

## INSTALL JDK

### 1. Why JDK Is Needed?

JDK is short for the JAVA Development Kit, which is needed to run JAVA program files. Our clustering tool (DataFieldCluster.jar) is written by JAVA. So JDK is indispensable to Run our clustering tool.

### 2. Download JDK Binary Files.

JDK Binary files is free to download from the website of ORACLE, you can download JDK from the URL below:

<http://www.oracle.com/technetwork/java/javase/downloads/jdk6u37-downloads-1859587.html>

Depends of your operation system (OS), you can download any version of JDK from this page. Our computer is running the *Windows 8 Operation System 64 bit*, so we choose the *jdk-6u43-windows-x64.exe*. See figure 1.1 below.

Java SE Development Kit 6u43		
You must accept the <a href="#">Oracle Binary Code License Agreement for Java SE</a> to download this software.		
Thank you for accepting the Oracle Binary Code License Agreement for Java SE; you may now download this software.		
Product / File Description	File Size	Download
Linux x86	65.43 MB	<a href="#">jdk-6u43-linux-i586-rpm.bin</a>
Linux x86	68.45 MB	<a href="#">jdk-6u43-linux-i586.bin</a>
Linux x64	65.65 MB	<a href="#">jdk-6u43-linux-x64-rpm.bin</a>
Linux x64	68.7 MB	<a href="#">jdk-6u43-linux-x64.bin</a>
Solaris x86	68.35 MB	<a href="#">jdk-6u43-solaris-i586.sh</a>
Solaris x86 (SVR4 package)	119.92 MB	<a href="#">jdk-6u43-solaris-i586.tar.Z</a>
Solaris x64	8.45 MB	<a href="#">jdk-6u43-solaris-x64.sh</a>
Solaris x64 (SVR4 package)	12.17 MB	<a href="#">jdk-6u43-solaris-x64.tar.Z</a>
Solaris SPARC	73.35 MB	<a href="#">jdk-6u43-solaris-sparc.sh</a>
Solaris SPARC (SVR4 package)	124.72 MB	<a href="#">jdk-6u43-solaris-sparc.tar.Z</a>
Solaris SPARC 64-bit	12.14 MB	<a href="#">jdk-6u43-solaris-sparcv9.sh</a>
Solaris SPARC 64-bit (SVR4 package)	15.44 MB	<a href="#">jdk-6u43-solaris-sparcv9.tar.Z</a>
Windows x86	69.76 MB	<a href="#">jdk-6u43-windows-i586.exe</a>
Windows x64	59.83 MB	<a href="#">jdk-6u43-windows-x64.exe</a>
Linux Intel Itanium	53.95 MB	<a href="#">jdk-6u43-linux-ia64-rpm.bin</a>
Linux Intel Itanium	60.65 MB	<a href="#">jdk-6u43-linux-ia64.bin</a>
Windows Intel Itanium	57.89 MB	<a href="#">jdk-6u43-windows-ia64.exe</a>
<a href="#">Back to top</a>		

Figure 1.1 download JDK from website of ORACLE

### 3. Install JDK.

Double click the executable file after you download it, Click “Next” until you finish the installation. JDK would be installed in your disk C, the detail path is “C:\Program Files\Java”

, > Windows8_OS (C:) > Program Files > Java	
名称	修改日期
jdk1.6.0_43	2013/3/8 20:...
jre6	2013/3/8 20:...

Figure 1.2 Default file path to install JDK

To start JDK tools from the CMD, you need to add it in the PATH and CLASSPATH. Steps to set the PATH and CLASSPATH is below:

- a) Right click the “Computer” icon on your Desktop, and Choose the “Properties” option.



Figure 1.3 setting path for JDK (a)

- b) Choose the “Advanced Settings” option.



Figure 1.4 setting path for JDK (b)

- c) Choose the “Environment Variables” option.

