



SF STATE

SAN FRANCISCO STATE UNIVERSITY  
COMPUTER SCIENCE DEPARTMENT

# GOOGLE GUAVA

CODE LIBRARIES FOR JAVA AND ANDROID

HOW TO IMPORT GOOGLE GUAVA INTO **NETBEANS**

DUC TA



Google Open Source



LEARN GUAVA

Java collections framework



## Guava Multimap

- **Google Guava** is an open-source set of common libraries for Java, mainly developed by Google engineers. ([https://en.wikipedia.org/wiki/Google\\_Guava](https://en.wikipedia.org/wiki/Google_Guava))
- 1. Basic utilities to reduce menial labors to implement common methods and behaviors.
- 2. An extension to the Java collections framework (JCF) formerly called the **Google Collections Library**.
- 3. Other utilities which provide convenient and productive features such as functional programming, graphs, caching, range objects, and hashing.

### Google Guava

Original author(s)	Kevin Bourrillion and Jared Levy (Google Collections Library) <sup>[1]</sup>
Developer(s)	Google
Stable release	24.0 / January 31, 2018 <sup>[2]</sup>
Repository	<a href="https://github.com/google/guava">https://github.com/google/guava</a> 
Development status	Active
Written in	Java
Operating system	Cross-platform
Type	Utility and Collection Libraries
License	Apache License 2.0
Website	<a href="https://github.com/google/guava">github.com/google/guava</a> 



