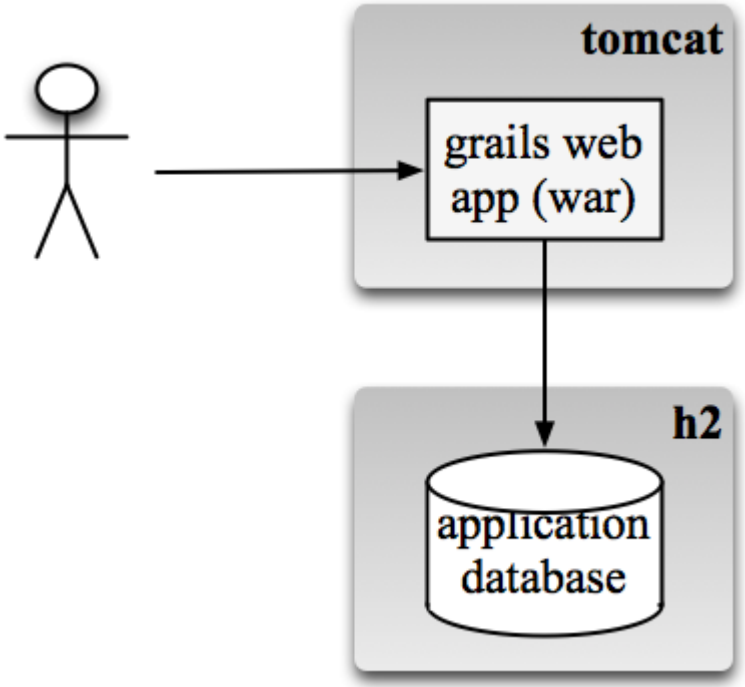
Intro to Grails

At the end of this session

You will be familiar with

- Grails/Spring/Hibernate stack and patterns
- Grails project layout
  - What there is
  - Where it's located
- Grails targets and the command line

