



# OOM Helm Charts Ownership

Borislav Glozman (Amdocs)

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# OOM Casablanca Highlights

## New or Enhanced Functionality

- Storage Architecture
- DBaaS
- Isolated Deployments / Static Images
- Pod Placement Rules
- Geo-redundancy

## OOM Related Activities

- Helm Charts Ownership
- CICD



# Chart Ownership

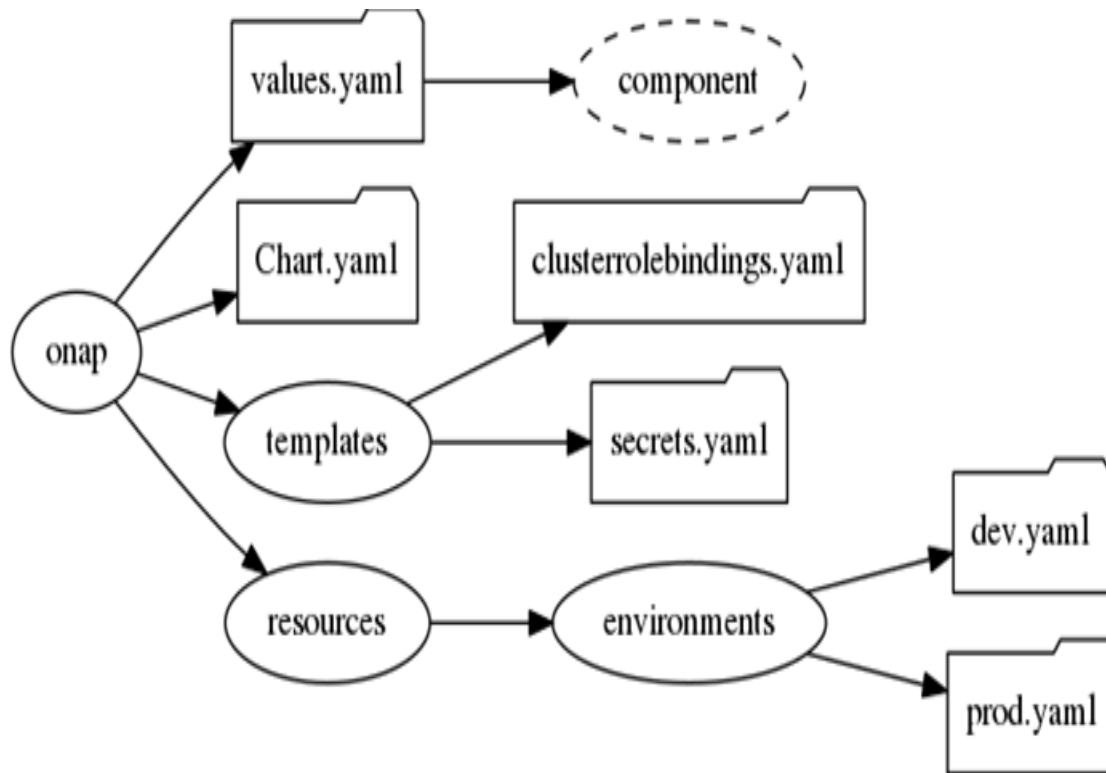
The project teams will take formal ownership of the helm charts for their projects in the Casablanca release

- OOM team will be primarily focused on deployment hardening, maintainability, and new features

