gogo shell

http://felix.apache.org/site/rfc-147-overview.html

OSGi Command Line Interface

Was ist gogo shell?

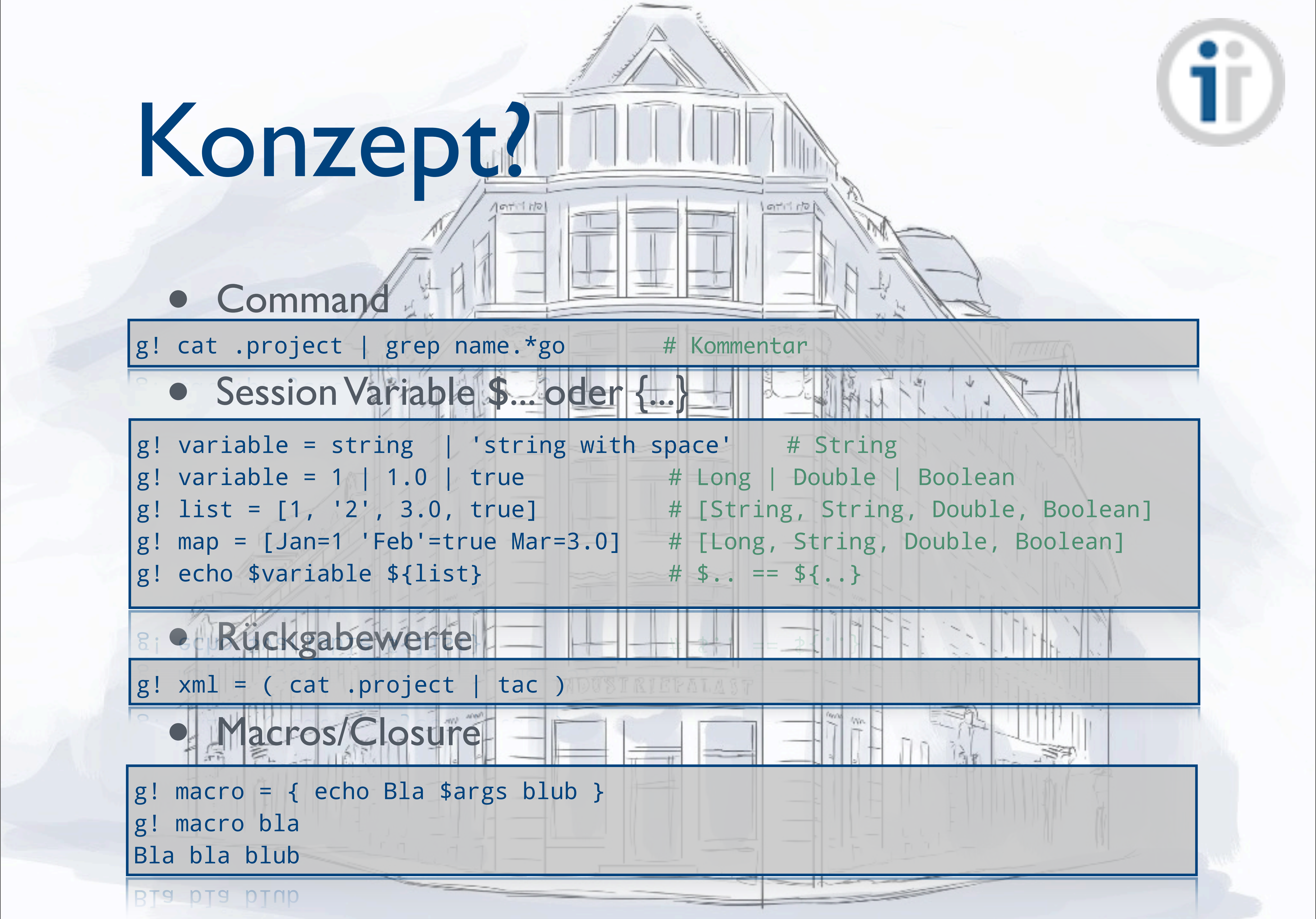
```
g! lb -s | grep felix.gogo
    1|Active     |    1|org.apache.felix.gogo.shell (0.10.0)
    2|Active     |    1|org.apache.felix.gogo.runtime (0.12.1)
    3|Active     |    1|org.apache.felix.gogo.command (0.14.0)

felix:
    install/uninstall, start/stop/resolve, refresh/update
    cd, ls, help, log
    lb, inspect, headers, which, bundlelevel/frameworklevel

gogo:
    cat, echo, grep, set, sh/gosh/source, telnetd
    type, format, getopt, each, until, not, tac

obr:
    repos add refresh remove list
    list, deploy, info, javadoc/source
```

