

实训报告

小组人员

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一.环境准备

1.1安装jdk

解压jdk-8u112-linux-x64.tar.gz

```
tar -xvf jdk-8u112-linux-x64.tar.gz -C /opt  
ln -s /opt/jdk1.8.0_271 /opt/jdk
```

修改环境变量：

```
vim /etc/profile
```

```
export JAVA_HOME=/opt/jdk  
export PATH=${JAVA_HOME}/bin:$PATH
```

执行生效命令：

```
source /etc/profile
```

测试：

```
java -version
```

2.2关闭防火墙

```
systemctl stop firewalld.service #关闭防火墙  
systemctl disable firewalld #关闭开机启动  
systemctl status firewalld #查看防火墙状态
```

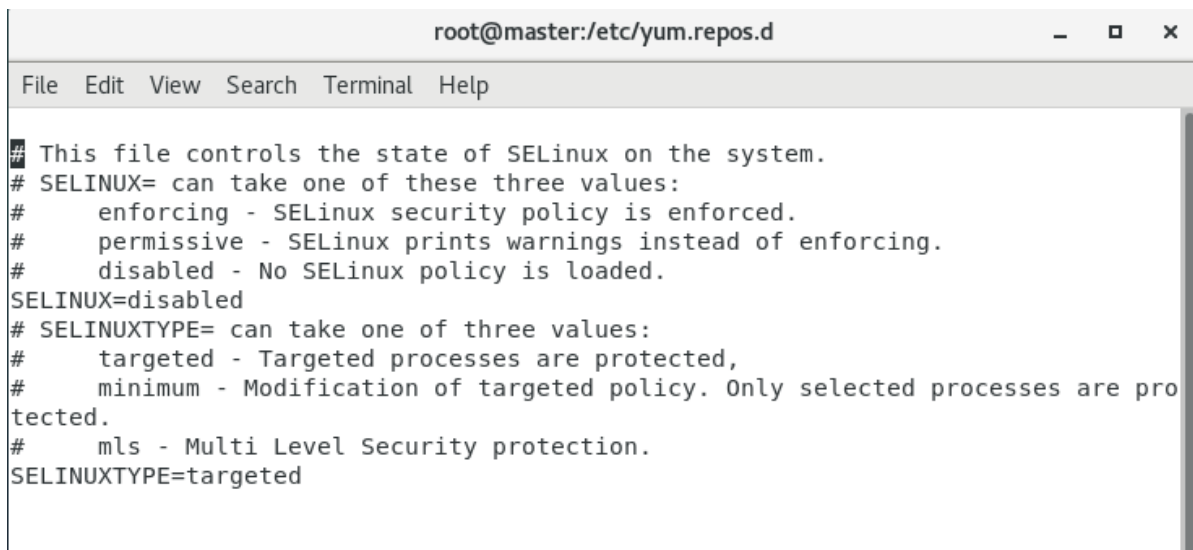
2.3关闭SELinux、PackageKit、检测umask值

使用命令关闭SELinux：

```
setenforce 0
```

修改配置文件进行配置：vim /etc/selinux/config

```
# This file controls the state of SELinux on the system.
# SELINUX= can take one of these three values:
#     enforcing - SELinux security policy is enforced.
#     permissive - SELinux prints warnings instead of enforcing.
#     disabled - No SELinux policy is loaded.
SELINUX=disabled
# SELINUXTYPE= can take one of three values:
#     targeted - Targeted processes are protected,
#     minimum - Modification of targeted policy. Only selected processes are
protected.
#     mls - Multi Level Security protection.
SELINUXTYPE=targeted
```

A screenshot of a terminal window titled 'root@master:/etc/yum.repos.d'. The window contains a menu bar with 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The terminal content is identical to the SELinux configuration text shown in the first block, including the comments for SELINUX and SELINUXTYPE, and the current settings 'SELINUX=disabled' and 'SELINUXTYPE=targeted'.

如果系统有安装 PackageKit, 需要修改配置文件: /etc/yum/pluginconf.d/refresh-packagekit.conf

```
enabled=0
```

确保umask值为0022

```
#查看
umask
#修改为0022
umask 0022
```

```
[root@master yum.repos.d]# umask
0022
```

针对所有交互用户进行永久性修改:

```
echo umask 0022 >> /etc/profile
```

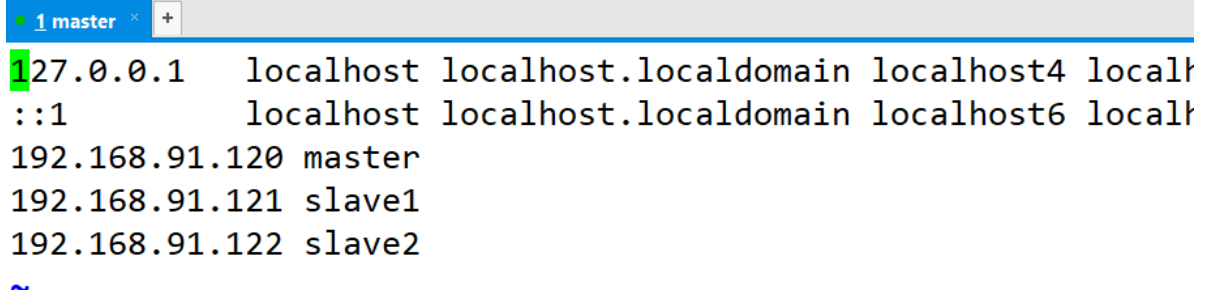
2.4最大文件描述

二.集群准备

3.1hosts配置

在主机master上修改/etc/hosts文件

```
vim /etc/hosts
```



```
1 127.0.0.1    localhost localhost.localdomain localhost4 localhost6
::1          localhost localhost.localdomain localhost6 localhost4
192.168.91.120 master
192.168.91.121 slave1
192.168.91.122 slave2
~
```

使用scp同步到salve1, slave2

```
scp /etc/hosts root@slave1:/etc/
scp /etc/hosts root@slave2:/etc/
```

3.2同步时钟

配置/etc/ntp.conf

```
vi /etc/ntp.conf
```

```
systemctl start ntpd.service #启动服务
systemctl enable ntpd.service #开机启动
```

在slave1和slave2上运行:

```
ntpdate master
```

将时间同步设定为定时任务:

```
crontab -e
```

```
*/10 * * * * /usr/sbin/ntpdate master
```

3.3免密登录

配置master节点无密码登录到其他节点

```
ssh-keygen -t rsa #一直Enter键
ssh-copy-id master
ssh-copy-id slave1
ssh-copy-id slave2
```

测试:

```
[root@master Desktop]# ssh slave1 date; ssh slave2 date; ssh master date;
Wed Jun  1 04:05:48 PDT 2022
Wed Jun  1 04:05:48 PDT 2022
Wed Jun  1 19:05:50 CST 2022
[root@master Desktop]#
```

