

Portal on OOM

The new Beijing release scalability, resiliency, and manageability are described here. These capabilities apply to the OOM/Kubernetes installation.

Installation

Follow the OOM installation instructions at

<http://onap.readthedocs.io/en/latest/submodules/oom.git/docs/index.html>

TLab specific Upgrade of Portal

Below are the notes specific for the TLab environment. If a change is made in OOM charts then the following needs to be completed to upgrade the running charts in

- Find Rancher IP in R_Control-Plane tenant - we use "onap_dev" key and "Ubuntu" user to SSH. For example: "ssh -i onap_dev [ubuntu@192.168.xx.xxx](#)".
- Login as ubuntu, then run "sudo -i" to login as root. The "oom" git repo is in the rancher vm's root directory, under "/root/oom".
- Edit portal files at /root/oom/kubernetes/portal....
- When complete run the following from /root/oom/kubernetes dir

```
> make portal
....
> make onap
....
# This will do the upgrade:
helm upgrade dev local/onap --namespace onap -f onap/resources/environments/disable-allcharts.yaml
--set portal.enabled=true
# When complete run the following to ensure its in the process of coming up or complete.
kubectl get pods -n onap -o wide | grep portal
```

In case, if it is a fresh install, try below command:

```
helm install ./onap/ -n onap --namespace onap -f onap/resources/environments/disable-allcharts.
yaml --set portal.enabled=true
```

Stop command to stop any old namespace:

```
helm del onap --purge
```

- Rancher gui is at 192.168.xx.xxx:8080
There is an interactive cli as well in the rancher gui where you can run kubectl commands.
- Below command will show the list of portal services.

```
kubectl get services --namespace=onap | grep portal
```

Accessing the ONAP Portal using OOM and a Kubernetes Cluster

If everything is successful, then to access Portal - http://onap.readthedocs.io/en/latest/submodules/oom.git/docs/oom_user_guide.html#accessing-the-onap-portal-using-oom-and-a-kubernetes-cluster

Overview of the running system

```
> kubectl get services --namespace=onap | grep portal
portal-app          LoadBalancer    10.43.141.57    10.0.0.8        8989:30215/TCP,8006:30213/TCP,8010:30214
/TCP    5d
portal-cassandra     ClusterIP        10.43.158.145   <none>          9160/TCP,7000/TCP,7001/TCP,7199/TCP,9042
/TCP    5d
portal-db            ClusterIP        10.43.192.65    <none>          3306
/TCP
portal-sdk           ClusterIP        10.43.24.82     <none>          8990
/TCP    5d
portal-widget        ClusterIP        10.43.101.233   <none>          8082
/TCP    5d
portal-zookeeper     ClusterIP        10.43.0.82      <none>          2181
/TCP    5d
```

```
> kubectl get pods --all-namespaces | grep portal
onap      dev-portal-app-b8c6668d8-56bjb      2/2      Running      0      2m
onap      dev-portal-app-b8c6668d8-g6whb      2/2      Running      0      2m
onap      dev-portal-app-b8c6668d8-xshwg      2/2      Running      0      2m
onap      dev-portal-cassandra-5ddbc59ffd-qc6rp 1/1      Running      0      2m
onap      dev-portal-db-6d7fc58648-sp9sf      0/1      Running      0      2m
onap      dev-portal-sdk-868f696cd7-mnjxk      0/2      Init:0/1     0      2m
onap      dev-portal-widget-694c45b75f-nqdt    0/1      Init:0/1     0      2m
onap      dev-portal-zookeeper-db466fc-kggsw    1/1      Running      0      2m
```

Healthchecks

Verify that the portal healthcheck passes by the robot framework:

<https://jenkins.onap.org/view/External%20Labs/job/lab-tlab-beijing-oom-deploy/325/robot/OpenECOMP%20ETE/Robot/Testsuites/Health-Check/>

Basic Portal Health Check	yes	PASS	0:00:00.195(-0:00:59.809)
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portal-app Scaling

To scale a new portal-app, set the replica count appropriately.

In our tests below, we are going to work with the OOM portal component in isolation. In this exercise, we scale the portal-app with 2 new replicas.

The below code needs to be added to the integration-override.yaml file.

```
portal:
  portal-app:
    replicaCount: 3
```

Run below command from "/root" folder to do helm upgrade

```
helm upgrade -i dev local/onap -f integration-override.yaml
```

portal-app Resiliency

A portal-app container failure can be simulated by stopping the portal-app container. The kubernetes liveness operation will detect that the ports are down, inferring there's a problem with the service, and in turn, will restart the container.

Here is where one of the running instances was deleted. And another is starting.

