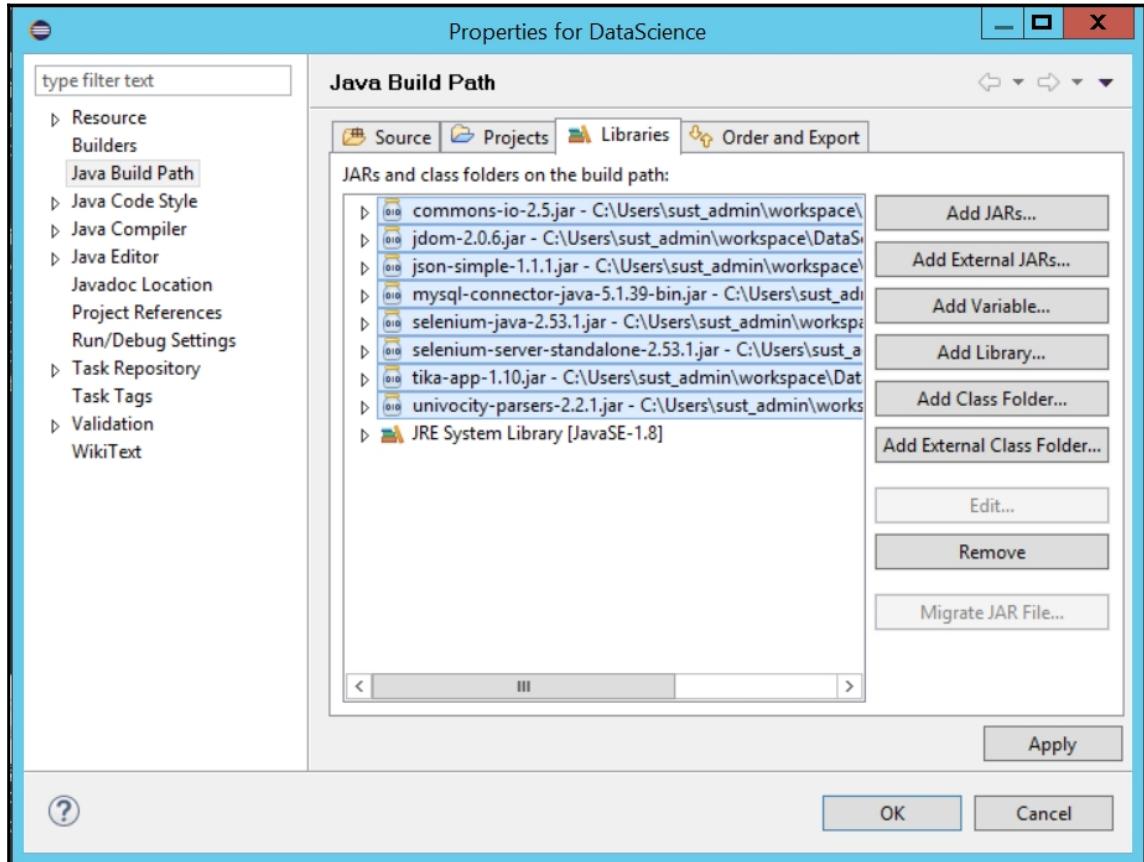
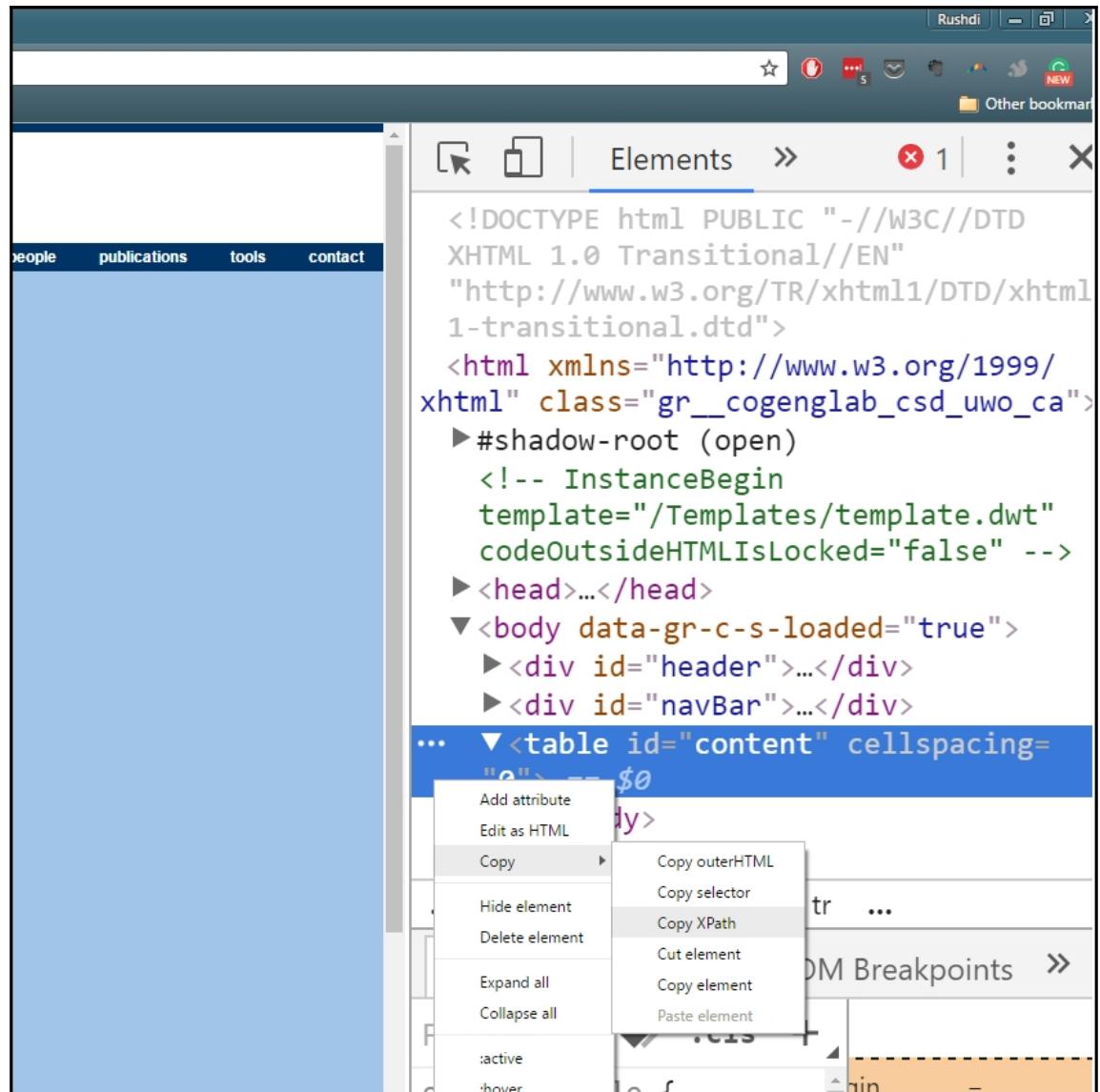


# Chapter 1: Obtaining and Cleaning Data





RUSHDI SHAMS

**Short Biography**

Rushdi Shams was born in Khulna, Bangladesh on January 3, 1985. He pursued his M.Sc. in Information Technology from the University of Bolton, United Kingdom in 2007 and his B.Sc. (Engineering) in Computer Science and Engineering from Khulna University of Engineering & Technology (KUET), Bangladesh in 2006. His major fields of study are AI, text processing and information retrieval. He was an Assistant Professor in the Department of Computer Science and Engineering, KUET, Purnia, he was a Research Intern at [http://www.csail.mit.edu], University of Bolton.

He has been pursuing his PhD in Computer Science Department UWIC, Canada since September 2010.

Besides research, he is a **photographer** and used to play drums.

**Current Research**

The aim of Rushdi's research is to extract meaningful relations from biomedical texts. To do that, he has proposed a method to extract content-rich sentences from texts based on their reading difficulty. He hypothesized and proved that the sentences that are difficult to read contain more relations and ideas.

**Publications**

**Journal**

2010  
1. Rushdi Shams , Adel Elsayed, and Ghazi Mahrzouf Alker, "A Corpus-based Evaluation of a Domain-specific Text to Knowledge Mapping Prototype", Journal of Computer Academy Publisher, Vol. 5, No. 1, ISSN 1798-2030, 2010. Available online: <http://www.academypublisher.com/journals/jca/2010/vol5/issue1/2.pdf>

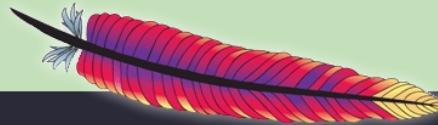
Peer Reviewed Conferences

2012  
10. Rushdi Shams and Robert E. Mercer, "Improving Biomedical Keyphrase Indexing with Text Demotivation", (Submitted to 12th European Association for Computational Linguistics EACL2012, Avignon, France)

A Graphic Bundle is a collection of various design assets, including UI components, icons, and other visual elements, designed for use in web development or graphic design projects.

id	book_name	author_name	date_created
1	The Hunger Games	Suzanne Collins	2008-09-14 00:00:00
2	Harry Potter and the Sorcerer's Stone	J.K. Rowling	1997-07-30 00:00:00
3	Divergent	Veronica Roth	2011-04-25 00:00:00

## Chapter 2: Indexing and Searching Data



Apache Lucene is distributed under a commercially friendly Apache Software license

**Lucene™ Downloads**

Official releases are usually created when the developers feel there are sufficient changes, improvements and bug fixes to warrant a release. Due to the voluntary nature of Lucene, no releases are scheduled in advance. System Requirements are detailed here.

Both binary and source releases for the latest version of Lucene are available from the Apache Mirrors.

Archives for all past versions of Lucene are available at the Apache archives.

The lucene-VERSION.zip or .tar.gz (where VERSION is the version number of the release, e.g. 3.0.1) file contains the lucene-core jar file, html documentation, a demo application (see the "Getting Started" section) and various jar files containing contributed code. The lucene-VERSION-src.zip or .tar.gz contains the full source code for that version.

**DOWNLOAD**

Apache Lucene 6.4.1

**Resources**

Mailing Lists  
Developer  
Features  
Releases  
System Requirements

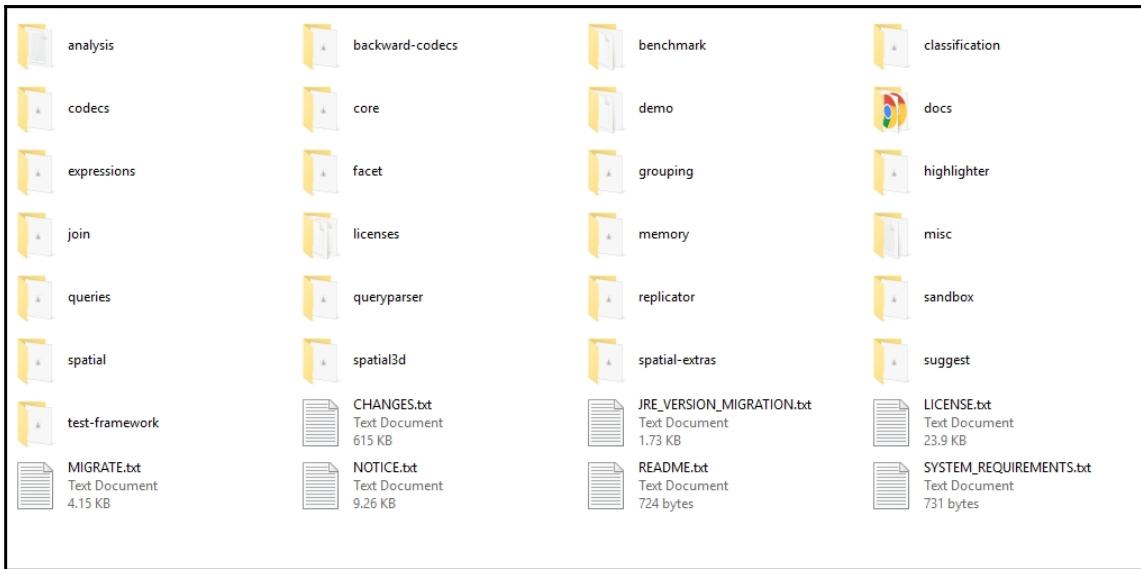
**Release Docs**

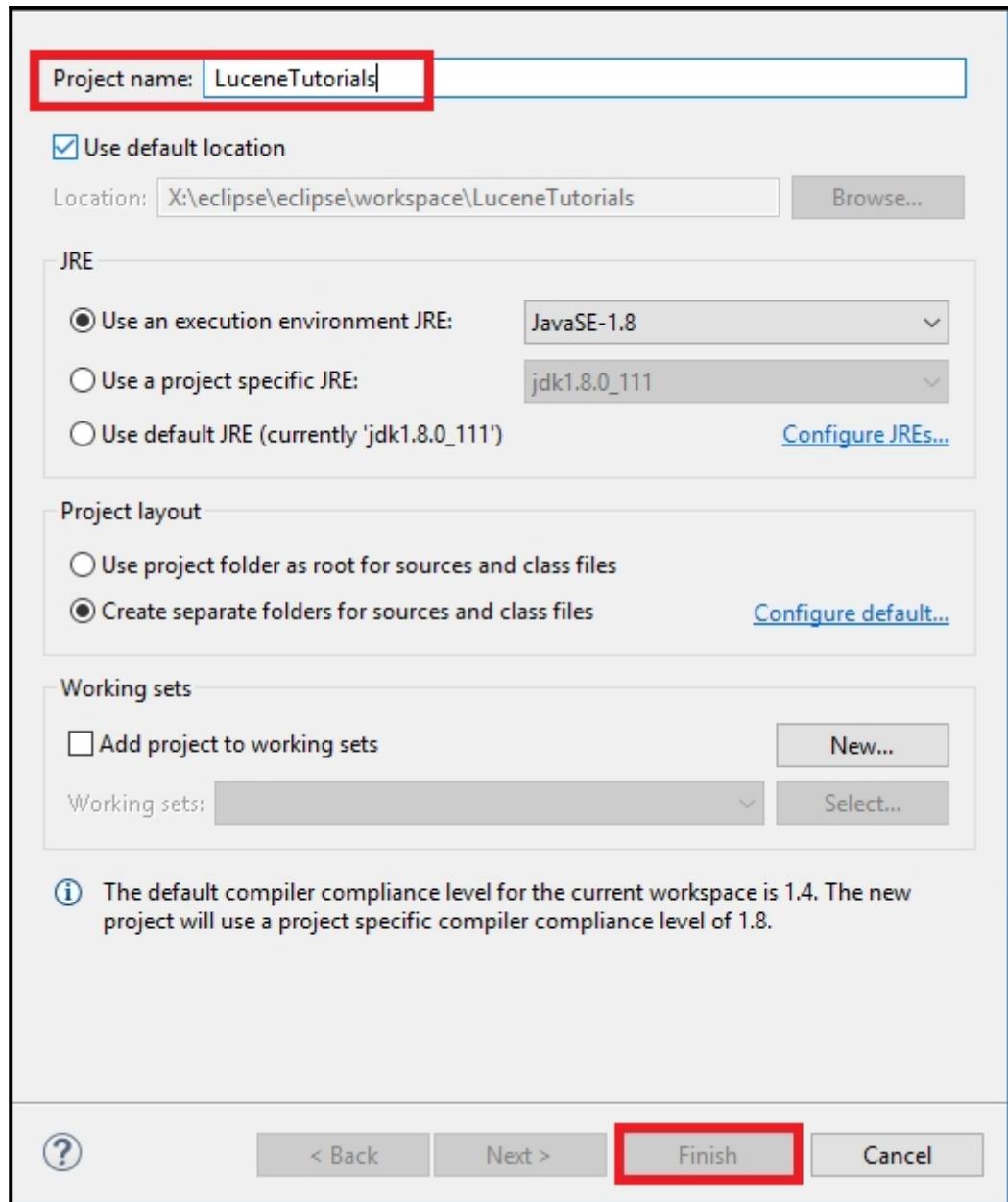
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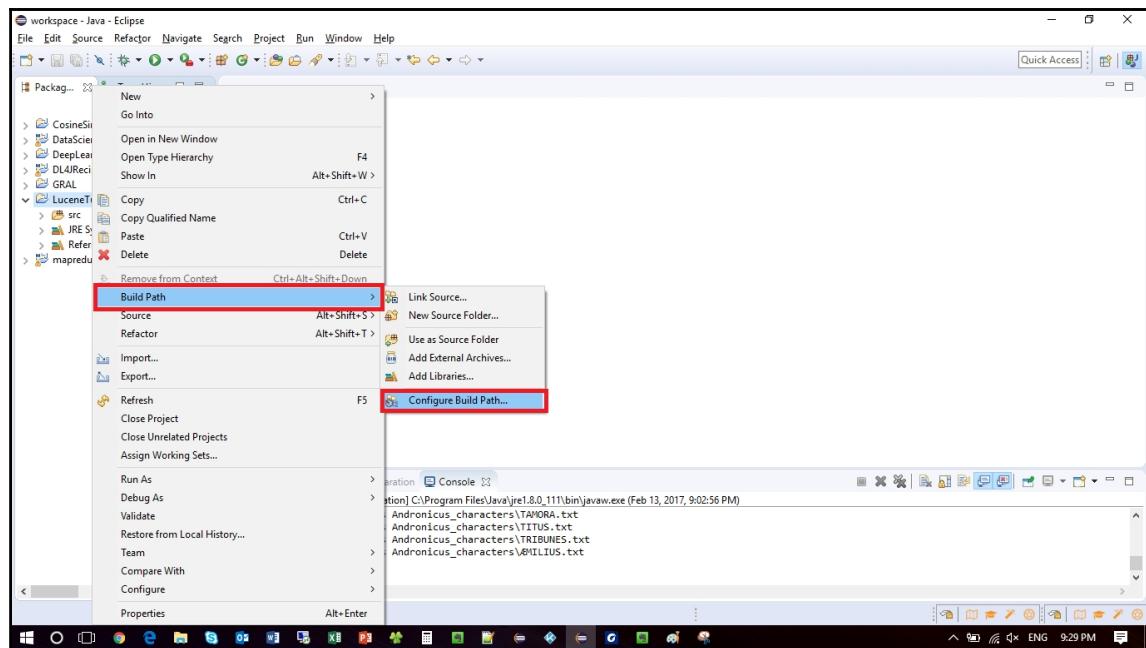
<u>Name</u>	<u>Last modified</u>	<u>Size</u>	<u>Description</u>
 <a href="#">Parent Directory</a>		-	Java-Apache (old)
 <a href="#">changes/</a>	04-Feb-2017 13:31	-	Java-Apache (old)
 <a href="#">lucene-6.4.1-src.tgz</a>	01-Feb-2017 11:59	31M	Java-Apache (old)
 <a href="#">lucene-6.4.1.tgz</a>	01-Feb-2017 11:59	65M	Java-Apache (old)
 <a href="#">lucene-6.4.1.zip</a>	01-Feb-2017 11:59	75M	Java-Apache (old)