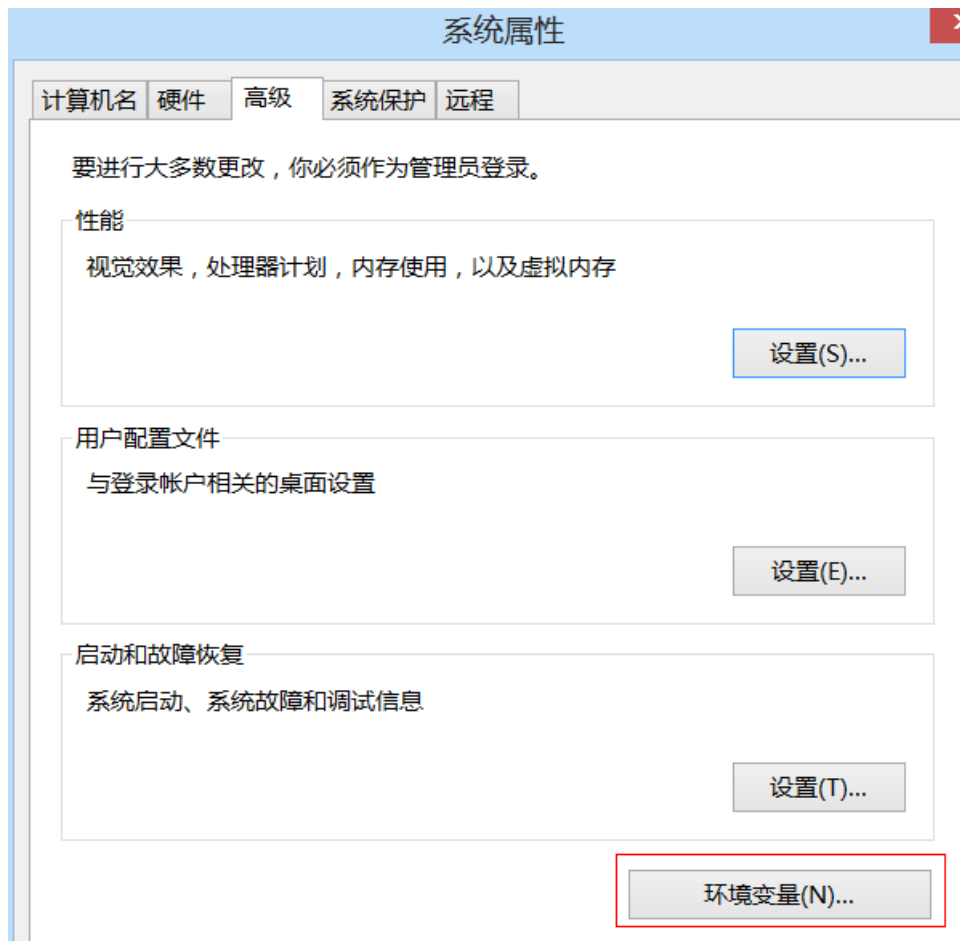


Figure 1.5 setting path for JDK (c)

d) Add an environment variable which is named "JAVA\_HOME", its value is the path you install JAVA in. Modify if "JAVA\_HOME" exists.

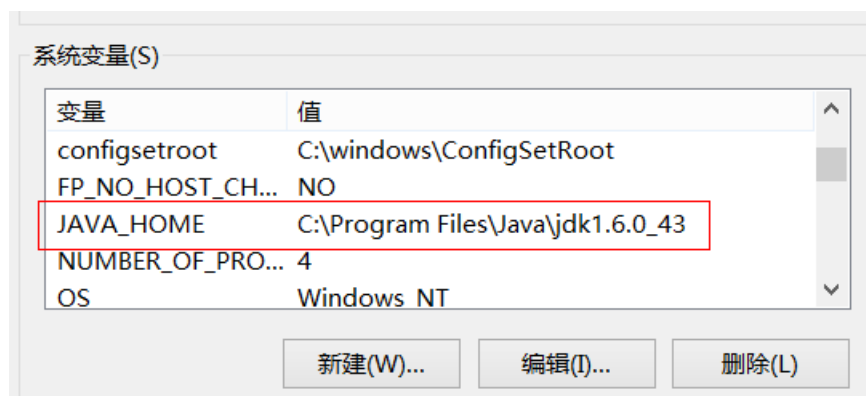


Figure 1.6 setting path for JDK (d)

e) Add an environment variable which is named "CLASSPATH", its value is "%JAVA\_HOME%\lib\dt.jar;%JAVA\_HOME%\lib\tools.jar". Append if "CLASSPATH" exists.