## Benefits:

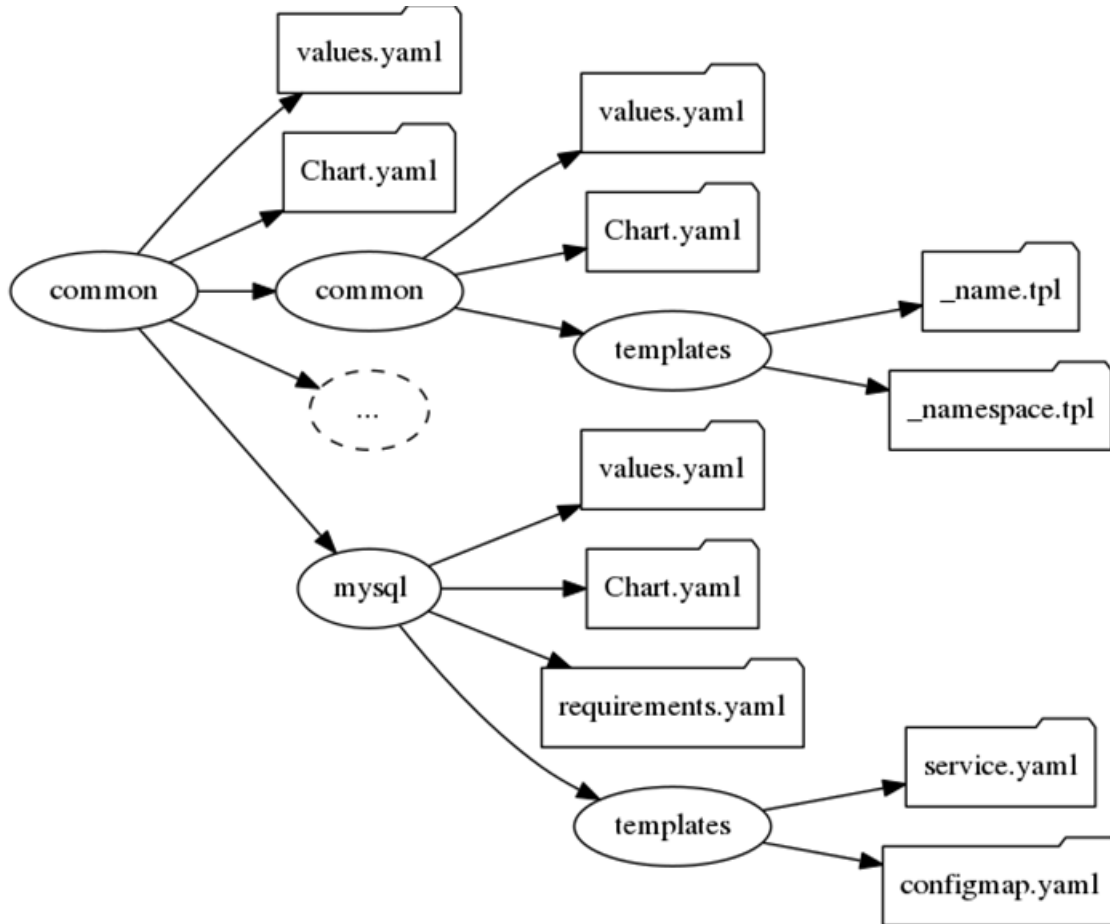
- Project teams know best how to update the charts to address gaps for:
  - Changes to configuration files
  - Application scaling
  - Managing nodeports
- Project teams will to be fully empowered to implement and test their (expected) Casablanca requirements for:
  - Software Upgrade and Roll-back support
  - DB migration scripts (both forward and backward)
  - Resource requirements for each container
  - (Anti-)affinity rules

