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
  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: d
isabled)
   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 c01d 0d kern kernel time sync en
abled
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 l  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 -xzvf 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/1jdM8WeIg8syU0evL1-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

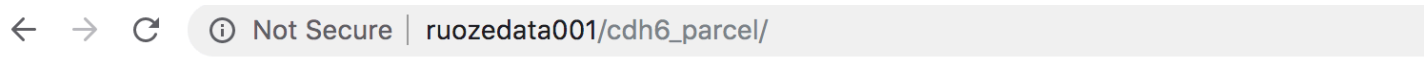
1.离线部署cm server及agent

```
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-agen
t/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

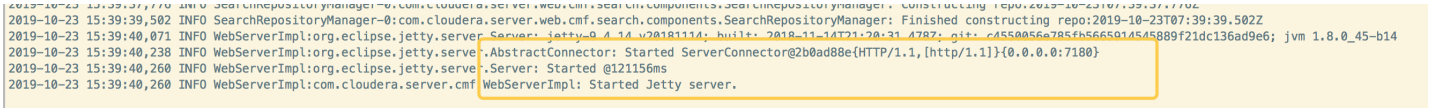


Index of /cdh6_parcel

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。
```



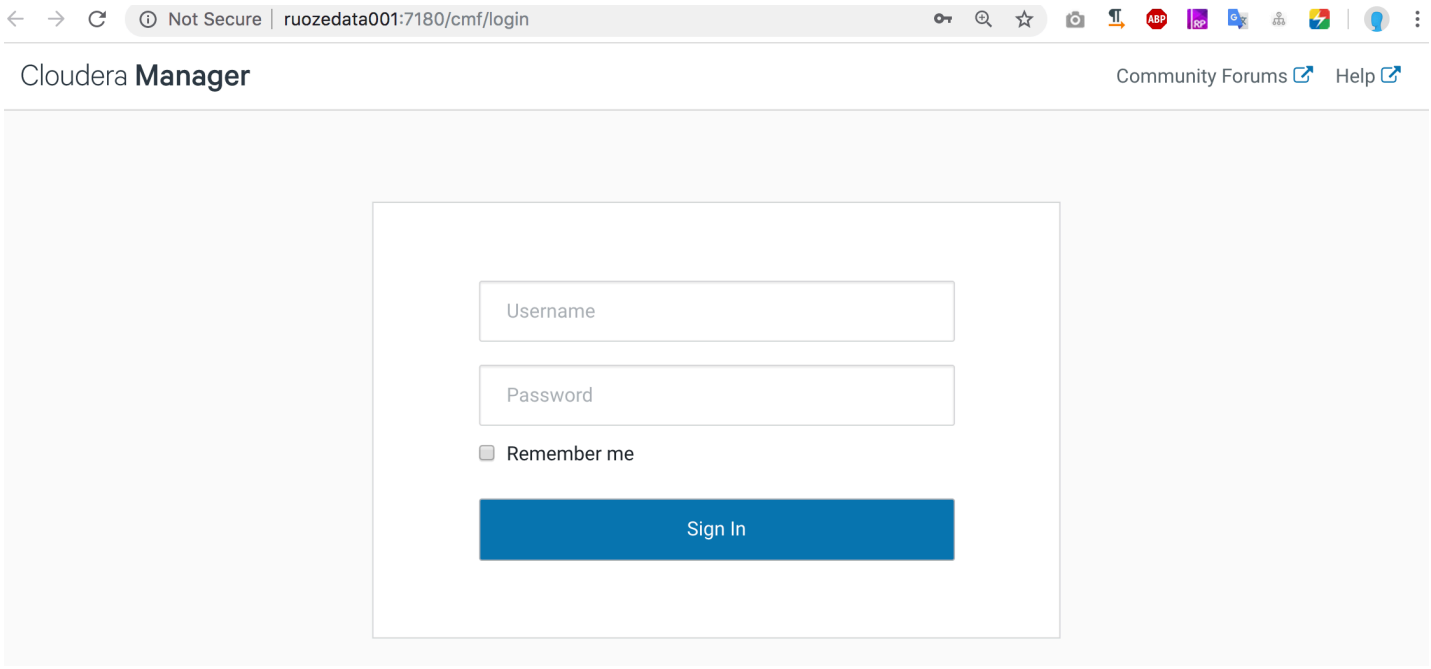

```
3.2.阿里云web界面，设置该ruozedata001节点防火墙放开7180端口
3.3.等待1min，打开 http://ruozedata001:7180 账号密码:admin/admin
3.4.假如打不开，去看server的log，根据错误仔细排查错误
```