三.创建本地源

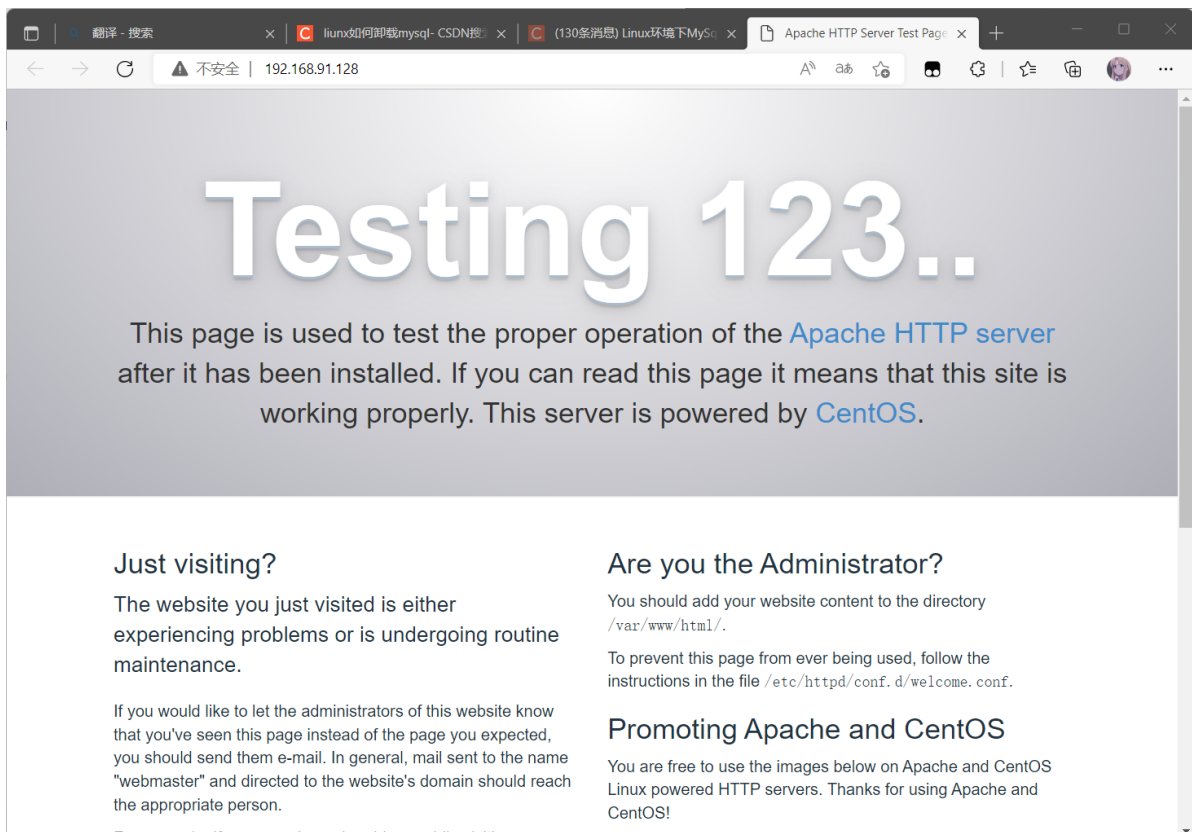
4.1安装httpd服务

```
yum -y install httpd #安装httpd
systemctl restart httpd.service #开启httpd服务
systemctl enable httpd.service #开机启动
```

4.2将包放到/var/www/html目录

```
tar -zxvf /root/ambari-2.6.0.0-centos7.tar.gz -C /var/www/html/
tar -zxvf /root/HDP-2.6.3.0-centos7-rpm.tar.gz -C /var/www/html/
mkdir /var/www/html/HDP-UTILS
tar -zxvf /root/HDP-UTILS-1.1.0.21-centos7.tar.gz -C /var/www/html/HDP-UTILS
```

测试:



4.3制作本地源

3.1安装本地源制作相关工具

```
yum install yum-utils createrepo yum-plugin-priorities repolist -y createrepo /var/www/html
```

3.2修改源地址

```
vi /var/www/html/ambari/centos7/2.6.0.0-267/ambari.repo
```

修改内容:

```
#VERSION_NUMBER=2.6.0.0-267
[ambari-2.6.0.0]
name=ambari Version - ambari-2.6.0.0
baseurl=http://master/ambari/centos7/2.6.0.0-267
gpgcheck=1
gpgkey=http://master/ambari/centos7/2.6.0.0-267/RPM-GPG-KEY/RPM-GPG-KEY-Jenkins
enabled=1
priority=1
```

拷贝文件:

```
cp /var/www/html/ambari/centos7/2.6.0.0-267/ambari.repo /etc/yum.repos.d/
```

修改内容:

```
#VERSION_NUMBER=2.6.3.0-235
[HDP-2.6.3.0]
name=HDP Version - HDP-2.6.3.0
baseurl=http://master/HDP/centos7/2.6.3.0-235
gpgcheck=1
gpgkey=http://master/HDP/centos7/2.6.3.0-235/RPM-GPG-KEY/RPM-GPG-KEY-Jenkins
enabled=1
priority=1

[HDP-UTILS-1.1.0.21]
name=HDP-UTILS Version - HDP-UTILS-1.1.0.21
baseurl=http://master/HDP-UTILS
gpgcheck=1
gpgkey=http://master/HDP-UTILS/RPM-GPG-KEY/RPM-GPG-KEY-Jenkins
enabled=1
priority=1
```

拷贝文件:

```
cp /var/www/html/HDP/centos7/2.6.3.0-235/hdp.repo /etc/yum.repos.d/
```

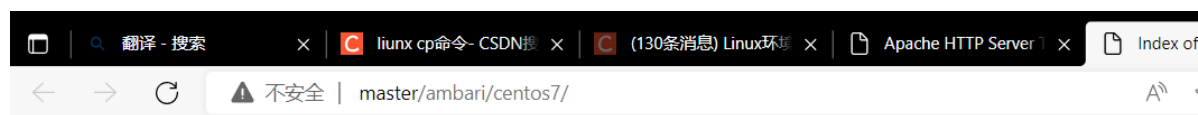
清除yum缓存:

```
yum clean all
yum makecache
yum repolist
```

测试:

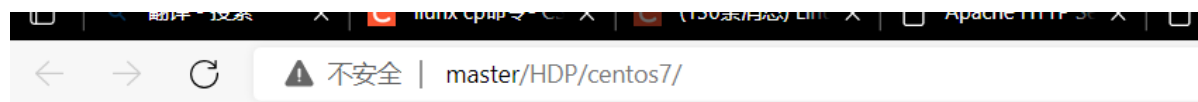
<http://master/ambari/centos7/>

<http://master/HDP/centos7/>



Index of /ambari/centos7

Name	Last modified	Size	Description
Parent Directory	-	-	-
2.6.0.0-267/	2022-05-31 20:59	-	-



Index of /HDP/centos7

Name	Last modified	Size	Description
Parent Directory	-	-	-
2.6.3.0-235/	2017-10-30 11:40	-	-

拷贝源文件到子节点:

```
cd /etc/yum.repos.d
scp ambari.repo slave1:/etc/yum.repos.d/ambari.repo
scp ambari.repo slave2:/etc/yum.repos.d/ambari.repo
scp hdp.repo slave1:/etc/yum.repos.d/hdp.repo
scp hdp.repo slave2:/etc/yum.repos.d/hdp.repo
```

四.安装Ambari

4.1安装Ambari服务

```
yum -y install ambari-server
```

4.2配置Ambari

```
ambari-server setup
```

4.2使用MySQL作为元数据库

4.2.1卸载MariaDB已有MySQL

```
rpm -qa | grep -i mariadb
```

```
[root@master yum.repos.d]# rpm -qa |grep -i mariadb
mariadb-libs-5.5.68-1.el7.x86_64
[root@master yum.repos.d]#
```

```
rpm -e --nodeps mariadb-libs-5.5.84-1.el7.x86_64
```