# ONAP Parent Chart Structure



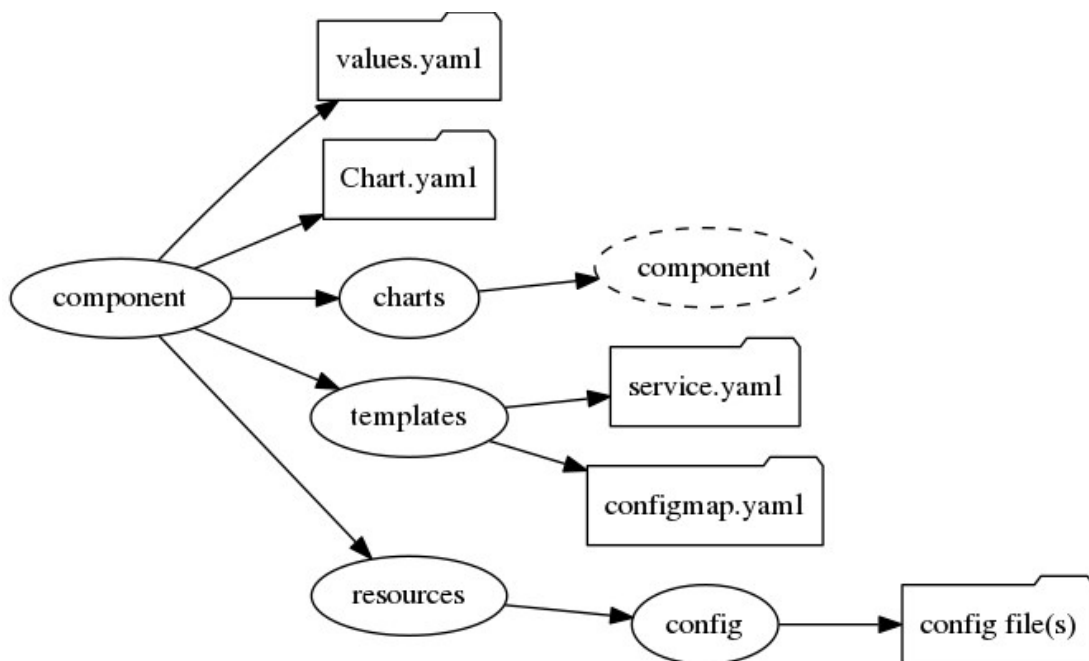
```
oom/kubernetes/onap/  
├── charts  
├── Chart.yaml  
├── requirements.yaml  
├── resources  
│   ├── environments  
│   │   ├── dev.yaml  
│   │   └── disable-allcharts.yaml  
├── templates  
│   ├── clusterrolebinding.yaml  
│   ├── secrets.yaml  
└── values.yaml
```

# ONAP Common Chart Structure



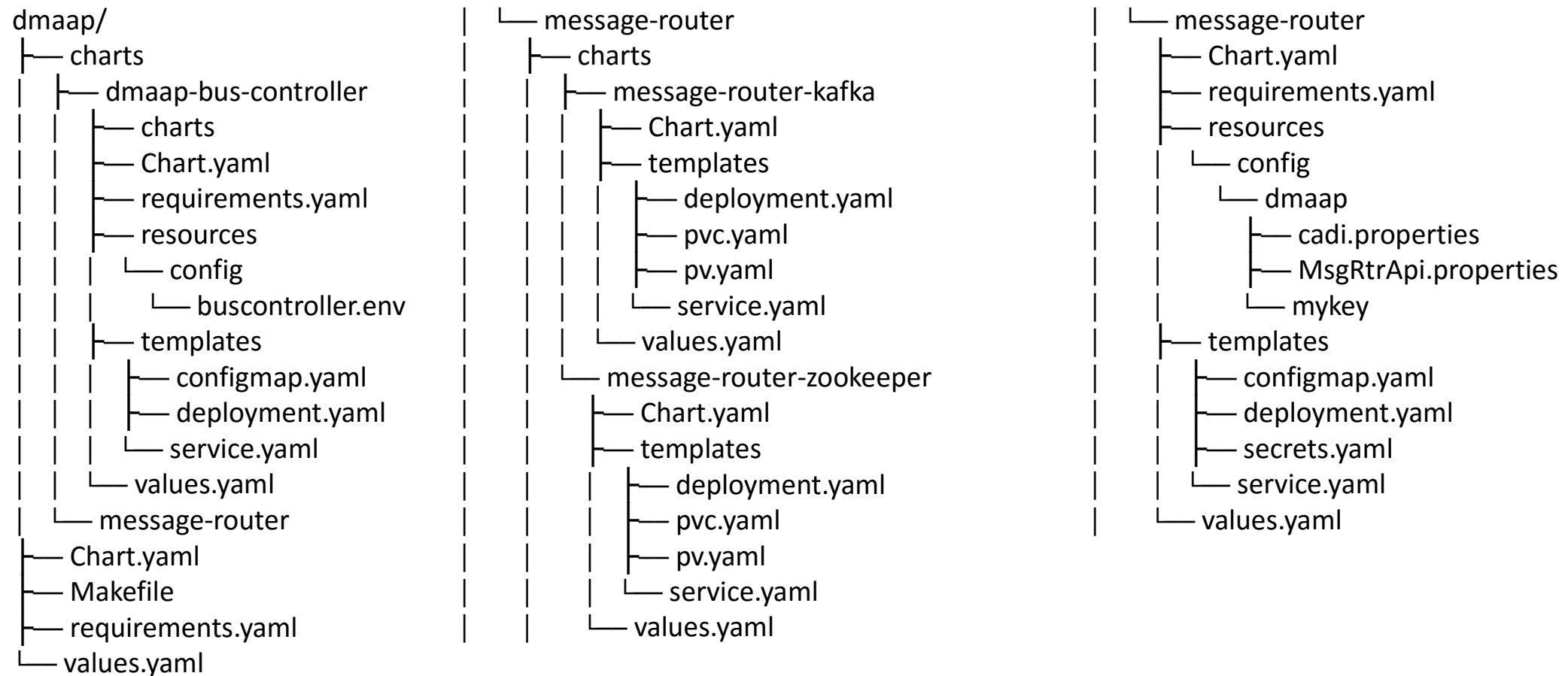
oom/kubernetes/common/  
├── common  
├── dgbuilder  
├── Makefile  
├── mariadb-galera  
├── mongo  
├── mysql  
└── postgres

