>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... </initiatingMessage>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... </E2AP-PDU>
2024-03-04T09:37:04.322820 [RIC] [I] [0] sent E2setupRequest to RIC
2024-03-04T09:37:04.322822 [RIC] [D] [0] waiting for E2setupResponse...
2024-03-04T09:37:09.322890 [RIC] [D] [0] waiting for E2setupResponse...
2024-03-04T09:37:14.323184 [RIC] [D] [0] waiting for E2setupResponse...
2024-03-04T09:37:19.323382 [RIC] [D] [0] waiting for E2setupResponse...
2024-03-04T09:37:24.323567 [RIC] [D] [0] waiting for E2setupResponse...
2024-03-04T09:37:29.323739 [RIC] [D] [0] waiting for E2setupResponse...
2024-03-04T09:37:34.323916 [RIC] [D] [0] waiting for E2setupResponse...
2024-03-04T09:37:39.324084 [RIC] [D] [0] waiting for E2setupResponse...
2024-03-04T09:37:44.324254 [RIC] [D] [0] waiting for E2setupResponse...
2024-03-04T09:37:49.324445 [RIC] [D] [0] waiting for E2setupResponse...
2024-03-04T09:37:54.324621 [RIC] [D] [0] waiting for E2setupResponse...
2024-03-04T09:37:59.324779 [RIC] [D] [0] waiting for E2setupResponse...

<E2AP-PDU>
  <successfulOutcome>
    <procedureCode>1</procedureCode>
    <criticality></criticality>

```

```

Activities Terminal Mar 4 15:24
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... <RANfunctionID-Item>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... <ranFunctionID>0</ranFunctionID>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... <ranFunctionRevision>0</ranFunctionRevision>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... </RANfunctionID-Item>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... </value>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... </ProtocolIE-SingleContainer>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... <ProtocolIE-SingleContainer>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... <id>6</id>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... <criticality><ignore/></criticality>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... </value>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... <RANfunctionID-Item>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... <ranFunctionID>1</ranFunctionID>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... <ranFunctionRevision>0</ranFunctionRevision>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... </RANfunctionID-Item>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... </value>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... </ProtocolIE-SingleContainer>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... </RANfunctionsID-List>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... </value>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... </E2setupResponseIEs>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... </E2setupResponse>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... </value>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... </successfulOutcome>
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Fold... </E2AP-PDU>
2024-03-04T09:38:04.325971 [E2AP] [I] [0] decoded successful outcome E2SetupResponse (1)
2024-03-04T09:38:04.325972 [E2AP] [I] [0] Received E2SetupResponse
2024-03-04T09:38:04.325972 [E2AP] [I] [0] E2SetupResponse from RIC (mcc=318,mnc=109,id=699598)
2024-03-04T09:38:04.325973 [RIC] [D] [0] RIC state -> ESTABLISHED

```

→ Terminal-4

55. sudo srsue --gw.netns=ue1

```
Activities Terminal Mar 4 15:25
srmap@srmap-virtual-machine: ~/WiCom/OAIC_Folder/Prudhvi_V6/oaic
srmap@srmap-virtual-machine: ~/WiCom/OAIC_Folder/Prudhvi_V6/oaic$ sudo srslue --gw.netns=ue1
[sudo] password for srmap:
Couldn't open , trying /root/.config/srsran/ue.conf
Couldn't open /root/.config/srsran/ue.conf either, trying /etc/srsran/ue.conf
Reading configuration file /etc/srsran/ue.conf...
Built in RelWithDebInfo mode using commit 384d343 on branch HEAD.

Opening 2 channels in RF device=zmq with args=tx_port0=tcp://*:2001,rx_port0=tcp://localhost:2000,tx_port1=tcp://*:2101,rx_port1=tcp://localhost:2100,id=ue,base_rate=23.04e6
Available RF device list: UHD zmq
CHx base_rate=23.04e6
CHx id=ue
?
Current sample rate is 1.92 MHz with a base rate of 23.04 MHz (x12 decimation)
CH0 rx_port=tcp://localhost:2000
CH0 tx_port=tcp://*:2001
CH1 rx_port=tcp://localhost:2100
CH1 tx_port=tcp://*:2101
Waiting PHY to initialize ... done!
Attaching UE...
Current sample rate is 1.92 MHz with a base rate of 23.04 MHz (x12 decimation)
Current sample rate is 1.92 MHz with a base rate of 23.04 MHz (x12 decimation)
.
Found Cell: Mode=FDD, PCI=1, PRB=50, Ports=1, CP=Normal, CFO=-0.2 KHz
Current sample rate is 11.52 MHz with a base rate of 23.04 MHz (x2 decimation)
Current sample rate is 11.52 MHz with a base rate of 23.04 MHz (x2 decimation)
Found PLMN: Id=00101, TAC=7
Random Access Transmission: seq=22, tti=181, ra-rnti=0x2
RRC Connected
Random Access Complete. c-rnti=0x46, ta=0
Network attach successful. IP: 172.16.0.2
Software Radio Systems RAN (srsRAN) 4/3/2024 8:14:20 TZ:0
RRC NR reconfiguration successful.
```

```
Activities Terminal Mar 4 15:25
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic

Built in RelWithDebInfo mode using commit 384d343 on branch HEAD.

Opening 2 channels in RF device=zmq with args=tx_port0=tcp://*:2001,rx_port0=tcp://localhost:2000,tx_port1=tcp://*:2101,rx_port1=tcp://localhost:2100,id=ue,base_srate=23.04e6
Available RF device list: UHD zmq
CHx base_srate=23.04e6
CHx id=ue
Current sample rate is 1.92 MHz with a base rate of 23.04 MHz (x12 decimation)
CH0 rx_port=tcp://localhost:2000
CH0 tx_port=tcp://*:2001
CH1 rx_port=tcp://localhost:2100
CH1 tx_port=tcp://*:2101
Waiting PHY to initialize ... done!
Attaching UE...
Current sample rate is 1.92 MHz with a base rate of 23.04 MHz (x12 decimation)
Current sample rate is 1.92 MHz with a base rate of 23.04 MHz (x12 decimation)

Found Cell: Mode=FDD, PCI=1, PRB=50, Ports=1, CP=Normal, CFO=-0.2 KHz
Current sample rate is 11.52 MHz with a base rate of 23.04 MHz (x2 decimation)
Current sample rate is 11.52 MHz with a base rate of 23.04 MHz (x2 decimation)
Found PLMN: Id=00101, TAC=7
Random Access Transmission: seq=22, tti=181, ra_rnti=0x2
RRC Connected
Random Access Complete. c_rnti=0x46, ta=0
Network attach successful. IP: 172.16.0.2
Software Radio Systems RAN (srsRAN) 4/3/2024 8:14:20 TZ:0
RRC NR reconfiguration successful.
Random Access Transmission: prach_occasion=0, preamble_index=0, ra_rnti=0xf, tti=771
Random Access Complete. c_rnti=0x4601, ta=0
Received RRC Connection Release (releaseCause: other)
RRC IDLE
```

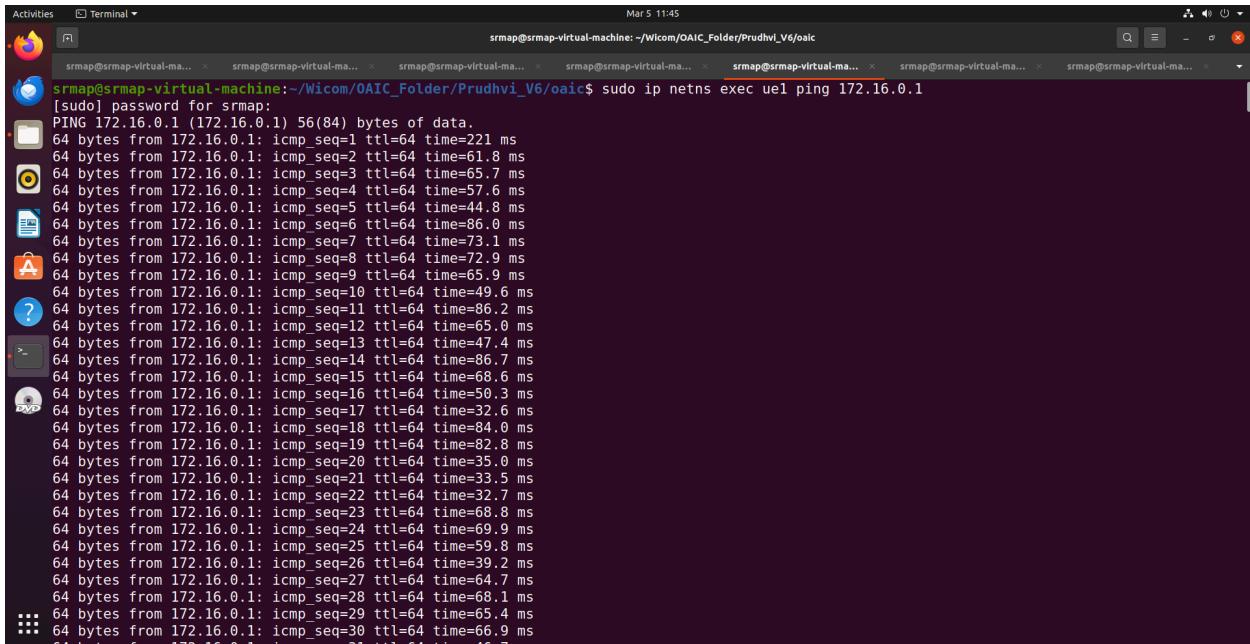
→ Terminal-5

PING

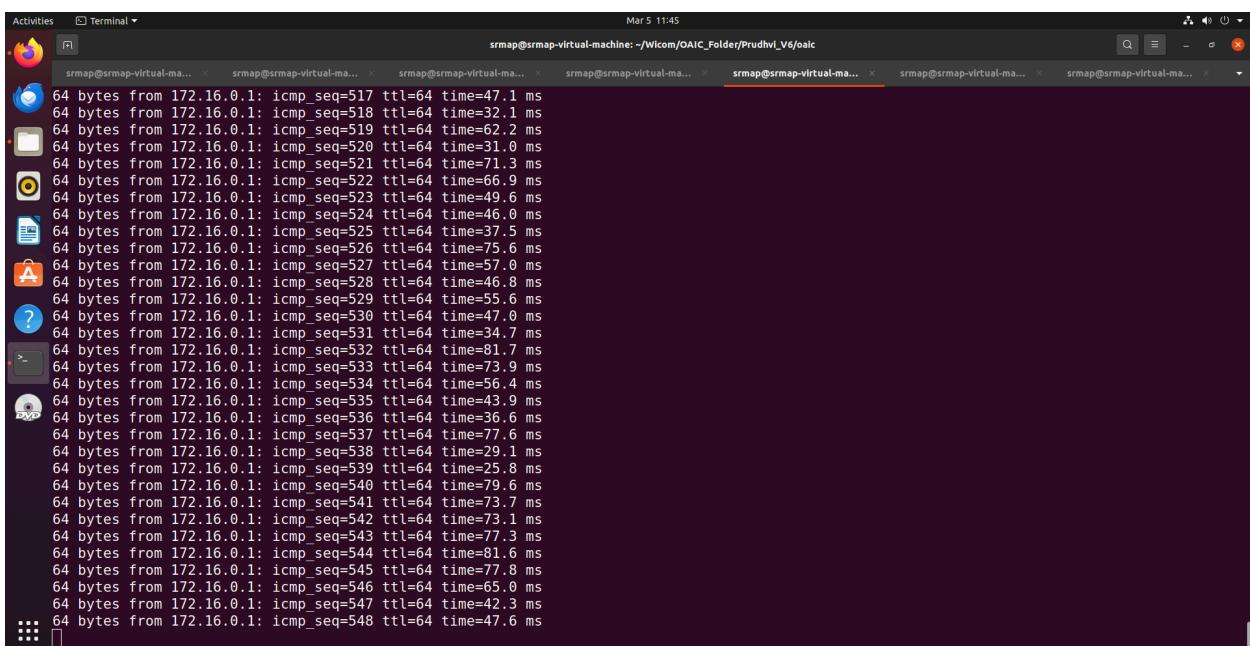
Uplink

When using zeroMQ, the ping command should be executed on a new terminal from the UE's network space

56. sudo ip netns exec ue1 ping 172.16.0.1



```
srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ sudo ip netns exec ue1 ping 172.16.0.1
[sudo] password for srmap:
PING 172.16.0.1 (172.16.0.1) 56(84) bytes of data.
64 bytes from 172.16.0.1: icmp_seq=1 ttl=64 time=221 ms
64 bytes from 172.16.0.1: icmp_seq=2 ttl=64 time=61.8 ms
64 bytes from 172.16.0.1: icmp_seq=3 ttl=64 time=65.7 ms
64 bytes from 172.16.0.1: icmp_seq=4 ttl=64 time=57.6 ms
64 bytes from 172.16.0.1: icmp_seq=5 ttl=64 time=44.8 ms
64 bytes from 172.16.0.1: icmp_seq=6 ttl=64 time=86.0 ms
64 bytes from 172.16.0.1: icmp_seq=7 ttl=64 time=73.1 ms
64 bytes from 172.16.0.1: icmp_seq=8 ttl=64 time=72.9 ms
64 bytes from 172.16.0.1: icmp_seq=9 ttl=64 time=65.9 ms
64 bytes from 172.16.0.1: icmp_seq=10 ttl=64 time=49.6 ms
64 bytes from 172.16.0.1: icmp_seq=11 ttl=64 time=86.2 ms
64 bytes from 172.16.0.1: icmp_seq=12 ttl=64 time=65.0 ms
64 bytes from 172.16.0.1: icmp_seq=13 ttl=64 time=47.4 ms
64 bytes from 172.16.0.1: icmp_seq=14 ttl=64 time=86.7 ms
64 bytes from 172.16.0.1: icmp_seq=15 ttl=64 time=68.6 ms
64 bytes from 172.16.0.1: icmp_seq=16 ttl=64 time=50.3 ms
64 bytes from 172.16.0.1: icmp_seq=17 ttl=64 time=32.6 ms
64 bytes from 172.16.0.1: icmp_seq=18 ttl=64 time=84.0 ms
64 bytes from 172.16.0.1: icmp_seq=19 ttl=64 time=82.8 ms
64 bytes from 172.16.0.1: icmp_seq=20 ttl=64 time=35.0 ms
64 bytes from 172.16.0.1: icmp_seq=21 ttl=64 time=33.5 ms
64 bytes from 172.16.0.1: icmp_seq=22 ttl=64 time=32.7 ms
64 bytes from 172.16.0.1: icmp_seq=23 ttl=64 time=68.8 ms
64 bytes from 172.16.0.1: icmp_seq=24 ttl=64 time=69.9 ms
64 bytes from 172.16.0.1: icmp_seq=25 ttl=64 time=59.8 ms
64 bytes from 172.16.0.1: icmp_seq=26 ttl=64 time=39.2 ms
64 bytes from 172.16.0.1: icmp_seq=27 ttl=64 time=64.7 ms
64 bytes from 172.16.0.1: icmp_seq=28 ttl=64 time=68.1 ms
64 bytes from 172.16.0.1: icmp_seq=29 ttl=64 time=65.4 ms
64 bytes from 172.16.0.1: icmp_seq=30 ttl=64 time=66.9 ms
64 bytes from 172.16.0.1: icmp_seq=31 ttl=64 time=47.7 ms
```



```
srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ sudo ip netns exec ue1 ping 172.16.0.1
64 bytes from 172.16.0.1: icmp_seq=517 ttl=64 time=47.1 ms
64 bytes from 172.16.0.1: icmp_seq=518 ttl=64 time=32.1 ms
64 bytes from 172.16.0.1: icmp_seq=519 ttl=64 time=62.2 ms
64 bytes from 172.16.0.1: icmp_seq=520 ttl=64 time=31.0 ms
64 bytes from 172.16.0.1: icmp_seq=521 ttl=64 time=71.3 ms
64 bytes from 172.16.0.1: icmp_seq=522 ttl=64 time=66.9 ms
64 bytes from 172.16.0.1: icmp_seq=523 ttl=64 time=49.6 ms
64 bytes from 172.16.0.1: icmp_seq=524 ttl=64 time=46.0 ms
64 bytes from 172.16.0.1: icmp_seq=525 ttl=64 time=37.5 ms
64 bytes from 172.16.0.1: icmp_seq=526 ttl=64 time=75.6 ms
64 bytes from 172.16.0.1: icmp_seq=527 ttl=64 time=57.0 ms
64 bytes from 172.16.0.1: icmp_seq=528 ttl=64 time=46.8 ms
64 bytes from 172.16.0.1: icmp_seq=529 ttl=64 time=55.6 ms
64 bytes from 172.16.0.1: icmp_seq=530 ttl=64 time=47.0 ms
64 bytes from 172.16.0.1: icmp_seq=531 ttl=64 time=34.7 ms
64 bytes from 172.16.0.1: icmp_seq=532 ttl=64 time=81.7 ms
64 bytes from 172.16.0.1: icmp_seq=533 ttl=64 time=73.9 ms
64 bytes from 172.16.0.1: icmp_seq=534 ttl=64 time=56.4 ms
64 bytes from 172.16.0.1: icmp_seq=535 ttl=64 time=43.9 ms
64 bytes from 172.16.0.1: icmp_seq=536 ttl=64 time=36.6 ms
64 bytes from 172.16.0.1: icmp_seq=537 ttl=64 time=77.6 ms
64 bytes from 172.16.0.1: icmp_seq=538 ttl=64 time=29.1 ms
64 bytes from 172.16.0.1: icmp_seq=539 ttl=64 time=25.8 ms
64 bytes from 172.16.0.1: icmp_seq=540 ttl=64 time=79.6 ms
64 bytes from 172.16.0.1: icmp_seq=541 ttl=64 time=73.7 ms
64 bytes from 172.16.0.1: icmp_seq=542 ttl=64 time=73.1 ms
64 bytes from 172.16.0.1: icmp_seq=543 ttl=64 time=77.3 ms
64 bytes from 172.16.0.1: icmp_seq=544 ttl=64 time=81.6 ms
64 bytes from 172.16.0.1: icmp_seq=545 ttl=64 time=77.8 ms
64 bytes from 172.16.0.1: icmp_seq=546 ttl=64 time=65.0 ms
64 bytes from 172.16.0.1: icmp_seq=547 ttl=64 time=42.3 ms
64 bytes from 172.16.0.1: icmp_seq=548 ttl=64 time=47.6 ms
```

→ Terminal-6

Downlink

For Downlink, on a new terminal run

57. sudo ping <ue_ip> → <ue_ip> = 172.16.0.2

```
Activities Terminal Mar 5 11:46
srmap@srmapper-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic
[sudo] password for srmap:
PING 172.16.0.2 (172.16.0.2) 56(84) bytes of data.
64 bytes from 172.16.0.2: icmp_seq=1 ttl=64 time=72.4 ms
64 bytes from 172.16.0.2: icmp_seq=2 ttl=64 time=75.1 ms
64 bytes from 172.16.0.2: icmp_seq=3 ttl=64 time=68.3 ms
64 bytes from 172.16.0.2: icmp_seq=4 ttl=64 time=36.2 ms
64 bytes from 172.16.0.2: icmp_seq=5 ttl=64 time=71.9 ms
64 bytes from 172.16.0.2: icmp_seq=6 ttl=64 time=79.0 ms
64 bytes from 172.16.0.2: icmp_seq=7 ttl=64 time=57.9 ms
64 bytes from 172.16.0.2: icmp_seq=8 ttl=64 time=39.4 ms
64 bytes from 172.16.0.2: icmp_seq=9 ttl=64 time=66.1 ms
64 bytes from 172.16.0.2: icmp_seq=10 ttl=64 time=59.4 ms
64 bytes from 172.16.0.2: icmp_seq=11 ttl=64 time=60.7 ms
64 bytes from 172.16.0.2: icmp_seq=12 ttl=64 time=47.3 ms
64 bytes from 172.16.0.2: icmp_seq=13 ttl=64 time=72.5 ms
64 bytes from 172.16.0.2: icmp_seq=14 ttl=64 time=40.0 ms
64 bytes from 172.16.0.2: icmp_seq=15 ttl=64 time=78.3 ms
64 bytes from 172.16.0.2: icmp_seq=16 ttl=64 time=73.4 ms
64 bytes from 172.16.0.2: icmp_seq=17 ttl=64 time=85.5 ms
64 bytes from 172.16.0.2: icmp_seq=18 ttl=64 time=79.1 ms
64 bytes from 172.16.0.2: icmp_seq=19 ttl=64 time=59.6 ms
64 bytes from 172.16.0.2: icmp_seq=20 ttl=64 time=38.4 ms
64 bytes from 172.16.0.2: icmp_seq=21 ttl=64 time=42.3 ms
64 bytes from 172.16.0.2: icmp_seq=22 ttl=64 time=33.7 ms
64 bytes from 172.16.0.2: icmp_seq=23 ttl=64 time=29.3 ms
64 bytes from 172.16.0.2: icmp_seq=24 ttl=64 time=69.5 ms
64 bytes from 172.16.0.2: icmp_seq=25 ttl=64 time=52.7 ms
64 bytes from 172.16.0.2: icmp_seq=26 ttl=64 time=78.4 ms
64 bytes from 172.16.0.2: icmp_seq=27 ttl=64 time=41.6 ms
64 bytes from 172.16.0.2: icmp_seq=28 ttl=64 time=77.2 ms
64 bytes from 172.16.0.2: icmp_seq=29 ttl=64 time=67.2 ms
64 bytes from 172.16.0.2: icmp_seq=30 ttl=64 time=42.1 ms
64 bytes from 172.16.0.2: icmp_seq=31 ttl=64 time=65.7 ms
```

```
Activities Terminal Mar 5 11:46
srmap@srmapper-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic
64 bytes from 172.16.0.2: icmp_seq=562 ttl=64 time=47.4 ms
64 bytes from 172.16.0.2: icmp_seq=563 ttl=64 time=28.4 ms
64 bytes from 172.16.0.2: icmp_seq=564 ttl=64 time=74.2 ms
64 bytes from 172.16.0.2: icmp_seq=565 ttl=64 time=82.7 ms
64 bytes from 172.16.0.2: icmp_seq=566 ttl=64 time=75.0 ms
64 bytes from 172.16.0.2: icmp_seq=567 ttl=64 time=66.3 ms
64 bytes from 172.16.0.2: icmp_seq=568 ttl=64 time=59.0 ms
64 bytes from 172.16.0.2: icmp_seq=569 ttl=64 time=59.1 ms
64 bytes from 172.16.0.2: icmp_seq=570 ttl=64 time=56.8 ms
64 bytes from 172.16.0.2: icmp_seq=571 ttl=64 time=47.0 ms
64 bytes from 172.16.0.2: icmp_seq=572 ttl=64 time=79.8 ms
64 bytes from 172.16.0.2: icmp_seq=573 ttl=64 time=75.2 ms
64 bytes from 172.16.0.2: icmp_seq=574 ttl=64 time=68.6 ms
64 bytes from 172.16.0.2: icmp_seq=575 ttl=64 time=78.5 ms
64 bytes from 172.16.0.2: icmp_seq=576 ttl=64 time=61.4 ms
64 bytes from 172.16.0.2: icmp_seq=577 ttl=64 time=82.1 ms
64 bytes from 172.16.0.2: icmp_seq=578 ttl=64 time=71.5 ms
64 bytes from 172.16.0.2: icmp_seq=579 ttl=64 time=55.8 ms
64 bytes from 172.16.0.2: icmp_seq=580 ttl=64 time=61.5 ms
64 bytes from 172.16.0.2: icmp_seq=581 ttl=64 time=55.4 ms
64 bytes from 172.16.0.2: icmp_seq=582 ttl=64 time=49.3 ms
64 bytes from 172.16.0.2: icmp_seq=583 ttl=64 time=35.3 ms
64 bytes from 172.16.0.2: icmp_seq=584 ttl=64 time=31.2 ms
64 bytes from 172.16.0.2: icmp_seq=585 ttl=64 time=38.4 ms
64 bytes from 172.16.0.2: icmp_seq=586 ttl=64 time=53.1 ms
64 bytes from 172.16.0.2: icmp_seq=587 ttl=64 time=38.2 ms
64 bytes from 172.16.0.2: icmp_seq=588 ttl=64 time=36.6 ms
64 bytes from 172.16.0.2: icmp_seq=589 ttl=64 time=48.4 ms
64 bytes from 172.16.0.2: icmp_seq=590 ttl=64 time=41.6 ms
64 bytes from 172.16.0.2: icmp_seq=591 ttl=64 time=35.5 ms
64 bytes from 172.16.0.2: icmp_seq=592 ttl=64 time=33.6 ms
64 bytes from 172.16.0.2: icmp_seq=593 ttl=64 time=85.1 ms
```

→ Terminal-7

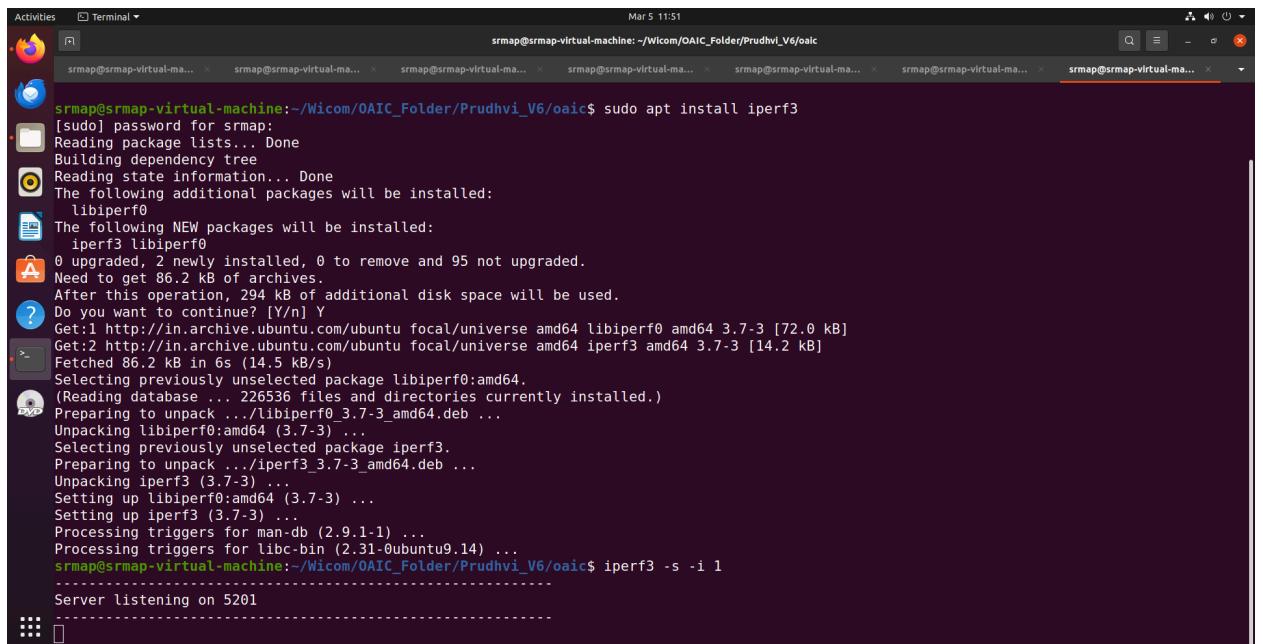
iPerf3

client will run on the UE side with the server on the network side (core)

Network Side

58. iperf3 -s -i 1

Note: Execute this command: **sudo apt install iperf3** → It installs the iperf3



The screenshot shows a terminal window titled "Terminal" with the command "srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic\$ sudo apt install iperf3" entered. The output shows the package manager reading lists, building dependency trees, and installing libiperf0 and iperf3. It also shows the download of files from archive.ubuntu.com and the unpacking of the packages. Finally, it shows the command "iperf3 -s -i 1" being run, which outputs "Server listening on 5201".

```
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ sudo apt install iperf3
[sudo] password for srmap:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libiperf0
The following NEW packages will be installed:
  iperf3 libiperf0
0 upgraded, 2 newly installed, 0 to remove and 95 not upgraded.
Need to get 86.2 kB of archives.
After this operation, 294 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://in.archive.ubuntu.com/ubuntu focal/universe amd64 libiperf0 amd64 3.7.3 [72.0 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu focal/universe amd64 iperf3 amd64 3.7.3 [14.2 kB]
Fetched 86.2 kB in 6s (14.5 kB/s)
Selecting previously unselected package libiperf0:amd64.
(Reading database ... 226536 files and directories currently installed.)
Preparing to unpack .../libiperf0_3.7.3_amd64.deb ...
Unpacking libiperf0:amd64 (3.7.3) ...
Selecting previously unselected package iperf3.
Preparing to unpack .../iperf3_3.7.3_amd64.deb ...
Unpacking iperf3 (3.7.3) ...
Setting up libiperf0:amd64 (3.7.3) ...
Setting up iperf3 (3.7.3) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for libc-bin (2.31-0ubuntu9.14) ...
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ iperf3 -s -i 1
-----
Server listening on 5201
-----
```

Now, proceed with step-58.

iperf3 -s -i 1

```
Activities Terminal Mar 5 11:57
srmap@srmapper-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ iperf3 -s -i 1
Server listening on 5201
-----
Accepted connection from 172.16.0.2, port 40370
[ 5] local 172.16.0.1 port 5201 connected to 172.16.0.2 port 40378
[ ID] Interval Transfer Bitrate
[ 5] 0.00-1.00 sec 1.16 MBytes 9.77 Mbits/sec
[ 5] 1.00-2.00 sec 1.19 MBytes 10.0 Mbits/sec
[ 5] 2.00-3.00 sec 1.20 MBytes 10.1 Mbits/sec
[ 5] 3.00-4.00 sec 1.09 MBytes 9.12 Mbits/sec
[ 5] 4.00-5.00 sec 1.15 MBytes 9.63 Mbits/sec
[ 5] 5.00-6.00 sec 1.13 MBytes 9.50 Mbits/sec
[ 5] 6.00-7.00 sec 1.06 MBytes 8.90 Mbits/sec
[ 5] 7.00-8.00 sec 1.13 MBytes 9.51 Mbits/sec
[ 5] 8.00-9.00 sec 991 KBytes 8.12 Mbits/sec
[ 5] 9.00-10.00 sec 781 KBytes 6.39 Mbits/sec
[ 5] 10.00-11.00 sec 724 KBytes 5.93 Mbits/sec
[ 5] 11.00-12.00 sec 755 KBytes 6.19 Mbits/sec
[ 5] 12.00-13.00 sec 581 KBytes 4.76 Mbits/sec
[ 5] 13.00-14.00 sec 460 KBytes 3.76 Mbits/sec
[ 5] 14.00-15.00 sec 790 KBytes 6.48 Mbits/sec
[ 5] 15.00-16.00 sec 1015 KBytes 8.31 Mbits/sec
[ 5] 16.00-17.00 sec 1.02 MBytes 8.55 Mbits/sec
[ 5] 17.00-18.00 sec 820 KBytes 6.72 Mbits/sec
[ 5] 18.00-19.00 sec 834 KBytes 6.83 Mbits/sec
[ 5] 19.00-20.00 sec 953 KBytes 7.81 Mbits/sec
[ 5] 20.00-21.00 sec 1017 KBytes 8.33 Mbits/sec
[ 5] 21.00-22.00 sec 919 KBytes 7.53 Mbits/sec
[ 5] 22.00-23.00 sec 959 KBytes 7.85 Mbits/sec
[ 5] 23.00-24.00 sec 798 KBytes 6.53 Mbits/sec
[ 5] 24.00-25.00 sec 714 KBytes 5.85 Mbits/sec
[ 5] 25.00-26.00 sec 932 KBytes 7.63 Mbits/sec
[ 5] 26.00-27.00 sec 1.07 MBytes 8.00 Mbits/sec
```

```
Activities Terminal Mar 5 11:57
srmap@srmapper-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ iperf3 -s -i 1
[ 5] 35.00-36.00 sec 424 KBytes 3.48 Mbits/sec
[ 5] 36.00-37.00 sec 622 KBytes 5.10 Mbits/sec
[ 5] 37.00-38.00 sec 724 KBytes 5.93 Mbits/sec
[ 5] 38.00-39.00 sec 773 KBytes 6.34 Mbits/sec
[ 5] 39.00-40.00 sec 823 KBytes 6.74 Mbits/sec
[ 5] 40.00-41.00 sec 460 KBytes 3.76 Mbits/sec
[ 5] 41.00-42.00 sec 527 KBytes 4.32 Mbits/sec
[ 5] 42.00-43.00 sec 822 KBytes 6.73 Mbits/sec
[ 5] 43.00-44.00 sec 1.04 MBytes 8.72 Mbits/sec
[ 5] 44.00-45.00 sec 1.17 MBytes 9.81 Mbits/sec
[ 5] 45.00-46.00 sec 1.01 MBytes 8.46 Mbits/sec
[ 5] 46.00-47.00 sec 1.12 MBytes 9.43 Mbits/sec
[ 5] 47.00-48.00 sec 1.03 MBytes 8.66 Mbits/sec
[ 5] 48.00-49.00 sec 1.03 MBytes 8.61 Mbits/sec
[ 5] 49.00-50.00 sec 872 KBytes 7.15 Mbits/sec
[ 5] 50.00-51.00 sec 816 KBytes 6.69 Mbits/sec
[ 5] 51.00-52.00 sec 936 KBytes 7.67 Mbits/sec
[ 5] 52.00-53.00 sec 1020 KBytes 8.35 Mbits/sec
[ 5] 53.00-54.00 sec 1.18 MBytes 9.93 Mbits/sec
[ 5] 54.00-55.00 sec 1.19 MBytes 9.95 Mbits/sec
[ 5] 55.00-56.00 sec 967 KBytes 7.92 Mbits/sec
[ 5] 56.00-57.00 sec 1.06 MBytes 8.89 Mbits/sec
[ 5] 57.00-58.00 sec 1.02 MBytes 8.53 Mbits/sec
[ 5] 58.00-59.00 sec 1014 KBytes 8.31 Mbits/sec
[ 5] 59.00-60.00 sec 820 KBytes 6.72 Mbits/sec
[ 5] 60.00-60.05 sec 31.1 KBytes 5.10 Mbits/sec
[ ID] Interval Transfer Bitrate
[ 5] 0.00-60.05 sec 54.9 MBytes 7.67 Mbits/sec
receiver
-----
Server listening on 5201
```

→ Terminal-8

UE-Side

59. sudo ip netns exec ue1 iperf3 -c 172.16.0.1 -b 10M -i 1 -t 60

