

# How do I compile for compatibility with older versions of Java?

Author: Veryant Support

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## Question:

When I run my program with an older version of the Java runtime environment I get the following error:  
    `java.lang.UnsupportedClassVersionError: ABCPROG has been compiled by a more recent version of the Java Runtime (class file version 61.0),`  
What can I do to resolve this?  
How can I see the version number in the .class file?

## Answer:

You can use the `-jv` compiler command line option in order to specify options to be passed to the Java compiler such as:

`"-source"` and `"-target"`.

For example, to compile for compatibility with Java 1.8, add the following to your compile command line

```
-jv="-source 1.8 -target 1.8"
```

To compile a program named MYPROG.cbl:

```
iscc -jv="-source 1.8" MYPROG.cbl
```

(you can omit `"-target 1.8"` since it is the default when specifying `"-source 1.8"`)

Run this command to get the supported releases for the `-source` option

```
javac --help -source
```

In order to check the version number in a .class file you can use the `javap` utility that is distributed with the JDK.

For example, the following command will report the version of a program named MYPROG.

```
javap -verbose MYPROG | grep major
```

or run

```
javap -verbose MYPROG
```

and the version numbers will be reported in the first 5 lines.

Note that MYPROG.class must be in the class path.

You can specify a class path with `"javap -cp"`.

The major version is mapped to the Java SE version [here](#).