



Menschen. Innovationen. Lösungen.

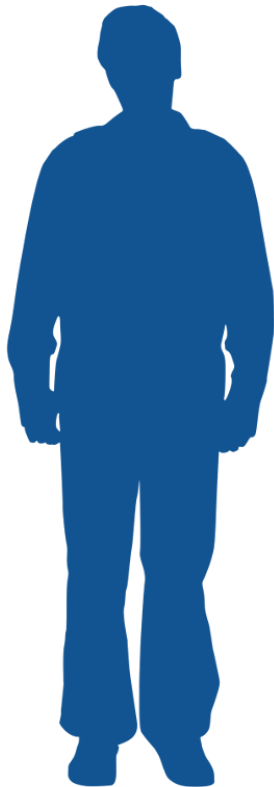
Grails - Die Suche ist vorbei

DOAG 2012 Development
Stefan Glase
am 14.06.2012



OPITZ CONSULTING

Wer bin ich?



Software-Entwickler

Java EE, Spring, Groovy, Grails

Trainer und Coach

Methoden und Technologien

Sprecher und Autor

OOP, GearConf, DOAG, JAX,
CamelCaseConf, JUGs

twitter.com/stefanglase
github.com/codescape

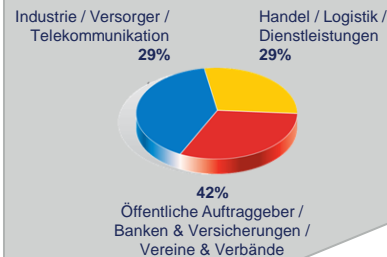


Märkte

- Java
- SOA
- ORACLE
- BI/DWH
- Outtasking

Kunden

- Branchen-
übergreifend
- Über 600
Kunden



Leistungs- angebot

- IT-Strategie
- Beratung
- Implementierung
- Betrieb
- Training



Fakten

- Gründung 1990
- 400 Mitarbeiter
- 8 Standorte in D/PL



Agenda

- Was ist Groovy?
- Was ist Grails?
- Live Coding

1

Was ist Groovy?

Was ist Groovy?

- **Dynamische Sprache für die Java Virtual Machine (JVM)**
- **Nahtlose Integration existierender Java Klassen und Bibliotheken**



- **Vereinfachtes Testen dank Power Asserts und Mocking**
- **Ausdrucksstarker Code durch kompaktere Syntax, Support für domänenspezifische Sprachen (DSLs), Closures**

Hello World mit Groovy

```
class Greeter {  
    def name  
    def greet() { "Hello $name!" }  
}  
  
helloGroovy = new Greeter(name: 'Groovy')  
println helloGroovy.greet()
```

Groovy im Web ausprobieren



<http://groovyconsole.appspot.com/>

Objekte erstellen mit Groovy

```
class Person {  
    Long id  
    String firstName  
    String lastName  
}  
  
def person = new Person(  
    id: 1,  
    firstName: 'Fred',  
    lastName: 'Feuerstein'  
)  
  
assert person.id == 1  
assert person.firstName == 'Fred'  
assert person.lastName == 'Feuerstein'
```