```
Activities Terminal Mar 5 11:58
srmap@srmapper... srmap@srmapper... srmap@srmapper... srmap@srmapper... srmap@srmapper... srmap@srmapper... srmap@srmapper... srmap@srmapper... srmap@srmapper...
srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ sudo ip netns exec ue1 iperf3 -c 172.16.0.1 -b 10M -i 1 -t 60
[sudo] password for srmap:
Connecting to host 172.16.0.1, port 5201
[ 5] local 172.16.0.2 port 48378 connected to 172.16.0.1 port 5201
[ ID] Interval Transfer Bitrate Retr Cwnd
[ 5] 0.00-1.00 sec 1.31 MBytes 11.0 Mbits/sec 0 134 KBytes
[ 5] 1.00-2.00 sec 1.12 MBytes 9.44 Mbits/sec 2 123 KBytes
[ 5] 2.00-3.00 sec 1.25 MBytes 10.5 Mbits/sec 0 148 KBytes
[ 5] 3.00-4.00 sec 1.12 MBytes 9.44 Mbits/sec 6 90.5 KBytes
[ 5] 4.00-5.00 sec 1.25 MBytes 10.5 Mbits/sec 2 66.5 KBytes
[ 5] 5.00-6.00 sec 1.12 MBytes 9.44 Mbits/sec 2 58.0 KBytes
[ 5] 6.00-7.00 sec 1.12 MBytes 9.43 Mbits/sec 0 69.3 KBytes
[ 5] 7.00-8.00 sec 1.12 MBytes 9.44 Mbits/sec 5 59.4 KBytes
[ 5] 8.00-9.00 sec 1.00 MBytes 8.39 Mbits/sec 6 29.7 KBytes
[ 5] 9.00-10.00 sec 768 KBytes 6.29 Mbits/sec 2 31.1 KBytes
[ 5] 10.00-11.00 sec 768 KBytes 6.29 Mbits/sec 2 29.7 KBytes
[ 5] 11.00-12.00 sec 768 KBytes 6.29 Mbits/sec 0 45.2 KBytes
[ 5] 12.00-13.00 sec 512 KBytes 4.19 Mbits/sec 6 24.0 KBytes
[ 5] 13.00-14.00 sec 512 KBytes 4.19 Mbits/sec 4 28.3 KBytes
[ 5] 14.00-15.00 sec 768 KBytes 6.29 Mbits/sec 0 45.2 KBytes
[ 5] 15.00-16.00 sec 1.00 MBytes 8.39 Mbits/sec 0 59.4 KBytes
[ 5] 16.00-17.00 sec 1.00 MBytes 8.39 Mbits/sec 2 50.9 KBytes
[ 5] 17.00-18.00 sec 768 KBytes 6.29 Mbits/sec 4 32.5 KBytes
[ 5] 18.00-19.00 sec 896 KBytes 7.34 Mbits/sec 0 48.1 KBytes
[ 5] 19.00-20.00 sec 896 KBytes 7.34 Mbits/sec 2 42.4 KBytes
[ 5] 20.00-21.00 sec 1.00 MBytes 8.39 Mbits/sec 4 39.6 KBytes
[ 5] 21.00-22.00 sec 896 KBytes 7.34 Mbits/sec 0 53.7 KBytes
[ 5] 22.00-23.00 sec 1.00 MBytes 8.39 Mbits/sec 2 49.5 KBytes
[ 5] 23.00-24.00 sec 768 KBytes 6.29 Mbits/sec 4 24.0 KBytes
[ 5] 24.00-25.00 sec 768 KBytes 6.29 Mbits/sec 0 41.0 KBytes
[ 5] 25.00-26.00 sec 896 KBytes 7.34 Mbits/sec 0 55.1 KBytes
[ 5] 26.00-27.00 sec 1.12 MBytes 9.44 Mbits/sec 0 69.3 KBytes
[ 5] 27.00-28.00 sec 1.00 MBytes 8.39 Mbits/sec 2 60.8 KBytes
[ 5] 28.00-29.00 sec 1.00 MBytes 8.39 Mbits/sec 2 58.0 KBytes
Mar 5 11:59
Activities Terminal Mar 5 11:59
srmap@srmapper... srmap@srmapper... srmap@srmapper... srmap@srmapper... srmap@srmapper... srmap@srmapper... srmap@srmapper... srmap@srmapper... srmap@srmapper...
srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$ sudo ip netns exec ue1 iperf3 -c 172.16.0.1 -b 10M -i 1 -t 60
[sudo] password for srmap:
[ 5] 34.00-35.00 sec 896 KBytes 7.34 Mbytes/sec 6 15.6 KBytes
[ 5] 35.00-36.00 sec 384 KBytes 3.15 Mbytes/sec 6 18.4 KBytes
[ 5] 36.00-37.00 sec 640 KBytes 5.24 Mbytes/sec 2 32.5 KBytes
[ 5] 37.00-38.00 sec 768 KBytes 6.29 Mbytes/sec 3 32.5 KBytes
[ 5] 38.00-39.00 sec 768 KBytes 6.29 Mbytes/sec 2 41.0 KBytes
[ 5] 39.00-40.00 sec 768 KBytes 6.29 Mbytes/sec 2 38.2 KBytes
[ 5] 40.00-41.00 sec 512 KBytes 4.20 Mbytes/sec 7 15.6 KBytes
[ 5] 41.00-42.00 sec 512 KBytes 4.19 Mbytes/sec 0 32.5 KBytes
[ 5] 42.00-43.00 sec 768 KBytes 6.29 Mbytes/sec 0 48.1 KBytes
[ 5] 43.00-44.00 sec 1.00 MBytes 8.39 Mbytes/sec 0 62.2 KBytes
[ 5] 44.00-45.00 sec 1.25 MBytes 10.5 Mbytes/sec 0 74.9 KBytes
[ 5] 45.00-46.00 sec 1.00 MBytes 8.39 Mbytes/sec 4 67.9 KBytes
[ 5] 46.00-47.00 sec 1.12 MBytes 9.44 Mbytes/sec 2 55.1 KBytes
[ 5] 47.00-48.00 sec 1.00 MBytes 8.39 Mbytes/sec 2 46.7 KBytes
[ 5] 48.00-49.00 sec 1.00 MBytes 8.39 Mbytes/sec 0 60.8 KBytes
[ 5] 49.00-50.00 sec 896 KBytes 7.34 Mbytes/sec 4 38.2 KBytes
[ 5] 50.00-51.00 sec 896 KBytes 7.34 Mbytes/sec 4 38.2 KBytes
[ 5] 51.00-52.00 sec 896 KBytes 7.34 Mbytes/sec 0 53.7 KBytes
[ 5] 52.00-53.00 sec 1.00 MBytes 8.39 Mbytes/sec 0 66.5 KBytes
[ 5] 53.00-54.00 sec 1.12 MBytes 9.43 Mbytes/sec 0 79.2 KBytes
[ 5] 54.00-55.00 sec 1.25 MBytes 10.5 Mbytes/sec 4 46.7 KBytes
[ 5] 55.00-56.00 sec 1.00 MBytes 8.39 Mbytes/sec 0 59.4 KBytes
[ 5] 56.00-57.00 sec 1.00 MBytes 8.39 Mbytes/sec 0 72.1 KBytes
[ 5] 57.00-58.00 sec 1.00 MBytes 8.39 Mbytes/sec 2 63.6 KBytes
[ 5] 58.00-59.00 sec 1.00 MBytes 8.39 Mbytes/sec 4 52.3 KBytes
[ 5] 59.00-60.00 sec 896 KBytes 7.34 Mbytes/sec 4 33.9 KBytes
[ ID] Interval Transfer Bitrate Retr
[ 5] 0.00-60.00 sec 55.3 MBytes 7.73 Mbytes/sec 125 sender
[ 5] 0.00-60.05 sec 54.9 MBytes 7.67 Mbytes/sec 4 receiver
iperf Done.
srmap@srmapper-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic$
```

Note:

To execute and check: O-RAN Non-Real Time RIC Installation Guide

[O-RAN Non-Real Time RIC Installation Guide — OAIC 0.1 documentation
\(openairinterface.github.io\)](https://openairinterface.github.io/doc/html/0.1/index.html)

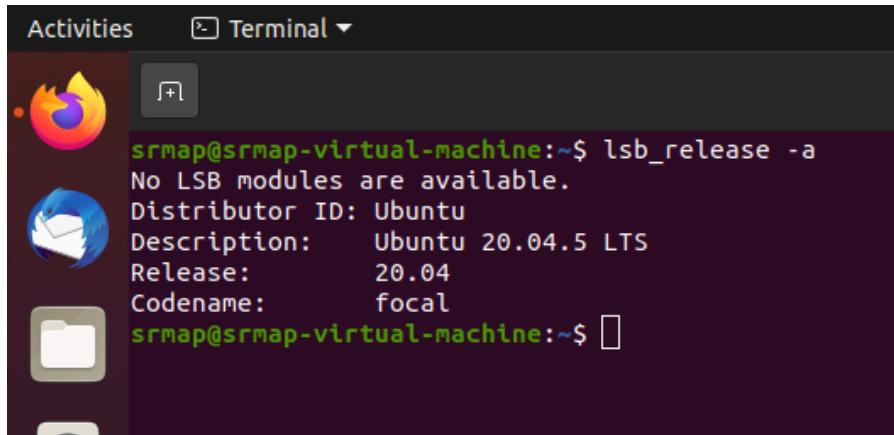
Execution in different machine

Task:

1. To install ubuntu 20.04 in VM ware
2. Perform execution for Non Real Time RIC

O-RAN Non-Near Real Time RIC Installation Guide

Note: Performing all the below executions in the machine 2, VM ware.

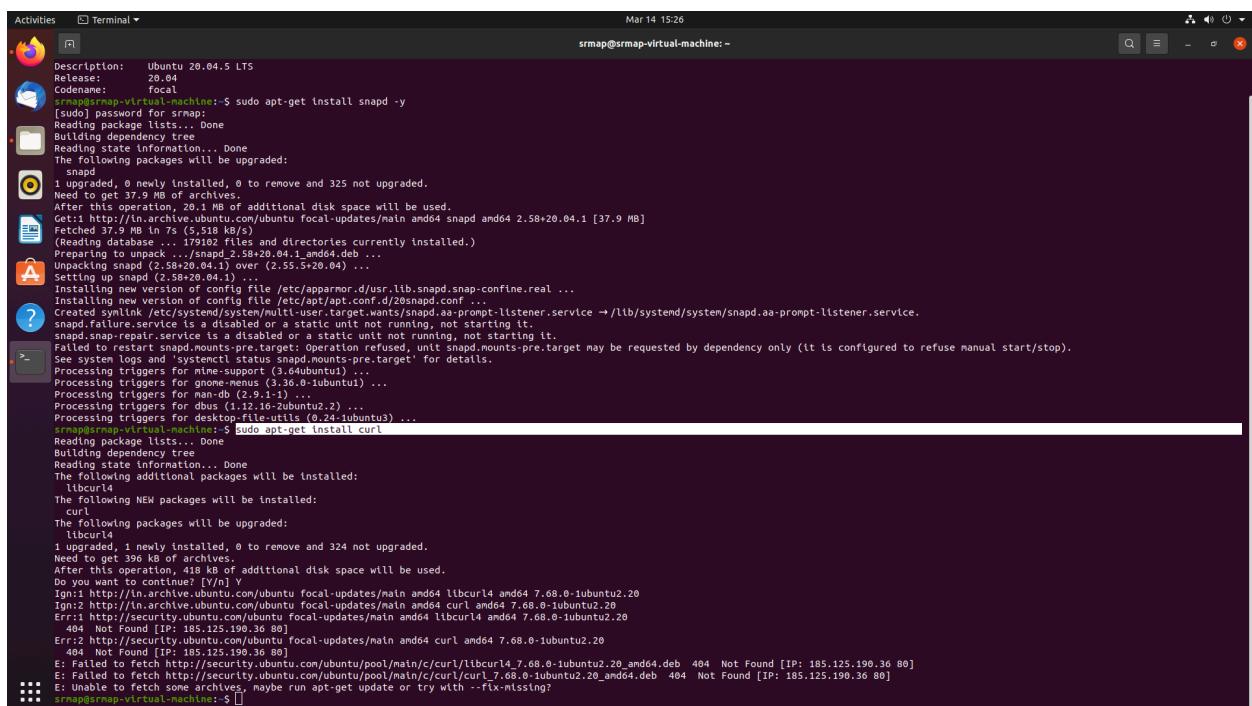


A screenshot of a Ubuntu desktop environment. On the left, there's a dock with icons for the Dash, Home, and a few other applications. The main window is a terminal window titled "Terminal". The terminal output shows the command "lsb_release -a" being run, which displays the following system information:

```
srmap@srmap-virtual-machine:~$ lsb_release -a
No LSB modules are available.
Distributor ID: Ubuntu
Description:    Ubuntu 20.04.5 LTS
Release:        20.04
Codename:       focal
srmap@srmap-virtual-machine:~$
```

Installing the Non-Real Time RIC

1. sudo apt-get install snapd -y
2. sudo apt-get install curl



A screenshot of a Ubuntu terminal window. The terminal output shows the execution of two commands: "sudo apt-get install snapd -y" and "sudo apt-get install curl". The output includes package details, download information, and dependency resolution.

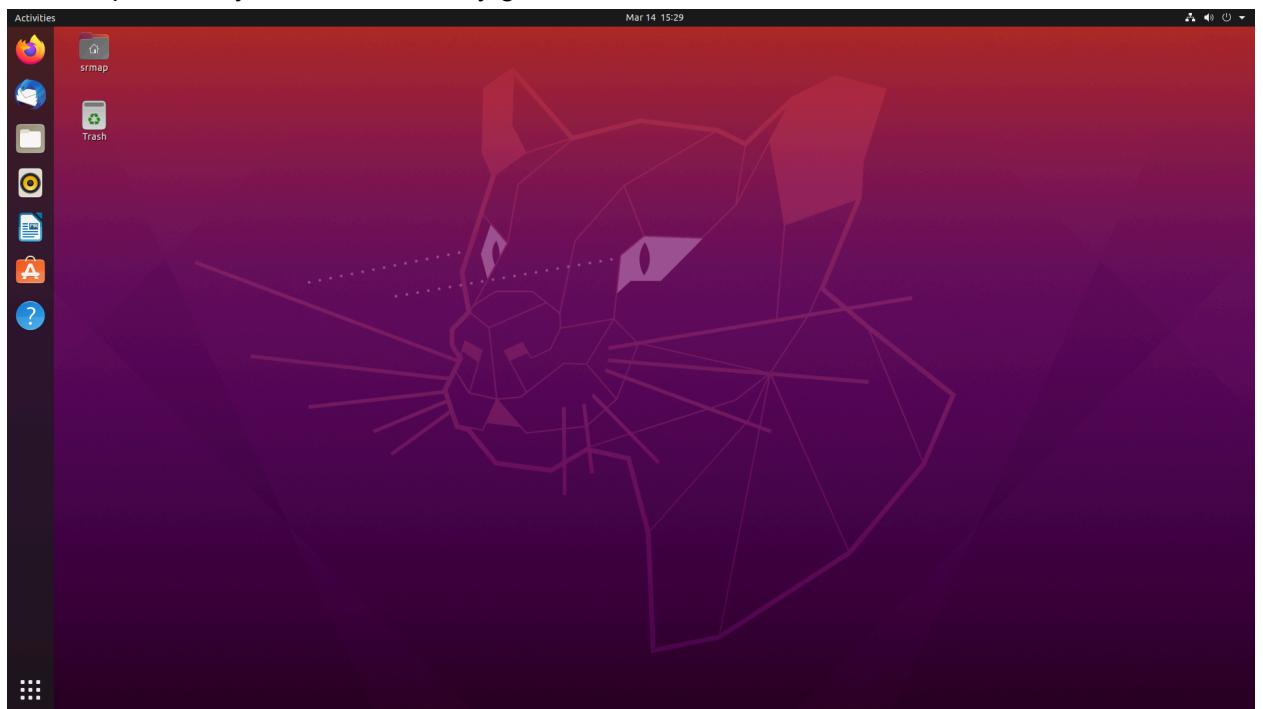
```
srmap@srmap-virtual-machine:~$ sudo apt-get install snapd -y
[sudo] password for srmap:
Reading package lists... Done
Building dependency tree...
Reading state information... Done
The following packages will be upgraded:
  snapd
  1 upgraded, 0 newly installed, 0 to remove and 325 not upgraded.
Need to get 37.9 MB of additional disk space will be used.
After this operation, 20.1 MB of additional disk space will be used.
Get:1 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 snapd amd64 2.58+20.04.1 [37.9 MB]
Fetched 37.9 MB in 7s (5,518 kB/s)
(Reading database ... 179102 files and directories currently installed.)
Preparing to unpack .../snapd_2.58+20.04.1_amd64.deb ...
Unpacking snapd (2.58+20.04.1) over (2.55.5+20.04) ...
Setting up snapd (2.58+20.04.1)

srmap@srmap-virtual-machine:~$ sudo apt-get install curl
[sudo] password for srmap:
Reading package lists... Done
Building dependency tree...
Reading state information... Done
The following additional packages will be installed:
  libcurl4
The following NEW packages will be installed:
  curl
The following packages will be upgraded:
  libcurl4
1 upgraded, 1 newly installed, 0 to remove and 324 not upgraded.
Need to get 396 kB of additional disk space will be used.
After this operation, 418 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Ign:1 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libcurl4 amd64 7.68.0-1ubuntu2.20
Ign:2 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 curl amd64 7.68.0-1ubuntu2.20
Err:1 http://security.ubuntu.com/ubuntu focal-updates/main amd64 libcurl4 amd64 7.68.0-1ubuntu2.20
  404  Not Found [IP: 185.125.190.36 80]
Err:2 http://security.ubuntu.com/ubuntu focal-updates/main amd64 curl amd64 7.68.0-1ubuntu2.20
  404  Not Found [IP: 185.125.190.36 80]
E: Failed to fetch http://security.ubuntu.com/ubuntu/pool/main/c/curl/libcurl4_7.68.0-1ubuntu2.20_amd64.deb  404  Not Found [IP: 185.125.190.36 80]
E: Failed to fetch http://security.ubuntu.com/ubuntu/pool/main/c/curl(curl_7.68.0-1ubuntu2.20_amd64.deb) 404  Not Found [IP: 185.125.190.36 80]
E: Unable to fetch some archives, maybe run apt-get update or try with --fix-missing?
srmap@srmap-virtual-machine:~$
```

3. sudo apt-get install git
4. sudo reboot

```
srmap@srmr-map-virtual-machine:~$ sudo apt-get install git
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  git-man liberror-perl
Suggested packages:
  git-daemon-run | git-daemon-sysvinit git-doc git-el git-email git-gui gitk gitweb git-cvs git-mediawiki git-svn
The following NEW packages will be installed:
  git git-man liberror-perl
0 upgraded, 3 newly installed, 0 to remove and 325 not upgraded.
Need to get 5,518 kB of archives.
After this operation, 38.7 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://in.archive.ubuntu.com/ubuntu focal/main amd64 liberror-perl all 0.17029-1 [26.5 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 git-man all 1:2.25.1-1ubuntu3.11 [887 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 git amd64 1:2.25.1-1ubuntu3.11 [4,605 kB]
Fetched 5,518 kB in 14s (398 kB/s)
Selecting previously unselected package liberror-perl.
(Reading database ... 179112 files and directories currently installed.)
Preparing to unpack .../liberror-perl_0.17029-1_all.deb ...
Unpacking liberror-perl (0.17029-1) ...
Selecting previously unselected package git-man.
Preparing to unpack .../git-man_1%3a2.25.1-1ubuntu3.11_all.deb ...
Unpacking git-man (1:2.25.1-1ubuntu3.11) ...
Selecting previously unselected package git.
Preparing to unpack .../git_1%3a2.25.1-1ubuntu3.11_amd64.deb ...
Unpacking git (1:2.25.1-1ubuntu3.11) ...
Setting up liberror-perl (0.17029-1) ...
Setting up git-man (1:2.25.1-1ubuntu3.11) ...
Setting up git (1:2.25.1-1ubuntu3.11) ...
Processing triggers for man-db (2.9.1-1) ...
srmap@srmr-map-virtual-machine:~$ sudo reboot
```

After step-4: the system automatically gets restart /reboot. \

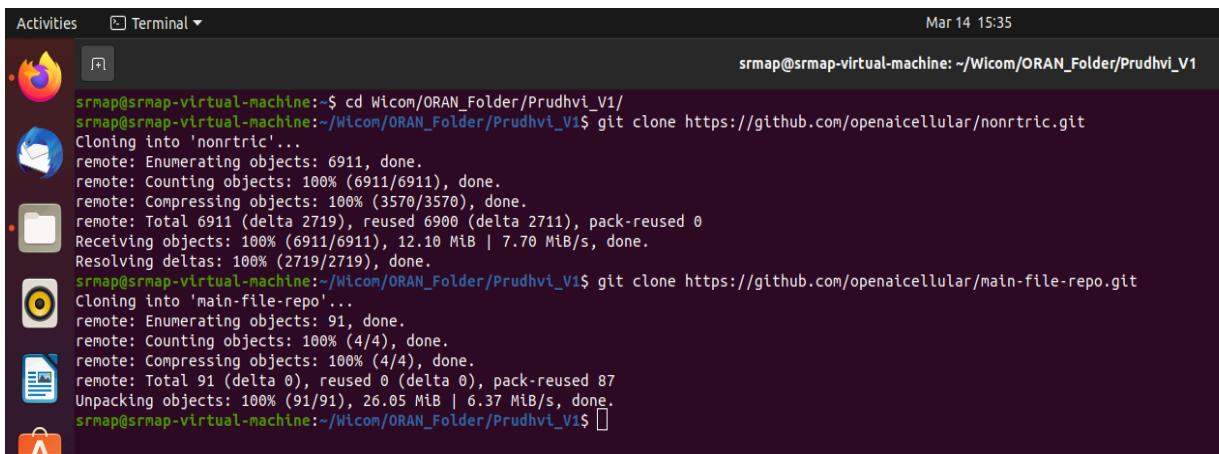


5. cd ~/ → enter into your desired path (create a folder)

→ Created a folder: Wicom → ORAN_Folder → Prudhvi_V1

Git clone all the below following repositories into your home directory

6. git clone https://github.com/openaicellular/nonrtric.git
7. git clone https://github.com/openaicellular/main-file-repo.git



```
Activities Terminal Mar 14 15:35
srmap@srmap-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V1
srmap@srmap-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V1$ cd Wicom/ORAN_Folder/Prudhvi_V1/
srmap@srmap-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V1$ git clone https://github.com/openaicellular/nonrtric.git
Cloning into 'nonrtric'...
remote: Enumerating objects: 6911, done.
remote: Counting objects: 100% (6911/6911), done.
remote: Compressing objects: 100% (3570/3570), done.
remote: Total 6911 (delta 2719), reused 6900 (delta 2711), pack-reused 0
Receiving objects: 100% (6911/6911), 12.10 MiB | 7.70 MiB/s, done.
Resolving deltas: 100% (2719/2719), done.
srmap@srmap-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V1$ git clone https://github.com/openaicellular/main-file-repo.git
Cloning into 'main-file-repo'...
remote: Enumerating objects: 91, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 91 (delta 0), reused 0 (delta 0), pack-reused 87
Unpacking objects: 100% (91/91), 26.05 MiB | 6.37 MiB/s, done.
srmap@srmap-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V1$
```

Run these following commands to setup Kubernetes

8. sudo ./nonrtric/smo-install/scripts/layer-0/0-setup-microk8s.sh

```
Activities Terminal Mar 14 15:43
srmap@srmap-virtual-machine: ~/Wicom/ORAN_Folder/Prudhvi_V1$ sudo ./nontric/smo-install/scripts/layer-0-0-setup-microk8s.sh
[sudo] password for srmap:
Get:1 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Hit:2 http://In.archive.ubuntu.com/ubuntu focal InRelease
Get:3 http://In.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:4 http://In.archive.ubuntu.com/ubuntu focal-backports InRelease [2,778 kB]
Get:5 http://In.archive.ubuntu.com/ubuntu focal-backports InRelease [160 kB]
Get:6 http://In.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [3,155 kB]
Get:7 http://In.archive.ubuntu.com/ubuntu focal-updates/main i386 Packages [945 kB]
Get:8 http://In.archive.ubuntu.com/ubuntu focal-updates/main Translation-en [564 kB]
Get:9 http://security.ubuntu.com/ubuntu focal-security/main i386 Packages [720 kB]
Get:10 http://In.archive.ubuntu.com/ubuntu focal-security/main Translation-en [424 kB]
Get:11 http://In.archive.ubuntu.com/ubuntu focal-security/universe i386 Packages [275 kB]
Get:12 http://In.archive.ubuntu.com/ubuntu focal-security/universe Metadata [59 kB]
Get:13 http://In.archive.ubuntu.com/ubuntu focal-updates/main amd64 c-n-f Metadata [17,2 kB]
Get:14 http://In.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 Packages [2,755 kB]
Get:15 http://security.ubuntu.com/ubuntu focal-security/main Translation-en [424 kB]
Get:16 http://In.archive.ubuntu.com/ubuntu focal-security/main Metadata [59 kB]
Get:17 http://security.ubuntu.com/ubuntu focal-security/main DEP-11 48x48 Icons [18,9 kB]
Get:18 http://security.ubuntu.com/ubuntu focal-security/main DEP-11 64x64 Icons [36,0 kB]
Get:19 http://security.ubuntu.com/ubuntu focal-security/main amd64 c-n-f Metadata [13,2 kB]
Get:20 http://security.ubuntu.com/ubuntu focal-security/restricted amd64 Packages [2,038 kB]
Get:21 http://security.ubuntu.com/ubuntu focal-security/restricted Translation-en [8,0 kB]
Get:22 http://security.ubuntu.com/ubuntu focal-security/universe amd64 Metadata [13,2 kB]
Get:23 http://security.ubuntu.com/ubuntu focal-security/universe amd64 c-n-f Metadata [552 kB]
Get:24 http://security.ubuntu.com/ubuntu focal-security/universe i386 Packages [654 kB]
Get:25 http://security.ubuntu.com/ubuntu focal-security/universe amd64 Packages [950 kB]
Get:26 http://security.ubuntu.com/ubuntu focal-security/universe Translation-en [200 kB]
Get:27 http://In.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 Metadata [96,6 kB]
Get:28 http://In.archive.ubuntu.com/ubuntu focal-updates/restricted i386 Packages [57,3 kB]
Get:29 http://In.archive.ubuntu.com/ubuntu focal-updates/restricted Translation-en [385 kB]
Get:30 http://security.ubuntu.com/ubuntu focal-security/universe DEP-11 48x48 Icons [55,5 kB]
Get:31 http://security.ubuntu.com/ubuntu focal-security/universe DEP-11 64x64 Icons [106 kB]
Get:32 http://In.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 c-n-f Metadata [552 kB]
Get:33 http://In.archive.ubuntu.com/ubuntu focal-updates/restricted i386 Packages [654 kB]
Get:34 http://In.archive.ubuntu.com/ubuntu focal-updates/universe amd64 Metadata [19,2 kB]
Get:35 http://security.ubuntu.com/ubuntu focal-security/universe i386 Packages [654 kB]
Get:36 http://security.ubuntu.com/ubuntu focal-security/multiverse i386 Packages [23,9 kB]
Get:37 http://security.ubuntu.com/ubuntu focal-security/multiverse Translation-en [5,796 B]
Get:38 http://security.ubuntu.com/ubuntu focal-security/multiverse amd64 DEP-11 Metadata [940 B]
Get:39 http://In.archive.ubuntu.com/ubuntu focal-security/multiverse amd64 Metadata [548 B]
Get:40 http://In.archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [1,175 kB]
Get:41 http://In.archive.ubuntu.com/ubuntu focal-updates/universe Translation-en [281 kB]
Get:42 http://In.archive.ubuntu.com/ubuntu focal-updates/universe amd64 DEP-11 Metadata [414 kB]
Get:43 http://In.archive.ubuntu.com/ubuntu focal-updates/universe DEP-11 48x48 Icons [287 kB]
Get:44 http://In.archive.ubuntu.com/ubuntu focal-updates/universe DEP-11 64x64 Icons [503 kB]
Get:45 http://In.archive.ubuntu.com/ubuntu focal-updates/universe Metadata [2,037 kB]
Get:46 http://In.archive.ubuntu.com/ubuntu focal-updates/multiverse i386 Packages [8,401 kB]
Get:47 http://In.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 Packages [8,401 kB]
Get:48 http://In.archive.ubuntu.com/ubuntu focal-updates/multiverse Translation-en [7,768 B]
Get:49 http://In.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 DEP-11 Metadata [940 B]
Get:50 http://In.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 c-n-f Metadata [620 B]
Get:51 http://In.archive.ubuntu.com/ubuntu focal-updates/multiverse DEP-11 Metadata [7,968 B]
Get:52 http://In.archive.ubuntu.com/ubuntu focal-backports/universe amd64 DEP-11 Metadata [38,5 kB]
Fetched 213.3 MB in 30s (703 kB/s)
Reading package lists... Done
```

```
Activities Terminal Mar 14 15:44
srmap@srmap-virtual-machine: ~/Wicom/ORAN_Folder/Prudhvi_V1
Fetching kube-prometheus version v0.8.0.
Add-on dns is already enabled.
kube-prometheus-0.8.0/.github/
  kube-prometheus-0.8.0/.github/ISSUE_TEMPLATE/
    kube-prometheus-0.8.0/.github/ISSUE_TEMPLATE/bug.md
    kube-prometheus-0.8.0/.github/ISSUE_TEMPLATE/feature.md
    kube-prometheus-0.8.0/.github/ISSUE_TEMPLATE/support.md
  kube-prometheus-0.8.0/.github/workflows/
    kube-prometheus-0.8.0/.github/workflows/ci.yaml
  kube-prometheus-0.8.0/.gitignore
  kube-prometheus-0.8.0/.gitpod.yml
  kube-prometheus-0.8.0/.ico
  kube-prometheus-0.8.0/LICENSE
  kube-prometheus-0.8.0/Makefile
  kube-prometheus-0.8.0/NOTICE
  kube-prometheus-0.8.0/README.md
  kube-prometheus-0.8.0/VERSION
  kube-prometheus-0.8.0/.code-of-conduct.md
  kube-prometheus-0.8.0/.docs/
    kube-prometheus-0.8.0/.docs/EKS-cnl-support.md
    kube-prometheus-0.8.0/.docs/GKE-cadvisor-support.md
    kube-prometheus-0.8.0/.docs/blackbox-exporter.md
    kube-prometheus-0.8.0/.docs/deploy-kind.md
    kube-prometheus-0.8.0/.docs/developing-prometheus-rules-and-grafana-dashboards.md
    kube-prometheus-0.8.0/.docs/exposing-prometheus-on-kubeadm.md
    kube-prometheus-0.8.0/.docs/kube-prometheus-on-kubelet.md
    kube-prometheus-0.8.0/.docs/migration-guide.md
    kube-prometheus-0.8.0/.docs/monitoring-external-etcd.md
    kube-prometheus-0.8.0/.docs/monitoring-other-namespaces.md
    kube-prometheus-0.8.0/.docs/weave-net-support.md
    kube-prometheus-0.8.0/.docs/windows.md
    kube-prometheus-0.8.0/examples/
      kube-prometheus-0.8.0/examples/additional-namespaces-servicemonitor.jsonnet
      kube-prometheus-0.8.0/examples/additional-namespaces.jsonnet
      kube-prometheus-0.8.0/examples/alertmanager-config.jsonnet
      kube-prometheus-0.8.0/examples/alertmanager-config.json
      kube-prometheus-0.8.0/examples/all-namespaces.jsonnet
      kube-prometheus-0.8.0/examples/anti-affinity.jsonnet
      kube-prometheus-0.8.0/examples/basic-auth/
        kube-prometheus-0.8.0/examples/basic-auth/secrets.yaml
        kube-prometheus-0.8.0/examples/basic-auth/service-monitor.yaml
      kube-prometheus-0.8.0/examples/continuous-delivery/
        kube-prometheus-0.8.0/examples/continuous-delivery/argocd/
        kube-prometheus-0.8.0/examples/continuous-delivery/argocd/README.md
        kube-prometheus-0.8.0/examples/continuous-delivery/argocd/application.yaml
        kube-prometheus-0.8.0/examples/continuous-delivery/argocd/appproject.yaml
        kube-prometheus-0.8.0/examples/continuous-delivery/argocd/kube-prometheus/

```

```
Activities Terminal Mar 14 15:45
srmap@srmap-virtual-machine: ~/Wicom/ORAN_Folder/Prudhvi_V1
kube-prometheus-0.8.0/tests/e2e/
  kube-prometheus-0.8.0/tests/e2e/main_test.go
  kube-prometheus-0.8.0/tests/e2e/prometheus_client.go
  End-to-end Prometheus tests
    namespace/monitoring created
    customresourcedefinition.apirextensions.k8s.io/alertmanagerconfigs.monitoring.coreos.com created
    customresourcedefinition.apirextensions.k8s.io/alertmanagers.monitoring.coreos.com created
    customresourcedefinition.apirextensions.k8s.io/podmonitors.monitoring.coreos.com created
    customresourcedefinition.apirextensions.k8s.io/prometheusrules.monitoring.coreos.com created
    customresourcedefinition.apirextensions.k8s.io/thanosrulers.monitoring.coreos.com created
    customresourcedefinition.apirextensions.k8s.io/servicemonitors.monitoring.coreos.com created
    clusterrole.rbac.authorization.k8s.io/prometheus-operator created
    deployment.apps/prometheus-operator created
    service/prometheus-operator created
    serviceaccount/prometheus-operator created
    alertmanager.monitoring.coreos.com/main created
    Warning! policy/v1 PodDisruptionBudget is deprecated in v1.21+, unavailable in v1.25+; use policy/v1 PodDisruptionBudget
    poddisruptionbudgets.v1.policy/v1.alertmanager-main created
    rolebinding.rbac.authorization.k8s.io/alertmanager-main-rules created
    secret/alertmanager-main created
    service/alertmanager-main created
    serviceaccount/alertmanager-main created
    servicemonitor.monitoring.coreos.com/alertmanager created
    customresourcedefinition.apirextensions.k8s.io/blackbox-exporter created
    clusterrolebinding.rbac.authorization.k8s.io/blackbox-exporter created
    configmap/blackbox-exporter-configuration created
    deployment.apps/blackbox-exporter created
    service/blackbox-exporter created
    serviceaccount/blackbox-exporter created
    servicemonitor.monitoring.coreos.com/blackbox-exporter created
    configmap/fanmetadata created
    configmap/grafana-dashboard-apiserver created
    configmap/grafana-dashboard-cluster-total created
    configmap/grafana-dashboard-controller-manager created
    configmap/grafana-dashboard-k8s-resources-cluster created
    configmap/grafana-dashboard-k8s-resources-node created
    configmap/grafana-dashboard-k8s-resources-node created
    configmap/grafana-dashboard-k8s-resources-pod created
    configmap/grafana-dashboard-k8s-resources-workload created
    configmap/grafana-dashboard-k8s-resources-workloads-namespace created
    configmap/grafana-dashboard-kubelet created
    configmap/grafana-dashboard-node created
    configmap/grafana-dashboard-namespace-by-workload created
    configmap/grafana-dashboard-node-cluster-rsrc-use created
    configmap/grafana-dashboard-node-rsrc-use created
    configmap/grafana-dashboard-node created
    configmap/grafana-dashboard-persistentvolumeusage created
    configmap/grafana-dashboard-prometheus-created created
    configmap/grafana-dashboard-prometheus-remote-write created
    configmap/grafana-dashboard-proxy created
    configmap/grafana-dashboard-scheduler created
    configmap/grafana-dashboard-statefulset created
```

```

Activities Terminal Mar 14 15:45
srmap@srmap-virtual-machine: ~/Wicom/ORAN_Folder/Prudhvi_V1
[1] kube-prometheus-0.8.0/tests/e2e/main.go
kube-prometheus-0.8.0/tests/e2e/main_test.go
kube-prometheus-0.8.0/tests/e2e/prometheus_client.go
Edit kube-prometheus-0.8.0
namespace/monitoring created
customresourcedefinition.apirextensions.k8s.io/alertmanagerconfigs.monitoring.coreos.com created
customresourcedefinition.apirextensions.k8s.io/alertmanagers.monitoring.coreos.com created
customresourcedefinition.apirextensions.k8s.io/podmonitors.monitoring.coreos.com created
customresourcedefinition.apirextensions.k8s.io/probes.monitors.monitoring.coreos.com created
customresourcedefinition.apirextensions.k8s.io/prometheusrules.monitoring.coreos.com created
customresourcedefinition.apirextensions.k8s.io/servicemonitors.monitoring.coreos.com created
customresourcedefinition.apirextensions.k8s.io/thanosrulers.monitoring.coreos.com created
customresourcedefinition.rbac.authorization.k8s.io/prometheus-operator created
clusterrole.apps/prometheus-operator created
service/prometheus-operator created
serviceaccount/prometheus-operator created
alertmanager.monitoring.coreos.com/main created
Warning! policy/v1beta1 PodDisruptionBudget is deprecated in v1.21+, unavailable in v1.25+; use policy/v1 PodDisruptionBudget
poddisruptionbudget.policy/alertmanager-main created
poddisruptionbudget.policy/prometheus-operator-main rules created
secret/alertmanager-main created
service/alertmanager-main created
serviceaccount/alertmanager-main created
serviceaccount.alertmanager-main created
servicemonitor.monitoring.coreos.com/alertmanager created
clusterrole.rbac.authorization.k8s.io/blackbox-exporter created
configmap/blackbox-exporter-configuration created
configmap/blackbox-exporter created
deployment.apps/blackbox-exporter created
serviceaccount/blackbox-exporter created
secret/grafana-datasources created
configmap/grafana-dashboard-apiserver created
configmap/grafana-dashboard-cluster-total created
configmap/grafana-dashboard-controller-manager created
configmap/grafana-dashboard-k8s-resources-cluster created
configmap/grafana-dashboard-k8s-resources-node created
configmap/grafana-dashboard-k8s-resources-pod created
configmap/grafana-dashboard-k8s-resources-workload created
configmap/grafana-dashboard-k8s-resources-workloads-namespace created
configmap/grafana-dashboard-kubelite created
configmap/grafana-dashboard-node-created created
configmap/grafana-dashboard-node-workload created
configmap/grafana-dashboard-node-rsrc-use created
configmap/grafana-dashboard-node created
configmap/grafana-dashboard-persistentvolumesusage created
configmap/grafana-dashboard-prometheus-create created
configmap/grafana-dashboard-prometheus-create-write created
configmap/grafana-dashboard-proxy created
configmap/grafana-dashboard-scheduler created
configmap/grafana-dashboard-statefulset created

```

9. sudo ./nonrtric/smo-install/scripts/layer-0/0-setup-charts-museum.sh

To execute this command, performed the following

- ls -l ./nonrtric/smo-install/scripts/layer-0/0-setup-microk8s.sh
- curl <https://raw.githubusercontent.com/helm/chartmuseum/main/scripts/get-chartmuseum | bash>

```

GoVersion:"go1.16.15", Compiler:"gc", Platform:"linux/amd64"]
srmap@srmap-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3$ sudo ./nonrtric/smo-install/scripts/layer-0/0-setup-charts-museum.sh
cp: cannot stat '/home/srmap/main-file-repo/chartmuseum-v0.13.1-linux-amd64.tar.gz': No such file or directory
tar (child): chartmuseum-v0.13.1-linux-amd64.tar.gz: Cannot open: No such file or directory
tar (child): Error is not recoverable: exiting now
tar: Child returned status 2
tar: Error is not recoverable: exiting now
mv: cannot stat '/tmp/linux-amd64/chartmuseum': No such file or directory
srmap@srmap-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3$ 2024-04-03T09:56:47.443+0530      INFO  Starting ChartMuseum {"host": "0.0.0.0", "port": 18080}

```

10. sudo ./nonrtric/smo-install/scripts/layer-0/0-setup-helm3.sh

```

srmap@srmapper-virtual-machine:~/Wicon/ORAN_Folder/Prudhvi_V3$ srmap@srmapper-virtual-machine:~/Wicon/ORAN_Folder/Prudhvi_V3$ sudo ./nonrtric/smo-install/scripts/layer-0/0-setup-helm3.sh
cp: cannot stat '/home/srmap/main-file-repo/helm-v3.5.4-linux-and64.tar.gz': No such file or directory
tar (child): /tmp/helm-v3.5.4-linux-and64.tar.gz: Cannot open: No such file or directory
tar (child): Error is not recoverable: exiting now
tar: Child returned status 2
tar: Error is not recoverable: exiting now
mv: cannot stat 'linux-and64/helm': No such file or directory
Reading package lists... Done
Building dependency tree
Reading state information... Done
git is already the newest version (1:2.25.1-1ubuntu3.11).
0 upgraded, 0 newly installed, 0 to remove and 82 not upgraded.
Checking HELM ...
version.BuildInfo{Version:"v3.14.3", GitCommit:"f03cc04caa8f6d7c3e67cf918929150cf6f3f12", GitTreeState:"clean", GoVersion:"go1.21.7"}
Downloading and installing helm-push v0.10.3 ...
--2024-04-03 09:59:56 - https://nexus.o-ran-sc.org/content/repositories/thirdparty/chartmuseum/helm-push/v0.10.3/helm-push-v0.10.3.tar.gz
Resolving nexus.o-ran-sc.org (nexus.o-ran-sc.org)... 38.108.68.158
Connecting to nexus.o-ran-sc.org (nexus.o-ran-sc.org)[38.108.68.158]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 11109788 (11M) [application/x-gzip]
Saving to: 'helm-push-v0.10.3.tar.gz'

helm-push-v0.10.3.tar.gz          100%[=====] 10.59M 1009KB/s  in 26s

2024-04-03 10:00:23 (416 KB/s) - 'helm-push-v0.10.3.tar.gz' saved [11109788/11109788]

