

若泽数据@CDH6.3.1集群企业真正离线部署(全网最细，配套视频，生产可实践)

CDH5.16.1视频: <https://www.bilibili.com/video/av52167219>

CDH6.3.1视频: <https://www.bilibili.com/video/av73376233>

PS:建议先看课程视频1-2篇，再根据视频或文档部署，如有问题，及时与@若泽数据J哥联系。

一.准备工作

1.离线部署主要分为三块:

- a.MySQL离线部署
- b.CM离线部署
- c.Parcel文件离线源部署

2.规划:

节点	MySQL部署组件	Parcel文件离线源	CM服务进程	大数据组件
ruozedata001	MySQL	Parcel	Activity Monitor	NN RM DN NM
ruozedata002			Alert Publisher Event Server	DN NM
ruozedata003			Host Monitor Service Monitor	DN NM

3.下载源:

支持的版本★: [requirements supported versions](#)

- CM
[cm6.3.1-redhat7.tar.gz](#)
- Parcel
[CDH-6.3.1-1.cdh6.3.1.p0.1470567-el7.parcel](#)
[CDH-6.3.1-1.cdh6.3.1.p0.1470567-el7.parcel.sha1](#)
[manifest.json](#)

- JDK

<https://www.oracle.com/technetwork/java/javase/downloads/java-archive-javase8-2177648.html>

下载jdk-8u181-linux-x64.tar.gz

- MySQL <https://dev.mysql.com/downloads/mysql/5.7.html#downloads>

下载mysql-5.7.26-el7-x86_64.tar.gz

- MySQL jdbc jar

[mysql-connector-java-5.1.47.jar](https://dev.mysql.com/connector-java/5.1.47.jar)

下载完成后要重命名去掉版本号:

```
mv mysql-connector-java-5.1.47.jar mysql-connector-java.jar
```

二.集群节点初始化

1.阿里云上海区购买3台，按量付费虚拟机

CentOS7.2操作系统，2核16G最低配置(8G 勉强也可以)

2.当前笔记本或台式机配置hosts文件

- MAC: /etc/hosts
- Window: C:\windows\system32\drivers\etc\hosts

公网地址 机器名称:

47.74.130.251 ruozedata001

161.117.1.169 ruozedata002

47.88.170.121 ruozedata003

3.设置所有节点的hosts文件

私有地址(内网地址) 机器名称:

```
echo "172.21.230.214 ruozedata001">> /etc/hosts
```

```
echo "172.21.230.216 ruozedata002">> /etc/hosts
```

```
echo "172.21.230.215 ruozedata003">> /etc/hosts
```

4.关闭所有节点的防火墙及清空规则

```
systemctl stop firewalld
systemctl disable firewalld
iptables -F
```

5.关闭所有节点的selinux

```
vi /etc/selinux/config
```

将SELINUX=enforcing改为SELINUX=disabled
设置后需要重启才能生效

6.设置所有节点的时区一致及时钟同步

6.1.时区

```
[root@ruozedata001 ~]# date
Wed Oct 23 13:51:31 CST 2019
[root@ruozedata001 ~]# timedatectl
    Local time: Wed 2019-10-23 13:51:49 CST
    Universal time: Wed 2019-10-23 05:51:49 UTC
        RTC time: Wed 2019-10-23 13:51:49
    Time zone: Asia/Shanghai (CST, +0800)
    NTP enabled: yes
NTP synchronized: yes
    RTC in local TZ: yes
    DST active: n/a
```

#查看命令帮助, 学习至关重要, 无需百度, 太👍

```
[root@ruozedata001 ~]# timedatectl --help
timedatectl [OPTIONS...] COMMAND ...
```

Query or change system time and date settings.