AST-Transformationen mit Groovy

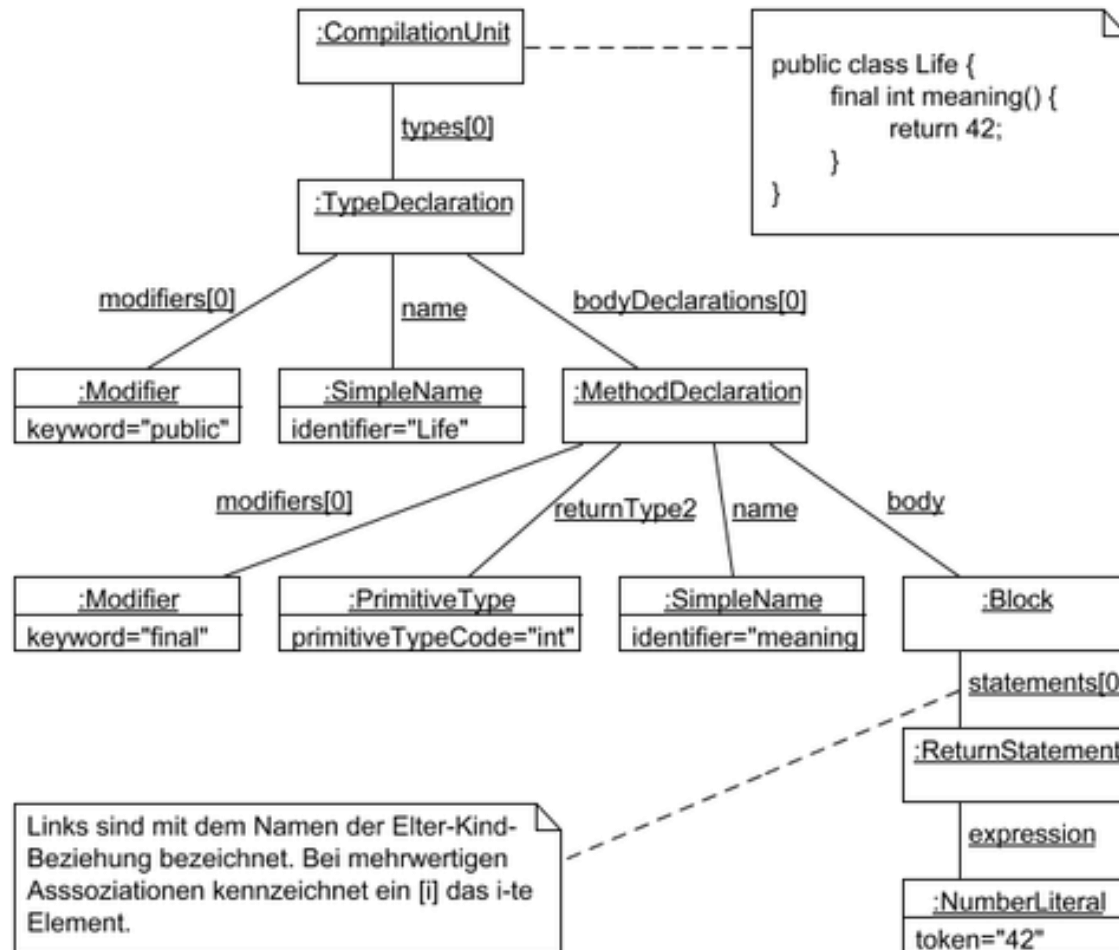
```
@groovy.transform.ToString
```

```
class Person {  
    Long id  
    String firstName  
    String lastName  
}
```

```
def person = new Person().with {  
    id = 1  
    firstName = 'Fred'  
    lastName = 'Feuerstein'  
    delegate  
}
```

```
assert 'Person(1, Fred, Feuerstein)' == person.toString()
```

Abstract Syntax Tree?



[http://wiki.fernuni-hagen.de/eclipse/index.php/Abstract_Syntax_Tree_\(AST\)](http://wiki.fernuni-hagen.de/eclipse/index.php/Abstract_Syntax_Tree_(AST))

Operationen auf Collections mit Groovy

```
class Person {
    Long id
    String firstName
    String lastName
}

def people = [
    new Person(id: 1, firstName: 'Fred', lastName: 'Feuerstein'),
    new Person(id: 2, firstName: 'Wilma', lastName: 'Feuerstein'),
    new Person(id: 3, firstName: 'Betty', lastName: 'Geröllheimer'),
    new Person(id: 4, firstName: 'Barney', lastName: 'Geröllheimer'),
    new Person(id: 5, firstName: 'Bam-Bam', lastName: 'Geröllheimer')]

assert ['Fred', 'Wilma'] ==
    people.findAll{ it.lastName == 'Feuerstein' }.firstName
assert ['Feuerstein':2, 'Geröllheimer':3] == people.countBy{ it.lastName }

people.findAll{ it.lastName == 'Geröllheimer' }
    .each{ println "Hello $it.firstName!" }
```

Vereinfachtes File-Handling mit Groovy

```
def file = new File('myTemp.file')  
  
file.text = """Good day  
Guten Tag  
Buenos Dias"""  
  
file.eachLine { line, i -> println "$i: $line" }  
  
println file.text
```



FizzBuzz mit Groovy

```
(1..100).each {  
    println ((it % 3 ? "" : "Fizz") + (it % 5 ? "" : "Buzz") ?: it)  
}
```

