

201250123 大数据 hw6 实验报告

一、MRS 流式集群购买

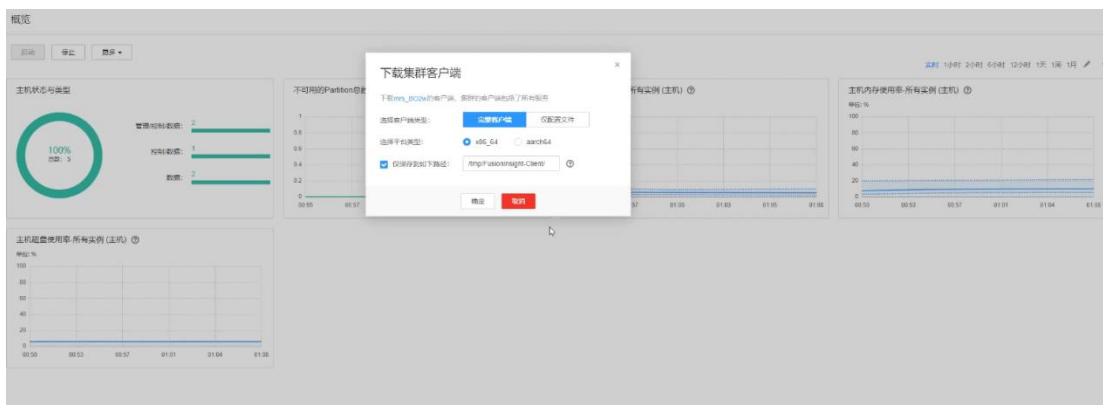
The screenshot displays the MRS console interface. The top section shows a summary of the cluster, including its ID, name, version, and status. Below this, a table lists the nodes in the cluster, with columns for node ID, name, version, status, and other details. The bottom section shows a list of nodes with their respective IP addresses and roles.

节点ID	节点名称	节点版本	节点状态	节点类型	节点时间	节点区域	操作
rmr_0000	20000000-0a7c-4042-8040-000000000000	MRS 3.1.0	流式集群	5	节点 5%	节点 5%	节点 5%

节点ID	节点名称	节点版本	节点状态	节点类型	节点时间	节点区域	操作
rmr_0000	20000000-0a7c-4042-8040-000000000000	MRS 3.1.0	流式集群	5	节点 5%	节点 5%	节点 5%

二、Kafka 客户端的安装

2.1 fusion insight manager 登录



2.2 向集群内各个节点迁移

```
scp: opt/Bigdata/client: No such file or directory
[root@node-master1Ckws FusionInsight-Client]# scp -p /tmp/FusionInsight-Client/FusionInsight_Cluster_1_Services_Client.tar 192.168.0.177:/tmp
Warning: Permanently added '192.168.0.177' (E025519) to the list of known hosts.

root@192.168.0.177's password:
FusionInsight_Cluster_1_Services_Client.tar                                100% 514MB 107.7MB/s  00:02
[root@node-master1Ckws FusionInsight-Client]# scp -p /tmp/FusionInsight-Client/FusionInsight_Cluster_1_Services_Client.tar 192.168.0.177:/tmp
```