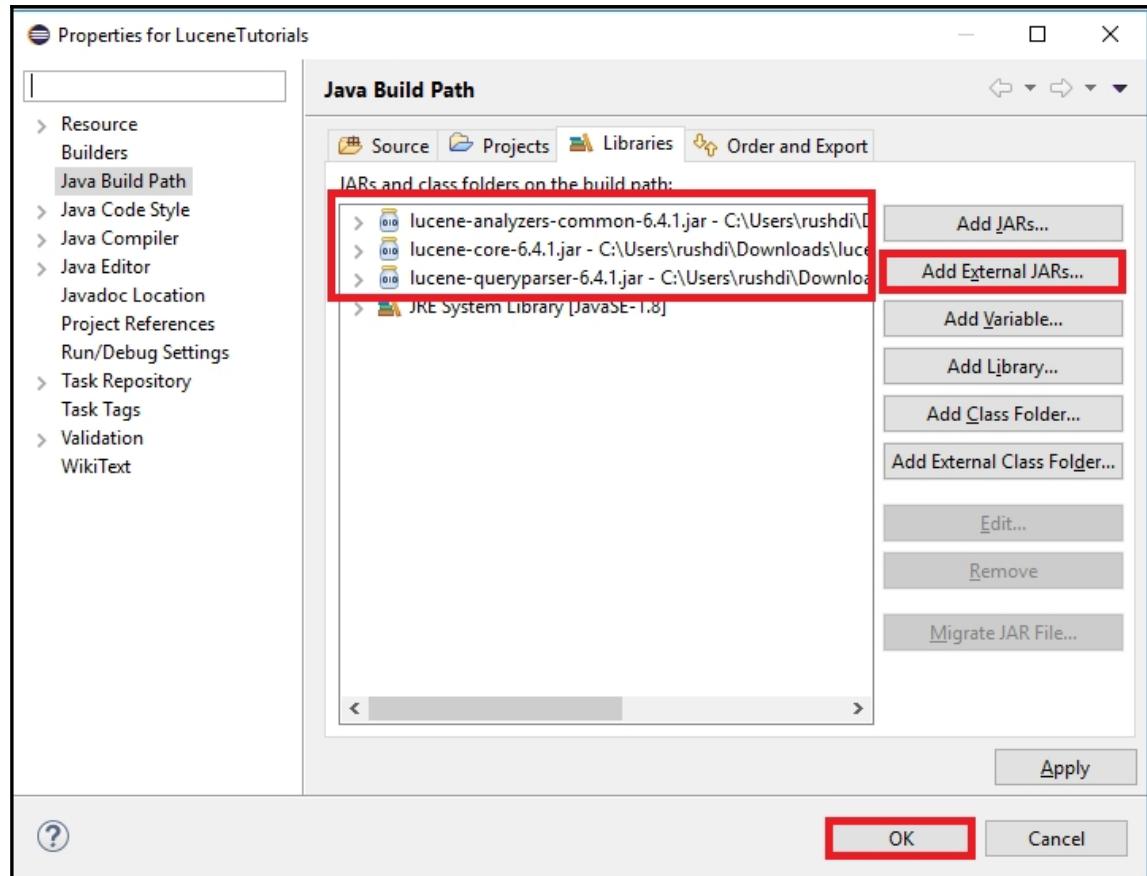
## Graphic Bundle

---

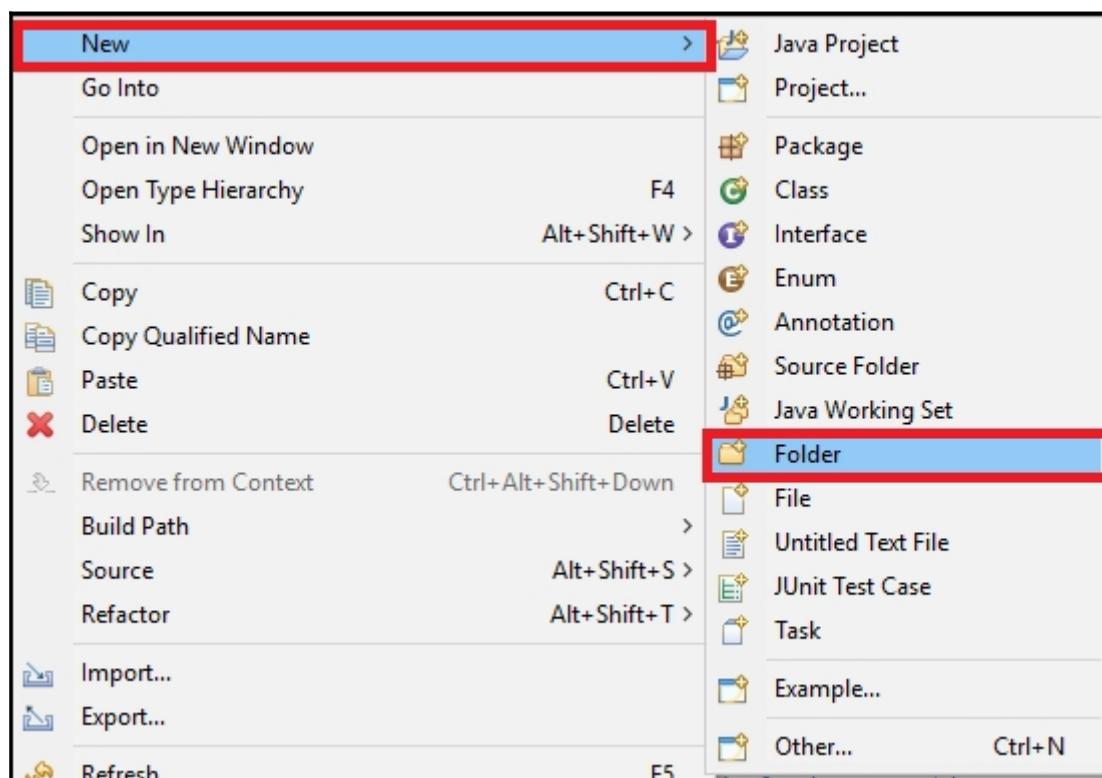


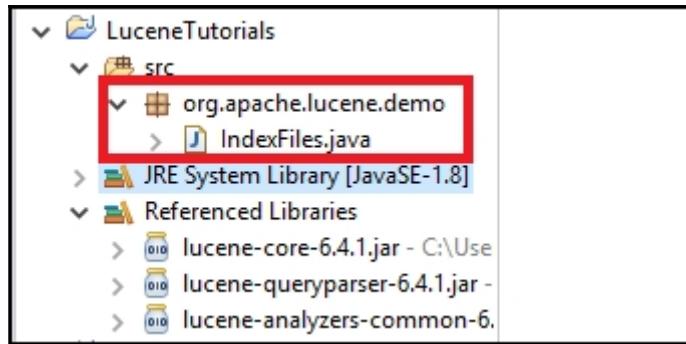
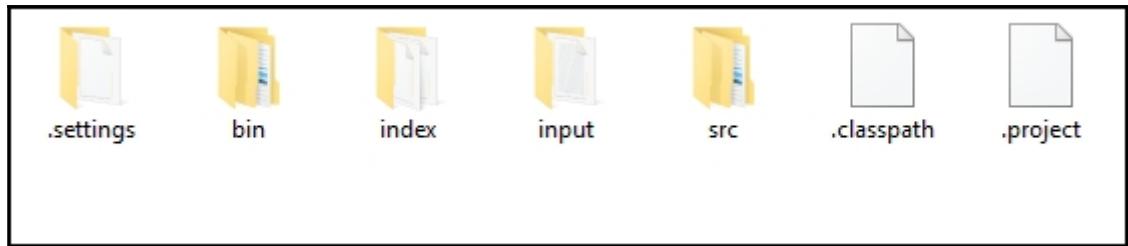


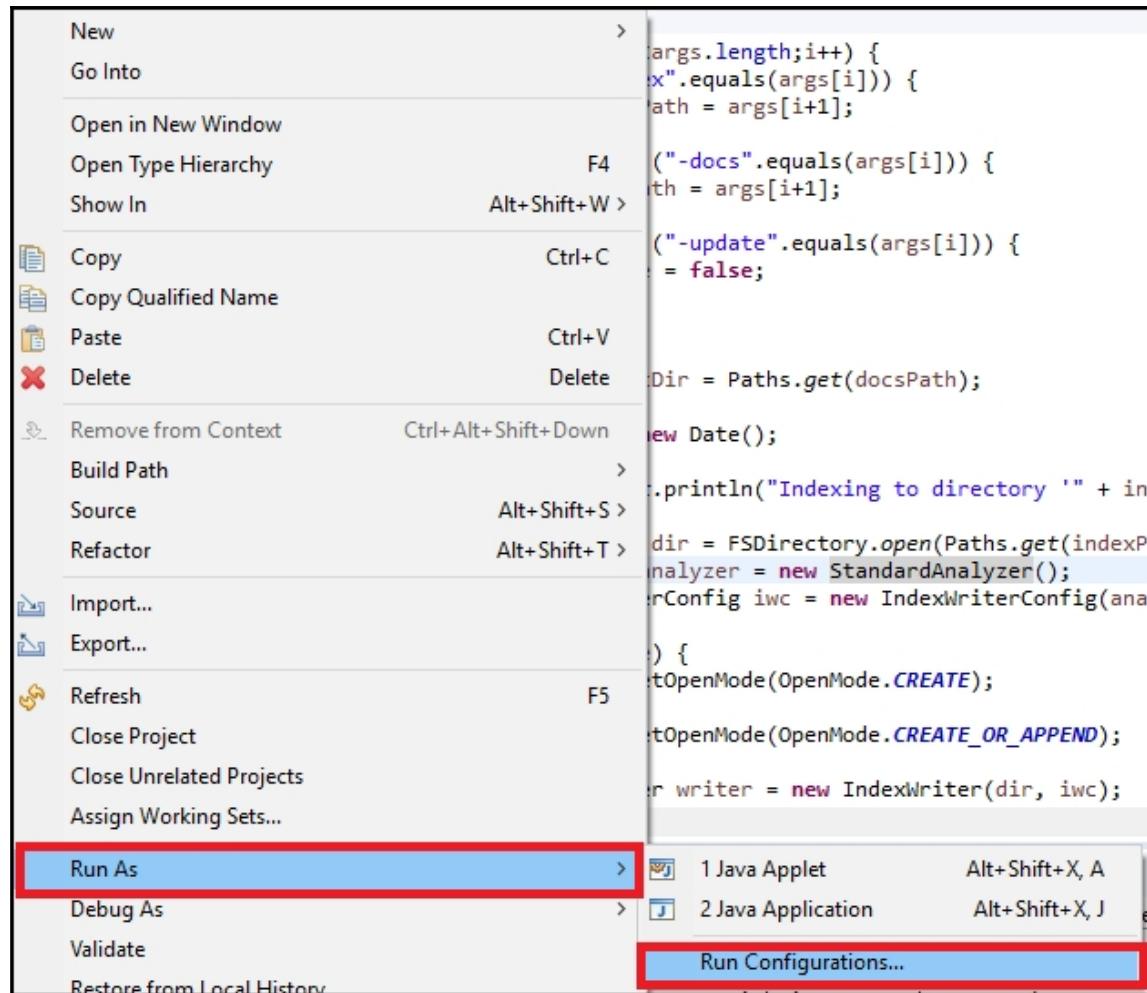


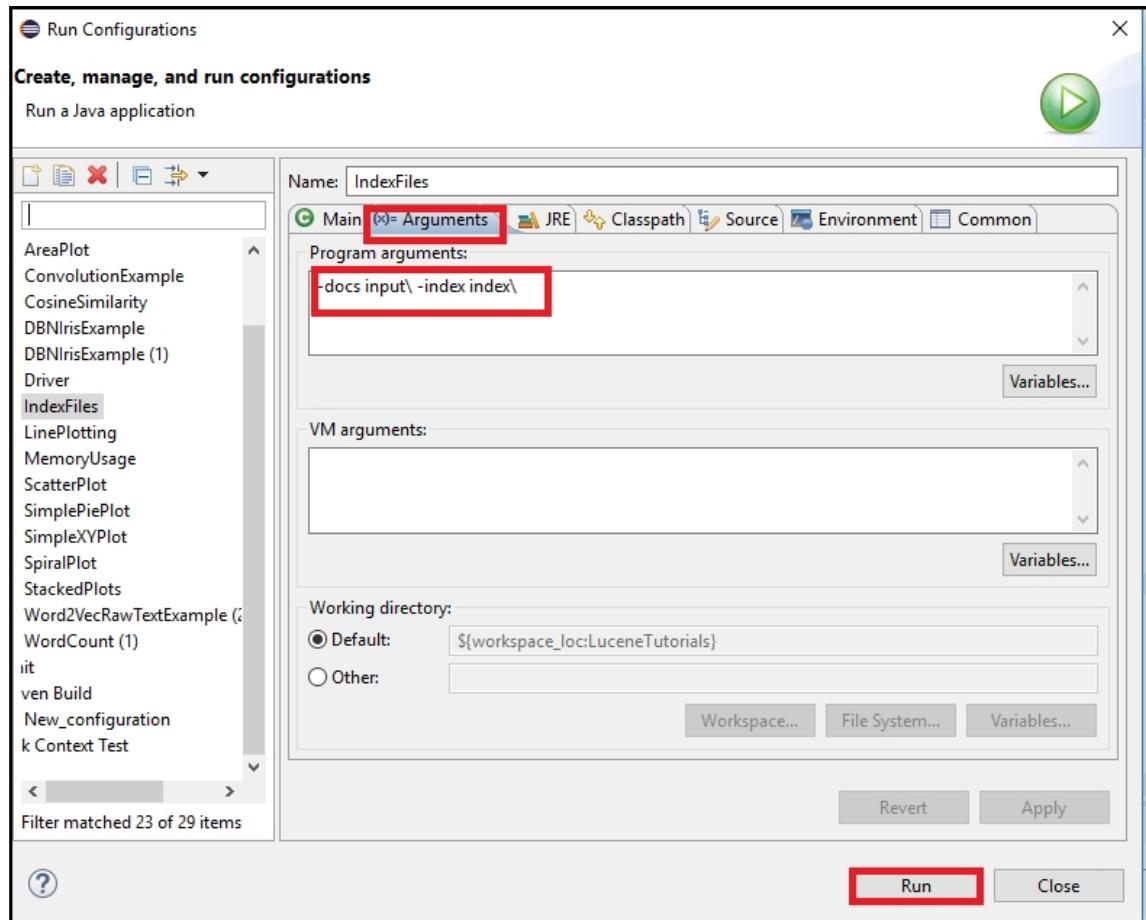


6.5 MB <a href="#">big.txt</a>	File of running text used in my <a href="#">spell correction</a> article.
1.0 MB <a href="#">smaller.txt</a>	Excerpt of file of running text from my <a href="#">spell correction</a> article. Smaller; faster.
0.3 MB <a href="#">count_big.txt</a>	A word count file (29,136 words) for big.txt.
1.5 MB <a href="#">count_1w100k.txt</a>	A word count file with 100,000 most popular words, all uppercase.
.02 MB <a href="#">words4.txt</a>	4360 words of length 4 (for word games)
.04 MB <a href="#">sgb-words.txt</a>	5757 words of length 5 (for word games) from Knuth's <a href="#">Stanford GraphBase</a>
.03 MB <a href="#">words.js</a>	1000 most common words of English from <a href="#">xkcd Simple Writer</a> (more than 1.0
4.3 MB <a href="#">shakespeare.txt</a>	The complete works of Shakespeare, tokenized so that there is a space between words.
3.0 MB <a href="#">sowpods.txt</a>	The <a href="#">SOWPODS</a> word list (267,750 words) -- used by Scrabble players (except Canada).
1.9 MB <a href="#">TWL06.txt</a>	The <a href="#">Tournament Word List</a> (178,690 words) -- used by North American Scrabble players.
1.9 MB <a href="#">enable1.txt</a>	The <a href="#">ENABLE</a> word list (172,819 words) -- also used by word game players.
2.7 MB <a href="#">word.list</a>	The YAWL (Yet Another Word List) word list (263,533 words) -- formed by combining several lists.
	(See <a href="#">Internet Scrabble Club</a> for more lists.)







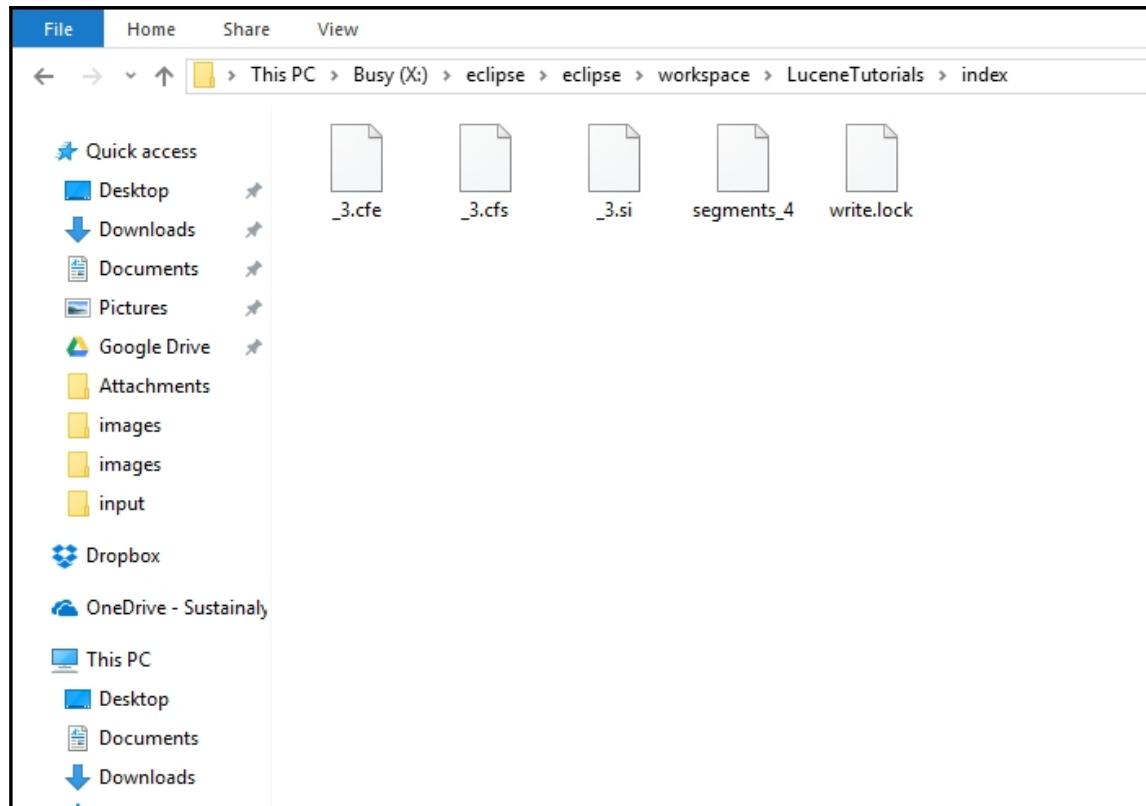


The screenshot shows a Java application running in an IDE. The code in `IndexFiles.java` performs the following steps:

- Imports `java.util.Date`, `java.nio.Paths`, `org.apache.lucene.analysis.StandardAnalyzer`, `org.apache.lucene.index.IndexWriterConfig`, and `org.apache.lucene.store.FSDirectory`.
- Creates a directory `index` for indexing.
- Prints the start time and initializes an `IndexWriter` with `CREATE_OR_APPEND` mode.
- Indexes the file `shakespeare.txt`.
- Prints the end time and calculates the total execution time.

The output window shows the console log:

```
<terminated> IndexFiles [Java Application] C:\Program Files\Java\jre1.8.0_111\bin\javaw.exe (Feb 16, 2017, 11:19:36)
Indexing to directory 'index'...
adding input\shakespeare.txt
1383 total milliseconds
```



The screenshot shows an IDE interface with two tabs at the top: "IndexFiles.java" and "SearchFiles.java". The "SearchFiles.java" tab is active, displaying the following Java code:

```
28 import org.apache.lucene.queryparser.classic.QueryParser;
29 import org.apache.lucene.search.IndexSearcher;
30 import org.apache.lucene.search.Query;
31 import org.apache.lucene.search.ScoreDoc;
32 import org.apache.lucene.search.TopDocs;
33 import org.apache.lucene.store.FSDirectory;
34
35 public class SearchFiles {
36     public static final String INDEX_DIRECTORY = "index";
37     public static final String FIELD_CONTENTS = "contents";
38
39     public static void main(String[] args) throws Exception {
40         IndexReader reader = DirectoryReader.open(FSDirectory.open(Path);
41         IndexSearcher indexSearcher = new IndexSearcher(reader);
42
43         Analyzer analyzer = new StandardAnalyzer();
44         QueryParser queryParser = new QueryParser(FIELD_CONTENTS, analy;
45         String searchString = "over-full AND persuasion";
46         Query query = queryParser.parse(searchString);
47
48         TopDocs results = indexSearcher.search(query, 5);
49         ScoreDoc[] hits = results.scoreDocs;
50
51         int numTotalHits = results.totalHits;
52         System.out.println(numTotalHits + " total matching documents");
53
54         for(int i=0;i<hits.length;++i) {
55             int docId = hits[i].doc;
```

Below the code editor is a "Console" tab, which displays the output of the program's execution:

```
terminated> SearchFiles [Java Application] C:\Program Files\Java\jre1.8.0_111\bin\javaw.exe (Feb 16,
1 total matching documents
1. input\shakespeare.txt score=1.8491187
```

A red box highlights the output text in the console.