Konzept?



- Command

```
g! cat .project | grep name.*go        # Kommentar
```

- Session Variable $... oder {...}

```
g! variable = string  | 'string with space'    # String
g! variable = 1 | 1.0 | true           # Long | Double | Boolean
g! list = [1, '2', 3.0, true]          # [String, String, Double, Boolean]
g! map = [Jan=1 'Feb'=true Mar=3.0]    # [Long, String, Double, Boolean]
g! echo $variable ${list}              # $.. == ${..}
```

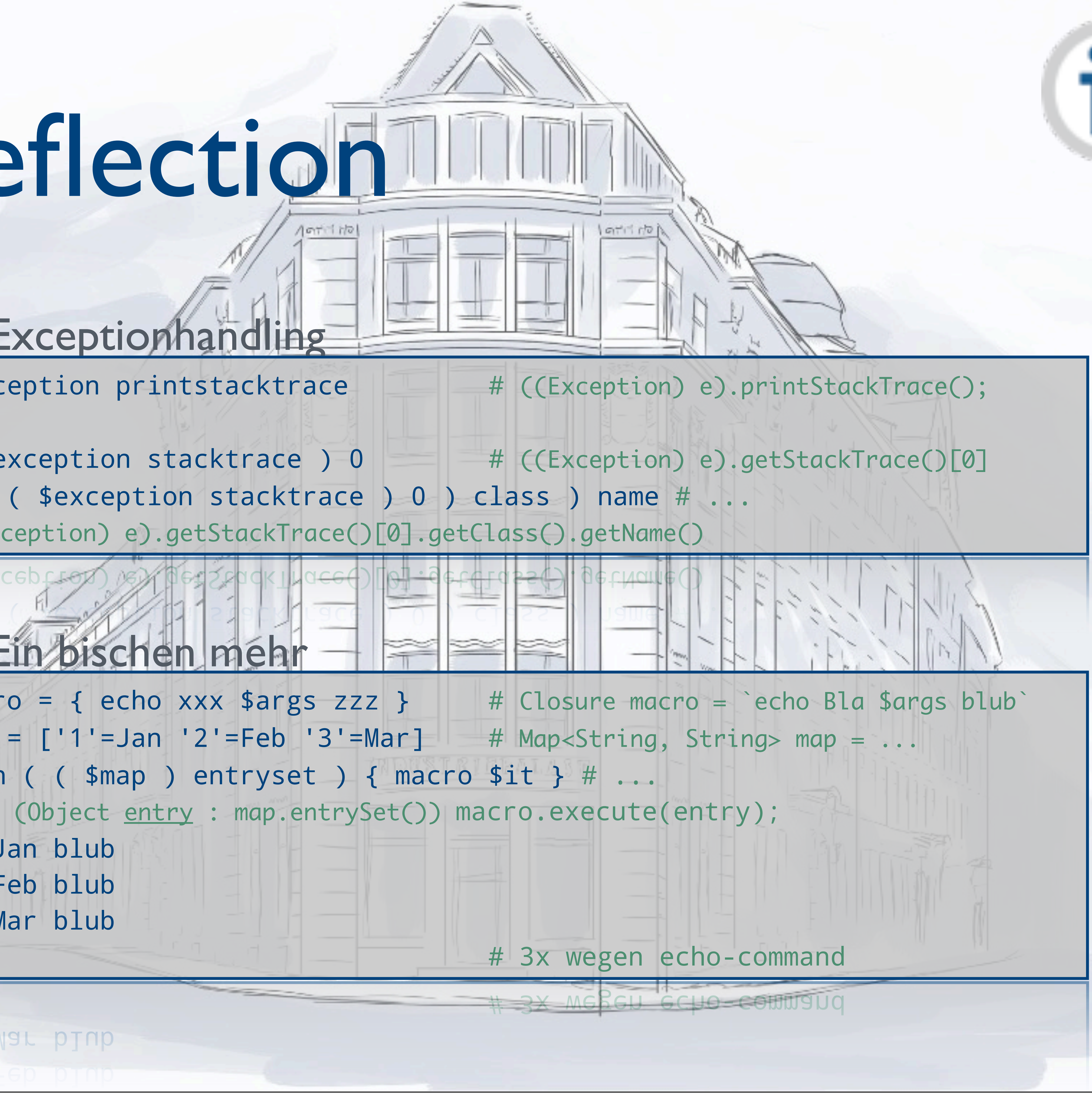
- Rückgabewerte

```
g! xml = ( cat .project | tac )
```