2.3 集群内各个节点的安装

主节点

```
Connected (encrypted) to: 3164329f-e569-420f-a4b3-e9a5481aa439 Before you exit, ensure that computer is locked.

[22-10-19 01:21:25]: Checking necessary files and directory.
[22-10-19 01:21:25]: Checking NTP service status.
[22-10-19 01:21:25]: Checking "/etc/hosts" config.
[22-10-19 01:21:26]: Pre-install check is complete.
[22-10-19 01:21:26]: Precheck on components begin...
[22-10-19 01:21:26]: Precheck on components is complete.
[22-10-19 01:21:28]: Deploy "dest_hosts" is complete.
[22-10-19 01:21:28]: Install public library begin ...
[22-10-19 01:21:28]: Install components client begin ...
[22-10-19 01:21:28]: Install JDK begin ...
[22-10-19 01:21:28]: Decompress jdk.tar.gz to /opt/client/JDK.
/opt/client/JDK
openjdk version "1.8.0_272"
OpenJDK Runtime Environment (build 1.8.0_272-Cloud_Compiler_JDK_U180R083C08SPC270D002-b10)
OpenJDK 64-Bit Server VM (build 25.272-b10, mixed mode)
[22-10-19 01:21:32]: Create JRE env file "/opt/client/JDK/component_env".
[22-10-19 01:21:32]: JDK installation is complete.
[22-10-19 01:21:32]: Warning: /tmp/FusionInsight-Client/FusionInsight_Cluster_1_Services_ClientConfig/JDK/VERSION not exist.
[22-10-19 01:21:32]: Install Kafka begin ...
[22-10-19 01:21:32]: Copy /tmp/FusionInsight-Client/FusionInsight_Cluster_1_Services_ClientConfig/Kafka/install_files to /opt/client/Kafka.
/tmp/FusionInsight-Client/FusionInsight_Cluster_1_Services_ClientConfig/Kafka
[22-10-19 01:21:32]: Copy Kafka config files to "/opt/client/Kafka/.kafka/config"
[22-10-19 01:21:32]: Create Kafka env file "/opt/client/Kafka/component_env".
[22-10-19 01:21:32]: Kafka installation is complete.
[22-10-19 01:21:32]: Install KrbClient begin ...
[22-10-19 01:21:32]: Copy /tmp/FusionInsight-Client/FusionInsight_Cluster_1_Services_ClientConfig/KrbClient/FusionInsight-kerberos-1.17.tar.gz to /opt/client/KrbClient.
/tmp/FusionInsight-Client/FusionInsight_Cluster_1_Services_ClientConfig/KrbClient
[22-10-19 01:21:32]: Copy KRB config files to "/opt/client/KrbClient/kerberos/conf"
[22-10-19 01:21:32]: Copy security script files to "/opt/client/KrbClient/kerberos/bin"
[22-10-19 01:21:32]: Create KRB env file "/opt/client/KrbClient/component_env".
[22-10-19 01:21:32]: KrbClient installation is complete.
[22-10-19 01:21:32]: Install ZooKeeper begin ...
[22-10-19 01:21:32]: Copy /tmp/FusionInsight-Client/FusionInsight_Cluster_1_Services_ClientConfig/ZooKeeper/FusionInsight-Zookeeper-3.5.6.tar.gz to /opt/client/ZooKeeper.
/tmp/FusionInsight-Client/FusionInsight_Cluster_1_Services_ClientConfig/ZooKeeper
[22-10-19 01:21:32]: Create Zookeeper env file "/opt/client/ZooKeeper/component_env".
[22-10-19 01:21:32]: Copy zookeeper config files to /opt/client/ZooKeeper/zookeeper/conf
[22-10-19 01:21:32]: ZooKeeper installation is complete.
[22-10-19 01:21:32]: The component client is installed successfully
[22-10-19 01:21:32]: Persisting client information to the database...
[2022-10-19 01:21:32]: Platform=x86_64
[2022-10-19 01:21:32]: ClientIp=192.168.0.12
[2022-10-19 01:21:32]: InstallUser=root
[2022-10-19 01:21:32]: ClientPath=/opt/client
[2022-10-19 01:21:34]: Do Save client information to database Successfully.
[root@node-master1C4as FusionInsight_Cluster_1_Services_ClientConfig]#
```