-h --help	Show this help message
--version	Show package version
--no-pager	Do not pipe output into a pager
--no-ask-password	Do not prompt for password
-H --host=[USER@]HOST	Operate on remote host
-M --machine=CONTAINER	Operate on local container
--adjust-system-clock	Adjust system clock when changing local RTC mode

Commands:

status	Show current time settings
set-time TIME	Set system time
set-timezone ZONE	Set system time zone
list-timezones	Show known time zones
set-local-rtc BOOL	Control whether RTC is in local time
set-ntp BOOL	Control whether NTP is enabled

#查看哪些时区

```
[root@ruozedata001 ~]# timedatectl list-timezones
Africa/Abidjan
Africa/Accra
Africa/Addis_Ababa
Africa/Algiers
Africa/Asmara
Africa/Bamako
```

#所有节点设置亚洲上海时区

```
[root@ruozedata001 ~]# timedatectl set-timezone Asia/Shanghai
[root@ruozedata002 ~]# timedatectl set-timezone Asia/Shanghai
[root@ruozedata003 ~]# timedatectl set-timezone Asia/Shanghai
```

6.2.时间

#所有节点安装ntp

```
[root@ruozedata001 ~]# yum install -y ntp
```

#选取ruozedata001为ntp的主节点

```
[root@ruozedata001 ~]# vi /etc/ntp.conf
```

#time

```
server 0.asia.pool.ntp.org
```

```
server 1.asia.pool.ntp.org
```

```
server 2.asia.pool.ntp.org
```

```
server 3.asia.pool.ntp.org
```

#当外部时间不可用时, 可使用本地硬件时间

```
server 127.127.1.0 iburst local clock
```

#允许哪些网段的机器来同步时间

```
restrict 172.21.230.0 mask 255.255.255.0 nomodify notrap
```

#开启ntpd及查看状态

```
[root@ruozedata001 ~]# systemctl start ntpd
```

```
[root@ruozedata001 ~]# systemctl status ntpd
```

• ntpd.service - Network Time Service

Loaded: loaded (/usr/lib/systemd/system/ntpd.service; enabled; vendor preset: disabled)

Active: active (running) since Sat 2019-05-11 10:15:00 CST; 11min ago

Main PID: 18518 (ntpd)

CGroup: /system.slice/ntpd.service

└─18518 /usr/sbin/ntpd -u ntp:ntp -g

```
May 11 10:15:00 ruozedata001 systemd[1]: Starting Network Time Service...
```

```
May 11 10:15:00 ruozedata001 ntpd[18518]: proto: precision = 0.088 usec
```

```
May 11 10:15:00 ruozedata001 ntpd[18518]: 0.0.0.0 c0ld 0d kern kernel time sync enabled
```

```
May 11 10:15:00 ruozedata001 systemd[1]: Started Network Time Service.
```

#验证

```
[root@ruozedata001 ~]# ntpq -p
```

remote	refid	st	t	when	poll	reach	delay	offset	jitter
=====									
LOCAL(0)	.LOCL.	10	1	726	64	0	0.000	0.000	0.000

#其他从节点停止禁用ntpd服务

```
[root@ruozedata002 ~]# systemctl stop ntpd
```

```
[root@ruozedata002 ~]# systemctl disable ntpd
```

Removed symlink /etc/systemd/system/multi-user.target.wants/ntpd.service.

```
[root@ruozedata002 ~]# /usr/sbin/ntpdate ruozedata001
```

```
11 May 10:29:22 ntpdate[9370]: adjust time server 172.19.7.96 offset 0.000867 sec
```

#每天凌晨同步ruozedata001节点时间

```
[root@ruozedata002 ~]# crontab -e
00 00 * * * /usr/sbin/ntpdate ruozedata001

[root@ruozedata003 ~]# systemctl stop ntpd
[root@hadoop004 ~]# systemctl disable ntpd
Removed symlink /etc/systemd/system/multi-user.target.wants/ntpd.service.
[root@hadoop005 ~]# /usr/sbin/ntpdate ruozedata001
11 May 10:29:22 ntpdate[9370]: adjust time server 172.19.7.96 offset 0.000867 sec

#每天凌晨同步ruozedata001节点时间
[root@ruozedata003 ~]# crontab -e
00 00 * * * /usr/sbin/ntpdate ruozedata001
```