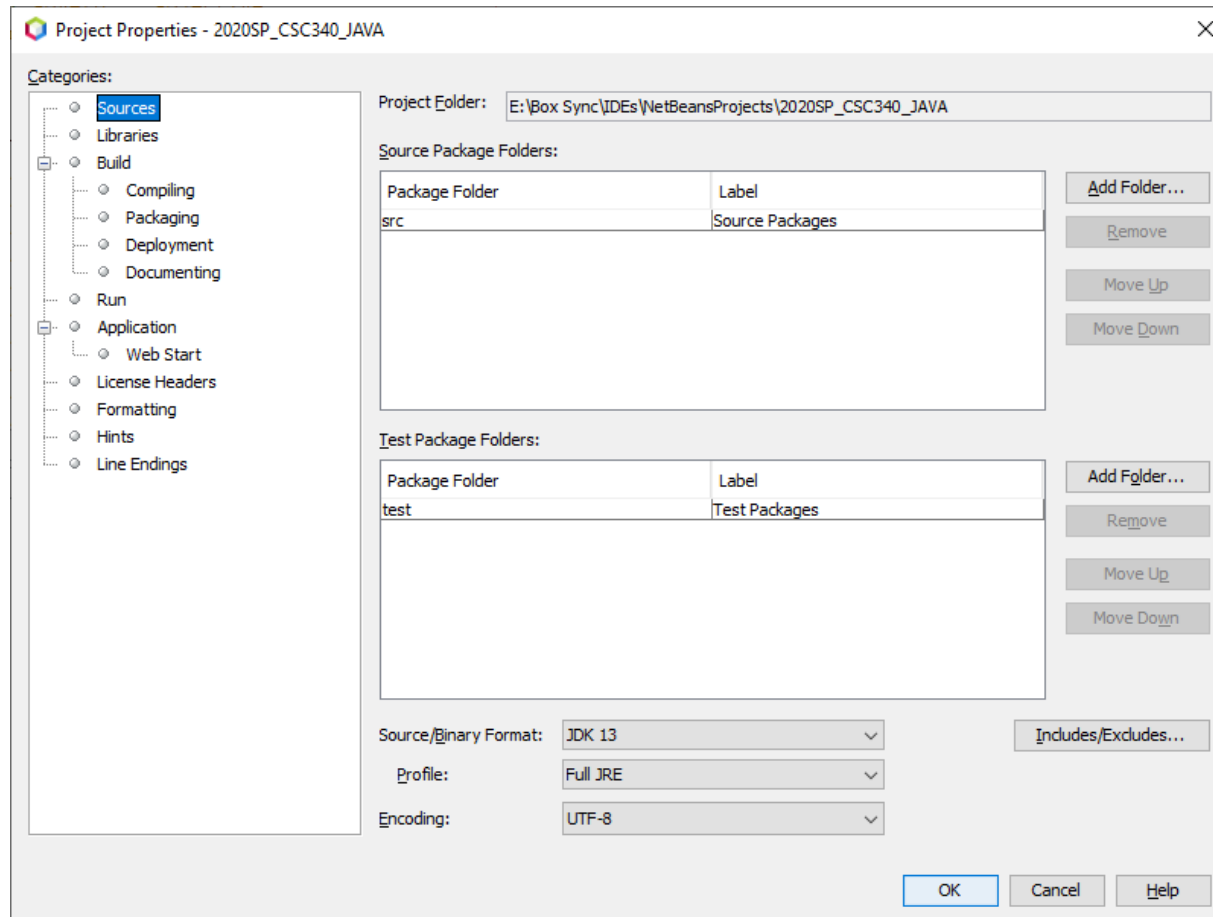
## Guava Multimap

- Interface Multimap:
  - <https://google.github.io/guava/releases/snapshot-jre/api/docs/com/google/common/collect/Multimap.html>
- Repository:
  - <https://github.com/google/guava>
  - <https://search.maven.org/#search|gav|1|g:%22com.google.guava%22%20AND%20a:%22guava%22>
- Download:
  - Get file **guava-##.#-jre.jar** from the repository or from File Manager.



## Add Guava to NetBeans Project

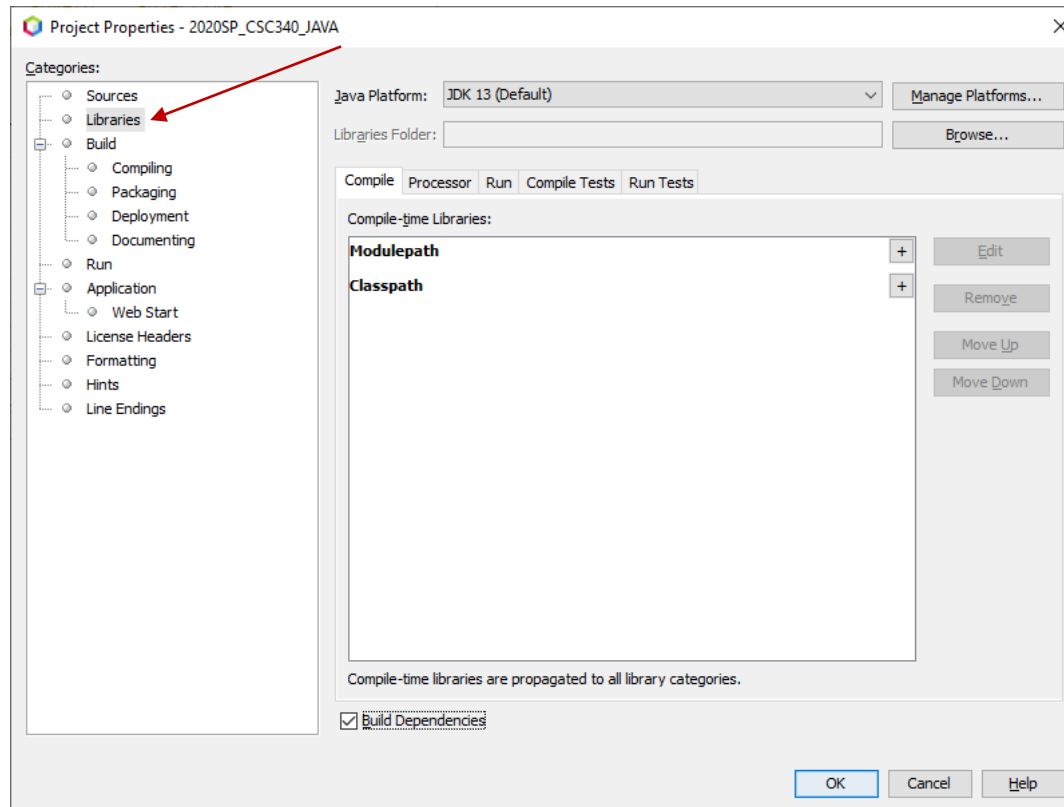
- In NetBeans IDE, click to choose our project then:
  - Right click on the project and choose “Properties”





