Let us see how to create a **JAR file** using **Java's jar** command as well as using **Eclipse IDE**. The JAR file format is based on the popular ZIP file format. Usually these file are used for archiving and distribution the files and implementing various libraries, components and plug-ins in java applications. Compiler and JVMs (Java Virtual Machine) can understand and implement these formats for java application.

JAR file using Java commands

Following are few commands that can be used to create/view/modify/execute a JAR file using Java command line utilities and JVM.

Create a JAR file

```
1  jar cf JAR_FILE_NAME FILE_NAMES_OR_DIRECTORY_NAME
2  e.g.
3  jar cf MyApp1.jar C:\JavaProject\MyApp
```

View contents of a JAR file

```
1  jar tf JAR_FILE_NAME
2  e.g.
3  jar tf MyApp1.jar
```

View contents with detail of a JAR file

```
1  jar tvf JAR_FILE_NAME
2  e.g.
3  jar tvf MyApp1.jar
```

Note that we have used **v (verbose)** option to see the detail of JAR.

Extract content of JAR file

```
1  jar xf JAR_FILE_NAME
2  e.g.
3  jar xf MyApp1.jar
```

Extract specific file from JAR file

```
1  jar xf JAR_FILE_NAME FILE_NAME(S)_FROM_JAR_FILE
2  e.g.
3  jar xf MyApp1.jar Test1.class
```

Update a JAR file

```
1  jar uf JAR_FILE_NAME FILE_NAMES_FROM_JAR_FILE
2  e.g.
3  jar uf MyApp1.jar Test1.class
```

Executing a JAR file

```
1  java -jar JAR_FILE_NAME
2  e.g.
3  java -jar MyApp.jar
```

Create an executable JAR file

In order to create an executable JAR, one of the classes that we include in our JAR must be a main class.

Create a text file called **MANIFEST.MF** using any text editor and copy following content in it.

```
1  Manifest-Version: 1.0
2  Main-Class: MyMainClass
```

Where MyMainClass is the name of the class that contents main method. Also note that you have to specify fully qualified class name here.
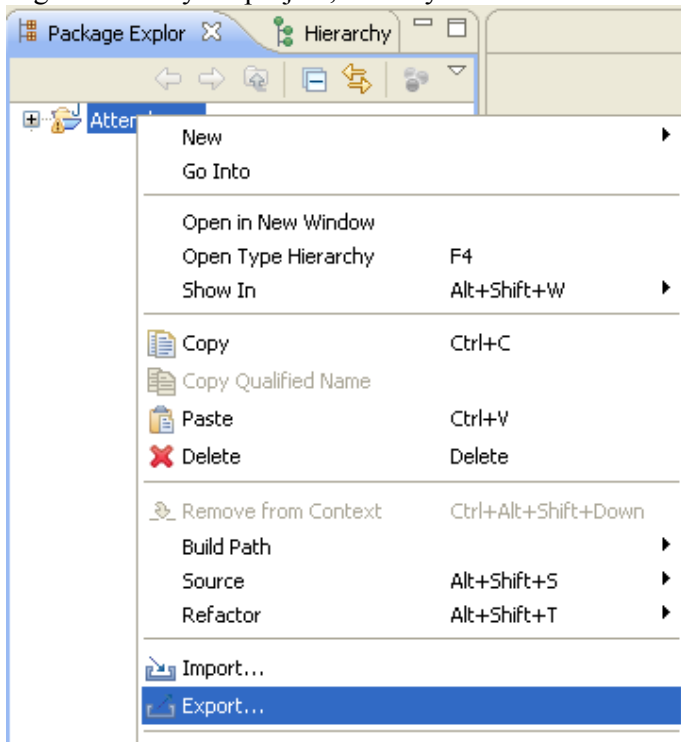Use following command to create an executable JAR file.

```
1  jar cvfm MyApp.jar MANIFEST.MF FILE_NAMES_OR_DIRECTORY_NAME
```
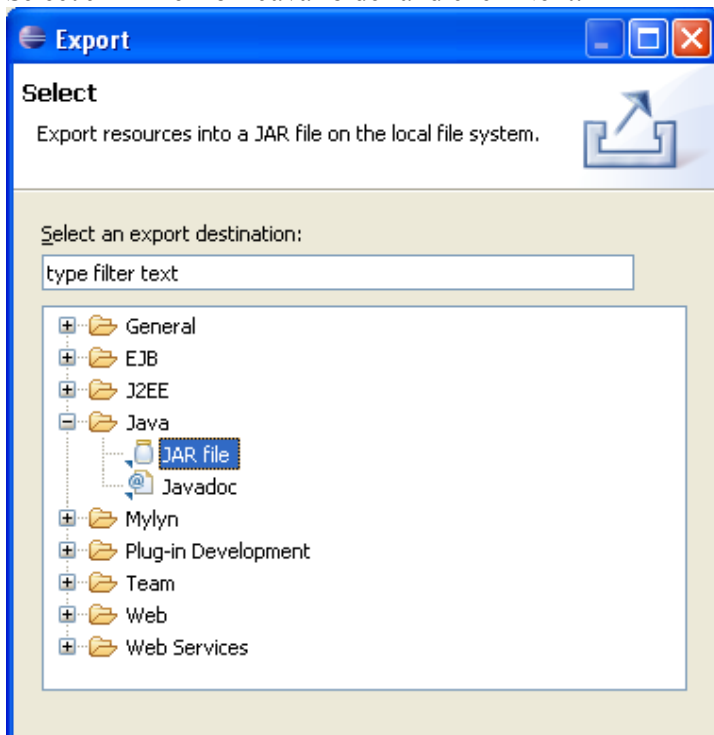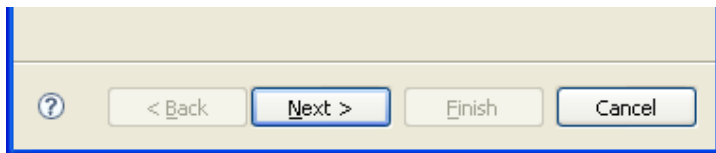
JAR file using Eclipse IDE

Creating JAR file using Eclipse IDE is pretty much easy. Follow the simple steps.
Right click on your project, which you want to create a JAR file of. And select Export from the context menu.

Select JAR file from Java folder and click Next.

Provide the Destination path and click on Finish to create the JAR.