

CS 251

Intermediate Programming

Jar Files

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Jar Files

- The Java Archive (JAR) file format bundles multiple files into a single archive file.
- Uses ZIP file format
- Contains class files and auxiliary resources.
- May hold a library or standalone application.

Jar Command

- The `jar` command allows you to create and manipulate jar files.
- Common options:
 - `f` Specify jar file name
 - `v` Be more verbose
 - `c` Create a jar file
 - `e` Specify entry point
 - `t` View table of contents
 - `x` Extract files
- <https://docs.oracle.com/javase/tutorial/deployment/jar/index.html>

Creating Executable Jar

1. Compile your classes.
2. Make sure you have all resources needed (sounds, images)
3. Create jar file. If all files needed are in current directory, easiest to use wildcard:

```
jar cvfe MyProgram.jar MyMainClass *
```
4. Make sure program runs from the jar.
Use the `-jar` option with `java`.

```
java -jar MyProgram.jar
```

Extracting Files from Jar

- Use `jar xvf MyProgram.jar` to extract all files.
- Use `jar xvf MyProgram.jar filename` to extract specific file(s).

Loading Resources from Jar

- Regular file operations will be looking for files relative to the current program directory.
- Use `ClassLoader` to look for files relative to class location (even inside a jar)
- `getClass().getClassLoader().getResourceAsStream(resourceFileName)` will give an `InputStream` which you can use in other IO operations.
- Run jar in new location to make sure you are properly loading resources.