## Add Guava to NetBeans Project

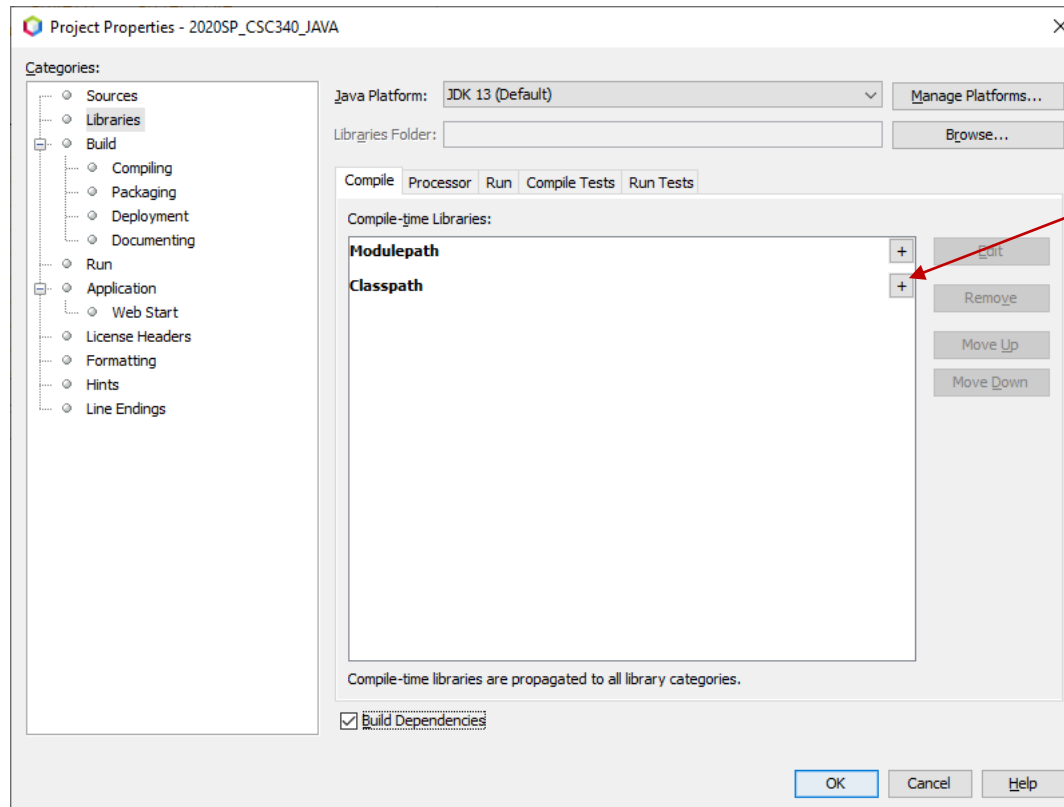
- In NetBeans IDE, click to choose our project then:
  - Right click on the project and choose “Properties”
  - On the left and under “Categories”, choose “Libraries”





## Add Guava to NetBeans Project

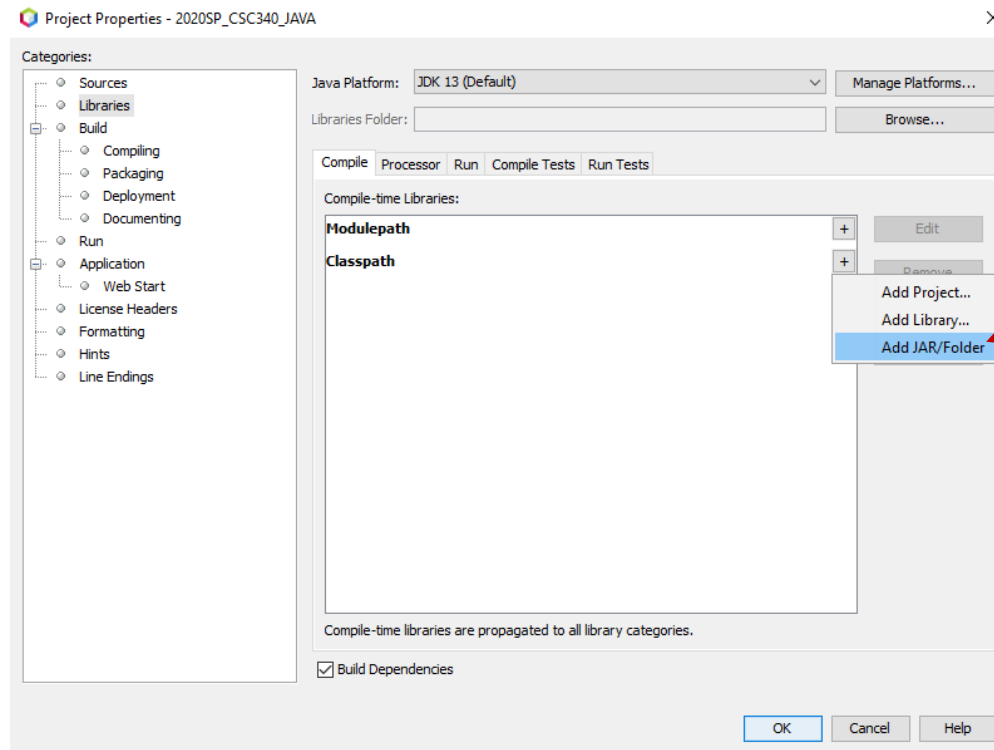
- In NetBeans IDE, click to choose our project then:
  - Right click on the project and choose “Properties”
  - On the left and under “Categories”, choose “Libraries” then
  - Click on the “+” sign on the far right of “Classpath”





## Add Guava to NetBeans Project

- In NetBeans IDE, click to choose our project then:
  - Right click on the project and choose “Properties”
  - On the left and under “Categories”, choose “Libraries” then
  - Click on the “+” sign on the far right of “Classpath” then click on “Add JAR/Folder”