The screenshot shows an IDE interface with two tabs at the top: "IndexFiles.java" and "SearchFiles.java". The "SearchFiles.java" tab is active, showing the following Java code:

```
28 import org.apache.lucene.queryparser.classic.QueryParser;
29 import org.apache.lucene.search.IndexSearcher;
30 import org.apache.lucene.search.Query;
31 import org.apache.lucene.search.ScoreDoc;
32 import org.apache.lucene.search.TopDocs;
33 import org.apache.lucene.store.FSDirectory;
34
35 public class SearchFiles {
36     public static final String INDEX_DIRECTORY = "index";
37     public static final String FIELD_CONTENTS = "contents";
38
39     public static void main(String[] args) throws Exception {
40         IndexReader reader = DirectoryReader.open(FSDirectory.open(Paths
41             .get(Paths.get(INDEX_DIRECTORY).toAbsolutePath())));
42         IndexSearcher indexSearcher = new IndexSearcher(reader);
43
44         Analyzer analyzer = new StandardAnalyzer();
45         QueryParser queryParser = new QueryParser(FIELD_CONTENTS, analyzer);
46         String searchString = "shakespeare";
47         Query query = queryParser.parse(searchString);
48
49         TopDocs results = indexSearcher.search(query, 5);
50         ScoreDoc[] hits = results.scoreDocs;
51
52         int numTotalHits = results.totalHits;
53         System.out.println(numTotalHits + " total matching documents");
54
55         for(int i=0;i<hits.length;++i) {
56             int docId = hits[i].doc;
```

Below the code editor is a "Console" tab which displays the output of the application. The output is:

```
<terminated> SearchFiles [Java Application] C:\Program Files\Java\jre1.8.0_111\bin\javaw.exe (Feb 16, 2017)
0 total matching documents
```

# Chapter 3: Analyzing Data Statistically

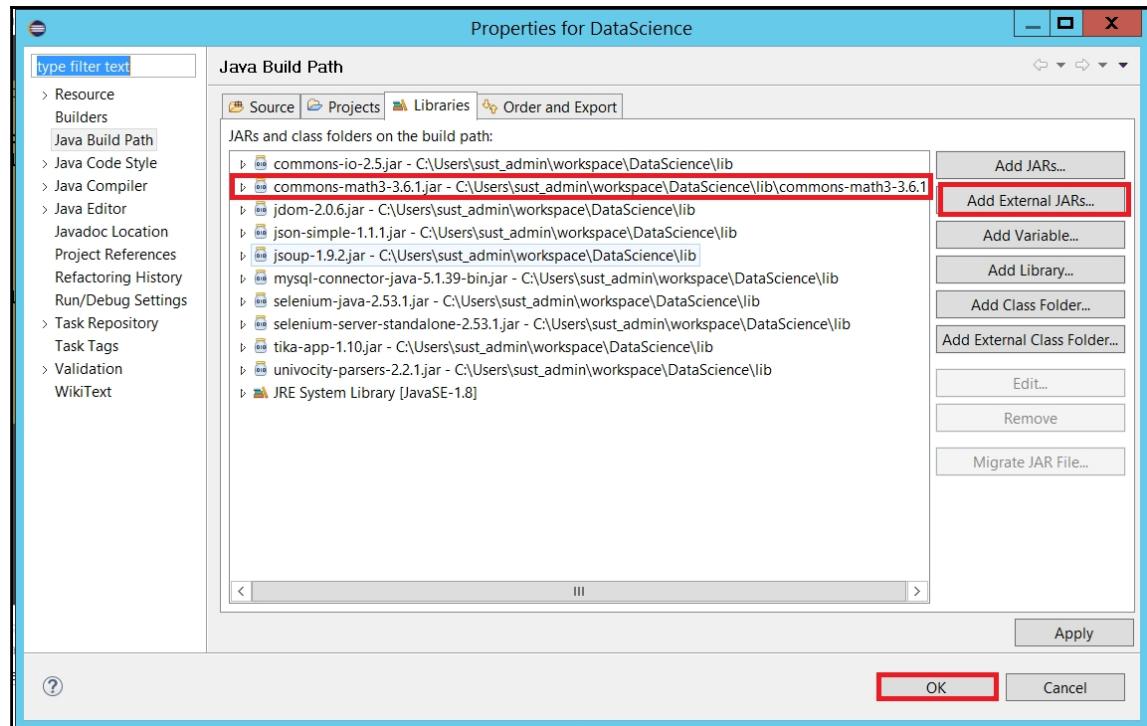
## Apache Commons Project Distributions

The most recent source and binary releases for the Apache Commons project are at

### Important Notices

- [Download from your nearest mirror site!](#)
- [PGP/GPG Signatures](#)

Name	Last modified	Size	Description
 Parent Directory	-	-	-
 <a href="#">binaries/</a>	2016-03-21 12:58	-	
 <a href="#">source/</a>	2016-03-21 12:58	-	
 <a href="#">KEYS</a>	2005-12-19 14:28	2.1K	
 <a href="#">RELEASE-NOTES.txt</a>	2016-03-21 12:48	1.1K	



# Chapter 4: Learning from Data - part 1

- **Developer version**

This is the trunk of Weka and continues from the stable-3-8 code line. It receives both bug fixes and new features.

- **Windows x86**

Click [here](#) to download a self-extracting executable that includes Java VM 1.8  
(weka-3-9-0jre.exe; 100.7 MB)

Click [here](#) to download a self-extracting executable without the Java VM  
(weka-3-9-0.exe; 50.1 MB)

These executables will install Weka in your Program Menu. Download the second version if you already have Java 1.7 (or later) on your system.

- **Windows x64**

Click [here](#) to download a self-extracting executable that includes 64 bit Java VM 1.8  
(weka-3-9-0jre-x64.exe; 105.4 MB)

Click [here](#) to download a self-extracting executable without the Java VM  
(weka-3-9-0-x64.exe; 50.1 MB)

These executables will install Weka in your Program Menu. Download the second version if you already have Java 1.7 (or later) on your system.

- **Mac OS X**

Click [here](#) to download a disk image for OS X that contains a Mac application including Oracle's Java 1.8 JVM  
(weka-3-9-0-oracle-jvm.dmg; 125.7 MB)

- **Other platforms (Linux, etc.)**

Click [here](#) to download a zip archive containing Weka  
(weka-3-9-0.zip; 50.4 MB)

 changelogs	10/27/2016 7:14 PM	File folder	
 data	10/27/2016 7:14 PM	File folder	
 doc	10/27/2016 7:14 PM	File folder	
 COPYING	4/14/2016 3:04 AM	File	35 KB
 documentation	4/14/2016 3:04 AM	CSS File	1 KB
 documentation	4/14/2016 3:04 AM	Chrome HTML Do...	2 KB
 README	4/14/2016 3:04 AM	File	16 KB
 remoteExperimentServer	4/14/2016 3:04 AM	Executable Jar File	42 KB
 RunWeka	4/14/2016 3:04 AM	Windows Batch File	1 KB
 RunWeka.class	4/14/2016 3:04 AM	CLASS File	5 KB
 RunWeka	4/14/2016 3:04 AM	Configuration sett...	3 KB
 uninstall	10/27/2016 7:14 PM	Application	56 KB
 Weka 3.9 (with console)	10/27/2016 7:14 PM	Shortcut	2 KB
 Weka 3.9	10/27/2016 7:14 PM	Shortcut	2 KB
 weka	4/14/2016 3:04 AM	GIF image	30 KB
 weka	4/14/2016 3:04 AM	ICO File	351 KB
 weka	4/14/2016 3:04 AM	Executable Jar File	10,740 KB
 wekaexamples	4/14/2016 3:04 AM	WinRAR ZIP archive	14,245 KB
 WekaManual	4/14/2016 3:04 AM	Adobe Acrobat D...	6,467 KB
 weka-src	4/14/2016 3:04 AM	Executable Jar File	10,514 KB

## Chapter 5: Learning from Data - part 2

Summary | Files | Reviews | Support | Developer documentation | Mailing Lists | Bugs and support

Looking for the latest version? [Download Java-ML 0.1.7 \(8.2 MB\)](#)

Home / java-ml

Name Modified Size Downloads / Week

Parent folder

Name	Modified	Size	Downloads / Week
0.1.5	2009-08-20	495	
0.1.4	2009-01-16	1	
0.1.3	2009-01-09	1	
0.1.2	2008-12-05	2	
0.1.1	2008-09-04	5	
0.1.0	2008-08-19	2	

javaml-0.1.7 > javaml-0.1.7 >

Name	Date modified	Type	Size
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lib	2012-07-09 9:14 PM	File folder	
pdfdoc	2012-07-09 9:14 PM	File folder	
javaml-0.1.7.jar	2012-07-09 9:14 PM	Executable Jar File	373 KB
javaml-0.1.7-src.zip	2012-07-09 9:14 PM	WinRAR ZIP archive	411 KB
license.txt	2012-07-09 9:14 PM	Text Document	18 KB
readme.txt	2012-07-09 9:14 PM	Text Document	3 KB

javaml-0.1.7 > javaml-0.1.7 > lib				
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ajt-2.9.jar	2012-07-09 9:14 PM	Executable Jar File	137 KI	
commons-math-1.2.jar	2012-07-09 9:14 PM	Executable Jar File	331 KI	
Jama-1.0.2.jar	2012-07-09 9:14 PM	Executable Jar File	33 KI	
libsvm.jar	2012-07-09 9:14 PM	Executable Jar File	49 KI	
weka.jar	2012-07-09 9:14 PM	Executable Jar File	5,160 KI	

Java Build Path	
	Source
	Projects
	Libraries
	Order and Export
JARs and class folders on the build path:	
▷	ajt-2.9.jar - C:\Users\sust_admin\workspace\(DataScience\lib\javaml
▷	commons-math-1.2.jar - C:\Users\sust_admin\workspace\(DataScience\lib\javaml
▷	Jama-1.0.2.jar - C:\Users\sust_admin\workspace\(DataScience\lib\javaml
▷	javaml-0.1.7.jar - C:\Users\sust_admin\workspace\(DataScience\lib\javaml
▷	libsvm.jar - C:\Users\sust_admin\workspace\(DataScience\lib\javaml
▷	weka.jar - C:\Users\sust_admin\workspace\(DataScience\lib\javaml
▷	JRE System Library [JavaSE-1.8]

## Databases

Wed, 12/17/2008 - 12:13 — Thomas Abeel

We provide mirrors for a number of well known datasets and we host a number of datasets that have been used in the scientific literature for validation.

### UCI datasets

One of the most well-known repositories of machine learning related datasets is the UCI Machine Learning Repository. Currently they host over 170 datasets related to number of machine learning fields including classification, clustering and regression.

We provide two packages, first a collection of 111 'small' datasets that contain less than 10 Mb of data, and second a set of 7 larger datasets which have over 10 Mb of data.

[Download 111 small UCI datasets](#)

[Download 7 large UCI datasets](#)

For full details on all datasets we would like to refer to the home page of the UCI repository. If you use these datasets in your research, please cite the original authors work.

[Printer-friendly version](#)

UCI-small > UCI-small > iris

Name	Date modified	Type	Size
bezdekIris.data	2008-12-13 8:47 A...	DATA File	5 KB
<b>iris.data</b>	2008-12-13 8:47 A...	DATA File	5 KB
iris.names	2008-12-13 8:47 A...	NAMES File	3 KB

## Introduction

An introduction to the classifier and some examples of its use are available on our [Wiki page](#). You can also [ColumnDataClassifier](#).

## Extensions: Packages by others using the Stanford Classifier

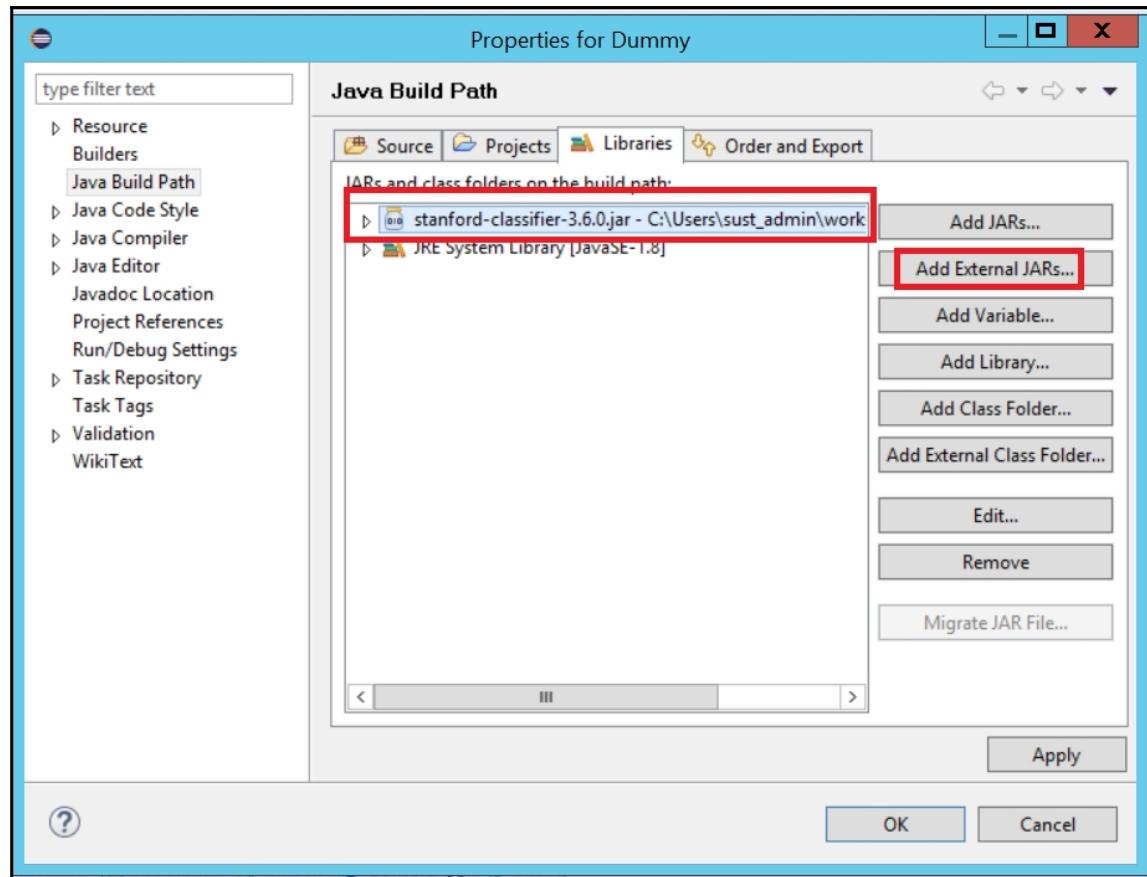
- **JavaScript/npm:** Milos Bejda has written stanford-classifier Nodejs wrapper. Source on [github](#).

[Download Stanford Classifier version 3.6.0](#)

## Release history

Version	Date	Description
---------	------	-------------

	examples	2016-01-22 11:13 ...	File folder
	build.xml	2016-01-22 11:13 ...	XML Document 6 KB
	ClassifierDemo.java	2016-01-22 11:13 ...	JAVA File 3 KB
	classmanifest.txt	2016-01-22 11:13 ...	Text Document 1 KB
	LICENSE.txt	2016-01-22 11:13 ...	Text Document 18 KB
	Makefile	2016-01-22 11:13 ...	File 1 KB
	README.txt	2016-01-22 11:13 ...	Text Document 7 KB
	slf4j-api.jar	2016-01-22 11:13 ...	Executable Jar File 26 KB
	slf4j-simple.jar	2016-01-22 11:13 ...	Executable Jar File 11 KB
	srcmanifest.txt	2016-01-22 11:13 ...	Text Document 1 KB
	stanford-classifier.jar	2016-01-22 11:13 ...	Executable Jar File 2,819 KB
	stanford-classifier-3.6.0.jar	2016-01-22 11:13 ...	Executable Jar File 2,819 KB
	stanford-classifier-3.6.0-javadoc.jar	2016-01-22 11:13 ...	Executable Jar File 2,985 KB
	stanford-classifier-3.6.0-sources.jar	2016-01-22 11:13 ...	Executable Jar File 2,292 KB



Name	Date modified	Type	Size
cheese2007.prop	2016-01-22 11:13 ...	PROP File	1 KB
cheeseDisease.test	2016-01-22 11:13 ...	TEST File	4 KB
cheeseDisease.train	2016-01-22 11:13 ...	TRAIN File	33 KB
iris.test	2016-01-22 11:13 ...	TEST File	1 KB
iris.train	2016-01-22 11:13 ...	TRAIN File	4 KB
iris2007.prop	2016-01-22 11:13 ...	PROP File	1 KB

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# MOA - Massive Online Analysis

Big Data Stream Analytics Framework.

Brought to you by: abifet, rkirkby

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Like 0

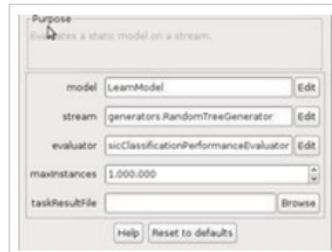


Download

moa-release-2016.04.zip



Browse All Files



Name

Date modified

Type

Size



bin

2016-11-29 10:42 ...

File folder



dependency-jars

2016-11-29 10:42 ...

File folder



doc

2016-11-29 10:42 ...

File folder



examples

2016-11-29 10:42 ...

File folder



lib

2016-11-29 10:42 ...

File folder



license

2016-11-29 10:42 ...

File folder



src

2016-11-29 10:42 ...

File folder

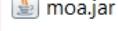


.DS\_Store

2016-04-29 3:13 PM

DS\_STORE File

7 KB

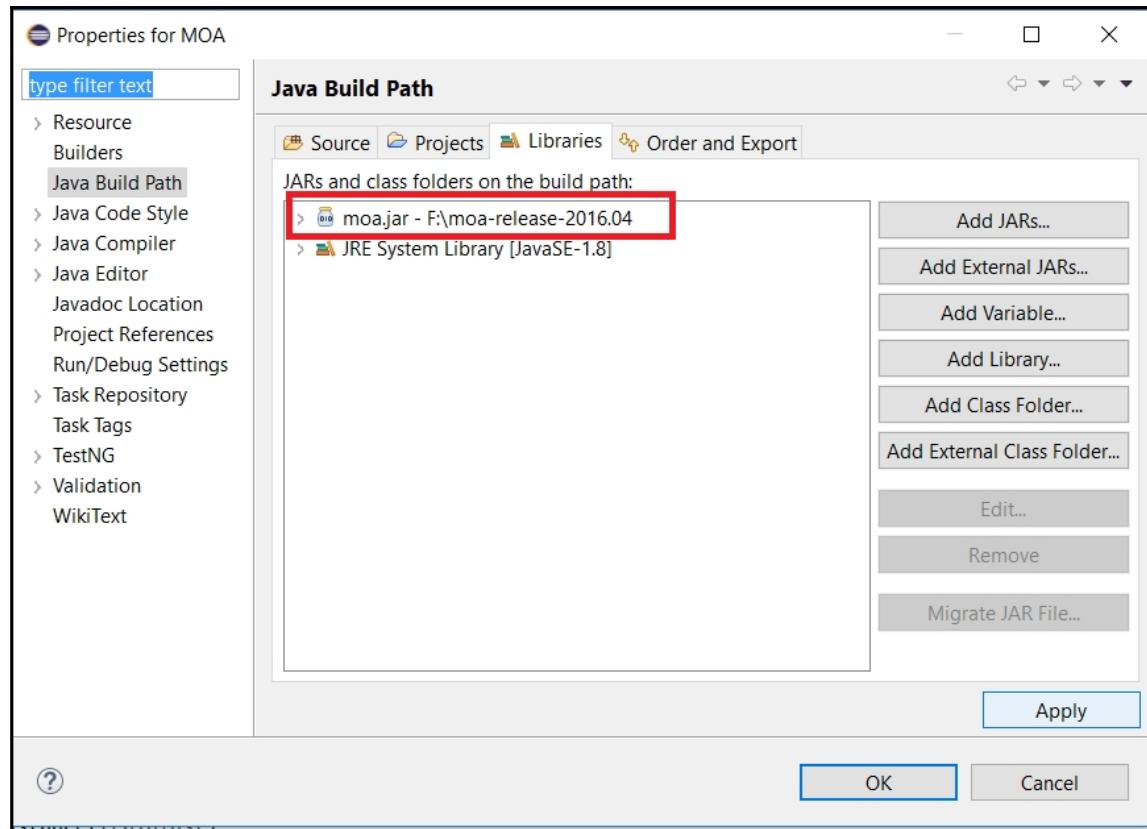


moa.jar

2016-04-29 2:53 PM

Executable Jar File

1,575 KB



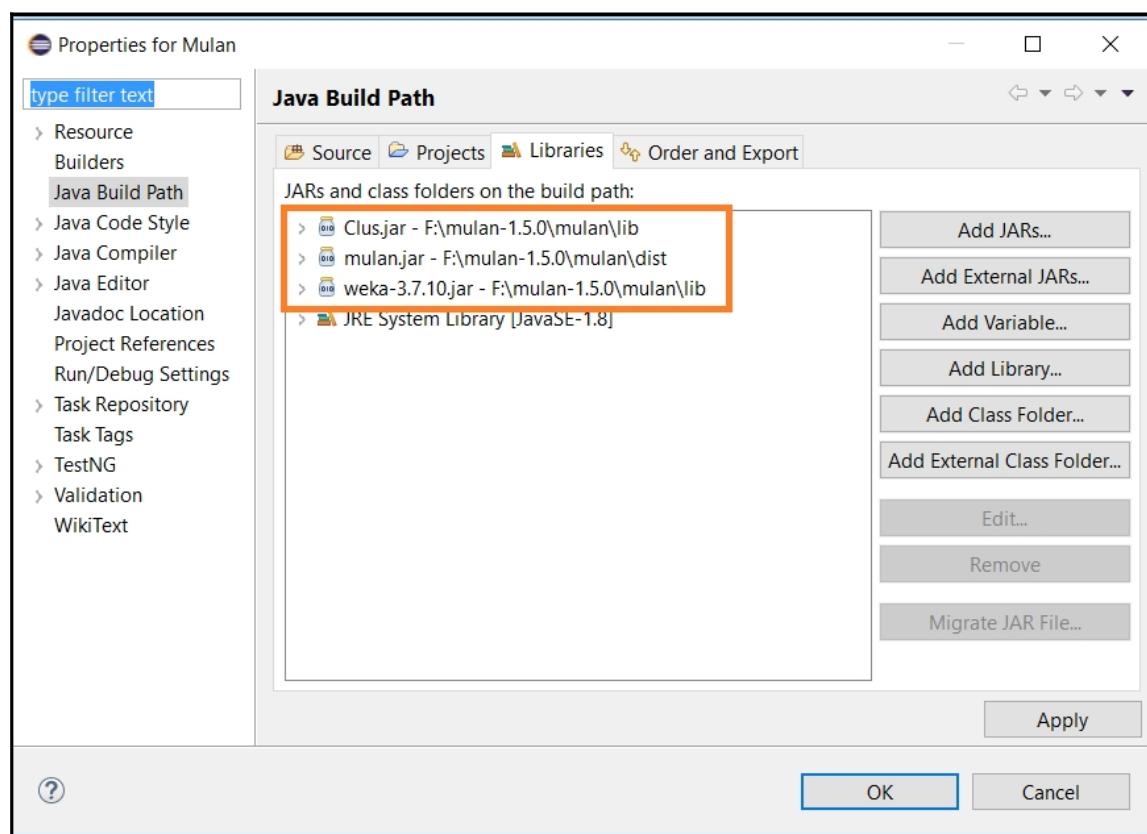
## Graphic Bundle

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data	2016-11-29 11:17 ...	File folder	
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lib	2016-11-29 11:17 ...	File folder	
nbproject	2016-11-29 11:17 ...	File folder	
src	2016-11-29 11:17 ...	File folder	
target	2016-11-29 11:17 ...	File folder	
test	2016-11-29 11:17 ...	File folder	
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.project	2015-02-22 5:44 PM	PROJECT File	1 KB
build.xml	2015-02-22 5:44 PM	XML Document	9 KB
changelog.txt	2015-02-22 5:44 PM	Text Document	5 KB
license.txt	2015-02-22 5:44 PM	Text Document	35 KB
readme.txt	2015-02-22 5:44 PM	Text Document	1 KB

 mulan.jar	2015-02-22 7:10 PM	Executable Jar File	453 KB
 mulan-1.5.0.zip	2015-02-22 7:10 PM	WinRAR ZIP archive	9,652 KB
 mulan-src.jar	2015-02-22 7:10 PM	Executable Jar File	413 KB