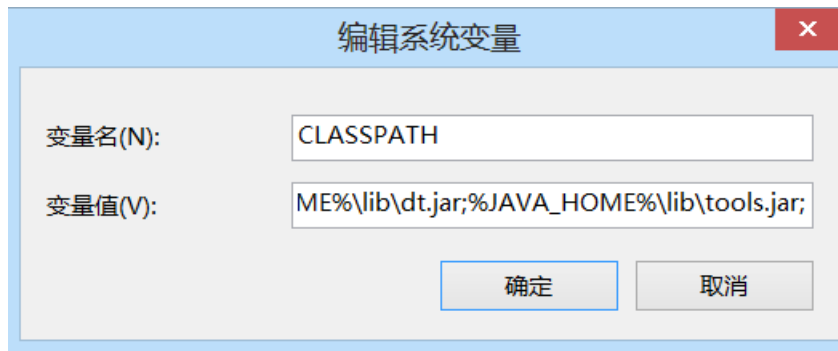


Figure 1.7 setting path for JDK (e)

f) Add an environment variable named "PATH", its value is ".;%JAVA\_HOME%\bin;". Append if "PATH" exists.

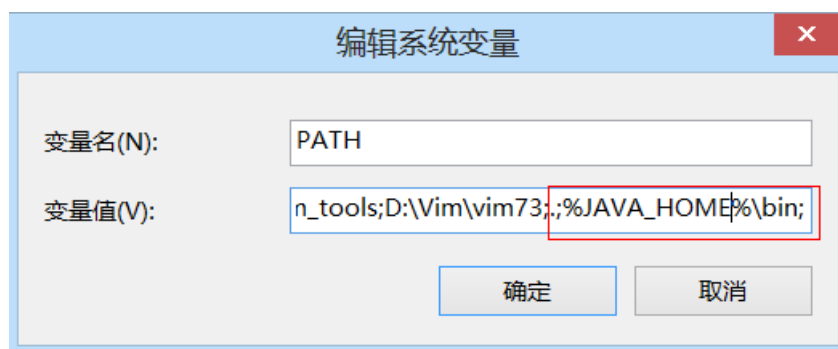


Figure 1.8 setting path for JDK (f)

#### 4. Check Is the installation Correct!

RUN "CMD" and input command "java -version", version of install JAVA would appear if JDK has been rightly installed.

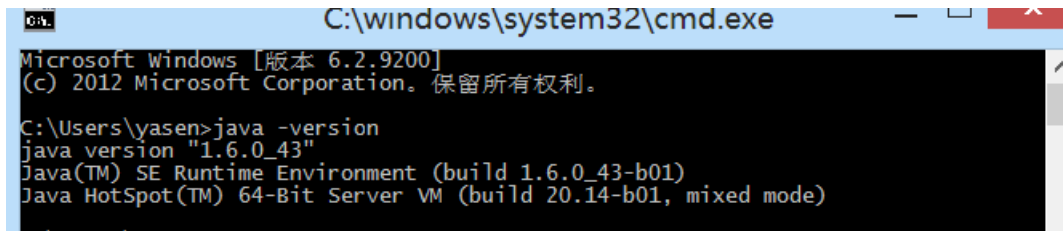


Figure 1.9 check JDK is installed correctly

### Generate Feature-Files of Mars' Stones

#### 1. Compile JAVA Source Code.

Run "CMD" in the dir you put the "StoneFeatureGenerator.java". Input command "javac StoneFeatureGenerator.java", a file named "StoneFeatureGenerator.class" would be added in this dir.