1	11	Fizz	31	41	Fizz	61	71	Fizz	91
2	Fizz	22	32	Fizz	52	62	Fizz	82	92
Fizz	13	23	Fizz	43	53	Fizz	73	83	Fizz
4	14	Fizz	34	44	Fizz	64	74	Fizz	94
Buzz	FizzBuzz	Buzz	Buzz	FizzBuzz	Buzz	Buzz	FizzBuzz	Buzz	Buzz
Fizz	16	26	Fizz	46	56	Fizz	76	86	Fizz
7	17	Fizz	37	47	Fizz	67	77	Fizz	97
8	Fizz	28	38	Fizz	58	68	Fizz	88	98
Fizz	19	29	Fizz	49	59	Fizz	79	89	Fizz
Buzz	Buzz	FizzBuzz	Buzz	Buzz	FizzBuzz	Buzz	Buzz	FizzBuzz	Buzz

<http://groovyconsole.appspot.com/script/643001>

2

Was ist Grails?

Was ist Grails?

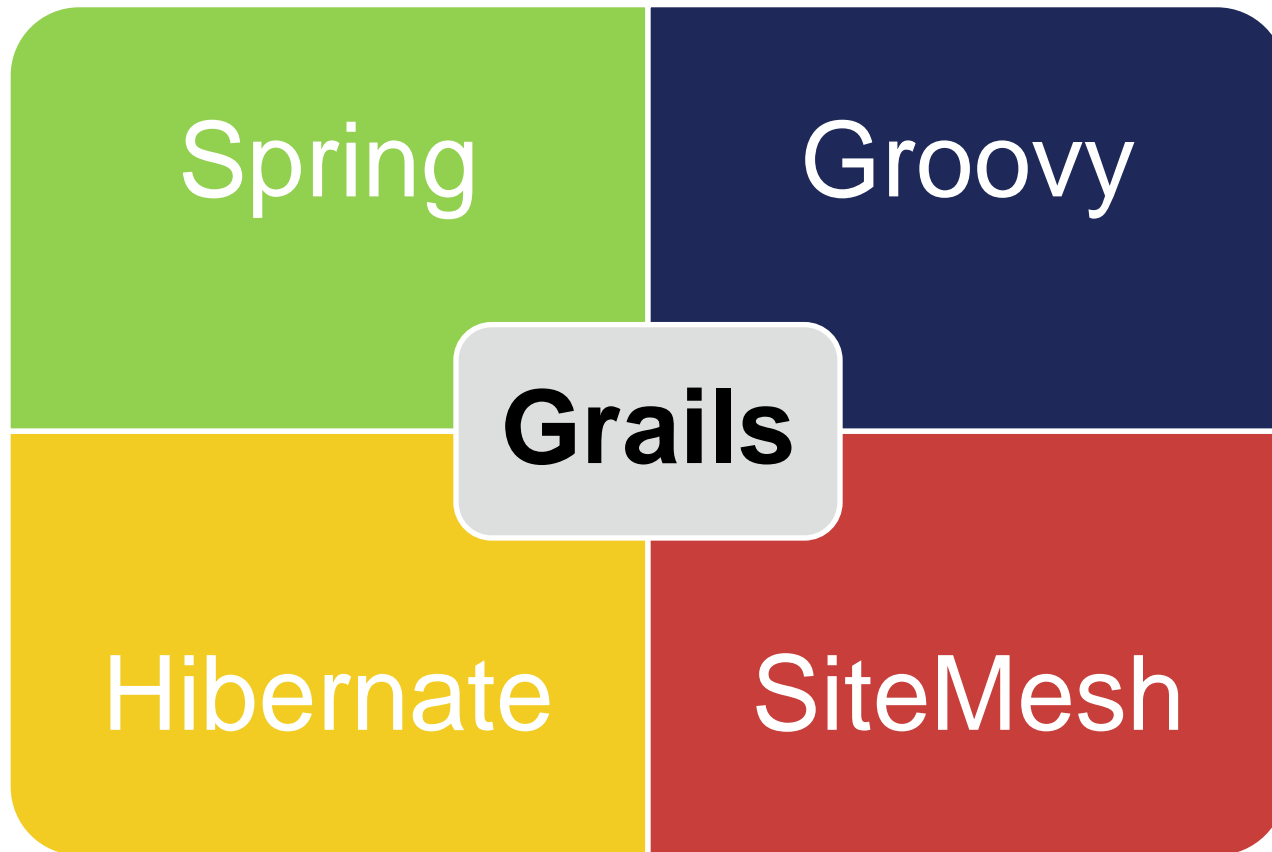


SpringSource über Grails...