Name	Date modified	Type	Size
apidoc	2015-02-22 7:02 PM	File folder	
data	2015-02-22 5:44 PM	File folder	
build.xml	2015-02-22 5:44 PM	XML Document	9 KB
changelog.txt	2015-02-22 5:44 PM	Text Document	5 KB
Clus.jar	2015-02-22 5:44 PM	Executable Jar File	2,002 KB
license.txt	2015-02-22 5:44 PM	Text Document	35 KB
mulan.jar	2015-02-22 7:10 PM	Executable Jar File	453 KB
mulan-src.jar	2015-02-22 7:10 PM	Executable Jar File	413 KB
readme.txt	2015-02-22 5:44 PM	Text Document	1 KB
weka-3.7.10.jar	2015-02-22 5:44 PM	Executable Jar File	6,682 KB



## Graphic Bundle

---

Name	Date modified	Type	Size
testData	2016-11-29 11:17 ...	File folder	
emotions.arff	2015-02-22 5:44 PM	ARFF File	372 KB
emotions.xml	2015-02-22 5:44 PM	XML Document	1 KB
solar-flare_1.arff	2015-02-22 5:44 PM	ARFF File	16 KB

# Chapter 6: Retrieving Information from Text Data

## Download

### Last Official Release

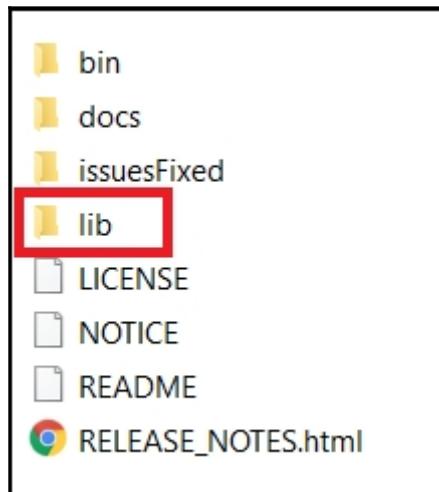
Apache OpenNLP 1.6.0 is now available for download.

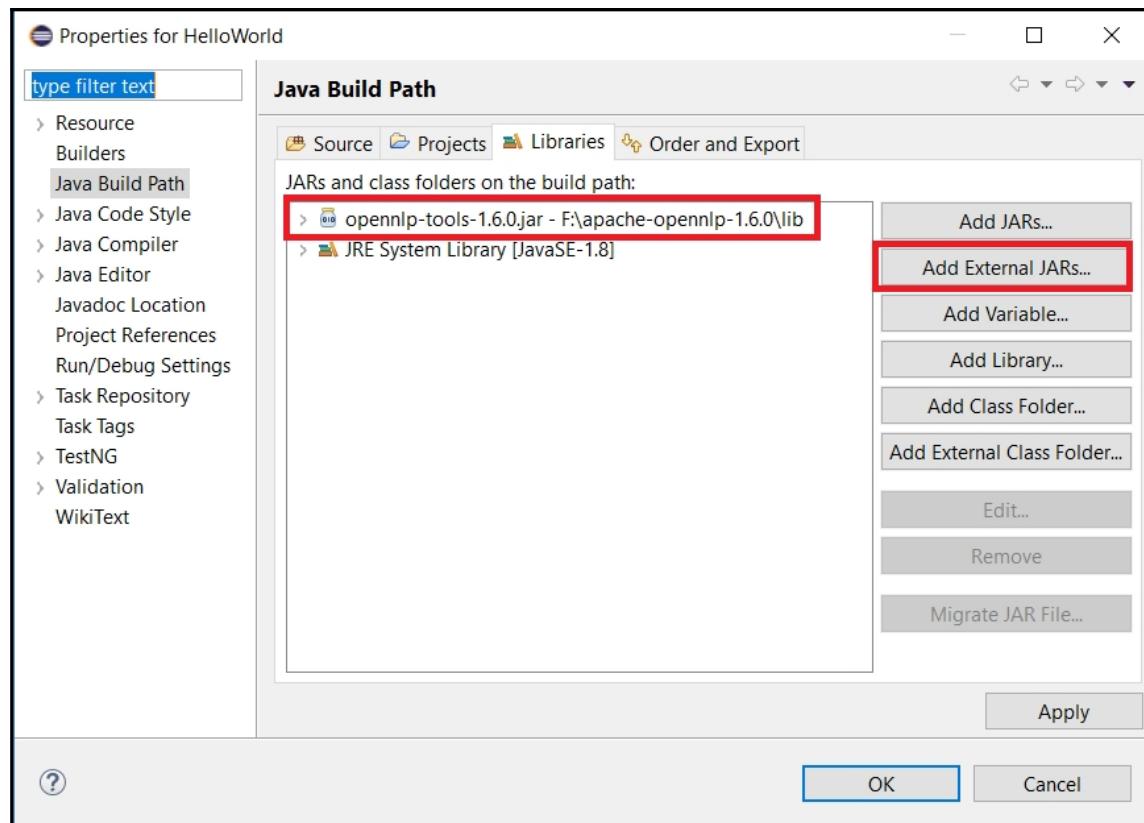
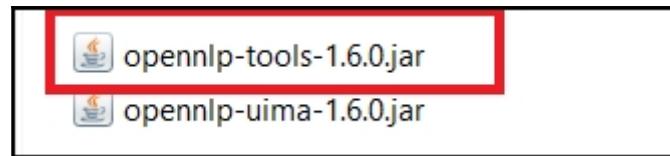
#### File

[apache-opennlp-1.6.0-bin.tar.gz](#)  
[apache-opennlp-1.6.0-bin.zip](#)    
[apache-opennlp-1.6.0-src.tar.gz](#)  
[apache-opennlp-1.6.0-src.zip](#)

#### Signatures

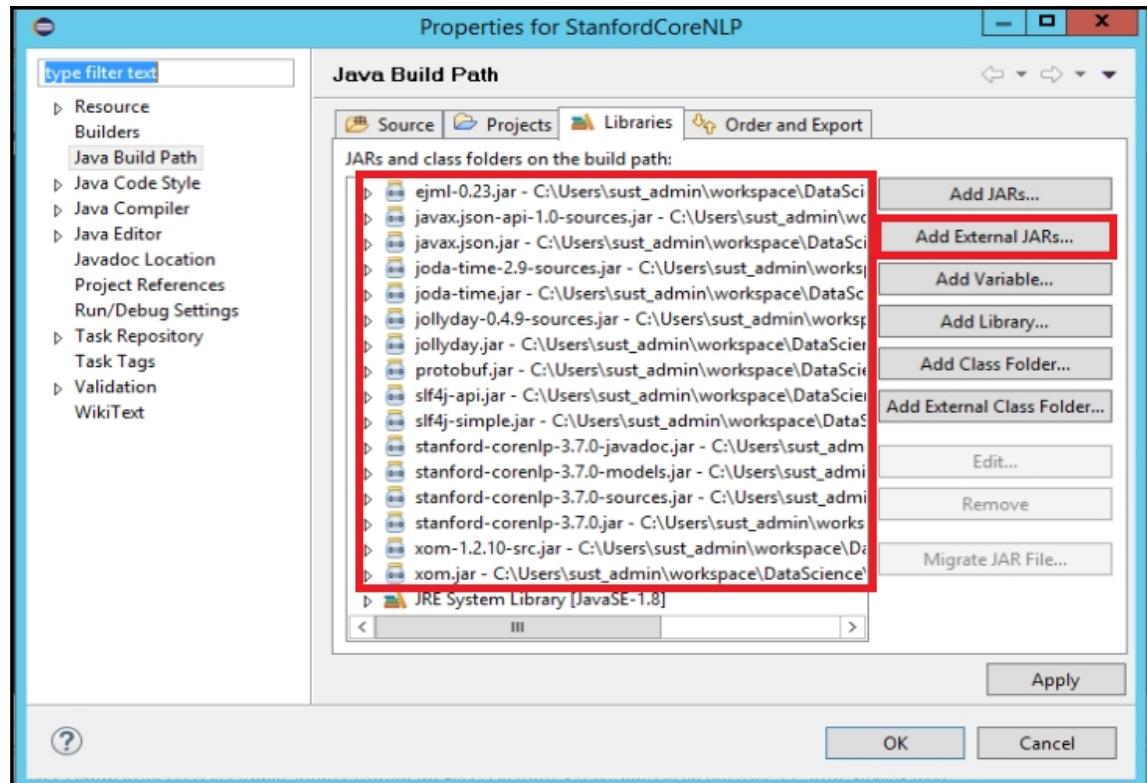
[md5](#) [sha1](#) [asc](#)  
[md5](#) [sha1](#) [asc](#)  
[md5](#) [sha1](#) [asc](#)  
[md5](#) [sha1](#) [asc](#)





de	POS Tagger	Perceptron model trained on tiger corpus.	<a href="#"><u>de-pos-perceptron.bin</u></a>
en	Tokenizer	Trained on opennlp training data.	<a href="#"><u>en-token.bin</u></a>
en	Sentence Detector	Trained on opennlp training data.	<a href="#"><u>en-sent.bin</u></a>
en	POS Tagger	Maxent model with tag dictionary.	<a href="#"><u>en-pos-maxent.bin</u></a>

📁 patterns	12/12/2016 10:29 ...	File folder
📁 sutime	12/12/2016 10:31 ...	File folder
📁 tokensregex	12/12/2016 10:31 ...	File folder
📝 StanfordDependenciesManual	12/12/2016 10:29 ...	Adobe Acrobat D...
ejml-0.23	12/12/2016 10:29 ...	Executable Jar File
javax.json	12/12/2016 10:29 ...	Executable Jar File
javax.json-api-1.0-sources	12/12/2016 10:29 ...	Executable Jar File
joda-time	12/12/2016 10:29 ...	Executable Jar File
joda-time-2.9-sources	12/12/2016 10:29 ...	Executable Jar File
jollyday	12/12/2016 10:29 ...	Executable Jar File
jollyday-0.4.9-sources	12/12/2016 10:29 ...	Executable Jar File
protobuf	12/12/2016 10:29 ...	Executable Jar File
slf4j-api	12/12/2016 10:29 ...	Executable Jar File
slf4j-simple	12/12/2016 10:29 ...	Executable Jar File
stanford-corenlp-3.7.0	12/12/2016 10:29 ...	Executable Jar File
stanford-corenlp-3.7.0-javadoc	12/12/2016 10:31 ...	Executable Jar File
stanford-corenlp-3.7.0-models	12/12/2016 10:30 ...	Executable Jar File
stanford-corenlp-3.7.0-sources	12/12/2016 10:29 ...	Executable Jar File
xom	12/12/2016 10:29 ...	Executable Jar File
xom-1.2.10-src	12/12/2016 10:29 ...	Executable Jar File
LIBRARY-LICENSES	12/12/2016 10:29 ...	File
Makefile	12/12/2016 10:29 ...	File
SemgrexDemo.java	12/12/2016 10:30 ...	JAVA File
ShiftReduceDemo.java	12/12/2016 10:30 ...	JAVA File
StanfordCoreNlpDemo.java	12/12/2016 10:30 ...	JAVA File



**Current release:** The following packaged release of MALLET 2.0 is available:

[mallet-2.0.8.tar.gz](#) [mallet-2.0.8.zip](#)

**Windows installation:** After unzipping MALLET, set the environment variable %MALLET\_HOME% to point to the MALLET directory. In all command line examples, substitute bin\mallet for bin/mallet.

**Development release:** To download the most current version of MALLET 2.0, use our public GitHub repository:

```
git clone https://github.com/mimno/Mallet.git
```

Input	9/30/2016 2:31 PM	File folder
mallet-2.0.8RC2	8/24/2016 2:20 PM	File folder
output	12/7/2016 6:48 PM	File folder
Packages	9/2/2015 1:52 PM	File folder
PerfLogs	8/22/2013 3:52 PM	File folder
Program Files	10/27/2016 7:10 PM	File folder
new		

Name	Date modified	Type	Size
bin	8/24/2016 2:20 PM	File folder	
class	8/24/2016 2:20 PM	File folder	
dist	8/24/2016 2:20 PM	File folder	
lib	8/24/2016 2:20 PM	File folder	
sample-data	8/24/2016 2:20 PM	File folder	
src	8/24/2016 2:20 PM	File folder	
stoplists	8/24/2016 2:20 PM	File folder	
test	6/19/2015 4:02 PM	File folder	
build	6/19/2015 4:02 PM	XML File	3 KB
LICENSE	6/19/2015 4:02 PM	File	12 KB
Makefile	6/19/2015 4:02 PM	File	4 KB
pom	6/19/2015 4:02 PM	XML File	4 KB
README.md	6/19/2015 4:02 PM	MD File	2 KB

← → ⏴ ⏵ Control Panel > System and Security > System

Control Panel Home

- Device Manager
- Remote settings
- System protection
- Advanced system settings

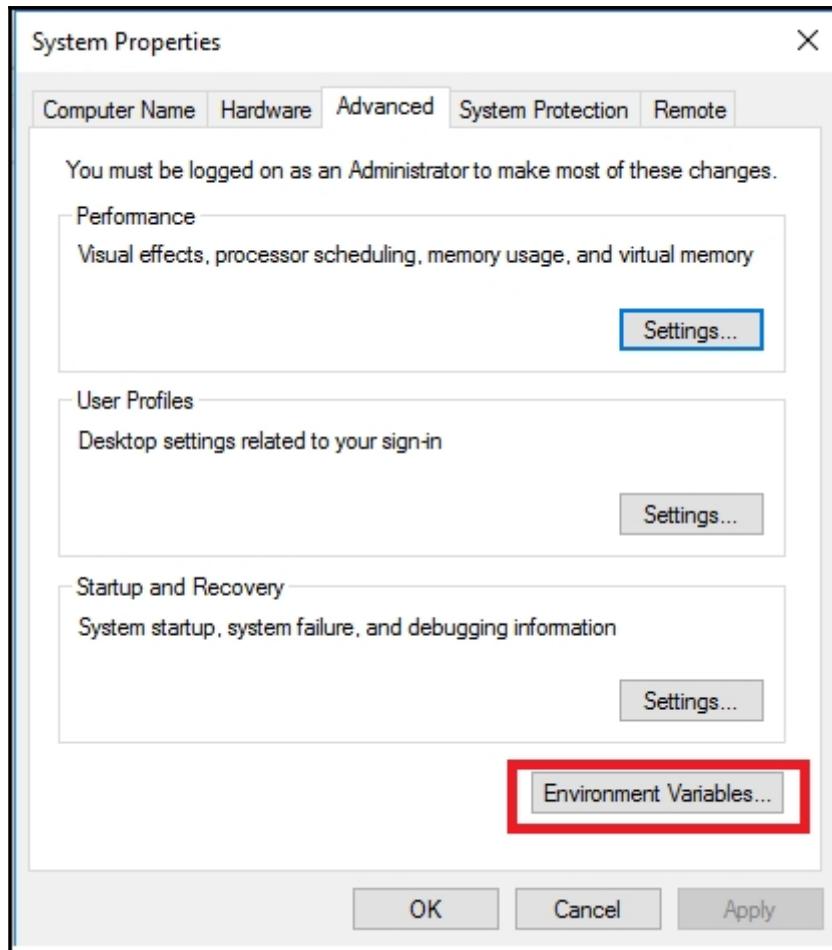
View basic information about your computer

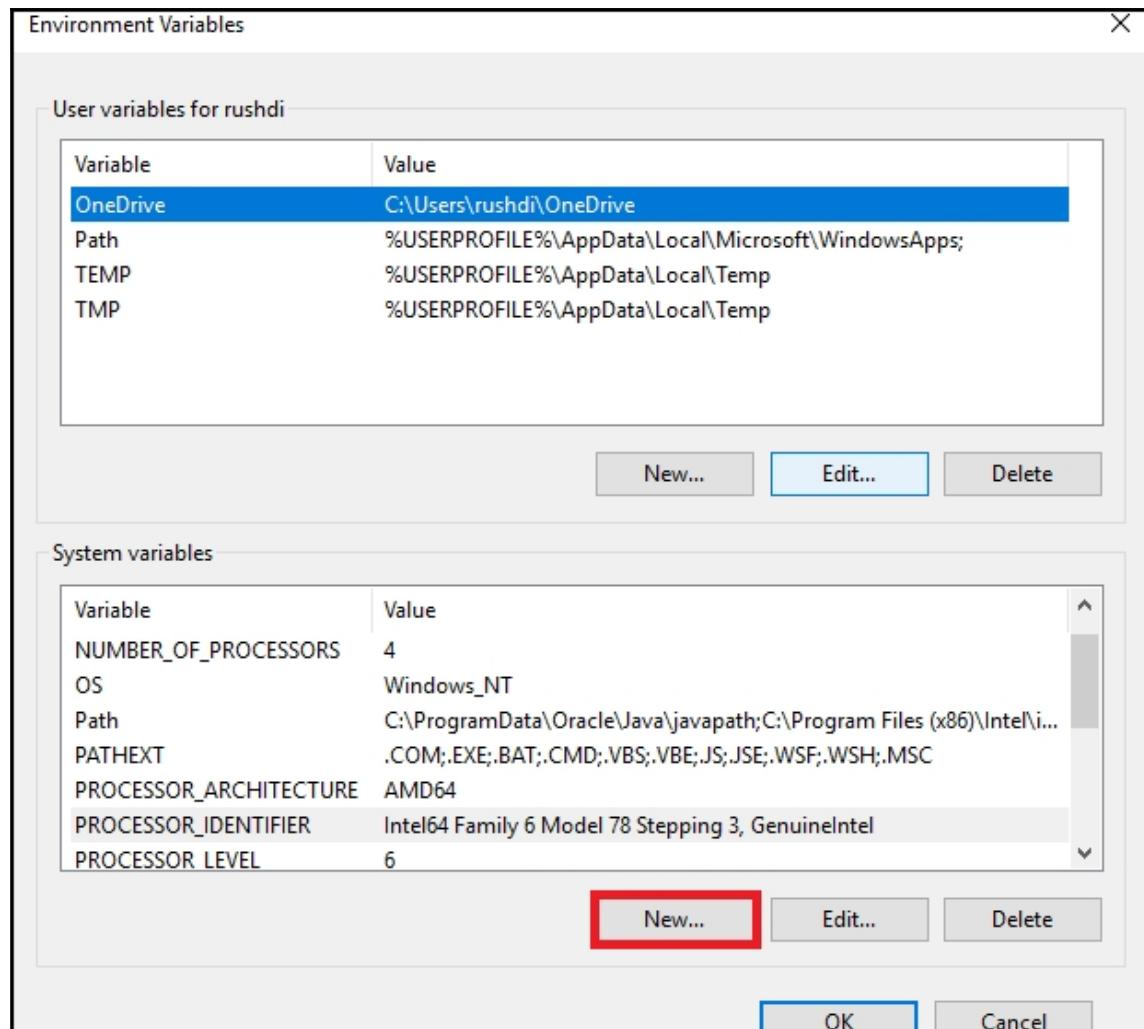
Windows edition

Windows 10 Home

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```

Administrator: Command Prompt
C:\mallet-2.0.8RC2>cd bin
C:\mallet-2.0.8RC2\bin>mallet
Mallet 2.0 commands:
  import-dir      load the contents of a directory into mallet instances (one per file)
  import-file     load a single file into mallet instances (one per line)
  import-sumlight load a single SUMLight format data file into mallet instance
  s <one per line>
  info            get information about Mallet instances
  train-classifier train a classifier from Mallet data files
  classify-dir   classify data from a single file with a saved classifier
  classify-file  classify the contents of a directory with a saved classifier

  classify-sumlight classify data from a single file in SUMLight format
  train-topics    train a topic model from Mallet data files
  infer-topics   use a trained topic model to infer topics for new documents
  evaluate-topics estimate the probability of new documents given a trained model

  hlda            train a topic model using Hierarchical LDA
  prune           remove features based on frequency or information gain
  split           divide data into testing, training, and validation portions

Include --help with any option for more information
C:\mallet-2.0.8RC2\bin>_

```

```

C:\mallet-2.0.8RC2\bin>mallet import-dir --help
A tool for creating instance lists of FeatureVectors or FeatureSequences from text documents.