"local" has been removed from your repositories
2024-04-03T10:00:24.349+0530    INFO   [1] Request served      {"path": "/index.yaml", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "56.032µs", "reqID": "fe7c29dc-8e69-4d2a-8554-e5cb4fa0e5e5"}
"local" has been added to your repositories
srmap@srmapper-virtual-machine:~/Wicon/ORAN_Folder/Prudhvi_V3$ 

```

11. sudo ./nonrtric/smo-install/scripts/layer-1/1-build-all-charts.sh

```

Activities Terminal - Apr 3 10:02 AM
srmap@srmapper-virtual-machine:~/Wicon/ORAN_Folder/Prudhvi_V3$ sudo ./nonrtric/smo-install/scripts/layer-1/1-build-all-charts.sh
Reading package lists... Done
Building dependency tree
Reading state information... Done
git is already the newest version (4.2.1-1.2).
0 upgraded, 0 newly installed, 0 to remove and 82 not upgraded.
Error: plugin already exists
Error: plugin already exists
## Building ONAP part##
Using Helm binary helm which is helm version v3.14.3
[common]
make[1]: Entering directory '/home/srmap/Wicon/ORAN_Folder/Prudhvi_V3/nonrtric/smo-install/onap_oom/kubernetes'
make[2]: Entering directory '/home/srmap/Wicon/ORAN_Folder/Prudhvi_V3/nonrtric/smo-install/onap_oom/kubernetes/common'
[common]
make[3]: Entering directory '/home/srmap/Wicon/ORAN_Folder/Prudhvi_V3/nonrtric/smo-install/onap_oom/kubernetes/common'
Skipping linting of common
Pushing common-10-0.6.tgz to local...
2024-04-03T10:01:39.382+0530    INFO   [2] Request served      {"path": "/api/charts", "comment": "", "clientIP": "127.0.0.1", "method": "POST", "statusCode": 201, "latency": "37.378719ms", "reqID": "a7274b57-7fec-4f83-bebd-9ef99507b62d"}
Done.
#helm repo index /home/srmap/Wicon/ORAN_Folder/Prudhvi_V3/nonrtric/smo-install/onap_oon/kubernetes/common../.dist/packages
make[3]: Leaving directory '/home/srmap/Wicon/ORAN_Folder/Prudhvi_V3/nonrtric/smo-install/onap_oon/kubernetes/common'
[repositoryGenerator]
make[3]: Entering directory '/home/srmap/Wicon/ORAN_Folder/Prudhvi_V3/nonrtric/smo-install/onap_oom/kubernetes/common'
Skipping linting of repositoryGenerator
Pushing repositoryGenerator-10-0.0.tgz to local...
2024-04-03T10:01:42.565+0530    INFO   [3] Request served      {"path": "/api/charts", "comment": "", "clientIP": "127.0.0.1", "method": "POST", "statusCode": 201, "latency": "871.37µs", "reqID": "d7de2338-04f1-46cf-89ad-baf3b7b7178b"}
Done.
#helm repo index /home/srmap/Wicon/ORAN_Folder/Prudhvi_V3/nonrtric/smo-install/onap_oom/kubernetes/common../.dist/packages
make[3]: Leaving directory '/home/srmap/Wicon/ORAN_Folder/Prudhvi_V3/nonrtric/smo-install/onap_oom/kubernetes/common'
[readinessCheck]
make[3]: Entering directory '/home/srmap/Wicon/ORAN_Folder/Prudhvi_V3/nonrtric/smo-install/onap_oon/kubernetes/common'
Hang tight while we grab the latest from your chart repositories...
2024-04-03T10:01:45.638+0530    INFO   [4] Request served      {"path": "/index.yaml", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "41.624µs", "reqID": "74e47a36-fffb-4cfc-9826ba62a2f22f22"}
... Successfully got an update from the "local" chart repository
Update Complete. #appy Helmng!
Saving 2 charts
Deleting outdated charts
Skipping linting of readinessCheck
Pushing readinessCheck-10-0.5.tgz to local...
2024-04-03T10:01:46.801+0530    INFO   [5] Request served      {"path": "/api/charts", "comment": "", "clientIP": "127.0.0.1", "method": "POST", "statusCode": 201, "latency": "3.162645ms", "reqID": "e347ffea-ee46-448e-acc4-3e58dd07abd7"}
Done.
2024-04-03T10:01:47.443+0530    INFO   Rebuilding index for all tenants in cache
2024-04-03T10:01:47.443+0530    INFO   Rebuilding index for tenant "repo": ""
#helm repo index /home/srmap/Wicon/ORAN_Folder/Prudhvi_V3/nonrtric/smo-install/onap_oon/kubernetes/common../.dist/packages
make[3]: Leaving directory '/home/srmap/Wicon/ORAN_Folder/Prudhvi_V3/nonrtric/smo-install/onap_oon/kubernetes/common'
[serviceAccount]
make[3]: Entering directory '/home/srmap/Wicon/ORAN_Folder/Prudhvi_V3/nonrtric/smo-install/onap_oon/kubernetes/common'

```

```
Activities Terminal April 3 10:02 AM srmap@srmapper-virtual-machine: ~/Wlcom/ORAN_Folder/Prudhvi_V3
```

```
Done.
#helm repo index /home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common../dist/packages
make[3]: Leaving directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common'
[elasticsearch]
make[3]: Entering directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/elasticsearch'
make[4]: Entering directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/elasticsearch'
[components]
make[5]: Entering directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/elasticsearch'
make[6]: Entering directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/elasticsearch/components'
[curator]
make[7]: Entering directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/elasticsearch/components'
Hang tight while we grab the latest from your chart repositories...
2024-04-03T10:02:08.864+0530    INFO  [19] Request served {"path": "/index.yaml", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "69.114µs", "reqID": "idiele
c4-1fd1-49f7-87ff-feafed2579e"}
...Successfully got an update from the "local" chart repository
Update Complete. #happy Helming!
Saving 2 charts
Deleting outdated charts
Skipping linting of curator
Successfully packaged chart and saved it to: /home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/dist/packages/curator-10.0.0.tgz
#helm repo index /home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/elasticsearch/components/./..dist/packages
make[7]: Leaving directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/elasticsearch/components'

[datad]
make[7]: Entering directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/elasticsearch/components'
Hang tight while we grab the latest from your chart repositories...
2024-04-03T10:02:11.945+0530    INFO  [20] Request served {"path": "/index.yaml", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "71.319µs", "reqID": "f7d8e5
4c-eec2-4f97-bdfc-9aaeed9d238a"}
...Successfully got an update from the "local" chart repository
Update Complete. #happy Helming!
Saving 2 charts
Deleting outdated charts
Skipping linting of datad
Successfully packaged chart and saved it to: /home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/dist/packages/data-10.0.0.tgz
#helm repo index /home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/elasticsearch/components/./..dist/packages
make[7]: Leaving directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/elasticsearch/components'

[master]
make[7]: Entering directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/elasticsearch/components'
Hang tight while we grab the latest from your chart repositories...
2024-04-03T10:02:15.028+0530    INFO  [21] Request served {"path": "/index.yaml", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "58.406µs", "reqID": "aadcaa
1c-eec2-4f97-bdfc-9aaeed9d238a"}
...Successfully got an update from the "local" chart repository
Update Complete. #happy Helming!
Saving 2 charts
Deleting outdated charts
Skipping linting of master
Successfully packaged chart and saved it to: /home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/dist/packages/master-10.0.0.tgz
#helm repo index /home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/elasticsearch/components/./..dist/packages
make[7]: Leaving directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/elasticsearch/components'
make[6]: Leaving directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/elasticsearch/components'
```

```
Activities Terminal April 3 10:02 AM srmap@srmapper-virtual-machine: ~/Wlcom/ORAN_Folder/Prudhvi_V3
```

```
[mongo]
make[3]: Entering directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common'
Hang tight while we grab the latest from your chart repositories...
2024-04-03T10:02:41.654+0530    INFO  [34] Request served {"path": "/index.yaml", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "75.655µs", "reqID": "0df68d
fe-03c1-4a0a-a41c-52d2a238a"}
...Successfully got an update from the "local" chart repository
Update Complete. #happy Helming!
Saving 2 charts
Deleting outdated charts
Skipping linting of mongo
Pushing mongo-10.0.0.tgz to local...
2024-04-03T10:02:41.654+0530    INFO  [35] Request served {"path": "/api/charts", "comment": "", "clientIP": "127.0.0.1", "method": "POST", "statusCode": 201, "latency": "3.355944ms", "reqID": "6a9
da0b-2629-41fd-a39c-d0de6aeef14d"}
Done.
#helm repo index /home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/./..dist/packages
make[3]: Leaving directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common'

[A]
[music]
make[3]: Entering directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common'
make[4]: Entering directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/music'
[components]
make[5]: Entering directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/music'
make[6]: Entering directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/music/components'
[music-cassandra]
make[7]: Entering directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/music/components'
Hang tight while we grab the latest from your chart repositories...
2024-04-03T10:02:44.771+0530    INFO  [36] Request served {"path": "/index.yaml", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "116.561µs", "reqID": "6ae82
3c6-daae-46dc-9130-3dbf7e899647"}
...Successfully got an update from the "local" chart repository
Update Complete. #happy Helming!
Saving 2 charts
Deleting outdated charts
Skipping linting of music-cassandra
Successfully packaged chart and saved it to: /home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/dist/packages/music-cassandra-10.0.0.tgz
#helm repo index /home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/music/components/./..dist/packages
make[7]: Leaving directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/music/components'
make[6]: Leaving directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/music/components'
#helm repo index /home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/music/./..dist/packages
make[5]: Leaving directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/music'
make[4]: Leaving directory '/home/srmap/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/common/music'
Hang tight while we grab the latest from your chart repositories...
2024-04-03T10:02:50.857+0530    INFO  [37] Request served {"path": "/index.yaml", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "72.709µs", "reqID": "99d776
8c-b46a-49f1-b072-bde4aaeef95a"}
...Successfully got an update from the "local" chart repository
Update Complete. #happy Helming!
Saving 4 charts
Deleting outdated charts
Skipping linting of music
Pushing music-10.0.0.tgz to local...
2024-04-03T10:02:51.063+0530    INFO  [38] Request served {"path": "/api/charts", "comment": "", "clientIP": "127.0.0.1", "method": "POST", "statusCode": 201, "latency": "15.703162ms", "reqID": "58
70312-c655-4009-80ca-3e5ef03e3b05"} Done.
```

```
Activities Terminal Apr 3 10:03 AM srmmap@srmmap-virtual-machine: ~/Wicom/ORAN_Folder/Prudhvi_V3
```

Update Complete. #Happy Helming!

Saving 3 charts

```
2024-04-03T10:03:39.693+0530 [INFO] [83] Request served {"path": "/charts/common-10.0.0.tgz", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "98.673µs", "reqID": "2799e0ae-0140-46d4-8fcd-2b0120b3"}  
2024-04-03T10:03:39.695+0530 [INFO] [84] Request served {"path": "/charts/repositoryGenerator-10.0.0.tgz", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "38.301µs", "reqID": "8695df09-beb9-4e04-82cd-e406b4b699f7"}  
Deleting outdated charts  
Skipping linting of aaf-locate  
Pushing aaf-locate to local...  
2024-04-03T10:03:39.828+0530 [INFO] [85] Request served {"path": "/api/charts", "comment": "", "clientIP": "127.0.0.1", "method": "POST", "statusCode": 201, "latency": "4.467598ms", "reqID": "4499017a-lee9-4988-b6bb-2f360df2a7d5"}  
Done.  
#helm repo index /home/srmmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/aaf/components/.../dist/packages  
make[5]: Leaving directory '/home/srmmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/aaf/components'
```

[aaf-locate]

```
make[5]: Entering directory '/home/srmmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/aaf/components'  
Hang tight while we grab the latest from your chart repositories...  
2024-04-03T10:03:42.859+0530 [INFO] [86] Request served {"path": "/index.yaml", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "67.956µs", "reqID": "75902252-c78a-4009-2d013ddfaac"}  
...Successfully got an update from the "local" chart repository  
Update Complete. #Happy Helming!
```

Saving 3 charts

```
Downloading common from repo http://localhost:18088  
2024-04-03T10:03:42.867+0530 [INFO] [87] Request served {"path": "/charts/common-10.0.0.tgz", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "87.525µs", "reqID": "2799e0ae-0140-46d4-8fcd-2b0120b3"}  
Downloading repositoryGenerator from repo http://localhost:18088  
2024-04-03T10:03:42.869+0530 [INFO] [88] Request served {"path": "/charts/repositoryGenerator-10.0.0.tgz", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "35.44µs", "reqID": "3101b188-817c-4777-a6d3-a55f211a1916"}  
Deleting outdated charts  
Skipping linting of aaf-locate  
Pushing aaf-locate to local...  
2024-04-03T10:03:43.000+0530 [INFO] [89] Request served {"path": "/api/charts", "comment": "", "clientIP": "127.0.0.1", "method": "POST", "statusCode": 201, "latency": "3.572982ms", "reqID": "7a6cf10b-5057-4d93-be95-ff3d0dd4bc5"}  
Done.  
#helm repo index /home/srmmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/aaf/components/.../dist/packages  
make[5]: Leaving directory '/home/srmmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/aaf/components'
```

[aaf-outh]

```
make[5]: Entering directory '/home/srmmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/aaf/components'  
Hang tight while we grab the latest from your chart repositories...  
2024-04-03T10:03:46.036+0530 [INFO] [90] Request served {"path": "/index.yaml", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "66.279µs", "reqID": "9193e40a-5026-4243-8e12-f4da03484ab6"}  
...Successfully got an update from the "local" chart repository  
Update Complete. #Happy Helming!
```

Saving 3 charts

```
Downloading common from repo http://localhost:18088  
2024-04-03T10:03:46.046+0530 [INFO] [91] Request served {"path": "/charts/common-10.0.0.tgz", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "91.956µs", "reqID": "d7fa3d66-ea74-4e9d-958e-bfbadd2ff0f1"}  
Downloading repositoryGenerator from repo http://localhost:18088  
2024-04-03T10:03:46.047+0530 [INFO] [92] Request served {"path": "/charts/repositoryGenerator-10.0.0.tgz", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "47.519µs", "reqID": "f70fd006-d8db-4b0a-82e4-99c0361a3f1"}  
Deleting outdated charts  
Skipping linting of aaf-outh
```

```
Activities Terminal Apr 3 10:04 AM srmmap@srmmap-virtual-machine: ~/Wicom/ORAN_Folder/Prudhvi_V3
```

...Successfully got an update from the "local" chart repository
Update Complete. #Happy Helming!

Saving 2 charts

```
2024-04-03T10:03:55.497+0530 [INFO] [93] Request served {"path": "/charts/common-10.0.0.tgz", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "97.824µs", "reqID": "cccd75a-2f1c-498b-802a-4d1b08cb25f1"}  
Downloading repositoryGenerator from repo http://localhost:18088  
2024-04-03T10:03:55.497+0530 [INFO] [94] Request served {"path": "/charts/repositoryGenerator-10.0.0.tgz", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "39.618µs", "reqID": "a07e04b5-331a-48bd-bdbb-c80868ccdcad"}  
Deleting outdated charts  
Skipping linting of aaf-sms-vault  
Successfully packaged chart and saved it to: /home/srmmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/aaf/components/dist/packages/aaf-sms-vault-10.0.0.tgz  
#helm repo index /home/srmmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/aaf/components/.../dist/packages  
make[9]: Leaving directory '/home/srmmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/aaf/components/aaf-sms/components'  
make[8]: Leaving directory '/home/srmmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/aaf/components/aa-sns/components'  
#helm repo index /home/srmmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/aaf-components/aa-sns/.../dist/packages  
make[6]: Leaving directory '/home/srmmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/aaf-components/aa-sns'  
Hang tight while we grab the latest from your chart repositories...  
2024-04-03T10:04:01.574+0530 [INFO] [104] Request served {"path": "/index.yaml", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "82.018µs", "reqID": "48cb7d6d-527e-4010-a297-d24aef6c956"}  
...Successfully got an update from the "local" chart repository  
Update Complete. #Happy Helming!
```

Saving 5 charts

```
Downloading common from repo http://localhost:18088  
2024-04-03T10:04:01.587+0530 [INFO] [105] Request served {"path": "/charts/common-10.0.0.tgz", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "101.147µs", "reqID": "8eb58ade-f3d4-4787-950c-6a93f0101df9"}  
Downloading repositoryGenerator from repo http://localhost:18088  
2024-04-03T10:04:01.587+0530 [INFO] [106] Request served {"path": "/charts/repositoryGenerator-10.0.0.tgz", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "39.859µs", "reqID": "a497e0b7-dcf1-4a6c-a3ce-8982b5d0e077"}  
Downloading certInitializer from repo http://localhost:18088  
2024-04-03T10:04:01.592+0530 [INFO] [107] Request served {"path": "/charts/certInitializer-10.0.0.tgz", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "107.999µs", "reqID": "992b8c5-1047-495a-8690-5dd0ced128f1"}  
Deleting outdated charts  
Skipping linting of aaf-sns  
Pushing aaf-sns-10.0.0.tgz to local...  
2024-04-03T10:04:01.918+0530 [INFO] [108] Request served {"path": "/api/charts", "comment": "", "clientIP": "127.0.0.1", "method": "POST", "statusCode": 201, "latency": "16.981167ms", "reqID": "5f04f8-8091-4130-a77t-af14a285afb"}  
Done.  
#helm repo index /home/srmmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/aaf/components/.../dist/packages  
make[5]: Leaving directory '/home/srmmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/aaf/components'
```

[aaf-sshsn]

```
make[5]: Entering directory '/home/srmmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/aaf/components/aaf-sshsn'  
make[6]: Entering directory '/home/srmmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/aaf-sshsn'
```

[components]

```
make[7]: Entering directory '/home/srmmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/aaf-components/aaf-sshsn'
```

[aaf-sshsn-abrd]

```
make[9]: Entering directory '/home/srmmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/smo-install/onap_oom/kubernetes/aaf-components/aaf-sshsn/components'  
Hang tight while we grab the latest from your chart repositories...  
2024-04-03T10:04:04.918+0530 [INFO] [109] Request served {"path": "/index.yaml", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "68.248µs", "reqID": "e11c885b-aff2-438f-91fa-aed5fe3905f"}  
...Successfully got an update from the "local" chart repository
```

```

Activities Terminal ▾ Apr 3 10:09 AM
srmap@srmap-virtual-machine: ~/Wicom/ORAN_Folder/Prudhvi_V3
[1]: [INFO] Hang tight while we grab the latest from your chart repositories...
2024-04-03T10:08:25.698+0530 [INFO] [538] Request served {"path": "/index.yaml", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "108.163µs", "reqID": "547aa06c-c51d-4335-c42b017a356e"}
[2]: [INFO] ...Successfully got an update from the "local" chart repository
Update Complete. #happy Helming!
Saving 2 charts
Downloading jenkins from repo https://charts.jenkins.io
Downloading oran-tests from repo http://localhost:18080
2024-04-03T10:08:25.700+0530 [INFO] [539] Request served {"path": "/charts/oran-tests-1.0.0.tgz", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "68.12µs", "reqID": "791c69a2-dd15-9b08-07b7becda31"}
[3]: [INFO] Successfully got an update from the "local" chart repository
Update Complete. #happy Helming!
Deleting outdated charts
load.go:120: Warning: Dependencies are handled in Chart.yaml since apiVersion "v2". We recommend migrating dependencies to Chart.yaml.
load.go:120: Warning: Dependencies are handled in Chart.yaml since apiVersion "v2". We recommend migrating dependencies to Chart.yaml.
==> linting oran-tests-suite
[INFO] Chart.yaml: icon is recommended

1 chart(s) linted, 0 chart(s) failed
load.go:120: Warning: Dependencies are handled in Chart.yaml since apiVersion "v2". We recommend migrating dependencies to Chart.yaml.
Pushing oran-tests-suite-1.0.0.tgz to local...
2024-04-03T10:08:25.836+0530 [INFO] [540] Request served {"path": "/api/charts", "comment": "", "clientIP": "127.0.0.1", "method": "POST", "statusCode": 201, "latency": "8.746415ms", "reqID": "9fe3-58e7-4dd8-8761-a9ffed7f6a78"}
Done
make[1]: Leaving directory '/home/srmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtric/smo-install/tests_oom'

[ru-du-simulators]
make[1]: Entering directory '/home/srmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtric/smo-install/tests_oom'
Hang tight while we grab the latest from your chart repositories...
2024-04-03T10:08:28.394+0530 [INFO] [541] Request served {"path": "/index.yaml", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "123.63µs", "reqID": "a8158412-fc03-4edf-8e4d-a09560da4"}
[4]: [INFO] ...Successfully got an update from the "local" chart repository
Update Complete. #happy Helming!
Saving 3 charts
Downloading topology-server from repo http://localhost:18080
2024-04-03T10:08:28.432+0530 [INFO] [542] Request served {"path": "/charts/topology-server-1.0.0.tgz", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "122.895µs", "reqID": "fcfa8a7-6ad8-4f1b-a834-3e56d911c9f90"}
[5]: [INFO] Downloading ru-simulator from repo http://localhost:18080
2024-04-03T10:08:28.439+0530 [INFO] [543] Request served {"path": "/charts/ru-simulator-1.0.0.tgz", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "93.791µs", "reqID": "5d0fb8b-5a73-4370-85ab-869eb52c7c81"}
[6]: [INFO] Downloading du-simulator from repo http://localhost:18080
2024-04-03T10:08:28.446+0530 [INFO] [544] Request served {"path": "/charts/du-simulator-1.0.0.tgz", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "109.38µs", "reqID": "91a44af3-b179-407a-a93e-58ce5c95c9b9"}
[7]: [INFO] Deleting outdated charts
==> linting ru-du-simulators

1 chart(s) linted, 0 chart(s) failed
Pushing ru-du-simulators-1.0.0.tgz to local...
2024-04-03T10:08:28.616+0530 [INFO] [545] Request served {"path": "/api/charts", "comment": "", "clientIP": "127.0.0.1", "method": "POST", "statusCode": 201, "latency": "3.712225ms", "reqID": "8a497efc-40d4-4843-949f-2a72f0966e53"}
Done
make[1]: Leaving directory '/home/srmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtric/smo-install/tests_oom'

[ns-simulators]
make[1]: Entering directory '/home/srmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtric/smo-install/tests_oom'
Hang tight while we grab the latest from your chart repositories...
2024-04-03T10:08:28.687+0530 [INFO] [546] Request served {"path": "/index.yaml", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "98.918µs", "reqID": "9df196fe-5d0b-46fd-a136-9e824fbef1bd"}
[8]: [INFO] ...Successfully got an update from the "local" chart repository
Update Complete. #happy Helming!
Saving 3 charts
Downloading actn-simulator from repo http://localhost:18080
2024-04-03T10:08:28.726+0530 [INFO] [547] Request served {"path": "/charts/actn-simulator-1.0.0.tgz", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "66.42µs", "reqID": "540f4-4edf-8e4d-2ef1b-77abf0828e90"}
[9]: [INFO] Downloading core-nssmf-simulator from repo http://localhost:18080
2024-04-03T10:08:28.733+0530 [INFO] [548] Request served {"path": "/charts/core-nssmf-simulator-1.0.0.tgz", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "55.028µs", "reqID": "1c33d006-18d4-4aff-a90b-77abf0828e90"}
[10]: [INFO] Downloading ran-nssmf-simulator from repo http://localhost:18080
2024-04-03T10:08:28.739+0530 [INFO] [549] Request served {"path": "/charts/ran-nssmf-simulator-1.0.0.tgz", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "3.971µs", "reqID": "2bb35708-f12a-4857-b2c3-00ab0dbc4ac6"}
[11]: [INFO] Deleting outdated charts
==> linting ns-simulators

1 chart(s) linted, 0 chart(s) failed
Pushing ns-simulators-1.0.0.tgz to local...
2024-04-03T10:08:28.760+0530 [INFO] [550] Request served {"path": "/api/charts", "comment": "", "clientIP": "127.0.0.1", "method": "POST", "statusCode": 201, "latency": "1.53086ms", "reqID": "4754752-70b1-435e-9a65-38e359026a4"}
Done
make[1]: Leaving directory '/home/srmap/Wicom/ORAN_Folder/Prudhvi_V3/nonrtric/smo-install/tests_oom'
Hang tight while we grab the latest from your chart repositories...
2024-04-03T10:08:28.793+0530 [INFO] [551] Request served {"path": "/index.yaml", "comment": "", "clientIP": "127.0.0.1", "method": "GET", "statusCode": 200, "latency": "135.28µs", "reqID": "3b03f9a5-b482-4f4f-bb88-5260bf2b26890"}
[12]: [INFO] ...Successfully got an update from the "local" chart repository
Update Complete. #happy Helming!
srmap@srmap-virtual-machine: ~/Wicom/ORAN_Folder/Prudhvi_V3

```

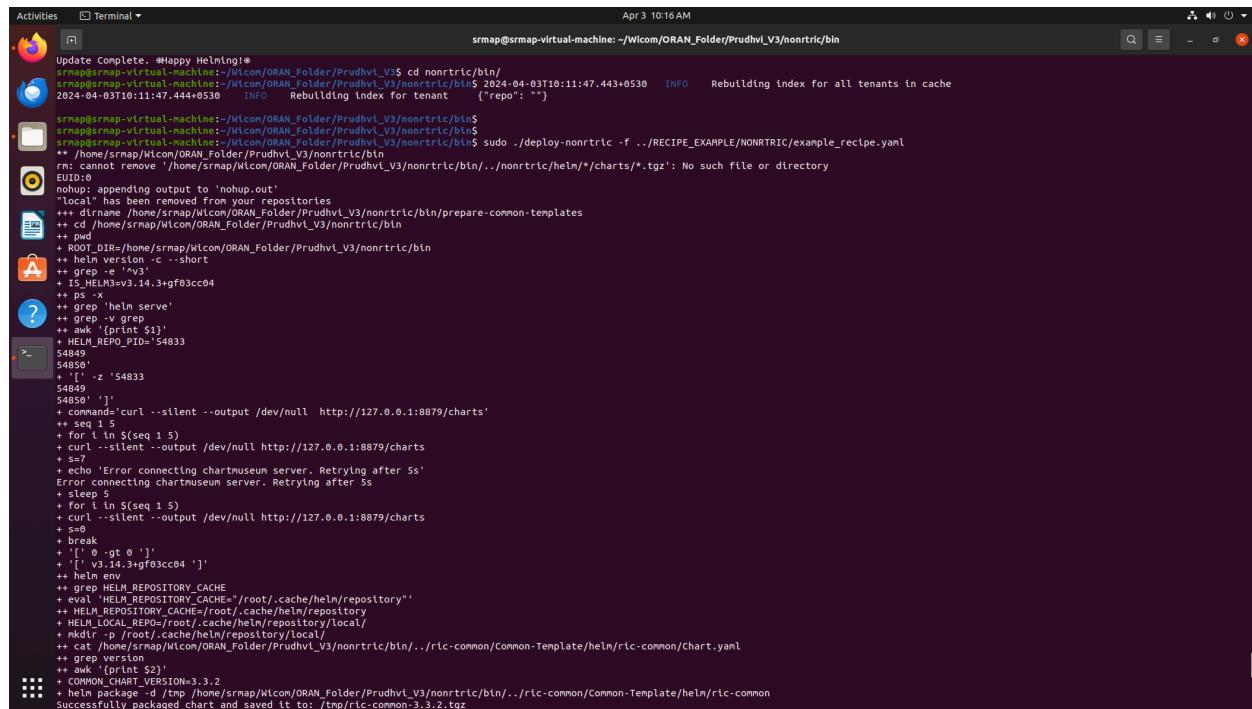
Note: <https://openaicellular.github.io/oaic/nonrtric.html>

They claimed it can take up to 30 minutes of time for the above step: sudo ./nonrtric/smo-install/scripts/layer-1/1-build-all-charts.sh

→ We actually executed the command and it took us around 6 to 8 minutes.

Finally, deploy the Non-Real Time RIC

12. `cd ~ /nonrtric/bin`
13. `sudo ./deploy-nonrtric -f ..//RECIPE_EXAMPLE/NONRTRIC/example_recipe.yaml`



The screenshot shows a terminal window titled "srmap@srmap-virtual-machine: ~/Wcom/ORAN_Folder/Prudhvi_V3/nonrtric/bin". The terminal output is as follows:

```
Activities Terminal ▾ Apr 3 10:16 AM
srmap@srmap-virtual-machine:~/Wcom/ORAN_Folder/Prudhvi_V3$ cd nonrtric/bin/
srmap@srmap-virtual-machine:~/Wcom/ORAN_Folder/Prudhvi_V3/nonrtric/bin$ 2024-04-03T10:11:47.443+0530 INFO Rebuilding index for all tenants in cache
2024-04-03T10:11:47.444+0530 INFO Rebuilding index for tenant {"repo": ""}
srmap@srmap-virtual-machine:~/Wcom/ORAN_Folder/Prudhvi_V3/nonrtric/bin$ ./deploy-nonrtric -f ..//RECIPE_EXAMPLE/NONRTRIC/example_recipe.yaml
** /home/srmap/Wcom/ORAN_Folder/Prudhvi_V3/nonrtric/bin
rm: cannot remove '/home/srmap/Wcom/ORAN_Folder/Prudhvi_V3/nonrtric/bin/..//nonrtric/helm/*charts*.tgz': No such file or directory
EIO/ELOOP
nohup: appending output to 'nohup.out'
"local" has been removed from your repositories
++ dirname /home/srmap/Wcom/ORAN_Folder/Prudhvi_V3/nonrtric/bin/prepare-common-templates
++ cd /home/srmap/Wcom/ORAN_Folder/Prudhvi_V3/nonrtric/bin
++ pwd
++ cd /home/srmap/Wcom/ORAN_Folder/Prudhvi_V3/nonrtric/bin
++ helm version <--short
++ grep -v '^v3'
+ IS_HELM3=v3.14.3+gf03cc04
++ ps -x
++ grep -v 'helm serve'
++ grep -v 'prep'
++ grep -v 'print $1'
+ HELM_REPO_PID=$4833
+ 54849
+ 54850*
+ nohup ./ -z '54833
54849
54850* ')'
+ command='curl --silent --output /dev/null http://127.0.0.1:8879/charts'
++ seq 1 5
+ for l in $(seq 1 5)
+ curl --silent --output /dev/null http://127.0.0.1:8879/charts
+ sleep 5
+ for l in $(seq 1 5)
+ curl --silent --output /dev/null http://127.0.0.1:8879/charts
+ sleep 5
+ break
+ '[' 0 -gt 0 ']'
+ '[' v3.14.3+gf03cc04 ']'
++ helm env
++ grep 'HELM REPOSITORY_CACHE'
++ grep 'HELM REPOSITORY_CACHE=/root/.cache/helm/repository'
++ HELM_LOCAL_REPO=/root/.cache/helm/repository/local/
+ mkdir -p /root/.cache/helm/repository/local/
++ cat /home/srmap/Wcom/ORAN_Folder/Prudhvi_V3/nonrtric/bin/..//ric-common/Common-Template/helm/ric-common/chart.yaml
++ grep 'version'
++ grep 'v22'
+ COMMON_CHART_VERSION=3.3.2
+ COMMON_CHART_VERSION=3.3.2
+ helm package -d /tmp /home/srmap/Wcom/ORAN_Folder/Prudhvi_V3/nonrtric/bin/..//ric-common/Common-Template/helm/ric-common
Successfully packaged chart and saved it to: /tmp/ric-common-3.3.2.tgz
```

```

Activities Terminal ▾ April 3 10:17 AM
srmap@srmapper-virtual-machine: ~/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtric/bin
+ '[' 0 -gt 0 ']'
+ '[' v3.14.3-gf03cc04 ']'
++ helm env
++ grep HELM_REPOURL CACHE
+ HELM_REPOURL="file:///root/.cache/helm/repository"
++ grep HELM_REPOURL CACHE "/root/.cache/helm/repository"
+ HELM_LOCAL_REPOS="/root/.cache/helm/repository/local"
+ mkdir -p /root/.cache/helm/repository/local/
++ cat /home/srmapper/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtric/bin/..../ric-common/Common-Template/helm/ric-common/chart.yaml
++ grep version
++ awk '{print $2}'
+ RIC_COMMON_CHART_VERSION=3.3.2
+ helm package -d /tmp /home/srmapper/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtric/bin/..../ric-common/Common-Template/helm/ric-common
Successfully packaged chart and saved it to: /tmp/ric-common-3.3.2.tgz
+ cp /tmp/ric-common-3.3.2.tgz /root/.cache/helm/repository/local/
++ cat /home/srmapper/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtric/bin/..../ric-common/Common-Template/helm/aux-common/chart.yaml
++ grep version
++ awk '{print $2}'
+ AUX_COMMON_CHART_VERSION=3.0.0
+ helm package -d /tmp /home/srmapper/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtric/bin/..../ric-common/Common-Template/helm/aux-common
Successfully packaged chart and saved it to: /tmp/aux-common-3.0.0.tgz
+ cp /tmp/aux-common-3.0.0.tgz /root/.cache/helm/repository/local/
++ cat /home/srmapper/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtric/bin/..../ric-common/Common-Template/helm/nonrtric-common/Chart.yaml
++ grep version
++ awk '{print $2}'
+ NONRTRIC_COMMON_CHART_VERSION=2.0.0
+ helm package -d /tmp /home/srmapper/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtric/bin/..../ric-common/Common-Template/helm/nonrtric-common
Successfully packaged chart and saved it to: /tmp/nonrtric-common-2.0.0.tgz
+ cp /tmp/nonrtric-common-2.0.0.tgz /root/.cache/helm/repository/local/
+ helm repo remove local
Error: no repositories configured
+ helm repo add local http://127.0.0.1:8879/charts
"local" has been added to your repositories
Pulling chart "nonrtric-common" [nonrtric-common]
Hang tight while we grab the latest from your chart repositories...
...Successfully got an update from the "local" chart repository
Update Complete. #appy Helm-ing!
Saving 1 charts
Downloading nonrtric-common from repo http://127.0.0.1:8879/charts
Deleting outdated charts
Successfully packaged chart and saved it to: /tmp/controlpanel-2.0.0.tgz
("saved":true)Packaging NONRTRIC component [aicontroller]
Hang tight while we grab the latest from your chart repositories...
...Successfully got an update from the "local" chart repository
Update Complete. #appy Helm-ing!
Saving 1 charts
Downloading nonrtric-common from repo http://127.0.0.1:8879/charts
Deleting outdated charts
Successfully packaged chart and saved it to: /tmp/aisimulator-2.0.0.tgz
("saved":true)Packaging NONRTRIC component [aisimulator]
Hang tight while we grab the latest from your chart repositories...
...Successfully got an update from the "local" chart repository
Update Complete. #appy Helm-ing!
Saving 1 charts
Downloading nonrtric-common from repo http://127.0.0.1:8879/charts
Deleting outdated charts
Successfully packaged chart and saved it to: /tmp/riccontroller-2.0.0.tgz
("saved":true)Packaging NONRTRIC component [riccontroller]
Hang tight while we grab the latest from your chart repositories...
...Successfully got an update from the "local" chart repository
Update Complete. #appy Helm-ing!
Saving 1 charts
Downloading nonrtric-common from repo http://127.0.0.1:8879/charts
Deleting outdated charts
Successfully packaged chart and saved it to: /tmp/rampn-2.0.0.tgz
("saved":true)Packaging NONRTRIC component [rampn]
Warning: POST.
("error":"EOF")Hang tight while we grab the latest from your chart repositories...
...Successfully got an update from the "local" chart repository
Update Complete. #appy Helm-ing!
Saving 15 charts
Downloading aicontroller from repo http://127.0.0.1:8879/charts
Downloading aisimulator from repo http://127.0.0.1:8879/charts
Downloading controlpanel from repo http://127.0.0.1:8879/charts
Downloading policymanagementservice from repo http://127.0.0.1:8879/charts
Downloading informationservice from repo http://127.0.0.1:8879/charts
Downloading nonrtric-common from repo http://127.0.0.1:8879/charts
Downloading rappcatalogueservice from repo http://127.0.0.1:8879/charts
Downloading rappcatalogueenhancedservice from repo http://127.0.0.1:8879/charts
Downloading nonrtricgateway from repo http://127.0.0.1:8879/charts
Downloading dnaaadapterservice from repo http://127.0.0.1:8879/charts
Downloading dnaaapadapterservice from repo http://127.0.0.1:8879/charts
Downloading helmmanager from repo http://127.0.0.1:8879/charts
Downloading ransliceassurance from repo http://127.0.0.1:8879/charts
Downloading orufhrecovery from repo http://127.0.0.1:8879/charts
Downloading capifcore from repo http://127.0.0.1:8879/charts
Deleting outdated charts
"local" has been added to your repositories
Finished Packaging NONRTRIC components [controlpanel aicontroller aisimulator policymanagementservice informationservice rappcatalogueservice rappcatalogueenhancedservice nonrtricgateway dnaaadapterserv
[local] dnaaapadapterservice helmmanager orufhrecovery ransliceassurance capifcore rampn]
Chart name:
namespace/nonrtric created
namespace/wlcom created
Install Kong- false
configmap/nonrtric-recipe created
Deploying NONRTRIC
Install Rampn- true
Running Install-rampn.sh
*****
Running Install-nrt.sh
*****
Kubernetes control plane host: 192.168.11.129
Host obtained from current kubectl context
*****
Checking requirements
Checking if kubectl is installed
Is the api_ kubectl get authorizationpolicies is not installed
install-rampn.sh completed
helm install -f ..//RECIPE_EXAMPLE/NONRTRIC/example_recipe.yaml --namespace nonrtric r3-dev-nonrtric /home/srmapper/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtric/bin/..../nonrtric/helm/nonrtric
NAME: r3-dev-nonrtric
LAST DEPLOYED: Wed Apr 3 10:15:47 2024
NAMESPACE: nonrtric
STATUS: deployed
REVISION: 1
TEST SUITE: None
srmap@srmapper-virtual-machine: ~/Wlcom/ORAN_Folder/Prudhvi_V3/nonrtric/bin$ 

```

14. sudo kubectl get pods -A

→ by this command, you can check if all your pods are running or not.