7.每个节点部署JDK

```
mkdir /usr/java
tar -xzf jdk-8u181-linux-x64.gz -C /usr/java/
#切记必须修正所属用户及用户组
chown -R root:root /usr/java/jdk1.8.0_181

echo "export JAVA_HOME=/usr/java/jdk1.8.0_181" >> /etc/profile
echo "export PATH=/usr/java/jdk1.8.0_181/bin:${PATH}" >> /etc/profile
source /etc/profile
which java
```

8.ruozedata001节点离线部署MySQL5.7(假如觉得困难哟，就自行选择RPM部署，因为该部署文档是我司生产文档)

- 文档链接:<https://github.com/Hackeruncle/MySQL>
- 视频链接:<https://pan.baidu.com/s/1jdM8Welg8syU0evL1-tDOQ> 密码:whic

部署完成后，登录：

```
ruozedata001:mysqladmin:/usr/local/mysql/data:>mysql -uroot -pruozedata
mysql>
```

9.创建CDH的元数据库和用户、amon服务的数据库及用户

```
create database cmf DEFAULT CHARACTER SET utf8;
create database amon DEFAULT CHARACTER SET utf8;
grant all on cmf.* TO 'cmf'@'%' IDENTIFIED BY 'www.ruozedata.com';
grant all on amon.* TO 'amon'@'%' IDENTIFIED BY 'www.ruozedata.com';
flush privileges;
```

10.ruozedata001节点部署mysql jdbc jar

```
mkdir -p /usr/share/java/
```

重命名不能带版本号

```
cp mysql-connector-java-5.1.47.jar /usr/share/java/mysql-connector-java.jar
```

三.CDH部署

1.离线部署cm server及agent

1.1.所有节点创建目录及解压

```
mkdir /opt/cloudera-manager
```

```
tar -xzvf cm6.3.1-redhat7.tar.gz -C /opt/cloudera-manager/
```

1.2.选择ruozedata001为cm server, 不下载依赖包直接部署

```
cd /opt/cloudera-manager/cm6.3.1/RPMS/x86_64
```

```
rpm -ivh cloudera-manager-daemons-6.3.1-1466458.el7.x86_64.rpm --nodeps --force
```

```
rpm -ivh cloudera-manager-server-6.3.1-1466458.el7.x86_64.rpm --nodeps --force
```

1.3.所有节点(包含ruozedata001)为cm agent, 不下载依赖包直接部署

```
cd /opt/cloudera-manager/cm6.3.1/RPMS/x86_64
```

```
rpm -ivh cloudera-manager-daemons-6.3.1-1466458.el7.x86_64.rpm --nodeps --force
```

```
rpm -ivh cloudera-manager-agent-6.3.1-1466458.el7.x86_64.rpm --nodeps --force
```

1.4.所有节点修改agent的配置, 指向server的节点ruozedata001

```
sed -i "s/server_host=localhost/server_host=ruozedata001/g" /etc/cloudera-scm-agent/config.ini
```

1.5.主节点修改server的配置:

```
vi /etc/cloudera-scm-server/db.properties
```

```
com.cloudera.cmf.db.type=mysql
```

```
com.cloudera.cmf.db.host=ruozedata001
```

```
com.cloudera.cmf.db.name=cmf
```

```
com.cloudera.cmf.db.user=cmf
```

```
com.cloudera.cmf.db.password=www.ruozedata.com
```

```
com.cloudera.cmf.db.setupType=EXTERNAL
```