--help TRUE|FALSE
Print this command line option usage information. Give argument of TRUE for longer documentation
Default is false
--prefix-code 'JAVA CODE'
Java code you want run before any other interpreted code. Note that the text is interpreted without modification, so unlike some other Java code options, you need to include any necessary 'new's when creating objects.
Default is null
--config FILE
Read command option values from a file
Default is null
--input DIR...
The directories containing text files to be classified, one directory per class
Default is <null>
--output FILE
Write the instance list to this file; Using - indicates stdout.
Default is text.vectors
--use-pipe-from FILE
Use the pipe and alphabets from a previously created vectors file. Allows the creation, for example, of a test set of vectors that are compatible with a previously created set of training vectors
Default is text.vectors
--preserve-case [TRUE|FALSE]
If true, do not force all strings to lowercase.
Default is false
--replacement-files FILE [FILE ...]
files containing string replacements, one per line:
  'A B [tab] C' replaces A B with C,
  'A B' replaces A B with A_B
Default is <null>

```

```
Administrator: Command Prompt
C:\>      5      average equipartition theorem energy system survived law kinetic
areas whig effects stars classical heat equilibrium thermal energies performer
dil npa
8      5      rings kehna journalist moons narrow particles relative thought w
ritten critical landing team president considered time co-owner news cinema acco
mplishments kabhi
9      5      sunderland thespis award thylacinus gods drama performances pape
r east newspaper protection run century temperature society premier asia acclaim
success mil

<950> LL/token: -9.28624
<960> LL/token: -9.28207
<970> LL/token: -9.23096
<980> LL/token: -9.23133
<990> LL/token: -9.24076

0      5      hawes confederate kentucky war states death acted relative beaur
egard president buell carlos shiloh commonwealth virginia neutrality whig govern
or husband variety
1      5      zinta role hindi actress film indian acting top-grossing naa awa
rd female filmfare earned films drama written areas evening protection april
2      5      battle union time army gen tennessee numerous confederates debut
newspaper line position men fighting grant's grant maj launched johnston landin
g
3      5      thylacine tasmanian back tiger extinct general king moons partic
les water devil related marsupial actors northern critical reported generally so
ciety biggest
4      5      years yard national wilderness life parks park modern world serv
ice movement independent journalist addition pouch thought early team rest onlin
e
5      5      test including cricket hill london survived american needham keh
na involved year run held original died premier ness news commercial heroine
6      5      gunnhind south gilbert thespis england mother gods greek perform
ances march productions theatre opera creating sullivan storey leading spent det
ails figure
7      5      average equipartition theorem united energy career law kinetic f
ound species thylacinus worked ended considered effects stars classical motion e
quilibrium energies
8      5      rings system dust australian number narrow ring discovered uranu
s scored batsman late saga heat received telugu helping secretary non-government
maximum
9      5      echo sunderland norway edward record uranian december paper dail
y thomas east forced played richard orkney erik kings established markets noted

<1000> LL/token: -9.25594

Total time: 2 seconds
C:\mallet-2.0.8RC2\bin>_
```

```

<?xml version='1.0' ?>
<topics>
    <topic id="0" alpha="2.032473408279035" totalTokens="66" titles="test, paper,
        <word weight="0.045454545454545456" count="3">test</word>
        <word weight="0.030303030303030304" count="2">paper</word>
        <word weight="0.030303030303030304" count="2">played</word>
        <word weight="0.015151515151515152" count="1">regular</word>
        <word weight="0.015151515151515152" count="1">markets</word>
        <word weight="0.015151515151515152" count="1">commercial</word>
        <word weight="0.015151515151515152" count="1">fiction</word>
        <word weight="0.015151515151515152" count="1">kya</word>
        <word weight="0.015151515151515152" count="1">female</word>
        <word weight="0.015151515151515152" count="1">dil</word>
        <word weight="0.015151515151515152" count="1">made</word>
        <word weight="0.015151515151515152" count="1">films</word>
        <word weight="0.015151515151515152" count="1">hindi</word>
        <word weight="0.015151515151515152" count="1">actress</word>
        <word weight="0.015151515151515152" count="1">caused</word>
        <word weight="0.015151515151515152" count="1">standards</word>
        <word weight="0.015151515151515152" count="1">editor</word>
        <word weight="0.015151515151515152" count="1">graduated</word>
        <word weight="0.015151515151515152" count="1">robert</word>
        <word weight="0.015151515151515152" count="1">telescope</word>
        <phrase weight="0.25" count="1">telescope number</phrase>
        <phrase weight="0.25" count="1">australian cricketers</phrase>
        <phrase weight="0.25" count="1">hindi films</phrase>
        <phrase weight="0.25" count="1">test cricket-a</phrase>
    </topic>

```

```

#doc source pos typeindex type topic
#alpha : 0.00529288685745327 0.005280224930316231 0.010411314990479141 0.005292639
0.005278782954717919 3.8154450835853604E-56 8.363084051683433E-65 0.01080648155617
0.005286647403862656 1.0743671245908252E-50 1.8112326797320508E-59 1.0996963864009
#beta : 0.2613020959658213
0 C:\mallet-2.0.8RC2\sample-data\web\en\elizabeth_needham.txt 0 0 elizabeth 2
0 C:\mallet-2.0.8RC2\sample-data\web\en\elizabeth_needham.txt 1 1 needham 2
0 C:\mallet-2.0.8RC2\sample-data\web\en\elizabeth_needham.txt 2 2 died 2
0 C:\mallet-2.0.8RC2\sample-data\web\en\elizabeth_needham.txt 3 3 mother 2
0 C:\mallet-2.0.8RC2\sample-data\web\en\elizabeth_needham.txt 4 1 needham 2
0 C:\mallet-2.0.8RC2\sample-data\web\en\elizabeth_needham.txt 5 4 english 2
0 C:\mallet-2.0.8RC2\sample-data\web\en\elizabeth_needham.txt 6 5 procuress 2
0 C:\mallet-2.0.8RC2\sample-data\web\en\elizabeth_needham.txt 7 6 brothel 2
0 C:\mallet-2.0.8RC2\sample-data\web\en\elizabeth_needham.txt 8 7 keeper 2
0 C:\mallet-2.0.8RC2\sample-data\web\en\elizabeth_needham.txt 9 8 century 2
0 C:\mallet-2.0.8RC2\sample-data\web\en\elizabeth_needham.txt 10 9 london 2
0 C:\mallet-2.0.8RC2\sample-data\web\en\elizabeth_needham.txt 11 10 identified 2

```

#doc	name	topic	proportion ...					
0	file:/C:/m	2	0.998723	10	2.00E-04	13	1.00E-04	
1	file:/C:/m	6	0.999228	10	1.12E-04	2	1.08E-04	
2	file:/C:/m	7	0.999107	10	1.30E-04	2	1.25E-04	
3	file:/C:/m	1	0.827995	10	0.171402	2	9.91E-05	
4	file:/C:/m	4	0.999251	10	1.09E-04	2	1.05E-04	
5	file:/C:/m	10	0.999527	2	7.18E-05	13	3.73E-05	
6	file:/C:/m	12	0.999228	10	1.12E-04	2	1.08E-04	
7	file:/C:/m	18	0.999219	10	1.14E-04	2	1.10E-04	
8	file:/C:/m	3	0.99943	10	8.31E-05	2	8.00E-05	
9	file:/C:/m	14	0.999307	10	1.01E-04	2	9.72E-05	
10	file:/C:/m	0	0.972324	2	0.027101	10	9.73E-05	
11	file:/C:/m	5	0.704671	13	0.294834	10	7.77E-05	

Name	Date modified	Type	Size
alt.atheism	12/24/2016 4:17 AM	File folder	
comp.graphics	12/24/2016 4:17 AM	File folder	
comp.os.ms-windows.misc	12/24/2016 4:17 AM	File folder	
comp.sys.ibm.pc.hardware	12/24/2016 4:17 AM	File folder	
comp.sys.mac.hardware	12/24/2016 4:17 AM	File folder	
comp.windows.x	12/24/2016 4:17 AM	File folder	
misc.forsale	12/24/2016 4:17 AM	File folder	
rec.autos	12/24/2016 4:17 AM	File folder	
rec.motorcycles	12/24/2016 4:17 AM	File folder	
rec.sport.baseball	12/24/2016 4:17 AM	File folder	
rec.sport.hockey	12/24/2016 4:17 AM	File folder	
sci.crypt	12/24/2016 4:18 AM	File folder	
sci.electronics	12/24/2016 4:18 AM	File folder	
sci.med	12/24/2016 4:18 AM	File folder	
sci.space	12/24/2016 4:18 AM	File folder	
soc.religion.christian	12/24/2016 4:18 AM	File folder	
talk.politics.guns	12/24/2016 4:18 AM	File folder	
talk.politics.mideast	12/24/2016 4:18 AM	File folder	
talk.politics.misc	12/24/2016 4:18 AM	File folder	
talk.religion.misc	12/24/2016 4:18 AM	File folder	

test	9/14/2016 2:55 PM	File folder
test_feed	12/10/2015 4:36 PM	File folder
Users	4/1/2016 6:18 PM	File folder
Windows	11/15/2016 3:03 PM	File folder
WindowsAzure	12/24/2016 4:22 AM	File folder
pdftotext	5/28/2014 3:50 PM	Application 1,152 KB
iris-test	11/2/2016 1:04 AM	ARFF Data File 1 KB
out	11/2/2016 1:09 AM	ARFF Data File 1 KB
training	10/31/2016 5:10 PM	ARFF Data File 1 KB
web.en	12/21/2016 3:19 PM	EN File 88 KB
20_newsgroup.classification.mallet	12/24/2016 4:26 AM	MALLET File 17,621 KB
web.en.mallet	12/21/2016 3:15 PM	MALLET File 36 KB
nb.model	11/3/2016 1:30 AM	MODEL File 3 KB
G_crawler.py	7/7/2016 8:49 PM	PY File 6 KB
a-r-test	12/19/2016 8:46 PM	TXT File 1 KB
iris-test	11/2/2016 1:04 AM	TXT File 0 KB
javaml-output	11/24/2016 4:46 PM	TXT File 5 KB
web.en.composition	12/21/2016 3:19 PM	TXT File 7 KB
web.en.keys	12/21/2016 3:19 PM	TXT File 3 KB
web.en	12/21/2016 3:19 PM	WinRAR archive 12 KB
web.en	12/21/2016 5:16 PM	XML File 33 KB

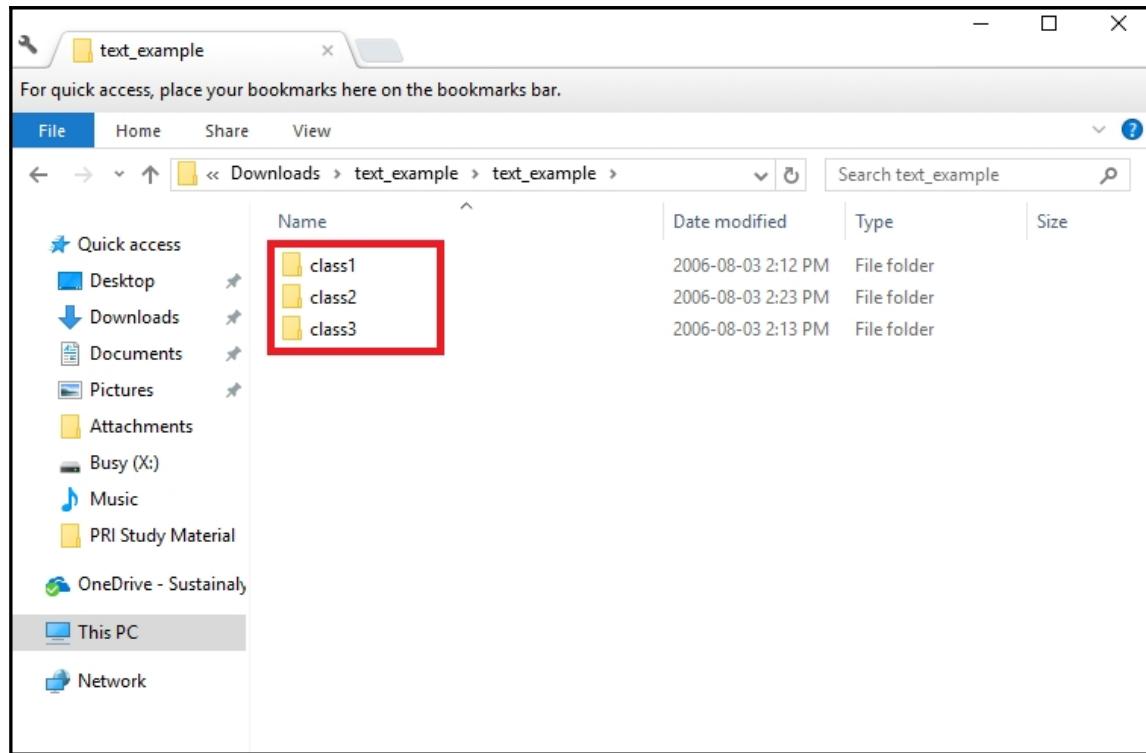
training	10/31/2016 3:03 PM	File folder
web.en	12/21/2016 3:19 PM	EN File 88 KB
20_newsgroup.classification.mallet	12/24/2016 4:26 AM	MALLET File 17,621 KB
web.en.mallet	12/21/2016 3:15 PM	MALLET File 36 KB
nb.model	11/3/2016 1:30 AM	MODEL File 3 KB
G_crawler.py	7/7/2016 8:49 PM	PY File 6 KB
a-r-test	12/19/2016 8:46 PM	TXT File 1 KB
iris-test	11/2/2016 1:04 AM	TXT File 0 KB
javaml-output	11/24/2016 4:46 PM	TXT File 5 KB
web.en.composition	12/21/2016 3:19 PM	TXT File 7 KB
web.en.keys	12/21/2016 3:19 PM	TXT File 3 KB
web.en	12/21/2016 3:19 PM	WinRAR archive 12 KB
web.en	12/21/2016 5:16 PM	XML File 33 KB
20_newsgroup.classification.classifier	2/24/2016 4:40 AM	CLASSIFIER File 43,034 KB

```
NaiveBayesTrainer
Summary. train accuracy mean = 0.9678835361449131 stddev = 0.0 stderr = 0.0
Summary. test accuracy mean = 0.915 stddev = 0.0 stderr = 0.0
Summary. test precision(alt.atheism) mean = 0.7272727272727273 stddev = 0.0 stderr = 0.0
Summary. test precision(comp.graphics) mean = 0.89 stddev = 0.0 stderr = 0.0
Summary. test precision(comp.os.ms-windows.misc) mean = 0.975609756097561 stddev = 0.0 stderr = 0.0
Summary. test precision(comp.sys.ibm.pc.hardware) mean = 0.9019607843137255 stddev = 0.0 stderr = 0.0
Summary. test precision(comp.sys.mac.hardware) mean = 0.9230769230769231 stddev = 0.0 stderr = 0.0
Summary. test precision(comp.windows.x) mean = 0.968421052631579 stddev = 0.0 stderr = 0.0
Summary. test precision(misc.forsale) mean = 0.9175257731958762 stddev = 0.0 stderr = 0.0
Summary. test precision(rec.autos) mean = 0.9702970297029703 stddev = 0.0 stderr = 0.0
Summary. test precision(rec.motorcycles) mean = 0.989010989010989 stddev = 0.0 stderr = 0.0
Summary. test precision(rec.sport.baseball) mean = 1.0 stddev = 0.0 stderr = 0.0
Summary. test precision(rec.sport.hockey) mean = 1.0 stddev = 0.0 stderr = 0.0
Summary. test precision(sci.crypt) mean = 0.9897959183673469 stddev = 0.0 stderr = 0.0
Summary. test precision(sci.electronics) mean = 0.9042553191489362 stddev = 0.0 stderr = 0.0
Summary. test precision(sci.med) mean = 1.0 stddev = 0.0 stderr = 0.0
Summary. test precision(sci.space) mean = 0.9711538461538461 stddev = 0.0 stderr
```