其它主节点/node

```
[22-10-19 01:24:01]: Checking NTP service status.
[22-10-19 01:24:01]: Checking "/etc/hosts" config.
[22-10-19 01:24:03]: Pre-install check is complete.
[22-10-19 01:24:03]: Precheck on components begin...
[22-10-19 01:24:03]: Precheck on components is complete.
[22-10-19 01:24:05]: Deploy "dest_hosts" is complete.
[22-10-19 01:24:05]: Install public library begin ...
[22-10-19 01:24:05]: Install components client begin ...
[22-10-19 01:24:05]: Install JDK begin ...
[22-10-19 01:24:05]: Decompress jdk.tar.gz to /opt/client/JDK.
/opt/client/JDK
openjdk version "1.8.0_272"
OpenJDK Runtime Environment (build 1.8.0_272-Cloud_Compiler_JDK_U180R083C08SPC270D002-b10)
OpenJDK 64-Bit Server VM (build 25.272-b10, mixed mode)
[22-10-19 01:24:08]: Create JRE env file "/opt/client/JDK/component_env".
[22-10-19 01:24:08]: JDK installation is complete.
[22-10-19 01:24:08]: Warning: /tmp/FusionInsight_Cluster_1_Services_ClientConfig/JDK/VERSION not exist.
[22-10-19 01:24:08]: Install Kafka begin ...
[22-10-19 01:24:08]: Copy /tmp/FusionInsight_Cluster_1_Services_ClientConfig/Kafka/install_files to /opt/client/Kafka.
/tmp/FusionInsight_Cluster_1_Services_ClientConfig/Kafka
[22-10-19 01:24:08]: Copy Kafka config files to "/opt/client/Kafka/.kafka/config"
[22-10-19 01:24:08]: Create Kafka env file "/opt/client/Kafka/component_env".
[22-10-19 01:24:08]: Kafka installation is complete.
[22-10-19 01:24:08]: Install KrbClient begin ...
[22-10-19 01:24:08]: Copy /tmp/FusionInsight_Cluster_1_Services_ClientConfig/KrbClient/FusionInsight-kerberos-1.17.tar.gz to /opt/client/KrbClient.
/tmp/FusionInsight_Cluster_1_Services_ClientConfig/KrbClient
[22-10-19 01:24:08]: Copy KRB config files to "/opt/client/KrbClient/kerberos/conf"
[22-10-19 01:24:08]: Copy security script files to "/opt/client/KrbClient/kerberos/bin"
[22-10-19 01:24:08]: Create KRB env file "/opt/client/KrbClient/component_env".
[22-10-19 01:24:08]: KrbClient installation is complete.
[22-10-19 01:24:08]: Install ZooKeeper begin ...
[22-10-19 01:24:08]: Copy /tmp/FusionInsight_Cluster_1_Services_ClientConfig/ZooKeeper/FusionInsight-Zookeeper-3.5.6.tar.gz to /opt/client/ZooKeeper.
/tmp/FusionInsight_Cluster_1_Services_ClientConfig/ZooKeeper
[22-10-19 01:24:08]: Create Zookeeper env file "/opt/client/ZooKeeper/component_env".
[22-10-19 01:24:08]: Copy zookeeper config files to /opt/client/ZooKeeper/zookeeper/conf
[22-10-19 01:24:09]: ZooKeeper installation is complete.
[22-10-19 01:24:09]: The component client is installed successfully
[22-10-19 01:24:09]: Persisting client information to the database...
[2022-10-19 01:24:09]: Platform=x86_64
[2022-10-19 01:24:09]: ClientIp=192.168.0.177
[2022-10-19 01:24:09]: InstallUser=root
[2022-10-19 01:24:09]: ClientPath=/opt/client
[2022-10-19 01:24:09]: Do Save client information to database Successfully.
[root@node-master2REGd FusionInsight_Cluster_1_Services_ClientConfig]#
```

三、Kafka 的信息传递

3.1 找到 master1

系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理
系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理
系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理
系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理
系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理
系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理
系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理
系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理
系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理
系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理	系统管理

