

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：
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上机实践名称： HDFS 编程实践	学号： 10164102141	上机实践日期：
上机实践编号： #4	组号：	上机实践时间：

一、实验目的

熟悉 HDFS 编程过程

二、实验任务

测试 HDFS 中某文件的操作与鉴别，并在本地及集群环境下运行。

三、使用环境

本地：

Ubunut LTS18.04

Hadoop v2.7.3

Eclipse

jre10.0.2

Docker 集群：

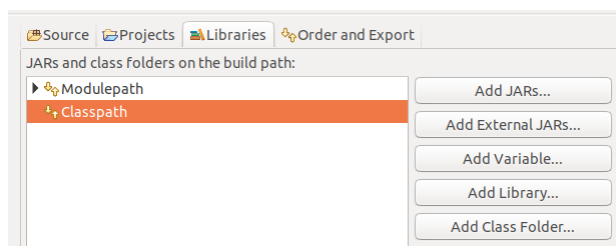
jre10.0.2

班级集群：

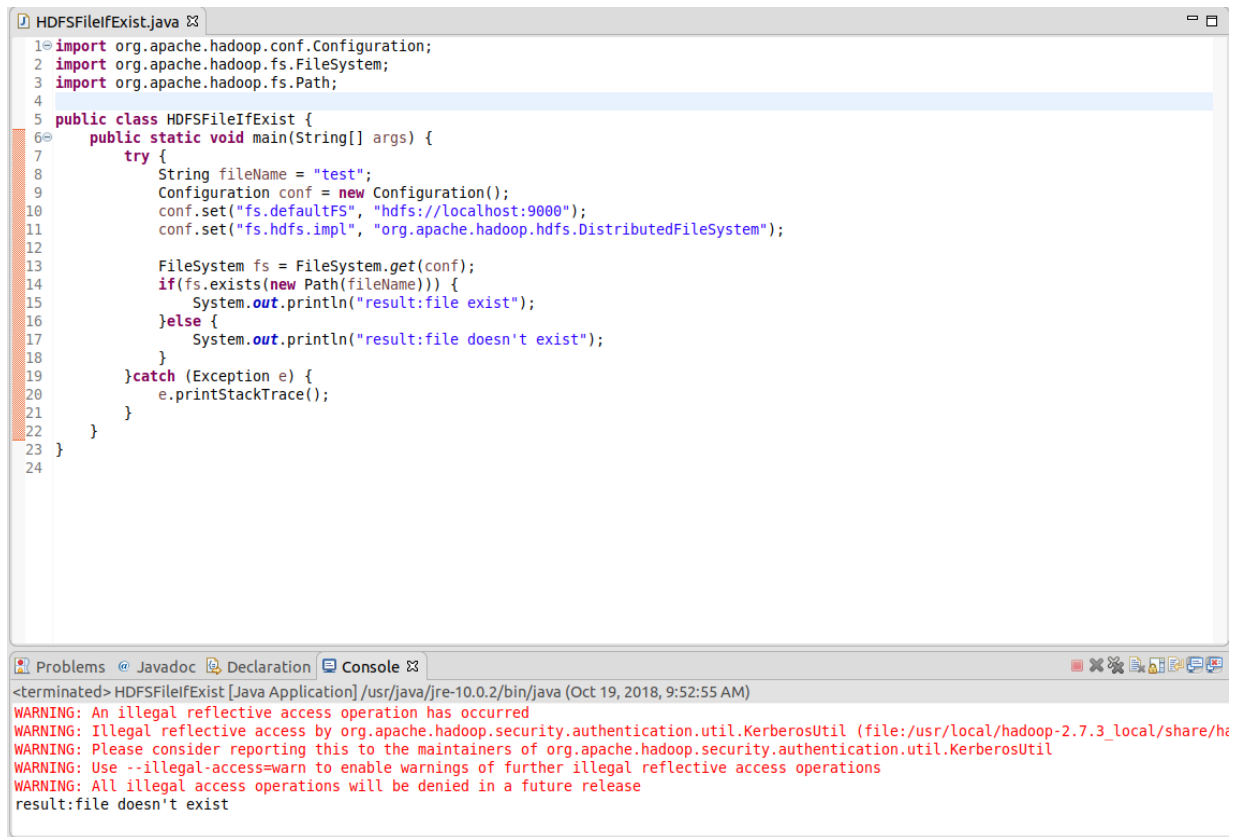
jre1.8.0_181

四、实验过程

- 1.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。



- 2.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
```

```
<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/h
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
```

3.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/sh
are/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#
```

4.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 hadoop23 下, ssh 并运行, 结果如下图

```
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
```

五、总结

导入 jar 的时候要注意, 在本地 Eclipse 中运行 hdfs 代码时需先启动本地的 hdfs。