```

Trial 9 Training NaiveBayesTrainer with 17997 instances
Trial 9 Training NaiveBayesTrainer finished
Trial 9 Trainer NaiveBayesTrainer training data accuracy = 0.9671611935322554
Trial 9 Trainer NaiveBayesTrainer Test Data Confusion Matrix
Confusion Matrix, row=true, column=predicted accuracy=0.917 most-frequent-tag baseline=0.0595
      . . . . . label  0   1   2   3   4   5   6   7   8   9   10  11  12
13  14  15  16  17  18  19 |total
0    alt.atheism    73   .   .   .   .   .   .   .   .   .   .   .   .
.    .   .   .   .   .   24  |97
1    comp.graphics   . 100   .   .   .   1   1   .   .   .   .   .   1
.    1   .   .   .   1   . |105
2    comp.os.ms-windows.misc   .   4   83  16   .   .   .   1   .   .   1   .
.    .   .   .   .   .   . |105
3    comp.sys.ibm.pc.hardware   .   1   2   91   3   2   .   .   .   .   .   2
.    .   .   .   .   .   . |101
4    comp.sys.mac.hardware   .   1   .   .   92   .   .   .   .   .   .   1
.    .   .   .   .   .   . |94
5    comp.windows.x   .   2   .   2   .   96   .   .   .   .   .   .
.    .   .   .   .   .   . |100
6    misc.forsale   .   .   .   2   1   .   92   2   .   .   .   .
.    .   1   1   1   . |100
7    rec.autos   .   .   .   .   .   1   .   3 102   .   .   .
.    .   .   .   .   .   . |106
8    rec.motorcycles   .   .   .   .   .   .   .   .   2 114   .   .
.    .   1   .   2   . |119
9    rec.sport.baseball   .   .   .   .   .   .   .   .   1   1 100   .   .
.    1   .   .   .   . |103
10   rec.sport.hockey   .   .   .   .   .   .   .   .   .   .   .   96   .
.    .   .   .   .   1   . |97
11   sci.crypt   .   .   .   .   .   .   .   .   .   .   .   .   103   .
.    .   1   .   1   . |105
12   sci.electronics   .   .   .   2   .   .   .   .   .   .   1   . 112

```

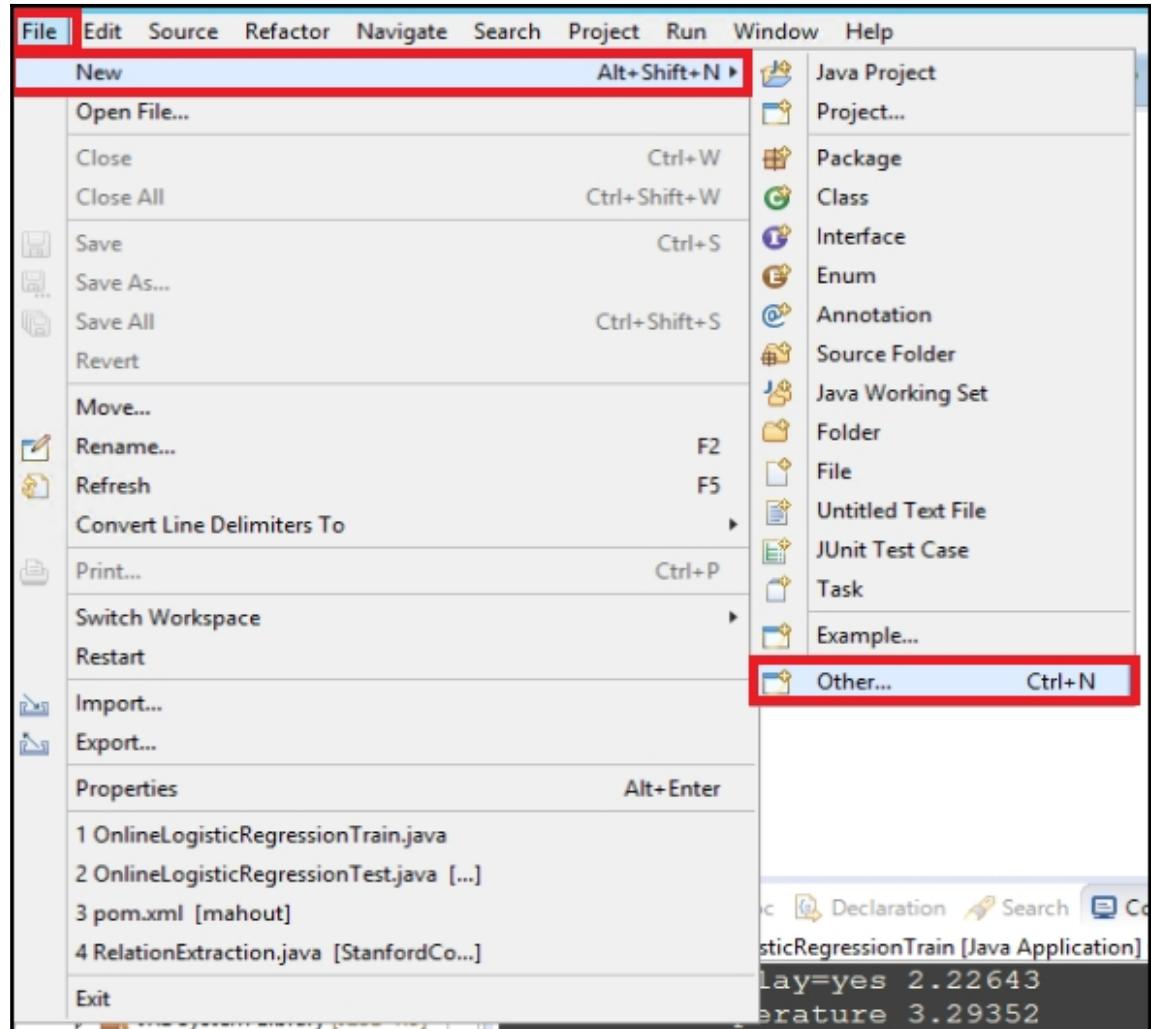


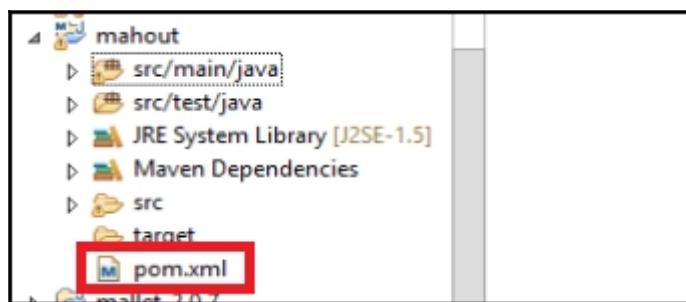
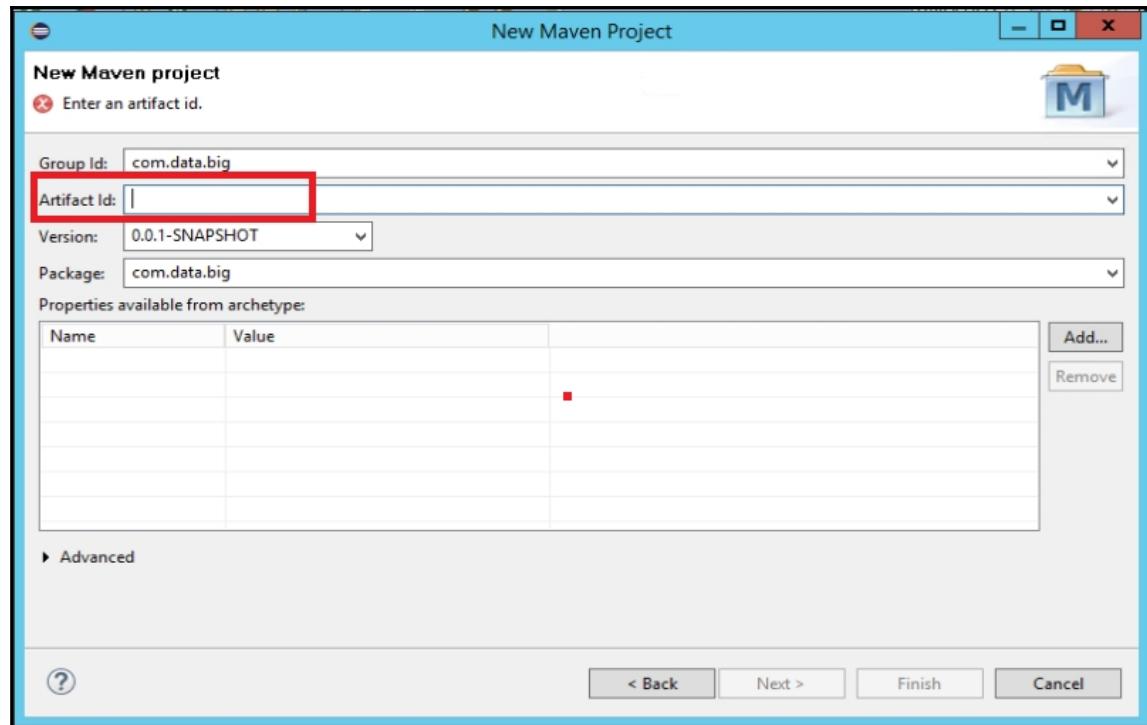
```
smashed
mean          0      0  0.3333
std. dev.    0.1667 0.1667 0.4714
weight sum       3      1      3
precision        1      1      1

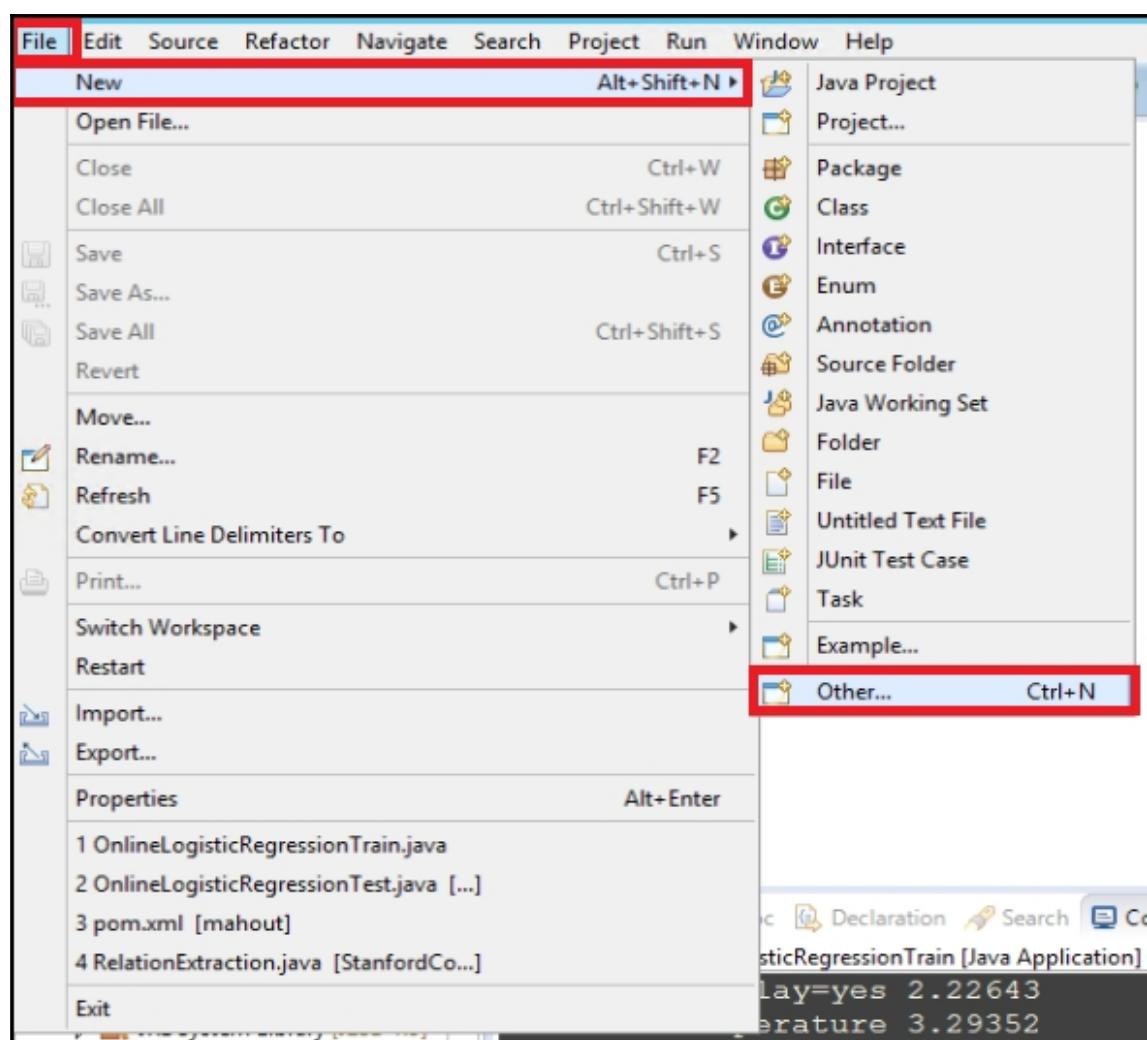
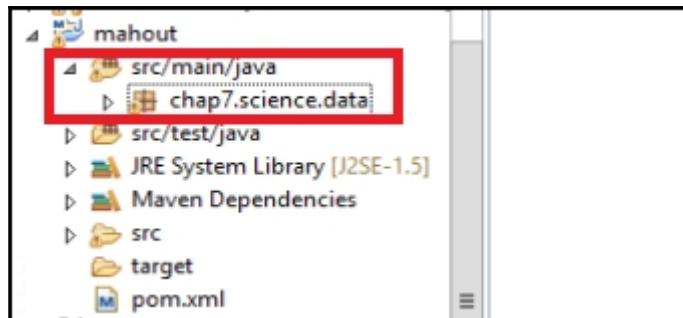
social
mean          0      0  0.3333
std. dev.    0.1667 0.1667 0.4714
weight sum       3      1      3
precision        1      1      1