3.2 生效环境变量

```
[22-10-19 01:21:32]: Install KrbClient begin ...
[22-10-19 01:21:32]: Copy /tmp/FusionInsight-Client/FusionInsight_Cluster_1_Services_ClientConfig/KrbClient/FusionInsight-kerberos-1.17.tar.gz to /opt/client/KrbClient.
[22-10-19 01:21:32]: Copy KRB config files to "/opt/client/KrbClient/kerberos/conf"
[22-10-19 01:21:32]: Copy security script files to "/opt/client/KrbClient/kerberos/bin"
[22-10-19 01:21:32]: Create KRB env file "/opt/client/KrbClient/component_env".
[22-10-19 01:21:32]: KrbClient installation is complete.
[22-10-19 01:21:32]: Install ZooKeeper begin ...
[22-10-19 01:21:32]: Copy /tmp/FusionInsight-Client/FusionInsight_Cluster_1_Services_ClientConfig/ZooKeeper/FusionInsight-Zookeeper-3.5.6.tar.gz to /opt/client/ZooKeeper.
[22-10-19 01:21:32]: Create ZooKeeper env file "/opt/client/ZooKeeper/component_env".
[22-10-19 01:21:32]: Copy zookeeper config files to /opt/client/ZooKeeper/zookeeper/conf
[22-10-19 01:21:32]: ZooKeeper installation is complete.
[22-10-19 01:21:32]: The component client is installed successfully
[22-10-19 01:21:32]: Persisting client information to the database...
[2022-10-19 01:21:32]: Platform=x86_64
[2022-10-19 01:21:32]: ClientIp=192.168.0.12
[2022-10-19 01:21:32]: InstallUser=root
[2022-10-19 01:21:32]: ClientPath=/opt/client
[2022-10-19 01:21:34]: Do Save client information to database Successfully.
[root@node-master1000s FusionInsight_Cluster_1_Services_ClientConfig]# cd ../
[root@node-master1000s FusionInsight-Client]# cd ../
[root@node-master1000s tmp]# cd ../
[root@node-master1000s /]# cd ../
[root@node-master1000s /]# cd opt
[root@node-master1000s opt]# ls
Bigdata client executor knox mrs_clusterinfo VERSION
[root@node-master1000s opt]# cd client
[root@node-master1000s client]# ls
autoRefreshConfig.sh clientregister.keytab install.ini Kafka readme switchuser.py
bigdata_env client-registry-1.0.0.jar JDK KrbClient refreshConfig.sh uninstall.sh
client.properties conf.py jython-standalone-2.7.2.jar log register-client.sh ZooKeeper
[root@node-master1000s client]# cd Kafka
[root@node-master1000s Kafka]# ls
component_env kafka refreshConfig.sh VERSION
[root@node-master1000s Kafka]# cd kafka
[root@node-master1000s kafka]# ls
bin config libs LICENSE logs NOTICE site-docs
[root@node-master1000s kafka]# cd ../
[root@node-master1000s Kafka]# cd ../
[root@node-master1000s client]# ls
autoRefreshConfig.sh clientregister.keytab install.ini Kafka readme switchuser.py
bigdata_env client-registry-1.0.0.jar JDK KrbClient refreshConfig.sh uninstall.sh
client.properties conf.py jython-standalone-2.7.2.jar log register-client.sh ZooKeeper
[root@node-master1000s client]# source bigdata_env
[root@node-master1000s client]#
```

3.3IAM 同步



3.4 选择 zookeeper 实例

概览 节点管理 组件管理 告警管理 文件管理							
管理HDFS集群以及HDFS相关服务，了解更多							
选择 Zookeeper / 刷新							
刷新状态 添加 删除配置							
选择	角色	主机名	IP	集群ID	集群ID	网络	网络
<input type="checkbox"/>	consumer	node-master-0001	192.168.0.12	192.168.0.12	192.168.0.12	默认网络	已启用
<input type="checkbox"/>	consumer	node-master-0002	192.168.0.13	192.168.0.13	192.168.0.13	默认网络	已启用
<input type="checkbox"/>	consumer	node-slave-0001	192.168.0.14	192.168.0.14	192.168.0.14	默认网络	已启用