删除服务：

```
systemctl list-unit-files --type=service | grep -i mysql
```

```
chkconfig --del mysql
```

4.2.2安装MySQL数据库

1.离线安装：

安装依赖

```
yum -y install perl autoconf
```

解压并安装

```
tar -xvf MySQL-5.6.46-1.el7.x86_64.rpm-bundle.tar
rpm -ivh MySQL-client-5.6.46-1.el7.x86_64.rpm
rpm -ivh MySQL-server-5.6.46-1.el7.x86_64.rpm
#查看安装时产生的随机密码
cat /root/.mysql_secret #启动mysql
service mysql start mysql -uroot -p #登入mysql
Enter password: #输入刚才查看的随机密码
mysql> set password for 'root'@'localhost' = password('123456'); #修改密码
mysql> grant all privileges on *.* to 'root'@'%' identified by '123456';
mysql> flush privileges; #刷新
mysql> exit
#MySQL服务自启动
chkconfig mysql on
```

2.MySQL中user表中主机的配置

```
mysql -uroot -p123456
mysql> show databases; #显示数据库
mysql> use mysql; #使用mysql数据库
mysql> show tables; #显示数据库mysql中的所有表
mysql> desc user; #显示user表的结构
mysql> select User,Host,Password from user; #查看User表
mysql> update user set host='%' where host='localhost'; #修改 user 表, 把 Host 表内容修改为% # 删除 root 用户的其他 host
mysql> delete from user where Host='master';
delete from user where Host='127.0.0.1';
delete from user where Host='::1';
mysql> flush privileges; #刷新
mysql> quit;
```

3.配置MySQL驱动

```
mkdir /usr/share/java ##创建配置目录文件夹
##拷贝文件
cp /root/mysql-connector-java-5.1.40.jar /usr/share/java/mysql-connector-
java.jar
```

修改ambari.properties, 添加mysql驱动路径

```
vi /etc/ambari-server/conf/ambari.properties
```

在最后面添加以下内容

```
server.jdbc.driver.path=/usr/share/java/mysql-connector-java.jar
```

4.在MySQL中创建数据库

```
mysql -uroot -p123456
mysql> CREATE DATABASE ambari;
mysql> use ambari;
mysql> CREATE USER 'ambari'@'%' IDENTIFIED BY 'ambarizk123';
mysql> GRANT ALL PRIVILEGES ON *.* TO 'ambari'@'%';
mysql> CREATE USER 'ambari'@'localhost' IDENTIFIED BY 'ambarizk123';
mysql> GRANT ALL PRIVILEGES ON *.* TO 'ambari'@'localhost';
mysql> CREATE USER 'ambari'@'master' IDENTIFIED BY 'ambarizk123';
mysql> GRANT ALL PRIVILEGES ON *.* TO 'ambari'@'master';
mysql> FLUSH PRIVILEGES;
mysql> source /var/lib/ambari-server/resources/Ambari-DDL-MYSQL-CREATE.sql
mysql> show tables;
mysql> use mysql;
mysql> select Host,User,Password from user where user='ambari';
mysql> CREATE DATABASE hive;
mysql> use hive;
mysql> CREATE USER 'hive'@'%' IDENTIFIED BY 'hive';
mysql> GRANT ALL PRIVILEGES ON *.* TO 'hive'@'%';
mysql> CREATE USER 'hive'@'localhost' IDENTIFIED BY 'hive';
mysql> GRANT ALL PRIVILEGES ON *.* TO 'hive'@'localhost';
mysql> CREATE USER 'hive'@'master' IDENTIFIED BY 'hive';
mysql> GRANT ALL PRIVILEGES ON *.* TO 'hive'@'master';
```



```
mysql> FLUSH PRIVILEGES;
mysql> CREATE DATABASE oozie;
mysql> use oozie;
mysql> CREATE USER 'oozie'@'%' IDENTIFIED BY 'oozie';
mysql> GRANT ALL PRIVILEGES ON *.* TO 'oozie'@'%';
mysql> CREATE USER 'oozie'@'localhost' IDENTIFIED BY 'oozie';
mysql> GRANT ALL PRIVILEGES ON *.* TO 'oozie'@'localhost';
mysql> CREATE USER 'oozie'@'master' IDENTIFIED BY 'oozie';
mysql> GRANT ALL PRIVILEGES ON *.* TO 'oozie'@'master ';
mysql> FLUSH PRIVILEGES;
```

5.配置Ambari

执行服务

```
ambari-server setup
```

配置执行流程:

(1)提示是否自定义设置输入 y

```
Customize user account for ambari-server daemon [y/n] (n)? y
```

(2) ambari-server 账号, 如果直接回车就是默认选择 root 用户

```
Enter user account for ambari-server daemon (root):
```

(3)设置jdk, 输入3

```
Checking JDK...
Do you want to change Oracle JDK [y/n] (n)? y
[1] Oracle JDK 1.8 + Java Cryptography Extension (JCE) Policy Files 8
[2] Oracle JDK 1.7 + Java Cryptography Extension (JCE) Policy Files 7
[3] Custom JDK
=====
Enter choice (1): 3
```

如果上面选择3自定义jdk, 则需要设置JAVA_HOME, 输入: /opt/jdk

```
WARNING: JDK must be installed on all hosts and JAVA_HOME must be valid on all
hosts.
WARNING: JCE Policy files are required for configuring Kerberos security. If you
plan to use
Kerberos, please make sure JCE Unlimited Strength Jurisdiction Policy Files are
valid on all
hosts.
Path to JAVA_HOME: /opt/jdk validating JDK on Ambari Server...done.
Completing setup...
```

(4)数据库配置, 选择y

```
Configuring database...
Enter advanced database configuration [y/n] (n)? y
```

(5)选择数据库类型，输入：3

```
Configuring database...
=====
Choose one of the following options:
[1] - PostgreSQL (Embedded)
[2] - Oracle
[3] - MySQL
[4] - PostgreSQL
[5] - Microsoft SQL Server (Tech Preview)
[6] - SQL Anywhere
=====
Enter choice (3): 3
```

(6)设置数据库的具体配置信息，根据实际情况输入，如果和括号内相同，则可以直接回车。

如果想重命名，就输入。

```
Hostname (localhost): master
Port (3306):
Database name :ambari
Username :ambari
Enter Database Password (bigdata):ambarizk123 (这里输入时不会显示) Re-enter
password:ambarizk123 (这里输入时不会显示)
```

