实时欺诈检测系统部署文档

1. 本地 git 配置 github 环境

```
G:\ysh\myworkspace\fraud-detection>git version
git version 2.23.0.windows.1
```

git config --global user.name "1029588722@qq.com"

git remote add origin https://github.com/yanshaohui01/fraud-detection

git statue

git add .

git commit -m "your commit"

git push origin master

```
G:\ysh\myworkspace\fraud-detection>git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file:   "doc/\344\272\244\346\230\223\346\265\201\347\250\213\345\233\276.png"
        deleted:    "doc/\346\236\266\346\236\204\347\244\272\346\204\217\345\233\276.png"
        new file:   "doc/\347\263\273\347\273\237\346\236\266\346\236\204\347\244\272\346\204\217\345\233\276.png"
        deleted:    "doc/\351\203\250\347\275\262\347\244\272\346\204\217\345\233\276.png"
        new file:   "doc/\351\234\200\346\261\202\350\247\204\346\240\274\345\217\212\346\212\200\346\234\257\351\200\211\345\236\213\345\236\213\345\233\276\344\276\213.png"
        new file:   src/main/java/com/hsbc/springboot/controller/FraudTransactionController.java
        renamed:    src/test/java/com/hsbc/springboot/AppTest.java -> src/test/java/com/hsbc/springboot/TransactionAndMQTest.java

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   doc/database_init.md
        modified:   readme.md
        modified:   src/main/java/com/hsbc/springboot/controller/FraudTransactionController.java
        modified:   src/main/java/com/hsbc/springboot/controller/RuleController.java
        modified:   src/main/java/com/hsbc/springboot/controller/TransactionController.java
```

```
G:\ysh\myworkspace\fraud-detection>git push origin master
Enumerating objects: 30, done.
Counting objects: 100% (30/30), done.
Delta compression using up to 12 threads
Compressing objects: 100% (15/15), done.
Writing objects: 100% (18/18), 1002.44 KiB | 1.49 MiB/s, done.
Total 18 (delta 5), reused 0 (delta 0)
remote: Resolving deltas: 100% (5/5), completed with 5 local objects.
To https://github.com/yanshaohui01/fraud-detection.git
   64db1d7..5c0664a  master -> master
```

2. 配置 maven3.6 打包环境

```
G:\ysh\myworkspace\fraud-detection>mvn -v
Apache Maven 3.6.1 (d66c9c0b3152b2e69ee9bac180bb8fcc8e6af555; 2019-04-05T03:00:29+08:00)
Maven home: D:\apache-maven-3.6.1\bin\..
Java version: 1.8.0_211, vendor: Oracle Corporation, runtime: D:\Program Files\Java\jdk1.8.0_211\jre
Default locale: zh_CN, platform encoding: GBK
OS name: "windows 10", version: "10.0", arch: "amd64", family: "windows"
```

执行 mvn clean package -DskipTests

3. 代码服务器 配置 docker 环境

```
[root@zhiyin-e45f fraud-detection]# docker version
Emulate Docker CLI using podman. Create /etc/containers/nodocker to quiet msg.
Version:        3.3.1
API Version:    3.3.1
Go Version:     go1.16.7
Built:          Wed Nov 10 05:23:56 2021
OS/Arch:        linux/amd64
```
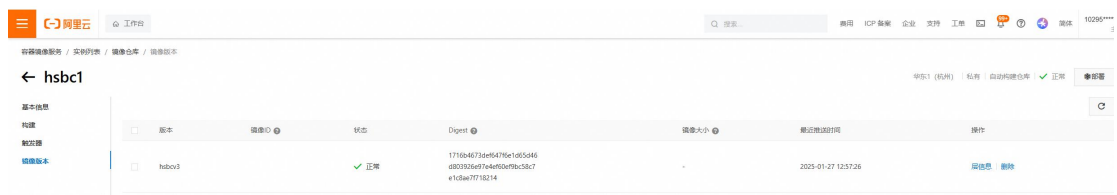
Docker build 编译镜像，标签为 hsbcv3

