

Java – Jar

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Originally from Bruce Char & Vera Zaychik

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Intro

Invoking jar

Input to JVM

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Java ARchives

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Intro

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Input to JVM

- Use `jar` utility to create jar files
- A *jarfile* is:
 - A compressed, tar'd collection of java files
 - Uses the `PKZIP` library
- Jarfile typically contains files necessary for a program, system, applet, etc.
 - `.class` files
 - Any other resources (images, sound files, etc.)
 - META/MANIFEST.MF – Jar metadata
- Jarfiles natively understood by JVM
 - Can be added to classpath
 - Searched for classes, like a directory

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Intro

Invoking jar

Input to JVM

■ Options much like tar

- `c` – create
- `x` – extract
- `u` – update

■ Others

- `v` – verbose
- `f file` – specify archive filename
- `m file` – include manifest information from *file*

Creating a Jarfile – example

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Invoking jar

Input to JVM

- Given the following files:
pokerSuit.class pokerClient.class cheesy.mp3
- Create the jarfile:

```
$ jar cvf poker.jar poker*.class cheesy.mp3
```

- Let's take a peek at the file
 - Note the manifest file

```
$ unzip -l poker.jar
Archive: poker.jar
  Length      Date    Time    Name
-----
      0  2016-07-21  17:38  META-INF/
     69  2016-07-21  17:38  META-INF/MANIFEST.MF
    868  2016-07-21  17:38  pokerClient.class
   1513  2016-07-21  17:38  pokerRank.class
   1102  2016-07-21  17:38  pokerSuit.class
      0  2016-07-21  17:37  cheesy.mp3
-----
  3552                                6 files
```

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Intro

Invoking jar

Input to JVM

Input to JVM

Executing a Jarfile in the JVM

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Intro

Invoking jar

Input to JVM

A Jarfile can be executed by the JVM:

- Identify the main class in a manifest file

```
poker.mf
```

```
Classpath: ./poker.jar
```

```
Main-Class: PokerClient
```

- Create the jarfile with this information:

```
$ jar cvfm poker.jar poker.mf poker*.class cheesy.mp3
```

- To run:

```
$ java -jar poker.jar
```