2.ruozedata001节点部署离线parcel源

2.1.安装httpd服务

```
yum install -y httpd
```

2.2.部署离线parcel源

```
$ mkdir -p /var/www/html/cdh6_parcel
[root@ruozedata001 CDH6.3.1]# cp CDH-6.3.1-1.cdh6.3.1.p0.1470567-el7.parcel /var/
www/html/cdh6_parcel/
[root@ruozedata001 CDH6.3.1]# mv CDH-6.3.1-1.cdh6.3.1.p0.1470567-el7.parcel.sha1 /
var/www/html/cdh6_parcel/CDH-6.3.1-1.cdh6.3.1.p0.1470567-el7.parcel.sha
[root@ruozedata001 CDH6.3.1]# mv manifest.json /var/www/html/cdh6_parcel/

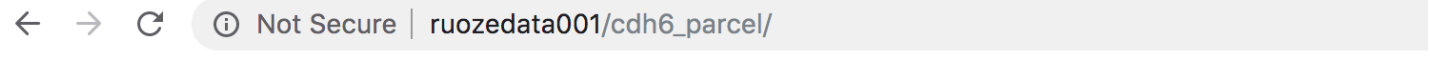
$ ll
total 3081664
-rw-r--r-- 1 root root 2083878000 Oct 23 13:44 CDH-6.3.1-1.cdh6.3.1.p0.1470567-el7
.parcel
-rw-r--r-- 1 root root          40 Oct 23 13:44 CDH-6.3.1-1.cdh6.3.1.p0.1470567-el7
.parcel.sha1
-rw-r--r-- 1 root root 1411444147 Oct 23 13:43 cm6.3.1-redhat7.tar.gz
-rw-r--r-- 1 root root 173271626 Oct 23 13:43 jdk-8u45-linux-x64.gz
-rw-r--r-- 1 root root    33887 Oct 23 13:43 manifest.json
-rw-r--r-- 1 root root 548193637 Oct 23 13:42 mysql-5.7.11-linux-glibc2.5-x86_64.
tar.gz
-rw-r--r-- 1 root root    1007502 Sep  1 12:31 mysql-connector-java-5.1.47.jar

$ mv CDH-6.3.1-1.cdh6.3.1.p0.1470567-el7.parcel /var/www/html/cdh6_parcel/
$ mv CDH-6.3.1-1.cdh6.3.1.p0.1470567-el7.parcel.sha1 /var/www/html/cdh6_parcel/CDH
-6.3.1-1.cdh6.3.1.p0.1470567-el7.parcel.sha
$ mv manifest.json /var/www/html/cdh6_parcel/
sha1名称文件时，重命名去掉1，不然在部署过程cm认为如上文件下载未完整，会持续下载
```

2.3.启动httpd, window查看

```
systemctl start httpd
```

window/mac: http://ruozedata001/cdh6_parcel/ 查看是否可以访问



Index of /cdh6_parcel

	Name	Last modified	Size	Description
	Parent Directory		-	
	CDH-6.3.1-1.cdh6.3.1.>	2019-10-23 15:27	1.9G	
	CDH-6.3.1-1.cdh6.3.1.>	2019-10-23 13:44	40	
	manifest.json	2019-10-23 13:43	33K	

3.ruozedata001节点启动Server

3.1.启动server

```
systemctl start cloudera-scm-server
```

查看日志：

```
cd /var/log/cloudera-scm-server/
```

```
$ ll
```

```
total 20
```

```
-rw-r----- 1 cloudera-scm cloudera-scm 18265 Oct 23 15:37 cloudera-scm-server.log
```

```
-rw-r----- 1 cloudera-scm cloudera-scm      0 Oct 23 15:37 cmf-server-nio.log
```

```
-rw-r----- 1 cloudera-scm cloudera-scm      0 Oct 23 15:37 cmf-server-perf.log
```

```
$ tail -F cloudera-scm-server.log
```