4.所有节点启动Agent

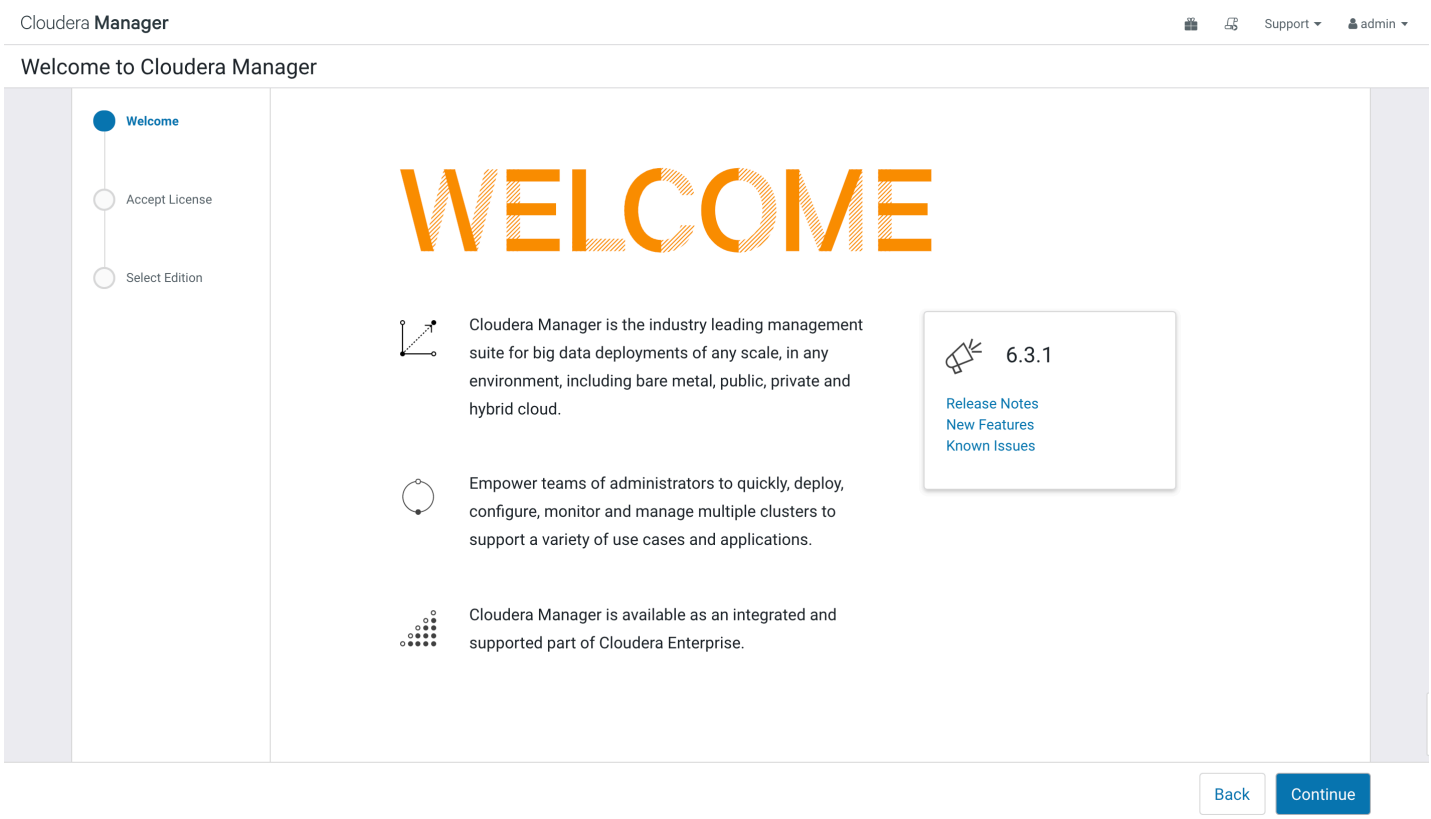
```
systemctl start cloudera-scm-agent
```