# ONAP Component Chart Structure



```
oom/kubernetes/helm/starters/  
├── onap-app  
│   ├── Chart.yaml  
│   ├── README.md  
│   ├── requirements.yaml  
│   ├── resources  
│   │   └── config  
│   │       ├── application.properties  
│   │       └── README.txt  
│   ├── templates  
│   │   ├── configmap.yaml  
│   │   ├── deployment.yaml  
│   │   ├── NOTES.txt  
│   │   ├── service.yaml  
│   └── values.yaml
```

# ONAP Example Chart: DMaaP



# ONAP Helm Chart Guidelines - chart

- License in each and every file
- Chart.yaml: - A YAML file containing information about the chart

apiVersion: v1 name: onap  version: 2.0.0   description: Open Network Automation Platform (ONAP)  tillerVersion: "~2.8.2"	Shall be v1 Shall be the same as the chart directory name Version of the chart. Currently all charts are 2.0.0 Chart fixes should increase version number according to <a href="#">semver</a> . Shall start with ONAP and describe the component.  The version of Tiller (Helm server) that this chart requires.
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# ONAP Helm Chart Guidelines - requirements

- requirements.yaml: - A YAML file listing dependencies for the chart

dependencies: - name: aaf	The name of the chart that this chart needs to run
version: ~2.0.0	The version of the required chart using <a href="#">semver</a> rules
repository: '@local'	Helm repository alias. Helm repo can be added using command “helm repo add <alias> <url>”
condition: aaf.enabled	The condition field holds one or more YAML paths. If this path exists and resolves to a boolean value, the chart will be enabled or disabled based on that boolean value

# ONAP Helm Chart Guidelines - values

- values.yaml: - The default configuration values for a chart

## global:

nodePortPrefix: 302  
readinessRepository: oomk8s  
readinessImage: readiness-check:2.0.0  
loggingRepository: docker.elastic.co  
loggingImage: beats/filebeat:5.5.0

## config:

logstashServiceName: log-ls  
logstashPort: 5044  
environment:  
...  
repository: nexus3.onap.org:10001  
image: onap/sdc-backend:1.2.0  
pullPolicy: Always

Used for all charts.

Used for deployment of multiple onap on single k8s  
Readiness image assists in enforcing deployment order between pods

Used for logging ELK stack components

Pod specific configuration

Pod image repository. Can be overridden by global

Pod image name + tag

pullPolicy. Can be overridden by global

# ONAP Helm Chart Guidelines – values – cont.

- values.yaml: - cont.