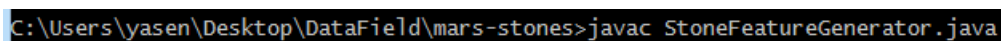


Figure 2.1 compile StoneFeatureGenerator.java

#### 2. Run StoneFeatureGenerator in the CMD.

Assume the full dir you put the mars' images is "C:\Users\yasen\Desktop\mars-stones", type

command "java StoneFeatureGenerator C:\Users\yasen\Desktop\mars-stones" to generate feature files of mars' images. Feature files would be created under dir "C:\Users\yasen\Desktop\mars-stones\3-feature"

```
C:\Users\yasen\Desktop\DataField\mars-stones>java StoneFeatureGenerator C:\Us
\yasen\Desktop\mars-stones
>>>start processing file: 2N15753335FFLA269P0755L0M1.bmp
scaled success
binaried success
generate feature file success
>>>start processing file: 2P126642676FFL0200P2211L2M1.bmp
scaled success
binaried success
generate feature file success
>>>start processing file: 2P192242420FFLANW7P2361L7M1.bmp
scaled success
binaried success
generate feature file success
>>>start processing file: 2P205107877FFLAS00P2266L2M1.bmp
scaled success
binaried success
generate feature file success
>>>start processing file: 2P205818136FFLAS00P2267L2M1.bmp
scaled success
binaried success
generate feature file success
>>>start processing file: 2P206259855FFLAS00P2268L2M1.bmp
scaled success
binaried success
generate feature file success
>>>start processing file: 2P207058850FFLAS00P2274L2M1.bmp
scaled success
binaried success
generate feature file success
>>>start processing file: 2P207236444FFLAS00P2276L2M1.bmp
scaled success
binaried success
generate feature file success
>>>start processing file: 2P207502220FFLAS00P2279L2M1.bmp
scaled success
binaried success
generate feature file success
```

