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10.6: JAR Files and Resources

Java defines a special kind of Java archive file called a JAR file. JAR files are basically PKZIP format files containing a special index file, and optionally some additional files used for digital authentication. A JAR file as used by Java can contain not only `.class` files, but also sound, image, and other data files. The Manifest and Signature files appear in a directory within the JAR named META-INF. You can build JAR files using the `jar` tool that comes with the JDK; see the JDK documentation for more details.

JAR files provide a solution to the question of how to distribute Java applications packaged together with the various data files they might use. An applet can also be downloaded as a JAR instead of as separate class files; this is generally much faster, since downloading one large file is always faster than loading many small ones.

The class `Class` has two additional methods which can be used to extract files from a JAR archive. Calling `getResource()` or `getResourceAsStream()`, both of which accept a filename argument, allow you to pull a file out of the JAR associated with a given class. If the file is not in the JAR, the JVM may search in other places too: for example, for an applet, the files may be searched for on the same web server where the JAR was found.