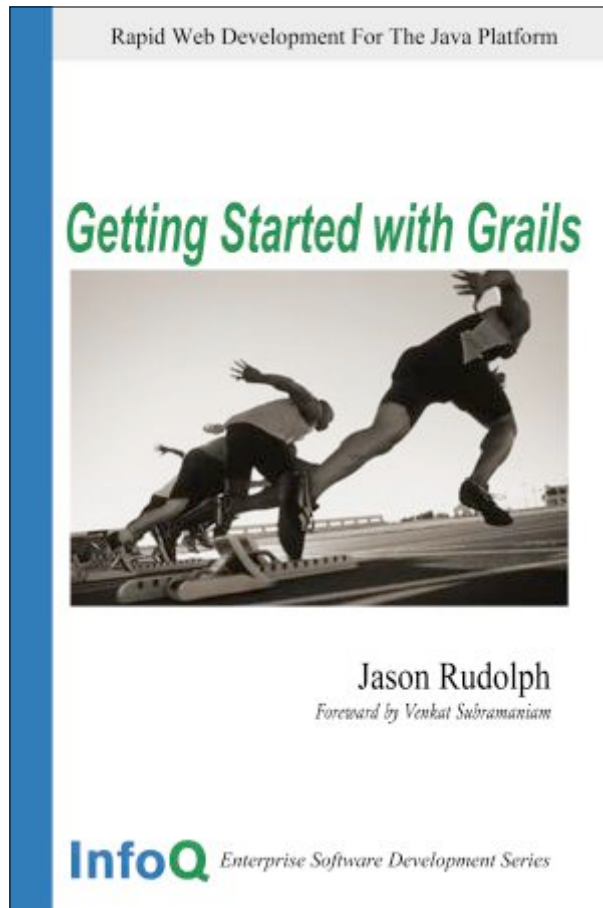


Getting Started with Grails

Rapid Web Development for the Java Platform

Jason Rudolph
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Introduction



- **Jason Rudolph**
- **Grails Committer**
- **Streamlined Committer**
- **Principal @ Relevance**
- **Author**

InfoQ Enterprise Software Development Series

relevance

What is Grails?

- **Rapid web application development**
 - Getting things done
 - Having fun doing it
- **Full-stack MVC framework**
- **Open source**
- **Runs on the JVM**

What (Else) is Grails?

- **Develop your apps in Groovy**
- **Highly-expressive**
- **Fully object-oriented**
- **Dynamic**
- **Familiar syntax**
- **Seamless Java integration**
- **JSR-241**



Anything Else?

- **Convention over configuration**
 - Opinionated software
 - Sensible defaults
 - Everything has a place
- **DRY (Don't Repeat Yourself)**