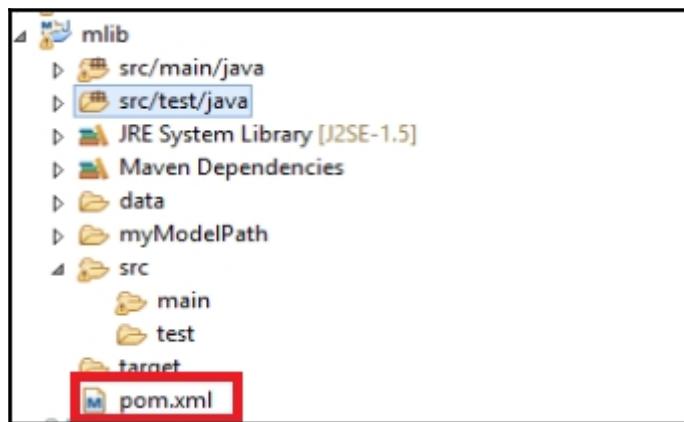
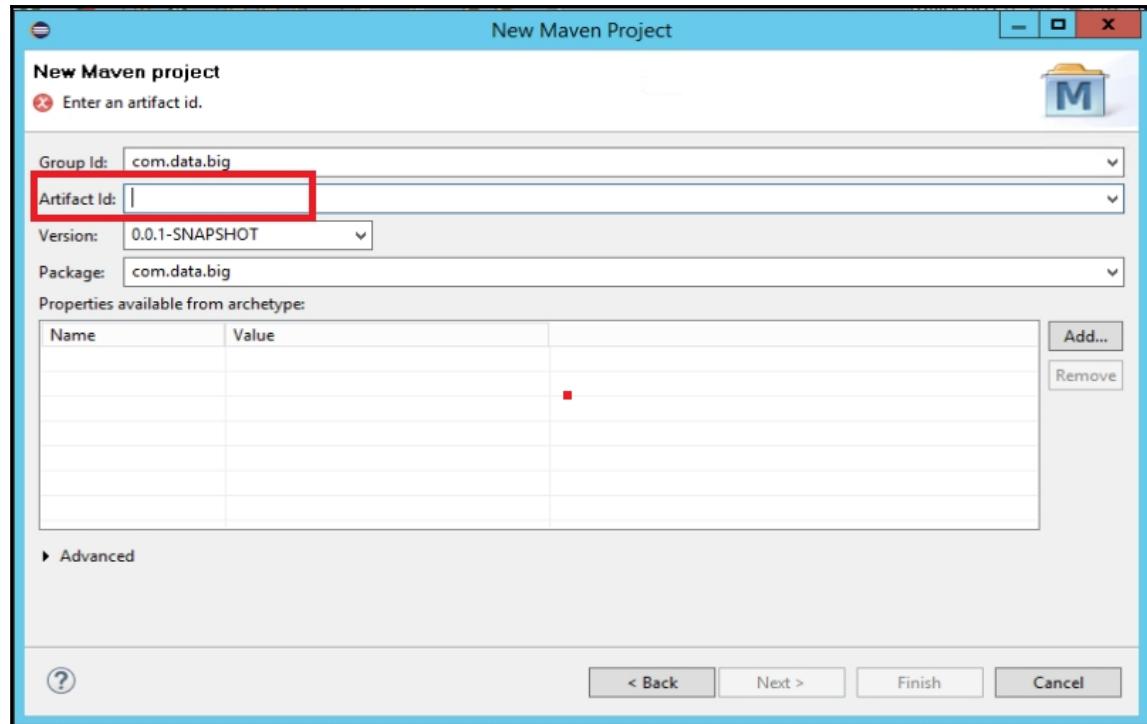
solely
mean          0      0  0.3333
std. dev.    0.1667 0.1667 0.4714
weight sum       3      1      3
precision        1      1      1
```

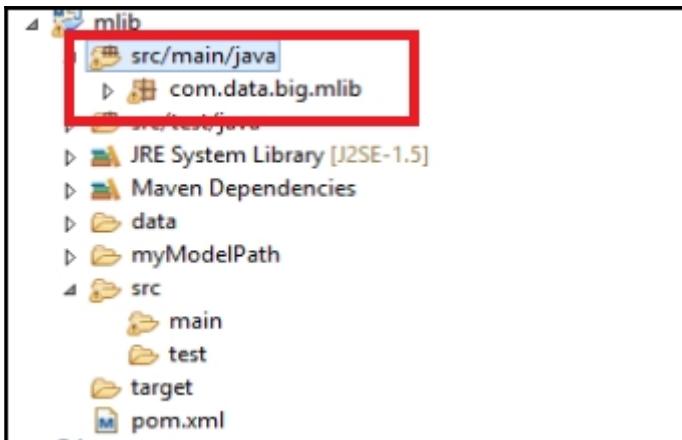
# Chapter 7: Handling Big Data











6.5 MB <a href="#">big.txt</a>	File of running text used in my <a href="#">spell correction</a> article.
1.0 MB <a href="#">smaller.txt</a>	Excerpt of file of running text from my <a href="#">spell correction</a> article. Smaller; faster.
0.3 MB <a href="#">count_big.txt</a>	A word count file (29,136 words) for big.txt.
1.5 MB <a href="#">count_1w100k.txt</a>	A word count file with 100,000 most popular words, all uppercase.
.02 MB <a href="#">words4.txt</a>	4360 words of length 4 (for word games)
.04 MB <a href="#">sgb-words.txt</a>	5757 words of length 5 (for word games) from Knuth's <a href="#">Stanford GraphBase</a>
.03 MB <a href="#">words.js</a>	1000 most common words of English from <a href="#">xkcd Simple Writer</a> (more than 1,000,000 words)
4.3 MB <a href="#">shakespeare.txt</a>	The complete works of Shakespeare, tokenized so that there is a space between words.
3.0 MB <a href="#">sowpods.txt</a>	The <a href="#">SOWPODS</a> word list (267,750 words) -- used by Scrabble players (except UK).
1.9 MB <a href="#">TWL06.txt</a>	The <a href="#">Tournament Word List</a> (178,690 words) -- used by North American Scrabble players.
1.9 MB <a href="#">enable1.txt</a>	The <a href="#">ENABLE</a> word list (172,819 words) -- also used by word game players.
2.7 MB <a href="#">word.list</a>	The YAWL (Yet Another Word List) word list (263,533 words) -- formed by combining several lists. (See <a href="#">Internet Scrabble Club</a> for more lists.)

# Chapter 8: Learn Deeply from Data

## System Requirements

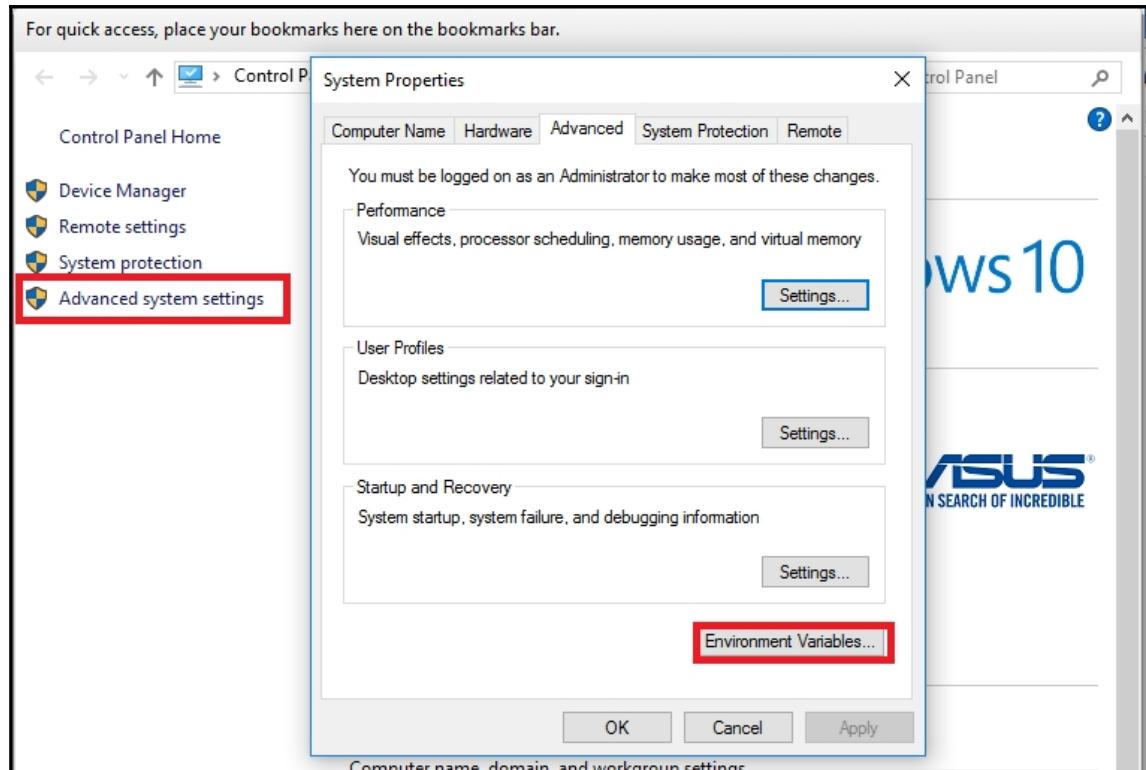
Java Development Kit	Maven 3.3 requires JDK 1.7 or above to execute - it still allows you to build against 1.3 and other JDK versions by Using (JDK)
Memory	No minimum requirement
Disk	Approximately 10MB is required for the Maven installation itself. In addition to that, additional disk space will be used for your projects depending on usage but expect at least 500MB.
Operating System	No minimum requirement. Start up scripts are included as shell scripts and Windows batch files.

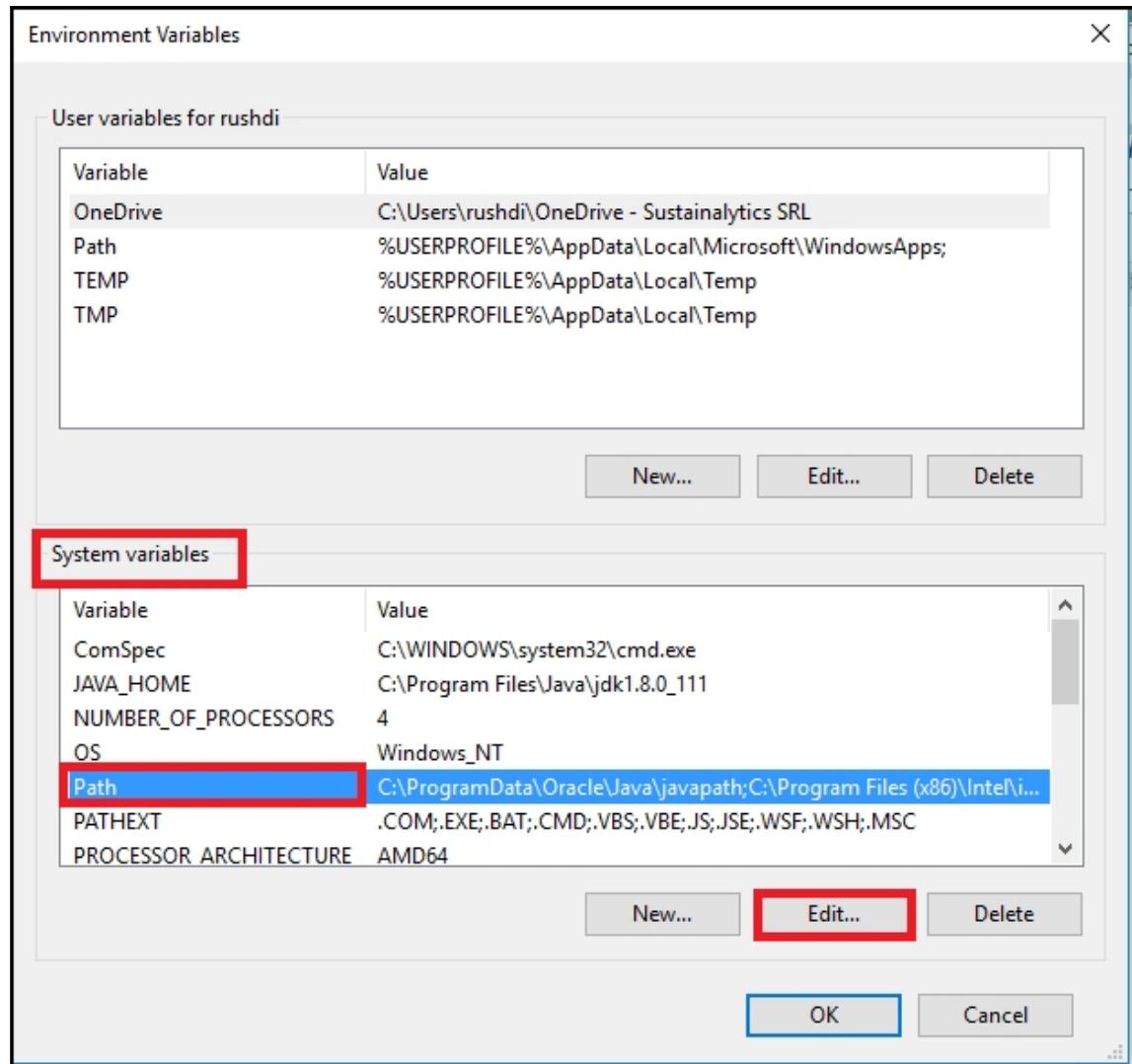
## Files

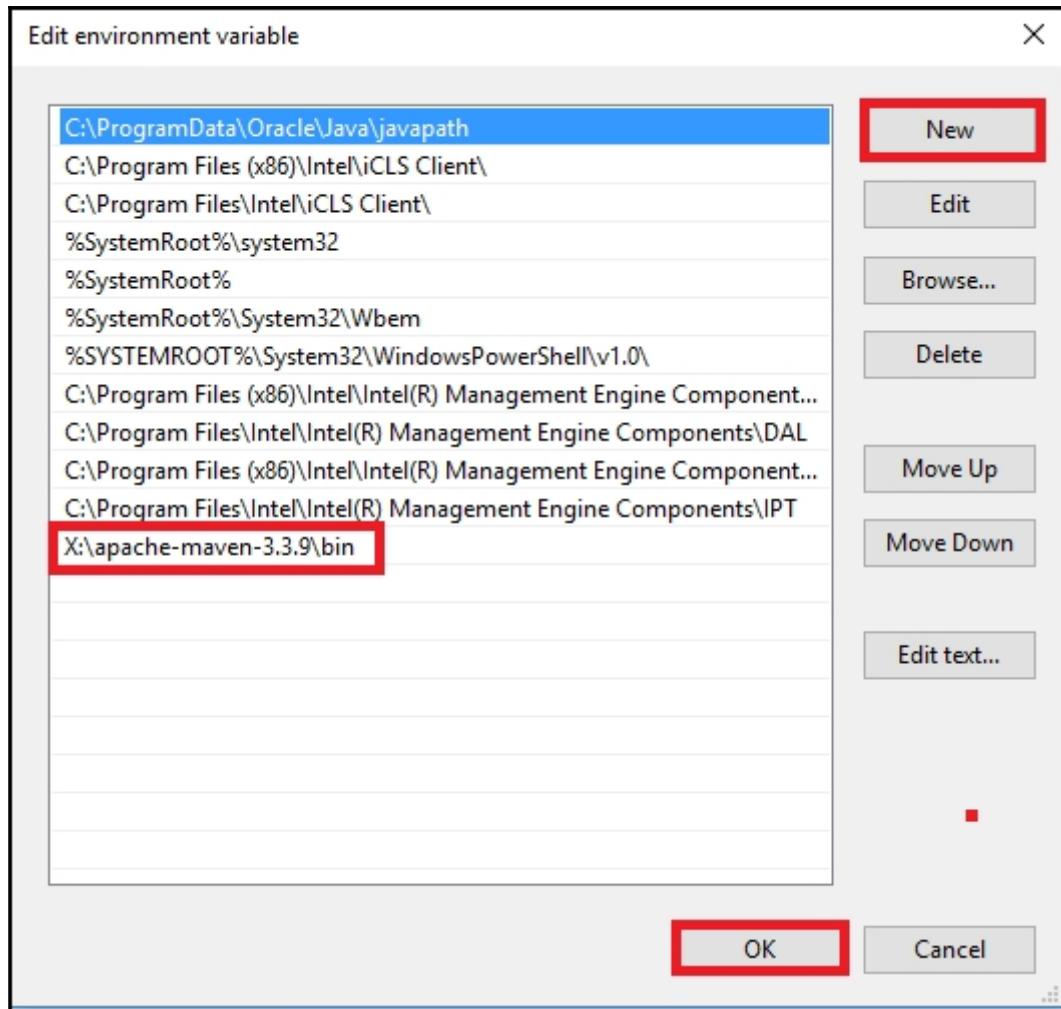
Maven is distributed in several formats for your convenience. Simply pick a ready-made binary distribution archive and follow the [installation instructions](#). In order to guard against corrupted downloads/installations, it is highly recommended to [verify the signature](#) of the release bundles against the public key.

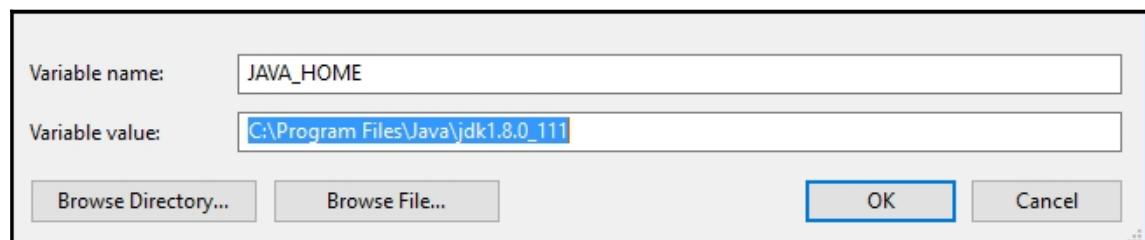
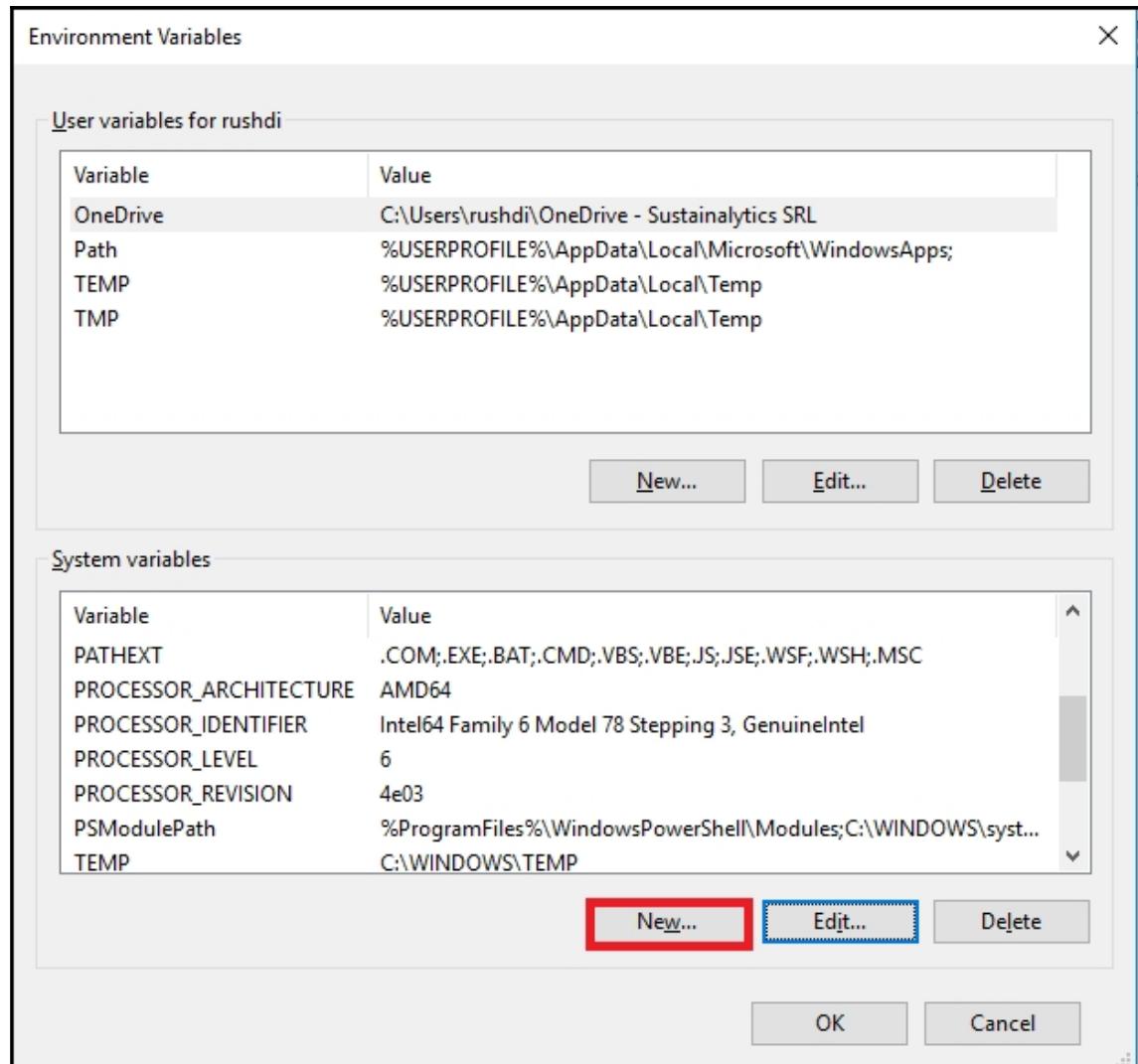
	Link	Checksum
Binary tar.gz archive	<a href="#">apache-maven-3.3.9-bin.tar.gz</a>	<a href="#">apache-maven-3.3.9-bin.tar.gz.md5</a>
Binary zip archive	<a href="#">apache-maven-3.3.9-bin.zip</a>	<a href="#">apache-maven-3.3.9-bin.zip.md5</a>
Source tar.gz archive	<a href="#">apache-maven-3.3.9-src.tar.gz</a>	<a href="#">apache-maven-3.3.9-src.tar.gz.md5</a>
Source zip archive	<a href="#">apache-maven-3.3.9-src.zip</a>	<a href="#">apache-maven-3.3.9-src.zip.md5</a>

 bin	2017-02-06 1:51 PM	File folder	
 boot	2017-02-06 1:51 PM	File folder	
 conf	2017-02-06 1:51 PM	File folder	
 lib	2017-02-06 1:51 PM	File folder	
 LICENSE	2015-11-10 11:44 ...	File	19 KB
 NOTICE	2015-11-10 11:44 ...	File	1 KB
 README.txt	2015-11-10 11:38 ...	Text Document	3 KB





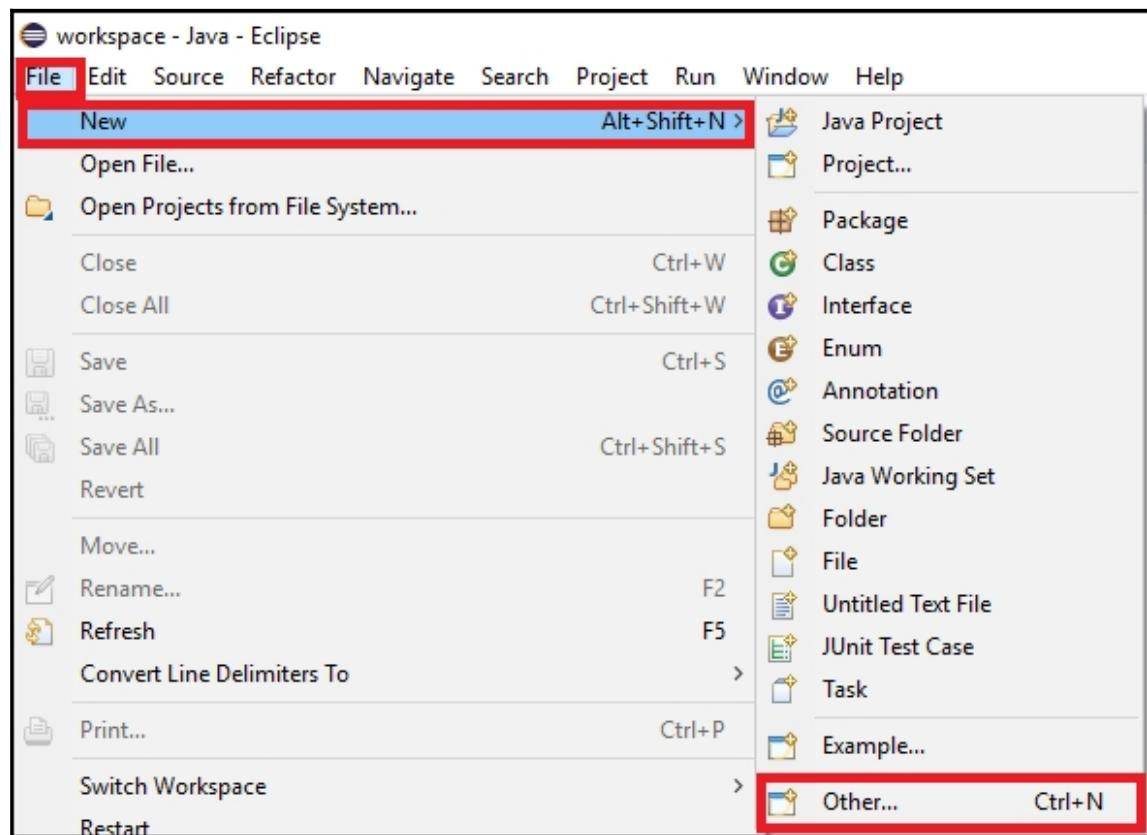


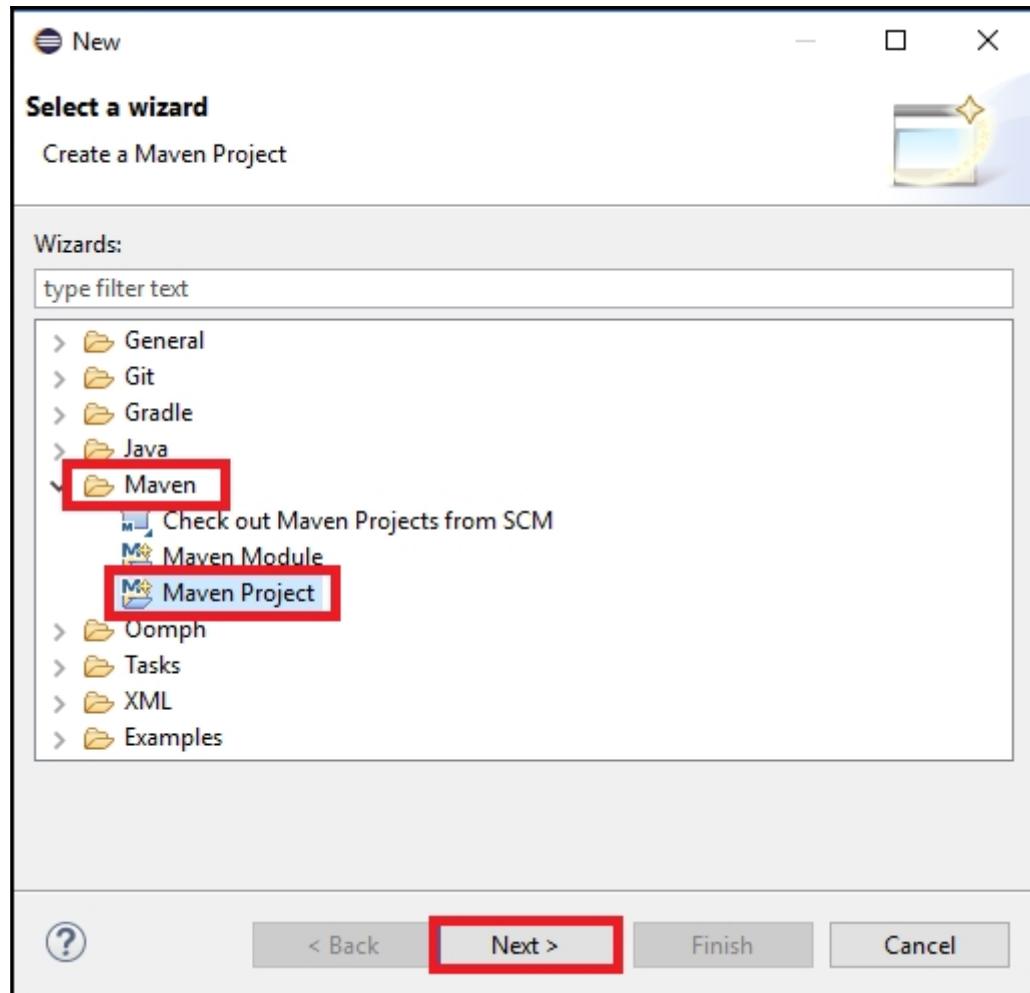


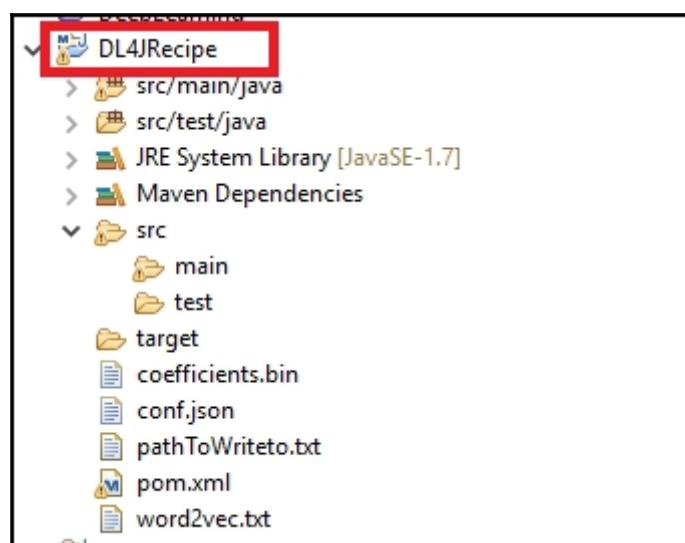
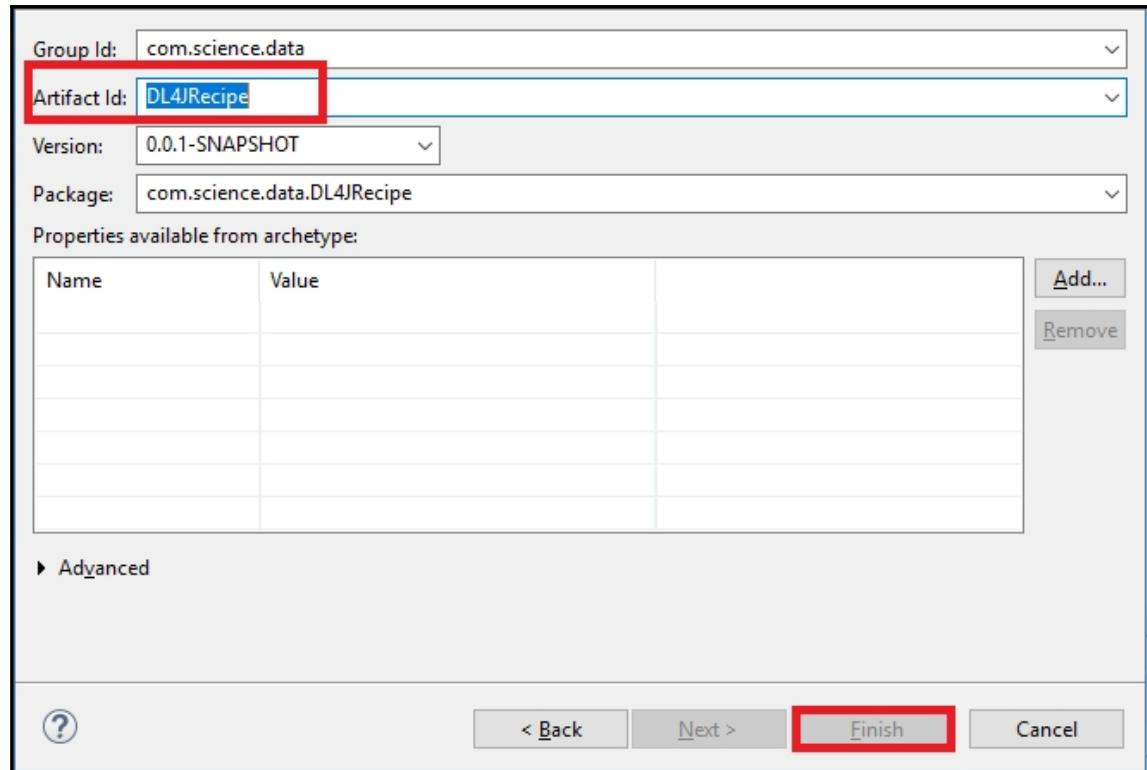
```
C:\Users\rushdi>mvn -v
Apache Maven 3.3.9 (bb52d8502b132ec0a5a3f4c09453c07478323dc5; 2015-11-10T11:41:47-05:00)
Maven home: X:\apache-maven-3.3.9\bin\..
Java version: 1.8.0_111, vendor: Oracle Corporation
Java home: C:\Program Files\Java\jdk1.8.0_111\jre
Default locale: en_CA, platform encoding: Cp1252
OS name: "windows 10", version: "10.0", arch: "amd64", family: "dos"
```

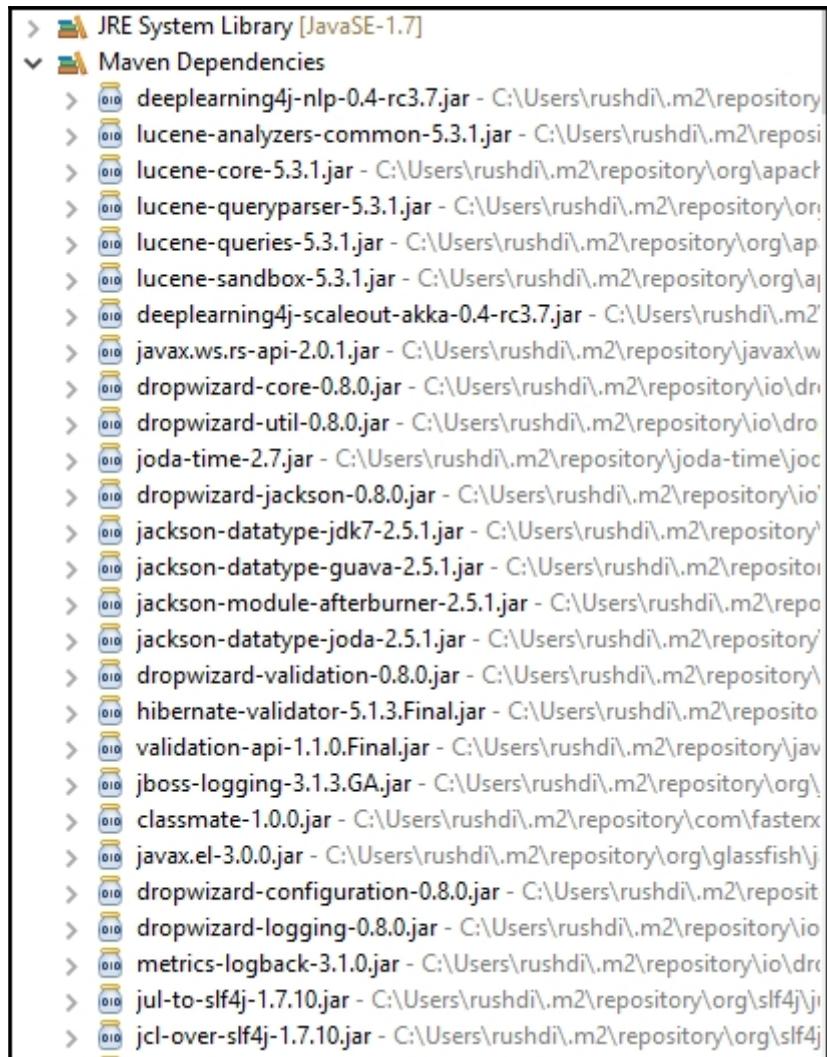
```
C:\Users\rushdi>java -version
java version "1.8.0_111"
Java(TM) SE Runtime Environment (build 1.8.0_111-b14)
Java HotSpot(TM) 64-Bit Server VM (build 25.111-b14, mixed mode)

