

<http://tutorials.jenkov.com/java/nested-classes.html>

Nested, Inner Classes

**Terminology:** Nested classes are divided into two categories: static and non-static. –

1. Nested classes that are declared `static` are simply called *static nested classes*.
2. Non-static nested classes are called *inner classes*.

```
class OuterClass {  
    ...  
    static class StaticNestedClass {  
        ...  
    }  
    class InnerClass {  
        ...  
    }  
}
```

### Static Nested Classes (vezi Hashtable.Entry)

It is also possible to make a Java inner class behave like a C++ nested class (in fact, static inner classes are sometimes called "nested" instead of "inner" classes), so that the inner class has no reference to the outer class and has a life of its own:

```
public class C {  
    public static class D {  
    }  
}
```

```
C.D d=new C.D();
```

The resulting class is bound only by namespace and accessibility rules to the outer class; no hidden references exist.

Static inner classes (unlike other inner classes) can themselves have static members.

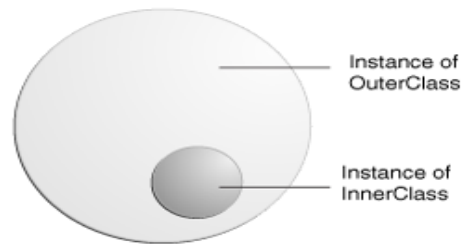
## Inner Classes

As with instance methods and variables, an inner class is associated with an instance of its enclosing class and has direct access to that object's methods and fields. Also, because an inner class is associated with an instance, it cannot define any static members itself.

Objects that are instances of an inner class exist *within* an instance of the outer class. Consider the following classes:

```
class OuterClass {  
    ...  
    class InnerClass {  
        ...  
    }  
}
```

An instance of `InnerClass` can exist only within an instance of `OuterClass` and has direct access to the methods and fields of its enclosing instance. The next figure illustrates this idea.



### An Instance of InnerClass Exists Within an Instance of OuterClass

To instantiate an inner class, you must first instantiate the outer class. Then, create the inner object within the outer object with this syntax:

```
OuterClass.InnerClass innerObject = outerObject.new InnerClass();
```

Additionally, there are two special kinds of inner classes: local classes and anonymous classes (also called anonymous inner classes).