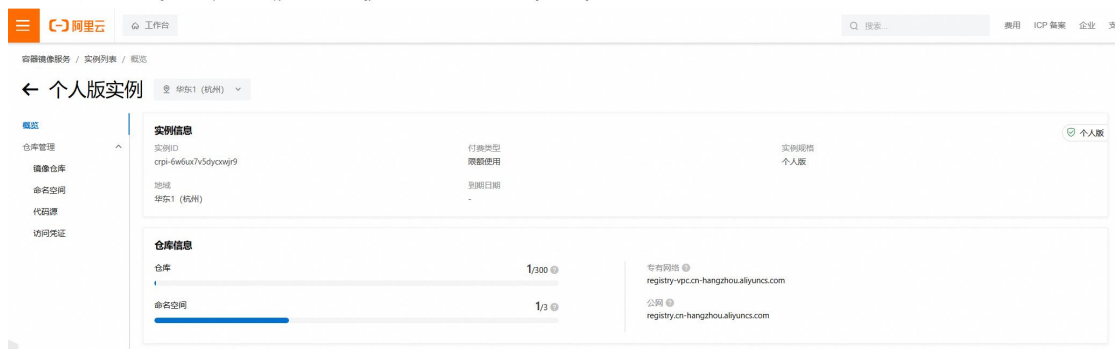docker build -t registry.cn-hangzhou.aliyuncs.com/fraud-detection/hsbc1:hsbcv3 .

```
[root@zhiyin-e45f fraud-detection]# docker build -t registry.cn-hangzhou.aliyuncs.com/fraud-detection/hsbc1:hsbcv3 .
Emulate Docker CLI using podman. Create /etc/containers/nodocker to quiet msg.
STEP 1/4: FROM registry.access.redhat.com/ubi8/openjdk-17:latest
STEP 2/4: ADD target/*.jar app.jar
--> 6abb3e7e80a
STEP 3/4: ENV PARAMS=""
--> c3f347d7498
STEP 4/4: ENTRYPOINT ["sh","-c","java $PARAMS -jar app.jar"]
COMMIT registry.cn-hangzhou.aliyuncs.com/fraud-detection/hsbc1:hsbcv3
--> e7138e81325
Successfully tagged registry.cn-hangzhou.aliyuncs.com/fraud-detection/hsbc1:hsbcv3
e7138e81325bd9d7997a4cd8a606856311ab5e98efe581f8d9c543bd6d76d8f1
[root@zhiyin-e45f fraud-detection]# docker images
Emulate Docker CLI using podman. Create /etc/containers/nodocker to quiet msg.
REPOSITORY                                                      TAG       IMAGE ID      CREATED        SIZE
registry.cn-hangzhou.aliyuncs.com/fraud-detection/hsbc1         hsbcv3    e7138e81325b  3 seconds ago  466 MB
registry.cn-hangzhou.aliyuncs.com/fraud-detection/hsbc1         tag2test  0ebab47432d4  26 hours ago   1.14 GB
registry.cn-hangzhou.aliyuncs.com/fraud-detection/hsbc1         tag1test  0ebab47432d4  26 hours ago   1.14 GB
registry.access.redhat.com/ubi8/openjdk-17                      latest    6e6b0ffeed40  4 days ago     409 MB
registry.access.redhat.com/quarkus/mandrel-for-jdk-21-rhel8     latest    d974a7dd4fa6  2 weeks ago    1.08 GB
registry.access.redhat.com/rhscl/mysql-80-rhel7                 latest    2249d8cbe7e4  8 months ago   562 MB
registry.access.redhat.com/rhmap47/redis                        latest    b999069ed753  5 years ago    229 MB
registry.access.redhat.com/amq7/amq-streams-kafka               latest    c791d0b77367  5 years ago    544 MB
registry.access.redhat.com/amq7/amq-streams-zookeeper           latest    b4b2b2056b0c  5 years ago    544 MB
[root@zhiyin-e45f fraud-detection]#
```

登录阿里云镜像（需要提前开通）

```
[root@zhiyin-e45f fraud-detection]# docker login --username=1029588722@qq.com registry.cn-hangzhou.aliyuncs.com
Emulate Docker CLI using podman. Create /etc/containers/nodocker to quiet msg.
Password:
Login Succeeded!
[root@zhiyin-e45f fraud-detection]# docker push registry.cn-hangzhou.aliyuncs.com/fraud-detection/hsbc1:hsbcv3
Emulate Docker CLI using podman. Create /etc/containers/nodocker to quiet msg.
Getting image source signatures
Copying blob 1ed5f4b0035b done
Copying blob cb973d48271c skipped: already exists
Copying blob 08ee035b4f35 skipped: already exists
Copying config e7138e8132 done
Writing manifest to image destination
Storing signatures
[root@zhiyin-e45f fraud-detection]#
```

4. 开通阿里云镜像服务

配置 github 项目地址：

5. Linxu 服务编译项目

安装 docker 环境

进入到项目 fraud-detection 根目录

docker build -t registry.cn-hangzhou.aliyuncs.com/fraud-detection/hsbc1:hsbcv2 .

