Reflection

Note Title 4/17/2007

- Provides access to type information at run-time
  - Interface discovery
  - Object inspection
  - Plug-ins
- if (x instanceof Foo) ... basic type info. access
- class Class

  How do you get instances of type Class?

  x.getClass() ⇒ Class c

  Class.forName("java.awt.Color");

  Color.class

A Class instance is immutable, but has lots of accessors...

java.lang.reflect

Class has

Field[] getFields() — all public fields (variables) of the class, including inherited

Field[] getDeclaredFields() — all fields declared in this class

Class getSuperclass()

Method[] getMethods()

Method[] getDeclaredMethods()

Constructor[] getConstructors()

Field
- getName()
- read & write value for a particular object
- setAccessible(true)

Methods
- getName()
- getParameters() ⇒ Class[]
- invoke, passing in a target object & array of params

Constructors
- newInstance(...)

Primitives:

Integer

Integer.TYPE represents the primitive type int

See code examples for applications of reflection:

- DataViewer
- YOPS