

滴雨边缘计算

--Hadoop 连接 ceph

前提，已经安装完 Ceph 集群,如果没有，可参照 Ceph 安装手册进行安装。

1) hadoop 添加 Ceph 的源并安装依赖包

```
wget -O /etc/yum.repos.d/ceph.repo
https://raw.githubusercontent.com/aishangwei/ceph-demo/master/ceph-deploy/ceph.repo
yum install epel-release
yum install cephfs-java libcephfs1-devel python-cephfs libcephfs_jni1-devel
yum install libcephfs-devel.x86_64
```

2) hadoop 节点创建软连动态链接库

```
ln -s /usr/lib64/libcephfs_jni.so $HADOOP_HOME/lib/native
```

3) 下载 CephFS Hadoop java 客户端

放入 java 的 bin 中 java 中 lib 下面

hadoop-cephfs.jar

```
wget -O /usr/share/java/hadoop-cephfs.jar
http://download.ceph.com/tarballs/hadoop-cephfs.jar
加入
export
HADOOP_CLASSPATH=/usr/share/java/libcephfs.jar:/usr/share/java/hadoop-cephfs.jar:$HADOOP_CLASSPATH
```

4) 创建 pool

```
ceph osd pool create hadoop1 64
```

```
ceph osd pool set hadoop1 size 1
```

（因为只有单节点集群，故 size=1,如果是集群，可创立多个）

```
ceph mds add_data_pool hadoop1
```

5) 授权 Hadoop

ceph 控制台机器

```
ceph auth get-or-create client.cephfs mon 'allow r' mds 'allow r, allow rw path=/' osd 'allow rw
```

```
pool=hadoop1' -o ceph.client.cephfs.keyring
mkdir /etc/ceph/(如果没有目录先建立一下)
scp ceph.client.cephfs.keyring root@192.168.1.30:/etc/ceph/
scp ceph.conf root@192.168.1.30:/etc/ceph/
```

简单的话

可以直接 copy 的 amdin 授权

ceph 控制台机器

```
scp ceph.client.admin.keyring root@192.168.1.30:/etc/ceph/
```

6) 更改 Hadoop 配置

```
vi $HADOOP_HOME/etc/hadoop/core-site.xml
```

```
<configuration>
<property>
  <!-- 指定 Ceph_monitor_ip -->
  <name>fs.default.name</name>
  <value>ceph://192.168.1.20:6789</value>
</property>
<property>
  <name>hadoop.tmp.dir</name>
  <value>/usr/hadoop/tmp</value>
</property>
<property>
  <name>ceph.conf.file</name>
  <value>/etc/ceph/ceph.conf</value>
</property>
<property>
  <name>ceph.auth.id</name>
  <value>admin</value>
</property>
<property>
  <name>ceph.auth.keyring</name>
  <value>/etc/ceph/ceph.client.admin.keyring</value>
</property>
<property>
  <name>ceph.data.pools</name>
  <value>hadoop1</value>
</property>
<property>
  <name>fs.ceph.impl</name>
  <value>org.apache.hadoop.fs.ceph.CephFileSystem</value>
```

```
</property>
</configuration>
```

```
export
HADOOP_CLASSPATH=$HADOOP_CLASSPATH:$HADOOP_HOME/share/hadoop/common/hadoop
-cephfs.jar
```

```
scp                                     $HADOOP_HOME/etc/hadoop/core-site.xml
root@192.168.1.31:/opt/diyu/hadoop-system/hadoop-3.1.2/etc/hadoop/core-site.xml
```

```
http://docs.ceph.com/docs/mimic/cephfs/hadoop/
http://docs.ceph.org.cn/cephfs/hadoop/
```

无需再启动 dfs 就可以使用

验证 Hadoop on ceph

```
# hadoop fs -ls /
```

查看 parafs 根目录内容，初始时空

上传一个文档到 root 下 text.txt

```
# hadoop fs -put text.txt /
```