Grails is an advanced and innovative **open source web application platform** that delivers new levels of developer productivity by applying principles like **Convention over Configuration**. Grails helps development teams embrace agile methodologies, deliver quality applications in reduced amounts of time, and focus on what really matters: creating **high quality, easy to use** applications that delight users. Grails naturally complements Java application development since it **is built on Spring** and **based on Groovy**, the leading dynamic language for the Java platform.

<http://www.springsource.com/developer/grails>

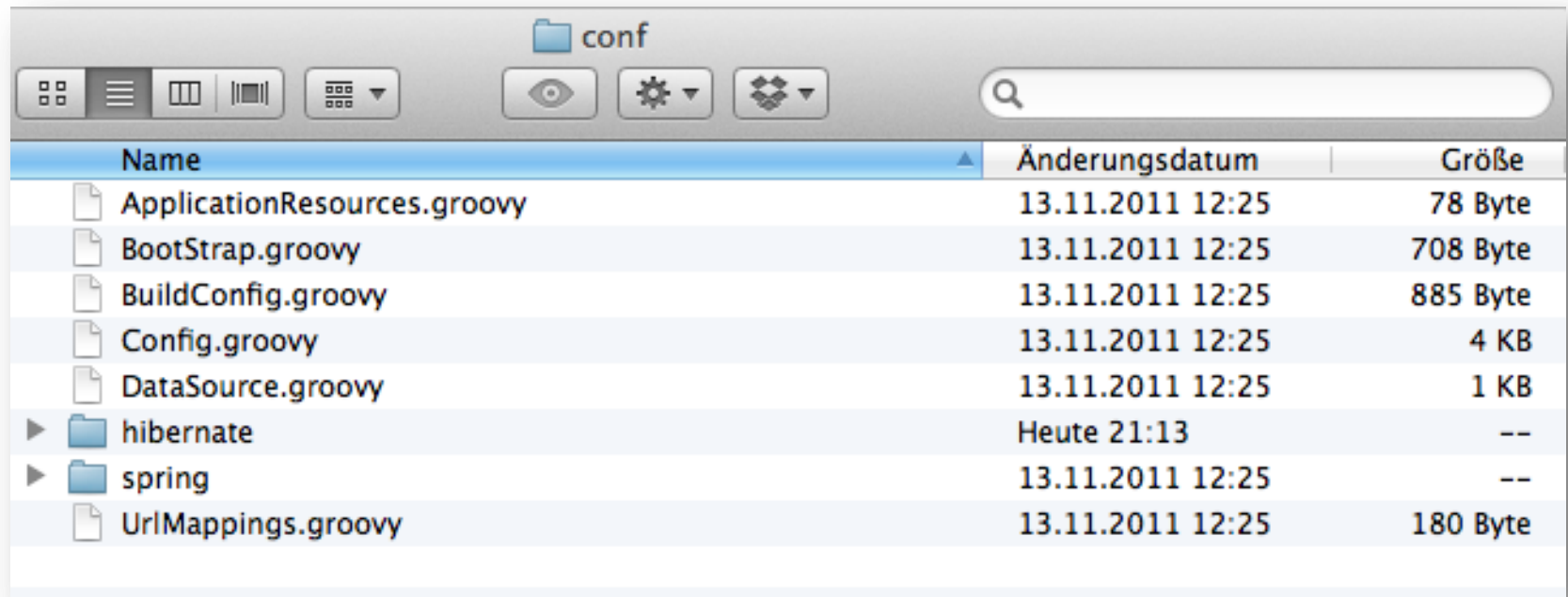
Ein solides Fundament



Konventionen in der Verzeichnisstruktur

```
grails-app
- conf
- controllers
- domain
- i18n
- services
- taglib
- utils
- views
lib
scripts
src
- groovy
- java
test
- integration
- unit
web-app
```

