

## 华东师范大学数据科学与工程学院实验报告

课程名称： 分布式模型与编程	年级： 2016 级	上机实践成绩：
指导教师： 徐辰	姓名： 张宏伟	
上机实践名称： HDFS 编程实践	学号： 10165101180	上机实践日期：
上机实践编号： 04	组号：	上机实践时间：

### 一、实验目的

熟悉 HDFS 编程流程

### 二、实验任务

编写一个测试 HDFS 中是否存在一个名为“test”的文件，并在本地及集群环境下运行。

### 三、使用环境

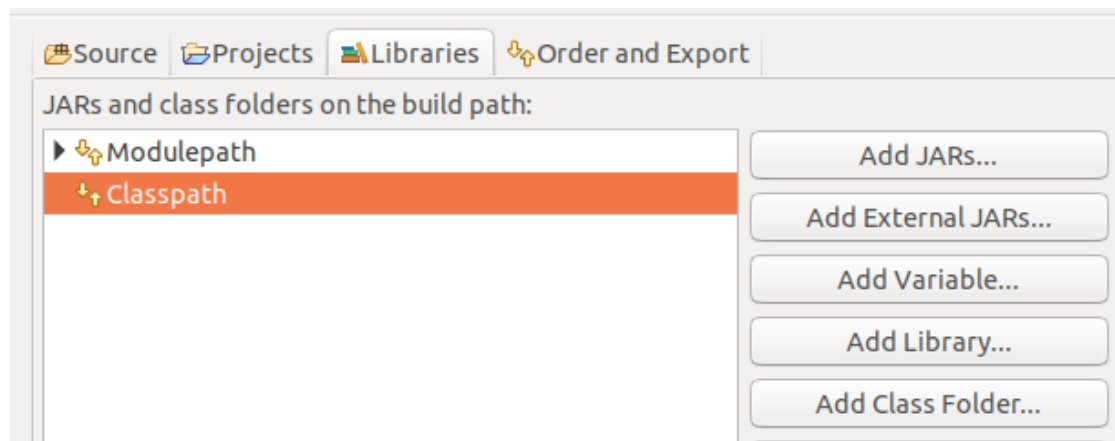
本地：Ubuntu18.04+hadoop2.7.3+Eclipse

Docker 集群及本地使用 jre10.0.2

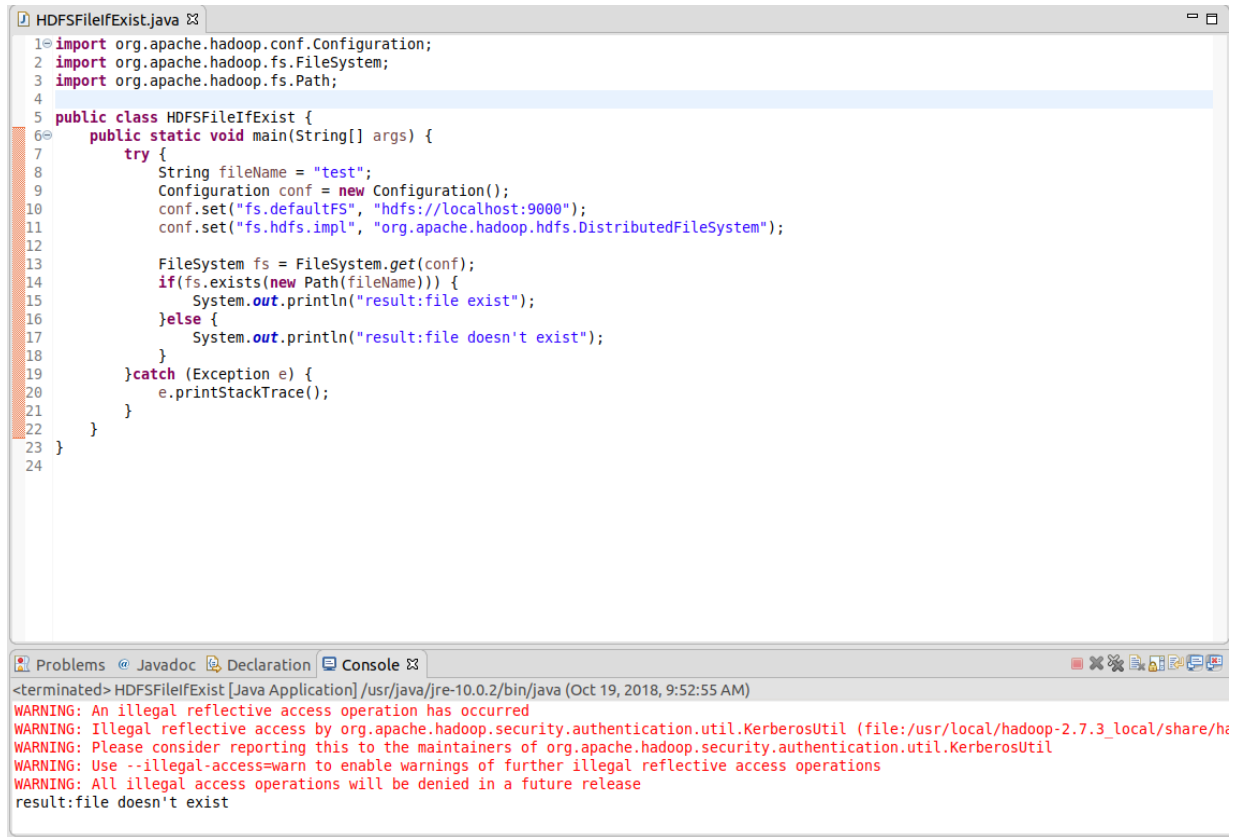
班级集群中使用 jre1.8.0\_181

### 四、实验过程

创建 javaProject，导入 HDFS 和 hadoop 相关 jar，注意需要将 jar 导入 Classpath。之前导入 Modulepath，一直报类名重复的错误。



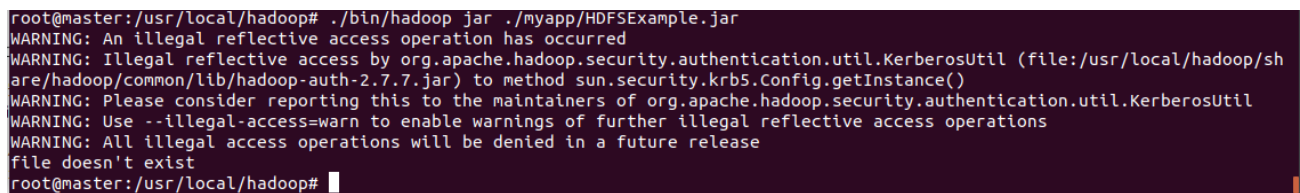
输入代码，启动 hdfs，在 Eclipse 中运行：run as JAVA Application，结果如下图



```

HDFSFileIfExist.java
1 import org.apache.hadoop.conf.Configuration;
2 import org.apache.hadoop.fs.FileSystem;
3 import org.apache.hadoop.fs.Path;
4
5 public class HDFSFileIfExist {
6     public static void main(String[] args) {
7         try {
8             String fileName = "test";
9             Configuration conf = new Configuration();
10            conf.set("fs.defaultFS", "hdfs://localhost:9000");
11            conf.set("fs.hdfs.impl", "org.apache.hadoop.hdfs.DistributedFileSystem");
12
13            FileSystem fs = FileSystem.get(conf);
14            if(fs.exists(new Path(fileName))) {
15                System.out.println("result:file exist");
16            }else {
17                System.out.println("result:file doesn't exist");
18            }
19        }catch (Exception e) {
20            e.printStackTrace();
21        }
22    }
23 }
24
Problems @ Javadoc Declaration Console
<terminated> HDFSFileIfExist [Java Application] /usr/java/jre-10.0.2/bin/java (Oct 19, 2018, 9:52:55 AM)