(7)将Ambari数据库脚本导入到数据库

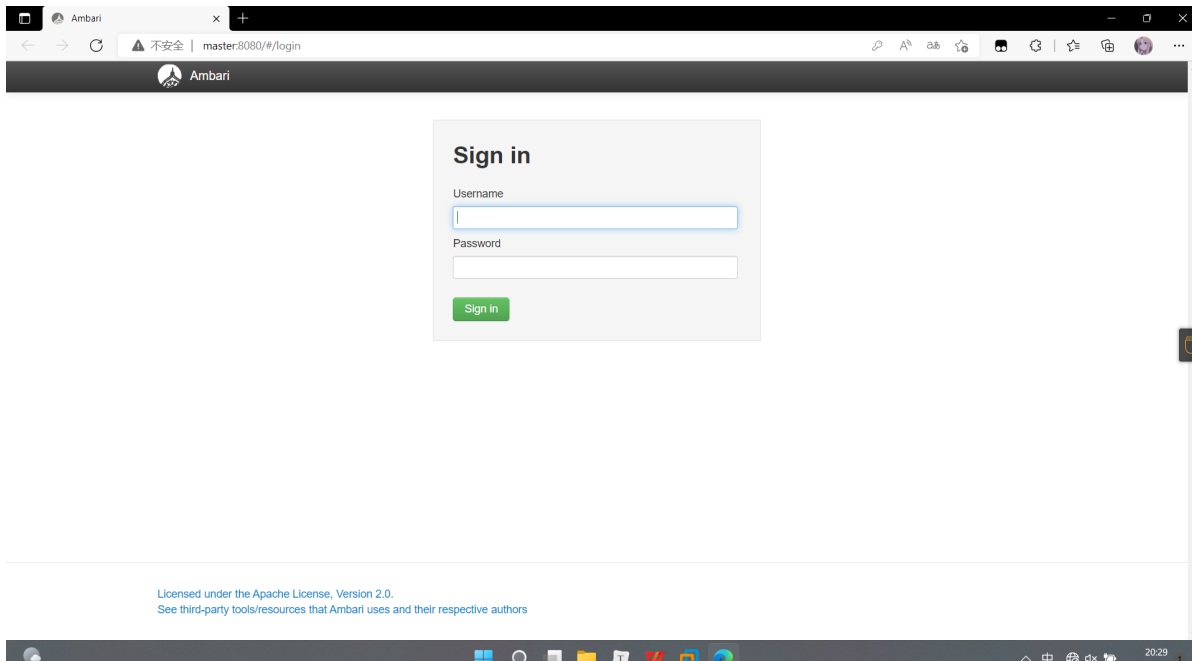
```
WARNING: Before starting Ambari Server, you must run the following DDL against
the
database to create the schema: /var/lib/ambari-server/resources/Ambari-DDL-
MySQL- CREATE.sql Proceed with configuring remote database connection properties
[y/n] (y)? y
```

4.3启动Ambari

```
ambari-server start
```

测试：： <http://master:8080> (需要配置hosts, 没配置时可以直接访

问 192.168.91.120:8080)

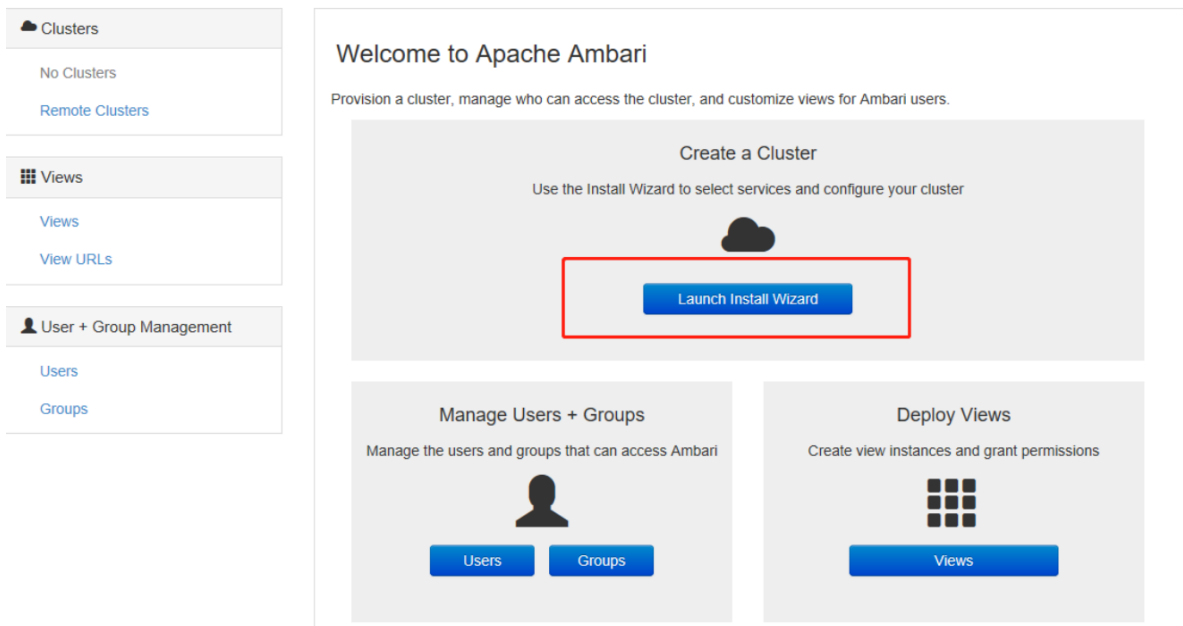


五.搭建集群

1.登录

登录界面，默认管理员账户登录<http://master:8080/> (需要配置hosts, 没配置时可以访问192.168.91.128:8080)， 账户：admin 密码：admin

2.安装向导



2.1配置集群的名字为Hadoop

CLUSTER INSTALL WIZARD

Get Started

Select Version

Install Options

Confirm Hosts

Choose Services

Assign Masters

Assign Slaves and Clients

Customize Services

Review

Install, Start and Test

Summary

Get Started

This wizard will walk you through the cluster installation process. First, start by naming your new cluster.

Name your cluster [Learn more](#)

hadoop

Next →

2.2选择版本和本地库

在redhat7后面填写：

http://192.168.91.128/HDP/centos7/2.6.3.0-235 http://192.168.91.128/HDP-UTILS

Select Version

Select the software version and method of delivery for your cluster. Using a Public Repository requires Internet connectivity. Using a Local Repository requires you have configured the software in a repository available in your network.

HDP-2.6

HDP-2.5

HDP-2.4

HDP-2.3

HDP-2.6.3.0

Sqoop	1.4.6
Storm	1.1.0
Superset	0.15.0
Tez	0.7.0
YARN	2.7.3
Zeppelin Notebook	0.7.3
ZooKeeper	3.4.6

☐ Use Public Repository

☒ Use Local Repository

Repositories

Provide Base URLs for the Operating Systems you are configuring.

OS	Name	Base URL	
redhat7	HDP-2.6	http://192.168.91.128/HDP/centos7/2.6.3.0-235	+ Add - Remove
	HDP-UTILS-1.1.0.21	http://192.168.91.128/HDP-UTILS	

☐ Skip Repository Base URL validation (Advanced) [?](#)

☐ Use RedHat Satellite/Spacewalk [?](#)

2.3安装配置

填写主机地址以及主节点的id.rsa文件

需要首先把master节点为的私密 (/root/.ssh/id.rsa) 拷贝到windows：

Install Options

Enter the list of hosts to be included in the cluster and provide your SSH key.

