Introduction to Groovy on Grails

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Outline

- A brief overview of Groovy, one of the most interesting of the next-gen languages available on the JVM
- A brief overview of Grails, the "best" web-application framework currently available
- Demonstration of an actual Grails project

What is Groovy?

- the leading open source dynamic language for the Java Virtual Machine that offers a flexible Java-like syntax that most Java developers can learn in matter of hours

- provides features seen in other dynamic languages like Ruby, Python or Smalltalk

- has the ability to easily define internal Domain Specific Languages (DSLs) that can be used as an abstraction layer that enables non-technical subject matter experts to codify business rules

What is Groovy? (cont.)

- the dynamic language that forms the foundation of Grails coding
- can be used for writing scripts, rapid prototyping, scripting a Java application, and more.
- 1.0 was released on January 2, 2007.
- Latest version: 1.7.1

Groovy concepts

- Closures
- Domain-Specific Languages (DSL)
- Scaffolding

Groovy vs. Java

- Fewer imports
- Fewer checking for exceptions
- New operators
  - ?. (null-safe object navigation)
  - ?: (Elvis)
  - *. (spread-dot operator)
  - <=> (comparisons with a spaceship)
  - as (type casting)

Groovy vs. Java (cont.)

- New type
  - Range
- Say goodbye to the ff. (no longer required)
  - Parentheses
  - Semicolons
  - "return" statements

What is Grails?

- an advanced and innovative open source web application platform that delivers new levels of developer productivity by applying principles like Convention over Configuration and Don't Repeat Yourself (DRY)

- 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

- naturally complements Java application development since it is built on Spring and based on Groovy, the leading dynamic language for the Java platform

What is Grails? (cont.)

- is designed to be an interactive agile development framework. That means you can start anywhere you like, refactor, make changes, and still end up with a fantastic app

- work began in July 2005, with the 0.1 release on March 29, 2006 and the 1.0 release announced on February 18, 2008.

- Latest version: 1.2.1

Grails components

- Models (Domains)
- Controllers
- Views
- Services
- Taglibs
- Templates
- Plugins/Dependencies
- Ajax libraries

Some Grails plugins

- Quartz (background scheduler)
- ACEGI (security/authentication)
- Mail (sending mail)
- OpenID (authentication)
- Google-chart (reports)
- jQuery (UI library)
- ActiveMQ (JMS)
- and many more… (see http://www.grails.org/plugin/home)

Adding Java libraries

- Use Maven repository
  - Maven is a popular build tool available for java developers. One of the benefits of maven is that helps to reduce the duplication of dependent software libraries (jars) required to build an application. The maven suggested approach is to store all the software libraries in a remote store called a repository.
- When you run the application server, libraries are automagically downloaded and installed!

Adding Java libraries (cont.)

- Sample:
  - mysql-connector (DB adapter)
  - iText (PDF reader/writer)
  - jexcelapi (Excel reader/writer)
  - opencsv (CSV reader)
  - and many more.. (see http://mvnrepository.com/)
- If not available in repository, just put the .jar in <root_dir>/lib directory

Why use Groovy on Grails?

- If you're looking for a better and easier way to build web applications
- If you really care about maintainability and need access to Java framework and legacy Java system, Grails is the way to go as it provides cleaner access to Java
- If you don't want to experience the hassle of too much setup in your development/production release
- Always remember the target audience for Grails:
    - Java developers who are looking for an integrated development environment to create web based applications.
    - Developers without Java experience looking for a high-productivity environment to build web based applications.

GoG vs. RoR

- http://nvisia.com/techs/?p=42
- http://techtracer.com/2007/03/12/groovy-with-grails-%E2%80%93-java%E2%80%99s-fight-back-to-ruby-on-rails/
- http://www.grails.org/Grails+vs+Rails+Benchmark
- http://anassina.com/blog/?p=33
- http://discuss.joelonsoftware.com/default.asp?joel.3.622826.17
- http://stackoverflow.com/questions/5087/learning-ruby-on-rails-any-good-for-grails
- http://raibledesigns.com/rd/entry/grails_vs_rails_my_thoughts
- http://www.jtict.com/blog/grails-vs-rails/

Demo Project

- Common commands
  - `grails create-app`
  - `grails run-app`
  - `grails install-plugin`
  - `grails clean`
  - `grails test-app`
  - `grails war`
  - `grails console`

References

- http://www.grails.org/
- http://groovy.codehaus.org/
- http://en.wikipedia.org/wiki/Groovy_on_grails
- http://en.wikipedia.org/wiki/Groovy_%28programming_language%29
- Grails in Action (2009) by Smith & Ledbrook

Thank You!