Konventionen bei der Konfiguration



Name	Änderungsdatum	Größe
ApplicationResources.groovy	13.11.2011 12:25	78 Byte
BootStrap.groovy	13.11.2011 12:25	708 Byte
BuildConfig.groovy	13.11.2011 12:25	885 Byte
Config.groovy	13.11.2011 12:25	4 KB
DataSource.groovy	13.11.2011 12:25	1 KB
hibernate	Heute 21:13	--
spring	13.11.2011 12:25	--
UrlMappings.groovy	13.11.2011 12:25	180 Byte

grails-app/conf

Fachklassen-Modellierung mit JPA

@Entity

```
public class Customer {
```

```
    private int id;  
    private String name;  
    private Collection<Order> orders;
```

@Id

```
    public int getId() { return id; }  
    public void setId(int id) { this.id = id; }
```

```
    public String getName() { return name; }  
    public void setName(String name) { this.name = name; }
```

@OneToMany(cascade=ALL, mappedBy="customer")

```
    public Collection<Order> getOrders() { return orders; }  
    public void setOrders(Collection<Order> orders) { this.orders = orders; }
```

```
}
```

<http://glassfish.java.net/javaee5/persistence/persistence-example.html>

Fachklassen-Modellierung mit Grails

```
class Customer {  
    String name  
    String email  
  
    static hasMany = [orders: Order]  
  
    static constraints = {  
        name(blank: false)  
        email(unique: true, email: true)  
    }  
  
    String toString() {  
        "$name ($email)"  
    }  
}
```

GORM = Grails Objekt Relational Mapping

- Objektrelationales Mapping als DSL
- **Dynamische Finder-Methoden**
- Dynamische Persistenz-Methoden
- Hibernate Criteria Builder als DSL
- Basierend auf Hibernate



Dynamische Finder-Methoden

```
// Erste Person mit dem Vornamen „Fred“  
Person.findByFirstName('Fred')
```

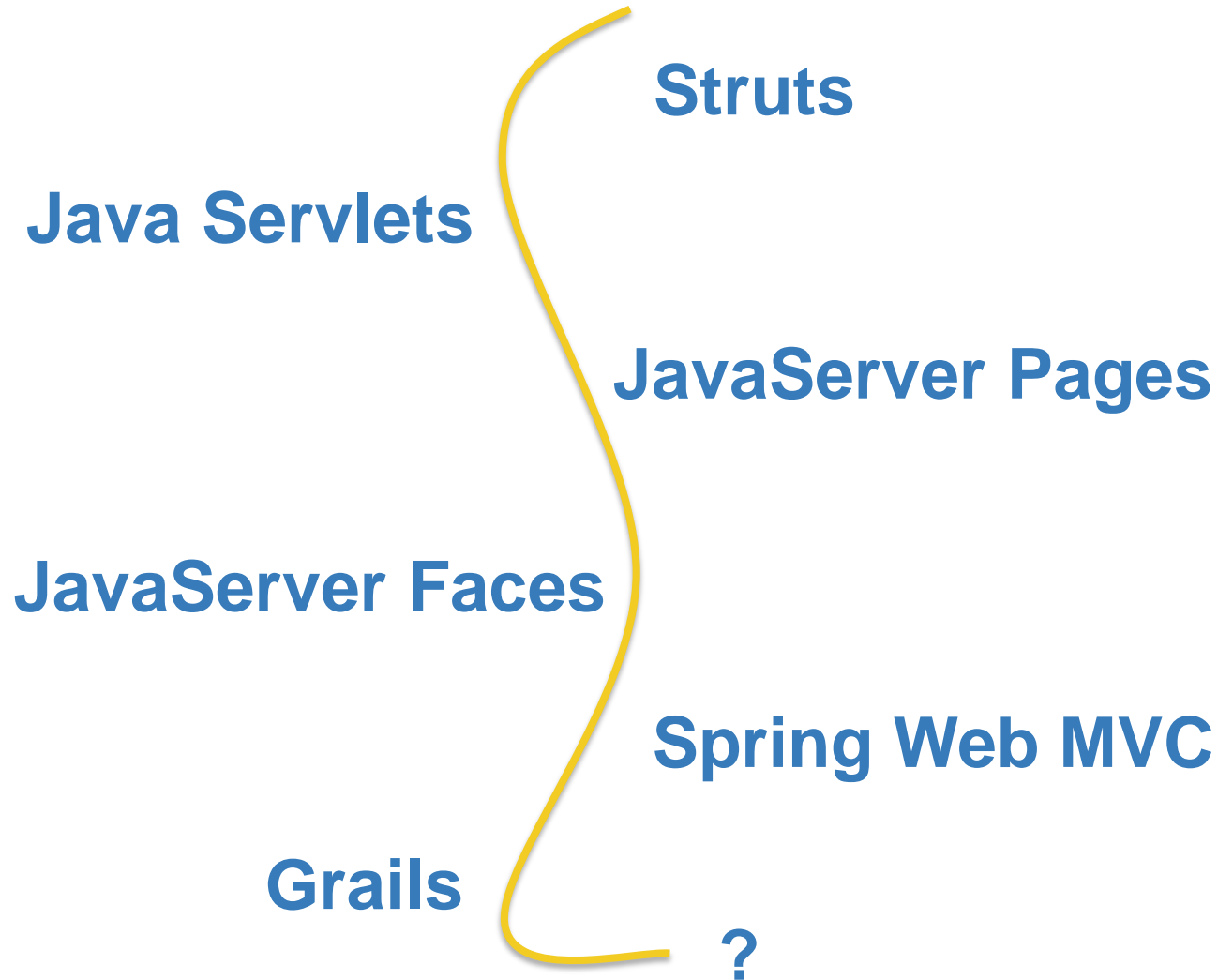
```
// Erste Person mit dem Vornamen „Fred“ und Nachnamen „Feuerstein“  
Person.findByFirstNameAndLastName('Fred', 'Feuerstein')
```

```
// Alle Personen im Alter zwischen 2 und 10 Jahren  
Person.findAllByAgeBetween(2, 10)
```