Target Hosts

Enter a list of hosts using the Fully Qualified Domain Name (FQDN), one per line. Or use [Pattern Expressions](#)

```
master  
slave1  
slave2
```

Host Registration Information

☒ Provide your [SSH Private Key](#) to automatically register hosts

C:\Users\25294\Desktop\ 浏览...

```
-----BEGIN RSA PRIVATE KEY-----  
MIIEowIBAAKCAQEAwJcArHgRz9m/01rM4QdP3fBMk399501CdyfL9ajMuAk8NKM  
5
```

SSH User Account

root

SSH Port Number

22

☐ Perform [manual registration](#) on hosts and do not use SSH

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Register and Confirm →

2.4 安装ambari的agent，同时检查系统问题

Confirm Hosts

Registering your hosts.

Please confirm the host list and remove any hosts that you do not want to include in the cluster.

Remove Selected

Show: All (3) | [Installing \(0\)](#) | [Registering \(0\)](#) | [Success \(3\)](#) | [Fail \(0\)](#)

<input type="checkbox"/>	Host	Progress	Status	Action
<input type="checkbox"/>	master	<div></div>	Success	Remove
<input type="checkbox"/>	slave1	<div></div>	Success	Remove
<input type="checkbox"/>	slave2	<div></div>	Success	Remove

Show: 25 1 - 3 of 3

Some warnings were encountered while performing checks against the 3 registered hosts above [Click here to see the warnings.](#)

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2.5 选择要安装的服务

Choose Services

Choose which services you want to install on your cluster.

<input type="checkbox"/> Service	Version	Description
<input checked="" type="checkbox"/> HDFS	2.7.3	Apache Hadoop Distributed File System
<input checked="" type="checkbox"/> YARN + MapReduce2	2.7.3	Apache Hadoop NextGen MapReduce (YARN)
<input checked="" type="checkbox"/> Tez	0.7.0	Tez is the next generation Hadoop Query Processing framework written on top of YARN.
<input type="checkbox"/> Hive	1.2.1000	Data warehouse system for ad-hoc queries & analysis of large datasets and table & storage management service
<input checked="" type="checkbox"/> HBase	1.1.2	A Non-relational distributed database, plus Phoenix, a high performance SQL layer for low latency applications.
<input checked="" type="checkbox"/> Pig	0.16.0	Scripting platform for analyzing large datasets
<input checked="" type="checkbox"/> Sqoop	1.4.6	Tool for transferring bulk data between Apache Hadoop and structured data stores such as relational databases
<input type="checkbox"/> Oozie	4.2.0	System for workflow coordination and execution of Apache Hadoop jobs. This also includes the installation of the optional Oozie Web Console which relies on and will install the ExtJS Library.
<input checked="" type="checkbox"/> ZooKeeper	3.4.6	Centralized service which provides highly reliable distributed coordination
<input type="checkbox"/> Falcon	0.10.0	Data management and processing platform
<input type="checkbox"/> Storm	1.1.0	Apache Hadoop Stream processing framework
<input checked="" type="checkbox"/> Flume	1.5.2	A distributed service for collecting, aggregating, and moving large amounts of streaming data into HDFS

2.6分配主节点

Assign Masters

Assign master components to hosts you want to run them on.

SNameNode: slave1 (972.3 MB, 1 cores)

NameNode: master (1.9 GB, 2 cores)

App Timeline Server: slave1 (972.3 MB, 1 cores)

ResourceManager: slave1 (972.3 MB, 1 cores)

History Server: slave1 (972.3 MB, 1 cores)

HBase Master: master (1.9 GB, 2 cores)

ZooKeeper Server: slave1 (972.3 MB, 1 cores)

ZooKeeper Server: master (1.9 GB, 2 cores)

ZooKeeper Server: slave2 (972.3 MB, 1 cores)

Grafana: master (1.9 GB, 2 cores)

Metrics Collector: slave2 (972.3 MB, 1 cores)

Kafka Broker: master (1.9 GB, 2 cores)

Activity Explorer: master (1.9 GB, 2 cores)

HST Server: master (1.9 GB, 2 cores)

master (1.9 GB, 2 cores)

NameNode

HBase Master

ZooKeeper Server

Grafana

Kafka Broker

Activity Explorer

HST Server

Activity Analyzer

slave1 (972.3 MB, 1 cores)

SNameNode

App Timeline Server

ResourceManager

History Server

ZooKeeper Server

slave2 (972.3 MB, 1 cores)

ZooKeeper Server

Metrics Collector

2.7分配从节点

Assign Slaves and Clients

Assign slave and client components to hosts you want to run them on.
Hosts that are assigned master components are shown with *.
"Client" will install HDFS Client, YARN Client, MapReduce2 Client, Tez Client, HBase Client, Pig Client, Sqoop Client, ZooKeeper Client and Slider Client.

Host	all none	all none	all none	all none	all none	all none	all none
master *	<input checked="" type="checkbox"/> DataNode	<input type="checkbox"/> NFSGateway	<input checked="" type="checkbox"/> NodeManager	<input checked="" type="checkbox"/> RegionServer	<input type="checkbox"/> Phoenix Query Server	<input checked="" type="checkbox"/> Flume	<input checked="" type="checkbox"/> Client
slave1 *	<input checked="" type="checkbox"/> DataNode	<input type="checkbox"/> NFSGateway	<input checked="" type="checkbox"/> NodeManager	<input checked="" type="checkbox"/> RegionServer	<input type="checkbox"/> Phoenix Query Server	<input checked="" type="checkbox"/> Flume	<input checked="" type="checkbox"/> Client
slave2 *	<input checked="" type="checkbox"/> DataNode	<input type="checkbox"/> NFSGateway	<input checked="" type="checkbox"/> NodeManager	<input checked="" type="checkbox"/> RegionServer	<input type="checkbox"/> Phoenix Query Server	<input checked="" type="checkbox"/> Flume	<input checked="" type="checkbox"/> Client

Show: 25

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2.8自定义安装

Customize Services

We have come up with recommended configurations for the services you selected. Customize them as you see fit.

HDFS

YARN

MapReduce2

Tez

HBase

Pig

Sqoop

ZooKeeper

Flume

Ambari Metrics

Kafka

SmartSense

Slider

Misc

There is 1 configuration change in 1 service

Show Details

Group

Default (3)

Manage Config Groups

Filter...

General

Metrics Service operation mode

embedded

+

C

Metrics Collector log dir

/var/log/ambari-metrics-collector

+

C

See Recommended

Metrics Collector pid dir

/var/run/ambari-metrics-collector

+

C

Metrics Monitor log dir

/var/log/ambari-metrics-monitor

+

C

Metrics Monitor pid dir

/var/run/ambari-metrics-monitor

+

C

Grafana Admin Username

admin

C

Grafana Admin Password

.....

.....

admin

账号密码都是admin

Customize Services

We have come up with recommended configurations for the services you selected. Customize them as you see fit.

HDFS

YARN

MapReduce2

Tez

HBase

Pig

Sqoop

ZooKeeper

Flume

Ambari Metrics

Kafka

SmartSense

Slider

Misc

There is 1 configuration change in 1 service

Show Details

Group

Default (3)

Manage Config Groups

Filter...

Basic

Data Capture

Operations

Gateway

Activity Analysis

Advanced

Activity Explorer

UI port

9060

Anonymous access allowed

No

Password for user 'admin'

.....