Rock-Solid Foundation



Let's Get Started

- **Ready?**

- Install JDK 1.4 (or higher)
- Set JAVA_HOME

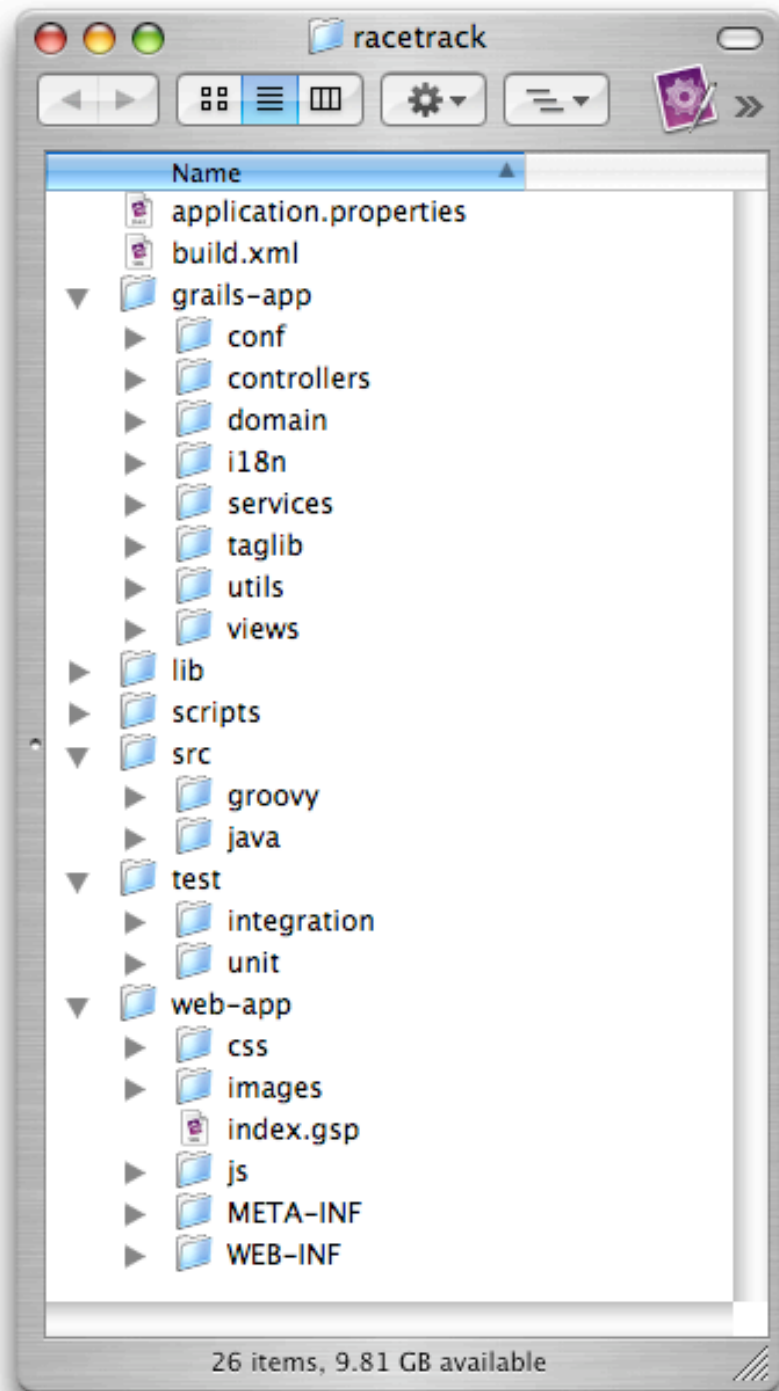
- **Set**

- Download latest Grails release
- Set GRAILS_HOME
- Add \$GRAILS_HOME/bin to your PATH

- **Grails!**

Hello, Grails

Demo



What's Inside?

Instant Gratification

Demo

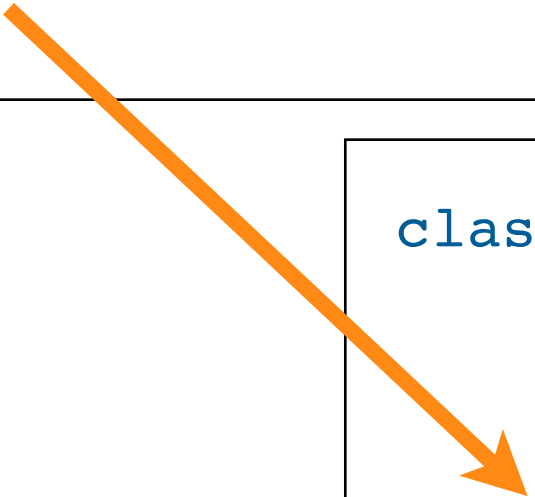
Grails ORM (GORM)

- Zero-configuration persistence management
- ~~DAOs~~ Dynamic domain class methods
 - save
 - delete
 - get
 - list
 - find
 - findAll
 - count
 - etc.