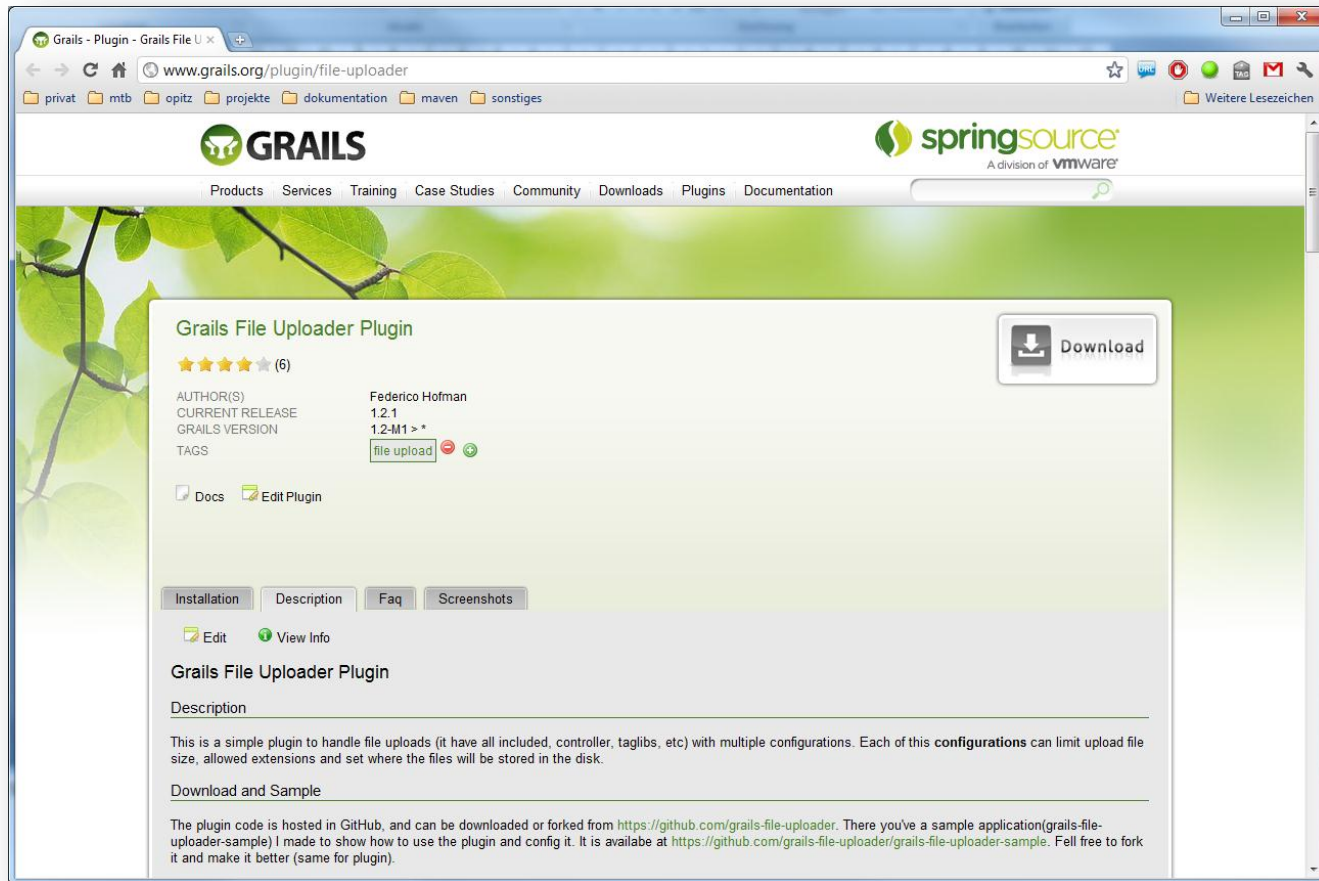
```
// Alle Personen mit einem hinterlegten Geburtstag  
Person.findAllByBirthdayIsNotNull()
```

```
// Alle Personen mit einem „B“ als ersten Buchstaben im Vornamen  
Person.findAllByFirstNameLike('B%')
```