NAME	READY	STATUS	RESTARTS	AGE	IP
onap-portal-app-784477df78-46zqw	2/2	Running	0	10m	10.
onap-portal-app-784477df78-k4msf	2/2	Running	0	13m	10.
onap-portal-app-784477df78-plmx5	2/2	Terminating	0	2h	10.
onap-portal-app-784477df78-xsrrf	0/2	Init:0/1	0	29s	10.
onap-portal-cassandra-8588fbd698-whrds	1/1	Running	0	2h	10.
onap-portal-db-547d5584dd-5qdsx	1/1	Running	0	2h	10.
onap-portal-db-config-m5jsm	0/2	Completed	0	2h	10.
onap-portal-sdk-5cf74c9cb8-q9g5k	2/2	Running	0	2h	10.
onap-portal-widget-66748897fb-zb7sq	1/1	Running	0	2h	10.
onap-portal-zookeeper-5d8c598c4c-9vw49	1/1	Running	0	2h	10.

Here the new instance has started and the old one is still terminating

NAME	READY	STATUS	RESTARTS	AGE	IP
onap-portal-app-784477df78-46zqw	1/2	Running	0	18s	10.
onap-portal-app-784477df78-k4msf	2/2	Running	0	3m	10.
onap-portal-app-784477df78-plmx5	2/2	Running	0	2h	10.
onap-portal-app-784477df78-x4khj	2/2	Terminating	0	2h	10.
onap-portal-cassandra-8588fbd698-whrds	1/1	Running	0	2h	10.
onap-portal-db-547d5584dd-5qdsx	1/1	Running	0	2h	10.
onap-portal-db-config-m5jsm	0/2	Completed	0	2h	10.
onap-portal-sdk-5cf74c9cb8-q9g5k	2/2	Running	0	2h	10.
onap-portal-widget-66748897fb-zb7sq	1/1	Running	0	2h	10.
onap-portal-zookeeper-5d8c598c4c-9vw49	1/1	Running	0	2h	10.

After the deleted instance has terminated the 3 instances are all running normally.

NAME	READY	STATUS	RESTARTS	AGE	IP
onap-portal-app-784477df78-46zqw	2/2	Running	0	11m	10.
onap-portal-app-784477df78-k4msf	2/2	Running	0	14m	10.
onap-portal-app-784477df78-xsrrf	2/2	Running	0	1m	10.
onap-portal-cassandra-8588fbd698-whrds	1/1	Running	0	2h	10.
onap-portal-db-547d5584dd-5qdsx	1/1	Running	0	2h	10.
onap-portal-db-config-m5jsm	0/2	Completed	0	2h	10.
onap-portal-sdk-5cf74c9cb8-q9g5k	2/2	Running	0	2h	10.
onap-portal-widget-66748897fb-zb7sq	1/1	Running	0	2h	10.
onap-portal-zookeeper-5d8c598c4c-9vw49	1/1	Running	0	2h	10.

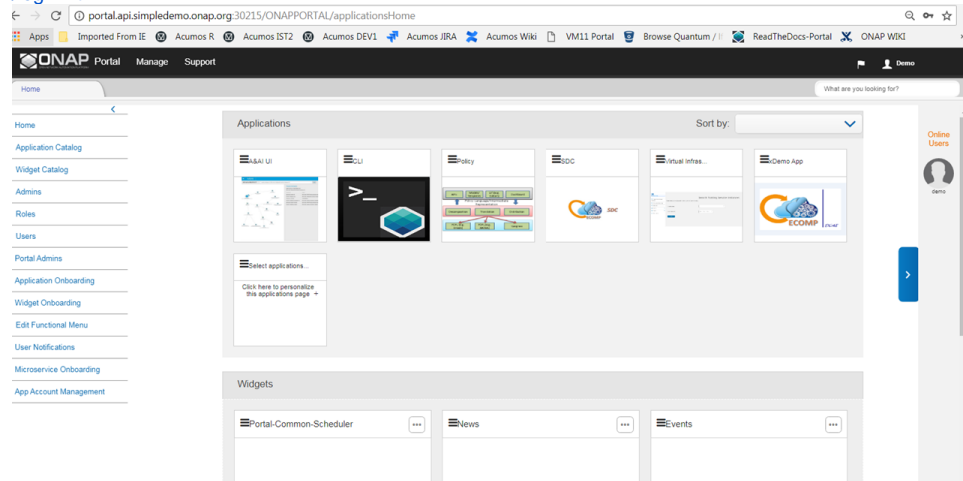
During this time there was no issues with the Portal Website.

TODO: In the following releases, the portal-db, portal-widget needs to be tested with similar resiliency and scaling tests. The portal-cassandra and portal-zookeeper requires coordination with MUSIC team to test the resiliency as there are some plans to provide MUSIC as a service.