Relationship Counseling

1:n Relationships

```
class Race {  
    //...  
    static hasMany =  
        [registrations:Registration]  
}
```



```
class Registration {  
    //...  
    Race race  
    static belongsTo = Race  
}
```

Relationship Counseling

Demo

Where's My Data

- **How did we get this far without a database?**
- **Hooking up an external database**
 - Create schema
 - Grant permissions
 - Add drivers to racetrack/lib
 - Update data source

Be Persistent

Demo

Declaring Constraints

- **Pre-packaged constraints**

- | | | |
|--------------|------------|----------|
| ■ blank | ■ min | ■ range |
| ■ creditcard | ■ max | ■ unique |
| ■ email | ■ matches | ■ url |
| ■ inList | ■ nullable | ■ etc. |

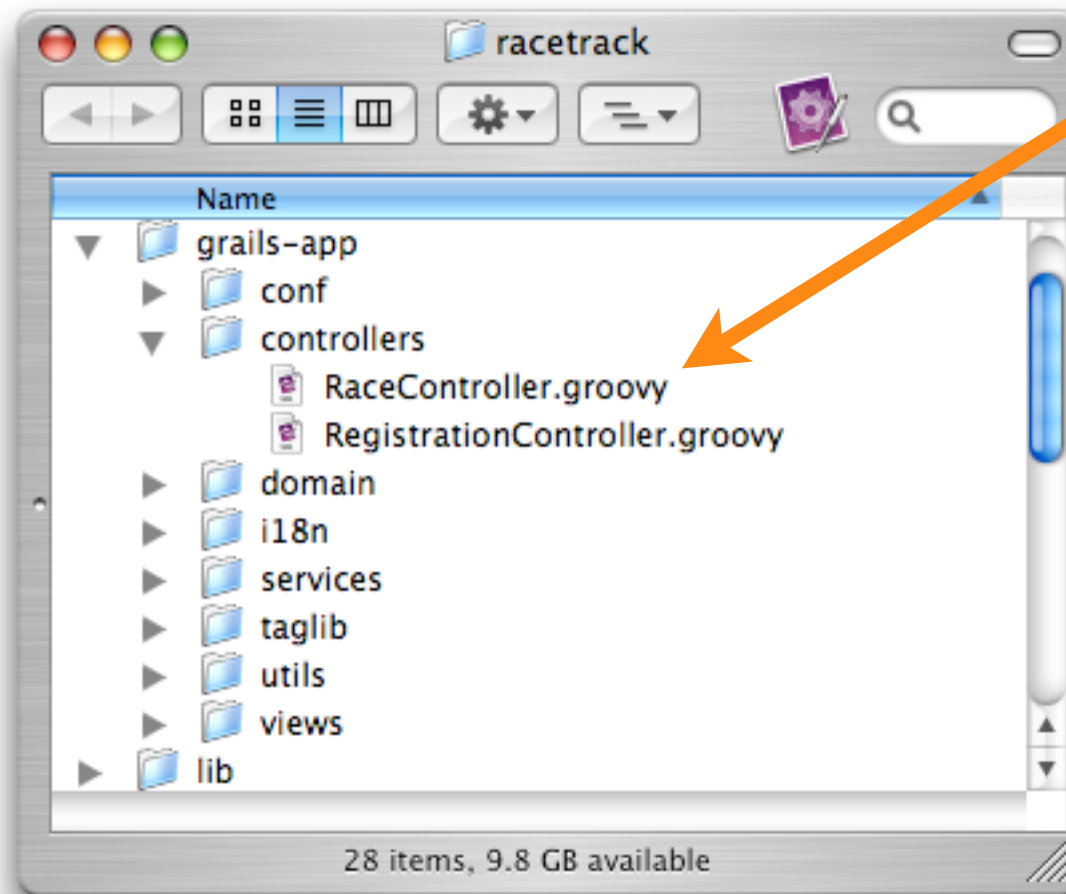
- **Custom constraints**

Show Some Constraint!