有错误就根据错误解决，没有错误，等待1min，出现7180端口，表明是成功的。

```
2019-10-23 15:39:37,770 INFO SearchRepositoryManager-0:com.cloudera.server.web.cmf.search.components.SearchRepositoryManager: Constructing repo:2019-10-23T07:39:39.502Z
2019-10-23 15:39:39,502 INFO SearchRepositoryManager-0:com.cloudera.server.web.cmf.search.components.SearchRepositoryManager: Finished constructing repo:2019-10-23T07:39:39.502Z
2019-10-23 15:39:40,071 INFO WebServerImpl:org.eclipse.jetty.server.Server: jetty-9.4.14.v20181114; built: 2018-11-14T21:20:31.478Z; git: c4550a56e785fb5665014545889f21dc136ad9e6; jvm 1.8.0_45-b14
2019-10-23 15:39:40,238 INFO WebServerImpl:org.eclipse.jetty.server.AbstractConnector: Started ServerConnector@2b0ad88e[HTTP/1.1,[http/1.1]]{0.0.0.0:7180}
2019-10-23 15:39:40,260 INFO WebServerImpl:org.eclipse.jetty.server.Server: Started @121156ms
2019-10-23 15:39:40,260 INFO WebServerImpl:com.cloudera.server.cmf.WebServerImpl: Started Jetty server.
```

3.2.阿里云web界面，设置该ruozedata001节点防火墙放开7180端口

3.3.等待1min，打开 <http://ruozedata001:7180> 账号密码:admin/admin

3.4.假如打不开，去看server的log，根据错误仔细排查错误

4.所有节点启动Agent

```
systemctl start cloudera-scm-agent
```

5.接下来，全部Web界面操作

<http://ruozedata001:7180/>

账号密码:admin/admin

☐ Remember me

Sign In


6.欢迎使用Cloudera Manager--最终用户许可条款与条件。勾选

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○ Select Edition


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Cloudera Manager is the industry leading management suite for big data deployments of any scale, in any environment, including bare metal, public, private and hybrid cloud.



Empower teams of administrators to quickly, deploy, configure, monitor and manage multiple clusters to support a variety of use cases and applications.



Cloudera Manager is available as an integrated and supported part of Cloudera Enterprise.

 6.3.1

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Cloudera Standard License

Version 2018-08-14

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Upgrading to **Cloudera Enterprise** provides important features that help you manage and monitor your Hadoop clusters in mission-critical environments.

	Cloudera Express	Cloudera Enterprise Cloudera Enterprise Trial	Cloudera Enterprise
License	Get Started with Hadoop for Free.	60 Days After the trial period, the product will continue to function as Cloudera Express . Your cluster and your data will remain unaffected.	Annual Subscription <div><div>Select License File</div><div>Upload</div></div>
Node Limit	Unlimited	Unlimited	Unlimited
CDH	✓	✓	✓
Core Cloudera Manager Features	✓	✓	✓
Advanced Cloudera Manager Features		✓	✓
Cloudera Navigator		✓	✓
Cloudera Navigator Key Trustee			✓
Cloudera Support			✓

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8.欢迎:在CM里添加一个集群

Add Cluster - Installation

- Welcome**
- Cluster Basics
- Specify Hosts
- Select Repository
- Accept JDK License
- Enter Login Credentials
- Install Agents
- Install Parcels
- Inspect Cluster

WELCOME

Adding a cluster in Cloudera Manager consists of two steps.



Cloudera Manager is the industry leading management suite for big data deployments of any scale, in any environment, including bare metal, public, private and hybrid cloud.



Empower teams of administrators to quickly, deploy, configure, monitor and manage multiple clusters to support a variety of use cases and applications.



Quick Links

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9.修改集群名称:ruozedata

Add Cluster - Installation

- ✓ Welcome
- Cluster Basics**
- Specify Hosts
- Select Repository
- Accept JDK License
- Enter Login Credentials
- Install Agents
- Install Parcels
- Inspect Cluster

Cluster Basics

Cluster Name

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