Plug-In Beispiel: Datei-Upload



Plug-In Beispiel: Grails File Uploader Plugin



Plug-In-Mechanismus

All Plugins (690 Total)

A

- [acegi](#) - Acegi Plugin
- [activemq](#) - ActiveMQ Plugin
- [activiti](#) - Grails Activiti Plugin - Enabled Activiti BPM Suite...
- [activiti-spring-security](#) - Activiti Spring Security Integration
- [acts-as-taggable](#) - Acts As Taggable Plugin
- [address-lookup-zpfour](#) - Address Lookup via ZP4
- [ajax-uploader](#) - Ajax Uploader Plugin
- [ajaxflow](#) - Ajaxflow enables Ajaxified Webflows
- [akismet](#) - Akismet Anti-Spam Plugin
- [alfresco](#) - Alfresco DMS Integration
- [alfresco34](#) - Alfresco 3.4 integration
- [amazon-s3](#) - Amazon S3 Plugin
- [amazonfps](#) - Amazon Flexible Payments
- [aop-reloading-fix](#) - AOP Reloading Fix
- [apns](#) - Apple Push Notification Service Integration
- [app-engine](#) - Grails AppEngine plugin
- [app-info](#) - Application Info
- [appengine-gorm](#) - AppEngine GORM - Batch insert, update and delete op...
- [applet](#) - Applet Plugin
- [artisteerplugin](#) - Artisteer plugin
- [asynchronous-mail](#) - Asynchronous mail
- [atac](#) - Another Tag Cloud Plugin
- [atmosphere](#) - Grails Atmosphere Plugin
- [attachmtable](#) - Attachmtable

MVC mit Grails

- Command-Objekte
- URL-Mappings mittels DSL
- Groovy Server Pages (GSPs)
- **Groovy Tag-Libraries**
- Scaffolding von CRUD-Anwendungen
- Internationalisierung (i18n)
- **Content Negotiation**
- Basierend auf Spring MVC

Content Negotiation

```
class TwitterController {  
    def status = {  
        withFormat {  
            json { render Status.list() as JSON }  
            xml { render Status.list() as XML }  
        }  
    }  
}
```

twitter/status.xml

```
<list>  
  <status id="1">  
    <dateCreated>2011-11-04 ...</dateCreated>  
    <message>My first post!</message>  
    <poster id="1"/>  
  </status>  
  <status id="2">  
    <dateCreated>2011-11-04 ...</dateCreated>  
    <message>Second message!</message>  
    <poster id="1"/>  
  </status>  
</list>
```

twitter/status.json

```
[{  
  "class": "grails4taglib.Status",  
  "id": 1,  
  "dateCreated": "2011-11-04T12:51:30Z",  
  "message": "My first post!",  
  "poster": {"class": "Person", "id": 1}  
}, {  
  "class": "grails4taglib.Status",  
  "id": 2,  
  "dateCreated": "2011-11-04T12:51:42Z",  
  "message": "Second message!",  
  "poster": {"class": "Person", "id": 1}  
}]
```