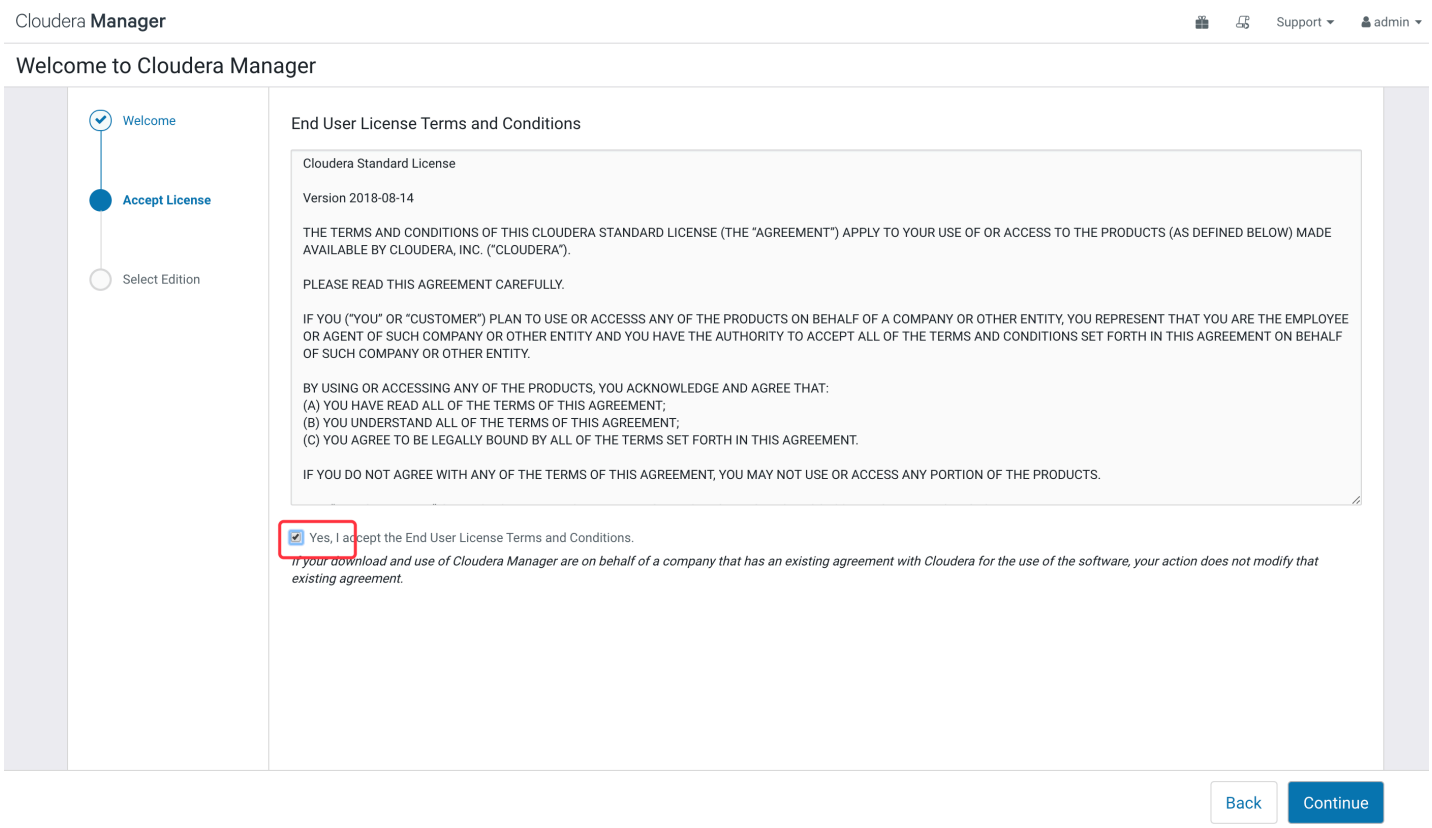
5.接下来，全部Web界面操作

http://ruozedata001:7180/
账号密码:admin/admin