```

srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3/nonrtric/bin$ sudo kubectl get pods -A
NAMESPACE     NAME                           READY   STATUS        RESTARTS   AGE
kube-system   calico-node-4tp5c           1/1    Running      0          27m
kube-system   calico-kube-controllers-598854f77c-9dzsj  1/1    Running      0          27m
kube-system   coredns-7f9c69c78c-85r2m   1/1    Running      0          27m
monitoring    prometheus-adapter-59df95d9f5-7fxk2   1/1    Running      0          25m
monitoring    prometheus-adapter-59df95d9f5-cwffv    1/1    Running      0          25m
kube-system   hostpath-provisioner-566686b959-7s42g  1/1    Running      0          25m
monitoring    grafana-6dd5b5f65-wlcv5       1/1    Running      0          25m
monitoring    prometheus-operator-7775c66ccf-xg9ns  2/2    Running      0          25m
monitoring    blackbox-exporter-55c457d5fb-hrtcj   3/3    Running      0          25m
monitoring    kube-state-metrics-76f6cb7996-gjw8z   3/3    Running      0          25m
monitoring    node-exporter-5sfhw        2/2    Running      0          25m
monitoring    alertmanager-main-0       2/2    Running      0          24m
monitoring    prometheus-k8s-0         2/2    Running      1 (23m ago) 24m
nonrtric      capifcore-55bb46969c-q5ngs      0/1   ContainerCreating 0          2m22s
nonrtric      dnaapmediatorservice-0      0/1   ContainerCreating 0          2m22s
nonrtric      ai-sim-osc-0          0/1   ContainerCreating 0          2m21s
nonrtric      informationservice-0      0/1   ContainerCreating 0          2m21s
nonrtric      rappcatalogueservice-5669f84475-dbqc9  0/1   ContainerCreating 0          2m21s
nonrtric      helmmanager-0          0/1   ContainerCreating 0          2m21s
nonrtric      policymanagementservice-0  0/1   Init:0/1       0          2m21s
nonrtric      ai-sim-std-0          0/1   ContainerCreating 0          2m22s
nonrtric      aicontroller-64c5b7fc56-58d8d  0/1   ContainerCreating 0          2m21s
nonrtric      ransliceassurance-54c794d47f-l7dvj   0/1   ContainerCreating 0          2m21s
nonrtric      nonrtricgateaway-677849b9d-njqc4  0/1   ContainerCreating 0          2m21s
nonrtric      ai-sim-std2-0          0/1   ContainerCreating 0          2m21s
nonrtric      dnaapadapterservice-0      0/1   ContainerCreating 0          2m21s
nonrtric      controlpanel-67df689699-zdqsg    1/1    Running      0          2m22s
nonrtric      db-76d79cd769-dgzsc      1/1    Running      0          2m22s
nonrtric      orufhrecovery-7498b6f6bc-j2v25   1/1    Running      0          2m22s
nonrtric      rappcatalogueenhancedservice-68f756c947-q4s2d 0/1   Running      0          2m22s
srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3/nonrtric/bin$ 

```

Initially you can see, some pods are yet to run. Status: Container Creating.

So, please wait for 5-8 minutes and then execute the same command: sudo kubectl get pods -A

→ You can observe all pods in running state.

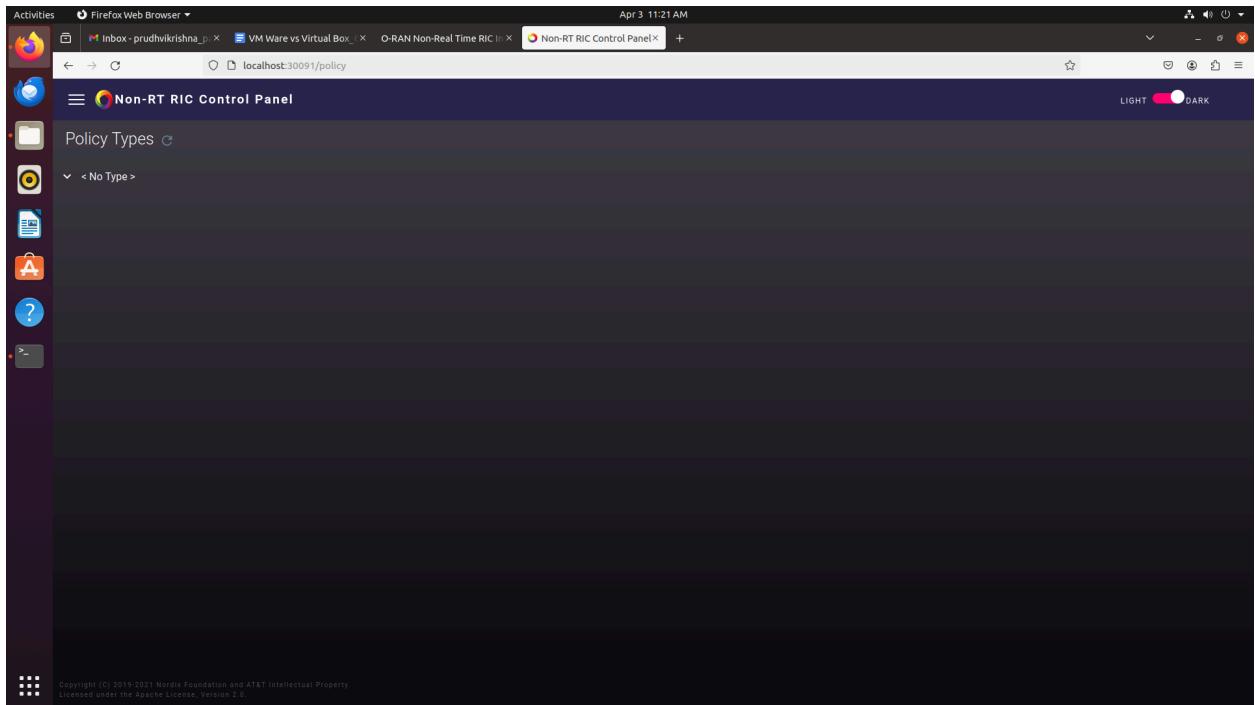
```

srmap@srmapper-virtual-machine:~/Wiccom/ORAN_Folder/Prudhvi_V3/nonrtric/bin$ 
srmap@srmapper-virtual-machine:~/Wiccom/ORAN_Folder/Prudhvi_V3/nonrtric/bin$ sudo kubectl get pods -A
[sudo] password for srmap:
NAMESPACE      NAME                               READY   STATUS    RESTARTS   AGE
kube-system    calico-node-4tp5c                 1/1     Running   0          88m
kube-system    calico-kube-controllers-598854f77c-9dzsj  1/1     Running   0          88m
kube-system    coredns-7f9c69c78c-85r2m            1/1     Running   0          88m
monitoring     prometheus-adapter-59df95d9f5-7fxk2  1/1     Running   0          86m
monitoring     prometheus-adapter-59df95d9f5-cwfffv 1/1     Running   0          86m
kube-system    hostpath-provisioner-566686b959-7s42g  1/1     Running   0          86m
monitoring     grafana-6dd5b5f65-wlcv5              1/1     Running   0          86m
monitoring     prometheus-operator-7775c66ccf-xg9ns  2/2     Running   0          86m
monitoring     blackbox-exporter-55c457d5fb-hrtcj   3/3     Running   0          86m
monitoring     kube-state-metrics-76f6cb7996-gjw8z   3/3     Running   0          86m
monitoring     node-exporter-5sfhw                2/2     Running   0          86m
monitoring     alertmanager-main-0                2/2     Running   0          86m
monitoring     prometheus-k8s-0                  2/2     Running   1 (84m ago) 86m
nonrtric       controlpanel-67df689699-zdqsg        1/1     Running   0          63m
nonrtric       db-76d79cd769-dgzsc                1/1     Running   0          63m
nonrtric       orufhrecovery-7498b6f6bc-j2vb25    1/1     Running   0          63m
nonrtric       capifcore-55bb46969c-q5ngs         1/1     Running   0          63m
nonrtric       rappcatalogueenhancedservice-68f756c947-q4s2d 1/1     Running   0          63m
nonrtric       ransliceassurance-54c794d47f-l7dvj   1/1     Running   0          63m
nonrtric       a1-sim-std-0              1/1     Running   0          63m
nonrtric       a1controller-64c5b7fc56-58d8d        1/1     Running   0          63m
nonrtric       dmaapmediatorservice-0           1/1     Running   0          63m
nonrtric       rappcatalogueservice-5669f84475-dbqc9  1/1     Running   0          63m
nonrtric       a1-sim-std2-0             1/1     Running   0          63m
nonrtric       a1-sim-osc-0              1/1     Running   0          63m
nonrtric       nonrtricgateway-677849b9d-njqc4       1/1     Running   0          63m
nonrtric       dmaapadapterservice-0           1/1     Running   0          63m
nonrtric       helmmanager-0              1/1     Running   0          63m
nonrtric       informationservice-0          1/1     Running   0          63m
nonrtric       a1-sim-std-1              1/1     Running   0          54m
nonrtric       a1-sim-std2-1             1/1     Running   0          53m
nonrtric       a1-sim-osc-1              1/1     Running   0          52m
nonrtric       policymmanagementservice-0        1/1     Running   0          63m
srmap@srmapper-virtual-machine:~/Wiccom/ORAN_Folder/Prudhvi_V3/nonrtric/bin$ 

```

All are running perfectly

After all your pods have come up, go to your browser and type in localhost:30091/policy to view the interface for the Policy Management Service pod.



Healthcheck rApp Simulator

Running the Non-Real Time RIC Healthcheck rApp

15. sudo apt-get install docker.io
16. sudo apt-get install python3-pip
17. git clone <https://github.com/openaircellular/rapp-healthcheck.git>

```
srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/bin$ cd ../..
srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3$ sudo apt-get install docker.io
[sudo] password for srmap:
Sorry, try again.
[sudo] password for srmap:
Reading package lists... Done
Building dependency tree
Reading state information... Done
docker.io is already the newest version (24.0.5-0ubuntu1~20.04.1).
0 upgraded, 0 newly installed, 0 to remove and 82 not upgraded.
srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3$ sudo apt-get install python3-pip
Reading package lists... Done
Building dependency tree
Reading state information... Done
python3-pip is already the newest version (20.0.2-5ubuntu1.10).
0 upgraded, 0 newly installed, 0 to remove and 82 not upgraded.
srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3$ git clone https://github.com/openaircellular/rapp-healthcheck.git
Cloning into 'rapp-healthcheck'...
remote: Enumerating objects: 35, done.
remote: Counting objects: 100% (35/35), done.
remote: Compressing objects: 100% (22/22), done.
remote: Total 35 (delta 6), reused 32 (delta 6), pack-reused 0
Unpacking objects: 100% (35/35), 14.13 KiB | 370.00 KiB/s, done.
srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3$ 
```

18. cd /rapp-healthcheck/src/

19. pip install -r requirements.txt

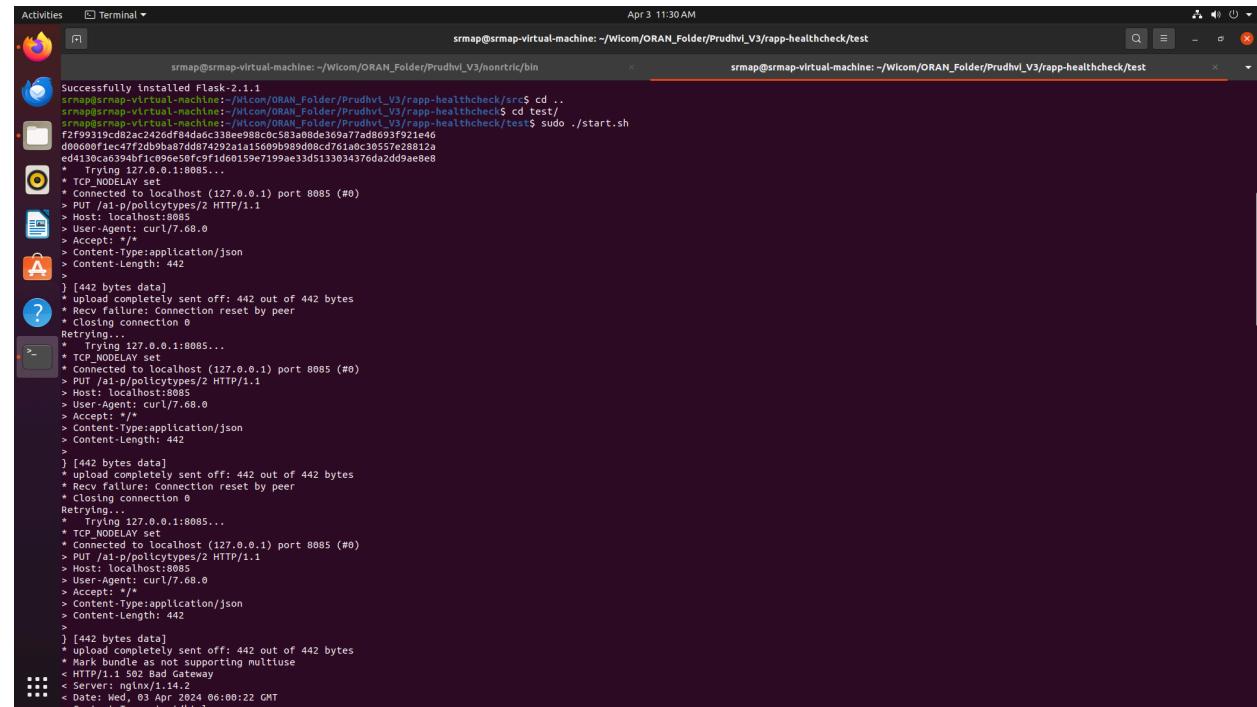
```
Unpacking objects: 100% (35/35), 24.15 Kib | 30.00 Kib/s, done.
srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3$ cd rapp-healthcheck/src/
srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3/rapp-healthcheck/src$ pip install -r requirements.txt
Collecting Flask==2.1.1
  Using cached Flask-2.1.1-py3-none-any.whl (95 kB)
Requirement already satisfied: Jinja2>=3.0 in /home/srmap/.local/lib/python3.8/site-packages (from -r requirements.txt (line 2)) (3.1.3)
Requirement already satisfied: Pygments==2.3.1 in /home/srmap/.local/lib/python3.8/site-packages (from -r requirements.txt (line 3)) (2.3.1)
Requirement already satisfied: requests==2.22.0 in /usr/lib/python3/dist-packages (from -r requirements.txt (line 4)) (2.22.0)
Requirement already satisfied: wincerstore==0.2 in /home/srmap/.local/lib/python3.8/site-packages (from -r requirements.txt (line 5)) (0.2)
Requirement already satisfied: importlib-metadata==3.6.0; python_version < '3.10' in /home/srmap/.local/lib/python3.8/site-packages (from Flask==2.1.1->-r requirements.txt (line 1)) (7.0.2)
Requirement already satisfied: click==8.0 in /home/srmap/.local/lib/python3.8/site-packages (from Flask==2.1.1->-r requirements.txt (line 1)) (8.1.7)
Requirement already satisfied: itsdangerous==2.0 in /home/srmap/.local/lib/python3.8/site-packages (from Flask==2.1.1->-r requirements.txt (line 1)) (2.1.2)
Requirement already satisfied: Werkzeug>=2.0 in /home/srmap/.local/lib/python3.8/site-packages (from Flask==2.1.1->-r requirements.txt (line 1)) (3.0.1)
Requirement already satisfied: MarkupSafe==2.0 in /home/srmap/.local/lib/python3.8/site-packages (from Jinja2>=3.0->-r requirements.txt (line 2)) (2.1.5)
Requirement already satisfied: zipp==0.5 in /home/srmap/.local/lib/python3.8/site-packages (from importlib-metadata==3.6.0; python_version < "3.10"->Flask==2.1.1->-r requirements.txt (line 1)) (3.18.1)
Installing collected packages: Flask
  Attempting uninstall: Flask
    Found existing installation: flask 3.0.2
      Uninstalling flask-3.0.2:
        Successfully uninstalled flask-3.0.2
Successfully installed Flask-2.1.1
srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3/rapp-healthcheck/src$ 
```

Go to the **test** folder and run the **start.sh** script

20. cd ..

21. cd test

22. sudo ./start.sh



```
Activities Terminal Apr 3 11:30 AM
srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3/rapp-healthcheck/test
srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3/rapp-healthcheck/test$ cd ..
srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3/rapp-healthcheck$ cd test/
srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3/rapp-healthcheck/test$ sudo ./start.sh
Successfully installed Flask-2.1.1
srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3/rapp-healthcheck/src$ cd ..
srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3/rapp-healthcheck$ cd test/
srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3/rapp-healthcheck/test$ sudo ./start.sh
* Trying 127.0.0.1:8085...
* Connected to localhost (127.0.0.1) port 8085 (#0)
> PUT /api/policytypes/2 HTTP/1.1
> Host: localhost:8085
> User-Agent: curl/7.68.0
> Accept: */*
> Content-Type:application/json
> Content-Length: 442
} [442 bytes data]
* upload completely sent off: 442 out of 442 bytes
* Recv failure: Connection reset by peer
* Closing connection 0
Retrying...
* Trying 127.0.0.1:8085...
* TCP_NODELAY set
* Connected to localhost (127.0.0.1) port 8085 (#0)
> PUT /api/policytypes/2 HTTP/1.1
> Host: localhost:8085
> User-Agent: curl/7.68.0
> Accept: */*
> Content-Type:application/json
> Content-Length: 442
} [442 bytes data]
* upload completely sent off: 442 out of 442 bytes
* Recv failure: Connection reset by peer
* Closing connection 0
Retrying...
* Trying 127.0.0.1:8085...
* TCP_NODELAY set
* Connected to localhost (127.0.0.1) port 8085 (#0)
> PUT /api/policytypes/2 HTTP/1.1
> Host: localhost:8085
> User-Agent: curl/7.68.0
> Accept: */*
> Content-Type:application/json
> Content-Length: 442
} [442 bytes data]
* upload completely sent off: 442 out of 442 bytes
* Mark bundle as not supporting multiuse
< HTTP/1.1 200 OK
< Server: gunicorn/2.1.4
< Date: Wed, 03 Apr 2024 06:00:22 GMT
< Content-Type: application/json

```

23. cd ..

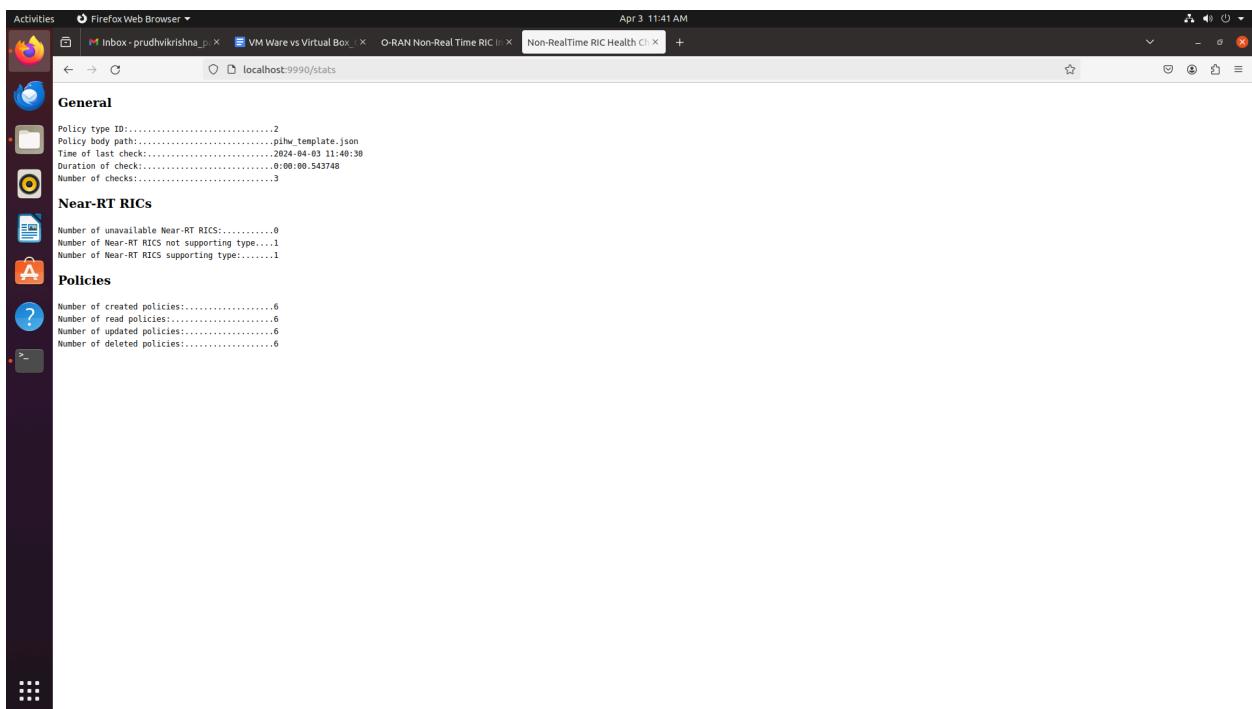
24. cd src

25. python3 main.py

```
srmap@srmap-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3/rapp-healthcheck/src$ python3 main.py
 * Serving Flask app 'main'
 * Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on all addresses (::)
 * Running on http://[::1]:9990
 * Running on http://[::1]:9990
Press CTRL+C to quit
***** Statistics 2024-04-03 11:37:41 *****
Duration of check: 0.639983 seconds
Number of checks: 1
Number of unavailable Near-RT RICS: 0
Number of Near-RT RICS not supporting type: 1
Number of Near-RT RICS supporting type: 1
Number of created policies: 1
Number of read policies: 1
Number of updated policies: 1
Number of deleted policies: 1
*****
[]
```

To see the web page, navigate to localhost:9990/stats. The page refreshes itself with the same interval as the script uses.

Enter this: localhost:9990/stats in new web page.



```
Activities Terminal ▾
srmap@srmap-virtual-machine: ~/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/bin
srmap@srmap-virtual-machine: ~/Wicom/ORAN_Folder/Prudhvi_V3/app-healthcheck/src
April 3 11:41 AM
srmap@srmap-virtual-machine: ~/Wicom/ORAN_Folder/Prudhvi_V3/app-healthcheck/src$ python3 main.py
Successfully installed Flask-2.1.1
srmap@srmap-virtual-machine: ~/Wicom/ORAN_Folder/Prudhvi_V3/app-healthcheck/src$ python3 main.py
* Serving Flask app 'main'
* Debug mode: off
WARNING: Do not run the development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on all addresses (::)
* Running on http://[::]:19990
* Running on https://[::]:19990
Press CTRL+C to quit
***** Statistics 2024-04-03 11:37:41 *****
Duration of check: 0.639983 seconds
Number of checks: 1
Number of unavailable Near-RT RICs: 0
Number of Near-RT RICs not supporting type: 1
Number of Near-RT RICs supporting type: 1
Number of created policies: 1
Number of read policies: 1
Number of updated policies: 1
Number of deleted policies: 1
*****
***** Statistics 2024-04-03 11:38:41 *****
Duration of check: 0.541088 seconds
Number of checks: 2
Number of unavailable Near-RT RICs: 0
Number of Near-RT RICs not supporting type: 1
Number of Near-RT RICs supporting type: 1
Number of created policies: 3
Number of read policies: 3
Number of updated policies: 3
Number of deleted policies: 3
*****
***** Statistics 2024-04-03 11:39:41 *****
Duration of check: 0.543748 seconds
Number of checks: 3
Number of unavailable Near-RT RICs: 0
Number of Near-RT RICs not supporting type: 1
Number of Near-RT RICs supporting type: 1
Number of created policies: 6
Number of read policies: 6
Number of updated policies: 6
Number of deleted policies: 6
*****
***** Statistics 2024-04-03 11:40:30 *****
Duration of check: 0.547804 seconds
Number of checks: 4
Number of unavailable Near-RT RICs: 0
Number of Near-RT RICs not supporting type: 1
Number of Near-RT RICs supporting type: 1
Number of created policies: 10
Number of read policies: 10
Number of updated policies: 10
Number of deleted policies: 10
*****
:ffff:127.0.0.1 - - [03/Apr/2024 11:40:30] "GET /stats HTTP/1.1" 200 -
:ffff:127.0.0.1 - - [03/Apr/2024 11:40:30] "GET /favicon.ico HTTP/1.1" 404 -
***** Statistics 2024-04-03 11:40:41 *****
Duration of check: 0.547804 seconds
Number of checks: 4
Number of unavailable Near-RT RICs: 0
Number of Near-RT RICs not supporting type: 1
Number of Near-RT RICs supporting type: 1
Number of created policies: 10
Number of read policies: 10
Number of updated policies: 10
Number of deleted policies: 10
*****
***** Statistics 2024-04-03 11:39:41 *****
Duration of check: 0.543748 seconds
Number of checks: 3
Number of unavailable Near-RT RICs: 0
Number of Near-RT RICs not supporting type: 1
Number of Near-RT RICs supporting type: 1
Number of created policies: 6
Number of read policies: 6
Number of updated policies: 6
Number of deleted policies: 6
*****
***** Statistics 2024-04-03 11:40:30 *****
Duration of check: 0.547804 seconds
Number of checks: 4
Number of unavailable Near-RT RICs: 0
Number of Near-RT RICs not supporting type: 1
Number of Near-RT RICs supporting type: 1
Number of created policies: 10
Number of read policies: 10
Number of updated policies: 10
Number of deleted policies: 10
*****
***** Statistics 2024-04-03 11:41:30 *****
Duration of check: 0.535867 seconds
Number of checks: 5
Number of unavailable Near-RT RICs: 0
Number of Near-RT RICs not supporting type: 1
Number of Near-RT RICs supporting type: 1
Number of created policies: 15
Number of read policies: 15
Number of updated policies: 15
Number of deleted policies: 15
```

```
Activities Terminal ▾
srmap@srmap-virtual-machine: ~/Wicom/ORAN_Folder/Prudhvi_V3/nonrtic/bin
srmap@srmap-virtual-machine: ~/Wicom/ORAN_Folder/Prudhvi_V3/app-healthcheck/src
April 3 11:41 AM
srmap@srmap-virtual-machine: ~/Wicom/ORAN_Folder/Prudhvi_V3/app-healthcheck/src$ python3 main.py
Number of read policies: 1
Number of updated policies: 1
Number of deleted policies: 1
*****
***** Statistics 2024-04-03 11:38:41 *****
Duration of check: 0.541088 seconds
Number of checks: 2
Number of unavailable Near-RT RICs: 0
Number of Near-RT RICs not supporting type: 1
Number of Near-RT RICs supporting type: 1
Number of created policies: 3
Number of read policies: 3
Number of updated policies: 3
Number of deleted policies: 3
*****
***** Statistics 2024-04-03 11:39:41 *****
Duration of check: 0.543748 seconds
Number of checks: 3
Number of unavailable Near-RT RICs: 0
Number of Near-RT RICs not supporting type: 1
Number of Near-RT RICs supporting type: 1
Number of created policies: 6
Number of read policies: 6
Number of updated policies: 6
Number of deleted policies: 6
*****
***** Statistics 2024-04-03 11:40:30 *****
Duration of check: 0.547804 seconds
Number of checks: 4
Number of unavailable Near-RT RICs: 0
Number of Near-RT RICs not supporting type: 1
Number of Near-RT RICs supporting type: 1
Number of created policies: 10
Number of read policies: 10
Number of updated policies: 10
Number of deleted policies: 10
*****
:ffff:127.0.0.1 - - [03/Apr/2024 11:40:30] "GET /stats HTTP/1.1" 200 -
:ffff:127.0.0.1 - - [03/Apr/2024 11:40:30] "GET /favicon.ico HTTP/1.1" 404 -
***** Statistics 2024-04-03 11:40:41 *****
Duration of check: 0.547804 seconds
Number of checks: 4
Number of unavailable Near-RT RICs: 0
Number of Near-RT RICs not supporting type: 1
Number of Near-RT RICs supporting type: 1
Number of created policies: 10
Number of read policies: 10
Number of updated policies: 10
Number of deleted policies: 10
*****
***** Statistics 2024-04-03 11:39:41 *****
Duration of check: 0.543748 seconds
Number of checks: 3
Number of unavailable Near-RT RICs: 0
Number of Near-RT RICs not supporting type: 1
Number of Near-RT RICs supporting type: 1
Number of created policies: 6
Number of read policies: 6
Number of updated policies: 6
Number of deleted policies: 6
*****
***** Statistics 2024-04-03 11:40:30 *****
Duration of check: 0.547804 seconds
Number of checks: 4
Number of unavailable Near-RT RICs: 0
Number of Near-RT RICs not supporting type: 1
Number of Near-RT RICs supporting type: 1
Number of created policies: 10
Number of read policies: 10
Number of updated policies: 10
Number of deleted policies: 10
*****
***** Statistics 2024-04-03 11:41:30 *****
Duration of check: 0.535867 seconds
Number of checks: 5
Number of unavailable Near-RT RICs: 0
Number of Near-RT RICs not supporting type: 1
Number of Near-RT RICs supporting type: 1
Number of created policies: 15
Number of read policies: 15
Number of updated policies: 15
Number of deleted policies: 15
```

To stop PMS and the simulators, run the `stop.sh` script.
Now, you can stop it and proceed further.

26. `cd ..`
27. `cd test`
28. `sudo ./stop.sh`

```
srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3/rapp-healthcheck/src$ cd ..
srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3/rapp-healthcheck$ cd test/
srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3/rapp-healthcheck/test$ sudo ./stop.sh
policy-agent-container
ric1
ric2
srmap@srmapper-virtual-machine:~/Wicom/ORAN_Folder/Prudhvi_V3/rapp-healthcheck/test$ █
```

xApp Deployment

Note: The near-RT RIC installation has to be completed before proceeding with the following sections.

Hosting the config Files

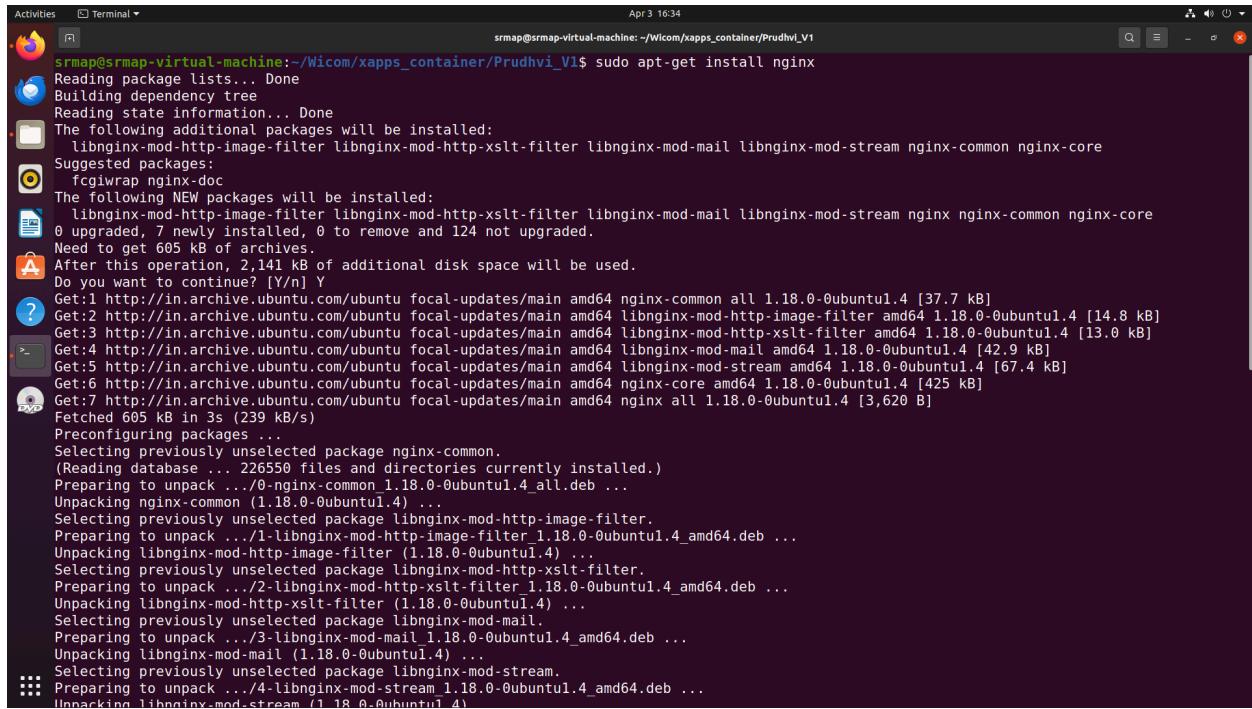
xApp Deployment - General Guidelines

Pre-requisites

Hosting Files on a Web Server

Steps:

1. sudo apt-get install nginx



The screenshot shows a terminal window on a Linux desktop environment. The title bar indicates it's a terminal window. The command entered is 'sudo apt-get install nginx'. The terminal output shows the package manager reading lists, building a dependency tree, and then listing packages to be installed (including nginx-common, nginx-core, and various nginx modules like libnginx-mod-http-image-filter). It then lists packages to be upgraded (none) and packages to be newly installed (nginx, libnginx-mod-stream, etc.). A warning about additional disk space usage is shown, followed by a prompt asking if the user wants to continue (Y/n). The terminal then shows the actual download and unpacking of the packages from the Ubuntu archive, with progress bars and file sizes. Finally, it shows the configuration of the packages and the successful completion of the installation.

```
srmmap@srmmap-virtual-machine:~/Wicom/xapps_container/Prudhvi_V1$ sudo apt-get install nginx
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream nginx-common nginx-core
Suggested packages:
  fcgiwrap nginx-doc
The following NEW packages will be installed:
  libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream nginx nginx-common nginx-core
0 upgraded, 7 newly installed, 0 to remove and 124 not upgraded.
Need to get 605 kB of archives.
After this operation, 2,141 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 nginx-common all 1.18.0-0ubuntu1.4 [37.7 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libnginx-mod-http-image-filter amd64 1.18.0-0ubuntu1.4 [14.8 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libnginx-mod-http-xslt-filter amd64 1.18.0-0ubuntu1.4 [13.0 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libnginx-mod-mail amd64 1.18.0-0ubuntu1.4 [42.9 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libnginx-mod-stream amd64 1.18.0-0ubuntu1.4 [67.4 kB]
Get:6 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 nginx-core amd64 1.18.0-0ubuntu1.4 [425 kB]
Get:7 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 nginx all 1.18.0-0ubuntu1.4 [3,620 B]
Fetched 605 kB in 3s (239 kB/s)
Preconfiguring packages ...
Selecting previously unselected package nginx-common.
(Reading database ... 226550 files and directories currently installed.)
Preparing to unpack .../0.nginx-common_1.18.0-0ubuntu1.4_all.deb ...
Unpacking nginx-common (1.18.0-0ubuntu1.4) ...
Selecting previously unselected package libnginx-mod-http-image-filter.
Preparing to unpack .../1.libnginx-mod-http-image-filter_1.18.0-0ubuntu1.4_amd64.deb ...
Unpacking libnginx-mod-http-image-filter (1.18.0-0ubuntu1.4) ...
Selecting previously unselected package libnginx-mod-http-xslt-filter.
Preparing to unpack .../2.libnginx-mod-http-xslt-filter_1.18.0-0ubuntu1.4_amd64.deb ...
Unpacking libnginx-mod-http-xslt-filter (1.18.0-0ubuntu1.4) ...
Selecting previously unselected package libnginx-mod-mail.
Preparing to unpack .../3.libnginx-mod-mail_1.18.0-0ubuntu1.4_amd64.deb ...
Unpacking libnginx-mod-mail (1.18.0-0ubuntu1.4) ...
Selecting previously unselected package libnginx-mod-stream.
Preparing to unpack .../4.libnginx-mod-stream_1.18.0-0ubuntu1.4_amd64.deb ...
Unpacking libnginx-mod-stream (1.18.0-0ubuntu1.4)
```

```

Activities Terminal ▾ Apr 3 16:35
srmap@srmap-virtual-machine:~/Wicom/xapps_container/Prudhvi_V1$ 
Get:4 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libnginx-mod-mail amd64 1.18.0-0ubuntu1.4 [42.9 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libnginx-mod-stream amd64 1.18.0-0ubuntu1.4 [67.4 kB]
Get:6 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 nginx-core amd64 1.18.0-0ubuntu1.4 [425 kB]
Get:7 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 nginx-all 1.18.0-0ubuntu1.4 [3,620 B]
Fetched 605 kB in 3s (239 kB/s)
Preconfiguring packages ...
Selecting previously unselected package nginx-common.
(Reading database ... 226550 files and directories currently installed.)
Preparing to unpack .../0-nginx-common_1.18.0-0ubuntu1.4_all.deb ...
Unpacking nginx-common (1.18.0-0ubuntu1.4) ...
Selecting previously unselected package libnginx-mod-http-image-filter.
Preparing to unpack .../1-libnginx-mod-http-image-filter_1.18.0-0ubuntu1.4_amd64.deb ...
Unpacking libnginx-mod-http-image-filter (1.18.0-0ubuntu1.4) ...
Selecting previously unselected package libnginx-mod-http-xslt-filter.
Preparing to unpack .../2-libnginx-mod-http-xslt-filter_1.18.0-0ubuntu1.4_amd64.deb ...
Unpacking libnginx-mod-http-xslt-filter (1.18.0-0ubuntu1.4) ...
Selecting previously unselected package libnginx-mod-mail.
Preparing to unpack .../3-libnginx-mod-mail_1.18.0-0ubuntu1.4_amd64.deb ...
Unpacking libnginx-mod-mail (1.18.0-0ubuntu1.4) ...
Selecting previously unselected package libnginx-mod-stream.
Preparing to unpack .../4-libnginx-mod-stream_1.18.0-0ubuntu1.4_amd64.deb ...
Unpacking libnginx-mod-stream (1.18.0-0ubuntu1.4) ...
Selecting previously unselected package nginx-core.
Preparing to unpack .../5-nginx-core_1.18.0-0ubuntu1.4_amd64.deb ...
Unpacking nginx-core (1.18.0-0ubuntu1.4) ...
Selecting previously unselected package nginx.
Preparing to unpack .../6-nginx_1.18.0-0ubuntu1.4_all.deb ...
Unpacking nginx (1.18.0-0ubuntu1.4) ...
Setting up nginx-common (1.18.0-0ubuntu1.4) ...
Created symlink /etc/systemd/system/multi-user.target.wants/nginx.service → /lib/systemd/system/nginx.service.
Setting up libnginx-mod-http-xslt-filter (1.18.0-0ubuntu1.4) ...
Setting up libnginx-mod-mail (1.18.0-0ubuntu1.4) ...
Setting up libnginx-mod-http-image-filter (1.18.0-0ubuntu1.4) ...
Setting up libnginx-mod-stream (1.18.0-0ubuntu1.4) ...
Setting up nginx-core (1.18.0-0ubuntu1.4) ...
Setting up nginx (1.18.0-0ubuntu1.4) ...
Processing triggers for systemd (245.4-4ubuntu3.20) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for ufw (0.36-6ubuntu1) ...

```

2. sudo systemctl status nginx

```

processing triggers for dirmngr (0.50-0ubuntu1) ...
srmap@srmap-virtual-machine:~/Wicom/xapps_container/Prudhvi_V1$ sudo systemctl status nginx
● nginx.service - A high performance web server and a reverse proxy server
  Loaded: loaded (/lib/systemd/system/nginx.service; enabled; vendor preset: enabled)
  Active: active (running) since Wed 2024-04-03 16:27:22 IST; 7min ago
    Docs: man:nginx(8)
   Main PID: 312174 (nginx)
      Tasks: 9 (limit: 38374)
     Memory: 8.0M
      CGroup: /system.slice/nginx.service
              ├─312174 nginx: master process /usr/sbin/nginx -g daemon on; master_process on;
              ├─312175 nginx: worker process
              ├─312176 nginx: worker process
              ├─312177 nginx: worker process
              ├─312178 nginx: worker process
              ├─312179 nginx: worker process
              ├─312180 nginx: worker process
              ├─312181 nginx: worker process
              └─312182 nginx: worker process

Apr 03 16:27:22 srmap-virtual-machine systemd[1]: Starting A high performance web server and a reverse proxy server...
Apr 03 16:27:22 srmap-virtual-machine systemd[1]: Started A high performance web server and a reverse proxy server.
srmap@srmap-virtual-machine:~/Wicom/xapps_container/Prudhvi_V1$ 

```

3. cd /etc/nginx/sites-enabled
4. sudo unlink default
5. cd ..
6. cd ../../
7. cd var/www/

```
apt 8.0-0.15~12/srmap:~/Wicom/xapps_container/Prudhvi_V1$ started a high performance web server and a
srmap@srmapper-virtual-machine:~/Wicom/xapps_container/Prudhvi_V1$ cd /etc/nginx/sites-enabled
srmap@srmapper-virtual-machine:/etc/nginx/sites-enabled$ sudo unlink default
srmap@srmapper-virtual-machine:/etc/nginx/sites-enabled$ cd ..
srmap@srmapper-virtual-machine:/etc/nginx$ cd ...
srmap@srmapper-virtual-machine:$ cd var/www/
srmap@srmapper-virtual-machine:/var/www$ 
```

8. sudo mkdir xApp_config.local
9. cd xApp_config.local/
10. sudo mkdir config_files
11. cd ../../..
12. cd etc/nginx/conf.d/

```
srmap@srmapper-virtual-machine:/var/www$ sudo mkdir xApp_config.local
srmap@srmapper-virtual-machine:/var/www$ cd xApp_config.local/
srmap@srmapper-virtual-machine:/var/www/xApp_config.local$ sudo mkdir config_files
srmap@srmapper-virtual-machine:/var/www/xApp_config.local$ cd ../../..
srmap@srmapper-virtual-machine:$ cd etc/nginx/conf.d/
srmap@srmapper-virtual-machine:/etc/nginx/conf.d$ 
```

13. sudo vim xApp_config.local.conf

→ before proceeding with this command, make sure you install the **vim** (sudo apt install vim)

14. Paste the following content in the *conf* file.

