« Previous • Trail • Next »

Home Page > Learning the Java Language > Annotations

The Java Tutorials have been written for JDK 8. Examples and practices described in this page don't take advantage of improvements introduced in later releases and might use technology no longer available.
See Java Language Changes for a summary of updated language features in Java SE 9 and subsequent releases.
See JDK Release Notes for information about new features, enhancements, and removed or deprecated options for all JDK releases.

Declaring an Annotation Type

Many annotations replace comments in code.

Suppose that a software group traditionally starts the body of every class with comments providing important information:

```
public class Generation3List extends Generation2List {

   // Author: John Doe
   // Date: 3/17/2002
   // Current revision: 6
   // Last modified: 4/12/2004
   // By: Jane Doe
   // Reviewers: Alice, Bill, Cindy

   // class code goes here

}
```

To add this same metadata with an annotation, you must first define the *annotation type*. The syntax for doing this is:

```
@interface ClassPreamble {
   String author();
   String date();
   int currentRevision() default 1;
   String lastModified() default "N/A";
   String lastModifiedBy() default "N/A";
   // Note use of array
   String[] reviewers();
}
```

The annotation type definition looks similar to an interface definition where the keyword `interface` is preceded by the at sign (`@`) (@ = AT, as in annotation type). Annotation types are a form of *interface*, which will be covered in a later lesson. For the moment, you do not need to understand interfaces.

The body of the previous annotation definition contains *annotation type element* declarations, which look a lot like methods. Note that they can define optional default values.

After the annotation type is defined, you can use annotations of that type, with the values filled in, like this:

```
@ClassPreamble (
   author = "John Doe",
   date = "3/17/2002",
   currentRevision = 6,
   lastModified = "4/12/2004",
   lastModifiedBy = "Jane Doe",
   // Note array notation
   reviewers = {"Alice", "Bob", "Cindy"}
)
public class Generation3List extends Generation2List {

// class code goes here

}
```

Note: To make the information in `@ClassPreamble` appear in Javadoc-generated documentation, you must annotate the `@ClassPreamble` definition with the `@Documented` annotation:

```
// import this to use @Documented
import java.lang.annotation.*;

@Documented
@interface ClassPreamble {

   // Annotation element definitions

}
```

« Previous • Trail • Next »