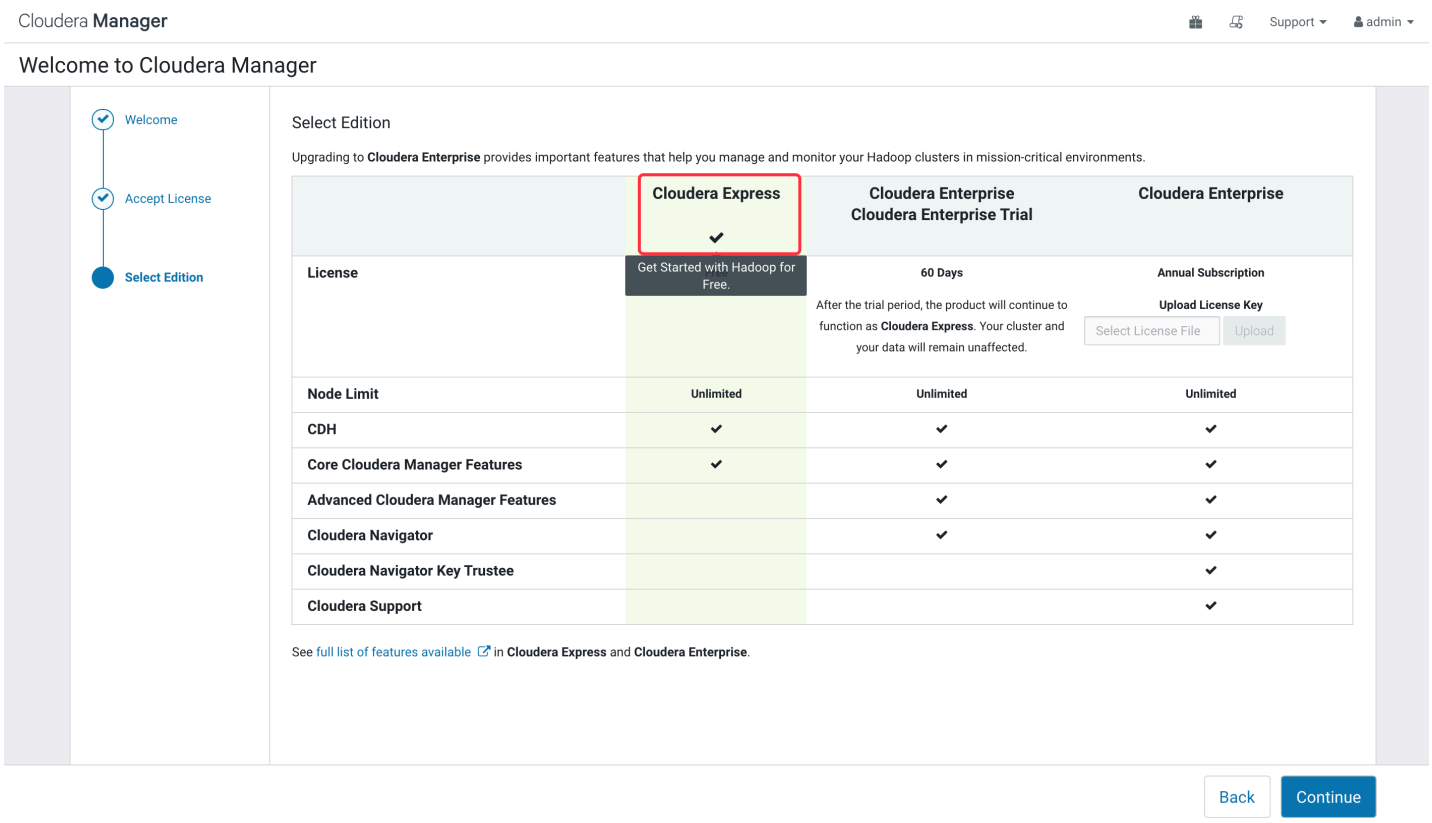


6.欢迎使用Cloudera Manager--最终用户许可条款与条件。勾选

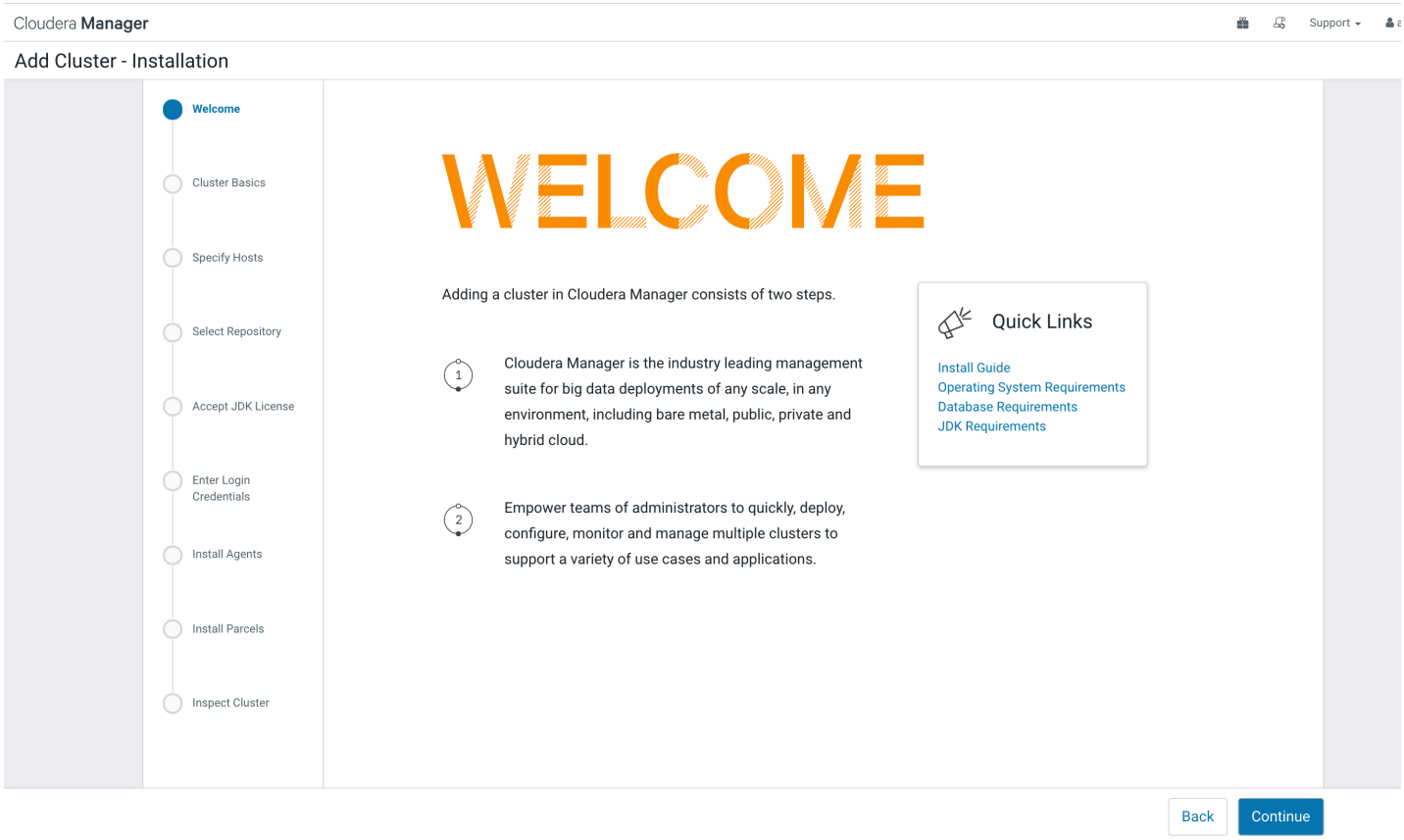




7.欢迎使用Cloudera Manager--您想要部署哪个版本？选择Cloudera Express免费版本



8.欢迎:在CM里添加一个集群



9.修改集群名称:ruozedata