.....

admin

2.9检查

Admin Name : admin

Cluster Name : hadoop

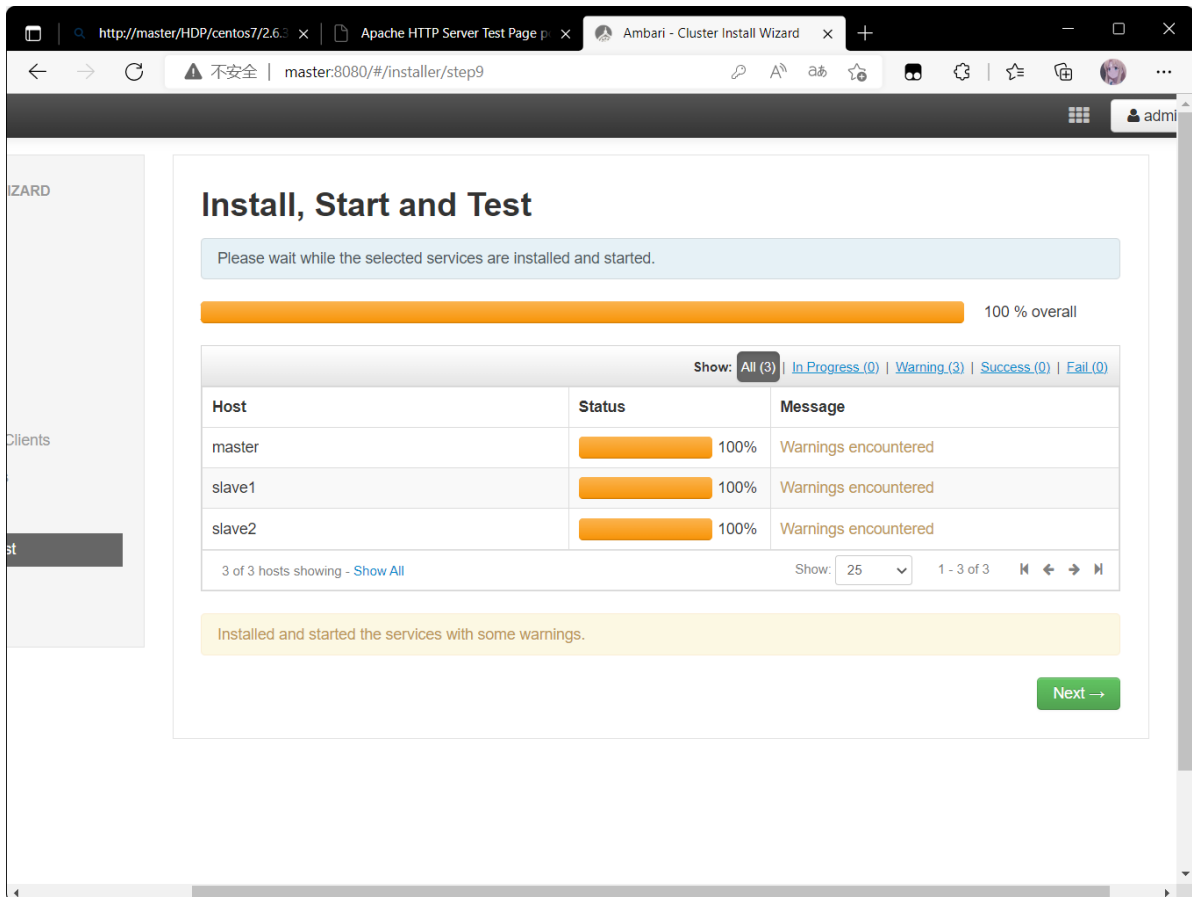

```
Total Hosts : 3 (3 new)
Repositories: redhat7 (HDP-2.6): http://192.168.91.128/HDP/centos7/2.6.3.0-235
redhat7 (HDP-UTILS-1.1.0.21): http://192.168.91.128/HDP-UTILS Services:
```

```
HDFS
DataNode : 3 hosts
NameNode : master
NFSGateway : 0 host
SNameNode : slave1
YARN + MapReduce2
App Timeline Server : slave1
NodeManager : 3 hosts
ResourceManager : slave1
Tez
Clients : 3 hosts
HBase
Master : master
RegionServer : 3 hosts
Phoenix Query Server : 0 host
Pig Clients : 3 hosts
qoop Clients : 3 hosts
Zookeeper Server : 3 hosts
Flume
Flume : 3 hosts
Ambari Metrics
Metrics Collector : slave2
Grafana : master
Kafka Broker : master
SmartSense
Activity Analyzer : master
Activity Explorer : master
HST Server : master
Slider
Clients : 3 hosts
```