登录到到阿里云镜像服务器
docker login --username=1029588722@qq.com registry.cn-hangzhou.aliyuncs.com
推送 docker 镜像到阿里云镜像服务器
docker push registry.cn-hangzhou.aliyuncs.com/fraud-detection/hsbc1:hsbcv2

6. 开通 ACK 服务，并开始新建 ACK
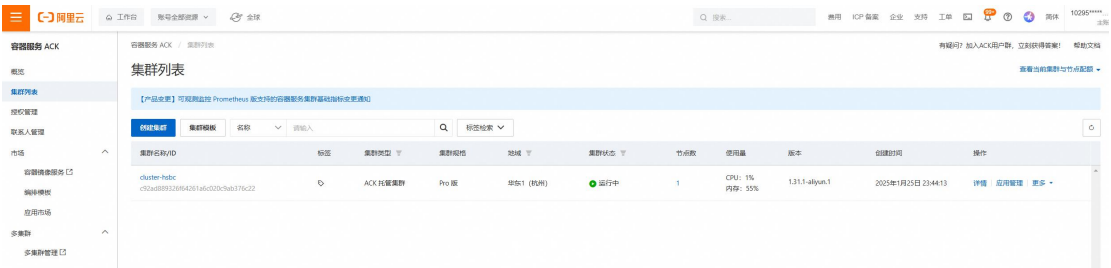
4.1 关键步骤一

配置 阿里云镜像服务 url 公网地址，由于是私有仓库需要配置拉取密钥。
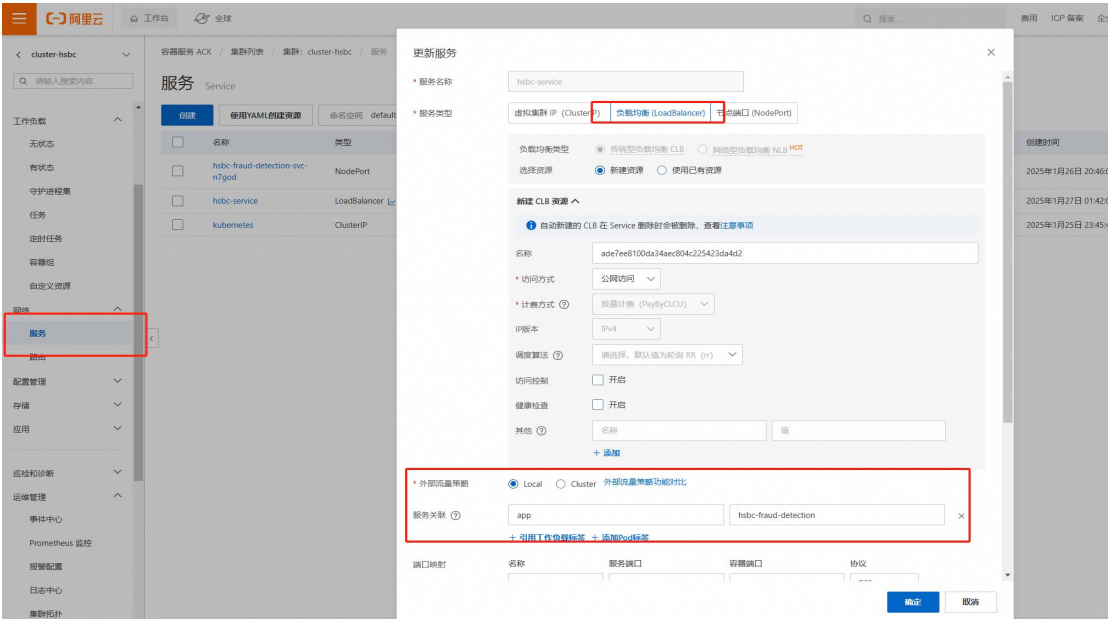
4.2 关键步骤二

按照作业要求，开通阿里云日志服务，收集指定路径的业务日志。

4.3 关键步骤三

配置完后新建的名称为 hsbc-cluster 的集群如下：

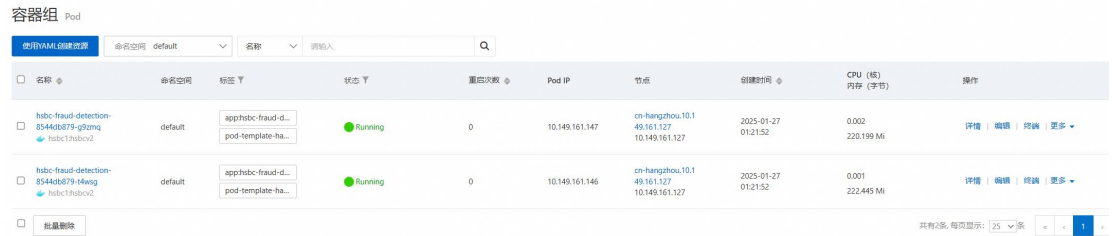## 4.4 关键步骤四

配置 ACK 的 service 外网访问功能，选择 LoadBalancer 如下图：

4.5 关键步骤五

包括 1 个无状态的 Deployment，名称为：hsbc-fraud-detection

在容器组创建两个 pod，名称系统自动生成为：hsbc-fraud-detection-8544db879-g9zmq
hsbc-fraud-detection-8544db879-t4wsg　服务正常启动，如下：

拉取到 服务镜像，并正常启动，服务端口 8088
API 访问地址：http://116.62.57.218:8088/swagger-ui.html