

# Java – Jar

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Originally from Bruce Char & Vera Zaychik

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Intro

Invoking jar

Input to JVM

# Intro

# Java ARchives

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Intro

Invoking jar

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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## ■ 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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- 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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# Input to JVM

# Executing a Jarfile in the JVM

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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
```