C:\Users\rushdi>
```

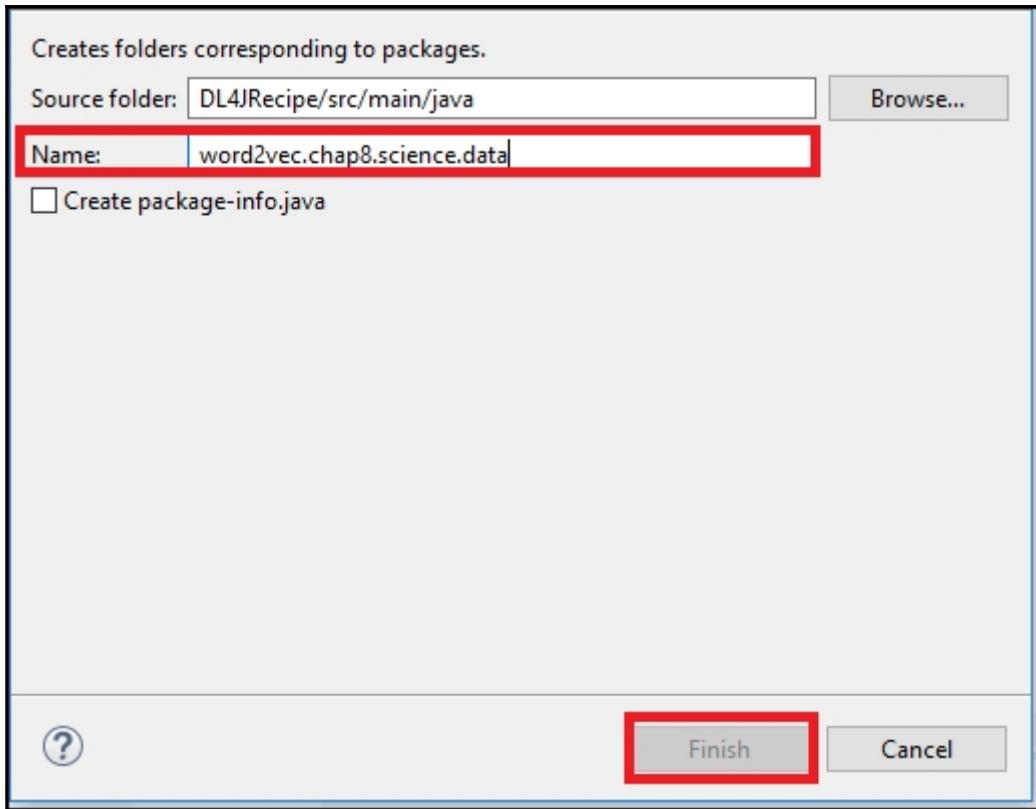


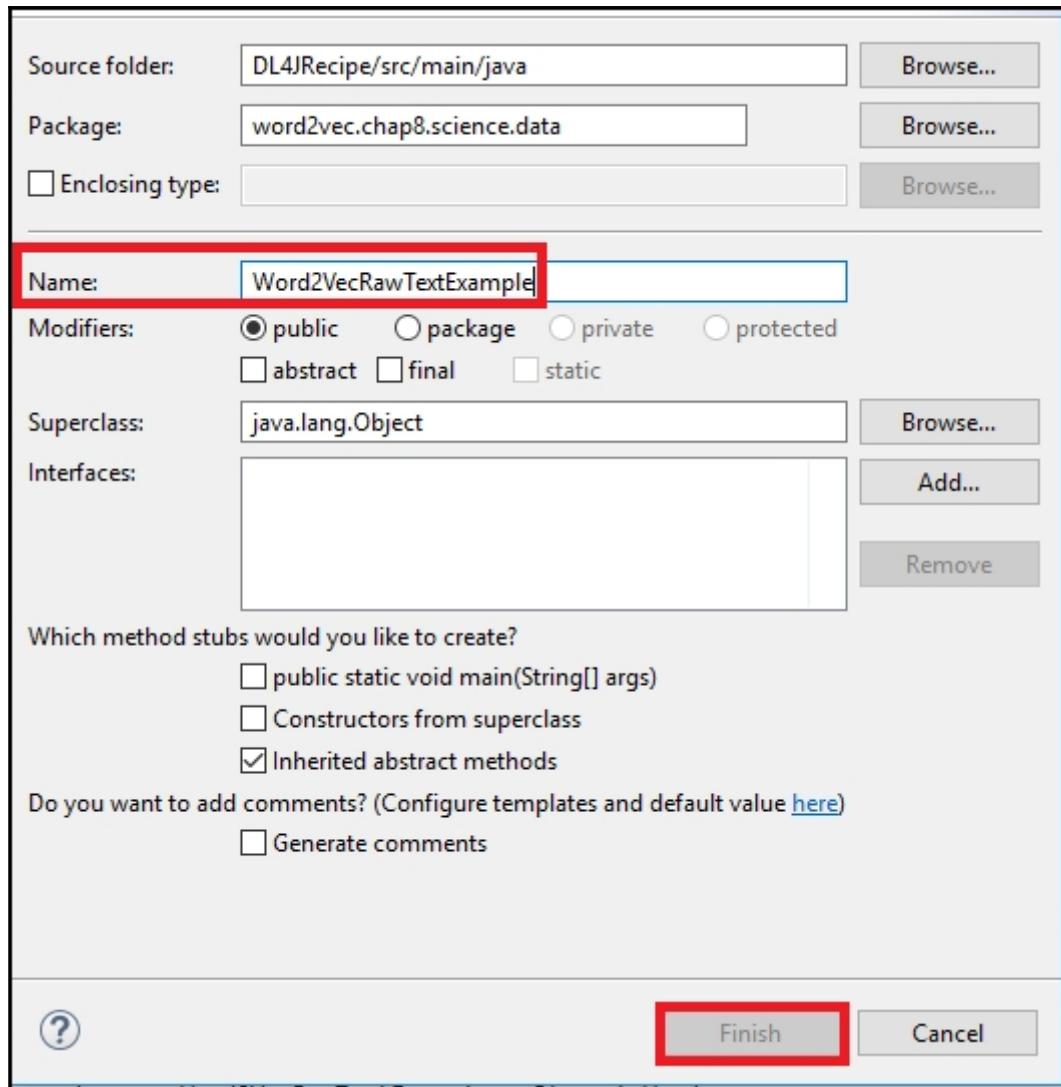






Branch: master ▾ dl4j-examples / dl4j-examples / src / main / resources /	
 agibsonccc	committed on GitHub Merge pull request #339 from gks141270/master ...
..	
 DataExamples	Add files via upload
 NewsData	Done changes as suggested by Adam, Gibson mentioned in pull request a...
 PredictGender	Changes based on Adam's suggestions
 animals	Moving animals examples into main example repo.
 classification	Refactor project structure into modules for dl4j, dl4j-spark, datavec
 paravec	paravec inference example
 rnnRegression	Removed files that are generated when running example
 dropwizard.yml	Refactor project structure into modules for dl4j, dl4j-spark, datavec
 iris.txt	Refactor project structure into modules for dl4j, dl4j-spark, datavec
 log4j.properties	Final Canova->DataVec changes; update pom files + add comments to poms
 logback.xml	Final Canova->DataVec changes; update pom files + add comments to poms
 oneline.txt	Refactor project structure into modules for dl4j, dl4j-spark, datavec
 raw_sentences.txt	Refactor project structure into modules for dl4j, dl4j-spark, datavec
 words.txt	Refactor project structure into modules for dl4j, dl4j-spark, datavec





# Chapter 9: Visualizing Data

## Download

Here, you will find packaged archives for the core library of GRAL and example applications in various formats.  
→ [LGPL license](#).

To use GRAL in your project just add the JARs for `gral-core` and `VectorGraphics2D` to the class path of your project.

To use the example applications execute the JAR with `gral-core` in the classpath:

```
$ java -cp gral-core-0.11.jar gral-examples-0.11-jar
```

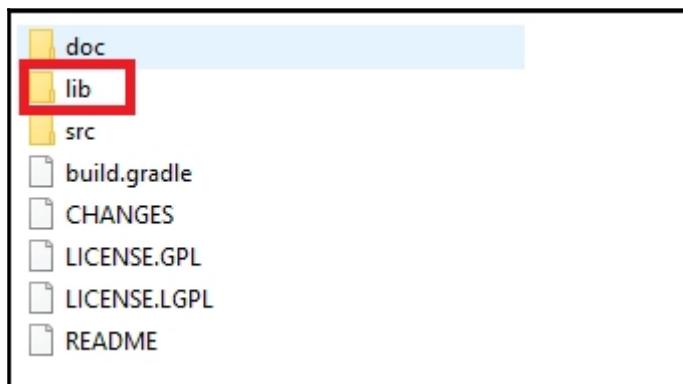
### Stable version

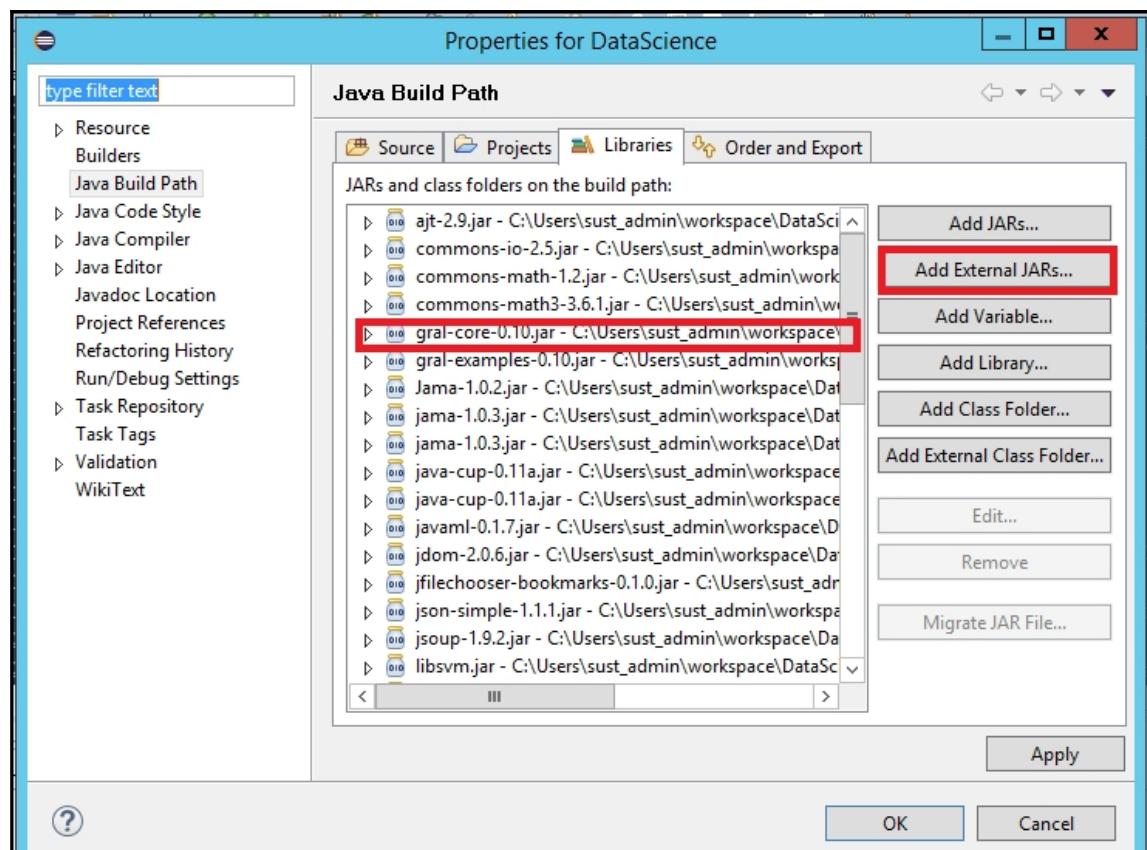
Version 0.11		
GRAL	<a href="#">gral-core-0.11.jar</a> (273 KiB)	
Source code	<a href="#">gral-core-0.11-sources.jar</a> (290 KiB)	
JavaDoc API documentation	<a href="#">gral-core-0.11-javadoc.jar</a> (771 KiB)	<a href="#">browse online</a>
Example applications	<a href="#">gral-examples-0.11.jar</a> (46 KiB)	

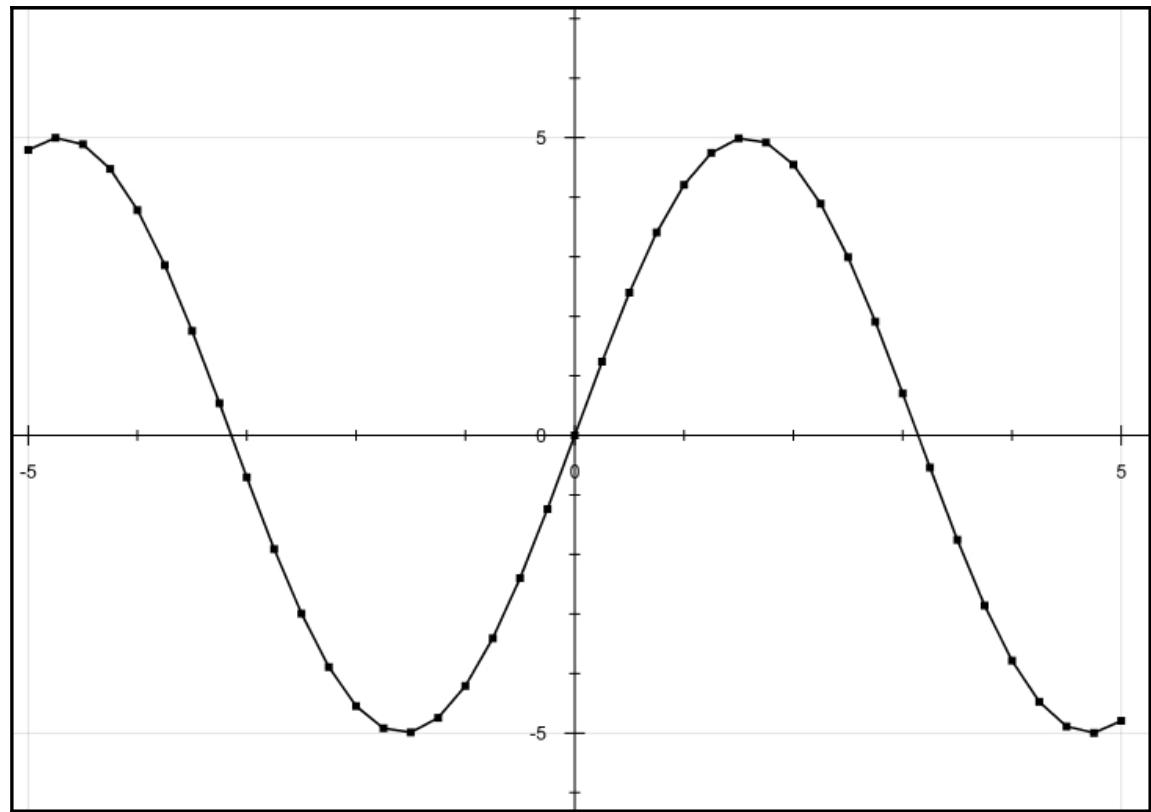
*Warning: This version will break legacy code that was written for GRAL 0.10 or earlier.*

### Legacy versions

Version 0.10		
GRAL	<a href="#">gral-core-0.10.zip</a> (1503 KiB)	<a href="#">gral-core-0.10.tar.bz2</a> (633 KiB)
Example applications	<a href="#">gral-examples-0.10.zip</a> (350 KiB)	<a href="#">gral-examples-0.10.tar.bz2</a> (329 KiB)
JavaDoc API documentation	<a href="#">browse online</a>	
Version 0.9		
Ready-to-include binary JAR files	<a href="#">GRAL-0.9-bin.zip</a> (313 KiB)	<a href="#">GRAL-0.9-bin.tar.bz2</a> (312 KiB)
Complete source code	<a href="#">GRAL-0.9-src.zip</a> (542 KiB)	<a href="#">GRAL-0.9-src.tar.bz2</a> (165 KiB)
JavaDoc API documentation	<a href="#">GRAL-0.9-doc.zip</a> (1194 KiB)	<a href="#">GRAL-0.9-doc.tar.bz2</a> (266 KiB)
Version 0.8		







## Download

Here, you will find packaged archives for the core library of GRAL and example applications in various formats. [F](#) [LGPL license](#).

To use GRAL in your project just add the JARs for `gral-core` and `VectorGraphics2D` to the class path of your project.

To use the example applications execute the JAR with `gral-core` in the classpath:

```
$ java -cp gral-core-0.11.jar gral-examples-0.11-jar
```

### Stable version

Version 0.11		
GRAL	<a href="#">gral-core-0.11.jar (273 KiB)</a>	
Source code	<a href="#">gral-core-0.11-sources.jar (290 KiB)</a>	
JavaDoc API documentation	<a href="#">gral-core-0.11-javadoc.jar (771 KiB)</a>	<a href="#">browse online</a>
Example applications	<a href="#">gral-examples-0.11.jar (46 KiB)</a>	

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### Legacy versions

Version 0.10		
GRAL	<a href="#">gral-core-0.10.zip (1503 KiB)</a>	<a href="#">gral-core-0.10.tar.bz2 (633 KiB)</a>
Example applications	<a href="#">gral-examples-0.10.zip (350 KiB)</a>	<a href="#">gral-examples-0.10.tar.bz2 (329 KiB)</a>
JavaDoc API documentation		<a href="#">browse online</a>