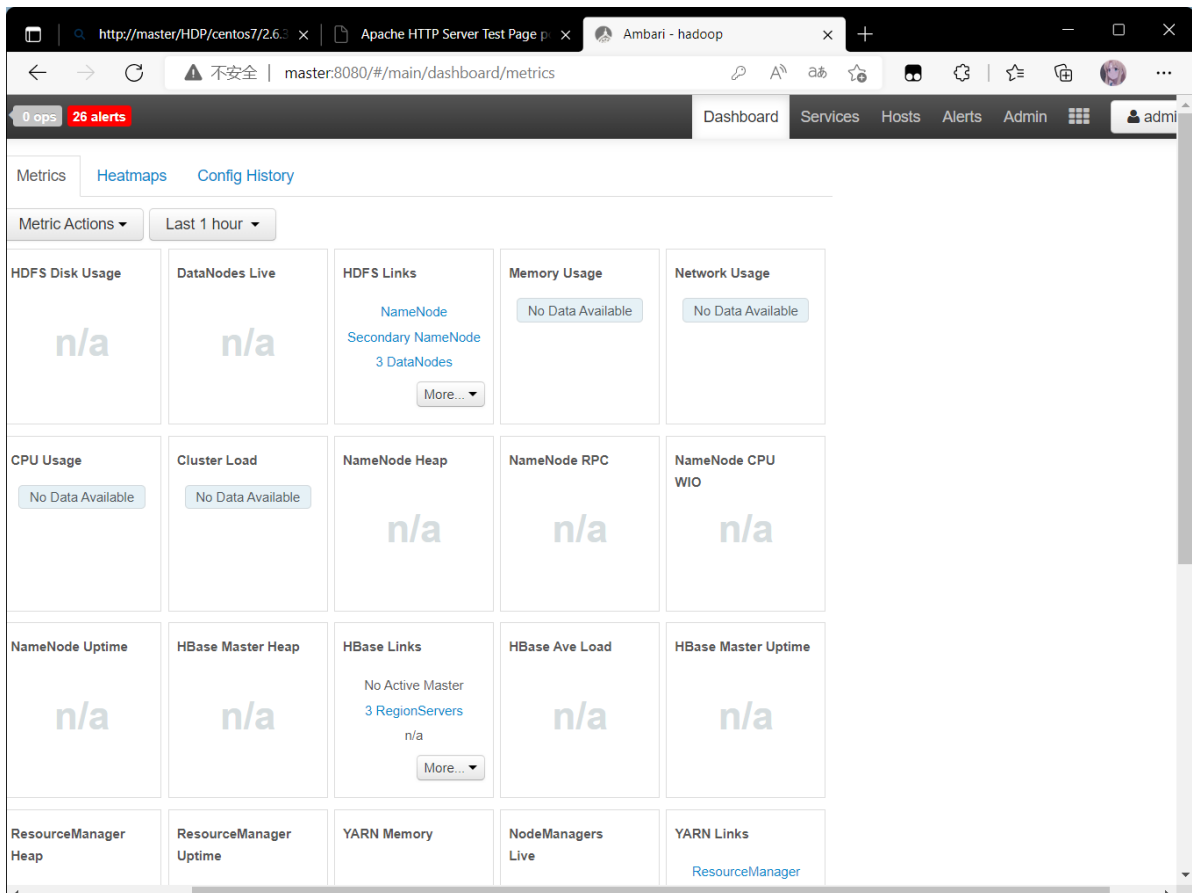
2.10安装

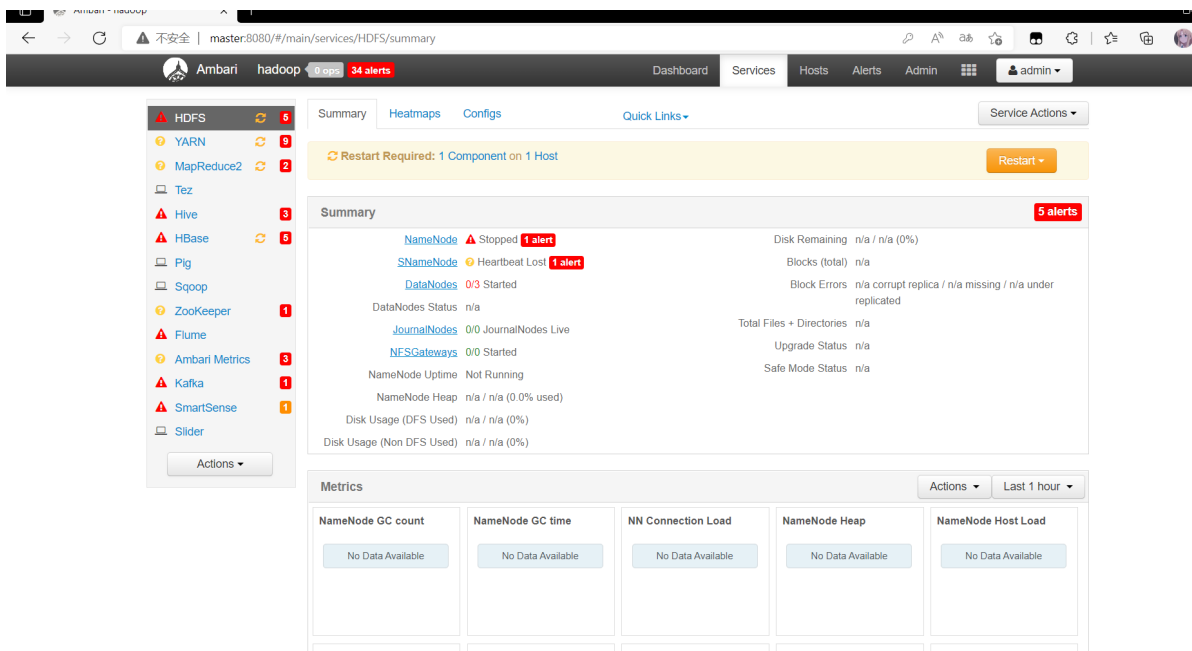
注释掉 /usr/lib/python2.6/site-packages/resource_management/libraries/script/script.py文件的
533行

```
# package_version = None
```



2.11查看管理集群



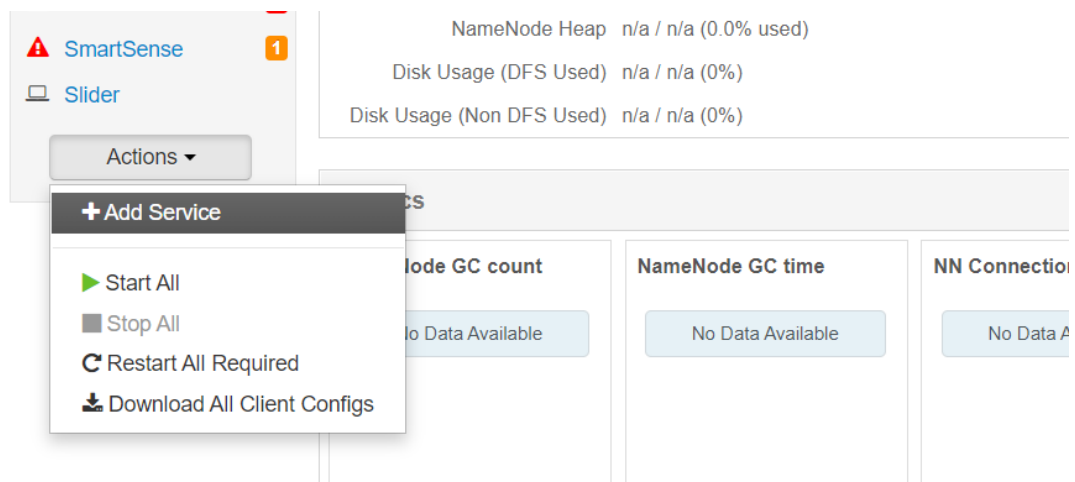


2.12添加服务

我们将要添加hive服务，先运行如下命令：

```
ambari-server setup --jdbc-db=mysql --jdbc-driver=/usr/share/java/mysql-connector-java.jar
```

(1)选择需要添加的服务



Choose Services

Choose which services you want to install on your cluster.

<input type="checkbox"/> Service	Version	Description
<input checked="" type="checkbox"/> HDFS	2.7.3	Apache Hadoop Distributed File System
<input checked="" type="checkbox"/> YARN + MapReduce2	2.7.3	Apache Hadoop NextGen MapReduce (YARN)
<input checked="" type="checkbox"/> Tez	0.7.0	Tez is the next generation Hadoop Query Processing framework written on top of YARN.
<input checked="" type="checkbox"/> Hive	1.2.1000	Data warehouse system for ad-hoc queries & analysis of large datasets and table & storage management service
<input checked="" type="checkbox"/> HBase	1.1.2	A Non-relational distributed database, plus Phoenix, a high performance SQL layer for low latency applications.
<input checked="" type="checkbox"/> Pig	0.16.0	Scripting platform for analyzing large datasets
<input checked="" type="checkbox"/> Sqoop	1.4.6	Tool for transferring bulk data between Apache Hadoop and structured data stores such as relational databases
<input type="checkbox"/> Oozie	4.2.0	System for workflow coordination and execution of Apache Hadoop jobs. This also includes the installation of the optional Oozie Web Console which relies on and will install the ExtJS Library.
<input checked="" type="checkbox"/> ZooKeeper	3.4.6	Centralized service which provides highly reliable distributed coordination
<input type="checkbox"/> Falcon	0.10.0	Data management and processing platform

(2)分配主机

The screenshot shows the 'Add Service Wizard' window with a sidebar on the left containing 'Configure Identities', 'Review', 'Install, Start and Test', and 'Summary'. The main area is divided into two columns. The left column lists services with dropdown menus for host assignment: SNameNode (slave1), App Timeline Server (slave1), ResourceManager (slave1), History Server (slave1), Hive Metastore (master), WebHCat Server (master), HiveServer2 (master), HBase Master (master), and three ZooKeeper Servers (master, slave1, slave2). The right column shows a visual representation of the hosts: 'master (972.3 MB, 1 cores)' with services like NameNode, Hive Metastore, WebHCat Server, HiveServer2, HBase Master, ZooKeeper Server, Grafana, Kafka Broker, Activity Analyzer, Activity Explorer, and HST Server; 'slave1 (972.3 MB, 1 cores)' with SNameNode, App Timeline Server, ResourceManager, History Server, and ZooKeeper Server; and 'slave2 (972.3 MB, 1 cores)' with ZooKeeper Server and Metrics Collector.