Figure 2.1 generate feature files

## RUN DataFieldCluster.jar

1. Right click on the DataFieldCluster.jar, and run it with the JAVA SE Runtime.

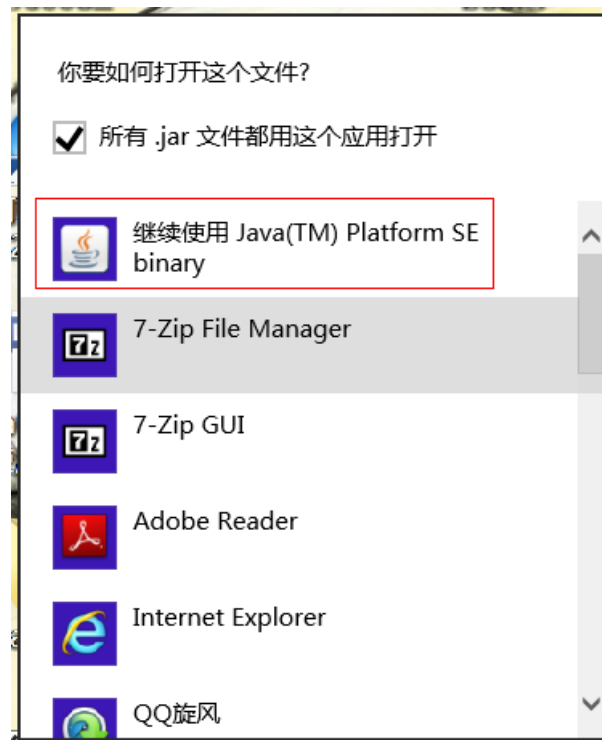


Figure 3.1 run DataFieldCluster.jar with JDK

## 2. Choose feature files of mars' stones.

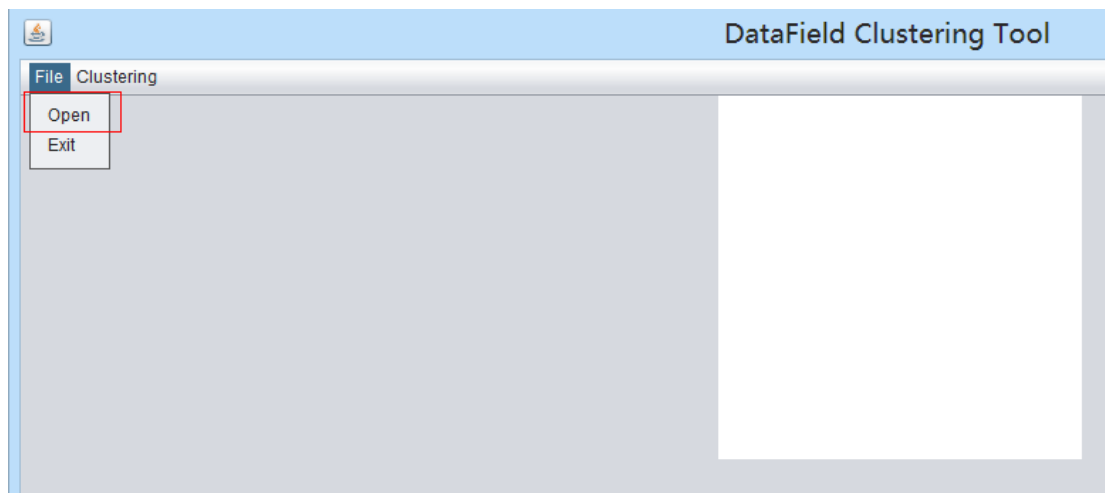


Figure 3.2 open feature file (a)

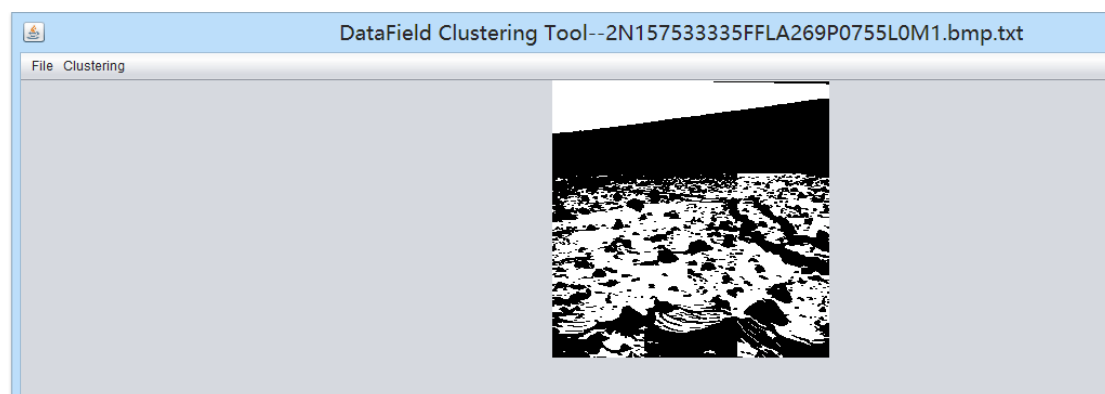


Figure 3.3 open feature file (b)