Demo

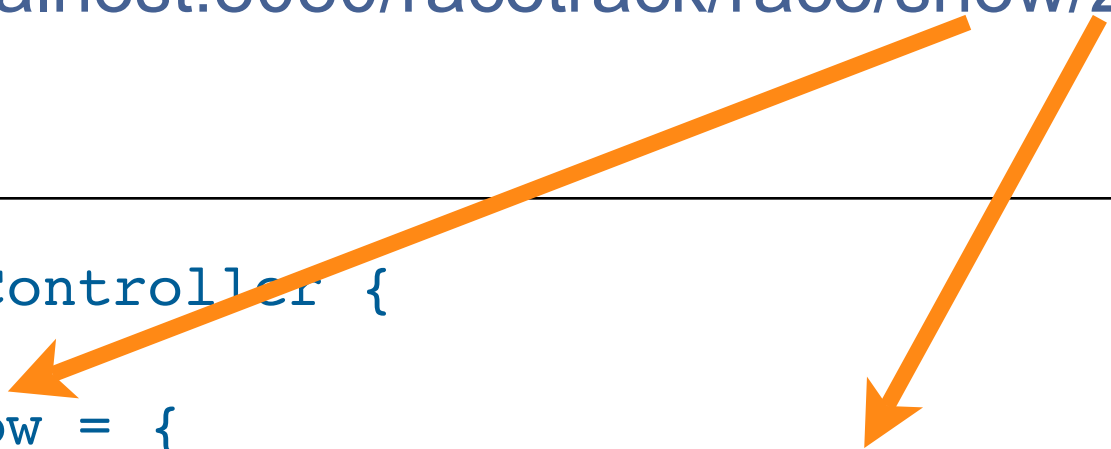
Fun with URLs

<http://localhost:8080/racetrack/race/show/2>



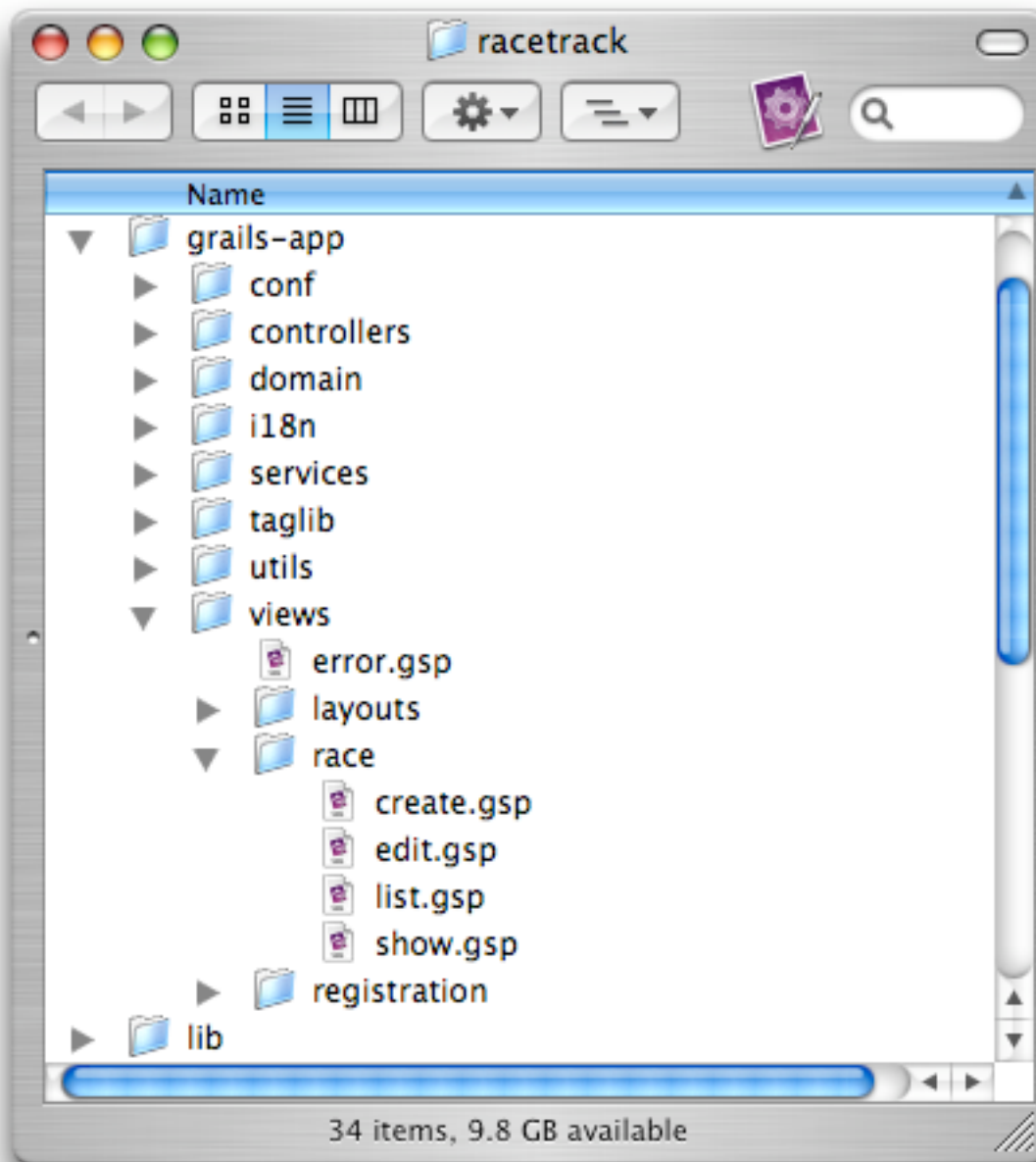
Fun with URLs

http://localhost:8080/racetrack/race/show/2



The diagram consists of two orange arrows. The first arrow originates from the 'show' part of the URL 'http://localhost:8080/racetrack/race/show/2' and points to the 'def show' line in the code block. The second arrow originates from the '2' at the end of the URL and points to the 'params.id' argument in the 'Race.get' method call within the 'show' block.

```
class RaceController {  
  //...  
  def show = {  
    [ race : Race.get( params.id ) ]  
  }  
  //...  
}
```



GSP

RaceController.groovy

```
def show = {  
    [ race : Race.get( params.id ) ]  
}
```



views/race/show.gsp

```
<g:each var="r" in="{race.registrations}">  
  <li>  
    <g:link controller="registration"  
      action="show" id="{r.id}">{r.name}  
    </g:link>  
  </li>  
</g:each>
```

Grooogle?

Get Dynamic

Dynamic Finder Methods

- **What if I need to...**
 - find all races in Virginia?
 - count the races longer than 5 miles?
 - get a list of the 10 longest races?
 - find races matching a certain pattern?
 - list all races with registrations?

Get Dynamic

Demo

Putting It to the Test

- **Unit & integration testing**
 - GroovyTestCase created for each class
 - grails test-app executes all test cases
- **Functional testing**
 - Canoo Web Test
 - grails generate-webtest
 - grails run-webtest

Deployment

grails war

Beyond the Finish Line

- **Services**
- **Web Flow**
- **REST**
- **Java Integration (src/java)**
- **Rich (and Friendly) Tag Libraries**
- **Ajax**

Still More to Explore

- **Custom URL Mapping**
- **Alternate Domain Implementations**
 - Mapping to legacy schemas
 - EJB3 entity beans
- **Job Scheduling**
- **Command Objects for Forms**

grails.org/plugins

- **Build rich clients**
- **Expose web services**
- **Secure your app**
- **Roll your own scaffolding**
- **Integrate a search engine**
- **Almost limitless possibilities**

grails.org/roadmap

- **Future Releases**

- Object-Relational Mapping DSL
- Support for JSP custom tag libraries in GSP
- JavaScript DSL
- Domain model generation from database schema
- JPA support