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.KerberosUtil (file:/usr/local/hadoop-2.7.3_local/share/hadoop/common/lib/hadoop-auth-2.7.7.jar) to method sun.security.krb5.Config.getInstance()
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.security.authentication.util.KerberosUtil
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations
WARNING: All illegal access operations will be denied in a future release
result:file doesn't exist
  
```

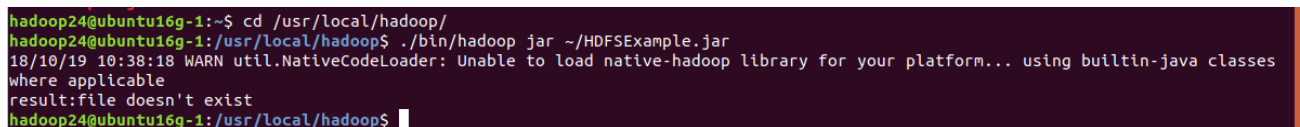
将代码环境设置中的 localhost 改成 master，export 为 jar 包，传输到 Docker，在 Docker 集群中运行，结果如下图



```

root@master:/usr/local/hadoop# ./bin/hadoop jar ./myapp/HDFSExample.jar
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.KerberosUtil (file:/usr/local/hadoop/share/hadoop/common/lib/hadoop-auth-2.7.7.jar) to method sun.security.krb5.Config.getInstance()
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.security.authentication.util.KerberosUtil
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations
WARNING: All illegal access operations will be denied in a future release
file doesn't exist
root@master:/usr/local/hadoop#
  
```

将代码环境设置中的 localhost 改成 10.11.6.91，编译，export 为 jar 包，scp 到班级集群自己用户 hadoop24 下，ssh 并运行，结果如下图



```

hadoop24@ubuntu16g-1:~$ cd /usr/local/hadoop/
hadoop24@ubuntu16g-1:/usr/local/hadoop$ ./bin/hadoop jar ~/HDFSExample.jar
18/10/19 10:38:18 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
result:file doesn't exist
hadoop24@ubuntu16g-1:/usr/local/hadoop$
  
```

## 五、总结

需要小心导入 jar 的位置，在本地 Eclipse 中运行 hdfs 代码时需先启动本地的 hdfs。