<pre>replicaCount: 1  liveness:   initialDelaySeconds: 60   periodSeconds: 10   enabled: true  readiness:   initialDelaySeconds: 60   periodSeconds: 10</pre>	<p>default number of instances</p> <p>liveness probes are used for identification of when to restart a Container. necessary to disable liveness probe when setting breakpoints in debugger so K8s doesn't restart unresponsive container</p> <p>readiness probes are used for identification when a Container is ready to start accepting traffic</p>
---	---

# ONAP Helm Chart Guidelines – values cont.

- values.yaml: - cont.

```
service:  
  type: NodePort  
  name: sdc-be  
  
  portName: sdc-be  
  
  nodePort: "04"  
  
  internalPort: 8443  
  
  nodePort2: "05"  
  internalPort2: 8080
```

Definition of the service  
Can be NodePort, ClusterIP and even LoadBalancer  
Service name can be omitted when it is the same as chart name

nodePort is added to NodePortPrefix, creating nodePort 30204  
The port on which the pod communicates internally

# ONAP Helm Chart Guidelines - templates

- Common templates:

<code>_name.tpl:</code>	<code>common.name</code> – Chart name unless defined <code>nameOverride</code> in <code>values.yaml</code> of the respective chart, for example <code>sdnc-portal</code> <code>common.fullname</code> – “Helm release name”- <code>common.name</code> , for example <code>dev-sdnc-portal</code>
<code>_namespace.tpl:</code>	<code>common.namespace</code> – Helm release namespace parameter
<code>_repository.tpl:</code>	<code>common.repository</code> – “repository” parameter in <code>values.yaml</code> if the respective chart, unless defined “ <code>global.repository</code> ” parameter
<code>_service.tpl:</code>	<code>common.servicename</code> – name of the chart unless defined <code>service.name</code> in <code>values.yaml</code> of the respective chart

# ONAP Helm Chart Guidelines - service

- service.yaml:

```
apiVersion: v1
kind: Service
metadata:
  name: {{ include "common.servicename" . }}
  namespace: {{ include "common.namespace" . }}
labels:
  app: {{ include "common.name" . }}
  chart: {{ .Chart.Name }}-{{ .Chart.Version | replace "+" "_" }}
  release: {{ .Release.Name }}
  heritage: {{ .Release.Service }}
annotations:
  msb.onap.org/service-info: '[
  {
    "serviceName": "{{ include "common.servicename" . }}",
    "version": "v1",
    "url": "/",
    "protocol": "REST",
    "port": "{{.Values.service.internalPort}}",
    "visualRange": "1"
  }
  ]'
```

```
spec:
  type: {{ .Values.service.type }}
  ports:
    {{if eq .Values.service.type "NodePort" -}}
    - port: {{ .Values.service.externalPort }}
      nodePort: {{ .Values.global.nodePortPrefix | default .Values.nodePortPrefix }}{{ .Values.service.nodePort }}
      name: {{ .Values.service.portName }}-{{ .Values.service.externalPort }}
    {{- else -}}
    - port: {{ .Values.service.externalPort }}
      targetPort: {{ .Values.service.internalPort }}
      name: {{ .Values.service.portName }}
    {{- end}}
  selector:
    app: {{ include "common.name" . }}
    release: {{ .Release.Name }}
of the respective chart
```

# ONAP Helm Chart Guidelines - deployment

- deployment.yaml:

```
apiVersion: extensions/v1beta1
kind: Deployment
metadata:
  name: {{ include "common.fullname" . }}
  namespace: {{ include "common.namespace" . }}
  labels:
    app: {{ include "common.name" . }}
    chart: {{ .Chart.Name }}-{{ .Chart.Version | replace "+" "_" }}
    release: {{ .Release.Name }}
    heritage: {{ .Release.Service }}
spec:
  replicas: {{ .Values.replicaCount }}
  template:
    metadata:
      labels:
        app: {{ include "common.name" . }}
        release: {{ .Release.Name }}
```

```
spec:
  initContainers:
    - command:
      - /root/ready.py
      args:
        --container-name
        - {{ .Values.kafka.name }}
        --container-name
        - {{ .Values.zookeeper.name }}
      env:
        - name: NAMESPACE
          valueFrom:
            fieldRef:
              apiVersion: v1
              fieldPath: metadata.namespace
      image: "{{ .Values.global.readinessRepository }}/{{ .Values.global.readinessImage }}"
      imagePullPolicy: {{ .Values.global.pullPolicy | default .Values.pullPolicy }}
      name: {{ include "common.name" . }}-readiness
```