Important Companies Talking About Grails

- **Oracle**

<http://www.oracle.com/technology/pub/articles/grall-grails.html>

- **BEA**

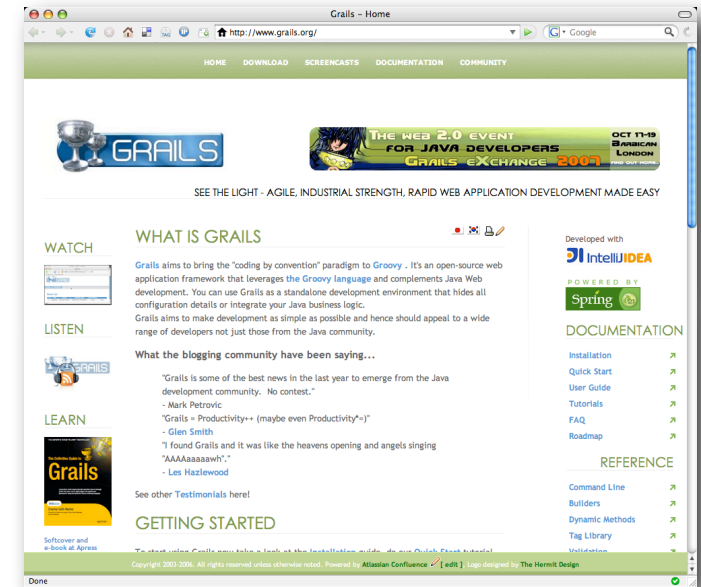
<http://dev2dev.bea.com/pub/a/2006/10/introduction-groovy-grails.html>

- **SAP**

<https://www.sdn.sap.com/irj/sdn/wiki?path=/display/Community/Composition+on+Rails>

Resources

- **grails.org**
- Downloads
 - Latest release (0.6)
 - Development snapshot (1.0-RC1)
- User guide, tutorials, screencasts, etc.
- Mailing lists (grails.org/ mailing+lists)



Resources (cont'd)



