Operator Index生成

依赖工具

- operator-sdk: https://github.com/operator-framework/operator-sdk/releases/download/v0.18.1/operator-sdk-v0.18.1-x86_64-linux-gnu
- opm: https://github.com/tossmilestone/operator-registry/releases/download/v1.13.3-2/opm-linux-amd64.tar.gz
- sqlite3

Index镜像生成

下载Operator Manifest仓库

git clone https://gitlab-ce.alauda.cn/alauda/operator-manifests.git

仓库的目录结构如下所示:

```
Makefile
README.md
export.sh
images.yaml // operator
operators // operator manifest
    redis-operator // operator package
        alpha // operator channel
            v0.0.1 // operator version
                manifests
                metadata
    strimzi-kafka-operator
        stable
            v0.18.0
                manifests
                metadata
```

制作完整的index镜像

基于仓库中operators目录下的所有operator manifest版本,构建index镜像。在每次添加新的operator时,应当制作新的镜像。

```
make all INDEX_TAG=v0.1
```

支持的环境变量参数:

- INDEX_TAG:operators-index镜像的tag
- REGISTRY:镜像仓库地址,默认为harbor.alauda.cn/3rdparty
- OPERATORS_INDEX:operators index镜像名称,默认为operators-index

从operatorhub.io导出operator manifest

对社区提供的operator进行对我们平台的适配时,需要导出其manifest文件,并进行一些修改。

```
# make export-bundle PKG=strimzi-kafka-operator VERSION=v0.18.0
Exporting to operators/strimzi-kafka-operator/stable/v0.18.0/manifests/kafkabridges.crd.yaml...Done.
Exporting to operators/strimzi-kafka-operator/stable/v0.18.0/manifests/kafkaconnectors.crd.yaml...Done.
Exporting to operators/strimzi-kafka-operator/stable/v0.18.0/manifests/kafkaconnects.crd.yaml...Done.
Exporting to operators/strimzi-kafka-operator/stable/v0.18.0/manifests/kafkaconnects2is.crd.yaml...Done.
Exporting to operators/strimzi-kafka-operator/stable/v0.18.0/manifests/kafkamirrormaker2s.crd.yaml...Done.
Exporting to operators/strimzi-kafka-operator/stable/v0.18.0/manifests/kafkamirrormakers.crd.yaml...Done.
Exporting to operators/strimzi-kafka-operator/stable/v0.18.0/manifests/kafkarebalances.crd.yaml...Done.
Exporting to operators/strimzi-kafka-operator/stable/v0.18.0/manifests/kafkas.crd.yaml...Done.
Exporting to operators/strimzi-kafka-operator/stable/v0.18.0/manifests/kafkatopics.crd.yaml...Done.
Exporting to operators/strimzi-kafka-operator/stable/v0.18.0/manifests/kafkausers.crd.yaml...Done.
Exporting to operators/strimzi-kafka-operator/stable/v0.18.0/manifests/strimzi-kafka-operator.
clusterserviceversion.yaml...Done.
```

支持的环境变量参数：

- PKG：operator包名称，可以通过kubectl get subscriptions.operators.coreos.com得到。
- VERSION：operator的version，可以通过kubectl get subscriptions.operators.coreos.com得到。

导出的manifest文件将保存在operators/{PKG}/{CHANNEL}/{VERSION}目录下。

images 列表维护

每个 operator 需要提供自己所用到的 image 列表，一般第三方的 operator 都是 quay.io/dockerhub等，我们自己的可能都在 harbor上。这些镜像列表暂时通过一个 yaml 汇总起来，方便 webhook 在内网环境做替换。

具体文件内容为: https://gitlab-ce.alauda.cn/alauda/operator-manifests/blob/master/images.yaml

在实际运行时， webhook 会用一个替换规则，将社区的镜像替换为当前环境的 registry 所包含的镜像，具体规则为

Origin	Replaced	其他
docker.io/xx	<reg>/3rdparty/xx	假设image tag 为 sha256，tag会替换为 sha256具体的值
xx		
quay.io/xx		
bintray.io/xx		