```
server {
    listen 5010 default_server;
    server_name xApp_config.local;
    location /config_files/ {
        root /var/www/xApp_config.local/;
    }
}
```

→ copy the above lines and paste it in the terminal as shown below



```
Activities Terminal ▾
server {
    listen 5010 default_server;
    server_name xApp_config.local;
    location /config_files/ {
        root /var/www/xApp_config.local/;
    }
}
```

→ save the file (:wq) and exit the window.

```
Processing triggers for man-db (2.9.1-1) ...
srmap@srmvirtual-machine:/etc/nginx/conf.d$ sudo vim xApp_config.local.conf
srmap@srmvirtual-machine:/etc/nginx/conf.d$ sudo vim xApp_config.local.conf
srmap@srmvirtual-machine:/etc/nginx/conf.d$
```

15. sudo nginx -t

```
srmap@srmvirtual-machine:/etc/nginx/conf.d$ sudo vim xApp_config.local.conf
srmap@srmvirtual-machine:/etc/nginx/conf.d$ sudo nginx -t
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successful
srmap@srmvirtual-machine:/etc/nginx/conf.d$
```

Hosting the config Files

16. sudo cp <path_to_config_file>/config-file.json /var/www/xApp_config.local/config_files/

```
sudo cp
/home/srmap/Wicom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon/scp-kpimon-config-file.json /var/www/xApp_config.local/config_files/
```

17. sudo systemctl reload nginx

```

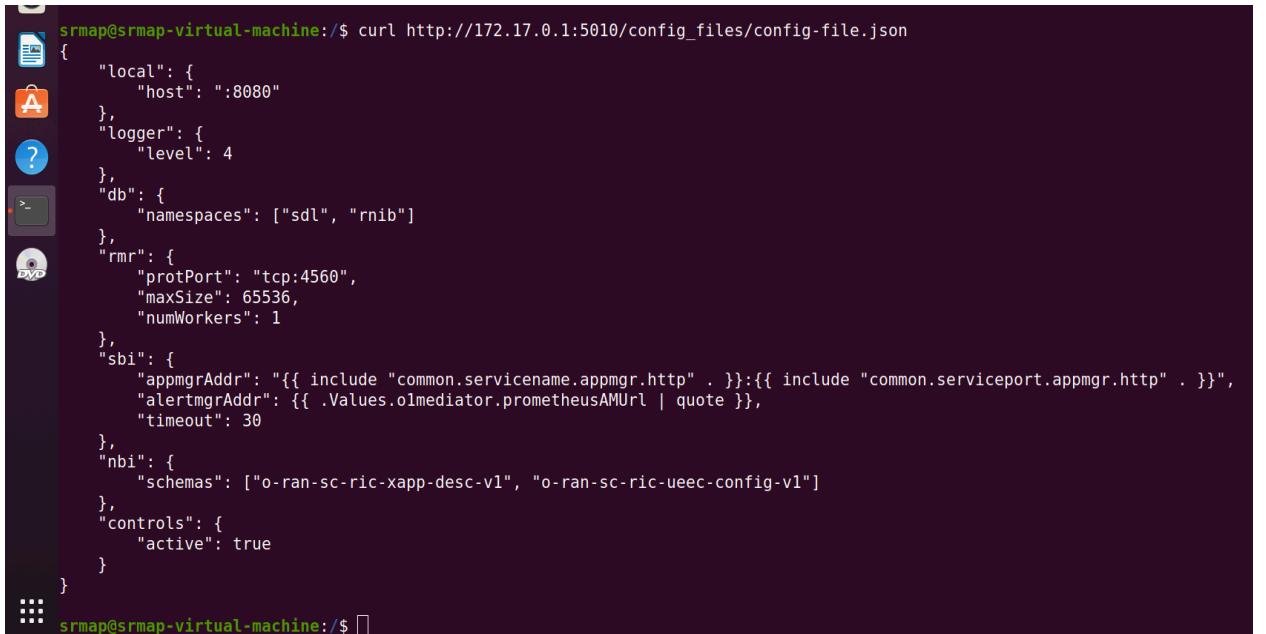
srmap@srmapper-virtual-machine:~$ sudo cp home/srmap/Wicom/OAIC_Folder/Prudhvi_V6/oaic/RIC-Deployment/ric-dep/helm/o1mediator/resources/config-file.json /var/www/xApp_config.local/config_files/
!!! srmap@srmapper-virtual-machine:~$ sudo systemctl reload nginx
!!! srmap@srmapper-virtual-machine:~$ 

```

18. curl http://<machine_ip_addr>:5010/config_files/config-file.json

→<machine_ip_addr>: 172.17.0.1 or 172.16.0.1

So, command: **curl http://172.17.0.1:5010/config_files/config-file.json**



```

srmap@srmapper-virtual-machine:~$ curl http://172.17.0.1:5010/config_files/config-file.json
{
  "local": {
    "host": ":8080"
  },
  "logger": {
    "level": 4
  },
  "db": {
    "namespaces": ["sdl", "rnib"]
  },
  "rnr": {
    "protPort": "tcp:4560",
    "maxSize": 65536,
    "numWorkers": 1
  },
  "sbi": {
    "appmgrAddr": "{{ include "common.servicename.appmgr.http" . }}:{{ include "common.serviceport.appmgr.http" . }}",
    "alertmgrAddr": {{ .Values.o1mediator.prometheusAMUrl | quote }},
    "timeout": 30
  },
  "nbi": {
    "schemas": ["o-ran-sc-ric-xapp-desc-v1", "o-ran-sc-ric-ueec-config-v1"]
  },
  "controls": {
    "active": true
  }
}
srmap@srmapper-virtual-machine:~$ 

```

Creating xApp Docker Image

19. docker build . -t xApp-registry.local:5008/<xapp-image-name>:<version> (Example : xappkpimon:1.0.0).

xapp name: scp-kpimon

version: 1.0.1

→ command: sudo docker build . -t xApp-registry.local:5008/**scp-kpimon:1.0.1**

Pre-requisites: https://openaicellular.github.io/oaic/example_xapp_deployment.html

→KPI MON xApp Deployment: steps 1 to 6.

```
Activities Terminal Apr 10 15:04
srmap@srmapper-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-scp-kpimon
srmap@srmapper-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-scp-kpimon$ sudo docker build . -t xApp-registry.local:5008/scp-kpimon:1.0.1
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
Install the buildx component to build images with BuildKit:
https://docs.docker.com/go/buildx/
Sending build context to Docker daemon 5.375MB
Step 1/42 : FROM nexus3.o-ran-sc.org:10004/o-ran-sc/bldr-ubuntu20-c-go:1.1.1 as kpimonbuild
--> 1fd732131957
Step 2/42 : ENV PATH $PATH:/usr/local/bin
--> Using cache
--> 3f5b8f36810c
Step 3/42 : ENV GOPATH /go
--> Using cache
--> e5653ea9bde0
Step 4/42 : ENV GOBIN /go/bin
--> Using cache
--> 3d82bac85dff
Step 5/42 : ENV RMR_SEED_RT /opt/routes.txt
--> Using cache
--> 104cef285956
Step 6/42 : COPY routes.txt /opt/routes.txt
--> Using cache
--> 59c40173f6ff
Step 7/42 : RUN wget -nv --content-disposition https://packagecloud.io/o-ran-sc/release/packages/debian/stretch/rmr-dev_4.0.5_amd64.deb/download.deb
--> Using cache
--> 4ac647e076e7
Step 8/42 : RUN dpkg -i rmr-dev_4.0.5_amd64.deb
--> Using cache
--> e9ale5adeca7
Step 9/42 : RUN apt-get update && apt-get -y install gcc
--> Using cache
--> 8db0a00cfcc23
Step 10/42 : ARG XAPPFRAMEVERSION=v0.4.11
--> Using cache
--> ele5e622d41e
```

```
Activities Terminal Apr 10 15:04
srmap@srmapper-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-scp-kpimon
srmap@srmapper-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-scp-kpimon$ sudo docker build . -t xApp-registry.local:5008/scp-kpimon:1.0.1
--> Using cache
--> d8ff427d944c
Step 32/42 : FROM ubuntu:20.04
--> bf40b7bc7a11
Step 33/42 : COPY --from=kpimonbuild /usr/local/lib /usr/local/lib
--> Using cache
--> af305a6c85b6
Step 34/42 : COPY --from=kpimonbuild /usr/local/include/e2ap/*.h /usr/local/include/e2ap/
--> Using cache
--> 244ff6b25769
Step 35/42 : COPY --from=kpimonbuild /usr/local/include/e2sm/*.h /usr/local/include/e2sm/
--> Using cache
--> 294073fa5634
Step 36/42 : RUN ldconfig
--> Using cache
--> 53c25584dff4
Step 37/42 : WORKDIR /go/src/gerrit.o-ran-sc.org/r/ric-plt/xapp-frame/config/
--> Using cache
--> 69dabe21b9f2
Step 38/42 : COPY --from=kpimonbuild /go/src/gerrit.o-ran-sc.org/r/ric-plt/xapp-frame/config/config-file.yaml .
--> Using cache
--> 3987329152dc
Step 39/42 : WORKDIR /go/src/gerrit.o-ran-sc.org/r/scp/ric-app/kpimon
--> Using cache
--> 10a94073f45d
Step 40/42 : COPY --from=kpimonbuild /go/src/gerrit.o-ran-sc.org/r/scp/ric-app/kpimon/kpimon .
--> Using cache
--> b8df4e1c6680
Step 41/42 : ENV RMR_RTG_SVC="9999"      VERBOSE=0      CONFIG_FILE=/go/src/gerrit.o-ran-sc.org/r/ric-plt/xapp-frame/config/config-file.yaml
--> Using cache
--> 8251cfc87392
Step 42/42 : CMD ./kpimon -f $CONFIG_FILE
--> Using cache
--> 852ee9d9587f
Successfully built 852ee9d9587f
Successfully tagged xApp-registry.local:5008/scp-kpimon:1.0.1
srmap@srmapper-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-scp-kpimon$ |
```

Get Variables

20.

```
export KONG_PROXY=`sudo kubectl get svc -n ricplt -l app.kubernetes.io/name=kong -o jsonpath='{.items[0].spec.clusterIP}'`
```
21.

```
export APPMGR_HTTP=`sudo kubectl get svc -n ricplt --field-selector metadata.name=service-ricplt-appmgr-http -o jsonpath='{.items[0].spec.clusterIP}'`
```
22.

```
export ONBOARDER_HTTP=`sudo kubectl get svc -n ricplt --field-selector metadata.name=service-ricplt-xapp-onboarder-http -o jsonpath='{.items[0].spec.clusterIP}'`
```

23.

```
curl --location --request GET "http://$KONG_PROXY:32080/onboard/api/v1/charts"
```



```
Successfully tagged xApp-registry.local:5008/scp-kpimon:1.0.1
srmap@ubuntu:~/Wcom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$ export KONG_PROXY=`sudo kubectl get svc -n ricplt -l app.kubernetes.io/name=kong -o jsonpath='{.items[0].spec.clusterIP}'`"
srmap@ubuntu:~/Wcom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$ export APPMGR_HTTP=`sudo kubectl get svc -n ricplt --field-selector metadata.name=service-ricplt-appmgr-http -o jsonpath='{.items[0].spec.clusterIP}'`"
srmap@ubuntu:~/Wcom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$ export ONBOARDER_HTTP=`sudo kubectl get svc -n ricplt --field-selector metadata.name=service-ricplt-xapp-onboarder-http -o jsonpath='{.items[0].spec.clusterIP}'`"
srmap@ubuntu:~/Wcom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$ curl --location --request GET "http://$KONG_PROXY:32080/onboard/api/v1/charts"
{
    "charts": [
        {
            "name": "xApp-registry.local:5008/scp-kpimon:1.0.1"
        }
    ]
}
srmap@ubuntu:~/Wcom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$ curl --location --request GET "http://$KONG_PROXY:32080/onboard/api/v1/charts"
{
    "charts": [
        {
            "name": "xApp-registry.local:5008/scp-kpimon:1.0.1"
        }
    ]
}
```

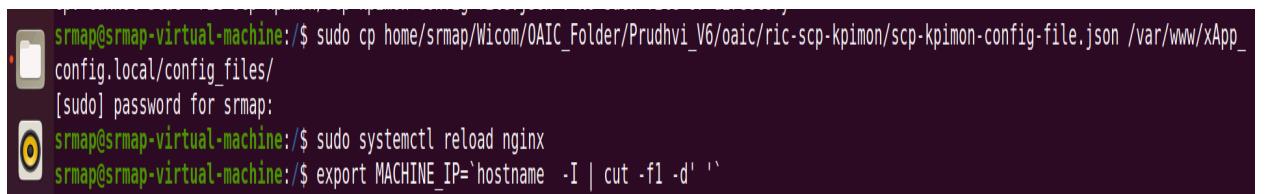
KPIMON xApp Deployment

1.

```
sudo cp ric-scp-kpimon/scp-kpimon-config-file.json /var/www/xApp_config.local/config_files/
```
2.

```
sudo systemctl reload nginx
```
3.

```
export MACHINE_IP=`hostname -I | cut -f1 -d' '`
```



```
srmap@srmapper-virtual-machine:~$ sudo cp home/srmap/Wcom/OAIC_Folder/Prudhvi_V6/oaic/ric-scp-kpimon/scp-kpimon-config-file.json /var/www/xApp_config.local/config_files/
[sudo] password for srmap:
srmap@srmapper-virtual-machine:~$ sudo systemctl reload nginx
srmap@srmapper-virtual-machine:~$ export MACHINE_IP=`hostname -I | cut -f1 -d' '`
```

4.

```
curl http://${MACHINE_IP}:5010/config_files/scp-kpimon-config-file.json
```

```

Activities Terminal Apr 10 14:43
srmap@srmap-virtual-machine:/$ curl http://${MACHINE_IP}:5010/config_files/scp-kpimon-config-file.json
srmap@srmap-virtual-machine:/ /vcom/OAIC_Folder/Prudhvi_Vs/oaic/RIC-Deployment/r1c-dep/helm/o1mediator/r...
{
  "json_url": "scp-kpimon",
  "xapp_name": "scp-kpimon",
  "version": "1.0.1",
  "containers": [
    {
      "name": "scp-kpimon-xapp",
      "image": {
        "registry": "xApp-registry.local:5008",
        "name": "scp-kpimon",
        "tag": "1.0.1"
      }
    }
  ],
  "appenv": { "ranList": "enB_macro_001_001_0019b0" },
  "messaging": {
    "ports": [
      {
        "name": "rmm-data",
        "container": "scp-kpimon-xapp",
        "port": 4560,
        "rxMessages": [ "RIC_SUB_RESP", "RIC_SUB_FAILURE", "RIC_INDICATION", "RIC_SUB_DEL_RESP", "RIC_SUB_DEL_FAILURE" ],
        "txMessages": [ "RIC_SUB_REQ", "RIC_SUB_DEL_REQ" ],
        "policies": [1],
        "description": "rmm receive data port for scp-kpimon-xapp"
      },
      {
        "name": "rmm-route",
        "container": "scp-kpimon-xapp",
        "port": 4561,
        "description": "rmm route port for scp-kpimon-xapp"
      }
    ]
  },
  "rmm": {
    "protPort": "tcp:4560",
    "]
  },
  "rmm": {
    "protPort": "tcp:4560",
    "maxSize": 2072,
    "numWorkers": 1,
    "txMessages": [ "RIC_SUB_REQ", "RIC_SUB_DEL_REQ" ],
    "rxMessages": [ "RIC_SUB_RESP", "RIC_SUB_FAILURE", "RIC_INDICATION", "RIC_SUB_DEL_RESP", "RIC_SUB_DEL_FAILURE" ],
    "policies": [1]
  }
}
srmap@srmap-virtual-machine:$

```

Creating KPIMON xApp Docker image

5. cd ric-scp-kpimon
6. sudo docker build . -t xApp-registry.local:5008/scp-kpimon:1.0.1

```
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-scp-kpimon$ sudo docker build . -t xApp-registry.local:5008/scp-kpimon:1.0.1
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
Install the buildx component to build images with BuildKit:
https://docs.docker.com/go/buildx/
Sending build context to Docker daemon 5.375MB
Step 1/42 : FROM nexus3.o-ran-sc.org:10004/o-ran-sc/bldr-ubuntu20-c-go:1.1.1 as kpimonbuild
1.1.1: Pulling from o-ran-sc/bldr-ubuntu20-c-go
63e9bbe32327: Pull complete
d7044bd15240: Downloading [>] 1.621MB/345MB
4f4fb700ef54: Download complete
3925bae963a3: Download complete
548dc4ba0cb: Downloading [>] 1.08MB/129.1MB
703f4e387cfcd: Downloading [=----->] 45.42MB/135MB
6d88d979aa22: Waiting
c8f3896f2e7e: Waiting
2a7ac4057567: Waiting
54e8b815a597: Waiting
```

```
Activities Terminal ▾
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-scp-kpimon Apr 10 14:52
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-scp-kpimon
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
Install the buildx component to build images with BuildKit:
https://docs.docker.com/go/buildx/
Sending build context to Docker daemon 5.375MB
Step 1/42 : FROM nexus3.o-ran-sc.org:10004/o-ran-sc/bldr-ubuntu20-c-go:1.1.1 as kpimonbuild
1.1.1: Pulling from o-ran-sc/bldr-ubuntu20-c-go
63e9bbe32327: Pull complete
d7044bd15240: Pull complete
4f4fb700ef54: Pull complete
3925bae963a3: Pull complete
548dc4ba0cb: Pull complete
703f4e387cfcd: Pull complete
6d88d979aa22: Pull complete
c8f3896f2e7e: Pull complete
2a7ac4057567: Pull complete
54e8b815a597: Pull complete
Digest: sha256:8418b1a9dd3dbe0a21f4de13453eedeclacb1887711f128e6b964ae3bd89a66
Status: Downloaded newer image for nexus3.o-ran-sc.org:10004/o-ran-sc/bldr-ubuntu20-c-go:1.1.1
--> 1fd732131957
Step 2/42 : ENV PATH $PATH:/usr/local/bin
--> Running in b08a71cd3e0f
Removing intermediate container b08a71cd3e0f
--> 3f5b8f36810c
Step 3/42 : ENV GOPATH /go
--> Running in c60584044e71
Removing intermediate container c60584044e71
--> e5653ea9bde0
Step 4/42 : ENV GOBIN /go/bin
--> Running in 7a1712b945d2
Removing intermediate container 7a1712b945d2
--> 3d82bac85dff
Step 5/42 : ENV RMR_SEED_RT /opt/routes.txt
--> Running in 22293cc79ba9
Removing intermediate container 22293cc79ba9
--> 104cef285956
Step 6/42 : COPY routes.txt /opt/routes.txt
```

```
Activities Terminal ▾ Apr 10 14:52
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oalc/ric-scp-kplmon
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oalc/RIC-Deployment/ric-dep/helm/oimediator/r...
Step 5/42 : ENV RMR_SEED_RT /opt/routes.txt
--> Running in 22293cc79ba9
Removing intermediate container 22293cc79ba9
--> 104cef285956
Step 6/42 : COPY routes.txt /opt/routes.txt
--> 59c40173f6ff
Step 7/42 : RUN wget -nv --content-disposition https://packagecloud.io/o-ran-sc/release/packages/debian/stretch/rmr-dev_4.0.5_amd64.deb/download.deb
--> Running in 5fe50061bc8a
2024-04-10 09:22:24 URL:https://d3fo0g5hm7lbuv.cloudfront.net/20756/10598.debian/package_files/1499826.deb?Expires=1712741244&Signature=0UJ6X8f2CdHhr9E6HUzU81tDQuAM-J0qKdIU0VqyAnjf7mucSr44oUml012MaTmclJN0Wp3vv-yXW2rSsW0kAsXdPSC6bBhtZfaewSJEvTHL2T7xF-VFH7KHUESwgnJlqq0gCN4080TYxM6T9U91UNZ5SftzLFVrbDv01TB007t2ueoUbVmzBjy0qqAOEz0q0-qhHQ__Key-Pair-Id=K1ZMSF1EKC3AZL [1] -> "rmr-dev_4.0.5_amd64.deb" [1]
? Removing intermediate container 5fe50061bc8a
--> 5ac647e076e7
Step 8/42 : RUN dpkg -i rmr-dev_4.0.5_amd64.deb
--> Running in f4911142c64c
Selecting previously unselected package rmr-dev.
(Reading database ... 46371 files and directories currently installed.)
Preparing to unpack rmr-dev_4.0.5_amd64.deb ...
Unpacking rmr-dev (4.0.5) ...
Setting up rmr-dev (4.0.5) ...
Removing intermediate container f4911142c64c
--> e9ale5adeca7
Step 9/42 : RUN apt-get update && apt-get -y install gcc
--> Running in 0c3dabe3bf6f
Hit:1 http://archive.ubuntu.com/ubuntu focal InRelease
Get:2 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:3 http://archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Hit:4 http://archive.ubuntu.com/ubuntu focal-backports InRelease
Get:5 http://archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [1489 kB]
Get:6 http://security.ubuntu.com/ubuntu focal-security/restricted amd64 Packages [3483 kB]
Get:7 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [4021 kB]
Get:8 http://security.ubuntu.com/ubuntu focal-security/universe amd64 Packages [1194 kB]
Get:9 http://security.ubuntu.com/ubuntu focal-security/multiverse amd64 Packages [29.8 kB]
Get:10 http://security.ubuntu.com/ubuntu focal-security/main amd64 Packages [3546 kB]
```

```
Activities Terminal ▾ Apr 10 14:53
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oalc/ric-scp-kplmon
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oalc/RIC-Deployment/ric-dep/helm/oimediator/r...
Setting up rmr-dev (4.0.5) ...
Removing intermediate container f4911142c64c
--> e9ale5adeca7
Step 9/42 : RUN apt-get update && apt-get -y install gcc
--> Running in 0c3dabe3bf6f
Hit:1 http://archive.ubuntu.com/ubuntu focal InRelease
Get:2 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:3 http://archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Hit:4 http://archive.ubuntu.com/ubuntu focal-backports InRelease
Get:5 http://archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [1489 kB]
Get:6 http://security.ubuntu.com/ubuntu focal-security/restricted amd64 Packages [3483 kB]
Get:7 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [4021 kB]
Get:8 http://security.ubuntu.com/ubuntu focal-security/universe amd64 Packages [1194 kB]
Get:9 http://security.ubuntu.com/ubuntu focal-security/multiverse amd64 Packages [29.8 kB]
Get:10 http://security.ubuntu.com/ubuntu focal-security/main amd64 Packages [3546 kB]
Get:11 http://archive.ubuntu.com/ubuntu focal-updates/restricted amd64 Packages [3634 kB]
Fetched 17.6 MB in 38s (467 kB/s)
Reading package lists...
Reading package lists...
Building dependency tree...
Reading state information...
gcc is already the newest version (4:9.3.0-1ubuntu2).
0 upgraded, 0 newly installed, 0 to remove and 10 not upgraded.
Removing intermediate container 0c3dabe3bf6f
--> 8db6a00fcfc23
Step 10/42 : ARG XAPPFRAMEVERSION=v0.4.11
--> Running in 6e536b84491d
Removing intermediate container 6e536b84491d
--> e1e5e622d41e
Step 11/42 : WORKDIR /go/src/gerrit.o-ran-sc.org/r/ric-plt
--> Running in 97a975f1f953
Removing intermediate container 97a975f1f953
--> 383e6778723a
Step 12/42 : RUN git clone -b ${XAPPFRAMEVERSION} "https://gerrit.o-ran-sc.org/r/ric-plt/xapp-frame"
--> Running in 66051110db5f
Cloning into 'xapp-frame' ...
```

```
Activities Terminal ▾ Apr 10 14:53
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Folder/Prudhvi_V6/oalc/ric-scp-kpimon
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Folder/Prudhvi_V6/oalc/RIC-Deployment/r1c-dep/helm/oimediator/r...
---> 8f45e031c250
Step 29/42 : COPY go.sum go.sum
--> 7264911823e9
Step 30/42 : RUN mkdir /opt/kpimon
--> Running in b92a16e00da7
Removing intermediate container b92a16e00da7
--> 4d1da0b29809
Step 31/42 : RUN go build ./kpimon.go && pwd && ls -lat
--> Running in 3ad61e123cd6
go: downloading github.com/influxdata/influxdb-client-go v1.4.0
go: downloading gerrit.o-ran-sc.org/r/ric-plt/xapp-frame.git v0.9.8
go: downloading github.com/deepmap/oapi-codegen v1.3.6
go: downloading gopkg.in/yaml.v2 v2.3.0
go: downloading github.com/pkg/errors v0.9.1
go: downloading gerrit.o-ran-sc.org/r/ric-plt/nodeb-rnib.git/reader v1.2.1
go: downloading gerrit.o-ran-sc.org/r/com/golog.git v0.0.2
go: downloading gerrit.o-ran-sc.org/r/ric-plt/nodeb-rnib.git/alarm v0.5.0
go: downloading gerrit.o-ran-sc.org/r/ric-plt/nodeb-rnib.git/common v1.2.1
go: downloading gerrit.o-ran-sc.org/r/ric-plt/nodeb-rnib.git/entities v1.2.1
go: downloading gerrit.o-ran-sc.org/r/ric-plt/sdlgo.git v0.7.0
go: downloading github.com/fsnotify/fsnotify v1.4.9
go: downloading golang.org/x/net v0.0.0-20200520004742-59133d7f0dd7
go: downloading github.com/golang/protobuf v1.4.2
go: downloading golang.org/x/sys v0.0.0-20200519105757-fe76b779f299
go: downloading github.com/spf13/afero v1.2.2
go: downloading github.com/labstack/echo/v4 v4.1.11
go: downloading google.golang.org/protobuf v1.23.0
go: downloading k8s.io/utils v0.0.0-20201110183641-67b214c5f920
go: downloading github.com/go-redis/redis v6.15.9+incompatible
go: downloading golang.org/x/crypto v0.0.0-20191112222119-e1110fd1c708
go: downloading github.com/labstack/gommon v0.3.0
go: downloading github.com/mattn/go-isatty v0.0.10
go: downloading github.com/mattn/go-colorable v0.1.4
go: downloading github.com/valyala/fasttemplate v1.1.0
go: downloading github.com/valyala/bytebufferpool v1.0.0
```

```
Activities Terminal ▾ Apr 10 14:54
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Folder/Prudhvi_V6/oalc/ric-scp-kpimon
srmap@srmap-virtual-machine: ~/Wlcom/OAIC_Folder/Prudhvi_V6/oalc/RIC-Deployment/r1c-dep/helm/oimediator/r...
go: downloading github.com/go-redis/redis v6.15.9+incompatible
go: downloading golang.org/x/crypto v0.0.0-20191112222119-e1110fd1c708
go: downloading github.com/labstack/gommon v0.3.0
go: downloading github.com/mattn/go-isatty v0.0.10
go: downloading github.com/mattn/go-colorable v0.1.4
go: downloading github.com/valyala/fasttemplate v1.1.0
go: downloading github.com/valyala/bytebufferpool v1.0.0
/go/src/gerrit.o-ran-sc.org/r/scp/ric-app/kpimon
total 108588
drwxr-xr-x 1 root root 4096 Apr 10 09:24 .
-rw-rxr-x 1 root root 111114808 Apr 10 09:24 kpimon
drwxr-xr-x 2 root root 4096 Apr 10 09:23 pkg
drwxr-xr-x 1 root root 4096 Apr 10 09:23 control
drwxr-xr-x 1 root root 4096 Apr 10 09:23 e2sm
drwxr-xr-x 1 root root 4096 Apr 10 09:23 e2ap
drwxr-xr-x 1 root root 4096 Apr 10 09:23 ..
-rw-rw-r-- 1 root root 3871 Mar 4 06:58 go.mod
-rw-rw-r-- 1 root root 35518 Mar 4 06:58 go.sum
-rw-rw-r-- 1 root root 163 Mar 4 06:58 kpimon.go
drwxr-xr-x 10 root root 4096 Mar 15 2022 go
Removing intermediate container 3ad61e123cd6
--> d8ff427d944c
Step 32/42 : FROM ubuntu:20.04
--> bf40b7bc7a11
Step 33/42 : COPY --from=fpimonbuild /usr/local/lib /usr/local/lib
--> af305a6c85b6
Step 34/42 : COPY --from=fpimonbuild /usr/local/include/e2ap/*.h /usr/local/include/e2ap/
--> 244ff6b25769
Step 35/42 : COPY --from=fpimonbuild /usr/local/include/e2sm/*.h /usr/local/include/e2sm/
--> 294073fa5634
Step 36/42 : RUN ldconfig
--> Running in 9c7993173555
Removing intermediate container 9c7993173555
--> 53c25584dff4
Step 37/42 : WORKDIR /go/src/gerrit.o-ran-sc.org/r/ric-plt/xapp-frame/config/
--> Running in d1f4262c8f38
Removing intermediate container d1f4262c8f38
```

```

Activities Terminal Apr 10 14:54
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-scp-kpimon
srmap@srmap-virtual-machine: ~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-scp-kpimon$ Removing intermediate container 3ad61e123cd6
...> d8ff427d944c
Step 32/42 : FROM ubuntu:20.04
...> bf40b7bc7a11
Step 33/42 : COPY --from=kpimonbuild /usr/local/lib /usr/local/lib
...> af305a6c85b6
Step 34/42 : COPY --from=kpimonbuild /usr/local/include/e2ap/*.h /usr/local/include/e2ap/
...> 244ff6b25769
Step 35/42 : COPY --from=kpimonbuild /usr/local/include/e2sm/*.h /usr/local/include/e2sm/
...> 294073fa5634
Step 36/42 : RUN ldconfig
...> Running in 9c7993173555
Removing intermediate container 9c7993173555
...> 53c25584dff4
Step 37/42 : WORKDIR /go/src/gerrit.o-ran-sc.org/r/ric-plt/xapp-frame/config/
...> Running in d1f4262c8f38
Removing intermediate container d1f4262c8f38
...> 69dabe21b9f2
Step 38/42 : COPY --from=kpimonbuild /go/src/gerrit.o-ran-sc.org/r/ric-plt/xapp-frame/config/config-file.yaml .
...> 3987329152dc
Step 39/42 : WORKDIR /go/src/gerrit.o-ran-sc.org/r/scp/ric-app/kpimon
...> Running in 19ba7c8b2462
Removing intermediate container 19ba7c8b2462
...> 10a94073f45d
Step 40/42 : COPY --from=kpimonbuild /go/src/gerrit.o-ran-sc.org/r/scp/ric-app/kpimon/kpimon .
...> b8df4e1c6680
Step 41/42 : ENV RMR_RTG_SVC="9999"      VERBOSE=0      CONFIG_FILE=/go/src/gerrit.o-ran-sc.org/r/ric-plt/xapp-frame/config/config-file.yaml
...> Running in be20a8024827
Removing intermediate container be20a8024827
...> 8251cfcc87392
Step 42/42 : CMD ./kpimon -f $CONFIG_FILE
...> Running in efe9d196ec5a
Removing intermediate container efe9d196ec5a
...> 852ee9d9587f
Successfully built 852ee9d9587f
Successfully tagged xApp-registry.local:5008/scp-kpimon:1.0.1
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V6/oaic/ric-scp-kpimon$ []

```

xApp Onboarder Deployment

Get Variables

7. `export KONG_PROXY=`sudo kubectl get svc -n ricplt -l app.kubernetes.io/name=kong -o jsonpath='{.items[0].spec.clusterIP}'``
8. `export APPMGR_HTTP=`sudo kubectl get svc -n ricplt --field-selector metadata.name=service-ricplt-appmgr-http -o jsonpath='{.items[0].spec.clusterIP}'``
9. `export ONBOARDER_HTTP=`sudo kubectl get svc -n ricplt --field-selector metadata.name=service-ricplt-xapp-onboarder-http -o jsonpath='{.items[0].spec.clusterIP}'``

```

srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V7/oaic/ric-scp-kpimon$ export KONG_PROXY=`sudo kubectl get svc -n ricplt -l app.kube
rnetes.io/name=kong -o jsonpath='{.items[0].spec.clusterIP}'`
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V7/oaic/ric-scp-kpimon$ export APPMGR_HTTP=`sudo kubectl get svc -n ricplt --field-se
lector metadata.name=service-ricplt-appmgr-http -o jsonpath='{.items[0].spec.clusterIP}'`
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V7/oaic/ric-scp-kpimon$ export ONBOARDER_HTTP=`sudo kubectl get svc -n ricplt --field
-selector metadata.name=service-ricplt-xapp-onboarder-http -o jsonpath='{.items[0].spec.clusterIP}'`
srmap@srmap-virtual-machine:~/Wicom/OAIC_Folder/Prudhvi_V7/oaic/ric-scp-kpimon$ []

```

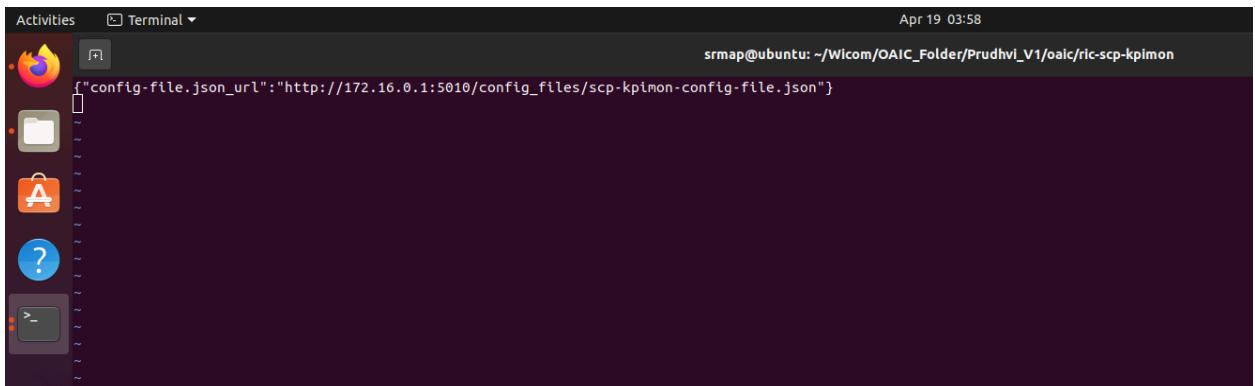
10. url --location --request GET "http://\$KONG_PROXY:32080/onboard/api/v1/charts"