aboutGroovy.com

grails.org/grails+podcast



groovyblogs.org

2007 No Fluff Just Stuff



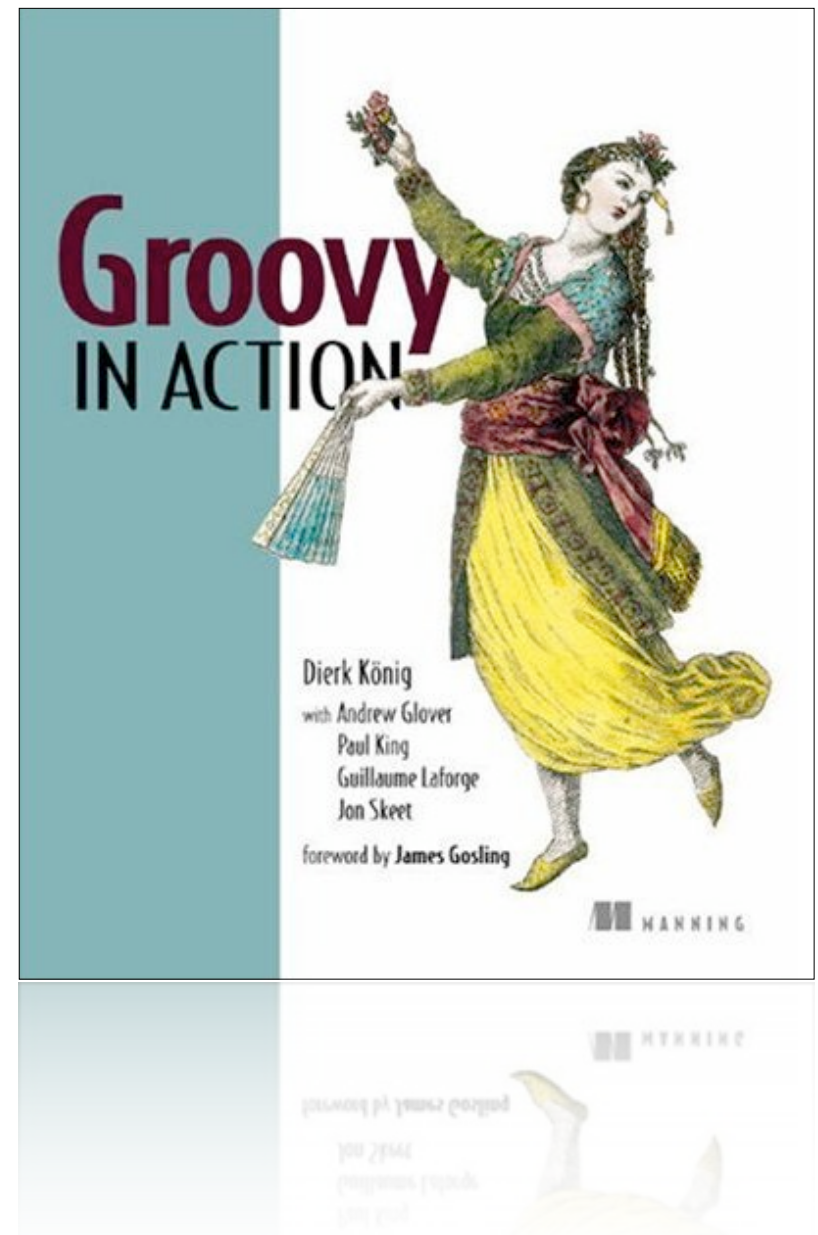
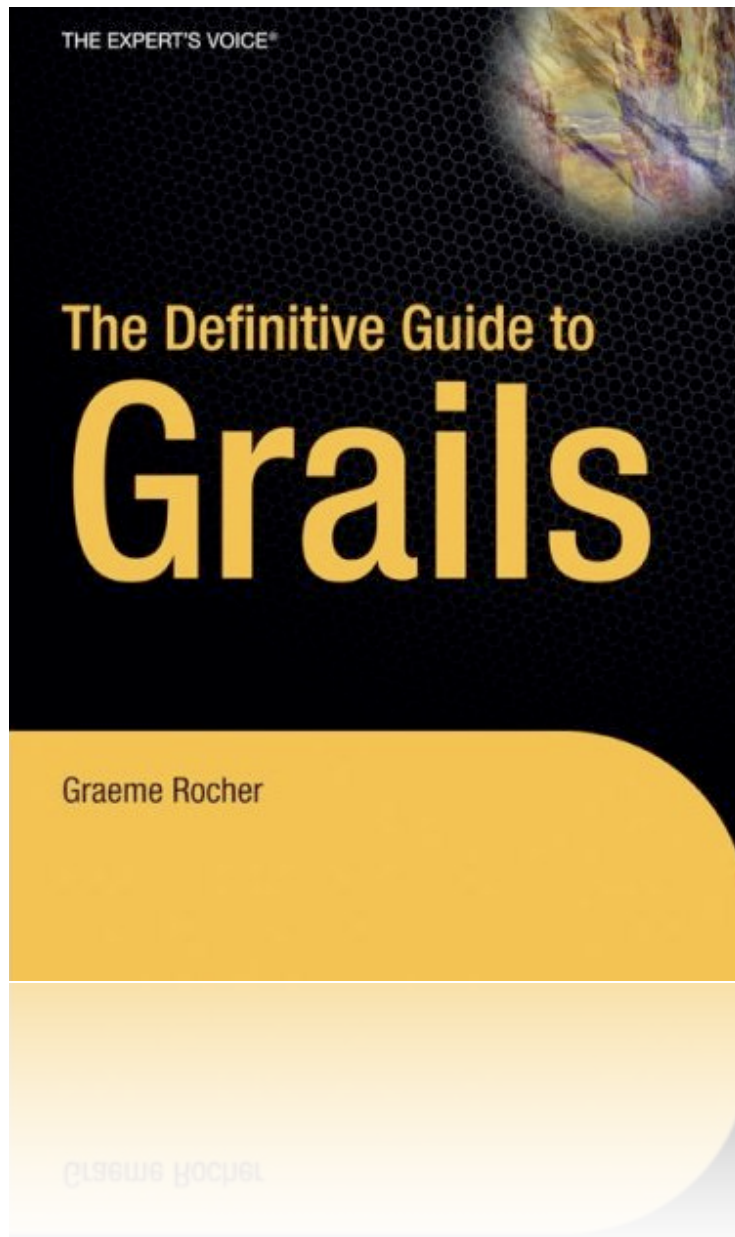
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Books



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Foreward by Venkat Subramaniam

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