(3)分配从服务器和客户端

Assign Slaves and Clients

Assign slave and client components to hosts you want to run them on.
Hosts that are assigned master components are shown with *.
"Client" will install HCat Client, Hive Client and Slider Client.

Host	all	none	all	none	all	none	all	none	all	none	all	none	all	none
master *	<input checked="" type="checkbox"/> DataNode	<input type="checkbox"/> NFSGateway	<input checked="" type="checkbox"/> NodeManager	<input checked="" type="checkbox"/> RegionServer	<input type="checkbox"/> Phoenix Query Server	<input checked="" type="checkbox"/> Flume	<input checked="" type="checkbox"/> Client							
slave1 *	<input checked="" type="checkbox"/> DataNode	<input type="checkbox"/> NFSGateway	<input checked="" type="checkbox"/> NodeManager	<input checked="" type="checkbox"/> RegionServer	<input type="checkbox"/> Phoenix Query Server	<input checked="" type="checkbox"/> Flume	<input checked="" type="checkbox"/> Client							
slave2 *	<input checked="" type="checkbox"/> DataNode	<input type="checkbox"/> NFSGateway	<input checked="" type="checkbox"/> NodeManager	<input checked="" type="checkbox"/> RegionServer	<input type="checkbox"/> Phoenix Query Server	<input checked="" type="checkbox"/> Flume	<input checked="" type="checkbox"/> Client							

Show: 25 1 - 3 of 3

← Back

Next →

(4)设置Hive服务

Group

Default (3)

Manage Config Groups

Filter...

Settings

Advanced

Hive Metastore

Hive Metastore host

master

Hive Database

☐ New MySQL Database

☒ Existing MySQL / MariaDB Database

☐ Existing PostgreSQL Database

☐ Existing Oracle Database

☐ Existing SQL Anywhere Database

Be sure you have run:
ambari-server setup --jdbc-db=mysql --jdbc-driver=/path/to/mysql/mysql-connector-java.jar on the Ambari Server host to make the JDBC driver available and to enable testing the database connection.

Database Name

hive

Database Username

hive

Database Password

JDBC Driver Class

com.mysql.jdbc.Driver

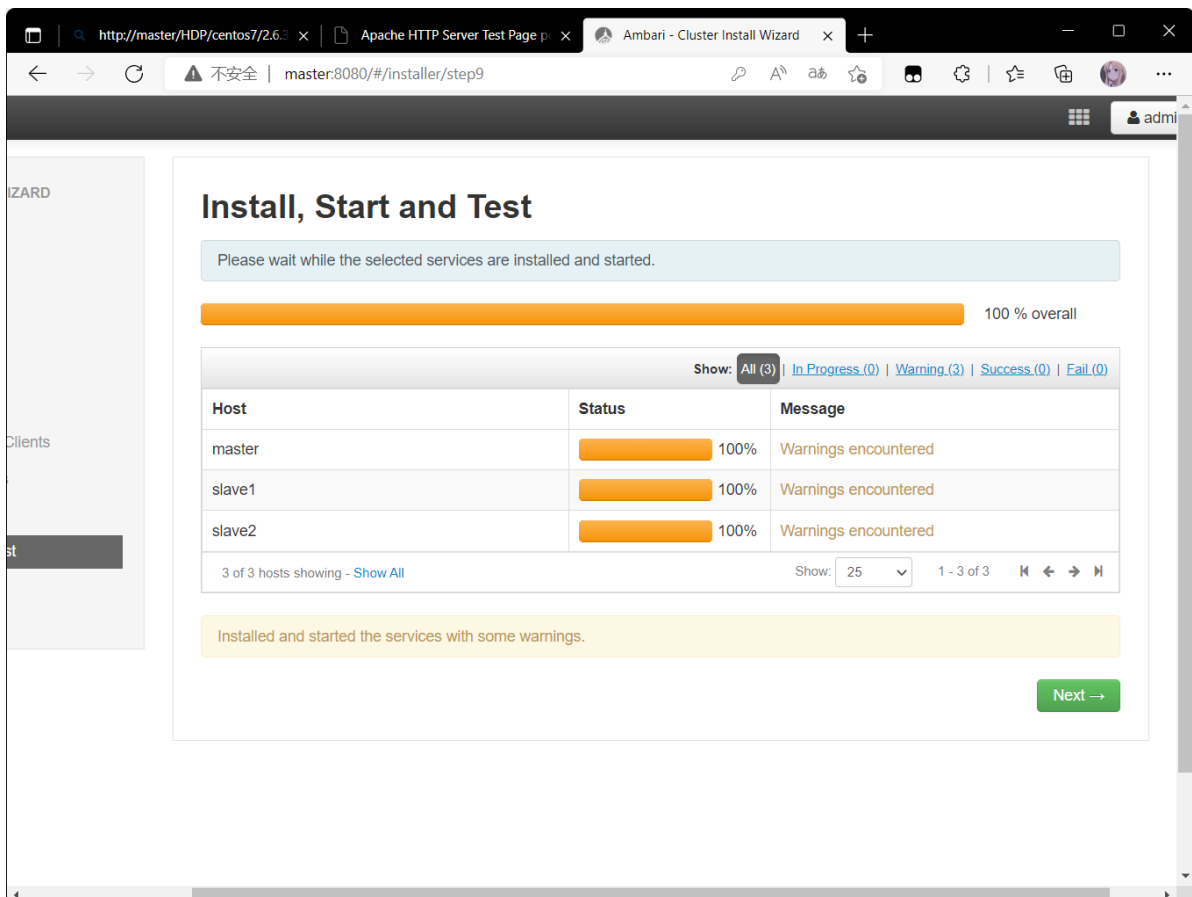
Database URL

jdbc:mysql://master/hive

Test Connection

Connection OK

(5)安装



六.常用命令练习

1.HDFS命令练习

通过vi 创建txt1.txt、txt2.txt、txt3.txt

(1)列出子目录或子文件

```
# 查看HDFS根目录下的文件或目录
hdfs dfs -ls
#递归列出子目录文件
hdfs dfs -ls -R /
```

```
[root@master sbin]# locate start-all.sh
[root@master sbin]# hdfs dfs -ls
ls: `.`: No such file or directory
[root@master sbin]# hadoop fs -ls /
Found 2 items
drwxrwxrwx - hdfs hdfs 0 2022-06-05 00:18 /tmp
drwxr-xr-x - hdfs hdfs 0 2022-06-05 00:18 /user
[root@master sbin]# hdfs dfs -ls -R /
drwxrwxrwx - hdfs hdfs 0 2022-06-05 00:18 /tmp
drwxr-xr-x - hdfs hdfs 0 2022-06-05 00:18 /user
drwxrwx--- - ambari-qa hdfs 0 2022-06-05 00:18 /user/ambari-qa
ls: Permission denied: user=root, access=READ_EXECUTE, inode="/user/ambari-qa":am
bari-qa:hdfs:drwxrwx---
[root@master sbin]#
```