```
Successfully tagged xApp-registry.local:5008/scp-kpimon:1.0.1
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$ export KONG_PROXY=`sudo kubectl get svc -n ricpl -l app.kubernetes.io/name=kong -o jsonpath='{.items[0].spec.clusterIP}'` 
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$ export APPMGR_HTTP=`sudo kubectl get svc -n ricpl -l field-selector metadata.name=service-ricplt-appmgr-http -o jsonpath='{.items[0].spec.clusterIP}'` 
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$ export ONBOARDER_HTTP=`sudo kubectl get svc -n ricpl -l field-selector metadata.name=service-ricplt-xapp-onboarder-http -o jsonpath='{.items[0].spec.clusterIP}'` 
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$ curl --location --request GET "http://$KONG_PROXY:32080/onboard/api/v1/charts"
()
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$ curl --location --request GET "http://$KONG_PROXY:32080/onboard/api/v1/charts"
()
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$ 
```

11. vim scp-kpimon-onboard.url

Paste the below line in the file:

```
{"config-file.json_url":"http://172.16.0.1:5010/config\_files/scp-kpimon-config-file.json"}
```



```
{}

srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$ vim scp-kpimon-onboard.url
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$ vim scp-kpimon-onboard.url
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$ 
```

Deploying the xApp

12. curl -L -X POST "http://\$KONG_PROXY:32080/onboard/api/v1/onboard/download"
--header 'Content-Type: application/json' --data-binary "@scp-kpimon-onboard.url"
13. curl -L -X GET "http://\$KONG_PROXY:32080/onboard/api/v1/charts"
14. curl -L -X POST "http://\$KONG_PROXY:32080/appmgr/ric/v1/xapps" --header
'Content-Type: application/json' --data-raw '{"xappName": "scp-kpimon"}'

```
smap@ubuntu:/Wicon/OAIC_Folder/Prudhvi_V1/oaic/rlc-scp-kpimon$ curl -L -X POST "http://$KONG_PROXY:32080/onboard/api/v1/onboard/download" --header 'Content-Type: application/json' --data-binary "@scp-kpimon-onboard.url"
{
  "status": "Created"
}
smap@ubuntu:/Wicon/OAIC_Folder/Prudhvi_V1/oaic/rlc-scp-kpimon$ curl -L -X GET "http://$KONG_PROXY:32080/onboard/api/v1/charts"
{
  "scp-kpimon": [
    {
      "name": "scp-kpimon",
      "version": "1.0",
      "description": "Standard xApp Helm Chart",
      "apiVersion": "v1",
      "appVersion": "1.0",
      "urls": [
        "charts/scp-kpimon-1.0.1.tgz"
      ],
      "created": "2024-04-19T11:04:06.816222894Z",
      "digest": "3df19e66f2a0423d0be9b562485a270aee58e39e398eb45f49e9b5b60aae905"
    }
  ]
}
smap@ubuntu:/Wicon/OAIC_Folder/Prudhvi_V1/oaic/rlc-scp-kpimon$ curl -L -X POST "http://$KONG_PROXY:32080/appmgr/ric/v1/xapps" --header 'Content-Type: application/json' --data-raw '{"xappName": "scp-kpimon"}'
{"instances":null,"name":"scp-kpimon","status":"deployed","version":"1.0"}
smap@ubuntu:/Wicon/OAIC_Folder/Prudhvi_V1/oaic/rlc-scp-kpimon$ 
```

Verifying xApp Deployment

15. sudo kubectl get pods -A

```
}
```

```
smap@ubuntu:/Wicon/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$ curl -L -X POST "http://$KONG_PROXY:32080/appmgr/ric/v1/xapps"
{"instances":null,"name":"scp-kpimon","status":"deployed","version":"1.0"}
smap@ubuntu:/Wicon/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$ sudo kubectl get pods -A
[sudo] password for smap:
NAMESPACE     NAME                               READY   STATUS    RESTARTS   AGE
kube-system   coredns-5644d7b6d9-4ztt8          1/1    Running   0          123m
kube-system   coredns-5644d7b6d9-xmnz6          1/1    Running   0          123m
kube-system   etcd-ubuntu                         1/1    Running   0          122m
kube-system   kube-apiserver-ubuntu              1/1    Running   0          122m
kube-system   kube-controller-manager-ubuntu       1/1    Running   0          121m
kube-system   kube-flannel-ds-xfxxv             1/1    Running   0          123m
kube-system   kube-proxy-ffrw5                   1/1    Running   0          123m
kube-system   kube-scheduler-ubuntu              1/1    Running   0          122m
kube-system   tiller-deploy-7d7bc87bb-lghlm       1/1    Running   0          121m
ricinfra      deployment-tiller-ricxapp-67f67c95f4-97zvr 1/1    Running   0          116m
ricinfra      nfs-release-1-nfs-server-provisioner-0 1/1    Running   0          119m
ricinfra      tiller-secret-generator-r7chm       0/1    Completed  0          116m
ricpli       deployment-ricpli-aimediator-6cccd8896d7-4ldkg 1/1    Running   0          115m
ricpli       deployment-ricpli-alarmmanager-56d79dc55-cn6x6 1/1    Running   0          114m
ricpli       deployment-ricpli-appmgr-0fd664755-wj8pp       1/1    Running   0          115m
ricpli       deployment-ricpli-e2mgr-66cdc4d6b6-zx6hj       1/1    Running   0          115m
ricpli       deployment-ricpli-e2term-alpha-db9c45968-jx9nd 1/1    Running   0          115m
ricpli       deployment-ricpli-jaegeradapter-76dbbf9c9-hj4t6 1/1    Running   0          113m
ricpli       deployment-ricpli-oimediator-677ff764d7-qwgvn 1/1    Running   0          114m
ricpli       deployment-ricpli-rtmgr-578c64f5cf-frf2s       1/1    Running   2          115m
ricpli       deployment-ricpli-submgr-7f6499555d-d5z4q       1/1    Running   0          114m
ricpli       deployment-ricpli-vespamgr-84f7d87dfb-rzd8l 1/1    Running   0          114m
ricpli       deployment-ricpli-xapp-onboarder-5958856fc8-b2vbf 2/2    Running   1          116m
ricpli       r4-infrastructure-kong-646b68bd88-hrz8h       2/2    Running   1          116m
ricpli       r4-infrastructure-prometheus-alertmanager-75dff54776-j947f 2/2    Running   0          116m
ricpli       r4-infrastructure-prometheus-server-5fd7695-rdlsk 1/1    Running   0          116m
ricpli       ricpli-influxdb-meta-0                  1/1    Running   0          113m
ricpli       statefulset-ricpli-dbaas-server-0          1/1    Running   0          116m
ricxapp      ricxapp-scp-kpimon-75748f9889-tb95b       1/1    Running   0          3m32s
smap@ubuntu:/Wicon/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$ 
```

We can check the xApp logs using

16. sudo kubectl logs -f -n ricxapp -l app=ricxapp-scp-kpimon

```
Activities Terminal ▾ April 19 04:12
srmap@ubuntu: ~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/rsc-scp-kpimon

plmnID = nRCGI.PlmnID in e2sm parsenrcgi func: %d [[0 241 16] 3]
CellID in e2sm parsenrcgi func: %d 001510
nCellID = nRCGI.NRCCellID in e2sm parsenrcgi func: [[0 0 0 16] 5 4]
plmnID.size= %d 3
CellID.size= %d 5
CellID at the end of parsenrcgi func in e2sm: %d 0015100000000001
//// cellID = e2sm.ParseNRCGI.cellResourceReport.NRCGI: %s <nil>
///// err = e2sm.ParseNRCGI.cellResourceReport.NRCGI: %s <nil>
///////////after first ueMetrics.CellID = cellID
////entered writeueMetrics func
//////passed writeueAPI in writeueMetrics func
("ts":171525148572,"crit":"INFO","id":"kpimon","mdc":{"CONTAINER_NAME":"","HOST_NAME":"","PID":7,"POD_NAME":"","SERVICE_NAME":"","SYSTEM_NAME":"","time":"2024-04-19T11:12:28"},"msg":"Wrote UE Metrics to InfluxDB")
//////////.....passed write...../////////.....
cellMetrics.CellID = cellID: %d 0015100000000001
TotalOfAvailableRBSSDL: %d -1
TotalOfAvailableRBSSUL: %d -1
////entered writecellMetrics func
//////passed writeAPI in writecellMetrics
("ts":171525148572,"crit":"INFO","id":"kpimon","mdc":{"CONTAINER_NAME":"","HOST_NAME":"","PID":7,"POD_NAME":"","SERVICE_NAME":"","SYSTEM_NAME":"","time":"2024-04-19T11:12:28"},"msg":"Wrote Cell Metrics to InfluxDB")
//////////.....passed write cellMetrics...../////
ServedPlmnPerCell[%d]: 0
ServedPlmnPerCellCount[%d]: 0
//////////.....before if pmContainer.RANContainer %% <nil>
for i = 0 i <ndMsgFormat1.PMContainerCount
PMContainer[%d]:
    pmContainer %s {0x0036ad80 <nil>}
    /////entered if pmContainer.PFContainer nil
    //in if pmContainer.PFContainer != nil containerType: %d 2
    //////////////entered in for loop else if containerType == 2 oCU-CP
    ///////////////after first ueMetrics.NumberOfActivevEts %d: 1
    //entered writeueMetrics func
    ///////////////passed writeAPI in writeueMetrics func
    ("ts":171525148574,"crit":"INFO","id":"kpimon","mdc":{"CONTAINER_NAME":"","HOST_NAME":"","PID":7,"POD_NAME":"","SERVICE_NAME":"","SYSTEM_NAME":"","time":"2024-04-19T11:12:28"},"msg":"Wrote UE Metrics to InfluxDB")
    //////////.....passed write...../////////.....
    ////////////////before if pmContainer.RANContainer %% <nil>
    //////////////entered for i = 0 i <ndMsgFormat1.PMContainerCount
    PMContainer[%d]: 2
    pmContainer %s {0x0036adbb <nil>}
    //entered if pmContainer.PFContainer nil
    //in if pmContainer.PFContainer != nil containerType: %d 3
    //////////////entered in for loop else if containerType == 3 oCU-UP
    ///////////////after 8th ueMetrics.QCI
    ueMetrics.PDCPBytesDL: %s [30 19 251]
    ueMetrics.PDCPBytesUL: %s [4 17 13 124]
    //entered writeueMetrics func
    ///////////////passed writeAPI in writeueMetrics func
    ("ts":171525148576,"crit":"INFO","id":"kpimon","mdc":{"CONTAINER_NAME":"","HOST_NAME":"","PID":7,"POD_NAME":"","SERVICE_NAME":"","SYSTEM_NAME":"","time":"2024-04-19T11:12:28"},"msg":"Wrote UE Metrics to InfluxDB")
    //////////.....passed 8th write...../////////.....
    ////////////////before if pmContainer.RANContainer %% <nil>
    ///////////////passed indication main and get to return nil
```

```
Activities Terminal Apr 19 09:59
srmap@ubuntu: ~/Wlcom/OAIC_Folder/Prudhvi_V1/oaic/rhc-scp-kpmon
srmap@ubuntu: ~/Wlcom/OAIC_Folder/Prudhvi_V1/oaic/rhc-scp-kpmon
srmap@ubuntu: ~/Wlcom/OAIC_Folder/Prudhvi_V1/oaic/rhc-scp-kpmon

srcID = nRCGI.NRCellID in e2sm parsenrcgl func: {[0 0 0 0 16] 5 4]
plmID.Size_ <= 3
nrcellID.Size_ <= 5
CellID at the end of parsenrcgl func in e2sm 001511000000000001
||||| cellID = e2sm.ParseNR CGI cellResourceReport.NRCGI: Ns <n>
||||| cellID = e2sm.ParseNR CGI cellResourceReport.NRCGI: Ns <n>
||||| //After first ueMetrics.cellID = cellID
||||| //entered writeueMetrics func
||||| //passed writeAPI in writeueMetrics func
("ts": "2024-04-19T16:49:29", "crit": "INFO", "id": "kpmon", "mdc": {"CONTAINER_NAME": "", "HOST_NAME": "", "PID": "7", "POD_NAME": "", "SERVICE_NAME": "", "SYSTEM_NAME": "", "time": "2024-04-19T16:49:29"}, "msg": "Wrote UE Metrics to InfluxDB"}
||||| ..... passed write..... //..... .
cellMetrics.cellID = cellID: Ns 001511000000000001
TotalofAvailableeRBSDL: <d> 1
TotalofAvailableeRBSSUL: <d> 1
||||| //entered writecellMetrics func
||||| //passed writeAPI in writecellMetrics
("ts": "2024-04-19T16:49:29", "crit": "INFO", "id": "kpmon", "mdc": {"CONTAINER_NAME": "", "HOST_NAME": "", "PID": "7", "POD_NAME": "", "SERVICE_NAME": "", "SYSTEM_NAME": "", "time": "2024-04-19T16:49:29"}, "msg": "Wrote Cell Metric to InfluxDB"}
||||| ..... //..... passed write cellMetrics..... //.....
ServedDInnPerCellCount: <d> 1
ServedDInnPerCell[<d>]: 0
PMContainer[<d>]: 1
||||| //entered if pnContainer.RANContainer <x> <n>
||||| //entered for i = 0 i <= DMSFormat1.PMContainerCount
PMContainer[<d>]: 1
pnContainer: Ns {0xc0006c0738 <n>}
||||| //entered if pnContainer.PFContainer nil
||||| in if pnContainer.PFContainer == nil containerType: <d> 2
||||| //entered for i <= DMSFormat1.PCUMetricCount if containerType == 2 oC-U-CP
||||| //..... //After first metrics.NumberOfActiveUEs <d> 1
||||| //entered writeueMetrics func
||||| //passed writeAPI in writeueMetrics func
("ts": "2024-04-19T16:49:29", "crit": "INFO", "id": "kpmon", "mdc": {"CONTAINER_NAME": "", "HOST_NAME": "", "PID": "7", "POD_NAME": "", "SERVICE_NAME": "", "SYSTEM_NAME": "", "time": "2024-04-19T16:49:29"}, "msg": "Wrote UE Metrics to InfluxDB"}
||||| ..... passed write..... //..... .
||||| //..... //..... before if pnContainer.RANContainer <x> <n>
||||| //entered for i = 0 i <= DMSFormat1.PMContainerCount
PMContainer[<d>]: 2
pnContainer: Ns {0xc0006c0768 <n>}
||||| //entered if pnContainer.PFContainer nil
||||| in if pnContainer.PFContainer == nil containerType: <d> 3
||||| //entered in if containerType == 3 oC-U-UP
||||| //..... //After 3th ueMetrics.OCT
ueMetrics.PDCPBytesDL: <x> [27 108 213]
ueMetrics.PDCPBytesUL: <x> [26 130 240]
||||| //entered writeueMetric func
||||| //..... //..... writeAPI in writeueMetrics func
("ts": "2024-04-19T16:49:29", "crit": "INFO", "id": "kpmon", "mdc": {"CONTAINER_NAME": "", "HOST_NAME": "", "PID": "7", "POD_NAME": "", "SERVICE_NAME": "", "SYSTEM_NAME": "", "time": "2024-04-19T16:49:29"}, "msg": "Wrote UE Metrics to InfluxDB"}
||||| ..... //..... passed 5th write..... //.....
||||| //..... //..... before if pnContainer.RANContainer <x> <n>
||||| //..... //..... indication main and get to return nil
rpc error: code = Unknown desc = Error: No such container: 9dbaa3a69ad129775e8f6cc8d02cfc3c8baebf9d061f32ff40d4a8734d81b2 srmap@ubuntu: ~/Wlcom/OAIC_Folder/Prudhvi_V1/oaic/rhc-scp-kpmon$
```

Since the E2 Node is already up and running and the Key Performance Metrics (KPM) RAN function is enabled by default, the xApp will be able to subscribe to the E2 Node and start getting INDICATION messages. The decoded message containing information about the metrics is stored in the `kpimon.log` within the pod. This can be viewed by,

- ```
17. sudo kubectl exec -it -n ricxapp `sudo kubectl get pod -n ricxapp -l app=ricxapp-scp-kpimon -o jsonpath='{.items[0].metadata.name}'` -- tail -F /opt/kpimon.log
```

Activities Terminal ▾

srmap@ubuntu: ~/Wicom/OAIC\_Folder/Prudhvi\_V1/oalc/rlc-scp-kpimon

```
[qSkiptool]2024/04/19 11:21:14 control.go:726: QCI: 0
[qSkiptool]2024/04/19 11:21:14 control.go:735: PDCPBytesDL: 014d63
[qSkiptool]2024/04/19 11:21:14 control.go:741: PDCPBytesUL: 0143dc
[qSkiptool]2024/04/19 11:21:14 control.go:183: RIC Indication message type: 12050
[qSkiptool]2024/04/19 11:21:14 control.go:183: RIC Indication message from {enB_macro_001_001_0019b0} received
[qSkiptool]2024/04/19 11:21:14 control.go:185: RequestID: 123
[qSkiptool]2024/04/19 11:21:14 control.go:189: FunctionID: 0
[qSkiptool]2024/04/19 11:21:14 control.go:191: ActionID: 0
[qSkiptool]2024/04/19 11:21:14 control.go:192: TotalAvailablePDRBSUL: 1543
[qSkiptool]2024/04/19 11:21:14 control.go:195: IndicationType: 0
[qSkiptool]2024/04/19 11:21:14 control.go:197: IndicationHeader: 0800f110
[qSkiptool]2024/04/19 11:21:14 control.go:199: IndicationMessage: 0104000002400000000f11000000000100000f1104a000050100800f11000006000201ec8703004b0ba68
[qSkiptool]2024/04/19 11:21:14 control.go:201: allProcessID:
[qSkiptool]2024/04/19 11:21:14 control.go:216: -----RIC Indication Header-----
[qSkiptool]2024/04/19 11:21:14 control.go:221: RIC Indication Header Format: 1
[qSkiptool]2024/04/19 11:21:14 control.go:222: GlobalKMModeIDType: 0
[qSkiptool]2024/04/19 11:21:14 control.go:319: PlmnID: 00f110
[qSkiptool]2024/04/19 11:21:14 control.go:386: -----RIC Indication Message-----
[qSkiptool]2024/04/19 11:21:14 control.go:387: StyleType: 4
[qSkiptool]2024/04/19 11:21:14 control.go:388: RIC Indication Message Format: 1
[qSkiptool]2024/04/19 11:21:14 control.go:391: TotalAvailablePDRBSUL: 3
[qSkiptool]2024/04/19 11:21:14 control.go:407: PMContainer[0];
[qSkiptool]2024/04/19 11:21:14 control.go:418: PFContainerType: 1
[qSkiptool]2024/04/19 11:21:14 control.go:422: ODU PF Container:
[qSkiptool]2024/04/19 11:21:14 control.go:427: CellResourceReportCount: 1
[qSkiptool]2024/04/19 11:21:14 control.go:430: CellResourceReport[0]:
[qSkiptool]2024/04/19 11:21:14 control.go:437: nRCCGInCellID: 0000000010
[qSkiptool]2024/04/19 11:21:14 control.go:476: TotalAvailablePDRBSUL: 1
[qSkiptool]2024/04/19 11:21:14 control.go:478: TotalAvailablePDRBSUL: 1
[qSkiptool]2024/04/19 11:21:14 control.go:497: ServedPlmnPerCellCount: 1
[qSkiptool]2024/04/19 11:21:14 control.go:501: ServedPlmnPerCell[0]:
[qSkiptool]2024/04/19 11:21:14 control.go:503: PDRBSUL:
[qSkiptool]2024/04/19 11:21:14 control.go:507: PMContainer[]:
[qSkiptool]2024/04/19 11:21:14 control.go:418: PFContainerType: 2
[qSkiptool]2024/04/19 11:21:14 control.go:586: oCUCP PF Container:
[qSkiptool]2024/04/19 11:21:14 control.go:595: NumberOfActiveEles: 1
[qSkiptool]2024/04/19 11:21:14 control.go:407: PMContainer[2];
[qSkiptool]2024/04/19 11:21:14 control.go:407: oCUCP PF Container:
[qSkiptool]2024/04/19 11:21:14 control.go:407: CU-UP PF Container:
[qSkiptool]2024/04/19 11:21:14 control.go:617: CU-UP PF Container Item Count: 1
[qSkiptool]2024/04/19 11:21:14 control.go:620: CU-UP PF Container Item [0]:
[qSkiptool]2024/04/19 11:21:14 control.go:624: InterfaceType: 2
[qSkiptool]2024/04/19 11:21:14 control.go:27: CU-UP Pdn Count: 1
[qSkiptool]2024/04/19 11:21:14 control.go:634: CU-UP Pdn[0]:
[qSkiptool]2024/04/19 11:21:14 control.go:634: PlmnID: 00f110
[qSkiptool]2024/04/19 11:21:14 control.go:719: PerQCIReportCount: 1
[qSkiptool]2024/04/19 11:21:14 control.go:722: PerQCIReport[0]:
[qSkiptool]2024/04/19 11:21:14 control.go:726: QCI: 0
[qSkiptool]2024/04/19 11:21:14 control.go:735: PDCPBytesDL: 1ec870
[qSkiptool]2024/04/19 11:21:14 control.go:741: PDCPBytesUL: 04b0ba68
```

Activities Terminal ▾

srmap@ubuntu: ~/Wicom/OAIC\_Folder/Prudhvi\_V1/oalc/rlc-scp-kpimon

```
[qSkiptool]2024/04/19 11:22:28 control.go:739: PDCPBytesDL: 1ee13f
[qSkiptool]2024/04/19 11:22:28 control.go:741: PDCPBytesUL: 04bed25c
[qSkiptool]2024/04/19 11:22:29 control.go:183: RIC Indication message type: 12050
[qSkiptool]2024/04/19 11:22:29 control.go:185: RequestID: 123
[qSkiptool]2024/04/19 11:22:29 control.go:189: FunctionID: 1
[qSkiptool]2024/04/19 11:22:29 control.go:193: IndicationSN: 1660
[qSkiptool]2024/04/19 11:22:29 control.go:195: IndicationType: 0
[qSkiptool]2024/04/19 11:22:29 control.go:199: IndicationMessage: 0104000002400000000f11000000000100000f1104a000050100800f11000006000201678e20015d20
[qSkiptool]2024/04/19 11:22:29 control.go:201: allProcessID:
[qSkiptool]2024/04/19 11:22:29 control.go:216: -----RIC Indication Header-----
[qSkiptool]2024/04/19 11:22:29 control.go:221: RIC Indication Header Format: 1
[qSkiptool]2024/04/19 11:22:29 control.go:222: GlobalKMModeIDType: 0
[qSkiptool]2024/04/19 11:22:29 control.go:319: PlmnID: 00f110
[qSkiptool]2024/04/19 11:22:29 control.go:386: -----RIC Indication Message-----
[qSkiptool]2024/04/19 11:22:29 control.go:388: StyleType: 4
[qSkiptool]2024/04/19 11:22:29 control.go:390: RIC Indication Message Format: 1
[qSkiptool]2024/04/19 11:22:29 control.go:391: TotalAvailablePDRBSUL: 3
[qSkiptool]2024/04/19 11:22:29 control.go:407: PMContainer[0];
[qSkiptool]2024/04/19 11:22:29 control.go:418: PFContainerType: 1
[qSkiptool]2024/04/19 11:22:29 control.go:422: CellResourceReportCount: 1
[qSkiptool]2024/04/19 11:22:29 control.go:427: CellResourceReport[0]:
[qSkiptool]2024/04/19 11:22:29 control.go:438: nRCCGInCellID: 000000010
[qSkiptool]2024/04/19 11:22:29 control.go:476: TotalAvailablePDRBSUL: 1
[qSkiptool]2024/04/19 11:22:29 control.go:497: ServedPlmnPerCellCount: 1
[qSkiptool]2024/04/19 11:22:29 control.go:501: ServedPlmnPerCell[0]:
[qSkiptool]2024/04/19 11:22:29 control.go:503: PDRBSUL:
[qSkiptool]2024/04/19 11:22:29 control.go:507: PMContainer[]:
[qSkiptool]2024/04/19 11:22:29 control.go:586: oCUCP PF Container:
[qSkiptool]2024/04/19 11:22:29 control.go:595: NumberOfActiveEles: 1
[qSkiptool]2024/04/19 11:22:29 control.go:407: PMContainer[2];
[qSkiptool]2024/04/19 11:22:29 control.go:407: CU-UP PF Container:
[qSkiptool]2024/04/19 11:22:29 control.go:407: CU-UP PF Container Item Count: 1
[qSkiptool]2024/04/19 11:22:29 control.go:620: CU-UP PF Container Item [0]:
[qSkiptool]2024/04/19 11:22:29 control.go:634: PlmnID: 00f110
[qSkiptool]2024/04/19 11:22:29 control.go:719: PerQCIReportCount: 1
[qSkiptool]2024/04/19 11:22:29 control.go:722: PerQCIReport[0]:
[qSkiptool]2024/04/19 11:22:29 control.go:726: QCI: 0
[qSkiptool]2024/04/19 11:22:29 control.go:735: PDCPBytesDL: 01e78e
[qSkiptool]2024/04/19 11:22:29 control.go:741: PDCPBytesUL: 04bd25c
```

```

Activities Terminal ▾
srmap@ubuntu: ~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon
srmap@ubuntu: ~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon
srmap@ubuntu: ~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon

[qSklptool]2024/04/19 16:49:28 control.go:735: PDCPBytesSUL: 1b6c7e
[qSklptool]2024/04/19 16:49:28 control.go:741: PDCPBytesUL: 1a829c
[qSklptool]2024/04/19 16:49:28 control.go:149: Received message type: 12050
[qSklptool]2024/04/19 16:49:28 control.go:183: Received indication message from {enB_macro_001_001_001b0} received
[qSklptool]2024/04/19 16:49:28 control.go:183: Received indication message from {enB_macro_001_001_001b0} received
[qSklptool]2024/04/19 16:49:28 control.go:187: RequestSequenceNumber: 1
[qSklptool]2024/04/19 16:49:28 control.go:189: FunctionID: 0
[qSklptool]2024/04/19 16:49:28 control.go:191: ActionID: 0
[qSklptool]2024/04/19 16:49:28 control.go:193: IndicationSN: 32315
[qSklptool]2024/04/19 16:49:28 control.go:197: IndicationType: 1
[qSklptool]2024/04/19 16:49:28 control.go:197: IndicationReport: 0000f110
[qSklptool]2024/04/19 16:49:28 control.go:199: IndicationMessage: 01040000024000000000f11000000000100000f1104a000050100800f110000060002038e52a3004c9ea64
[qSklptool]2024/04/19 16:49:28 control.go:201: CallProcessID:
[qSklptool]2024/04/19 16:49:28 control.go:216: -----RIC Indication Header-----
[qSklptool]2024/04/19 16:49:28 control.go:219: RIC Indication Header Format: 1
[qSklptool]2024/04/19 16:49:28 control.go:221: GlobalRKNodemIdType: 0
[qSklptool]2024/04/19 16:49:28 control.go:231: PIMwID: 001f10
[qSklptool]2024/04/19 16:49:28 control.go:238: -----RIC Indication Message-----
[qSklptool]2024/04/19 16:49:28 control.go:387: StyleType: 4
[qSklptool]2024/04/19 16:49:28 control.go:390: RIC Indication Message Format: 1
[qSklptool]2024/04/19 16:49:28 control.go:394: PMContainerCount: 3
[qSklptool]2024/04/19 16:49:28 control.go:400: PMContainer[0]:
[qSklptool]2024/04/19 16:49:28 control.go:418: PMContainerCount: 1
[qSklptool]2024/04/19 16:49:28 control.go:422: GDU PF Container:
[qSklptool]2024/04/19 16:49:28 control.go:427: CellResourceReportCount: 1
[qSklptool]2024/04/19 16:49:28 control.go:430: CellResourceReport[0]:
[qSklptool]2024/04/19 16:49:28 control.go:437: RRCG_PLMnID: 00f110
[qSklptool]2024/04/19 16:49:28 control.go:438: minCellPDR: 0000000000000000
[qSklptool]2024/04/19 16:49:28 control.go:442: TotalAvailablePRBSUL: 1
[qSklptool]2024/04/19 16:49:28 control.go:478: TotalAvailablePRBSUL: 1
[qSklptool]2024/04/19 16:49:28 control.go:497: ServedPLMnPerCellCount: 1
[qSklptool]2024/04/19 16:49:28 control.go:501: ServedPLMnPerCell[0]:
[qSklptool]2024/04/19 16:49:28 control.go:506: PLMNID:
[qSklptool]2024/04/19 16:49:28 control.go:407: PLMNContainer[1]:
[qSklptool]2024/04/19 16:49:28 control.go:410: PFContainerType: 2
[qSklptool]2024/04/19 16:49:28 control.go:586: GCU-CP PF Container:
[qSklptool]2024/04/19 16:49:28 control.go:595: NumberOfActiveUEs: 1
[qSklptool]2024/04/19 16:49:28 control.go:407: PMContainer[2]:
[qSklptool]2024/04/19 16:49:28 control.go:418: PFContainerType: 3
[qSklptool]2024/04/19 16:49:28 control.go:419: GDU PF Container:
[qSklptool]2024/04/19 16:49:28 control.go:617: CU-UP PF Container Item Count: 1
[qSklptool]2024/04/19 16:49:28 control.go:620: CU-UP PF Container Item [0]:
[qSklptool]2024/04/19 16:49:28 control.go:624: InterfaceType: 2
[qSklptool]2024/04/19 16:49:28 control.go:627: CU-UP PLMN Count: 1
[qSklptool]2024/04/19 16:49:28 control.go:30: CU-UP PLMN [0]:
[qSklptool]2024/04/19 16:49:28 control.go:618: MinVLR: 00f110
[qSklptool]2024/04/19 16:49:28 control.go:719: PerQCIReportCount: 1
[qSklptool]2024/04/19 16:49:28 control.go:722: PerQCIReport[0]:
[qSklptool]2024/04/19 16:49:28 control.go:726: QCI:
[qSklptool]2024/04/19 16:49:28 control.go:735: PDCPBytesSUL: 38e52a
[qSklptool]2024/04/19 16:49:28 control.go:741: PDCPBytesUL: 04c9ea64
command terminated with exit code 134

```

## xApp Re-Deployment & Undeployment

18. sudo kubectl -n ricxapp rollout restart deployment ricxapp-scp-kpimon
19. export APPMGR\_HTTP='sudo kubectl get svc -n ricplt --field-selector metadata.name=service-ricplt-appmgr-http -o jsonpath="{.items[0].spec.clusterIP}"'
20. curl -L -X DELETE http://\${APPMGR\_HTTP}:8080/ric/v1/xapps/scp-kpimon

```

Activities Terminal ▾
srmap@ubuntu: ~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon
srmap@ubuntu: ~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon
srmap@ubuntu: ~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon

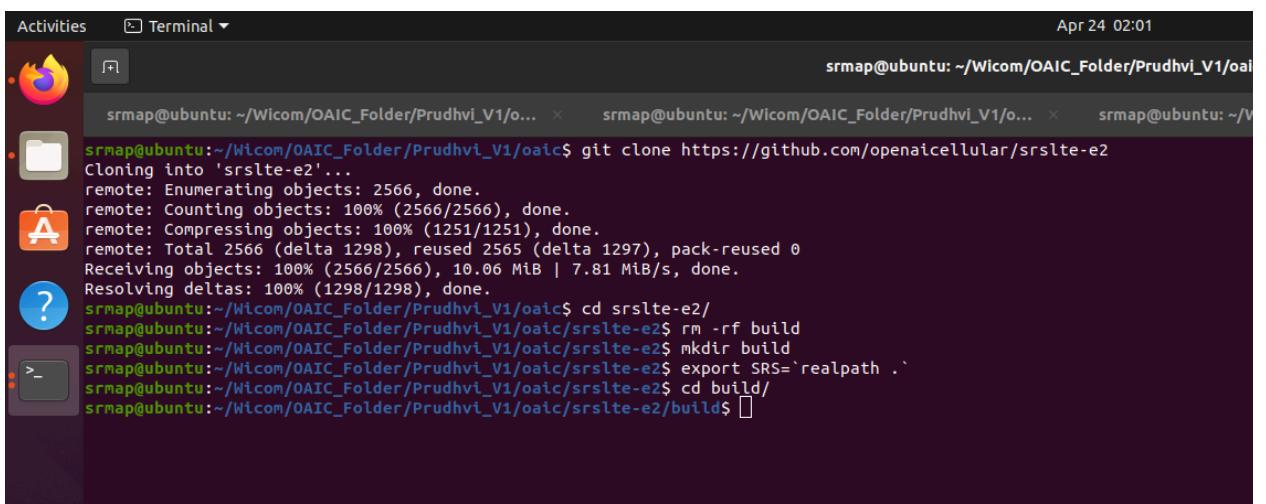
[sudo] password for srmap:
deployment.apps/ricxapp-scp-kpimon restarted
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$ export APPMGR_HTTP='sudo kubectl get svc -n ricplt --field-selector metadata.name=service-ricplt-appmgr-http -o jsonpath="{.items[0].spec.clusterIP}"'
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$ curl -L -X DELETE http://${APPMGR_HTTP}:8080/ric/v1/xapps/scp-kpimon
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$ curl -L -X DELETE "http://${ONBOARDER_HTTP}:8080/api/charts/scp-kpimon/1.0.1"
curl: (3) URL using bad/illegal format or missing URL
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/ric-scp-kpimon$

```

# Running the Nexran Xapp

## Setup

21. cd oaic
22. git clone https://github.com/openairinterface/srslte-e2
23. cd srslte-e2
24. rm -rf build
25. mkdir build
26. export SRS=`realpath .`
27. cd build



A screenshot of a Linux desktop environment showing a terminal window. The terminal window has three tabs, all showing the same command-line session. The session starts with cloning the 'srslte-e2' repository, followed by navigating into it, removing the existing 'build' directory, creating a new 'build' directory, setting the 'SRS' environment variable to the current directory, and finally navigating into the 'build' directory. The terminal window is titled 'Terminal' and is located in the top right corner of the screen. The desktop interface includes a dock with icons for a browser, file manager, and terminal.