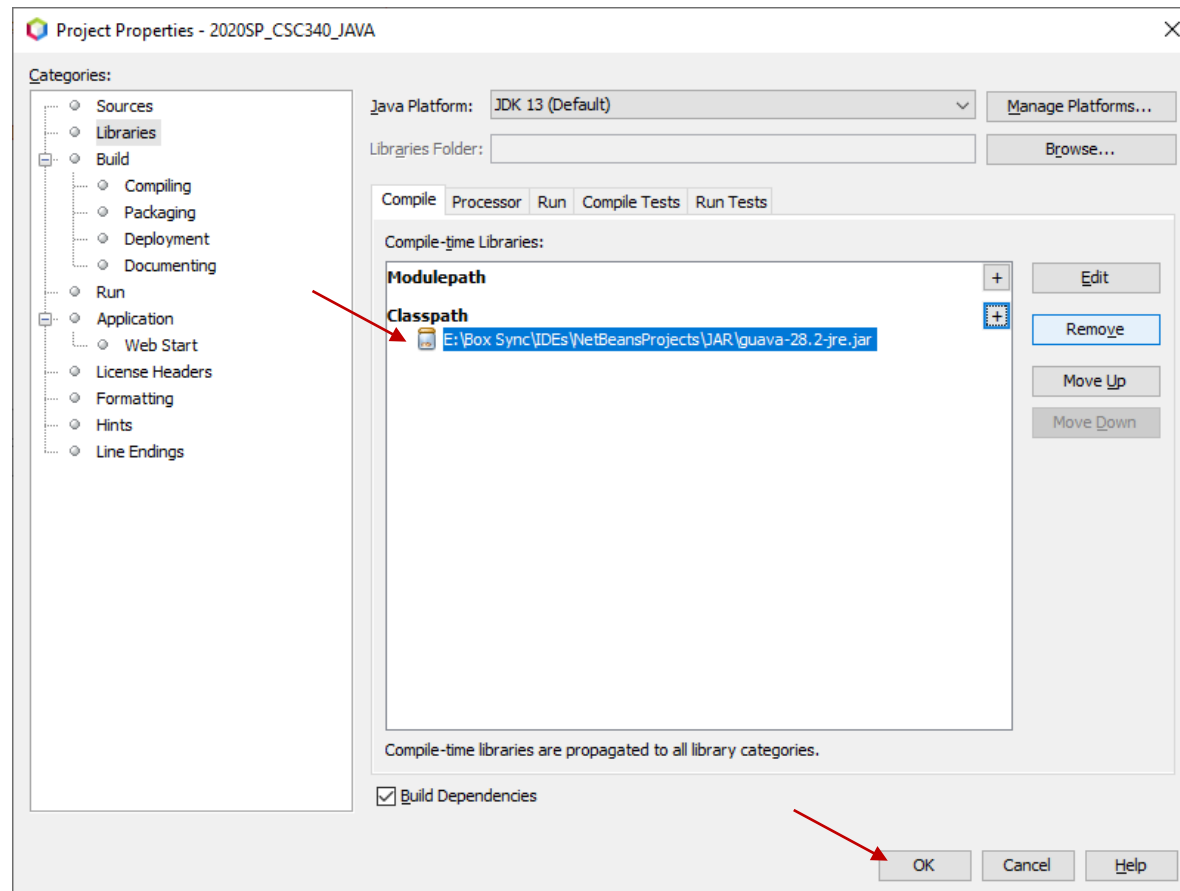






## Add Guava to NetBeans Project

- Browse to the downloaded file `guava-##.#-jre.jar` and select it to add.
- Then click “OK”





## Add Guava to NetBeans Project

- Download `TinyBookGoogleGuava.java` to test the imported Guava library.

```
1 package javaDictionaryCSC340;
2
3 import com.google.common.collect.ArrayListMultimap;
4 import com.google.common.collect.Multimap;
5
6 import java.util.Collection;
7
8 // Google Guava, Interface Multimap: https://bit.ly/2qWKeyW
9 // Google Guava, Download https://bit.ly/2Hpo2PA
10
11 /**
12  * @author Duc Ta PLUS
13  */
14 public class TinyBookGoogleGuava {
15
16     public static void main(String[] args) {
17         Multimap<String, String> tinyBook = ArrayListMultimap.create();
18
19         // Adding some key/value
20         System.out.println("\nAdding-----");
21         tinyBook.put("book", "A set of pages.");
22         tinyBook.put("book", "To arrange something on a particular date.");
23         tinyBook.put("bookable", "Can be ordered.");
24         tinyBook.put("bookbinder", "A person who fastens the pages of books.");
25         tinyBook.put("bookcase", "A piece of furniture with shelves.");
26     }
```

*See you next class!*