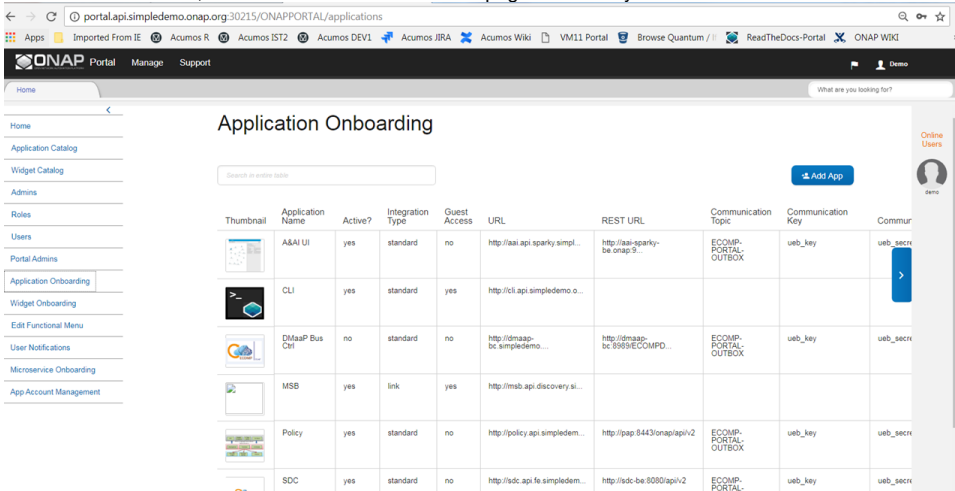
Sanity Tests

Check Portal UI and perform sanity tests.

1. After 3 instances of Portal are up, edit IP in /etc/hosts file, and logon as demo user on <http://portal.api.simplesdemo.onap.org:30215/ONAPPORTAL/login.htm>



2. Then killed 1 instance, I am able to continue on Portal page seamlessly



3. Another test on failover timing, when killed all 3 instances, the new Portal processes are coming up within 30 seconds

Troubleshoot

In case of failures, below commands may get handy for accessing the pods/logs and troubleshooting the issue.

To find all portal pods:

```
> kubectl get pods --all-namespaces | grep portal
onap      dev-portal-app-b8c6668d8-56bjb      2/2      Running      0      2m
onap      dev-portal-app-b8c6668d8-g6whb      2/2      Running      0      2m
onap      dev-portal-app-b8c6668d8-xshwg      2/2      Running      0      2m
onap      dev-portal-cassandra-5ddbc59ffd-qc6rp 1/1      Running      0      2m
onap      dev-portal-db-6d7fc58648-sp9sf      0/1      Running      0      2m
onap      dev-portal-sdk-868f696cd7-mnjxk      0/2      Init:0/1     0      2m
onap      dev-portal-widget-694c45b75f-ngdtt   0/1      Init:0/1     0      2m
onap      dev-portal-zookeeper-db466fc-kggsw   1/1      Running      0      2m
```

From above list, now to check DB logs:

```
> kubectl logs --namespace=onap dev-portal-db-6d7fc58648-sp9sf -c portal-db
2018-05-30 19:49:16 139875765802880 [Note] mysqld (mysqld 10.2.15-MariaDB-10.2.15+maria~jessie) starting as
process 1 ...
2018-05-30 19:49:16 139875765802880 [Note] InnoDB: Mutexes and rw_locks use GCC atomic builtins
2018-05-30 19:49:16 139875765802880 [Note] InnoDB: Uses event mutexes
2018-05-30 19:49:16 139875765802880 [Note] InnoDB: Compressed tables use zlib 1.2.8
2018-05-30 19:49:16 139875765802880 [Note] InnoDB: Using Linux native AIO
2018-05-30 19:49:16 139875765802880 [Note] InnoDB: Number of pools: 1
2018-05-30 19:49:16 139875765802880 [Note] InnoDB: Using SSE2 crc32 instructions
```

To check portal-app logs:

```
> kubectl logs --namespace=onap dev-portal-app-b8c6668d8-56bjb -c portal-app
/start-apache-tomcat.sh: option -i value is
/start-apache-tomcat.sh: option -n value is
/start-apache-tomcat.sh: values for IP (-i) and/or name (-n) are empty or short
/start-apache-tomcat.sh: Starting server from /opt/apache-tomcat-8.0.37
30-May-2018 19:48:29.480 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Server version:
Apache Tomcat/8.0.37
30-May-2018 19:48:29.482 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Server built: Sep 1
2016 10:01:52 UTC
30-May-2018 19:48:29.482 INFO [main] org.apache.catalina.startup.VersionLoggerListener.log Server number:
8.0.37.0
```

To get inside the portal-app docker and access the application logs:

```
> kubectl exec -it dev-portal-app-b8c6668d8-56bjb -n onap /bin/sh
Defaulting container name to portal-app.
Use 'kubectl describe pod/dev-portal-app-b8c6668d8-56bjb' to see all of the containers in this pod.
/ # cd /opt/apache-tomcat-8.0.37/logs/onapportal
/opt/apache-tomcat-8.0.37/logs/onapportal # ls
application.log  debug.log        metrics.log
audit.log        error.log
```

Portal's Rocket Chat channel - <http://onap-integration.eastus.cloudapp.azure.com:3000/channel/portal>

References:

1. [K8S / helm basic commands for ONAP integration](#)