```
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic$ git clone https://github.com/openairinterface/srslte-e2
Cloning into 'srslte-e2'...
remote: Enumerating objects: 2566, done.
remote: Counting objects: 100% (2566/2566), done.
remote: Compressing objects: 100% (1251/1251), done.
remote: Total 2566 (delta 1298), reused 2565 (delta 1297), pack-reused 0
Receiving objects: 100% (2566/2566), 10.06 MiB | 7.81 MiB/s, done.
Resolving deltas: 100% (1298/1298), done.
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic$ cd srslte-e2/
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/srslte-e2$ rm -rf build
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/srslte-e2$ mkdir build
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/srslte-e2$ export SRS=`realpath .`
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/srslte-e2$ cd build/
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/srslte-e2/build$
```

28. cmake .. -DCMAKE\_BUILD\_TYPE=RelWithDebInfo \
 -DRIC\_GENERATED\_E2AP\_BINDING\_DIR=\${SRS}/e2\_bindings/E2AP-v01.01 \
 -DRIC\_GENERATED\_E2SM\_KPM\_BINDING\_DIR=\${SRS}/e2\_bindings/E2SM-KPM \
 -DRIC\_GENERATED\_E2SM\_GNB\_NRT\_BINDING\_DIR=\${SRS}/e2\_bindings/E2SM-G
 NB-NRT

## 29. make -j`nproc`

Activities Terminal Apr 24 02:03

```
smap@ubuntu: ~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/srsite-e2/build
-- Build Files have been written to: /home/smap/ubuntu/Wicom/OAIC_Folder/Prudhvi_V1/oaic/srsite-e2/build
smap@ubuntu: ~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/srsite-e2/build$ make -j nproc
Scanning dependencies of target gen_build_info
Scanning dependencies of target fmt
Scanning dependencies of target srsite_ch_estimation
Scanning dependencies of target srsite_sync
Scanning dependencies of target srsite_agc
Scanning dependencies of target srsite_mbch
Scanning dependencies of target srsite_mmo
Scanning dependencies of target srsite_enb
Scanning dependencies of target srsite_phy_common
Scanning dependencies of target srsite_fec
Scanning dependencies of target srsite_dsl
Scanning dependencies of target srsite_dft
Scanning dependencies of target srsite_channel
Scanning dependencies of target srsite_modem
[0%] Building C object lib/src/phy/gc/CMakeFiles/srsite_agc.dir/agc.c.o
[0%] Building C object lib/src/phy/common/CMakeFiles/srsite_phy_common.dir/phy_common.c.o
Scanning dependencies of target srsite_lo
-- Generating dependency info...
Scanning dependencies of target srsite_resampling
[0%] Building C object lib/src/phy/mimo/CMakeFiles/srsite_mimo.dir/layermap.c.o
[0%] Building C object lib/src/phy/modem/CMakeFiles/srsite_modem.dir/demod_hard.c.o
[1%] Building XX object lib/src/srslog/bundled/fmt/libCMakeFiles/fmt.dir/format.cc.o
[1%] Building C object lib/src/phy/CMakeFiles/srsite_rec.dir/cbsgn.c.o
[1%] Building C object lib/src/emb/CMakeFiles/srsite_emb.dir/emb_dlc.c.o
[1%] Building C object lib/src/phy/utils/CMakeFiles/srsite_utils.dir/itt.c.o
[1%] Built target gen_build_info
[1%] Building C object lib/src/phy/ch estimation/CMakeFiles/srsite_ch_estimation.dir/chest_common.c.o
[1%] Building C object lib/src/phy/dft/CMakeFiles/srsite_dft.dir/dft_fttwc.c.o
[1%] Building C object lib/src/phy/sync/CMakeFiles/srsite_sync.dir/cfo.c.o
[1%] Building C object lib/src/phy/chanl/CMakeFiles/srsite_chanl.dir/awgn.c.o
[2%] Building C object lib/src/phy/chanl/CMakeFiles/srsite_chanl.dir/awgn_n.c.o
[3%] Building C object lib/src/phy/channel/CMakeFiles/srsite_channel.dir/ch_awgn.c.o
[3%] Building C object lib/src/phy/resampling/CMakeFiles/srsite_resampling.dir/decim.c.o
[5%] Building C object lib/src/phy/modem/CMakeFiles/srsite_modem.dir/demod_soft.c.o
[5%] Building C object lib/src/phy/fe/CMakeFiles/srsite_rec.dir/concoder.c.o
[5%] Building C object lib/src/phy/ch estimation/CMakeFiles/srsite_ch_estimation.dir/chest_dl.c.o
[5%] Building C object lib/src/phy/sync/CMakeFiles/srsite_sync.dir/cp.c.o
[5%] Built target srsite_agc
[5%] Building C object lib/src/phy/resampling/CMakeFiles/srsite_resampling.dir/interp.c.o
[5%] Building C object lib/src/phy/dft/CMakeFiles/srsite_dft.dir/dft_preamble.c.o
[5%] Building C object lib/src/phy/io/CMakeFiles/srsite_lo.dir/rflesink.c.o
[5%] Building C object lib/src/phy/ue/CMakeFiles/srsite_ue.dir/ue_recdr.crc.c.o
[5%] Building C object lib/src/phy/ue/CMakeFiles/srsite_ue.dir/ue_recdr_crc.c.o
[5%] Building C object lib/src/phy/fec/CMakeFiles/srsite_fec.dir/parity.c.o
[5%] Building C object lib/src/mimo/CMakeFiles/srsite_mimo.dir/preamble.c.o
[5%] Building C object lib/src/phy/sync/CMakeFiles/srsite_sync.dir/find_sss.c.o
[5%] Building C object lib/src/phy/resampling/CMakeFiles/srsite_resampling.dir/resample_arb.c.o
[6%] Building C object lib/src/phy/dft/CMakeFiles/srsite_dft.dir/ordm.c.o
[6%] Building C object lib/src/phy/common/CMakeFiles/srsite_phy_common.dir/phy_common_sl.c.o
[6%] Building C object lib/src/phy/phch/CMakeFiles/srsite_phch.dir/hct.c.o

Activities Terminal Apr 24 02:04
```

```
smap@ubuntu: ~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/srsite-e2/build
smap@ubuntu: ~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/srsite-e2/build$ make -j nproc
[1%] Building C object lib/src/phy/phch/CMakeFiles/srsite_phch.dir/bcd_helpers.c.o
[1%] Built target srsite_sync
Scanning dependencies of target arch_select
Scanning dependencies of target bcd_helpers_test
[1%] Building CXX object lib/src/common/CMakeFiles/arch_select.dir/arch_select.cc.o
[1%] Building XX object lib/test/common/CMakeFiles/bcd_helpers_test.dir/bcd_helpers_test.cc.o
[1%] Building C object lib/src/phy/ue/CMakeFiles/srsite_ue.dir/ue_mb_nbiot.c.o
[1%] Building C object lib/src/phy/ue/CMakeFiles/srsite_ue.dir/ue_mb_nbiot.c.o
[1%] Linking CXX executable arch_select
[1%] Building C object lib/src/phy/ue/CMakeFiles/srsite_ue.dir/ue_mb_nbiot.c.o
[1%] Built target arch_select
[1%] Building C object lib/src/phy/phch/CMakeFiles/srsite_phch.dir/prach.c.o
[1%] Built target srsite_mb_nbiot
[1%] Building C object lib/src/phy/ue/CMakeFiles/srsite_ue.dir/ue_mb_sl.c.o
[1%] Building C object lib/src/phy/ue/CMakeFiles/srsite_ue.dir/ue_mb_sl.c.o
[1%] Building C object lib/src/phy/phch/CMakeFiles/srsite_phch.dir/pro_dlc.c.o
[1%] Building C object lib/src/phy/phch/CMakeFiles/srsite_phch.dir/sync_cc.c.o
[1%] Building C object lib/src/phy/ue/CMakeFiles/srsite_ue.dir/ue_ue_nbiot.c.o
[1%] Linking CXX executable bcd_helpers_test
[1%] Building C object lib/src/phy/phch/CMakeFiles/srsite_phch.dir/psch.c.o
[1%] Building C object lib/src/phy/ue/CMakeFiles/srsite_ue.dir/ue_ue_nbiot.c.o
[1%] Building C object lib/src/phy/phch/CMakeFiles/srsite_phch.dir/psch.c.o
[1%] Building C object lib/src/phy/phch/CMakeFiles/srsite_phch.dir/psch_nbiot.c.o
[1%] Built target bcd_helpers_test
Scanning dependencies of target stack_procedure_test
Scanning dependencies of target srsue_upper
[1%] Building CXX object lib/test/common/CMakeFiles/stack_procedure_test.dir/stack_procedure_test.cc.o
[1%] Building C object lib/src/phy/phch/CMakeFiles/srsite_phch.dir/pucch.c.o
[1%] Building C object lib/src/phy/ue/CMakeFiles/srsite_ue.dir/ue_ue_nbiot.c.o
[1%] Building C object lib/src/phy/phch/CMakeFiles/srsite_phch.dir/ra_dlc.c.o
[1%] Building CXX object srsue/src/stack/upper/CMakeFiles/srsue_upper.dir/gw_cc.c.o
[1%] Building C object lib/src/phy/phch/CMakeFiles/srsite_phch.dir/ra_dlc.c.o
[1%] Building C object lib/src/phy/phch/CMakeFiles/srsite_phch.dir/ra_c.o
[1%] Building CXX object srsue/src/stack/upper/CMakeFiles/srsue_upper.dir/nas_cc.c.o
[1%] Building CXX object srsue/src/stack/upper/CMakeFiles/srsue_upper.dir/nas_nbiot.c.o
[1%] Built target srsue_upper
Scanning dependencies of target srsue_phy
[1%] Building CXX object srsue/src/phy/CMakeFiles/srsite_phch.dir/ra_nbiot.c.o
[1%] Building CXX object srsue/src/phy/CMakeFiles/srsite_phch.dir/ra_worker.c.o
[1%] Building C object lib/src/phy/CMakeFiles/srsite_phch.dir/ra_s1.c.o
[1%] Building C object lib/src/phy/CMakeFiles/srsite_phch.dir/ra_ul.c.o
[1%] Built target srsite_ch_estimation
Scanning dependencies of target srsue_stack
Scanning dependencies of target srsue_nac
[1%] Building C object lib/src/phy/phch/CMakeFiles/srsite_phch.dir/reos.c.o
[1%] Building C object lib/src/phy/phch/CMakeFiles/srsite_phch.dir/sch.c.o
[1%] Building CXX object srsue/src/stack/CMakeFiles/srsue_stack.dir/ue_stack_ite.c.o
[1%] Building CXX object srsue/src/stack/nac/CMakeFiles/srsue_nac.dir/demux.c.o
[1%] Building C object lib/src/phy/phch/CMakeFiles/srsite_phch.dir/scl.c.o
[1%] Building CXX object srsue/src/stack/nac/CMakeFiles/srsue_nac.dir/dl_harg.c.o
[1%] Building C object lib/src/phy/phch/CMakeFiles/srsite_phch.dir/sequences.c.o
```

```

Activities Terminal ▾ Apr 24 02:05
srmap@ubuntu: ~/Wcom/OAIC_Folder/Prudhv_V1/oaic/srsite-e2/build
272 | const asn_OCTET_STRING_specifics_t *specs = td->specifics;
[398] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/BOOLEAN.c.o
[399] Linking CXX static library libem_cfg_parser.a
[400] Building CXX object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-ActionDefinition-Format1.c.o
[401] Building CXX object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-EventTriggerDefinition.c.o
[402] Building CXX object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-ControlHeader-Format1.c.o
[403] Building CXX object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-ControlHeader.c.o
Scanning dependencies of target chest_test_d1
[404] Building C object lib/src/phy/ch_estimation/test/CMakeFiles/chest_test_d1.dir/chest_test_d1.c.o
[405] Building CXX object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-EventTriggerDefinition.c.o
[406] Building CXX object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-ControlHeader.c.o
[407] Linking CXX static library libsrcpc_hss.a
[408] Built target srcpc_hss
[409] Scanning dependencies of target chest_test_d1
[410] Building C object lib/src/phy/ch_estimation/test/CMakeFiles/chest_test_d1.dir/chest_test_d1.c.o
[411] Building CXX object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-EventTriggerDefinition.c.o
[412] Building CXX object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-EventTriggerDefinition.c.o
[413] Linking CXX executable chest_test_d1
Scanning dependencies of target chest_test_sl
[414] Building C object lib/src/phy/ch_estimation/test/CMakeFiles/chest_test_sl.dir/chest_test_sl.c.o
[415] Building CXX object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-EventTriggerDefinition.c.o
[416] Built target chest_test_sl
[417] Scanning dependencies of target dmr_psch_test
[418] Building C object lib/src/phy/ch_estimation/test/CMakeFiles/dmr_psch.dir/dmr_psch.c.o
[419] Building CXX object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationHeader.c.o
[420] Linking CXX object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationHeader.c.o
[421] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationMessage.c.o
[422] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationMessage.c.o
[423] Linking CXX executable dmr_psch_test
Scanning dependencies of target dmr_psch_test
[424] Building C object lib/src/phy/ch_estimation/test/CMakeFiles/dmr_psch.dir/dmr_psch.c.o
[425] Building CXX object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationHeader.c.o
[426] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationHeader.c.o
[427] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationMessage.c.o
[428] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationMessage.c.o
[429] Linking CXX executable dmr_psch_test
[430] Built target dmr_psch_test
[431] Scanning dependencies of target stack_mac
[432] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationHeader.c.o
[433] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationHeader.c.o
[434] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationMessage.c.o
[435] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationMessage.c.o
[436] Linking CXX executable stack_mac
Scanning dependencies of target dms_rrc
[437] Building C object lib/src/phy/ch_estimation/test/CMakeFiles/dms_rrc.dir/dms_rrc.c.o
[438] Building CXX object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationHeader.c.o
[439] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationHeader.c.o
[440] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationMessage.c.o
[441] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationMessage.c.o
[442] Linking CXX executable dms_rrc
Scanning dependencies of target dms_rrc
[443] Building C object lib/src/phy/ch_estimation/test/CMakeFiles/dms_rrc.dir/dms_rrc.c.o
[444] Building CXX object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationHeader.c.o
[445] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationHeader.c.o
[446] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationMessage.c.o
[447] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationMessage.c.o
[448] Linking CXX executable dms_rrc
Scanning dependencies of target dms_rrc
[449] Building C object lib/src/phy/ch_estimation/test/CMakeFiles/dms_rrc.dir/dms_rrc.c.o
[450] Building CXX object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationHeader.c.o
[451] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationHeader.c.o
[452] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationMessage.c.o
[453] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationMessage.c.o
[454] Linking CXX executable dms_rrc
Scanning dependencies of target dms_rrc
[455] Building C object lib/src/phy/ch_estimation/test/CMakeFiles/dms_rrc.dir/dms_rrc.c.o
[456] Building CXX object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationHeader.c.o
[457] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationHeader.c.o
[458] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationMessage.c.o
[459] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationMessage.c.o
[460] Linking CXX executable dms_rrc
Scanning dependencies of target dms_rrc
[461] Building C object lib/src/phy/ch_estimation/test/CMakeFiles/dms_rrc.dir/dms_rrc.c.o
[462] Building CXX object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationHeader.c.o
[463] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationHeader.c.o
[464] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationMessage.c.o
[465] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationMessage.c.o
[466] Linking CXX executable dms_rrc
Scanning dependencies of target dms_rrc
[467] Building C object lib/src/phy/ch_estimation/test/CMakeFiles/dms_rrc.dir/dms_rrc.c.o
[468] Building CXX object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationHeader.c.o
[469] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationHeader.c.o
[470] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationMessage.c.o
[471] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-GNB-NRT/E2SM_GNB_NRT_E2SM_gNB-NRT-IndicationMessage.c.o
[472] Linking CXX executable dms_rrc
Scanning dependencies of target dms_rrc
[473] Building CXX executable resignal_ul_test_all
[474] Linking CXX executable chest_test_srs
[475] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-NEXRAN/asn_SEQUENCE_OF.c.o
[476] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-NEXRAN/asn_SET_OF.c.o
[477] Built target chest_test_srs
[478] Built target resignal_ul_test_all
Scanning dependencies of target chest_test_srs
[479] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-NEXRAN/asn_bit_data.c.o
[480] Building CXX object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-NEXRAN/asn_bit_data.c.o
[481] Linking CXX executable chest_test_srs
[482] Building C object lib/src/phy/ch_estimation/test/CMakeFiles/chest_test_ul.dir/chest_test_ul.c.o
[483] Building CXX object lib/src/phy/channel/test/CMakeFiles/wgn_channel.dir/wgn_channel.c.o
[484] Building C object lib/src/phy/channel/test/CMakeFiles/hst_channel.dir/hst_channel.c.o
[485] Linking CXX executable thread_test
[486] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-NEXRAN/asn_codecs_prime.c.o
Scanning dependencies of target thread_test
[487] Building C object lib/src/phy/channel/test/CMakeFiles/delay_channel.dir/delay_channel.c.o
[488] Building C object lib/src/phy/channel/test/CMakeFiles/delay_channel.dir/delay_channel.c.o
[489] Built target thread_test
[490] Scanning dependencies of target hst_channel_test
[491] Building C object lib/src/phy/channel/test/CMakeFiles/fading_channel.dir/fading_channel.c.o
[492] Linking CXX executable hst_channel_test
[493] Linking CXX executable awgn_channel_test
[494] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/_/_/_/e2_bindings/E2SM-NEXRAN/ber_decoder.c.o
[495] Linking CXX executable chess_test_ul
/home/srmap/Wcom/OAIC_Folder/Prudhv_V1/oaic/srsite-e2/build/srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/messages/E2SM-NEXRAN/asn_random_fill.c: In function 'asn_random_between':
/home/srmap/Wcom/OAIC_Folder/Prudhv_V1/oaic/srsite-e2/build/srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/messages/E2SM-NEXRAN/asn_random_fill.c:41:25: warning: unused variable 'intmax_max' [-Wunused-variable]
41 const uintmax_t intmax_max = ((-uintmax_t)0 >> 1);
|
[496] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/messages/E2SM-NEXRAN/ber_tlv_length.c.o
[497] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/messages/E2SM-NEXRAN/ber_tlv_tag.c.o
[498] Built target hst_channel_test
Scanning dependencies of target srsenb_upper
[499] Linking CXX executable delay_channel_test
Scanning dependencies of target task_scheduler_test
[500] Linking CXX executable fading_channel_test
Scanning dependencies of target srsite_asn1_nas
[501] Building CXX object lib/test/asn1/CMakeFiles/srsite_asn1_nas_test.dir/srsite_asn1_nas_test.c.o
[502] Building CXX object lib/src/upper/CMakeFiles/srsite_upper.dir/gtpu.cc.o
[503] Building CXX object lib/src/upper/CMakeFiles/srsite_upper.dir/pdcp.cc.o
[504] Built target chess_test_ul
Scanning dependencies of target gsm_test
[505] Building CXX object lib/test/common/CMakeFiles/fsm_test.dir/fsm_test.c.o
[506] Built target fading_channel_test
[507] Building C object srsenb/src/rte/CMakeFiles/srsenb_rtc.dir/messages/E2SM-NEXRAN/constr_CHOICE.c.o
[508] Built target delay_channel_test
Scanning dependencies of target ttf_point_test
[509] Building CXX object lib/test/common/CMakeFiles/fsm_point.dir/fsm_point.c.o

```

```

Activities Terminal ▾
srmap@ubuntu: ~/Wicom/OAIC_Folder/Prudhv_V1/oai/srslte-e2/build
[97x] Building CXX object srslte/src/CMakeFiles/srslte_ue.dir/ue.cc.o
[97x] Building CXX object srslte/src/CMakeFiles/srslte_ue.dir/metrics_stdout.cc.o
[97x] Built target srslte_asni_rrc_mcch_test
Scanning dependencies of target scheduler_test_rnd
[97x] Building CXX object srslte/test/mac/CMakeFiles/scheduler_test_rand.dir/scheduler_test_rand.cc.o
[97x] Built target srslte_asni_rrc_mcch_test
Scanning dependencies of target scheduler_ca_test
[97x] Building CXX object srslte/src/CMakeFiles/scheduler_ca_test.dir/scheduler_ca_test.cc.o
[97x] Built target srslte_asni_rrc_meas_test
Scanning dependencies of target enb_phy_test
[97x] Building CXX object srslte/test/mac/CMakeFiles/enb_phy.dir/enb_phy_test.cc.o
[97x] Built target npdsch_ue
[97x] Building CXX object srslte/src/CMakeFiles/npdsch_ue.dir/npdsch_ue.cc.o
[97x] Linking CXX executable rrc_cell_test
[97x] Building CXX object srslte/src/CMakeFiles/scheduler_ca_test.dir/scheduler_ca_test_common.cc.o
[97x] Linking CXX executable rrc_cell_test
[97x] Building CXX object srslte/src/CMakeFiles/scheduler_ca_test.dir/rrc_celltest.cc.o
[97x] Built target rrc_celltest
Scanning dependencies of target erab_setup_test
[97x] Building CXX object srslte/test/uper/CMakeFiles/erab_setup_test.dir/erab_setup_test.cc.o
[97x] Linking CXX executable srslte_asni_rrc_ul_dchc_test
[97x] Built target srslte_asni_rrc_ul_dchc_test
Scanning dependencies of target rrc_mobility_test
[97x] Building CXX object srslte/test/uper/CMakeFiles/rrc_mobility_test.dir/rrc_mobility_test.cc.o
[97x] Built target rrc_mobility_test
[97x] Linking CXX executable scell_search_test
Scanning dependencies of target plmn_test
[97x] Building CXX object srslte/test/uper/CMakeFiles/plmn_test.dir/plmn_test.cc.o
[97x] Built target scell_search_test
[97x] Building CXX object srslte/src/CMakeFiles/srsenb.dir/metrics_stdout.cc.o
[97x] Built target srsenb
[97x] Linking CXX executable srsenb/src/CMakeFiles/srsenb.dir/metrics_csv.cc.o
[98x] Linking CXX executable nas_test
[98x] Built target nas_test
[99x] Linking CXX executable rrc_asni_test
[99x] Linking CXX executable plmn_test
[99x] Built target rrc_asni_test
[99x] Built target plmn_test
[99x] Built target srsenb
[99x] Linking CXX executable erab_setup_test
[99x] Built target erab_setup_test
[99x] Built target enb_phy_test
[99x] Built target npdsch_ue
[99x] Built target rrc_meas_test
[99x] Built target rrc_asni_test
[99x] Built target srsenb
[99x] Linking CXX executable srsenb
[99x] Built target srsenb
[100x] Linking CXX executable enb_phy_test
[100x] Linking CXX executable erab_setup_test
[100x] Built target enb_phy_test
[100x] Built target erab_setup_test
[100x] Built target npdsch_ue
[100x] Linking CXX executable rrc_meas_test
[100x] Built target rrc_meas_test
[100x] Linking CXX executable rrc_mobility_test
[100x] Built target rrc_mobility_test
[100x] Built target rrc_mobility_test
srmap@ubuntu: ~/Wicom/OAIC_Folder/Prudhv_V1/oai/srslte-e2/build$

```

### 30. make test

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Activities Terminal ▾
srmap@ubuntu: ~/Wicom/OAIC_Folder/Prudhv_V1/oai/srslte-e2/build
srmap@ubuntu: ~/Wicom/OAIC_Folder/Prudhv_V1/oai/srslte-e2/build$ make test
Running tests...
Test project /home/srmap/Wicom/OAIC_Folder/Prudhv_V1/oai/srslte-e2
1/793 Test #1: thread_pool_test Passed 0.02 sec
 Start 1: thread test Passed 0.00 sec
2/793 Test #2: chest_test Passed 0.00 sec
 Start 3: chest_test_dl_cell0d Passed 0.05 sec
 Start 4: chest_test_dl_cell0d Passed 0.01 sec
3/793 Test #3: chest_test_dl_cell0d Passed 0.01 sec
 Start 5: chest_test_dl_cell0d Passed 0.01 sec
4/793 Test #4: chest_test_dl_cell1d Passed 0.01 sec
 Start 6: chest_test_dl_cell1d Passed 0.01 sec
5/793 Test #5: chest_test_dl_cell1d Passed 0.01 sec
 Start 6: chest_test_dl_cell1d_50prb Passed 0.01 sec
6/793 Test #6: chest_test_dl_cell1d_50prb Passed 0.01 sec
 Start 7: chest_test_dl_cell1d_50prb Passed 0.01 sec
7/793 Test #7: chest_test_dl_cell1d_50prb Passed 0.01 sec
 Start 8: chest_test_dl_cell1d_50prb Passed 0.01 sec
8/793 Test #8: chest_test_dl_cell2d_50prb Passed 0.01 sec
 Start 9: chest_test_dl_cell2d_50prb Passed 0.01 sec
9/793 Test #9: chest_test_dl_cell2d_50prb Passed 0.16 sec
 Start 10: chest_test_dl_cell2d_50prb Passed 0.16 sec
10/793 Test #10: chest_test_srs1d Passed 0.16 sec
 Start 11: chest_test_srs6 Passed 1.39 sec
11/793 Test #11: chest_test_srs6 Passed 1.39 sec
 Start 12: chest_test_srs15 Passed 1.30 sec
12/793 Test #12: chest_test_srs15 Passed 1.30 sec
 Start 13: chest_test_srs25 Passed 1.32 sec
13/793 Test #13: chest_test_srs25 Passed 1.32 sec
 Start 14: chest_test_srs50 Passed 1.55 sec
14/793 Test #14: chest_test_srs50 Passed 1.55 sec
 Start 15: chest_test_srs75 Passed 1.99 sec
15/793 Test #15: chest_test_srs75 Passed 1.99 sec
 Start 16: chest_test_srs90 Passed 2.40 sec
16/793 Test #16: chest_test_srs100 Passed 2.40 sec
 Start 17: chest_nb0t_test_dl Passed 0.00 sec
17/793 Test #17: chest_nb0t_test_dl Passed 0.00 sec
 Start 18: chest_test_sl_pbch Passed 0.00 sec
18/793 Test #18: chest_test_sl_pbch Passed 0.00 sec
 Start 19: dmrs_pdsc1_test Passed 0.00 sec
19/793 Test #19: dmrs_pdsc1_test Passed 0.00 sec
 Start 20: sequence_test Passed 0.02 sec
20/793 Test #20: sequence_test Passed 0.02 sec
 Start 21: rm_conv_test_1 Passed 0.00 sec
21/793 Test #21: rm_conv_test_1 Passed 0.00 sec
 Start 22: rm_conv_test_2 Passed 0.00 sec
22/793 Test #22: rm_conv_test_2 Passed 0.00 sec
 Start 23: rm_turbo_test_1 Passed 0.11 sec
23/793 Test #23: rm_turbo_test_1 Passed 0.11 sec
 Start 24: rm_turbo_test_2 Passed 0.11 sec
24/793 Test #24: rm_turbo_test_2 Passed 0.11 sec
 Start 25: turbodecoder_test_504_1 Passed 0.03 sec
25/793 Test #25: turbodecoder_test_504_1 Passed 0.03 sec

```

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Activities Terminal ▾ Apr 24 02:12
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhv_V1/o... srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhv_V1/o... srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhv_V1/o... srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhv_V1/o...
221/793 Test #221: pdsch_test_multiple2cw_p1_12 Passed 0.15 sec
Start 222: pdsch_test_multiple2cw_p1_25 Passed 0.16 sec
223/793 Test #223: pdsch_test_multiple2cw_p1_50 Passed 0.16 sec
224/793 Test #224: pdsch_test_multiple2cw_p1_75 Passed 0.17 sec
225/793 Test #225: pdsch_test_multiple2cw_p1_100 Passed 0.17 sec
226/793 Test #226: pnch_test_qpsk Passed 0.13 sec
Start 227: pnch_test_qam16 Passed 0.29 sec
227/793 Test #227: pnch_test_qam64 Passed 0.29 sec
228/793 Test #228: pnch_test_qam64 Passed 0.16 sec
Start 229: npdch_test_tb28 Passed 0.01 sec
229/793 Test #229: npdch_test_tb28 Passed 0.01 sec
Start 230: npdch_test_tb104 Passed 0.00 sec
230/793 Test #230: npdch_test_tb540 Passed 0.00 sec
231/793 Test #231: npdch_test_tb540 Passed 0.01 sec
Start 232: npdch_test_tb516 Passed 0.01 sec
232/793 Test #232: npdch_test_tb516 Passed 0.01 sec
Start 233: npdch_test_cell1d_standalone_iport Passed 0.01 sec
233/793 Test #233: npdch_test_cell1d_standalone_iport Passed 0.01 sec
Start 234: npdch_test_cell1d_standalone_iport Passed 0.01 sec
234/793 Test #234: npdch_test_cell1d_standalone_iport Passed 0.01 sec
Start 235: npdch_test_cell1d2_standalone_iport Passed 0.01 sec
235/793 Test #235: npdch_test_cell1d2_standalone_iport Passed 0.01 sec
Start 236: npdch_test_cell1d3_standalone_iport Passed 0.01 sec
236/793 Test #236: npdch_test_cell1d3_standalone_iport Passed 0.01 sec
Start 237: npdch_test_cell1d4_standalone_iport Passed 0.01 sec
237/793 Test #237: npdch_test_cell1d4_standalone_iport Passed 0.01 sec
Start 238: npdch_test_cell1d5_standalone_iport Passed 0.01 sec
238/793 Test #238: npdch_test_cell1d5_standalone_iport Passed 0.01 sec
Start 239: npdch_test_cell1d6_standalone_iport Passed 0.01 sec
239/793 Test #239: npdch_test_cell1d6_standalone_iport Passed 0.01 sec
Start 240: npdch_test_cell1d1_standalone_iport Passed 0.01 sec
240/793 Test #240: npdch_test_cell1d1_standalone_iport Passed 0.01 sec
Start 241: npdch_test_cell1d2_standalone_iport Passed 0.01 sec
241/793 Test #241: npdch_test_cell1d2_standalone_iport Passed 0.01 sec
Start 242: npdch_test_cell1d3_standalone_iport Passed 0.01 sec
242/793 Test #242: npdch_test_cell1d3_standalone_iport Passed 0.01 sec
Start 243: npdch_test_cell1d4_standalone_iport Passed 0.01 sec
243/793 Test #243: npdch_test_cell1d4_standalone_iport Passed 0.01 sec
Start 244: npdch_test_cell1d5_standalone_iport Passed 0.01 sec
244/793 Test #244: npdch_test_cell1d5_standalone_iport Passed 0.01 sec
Start 245: npdch_test_cell1d6_standalone_iport Passed 0.01 sec
245/793 Test #245: npdch_test_cell1d6_inband_iport_pport Passed 0.01 sec
Start 246: npdch_test_cell1d1_inband_iport_pport Passed 0.01 sec
246/793 Test #246: npdch_test_cell1d1_inband_iport_pport Passed 0.01 sec
Start 247: npdch_test_cell1d2_inband_iport_pport Passed 0.01 sec
247/793 Test #247: npdch_test_cell1d2_inband_iport_pport Passed 0.01 sec

Activities Terminal ▾ Apr 24 02:12
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhv_V1/o... srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhv_V1/o... srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhv_V1/o... srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhv_V1/o...
440/793 Test #440: moden_bpsk Passed 0.00 sec
Start 441: moden_qpsk Passed 0.00 sec
441/793 Test #441: moden_qpsk Passed 0.00 sec
Start 442: moden_qam16 Passed 0.00 sec
442/793 Test #442: moden_qam16 Passed 0.00 sec
Start 443: moden_qam32 Passed 0.00 sec
443/793 Test #443: moden_qam64 Passed 0.00 sec
Start 444: moden_qam256 Passed 0.00 sec
444/793 Test #444: moden_qam256 Passed 0.00 sec
Start 445: moden_bpsk_soft Passed 0.00 sec
445/793 Test #445: moden_bpsk_soft Passed 0.00 sec
Start 446: moden_qpsk_soft Passed 0.00 sec
446/793 Test #446: moden_qpsk_soft Passed 0.00 sec
Start 447: moden_qam16_soft Passed 0.00 sec
447/793 Test #447: moden_qam16_soft Passed 0.00 sec
Start 448: moden_qam4_soft Passed 0.00 sec
448/793 Test #448: moden_qam4_soft Passed 0.00 sec
Start 449: moden_qam56_soft Passed 0.00 sec
449/793 Test #449: moden_qam56_soft Passed 0.00 sec
Start 450: resample Passed 0.00 sec
450/793 Test #450: resample Passed 0.00 sec
Start 451: resampler_test_2 Passed 0.03 sec
451/793 Test #451: resampler_test_2 Passed 0.03 sec
Start 452: resampler_test_3 Passed 0.00 sec
452/793 Test #452: resampler_test_3 Passed 0.00 sec
Start 453: resampler_test_6 Passed 0.01 sec
453/793 Test #453: resampler_test_6 Passed 0.01 sec
Start 454: resampler_test_8 Passed 0.01 sec
454/793 Test #454: resampler_test_8 Passed 0.01 sec
Start 455: resampler_test_10 Passed 0.01 sec
455/793 Test #455: resampler_test_10 Passed 0.01 sec
Start 456: resampler_test_12 Passed 0.01 sec
456/793 Test #456: resampler_test_12 Passed 0.01 sec
Start 457: scrambling_pch_e_bit Passed 0.00 sec
457/793 Test #457: scrambling_pch_e_bit Passed 0.00 sec
Start 458: scrambling_pch_e_float Passed 0.00 sec
458/793 Test #458: scrambling_pch_e_float Passed 0.00 sec
Start 459: scrambling_pch_e_bit Passed 0.00 sec
459/793 Test #459: scrambling_pch_e_bit Passed 0.00 sec
Start 460: scrambling_pch_e_float Passed 0.00 sec
460/793 Test #460: scrambling_pch_e_float Passed 0.00 sec
Start 461: gen_ack_test Passed 0.01 sec
461/793 Test #461: gen_ack_test Passed 0.01 sec
Start 462: pucch_resource_test Passed 0.01 sec
462/793 Test #462: pucch_resource_test Passed 0.01 sec
Start 463: ue_dl_nbito_test Passed 0.01 sec
463/793 Test #463: ue_dl_nbito_test Passed 0.01 sec
Start 464: benchmark_radio_multl_rf ***Failed 0.06 sec
464/793 Test #464: benchmark_radio_multl_rf ***Failed 0.06 sec
Start 465: enbi Passed 7.18 sec
465/793 Test #465: enbi Passed 7.18 sec
Start 466: npdsc_ndpcch_file1 Passed 0.06 sec
466/793 Test #466: npdsc_ndpcch_file1 Passed 0.06 sec

```

```

Activities Terminal ▾
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/o... srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oai/srsite-e2/build srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/o... srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/o...
614/793 Test #614: phy_dl_test-p25-t4-q-m7 Passed 0.24 sec
Start 615: phy_dl_test-p25-t4-q-m14 Passed 0.24 sec
615/793 Test #615: phy_dl_test-p25-t4-q-m14 Passed 0.27 sec
Start 616: phy_dl_test-p25-t4-q-m22 Passed 0.26 sec
616/793 Test #616: phy_dl_test-p25-t4-q-m22 Passed 0.34 sec
Start 617: phy_dl_test-p25-t4-q-m27 Passed 0.34 sec
617/793 Test #617: phy_dl_test-p25-t4-q-m27 Passed 0.37 sec
Start 618: phy_dl_test-p50-t1-m0 Passed 0.37 sec
618/793 Test #618: phy_dl_test-p50-t1-m0 Passed 0.38 sec
Start 619: phy_dl_test-p50-t1-m0 Passed 0.43 sec
619/793 Test #619: phy_dl_test-p50-t1-m0 Passed 0.42 sec
Start 620: phy_dl_test-p50-t1-m14 Passed 0.42 sec
620/793 Test #620: phy_dl_test-p50-t1-m14 Passed 0.42 sec
Start 621: phy_dl_test-p50-t1-m21 Passed 0.42 sec
621/793 Test #621: phy_dl_test-p50-t1-m21 Passed 0.41 sec
Start 622: phy_dl_test-p50-t1-m28 Passed 0.41 sec
622/793 Test #622: phy_dl_test-p50-t2-m0 Passed 0.41 sec
Start 623: phy_dl_test-p50-t2-m0 Passed 0.43 sec
623/793 Test #623: phy_dl_test-p50-t2-m0 Passed 0.42 sec
Start 624: phy_dl_test-p50-t2-m7 Passed 0.42 sec
624/793 Test #624: phy_dl_test-p50-t2-m7 Passed 0.42 sec
Start 625: phy_dl_test-p50-t2-m7 Passed 0.42 sec
625/793 Test #625: phy_dl_test-p50-t2-m14 Passed 0.42 sec
Start 626: phy_dl_test-p50-t2-m21 Passed 0.42 sec
626/793 Test #626: phy_dl_test-p50-t2-m21 Passed 0.42 sec
Start 627: phy_dl_test-p50-t2-m28 Passed 0.42 sec
627/793 Test #627: phy_dl_test-p50-t2-m28 Passed 0.42 sec
Start 628: phy_dl_test-p50-t3-m0 Passed 0.42 sec
628/793 Test #628: phy_dl_test-p50-t3-m0 Passed 0.42 sec
Start 629: phy_dl_test-p50-t3-m7 Passed 0.42 sec
629/793 Test #629: phy_dl_test-p50-t3-m7 Passed 0.43 sec
Start 630: phy_dl_test-p50-t3-m14 Passed 0.43 sec
630/793 Test #630: phy_dl_test-p50-t3-m14 Passed 0.44 sec
Start 631: phy_dl_test-p50-t3-m21 Passed 0.44 sec
631/793 Test #631: phy_dl_test-p50-t3-m21 Passed 0.45 sec
Start 632: phy_dl_test-p50-t3-m28 Passed 0.45 sec
632/793 Test #632: phy_dl_test-p50-t3-m28 Passed 0.45 sec
Start 633: phy_dl_test-p50-t4-m0 Passed 0.45 sec
633/793 Test #633: phy_dl_test-p50-t4-m0 Passed 0.46 sec
Start 634: phy_dl_test-p50-t4-m7 Passed 0.46 sec
634/793 Test #634: phy_dl_test-p50-t4-m7 Passed 0.47 sec
Start 635: phy_dl_test-p50-t4-m14 Passed 0.47 sec
635/793 Test #635: phy_dl_test-p50-t4-m14 Passed 0.48 sec
Start 636: phy_dl_test-p50-t4-m21 Passed 0.48 sec
636/793 Test #636: phy_dl_test-p50-t4-m21 Passed 0.49 sec
Start 637: phy_dl_test-p50-t4-m28 Passed 0.49 sec
637/793 Test #637: phy_dl_test-p50-t4-m28 Passed 0.49 sec
Start 638: phy_dl_test-p50-t1-q-m0 Passed 0.49 sec
638/793 Test #638: phy_dl_test-p50-t1-q-m0 Passed 0.49 sec
Start 639: phy_dl_test-p50-t1-q-m7 Passed 0.49 sec
639/793 Test #639: phy_dl_test-p50-t1-q-m7 Passed 0.49 sec
Start 640: phy_dl_test-p50-t1-q-m14 Passed 0.49 sec
640/793 Test #640: phy_dl_test-p50-t1-q-m14 Passed 0.50 sec

```

```

Activities Terminal ▾
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/o... srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/o...
775/793 Test #775: nas_test Passed 0.72 sec
Start 776: tft_test Passed 0.59 sec
776/793 Test #776: tft_test Passed 0.51 sec
Start 777: rrc_phy_ctrl_test Passed 0.51 sec
777/793 Test #777: rrc_phy_ctrl_test Passed 0.51 sec
Start 778: rrc_cell_test Passed 0.51 sec
778/793 Test #778: rrc_cell_test Passed 0.51 sec
Start 779: enb_metrics_test Passed 0.51 sec
779/793 Test #779: enb_metrics_test Passed 4.00 sec
Start 780: sched_grid_test Passed 0.52 sec
780/793 Test #780: sched_grid_test Passed 0.52 sec
Start 781: scheduler_test_rand Passed 1.75 sec
781/793 Test #781: scheduler_test_rand Passed 1.75 sec
Start 782: scheduler_ca_test Passed 0.63 sec
782/793 Test #782: scheduler_ca_test Passed 0.63 sec
Start 783: enb_phy_test_tm1 Passed 1.04 sec
783/793 Test #783: enb_phy_test_tm1 Passed 1.04 sec
Start 784: enb_phy_test_tm2 Passed 1.03 sec
784/793 Test #784: enb_phy_test_tm2 Passed 1.03 sec
Start 785: enb_phy_test_tm3 Passed 1.04 sec
785/793 Test #785: enb_phy_test_tm3 Passed 1.04 sec
Start 786: enb_phy_test_tm4 Passed 1.04 sec
786/793 Test #786: enb_phy_test_tm4 Passed 1.04 sec
Start 787: enb_phy_test_tm1_ca_pucch3 Passed 1.55 sec
787/793 Test #787: enb_phy_test_tm1_ca_pucch3 Passed 1.55 sec
Start 788: enb_phy_test_tm4_ca_pucch3 Passed 1.55 sec
788/793 Test #788: enb_phy_test_tm4_ca_pucch3 Passed 1.55 sec
Start 789: enb_phy_test_tm1_ca_cs Passed 1.06 sec
789/793 Test #789: enb_phy_test_tm1_ca_cs Passed 1.06 sec
Start 790: enb_phy_test_tm4_ca_cs Passed 1.06 sec
790/793 Test #790: enb_phy_test_tm4_ca_cs Passed 1.06 sec
Start 791: enb_phy_test_tm1_ca_cs_ho Passed 2.55 sec
791/793 Test #791: enb_phy_test_tm1_ca_cs_ho Passed 2.55 sec
Start 792: rrc_mobility_test Passed 0.63 sec
792/793 Test #792: rrc_mobility_test Passed 0.63 sec
Start 793: erab_setup_test Passed 0.56 sec
793/793 Test #793: erab_setup_test Passed 0.56 sec

99% tests passed, 1 tests failed out of 793

Label Time Summary:
long = 133.39 sec*proc (253 tests)
phy = 133.39 sec*proc (253 tests)
srsenb = 6.70 sec*proc (5 tests)
srsue = 13.55 sec*proc (1 test)