# ONAP Helm Chart Guidelines – deployment – cont.

## • deployment.yaml: - cont.

```
containers:
  - name: {{ include "common.name" . }}
    image: "{{ include "common.repository" . }}/{{ .Values.image }}"
    imagePullPolicy: {{ .Values.global.pullPolicy | default
.Values.pullPolicy }}
    ports:
      - containerPort: {{ .Values.service.externalPort }}
      - containerPort: {{ .Values.service.externalPort2 }}
      {{- if eq .Values.liveness.enabled true }}
    livenessProbe:
      tcpSocket:
        port: {{ .Values.service.externalPort }}
      initialDelaySeconds: {{ .Values.liveness.initialDelaySeconds }}
      periodSeconds: {{ .Values.liveness.periodSeconds }}
      {{ end -}}
    readinessProbe:
      tcpSocket:
        port: {{ .Values.service.externalPort }}
      initialDelaySeconds: {{ .Values.readiness.initialDelaySeconds }}
      periodSeconds: {{ .Values.readiness.periodSeconds }}
```

```
volumeMounts:
  - mountPath: /etc/localtime
    name: localtime
    readOnly: true
  - mountPath: /appl/dmaapMR1/bundleconfig/etc/appprops/MsgRtrApi.properties
    subPath: MsgRtrApi.properties
    name: appprops
  - mountPath: /appl/dmaapMR1/etc/cadi.properties
    subPath: cadi.properties
    name: cadi
  - mountPath: /appl/dmaapMR1/etc/keyfile
    subPath: mykey
    name: mykey
volumes:
  - name: localtime
    hostPath:
      path: /etc/localtime
  - name: appprops
    configMap:
      name: {{ include "common.fullname" . }}-msgtrapi-prop-configmap
  - name: cadi
    configMap:
      name: {{ include "common.fullname" . }}-cadi-prop-configmap
  - name: mykey
    secret:
      secretName: {{ include "common.fullname" . }}-secret
imagePullSecrets:
  - name: "{{ include "common.namespace" . }}-docker-registry-key"common.name" . }}-readiness
```



# ONAP Helm Chart Guidelines – configMap, secrets

## configmap.yaml:

```
apiVersion: v1
kind: ConfigMap
metadata:
  name: {{ include "common.fullname" . }}-msgRtrapi-prop-configmap
  namespace: {{ include "common.namespace" . }}
data:
  {{ tpl (.Files.Glob
"resources/config/dmaap/MsgRtrApi.properties").AsConfig . | indent 2 }}
---
apiVersion: v1
kind: ConfigMap
metadata:
  name: {{ include "common.fullname" . }}-cadi-prop-configmap
  namespace: {{ include "common.namespace" . }}
data:
  {{ tpl (.Files.Glob "resources/config/dmaap/cadi.properties").AsConfig . |
indent 2 }}
```

## secrets.yaml:

```
apiVersion: v1
kind: Secret
metadata:
  name: {{ include "common.fullname" . }}-secret
  namespace: {{ include "common.namespace" . }}
labels:
  app: {{ include "common.name" . }}
  chart: {{ .Chart.Name }}-{{ .Chart.Version | replace "+" "_" }}
  release: {{ .Release.Name }}
  heritage: {{ .Release.Service }}
data:
  {{ (.Files.Glob "resources/config/dmaap/mykey").AsSecrets | indent 2 }}
type: Opaque
```

## More Information...

- [OOM Developers Guide](#)
- OOM Documentation on [ReadtheDocs](#)



**ONAP**

OPEN NETWORK AUTOMATION PLATFORM

Thank you