**3. Input the Grid-number parameter k.**

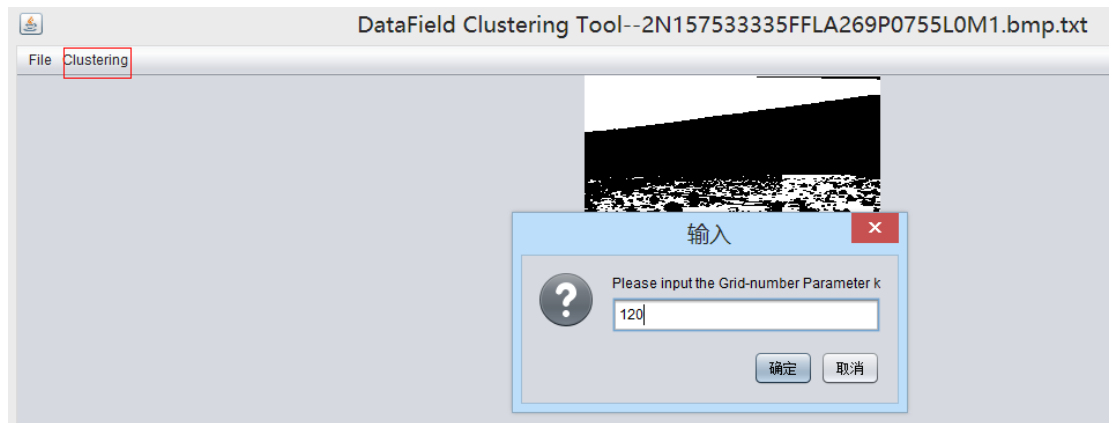


Figure 3.4 input Grid-number parameter k

**4. Input the Impact-factor parameter ifp.**

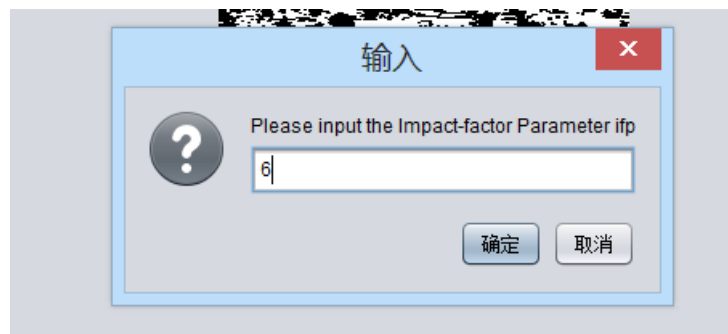


Figure 3.5 input Impact-factor parameter

**5. Input the Noise Thread t.**

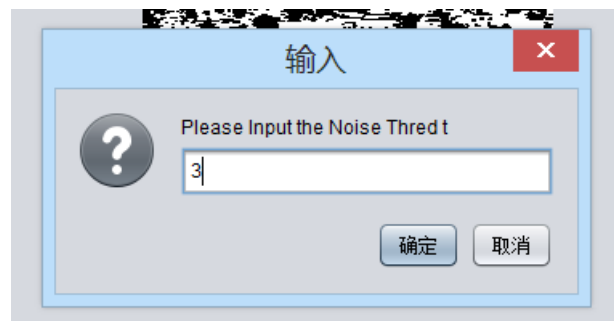


Figure 3.6 input Noise Thread parameter

**DONE!**

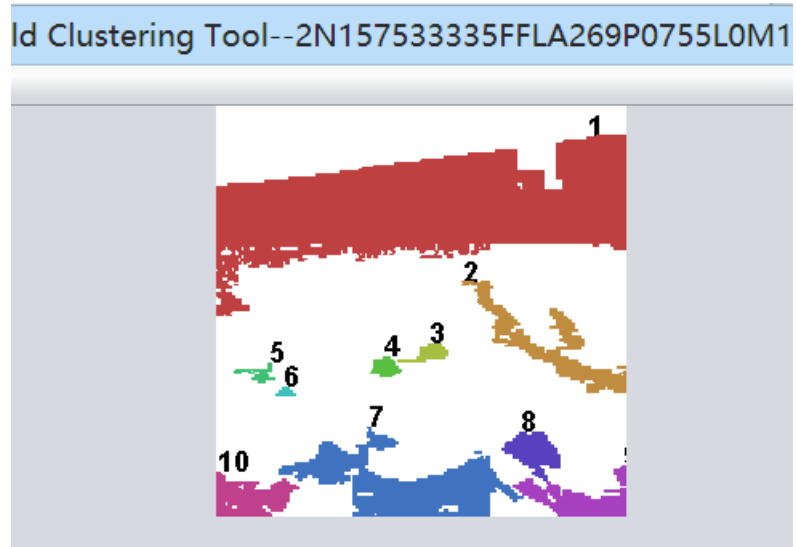


Figure 4.1 result image of detect mars' stones

### QUESTIONS?

If you have any problem using our clustering tool, please contact us. Our email are listed below:

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