Developing with Apache Hadoop and IntelliJ on Windows OSs

1 Obtain and patch Hadoop

Hadoop is compatible with JDK 7 and 8. You may check if you have one (or more) of them installed.

The binary of Hadoop can be found at http://hadoop.apache.org/releases.html. Extract all files to a safe place. For example, `C:\hadoop-2.7.3`.

Then download patch files from https://github.com/srccodes/hadoop-common-2.2.0-bin/archive/master.zip. Extract (and replace) all files to the `bin` folder of your Hadoop binary. In this example, the full path will be `C:\hadoop-2.7.3\bin\`.

2 Developing with IntelliJ IDEA

The IntelliJ IDEA is a powerful IDE for Java development. You may have it already installed on your working computer. If not, grab one from https://www.jetbrains.com/idea/. The "Community" version if free for non-commercial uses.

A nice step-by-step guide about this part can be found at https://goo.gl/wHX7aG.

3 Troubleshooting

3.1 You get an exception when debugging that says

```
Exception in thread "main" java.io.IOException: (null) entry in command string: null chmod 0700 ...
        at org.apache.hadoop.util.Shell$ShellCommandExecutor.execute(Shell.java:769)
        ...
```

Solution: You need to set an `HADOOP_HOME` environment variable. You can either add it as system-wide, or only for IntelliJ as shown in https://goo.gl/ktnuwh. The name of the environment variable should be `HADOOP_HOME`, while its value is the folder path of your Hadoop binary (in this example, the value is `C:\hadoop-2.7.3`).

3.2 You may get another exception that says

```
Exception in thread "main" java.lang.UnsatisfiedLinkError:
org.apache.hadoop.io.nativeio.NativeIO$Windows.access0(Ljava/lang/String;I)Z
        at org.apache.hadoop.io.nativeio.NativeIO$Windows.access0(Native Method)
        ...
```

To solve this issue, you need to download the source package of Hadoop from given link in Sec. 1, extract and copy `hadoop-2.7.3-src.tar.gz\hadoop-2.7.3-src\hadoop-common-project\hadoop-common\src \main\java\org\apache\hadoop\io\nativeio\NativeIO.java` to your project, and modify Line 609 (in function `access`) from

```
return access0(path, desiredAccess.accessRight());
```

to

```
return true;
```