- Macros/Closure

```
g! macro = { echo Bla $args blub }
g! macro bla
Bla bla blub
```

Reflection



- Exceptionhandling

```
g! $exception printstacktrace         # ((Exception) e).printStackTrace();

g! ( $exception stacktrace ) 0        # ((Exception) e).getStackTrace()[0]
g! ( ( ( $exception stacktrace ) 0 ) class ) name # ...
...((Exception) e).getStackTrace()[0].getClass().getName()
```

- Ein bischen mehr

```
g! macro = { echo xxx $args zzz }     # Closure macro = `echo Bla $args blub`
g! map = ['1'=Jan '2'=Feb '3'=Mar]    # Map<String, String> map = ...
g! each ( ( $map ) entryset ) { macro $it } # ...
... for (Object entry : map.entrySet()) macro.execute(entry);
Bla 1=Jan blub
Bla 2=Feb blub
Bla 3=Mar blub
null                                  # 3x wegen echo-command
```

FirstCommand

- FirstCommand

```java
public class FirstCommand {
    public void macro(Object arg){
        System.out.println("macro#obj: Bla " + arg + " blub");
    }
}
```

- Als Declarative Service oder programmatisch

```xml
<component name="FirstCommand">
  <implementation class="FirstCommand"/>
  <service>
    <provide interface="FirstCommand"/>
  </service>
  <property name="osgi.command.scope" type="String" value="itemis"/>
  <property name="osgi.command.function" type="String" value="macro"/>
</component>
```

```java
public class Activator implements BundleActivator {
    @Override
    public void start(BundleContext context) throws Exception {
        Dictionary<String, Object> dict = new Hashtable<>();
        dict.put(CommandProcessor.COMMAND_SCOPE, "itemis");
        dict.put(CommandProcessor.COMMAND_FUNCTION, new String[] {"closure"});
        context.registerService(FirstCommand.class, new FirstCommand(), dict);
    }
```

Risks

- Polymorphy & Reflection (polymorph cmd-order)
- Cmd-Return vs System.out/System.in
- Bad-help
- Missing eclipse-console tooling (tab-, history-support)
- OBR: duplicate Capability/Requirement Impl

Links

- GitHub: https://github.com/jwausle/gogo.shell/blob/master/gogo.shell
- Overview: http://felix.apache.org/site/rfc-147-overview.html
- Cmds: https://github.com/jwausle/gogo.shell/blob/master/gogo.shell.doc/help/README.MD
- OSGi-Spec: http://www.osgi.org/download/osgi-4.2-early-draft.pdf
- Cmd-History-UpdateSite: https://github.com/jwausle/de.jwausle.support.org.eclipse.ui.console/raw/master/de.jwausle.support.org.eclipse.ui.console.updatesite/update-site/2.1.0