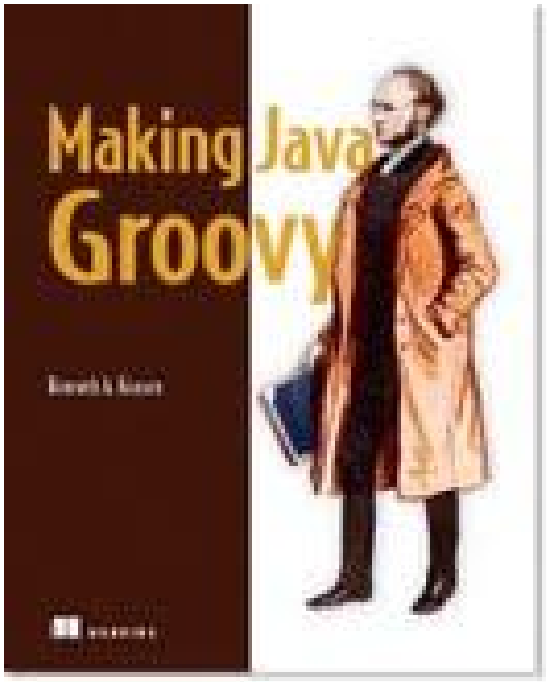
Grails Goodness

DevNexus 2013

Contact Info

Ken Kousen
ken.kousen@kousenit.com
@kenkousen

Making Java Groovy
http://manning.com/kousen



Grails

Open source framework

http://grails.org

Grails

Based on

- The Spring Framework
- Hibernate
- Many, many plugins

The Spring Framework

Plumbing

Dependency Injection

Transaction management

Hibernate

Object-relational Mapping

Sitemesh

Layouts

Templates

Groovy Server Pages

jQuery

Built into Grails 2.0+

Other js libraries available as plugins

CoC

Convention over Configuration

- Many built-in conventions
- Config files are in Groovy

Conventions

Every project layout is the same

Conventions

All domain classes are mapped to DB tables

Conventions

Default URL mappings

```
http://<host>:<port>
   /appName
      /controller
         /action
            /id
```

Conventions

Input request parameters

map called "params"

Controller Actions

3 ways to exit a controller action

The Three R's

1. render
2. redirect
3. return

Controller actions

render

write to output stream

call write to template (partial GSP)

Controller actions

redirect

tell browser to go to new URL

original parameters are lost

Controller actions

return

add map entries to request

forward to

grails-app/views/controller/action.gsp

In Groovy, return keyword is optional

Services

Spring-managed singletons

Transactional by default

Services

Injected by name

lowercase first letter

Views

Groovy Server Pages

custom tag library

Scope

Objects can live at scopes:

- page
- request
- flash
- session
- application

Testing

Unit tests

- No Grails infrastructure
- lots of mock objects available
- very fast, especially in console

Testing

Integration tests

- Grails infrastructure available

- DB, web server, DI

GORM

Grails Object Relational Mapping

DSL for Hibernate

Domain Objects

constraints closure

many built-in constraints available

Domain Objects

Autogenerated columns

- `id`
- `version`
- `dateCreated` (optional)
- `lastUpdated` (optional)

Domain Objects

Composite keys acceptible

All Hibernate id generators supported

Domain Objects

version column

optimistic locking

lock()

pessimistic locking

GORM

Dynamic finders generated

uses Groovy metaprogramming

GORM

Hibernate Criteria Queries

Uses elegant Groovy builder

GORM

HQL available

Named queries

GORM

Hibernate sessions

Open Session In View bean
provided by Spring

Persistence

Three stages to saving domain object

1. binding
2. validation
3. persistence

save() calls validate() automatically

GORM

Relationships

- `hasMany`
- `belongsTo` --> cascade delete

GORM

static `mapping` block

map to existing DB tables

caching

DB Console

http://.../app/dbconsole

DB GUI

development mode only

Data sources

H2 built in

Can use any DB supported by Hibernate

Can have multiple DBs

Scaffolding

Dynamic

controllers and views generated

on each request

Not saved

Scaffolding

Static

controllers and views generated

stored in proper folders

No longer update if domain class changes

Ajax

Built-in Grails tags

<remoteLink />

<formRemote></formRemote>

... others ...

i18n

internationalization

resource bundles for i18n
and error messages

Plugins

Over 800 available

quality varies considerably

Plugins

Some good ones (alphabetical)

- Email
- Google visualization
- Migrations
- NoSQL databases
- Quartz scheduling
- Resources
- Searchable
- Spring security

Do it yourself

Getting Started with Grails

Scott Davis and Jason Rudolph

pdf at InfoQ

Grails tutorial

Intro-Grails-Exercises

At my GitHub repo, with solutions

Books

Definitive Guide to Grails 2

Jeff Brown and Graeme Rocher

Grails in Action, 2nd Edition

Glen Smith and Peter Ledbrook

Programming Grails

Burt Beckwith

Summary

Grails

- Groovy DSLs on Spring and Hibernate
- GORM persistence
- Transaction services with DI

Convention over Configuration

Plugin architecture