Groovy Tag Libraries

```
class TwitterTagLib {  
  
    static namespace = "twitter"  
  
    def displayStatus = { attrs, body ->  
        def status = attrs.status as Status  
        out << ""  
            <div class="status">  
                <span>${status.poster.username} posted on  
${g.formatDate(date: status.dateCreated)}:</span>  
                <p>${status.message}</p>  
            </div>""  
        }  
    }  
}
```



Definition



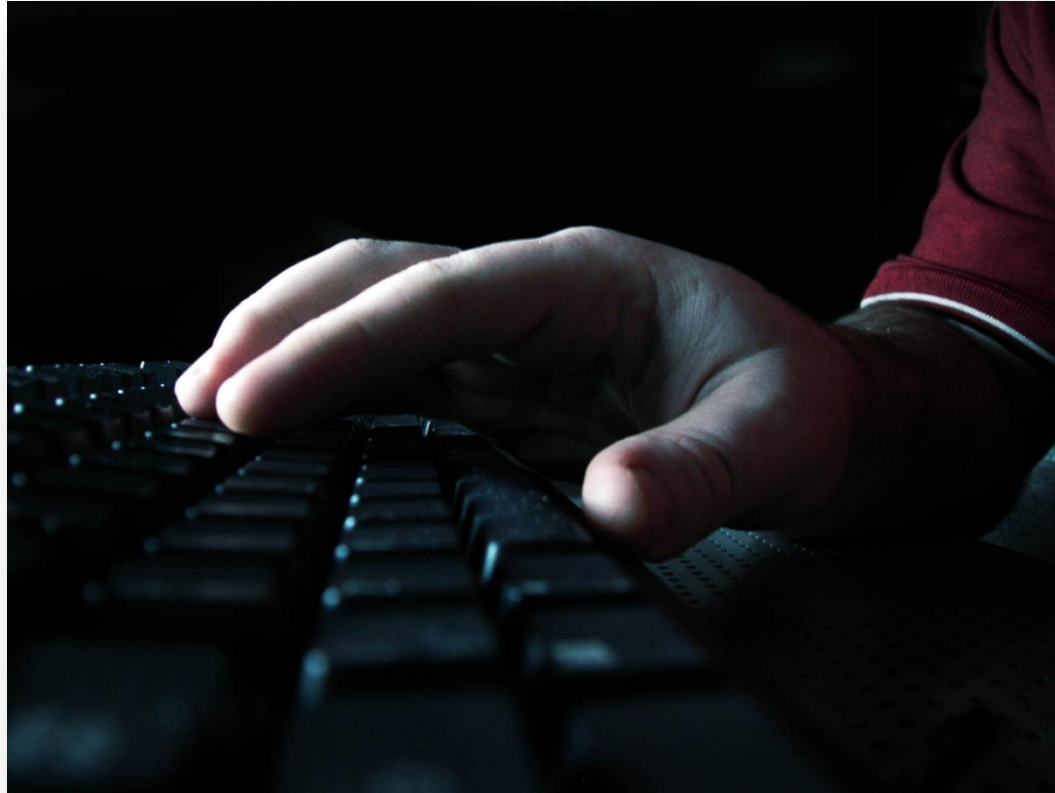
Verwendung

<twitter:displayStatus status="\${status}"/>

3

Live Coding

Live Coding



Bitte Daumen drücken! 😊

Fazit



Im Netz...

Groovy & Grails:

<http://grails.org/>

<http://groovy.codehaus.org/>

Beispiele:

<https://github.com/codescape/presentations>

Twitter:

[@stefanglase](#)

Fragen und Antworten



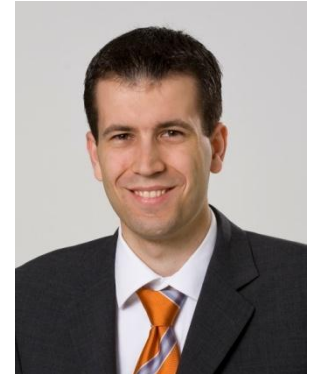
Ihr Ansprechpartner

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