3.5 创建 topic

```

[root@node-master1Ckws kafka]# ls
bin config libs LICENSE logs NOTICE site-docs
[root@node-master1Ckws kafka]# cd bin
[root@node-master1Ckws bin]# ls
connect-distributed.sh      kafka-console-producer.sh      kafka-producer-perf-test.sh
connect-standalone.sh      kafka-consumer-groups.sh      kafka-reassign-partitions.sh
kafka-acls.sh              kafka-consumer-perf-test.sh   kafka-replica-verification.sh
kafka-balance.sh           kafka-delegation-tokens.sh    kafka-run-class.sh
kafka-broker-api-versions.sh kafka-delete-records.sh       kafka-streams-application-reset.sh
kafka-broker-info.sh       kafka-log-dirs.sh            kafka-topics.sh
kafka-configs.sh           kafka-mirror-maker.sh        kafka-verifiable-consumer.sh
kafka-console-consumer.sh   kafka-preferred-replica-election.sh kafka-verifiable-producer.sh
[root@node-master1Ckws bin]# kafka-topics.sh --create --zookeeper 192.168.0.12:2101/kafka --partitions 2 --replication-factor 2
Created topic test1019.
[root@node-master1Ckws bin]#

```

3.6 选择 Kafka 实例

网络 | 节点管理 | **实例管理** | 配置管理 | 文件管理 | 作业管理 | 多网连接 | 网络策略 | 网络策略

管理所有集群和实例的实例。了解实例

选择 Kafka / 实例

实例名称 实例 实例类型

实例名称	实例	实例类型	网络策略	网络策略	网络策略	网络策略	网络策略	网络策略
broker	node-01-cons01C0002	192.168.0.12	192.168.0.12	192.168.0.12	192.168.0.12	192.168.0.12	192.168.0.12	192.168.0.12
broker	node-01-cons01C0001	192.168.0.14	192.168.0.14	192.168.0.14	192.168.0.14	192.168.0.14	192.168.0.14	192.168.0.14
broker	node-01-cons01C0003	192.168.0.16	192.168.0.16	192.168.0.16	192.168.0.16	192.168.0.16	192.168.0.16	192.168.0.16

3.7 收发消息 (lxx 是刘晓旭 201250123 是学号)

```

[root@node-master1Ckws bin]# kafka-console-producer.sh --broker-list 192.168.0.52:9092 --topic test1019 --producer.config /opt/client/Kafka/kafka/config/producer.properties
(2022-10-19 01:52:41.637) WARN The configuration 'producer.type' was supplied but isn't a known config. (org.apache.kafka.clients.producer.ProducerConfig)
(2022-10-19 01:52:41.642) WARN The configuration 'serializer.class' was supplied but isn't a known config. (org.apache.kafka.clients.producer.ProducerConfig)
>123
>456
>201250123
>lxx
>C[root@node-master1Ckws bin]# kafka-console-consumer.sh --topic test1019 --bootstrap-server 192.168.0.52:9092 --consumer.config /opt/client/Kafka/kafka/config/consumer.properties
-bash: kafka-console-le-consumer.sh: command not found
[root@node-master1Ckws bin]# kafka-console-consumer.sh --topic test1019 --bootstrap-server 192.168.0.52:9092 --consumer.config /opt/client/Kafka/kafka/config/consumer.properties
123
201250123
456
lxx
^CProcessed a total of 4 messages

```

四、python 使用 Kafka (已安装 python-kafka)

```

SyntaxError: Non-ASCII character '\xe5' in file producer.py on line 13, but no encoding declared
[root@node-master1Ckws ~]# python producer.py
start producer
end producer
[root@node-master1Ckws ~]# python consumer.py
start consumer
test1019: value=201250123 lxxiaoxu

```