

没有谁必须要帮助你，任何事情都得靠自己去完成

# Hadoop源码编译

## 准备工作

### (1) CentOS联网

配置CentOS能连接外网。Linux虚拟机ping是畅通的

注意：采用root角色编译，减少文件夹权限出现问题

### (2) jar包准备(hadoop源码、JDK8、maven、ant、protobuf)

- (1) hadoop-2.7.2-src.tar.gz
- (2) jdk-8u144-linux-x64.tar.gz
- (3) apache-ant-1.9.9-bin.tar.gz (build工具，打包用的)
- (4) apache-maven-3.0.5-bin.tar.gz
- (5) protobuf-2.5.0.tar.gz (序列化的框架)

## 编译工具安装

### (1) 安装JDK

```
[root@hadoop101 software] # tar -zxf jdk-8u144-linux-x64.tar.gz -C /opt/module/

[root@hadoop101 software]# vi /etc/profile

\#JAVA_HOME:

export JAVA_HOME=/opt/module/jdk1.8.0_144

export PATH=$PATH:$JAVA_HOME/bin

[root@hadoop101 software]#source /etc/profile

验证命令: java -version
```

### (2) Maven解压、配置 MAVEN\_HOME和PATH

```
[root@hadoop101 software]# tar -zxvf apache-maven-3.0.5-bin.tar.gz -C /opt/module/

[root@hadoop101 apache-maven-3.0.5]# vi conf/settings.xml

<mirrors>

  <!-- mirror
```

| Specifies a repository mirror site to use instead of a given repository.  
The repository that

| this mirror serves has an ID that matches the mirrorOf element of this  
mirror. IDs are used

| for inheritance and direct lookup purposes, and must be unique across the  
set of mirrors.

|

<mirror>

- <id>mirrorId</id>
- <mirrorOf>repositoryId</mirrorOf>
- <name>Human Readable Name for this Mirror.</name>
- <url>http://my.repository.com/repo/path</url>

</mirror>

-->

- <mirror>
- <id>nexus-aliyun</id>
- <mirrorOf>central</mirrorOf>
- <name>Nexus aliyun</name>
- <url>http://maven.aliyun.com/nexus/content/groups/public</url>
- </mirror>

</mirrors>

```
[root@hadoop101 apache-maven-3.0.5]# vi /etc/profile
```

```
\#MAVEN_HOME
```

```
export MAVEN_HOME=/opt/module/apache-maven-3.0.5
```

```
export PATH=$PATH:$MAVEN_HOME/bin
```

```
[root@hadoop101 software]#source /etc/profile
```

验证命令: mvn -version

### (3) 配置ANT

```
[root@hadoop101 software]# tar -zxvf apache-ant-1.9.9-bin.tar.gz -C /opt/module/
[root@hadoop101 apache-ant-1.9.9]# vi /etc/profile

\#ANT_HOME

export ANT_HOME=/opt/module/apache-ant-1.9.9

export PATH=$PATH:$ANT_HOME/bin

[root@hadoop101 software]#source /etc/profile
验证命令: ant -version
```

## (4) 安装glibc-headers和g++

```
[root@hadoop101 apache-ant-1.9.9]# yum install glibc-headers

[root@hadoop101 apache-ant-1.9.9]# yum install gcc-c++
```

## (5) 安装make和cmake

```
[root@hadoop101 apache-ant-1.9.9]# yum install make

[root@hadoop101 apache-ant-1.9.9]# yum install cmake
```

## (6) 安装protobuf

```
[root@hadoop101 software]# tar -zxvf protobuf-2.5.0.tar.gz -C /opt/module/

[root@hadoop101 opt]# cd /opt/module/protobuf-2.5.0/

[root@hadoop101 protobuf-2.5.0]# ./configure

[root@hadoop101 protobuf-2.5.0]# make

[root@hadoop101 protobuf-2.5.0]# make check

[root@hadoop101 protobuf-2.5.0]# make install

[root@hadoop101 protobuf-2.5.0]# ldconfig

[root@hadoop101 hadoop-dist]# vi /etc/profile

\#LD_LIBRARY_PATH

export LD_LIBRARY_PATH=/opt/module/protobuf-2.5.0

export PATH=$PATH:$LD_LIBRARY_PATH
```

```
[root@hadoop101 software]#source /etc/profile
```

验证命令: `protoc --version`

## (7) 安装openssl库

```
[root@hadoop101 software]#yum install openssl-devel
```

## (8) 安装 ncurses-devel库

```
[root@hadoop101 software]#yum install ncurses-devel
```

到此，编译工具安装基本完成

## 编译源码

### (1) 解压源码到/opt/目录

```
[root@hadoop101 software]# tar -zxvf hadoop-2.7.2-src.tar.gz -C /opt/
```

### (2) 进入到hadoop源码主目录

```
[root@hadoop101 hadoop-2.7.2-src]# pwd
```

/opt/hadoop-2.7.2-src

### (3) 通过maven执行编译命令

```
[root@hadoop101 hadoop-2.7.2-src]#mvn package -Pdist,native -DskipTests -Dtar
```

等待时间30分钟左右，最终成功是全部SUCCESS

# 成功的64位hadoop包在/opt/hadoop-2.7.2-src/hadoop-dist/target下

```
[root@hadoop101 target]# pwd
```

/opt/hadoop-2.7.2-src/hadoop-dist/target

### (4) 编译源码过程中常见的问题及解决方案

(1) MAVEN install时候JVM内存溢出

处理方式：在环境配置文件和maven的执行文件均可调整MAVEN\_OPTS的heap大小。（详情查阅MAVEN 编译JVM调优问题，如：<http://outofmemory.cn/code-snippet/12652/maven-outofmemoryerror-method>）

(2) 编译期间maven报错。可能网络阻塞问题导致依赖库下载不完整导致，多次执行命令（一次通过比较难）：

```
[root@hadoop101 hadoop-2.7.2-src]#mvn package -Pdist,nativeN -DskipTests -Dtar
```

(3) 报ant、protobuf等错误，插件下载不完整或者插件版本问题，最开始链接有较多特殊情况，同时推荐

2.7.0版本的问题汇总帖子 <http://www.tuicool.com/articles/IBn63qf>