

Reflection

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Overview I

1 Intro

2 Class methods

- Calling methods

- The ability for a class or object to examine itself.
- Reflection allows dynamic information about:
 - Data fields
 - Methods
 - Constructors.
- **Class** contains the relevant tools for reflection.

Class methods

- `getName()` - Returns the name of the class, e.g. `java.lang.String` or `Deck`.
- `getDeclaredMethods()` - Returns the public methods in the object.
- `getDeclaredFields()` - Returns the public fields of the object.

Calling methods

- Not only possible to inspect the object, can also use information found.

```
public static void someMethod(Object o)
{
    Class c = o.getClass(); // Gets the class
    // gets the method in position 0 of declared methods
    Method method=c.getDeclaredMethods()[0];
    try{
        Object obj=c.newInstance(); // Create new instance of Class returned
        method.invoke(obj, args); // Call method on obj, with args as parameters
        System.out.println(" Method name is" +method.getName()+ " return is =" +method.invoke(obj));
    } catch (Exception e) { System.out.println(" Exception = "+e); }
}
```

- Can do a lot more with reflection.

The End