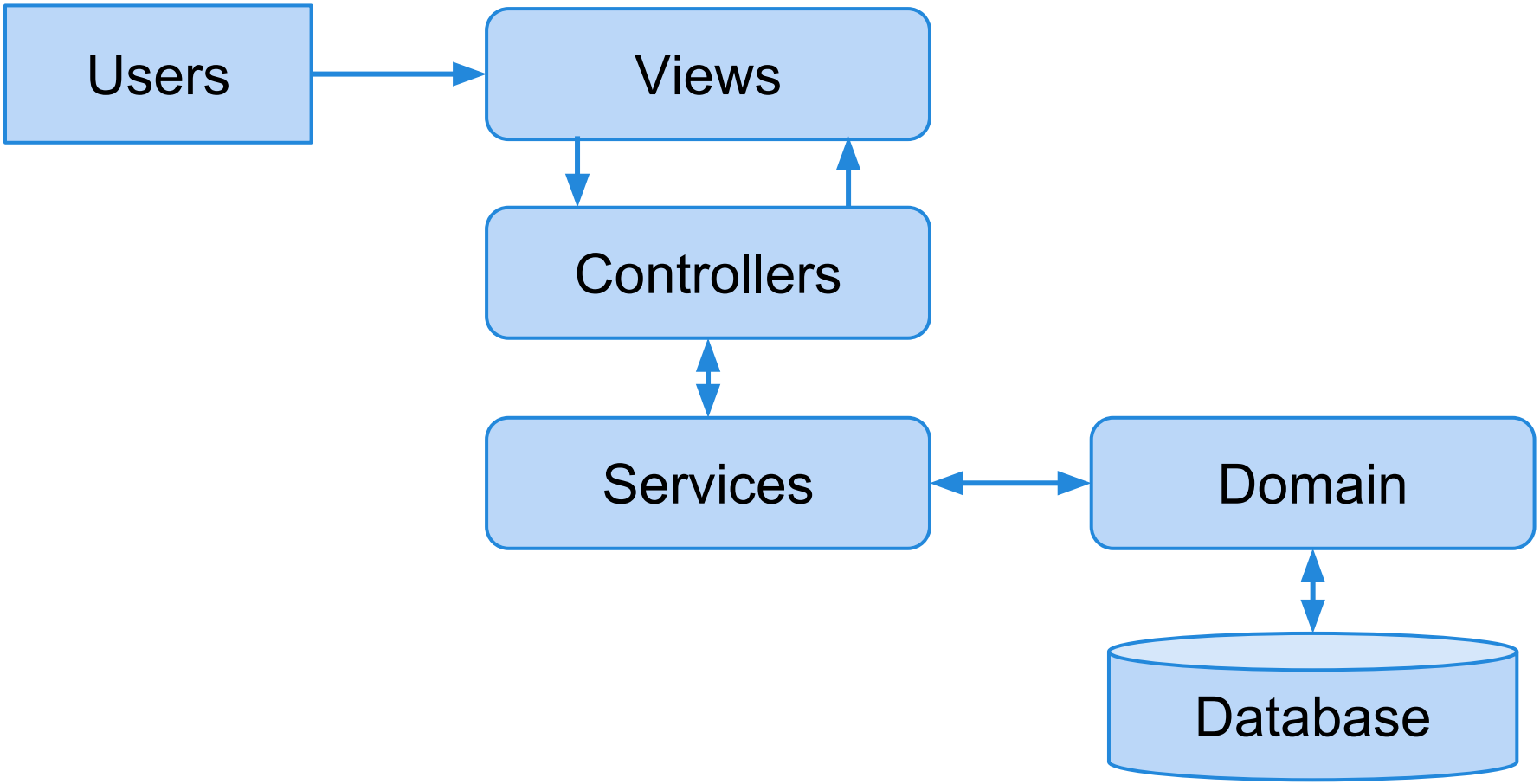
Grails Applications



A Web Application - Vertical Slice

javascript	- Dynamic behavior in the browser
servlets	- HTML page generation
controllers	- Application Form Controllers + Tests
command	- Display objects + Tests
validation	- Validation and constraints + Tests
services	- Service Layer + Tests
queries	- Data access + Tests
domain	- Domain Model + Tests
DDL	- Database Schema

Simplified Grails Application Stack



Step 1: Diving Right In

```
> grails create-app questionApp
```

Step 2: grails create-domain-class

```
> grails create-domain-class com.opi.Question
```

While you wait, Grails is downloading and installing required resources...

Step 2: grails create-domain-class

grails-app/domain/com/opi/Question.groovy

```
package com.opi

class Question {
    String question
    String answer
    String username

    static constraints = {
    }
}
```

Step 2: grails create-domain-class

test/unit/com/opi/QuestionSpec.groovy

```
import grails.test.mixin.TestFor
import spock.lang.Specification
/**
 * See the API for {@link grails.test.mixin.domain.
DomainClassUnitTestMixin} for usage instructions
 */
@TestFor(Question)
class QuestionSpec extends Specification {
    def setup() {
    }
    def cleanup() {
    }
    void "test something"() {
    }
}
```

Create a Controller

```
> grails create-controller com.opi.Question
```

Edit the Controller

```
package com.opi

class QuestionController {
    static scaffold = true
}
```

Scaffolding

```
static scaffold = true
```

- Part of the Grails framework
- Only for very simple use cases
- Generated dynamically at run time

Grails Targets

```
grails clean
grails run-app
grails test-app

grails help
grails help 'target-name'

grails
    will enter you into the grails ‘interactive mode’
    keeps the jvm running, speeds up grails scripts, and
    provides autocomplete
```

Step 3: grails generate-all

```
> grails generate-all com.opi.Question
```

Note the package name.

This will generate the scaffolding Grails was generating at run time.

Step 3: grails generate-all

```
grails-app/controllers/com/opi/QuestionController.groovy

grails-app/views/question/
    _form.gsp
    create.gsp
    edit.gsp
    index.gsp
    show.gsp

test/unit/com/opi/QuestionControllerSpec.groovy
```

Running the app

```
> grails run-app
```

| Running Grails application

| Server running. Browse to http://localhost:8080/questionApp

Controller

```
def index(Integer max) {
    params.max = Math.min(max ?: 10, 100)
    respond Question.list(params),
        model: [questionInstanceCount: Question.count()]
}
```

Controller to View

Grails locates the view by Convention.

In this case, the index action was called, so Grails looks in the views/question directory for a gsp named index.gsp

URL Mapping

grails-app/conf/UrlMappings.groovy

```
"/$controller/$action?/$id?(.$format)?"

"/"(view: "/index")
"500"(view: '/error')
```

URL Mapping

Add

```
"/showQuestions" (controller: "question", action: "index")
```

Auto reloading

Add to the QuestionController

```
def hello() {
    render "I am here!"
}
```

Adding to Controllers

Go to /questions/searchByUsername

Adding to Controllers

Add the method

```
def searchByUsername(){ … }
```

Dynamic Finders

- `InList` - In the list of given values
- `LessThan` - less than a given value
- `LessThanEquals` - less than or equal a give value
- `GreaterThan` - greater than a given value
- `GreaterThanEquals` - greater than or equal a given value
- `Like` - Equivalent to a SQL like expression
- `Ilike` - Similar to a `Like`, except case insensitive
- `NotEqual` - Negates equality
- `InRange` - Between the `from` and `to` values of a Groovy Range
- `Rlike` - Performs a Regexp LIKE in MySQL or Oracle otherwise falls back to `Like`
- `Between` - Between two values (requires two arguments)
- `IsNotNull` - Not a null value (doesn't take an argument)
- `IsNull` - Is a null value (doesn't take an argument)

The Grails Console

```
> grails console

_
```

The Grails Console

```
import com.opi.Question

Question q1 = new Question()
Question q2 = new Question(
    question: "What?",
    answer: "Me worry.",
    username: "doug")

Question.findAll()
```

The Grails Console

```
import com.opi.Question

Question q1 = new Question()
Question q2 = new Question(
    question: "What?",
    answer: "Me worry.",
    username: "doug")

Question.findAll()

q1.save()
Question.findAll()
```

The Grails Console

```
import com.opi.Question

Question q1 = new Question()
Question q2 = new Question(
    question: "What?",
    answer: "Me worry.",
    username: "doug")

q1.save()
Question.findAll()

q2.save()
Question.findAll()
```

Finding answers

http://grails.org

http://grails.org/Documentation

http://grails.org/doc/latest

Grails user mailing list - not active anymore, moving to StackOverflow