

Evaluating what the runtime type is

And how do we test what the runtime type, of a variable really is at runtime, if the declared type is something else?

We can test to see what type the actual object is, at runtime, in several different ways.

instanceof operator

The `instanceof` operator, lets you test the type of an object or instance.

The reference variable you are testing, is the left operand.

The type you are testing for, is the right operand.

`unknownObject instanceof Adventure`

It's important to see that `Adventure` is not in quotes, meaning we're not testing the type name, but the actual type.

This operator returns `true`, if `unknownObject` is an instance of `Adventure`.

Pattern Matching for the instanceof Operator

If the JVM can identify that the object matches the type, it can extract data from the object, without casting.

For this operator, the object can be assigned to a binding variable, which here is called syfy.

From our example:

```
unknownObject instanceof ScienceFiction syfy
```

The variable syfy (if the instanceof method returns true) is already typed as a ScienceFiction variable.