Total Test time (real) = 264.66 sec

The following tests FAILED:
 404 - benchmark_radio_multi_rf (Failed)
Errors while running CTest
make: *** [Makefile:129: test] Error 8
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oai/srslte-e2/build$

```

### **Test message here:**

99% tests passed, 1 tests failed out of 793

### **Label Time Summary:**

long = 133.39 sec\*proc (253 tests)  
phy = 133.39 sec\*proc (253 tests)  
srseb = 6.70 sec\*proc (5 tests)  
srsue = 13.55 sec\*proc (1 test)

Total Test time (real) = 264.66 sec

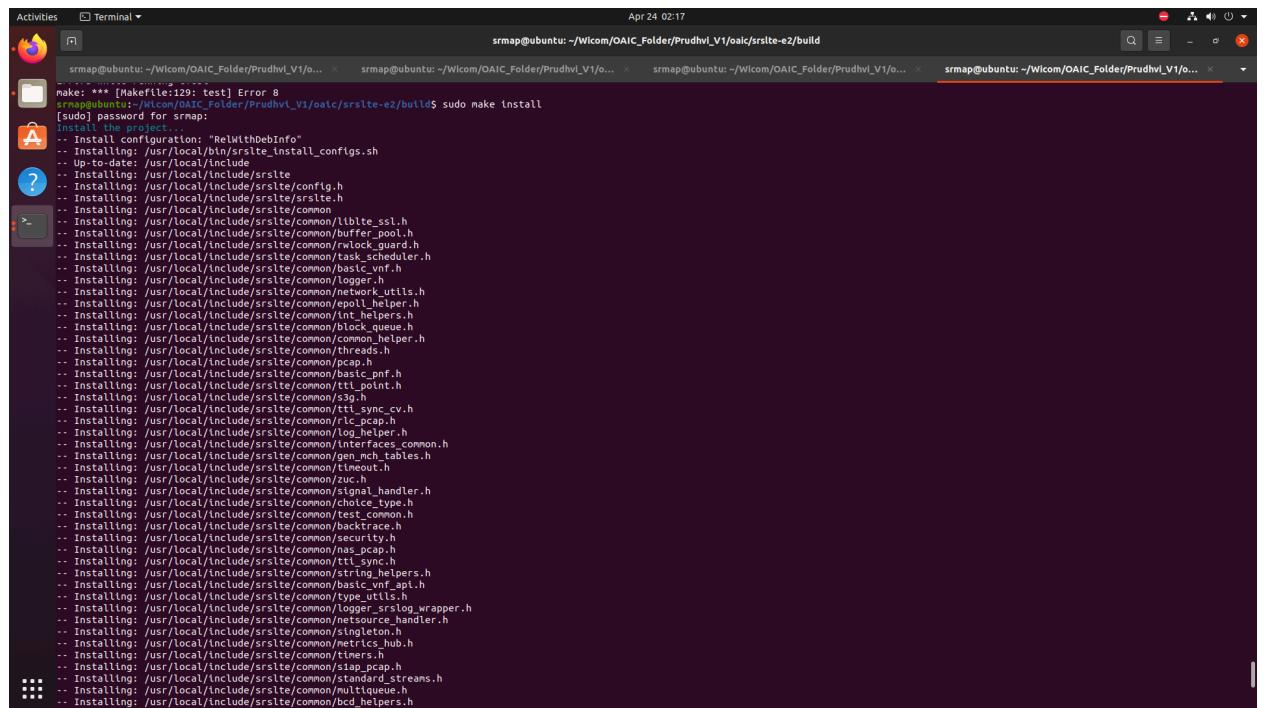
The following tests FAILED:

464 - benchmark\_radio\_multi\_rf (Failed)

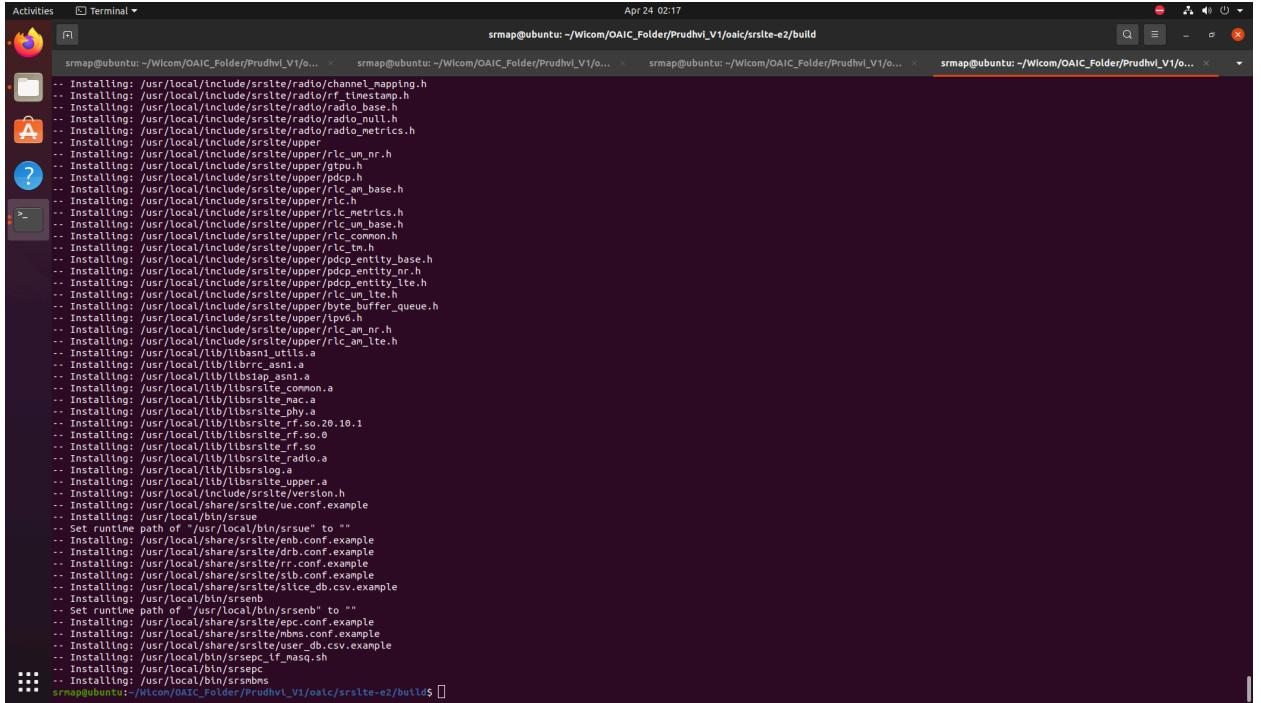
Errors while running CTest

make: \*\*\* [Makefile:129: test] Error 8

### **31. sudo make install**



```
Activities Terminal Apr 24 02:17
srmap@ubuntu: ~/Wlcom/OAIC_Folder/Prudhv_V1/oaic/srslte-e2/build$ sudo make install
[sudo] password for srmap:
Install the project...
Install Configuration "ReleaseDeBIn"
-- Up-to-date: /usr/local/bin/srslte_install_configs.sh
-- Up-to-date: /usr/local/include
-- Installing: /usr/local/include/srslte
-- Installing: /usr/local/include/srslte/config.h
-- Installing: /usr/local/include/srslte/srslte.h
-- Installing: /usr/local/include/srslte/common
-- Installing: /usr/local/include/srslte/common/available_ssl.h
-- Installing: /usr/local/include/srslte/common/buffer_pool.h
-- Installing: /usr/local/include/srslte/common/rwlock_guard.h
-- Installing: /usr/local/include/srslte/common/task_scheduler.h
-- Installing: /usr/local/include/srslte/common/basic_vnf.h
-- Installing: /usr/local/include/srslte/common/logger.h
-- Installing: /usr/local/include/srslte/common/logger_utils.h
-- Installing: /usr/local/include/srslte/common/epoll_helper.h
-- Installing: /usr/local/include/srslte/common/int_helpers.h
-- Installing: /usr/local/include/srslte/common/block_queue.h
-- Installing: /usr/local/include/srslte/common/common_helper.h
-- Installing: /usr/local/include/srslte/common/threads.h
-- Installing: /usr/local/include/srslte/common/priority.h
-- Installing: /usr/local/include/srslte/common/basic_pnf.h
-- Installing: /usr/local/include/srslte/common/tti_point.h
-- Installing: /usr/local/include/srslte/common/s3g.h
-- Installing: /usr/local/include/srslte/common/tti_sync_cv.h
-- Installing: /usr/local/include/srslte/common/rle_pcaps.h
-- Installing: /usr/local/include/srslte/common/interlace.h
-- Installing: /usr/local/include/srslte/common/interfaces_common.h
-- Installing: /usr/local/include/srslte/common/gench_tables.h
-- Installing: /usr/local/include/srslte/common/timeout.h
-- Installing: /usr/local/include/srslte/common/zuc.h
-- Installing: /usr/local/include/srslte/common/signal_handler.h
-- Installing: /usr/local/include/srslte/common/tti_sync_cv.h
-- Installing: /usr/local/include/srslte/common/test_common.h
-- Installing: /usr/local/include/srslte/common/backTrace.h
-- Installing: /usr/local/include/srslte/common/security.h
-- Installing: /usr/local/include/srslte/common/nas_pcaps.h
-- Installing: /usr/local/include/srslte/common/tti_sync_cv.h
-- Installing: /usr/local/include/srslte/common/tti_point_helpers.h
-- Installing: /usr/local/include/srslte/common/basic_vnf_api.h
-- Installing: /usr/local/include/srslte/common/type_utils.h
-- Installing: /usr/local/include/srslte/common/logger_srslog_wrapper.h
-- Installing: /usr/local/include/srslte/common/netsource_handler.h
-- Installing: /usr/local/include/srslte/common/singleton.h
-- Installing: /usr/local/include/srslte/common/acs_sub.h
-- Installing: /usr/local/include/srslte/common/timer.h
-- Installing: /usr/local/include/srslte/common/siap_pcaps.h
-- Installing: /usr/local/include/srslte/common/standard_streams.h
-- Installing: /usr/local/include/srslte/common/multiqueue.h
-- Installing: /usr/local/include/srslte/common/bcd_helpers.h
```

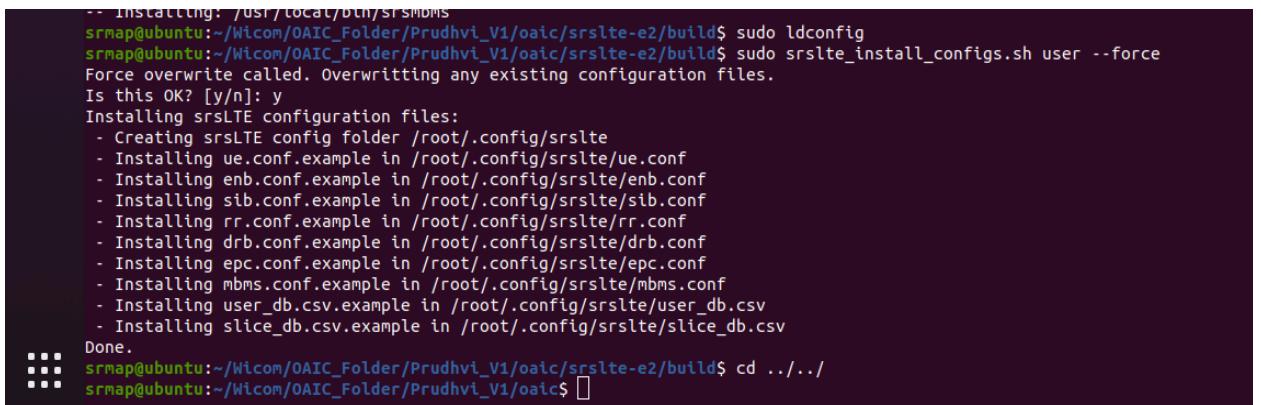


```
Activities Terminal ▾
srmap@ubuntu: ~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/srslte-e2/build Apr 24 02:17
srmap@ubuntu: ~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/srslte-e2/build srmap@ubuntu: ~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/srslte-e2/build srmap@ubuntu: ~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/srslte-e2/build
-- Installing: /usr/local/include/srslte/radio/channel_mapping.h
-- Installing: /usr/local/include/srslte/radio/rf_timestamp.h
-- Installing: /usr/local/include/srslte/radio/radio_base.h
-- Installing: /usr/local/include/srslte/radio/radio_null.h
-- Installing: /usr/local/include/srslte/radio/radio_metrics.h
-- Installing: /usr/local/include/srslte/upper
-- Installing: /usr/local/include/srslte/upper/lc_um_nr.h
-- Installing: /usr/local/include/srslte/upper/gtpu.h
-- Installing: /usr/local/include/srslte/upper/pdcp.h
-- Installing: /usr/local/include/srslte/upper/rlc_am_base.h
-- Installing: /usr/local/include/srslte/upper/rlc_am_lte.h
-- Installing: /usr/local/include/srslte/upper/rlc_metrics.h
-- Installing: /usr/local/include/srslte/upper/rlc_um_base.h
-- Installing: /usr/local/include/srslte/upper/rlc_common.h
-- Installing: /usr/local/include/srslte/upper/rlc_tm.h
-- Installing: /usr/local/include/srslte/upper/rpcdentity_base.h
-- Installing: /usr/local/include/srslte/upper/pdcpc_entity_lte.h
-- Installing: /usr/local/include/srslte/upper/pdcp_entity_lte.h
-- Installing: /usr/local/include/srslte/upper/rlc_um_lte.h
-- Installing: /usr/local/include/srslte/upper/byte_buffer_queue.h
-- Installing: /usr/local/include/srslte/upper/pv0.h
-- Installing: /usr/local/include/srslte/upper/rlc_am_nr.h
-- Installing: /usr/local/include/srslte/upper/rlc_am_lte.h
-- Installing: /usr/local/lib/libasn1_utils.a
-- Installing: /usr/local/lib/librrc_asn1.a
-- Installing: /usr/local/lib/liblbersite_common.a
-- Installing: /usr/local/lib/liblbersite_mac.a
-- Installing: /usr/local/lib/liblbersite_rr.a
-- Installing: /usr/local/lib/liblbersite_rf.so.20.10.1
-- Installing: /usr/local/lib/liblbersite_rf.so.20
-- Installing: /usr/local/lib/liblbersite_rf.so
-- Installing: /usr/local/lib/liblbersite_radio.a
-- Installing: /usr/local/share/srslte
-- Installing: /usr/local/share/srslte/upper
-- Installing: /usr/local/include/srslte/version.h
-- Installing: /usr/local/share/srslte/ue.conf.example
-- Installing: /usr/local/bin/srsue
-- See runtime path of '/usr/local/bin/srsue' to ""
-- Installing: /usr/local/share/srslte/enb.conf.example
-- Installing: /usr/local/share/srslte/drbs.conf.example
-- Installing: /usr/local/share/srslte/r.conf.example
-- Installing: /usr/local/share/srslte/stb.conf.example
-- Installing: /usr/local/share/srslte/slice_db.csv.example
-- Installing: /usr/local/bin/srsenb
-- Installing: /usr/local/share/srslte/srsenb
-- Installing: /usr/local/share/srslte/srsenb
-- Installing: /usr/local/share/srslte/epc.conf.example
-- Installing: /usr/local/share/srslte/mbms.conf.example
-- Installing: /usr/local/share/srslte/user_db.csv.example
-- Installing: /usr/local/bin/srsepclf_masq.sh
-- Installing: /usr/local/bin/srspec
-- Installing: /usr/local/bin/srsnbm
srmap@ubuntu: ~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/srslte-e2/build$
```

32. sudo ldconfig

33. sudo srslte\_install\_configs.sh user --force

34. cd ../../

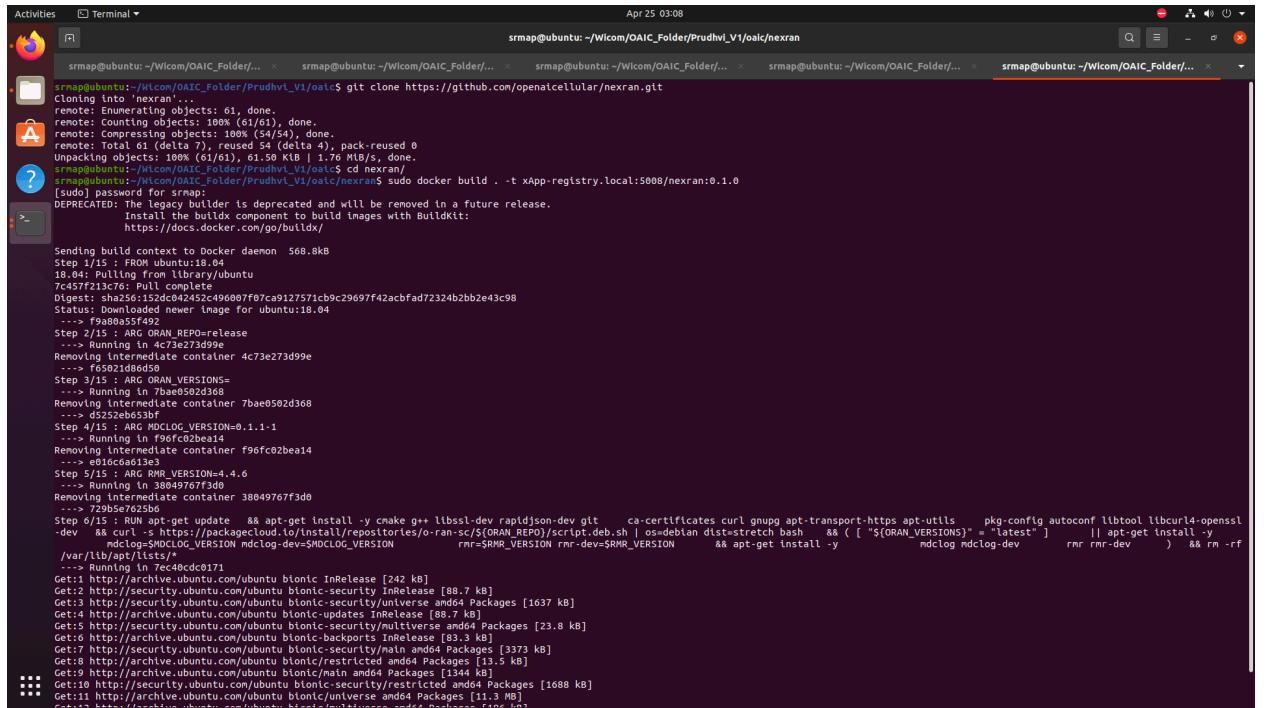


```
-- Installing: /usr/local/bin/SRSNBMS
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/srslte-e2/build$ sudo ldconfig
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/srslte-e2/build$ sudo srslte_install_configs.sh user --force
Force overwrite called. Overwriting any existing configuration files.
Is this OK? [y/n]: y
Installing srsLTE configuration files:
- Creating srsLTE config folder /root/.config/srslte
- Installing ue.conf.example in /root/.config/srslte/ue.conf
- Installing enb.conf.example in /root/.config/srslte/enb.conf
- Installing sib.conf.example in /root/.config/srslte/sib.conf
- Installing rr.conf.example in /root/.config/srslte/rr.conf
- Installing drb.conf.example in /root/.config/srslte/drb.conf
- Installing epc.conf.example in /root/.config/srslte/epc.conf
- Installing mbms.conf.example in /root/.config/srslte(mbms.conf)
- Installing user_db.csv.example in /root/.config/srslte/user_db.csv
- Installing slice_db.csv.example in /root/.config/srslte/slice_db.csv
Done.
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic/srslte-e2/build$ cd ../..
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhvi_V1/oaic$
```

We can now clone the repositories we will need to run build the xapp and onboard it as well as run multiple ues

**Make sure you open a new terminal before you run these following commands. This prevents you from downloading anything under the root directory**

35. git clone <https://github.com/openairinterface/nexran.git>
36. cd nexran
37. sudo docker build . -t xApp-registry.local:5008/nexran:0.1.0



```
srmap@ubuntu: ~/WiCom/OAIC_Folder/Prudhvi_V1/oaiC/nexran
srmap@ubuntu: ~/WiCom/OAIC_Folder/Prudhvi_V1/oaiC/nexran$ git clone https://github.com/openairinterface/nexran.git
srmap@ubuntu: ~/WiCom/OAIC_Folder/Prudhvi_V1/oaiC/nexran$ cd nexran
srmap@ubuntu: ~/WiCom/OAIC_Folder/Prudhvi_V1/oaiC/nexran$ sudo docker build . -t xApp-registry.local:5008/nexran:0.1.0
[sudo] password for srmap:
DEPRECATED: The legacy buildx is deprecated and will be removed in a future release.
Install the buildx component to build images with BuildKit:
 https://docs.docker.com/go/buildx/
 Sending build context to Docker daemon 568.8kB
Step 2/15 : FROM ubuntu:18.04
18.04: Pulling from library/ubuntu
7c45f2f13c76: Pull complete
Digest: sha256:c8d42452c496087f07ca9127571cb9c29697f42acbfad72324b2bb2e43c98
Status: Downloaded newer image for ubuntu:18.04
--> f9a08055f492
Step 2/15 : ARG ORAN_REPO=release
--> Running in 4c73e273d99e
Removing intermediate container 4c73e273d99e
Step 3/15 : ARG ORAN_VERSION=4.6
--> Running in 7bae502d368
Removing intermediate container 7bae502d368
--> d5252eb653bf
Step 4/15 : ARG MDLOG_VERSION=0.1.1
--> Running in f96fc02bea14
Removing intermediate container f96fc02bea14
--> e01cccad1e3
Step 5/15 : ARG RMR_VERSION=4.6
--> Running in 38049767f3d0
Removing intermediate container 38049767f3d0
Step 6/15 : apt-get update && apt-get install -y cmake g++ libssl-dev rapidjson-dev git ca-certificates curl gnupg apt-transport-https apt-utils pkg-config autoconf libtool libcurl4-openssl-dev && curl -s https://packagelinux.io/install/repositories/o-ran-sc/$ORAN_REPO/script.deb.sh | os=debian dist=stretch bash && (["$ORAN_VERSIONS" = "latest"] || apt-get install -y mdlog=MDLOG_VERSION mdlog-dev=$RMR_VERSION rnr=$RMR_VERSION && apt-get install -y mdlog mdlog-dev rnr rnr-dev) && rm -rf /var/lib/apt/lists/*
--> Running in 7eac0cdc0171
Get:1 http://archive.ubuntu.com/ubuntu bionic InRelease [242 kB]
Get:2 http://security.ubuntu.com/ubuntu bionic-security InRelease [88.7 kB]
Get:3 http://security.ubuntu.com/ubuntu bionic-security/universe amd64 Packages [1637 kB]
Get:4 http://archive.ubuntu.com/ubuntu bionic-updates InRelease [88.7 kB]
Get:5 http://archive.ubuntu.com/ubuntu bionic-security/multiverse amd64 Packages [23.8 kB]
Get:6 http://archive.ubuntu.com/ubuntu bionic-backports InRelease [83.3 kB]
Get:7 http://archive.ubuntu.com/ubuntu bionic-security/main amd64 Packages [3073 kB]
Get:8 http://archive.ubuntu.com/ubuntu bionic-security/restricted amd64 Packages [1355 kB]
Get:9 http://archive.ubuntu.com/ubuntu bionic/main amd64 Packages [1344 kB]
Get:10 http://security.ubuntu.com/ubuntu bionic-security/restricted amd64 Packages [1688 kB]
Get:11 http://archive.ubuntu.com/ubuntu bionic/universe amd64 Packages [11.3 MB]
```

```
Activities Terminal Apr 25 05:10
srmap@ubuntu: ~/Wlcom/OAIC_Folder/... srmap@ubuntu: ~/Wlcom/OAIC_Folder/... srmap@ubuntu: ~/Wlcom/OAIC_Folder/... srmap@ubuntu: ~/Wlcom/OAIC_Folder/... srmap@ubuntu: ~/Wlcom/OAIC_Folder/...
libxml2 libxmlxmu1 linux-libc-dev m4 make manpages manpages-dev
multarch-support netbase openssh-client openssl patch perl
perl-modules-5.26 pinentry-curses pkg-config publicsuffix rapidjson-dev
readline-common shared-mime-info xauth xdg-user-dirs xz-utils
a upgraded 147 newly installed, 0 to remove and 1 not upgraded.
Need to get 369 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu bionic/main amd64 libtalloc-perl amd64 1.07-3build2 [16.6 kB]
Get:2 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 multarch-support amd64 2.27-3ubuntu1.6 [6966 B]
Get:3 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 libbauae amd64 1:1.0.8-1ubuntu1 [7556 B]
Get:4 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 libbbad0 amd64 0.8.7-1ubuntu1.1 [41.6 kB]
Get:5 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 libbbcrash amd64 1:1.0.8-1ubuntu1 [7 kB]
Get:6 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 libhcrash amd64 1:1.3-2ubuntu18.4 [45.5 kB]
Get:7 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 liblx11-data all 2:1.6.4-3ubuntu0.4 [114 kB]
Get:8 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 liblx11-1 amd64 2:1.6.4-3ubuntu0.4 [572 kB]
Get:9 http://archive.ubuntu.com/ubuntu bionic/main amd64 liblxextx amd64 2:1.3.3-1 [29.4 kB]
Get:10 http://archive.ubuntu.com/ubuntu bionic/main amd64 liblxextx0 amd64 2:1.3.3-1 [2.0 kB]
Get:11 http://archive.ubuntu.com/ubuntu bionic/main amd64 liblxextx0.1 amd64 2:1.3.3-1 [7.1 kB]
Get:12 http://archive.ubuntu.com/ubuntu bionic/main amd64 liblbbdbm5 amd64 1:1.14.1-6 [26.0 kB]
Get:13 http://archive.ubuntu.com/ubuntu bionic/main amd64 liblbbdbm-compat4 amd64 1:14.1-6 [6084 B]
Get:14 http://archive.ubuntu.com/ubuntu bionic/main amd64 liblperl5.26 amd64 5.26.1-6ubuntu0.7 [3532 kB]
Get:15 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 perl amd64 5.26.1-6ubuntu0.7 [281 kB]
Get:16 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 perlapt-installer amd64 0.4.12-0ubuntu6.6 [16 kB]
Get:17 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 apt-utils amd64 1.7 [286 kB]
Get:18 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 libssl1.1 amd64 1.1.1-1ubuntu2.1-18.04.23 [1303 kB]
Get:19 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 openssl amd64 1.1.1-1ubuntu2.1-18.04.23 [614 kB]
Get:20 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 ca-certificates all 20230311ubuntu0.18.04.1 [151 kB]
Get:21 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 libmagic-mg amd64 1:5.32-2ubuntu0.4 [184 kB]
Get:22 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 libpixman-1 amd64 0.36.5-2ubuntu0.4 [68.6 kB]
Get:23 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 libpixman-1 files amd64 0.36.5-2ubuntu0.4 [22.1 kB]
Get:24 http://archive.ubuntu.com/ubuntu bionic/main amd64 less amd64 487-0.1 [112 kB]
Get:25 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 liblpxpat1 amd64 2.2.5-3ubuntu0.9 [82.8 kB]
Get:26 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 liblplib2-0.0 amd64 2.56.4-0ubuntu0.18.04.5 [1169 kB]
Get:27 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 liblplib2-0-data all 2.56.4-0ubuntu0.18.04.9 [4728 B]
Get:28 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 liblplib2-0-data all 2.56.4-0ubuntu0.18.04.9.2 [8050 kB]
Get:29 http://archive.ubuntu.com/ubuntu bionic/main amd64 libreadline-common all 7.0-3 [52.9 kB]
Get:30 http://archive.ubuntu.com/ubuntu bionic/main amd64 libreadline7 amd64 7.0-3 [124 kB]
Get:31 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 libsqlite3-0 amd64 3.22.0-2ubuntu0.7 [499 kB]
Get:32 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 libxml2 amd64 2.9.4+dfsg1-6.ubuntu1.9 [663 kB]
Get:33 http://archive.ubuntu.com/ubuntu bionic/main amd64 netbase all 5.12.7 kB]
Get:34 http://archive.ubuntu.com/ubuntu bionic/main amd64 netcat-shareable info and shareable all-2 [42 kB]
Get:35 http://archive.ubuntu.com/ubuntu bionic/main amd64 netcat-shareable all 0.17-1ubuntu1 [49.0 kB]
Get:36 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 xz-utils amd64 5.2.2-2.1ubuntu0.1 [83.8 kB]
Get:37 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 krb5-libs-all 1.16-2ubuntu0.4 [13.4 kB]
Get:38 http://archive.ubuntu.com/ubuntu bionic/main amd64 libedit2 amd64 3.1-20170329-1 [76.9 kB]
Get:39 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 libkrb5support0 amd64 1:16-2ubuntu0.4 [30.9 kB]
Get:40 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 libkrb5crypto1 amd64 1:16-2ubuntu0.4 [35.3 kB]
Get:41 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 libkrb5keytab1 amd64 1:15.9-9.2ubuntu2.3 [1564 B]
Get:42 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 libkrb5-3 amd64 1.16-2ubuntu0.4 [278 kB]
Get:43 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 libgssap1-krb5-2 amd64 1.16-2ubuntu0.4 [122 kB]
Get:44 http://archive.ubuntu.com/ubuntu bionic/main amd64 libpsl1 amd64 0.19.1-5ubuntu1 [41.8 kB]
Get:45 http://archive.ubuntu.com/ubuntu bionic/main amd64 libssl1.0.0 amd64 1.0.2n-1ubuntu5.13 [1089 kB]
```

```
Activities Terminal Apr 25 03:11
srmap@ubuntu: ~/Wlcom/OAIC_Folder/Prudhvi_V1/oaic/nexran
srmap@ubuntu: ~/Wlcom/OAIC_Folder/... srmap@ubuntu: ~/Wlcom/OAIC_Folder/... srmap@ubuntu: ~/Wlcom/OAIC_Folder/... srmap@ubuntu: ~/Wlcom/OAIC_Folder/... srmap@ubuntu: ~/Wlcom/OAIC_Folder/...
Setting up gpg-wks-server (2.2.4-1ubuntu1.6) ...
Setting up libnssuui:amd64 (2.11.2-2) ...
Setting up libgssapi-krb5-2:amd64 (1.16-2ubuntu0.4) ...
Setting up perl (5.26.1-0ubuntu0.7) ...
Setting up libfile-fcntllock-perl (0.22-2ubuntud2) ...
Setting up libalgolrithm-diff-perl (1.19.0-1) ...
Setting up libalgolrithm-fibonacci-perl (0.09-1) ...
Setting up libpspell3-head:amd64 (7.5.6+dfsg-1ubuntu0.4) ...
Setting up openssh-client (1:7.6p1-0ubuntu0.7) ...
Setting up libxext6:amd64 (2:1.3.3-1) ...
Setting up gcc-7 (7.5.0-3ubuntu18.04) ...
Setting up liberror-perl (0.17025-1) ...
Setting up libgdal20.2:amd64 (2.2.14-1ubuntu18.04) ...
Setting up libgdal-pkg-perl (1.19.0-0ubuntu2.4) ...
Setting up autoconf (2.69-11) ...
Setting up g++ (4.7.4-0.1ubuntu2.3) ...
Setting up xauth (1:1.0.10-1) ...
Setting up libalgolrithm-merge-perl (0.08-3) ...
Setting up dkpg-dev (9.0.20-1) ...
Setting up libalgolrithm-ffx-perl (0.04-5) ...
Setting up libltdl0.2.0-2:amd64 (2.4.45+dfsg-1ubuntu1.11) ...
Setting up automake (1:1.15.1-3ubuntu2) ...
update-alternatives: using /usr/bin/automake-1.15 to provide /usr/bin/automake (automake) in auto mode
update-alternatives: warning: skip creation of /usr/share/man/man1/automake.1.gz because associated file /usr/share/man/man1/automake-1.15.1.gz (of link group automake) doesn't exist
update-alternatives: using /usr/bin/fftw3 to provide /usr/bin/c++ (c++) in auto mode
update-alternatives: warning: skip creation of /usr/share/man/man1/aclocal.2.gz because associated file /usr/share/man/man1/aclocal-1.15.1.gz (of link group automake) doesn't exist
update-alternatives: using /usr/bin/g++ to provide /usr/bin/c++ (c++) in auto mode
update-alternatives: warning: skip creation of /usr/share/man/man1/c++-1.1.gz because associated file /usr/share/man/man1/g++-1.1.gz (of link group c++) doesn't exist
Setting up dirmngr (2.2.4-1ubuntu1.6) ...
Setting up libltl (2.4.6-2) ...
Setting up libltdl (2.4.6-1ubuntu1) ...
Setting up build-essential (12.4ubuntu1) ...
Setting up libcurl4-openssl4:amd64 (7.58.0-2ubuntu3.24) ...
Setting up libcurl14:amd64 (7.58.0-2ubuntu3.24) ...
Setting up gpg-wks-client (2.2.4-1ubuntu1.6) ...
Setting up pkg-config (0.29.1-0ubuntu2) ...
Setting up cmake (3.10.2-1ubuntu2.18.04.2) ...
Setting up libalgolrithm-dev:amd64 (7.58.0-2ubuntu3.24) ...
Setting up curl (1:7.58.0-2ubuntu3.24) ...
Setting up curl (7.58.0-2ubuntu3.24) ...
Setting up gnupg (2.2.4-1ubuntu1.6) ...
Processing triggers for liblc-bin (2.27-3ubuntu1.6) ...
Processing triggers for ca-certificates (20230311ubuntu0.18.04.1) ...
 Updating certificates in /etc/ssl/certs...
 Done.
 8 added, 0 removed; done.
Running hooks in /etc/ca-certificates/update.d...
done.
Detected operating system as debian/stretch.
Checking for curl...
 Detect curl...
 Checking for gpg...
 Detect gpg...
 Detected apt version 1:6.17
Running apt-get update... □
```

```

Activities Terminal Apr 25 03:22
srmap@ubuntu: ~/Wicom/OAIC_Folder/... srmap@ubuntu: ~/Wicom/OAIC_Folder/... srmap@ubuntu: ~/Wicom/OAIC_Folder/Prudhv_V1/oaic/nexran srmap@ubuntu: ~/Wicom/OAIC_Folder/... srmap@ubuntu: ~/Wicom/OAIC_Folder/... srmap@ubuntu: ~/Wicom/OAIC_Folder/...
[91x] Building C object lib/e2sm/CMakeFiles/e2sm.dir/messages/E2SM-ZYLNINUM/constr_SEQUENCE_OF.c.o
[91x] Building C object lib/e2sm/CMakeFiles/e2sm.dir/messages/E2SM-ZYLNINUM/constr_SET_OF.c.o
[92x] Building C object lib/e2sm/CMakeFiles/e2sm.dir/messages/E2SM-ZYLNINUM/constr_TYPE_OF.c.o
[92x] Building C object lib/e2sm/CMakeFiles/e2sm.dir/messages/E2SM-ZYLNINUM/constr_ValueList.c.o
[92x] Building C object lib/e2sm/CMakeFiles/e2sm.dir/messages/E2SM-ZYLNINUM/der_encoder.c.o
[93x] Building C object lib/e2sm/CMakeFiles/e2sm.dir/messages/E2SM-ZYLNINUM/per_decoder.c.o
[93x] Building C object lib/e2sm/CMakeFiles/e2sm.dir/messages/E2SM-ZYLNINUM/per_encoder.c.o
[93x] Building C object lib/e2sm/CMakeFiles/e2sm.dir/messages/E2SM-ZYLNINUM/per_opentype.c.o
[93x] Building C object lib/e2sm/CMakeFiles/e2sm.dir/messages/E2SM-ZYLNINUM/per_support.c.o
[94x] Building C object lib/e2sm/CMakeFiles/e2sm.dir/messages/E2SM-ZYLNINUM/xer_decoder.c.o
[94x] Building C object lib/e2sm/CMakeFiles/e2sm.dir/messages/E2SM-ZYLNINUM/xer_encoder.c.o
[94x] Building C object lib/e2sm/CMakeFiles/e2sm.dir/src/e2sm_cc.o
[95x] Building CXX object lib/e2sm/CMakeFiles/e2sm.dir/src/e2sm_zylnium.cc.o
[95x] Building CXX object lib/e2sm/CMakeFiles/e2sm.dir/src/e2sm_nexran.cc.o
[95x] Building CXX static library libe2sm_kpm.cc
[96x] Linking CXX executable libe2sm.a
[97x] Built target e2sm
Scanning dependencies of target nexran
[97x] Building CXX object src/CMakeFiles/nexran.dir/policy.cc.o
[97x] Building CXX object src/CMakeFiles/nexran.dir/abstractcc.o
[97x] Building CXX object src/CMakeFiles/nexran.dir/ue.cc.o
[98x] Building CXX object src/CMakeFiles/nexran.dir/slice.cc.o
[98x] Building CXX object src/CMakeFiles/nexran.dir/restserver.cc.o
[98x] Building CXX object src/CMakeFiles/nexran.dir/config.cc.o
[98x] Building CXX object src/CMakeFiles/nexran.dir/app_config.cc.o
[99x] Building CXX object src/CMakeFiles/nexran.dir/nexran.cc.o
[99x] Building CXX object src/CMakeFiles/nexran.dir/main.cc.o
[99x] Building CXX object src/CMakeFiles/nexran.dir/buildinfo.cc.o
[100x] Linking CXX executable nexran
[100x] Built target nexran
Install the project...
 Install step: "RelWithDebInfo"
 --> install -t /usr/local/bin/nexran
 -- Set runtime path of "/usr/local/bin/nexran" to ""
 Removing Intermediate container ab5abd14f58c
 --> 2fied82e9eca
Step 13/15 : ENV RMR_RTQ_SVC="9999" RMR_SEED_RT="/nexran/etc/routes.txt" DEBUG=1 XAPP_NAME="nexran" XAPP_ID="1"
 --> 9dd1f3048bf8
 Removing Intermediate container 9dd1f3048bf8
 --> 0db45ff08ccb
Step 14/15 : CMD ["/usr/local/bin/nexran"]
 --> Running in 981de61767d7
 Removing Intermediate container 981de61767d7
Step 15/15 : EXPOSE 8000
 --> Running in 45b7b1b0595c
 Removing Intermediate container 45b7b1b0595c
 --> cae38901b140
 Successfully built cae38901b140
Successfully tagged xapp-registry.local:5008/nexran:0.1.0
srmap@ubuntu:~/Wicom/OAIC_Folder/Prudhv_V1/oaic/nexran$

```

## Running the xapp

### Terminal 1: Start the Core Network/Ues

38. sudo ip netns add ue1
39. sudo srsepc