

Full-stack Applications with Open Source Technologies

ECE 2016, Ludwigsburg

Agenda

- Application Stack Goals
- Overview + Task App
- Spring Boot
- Eclipse Scout
- Demo «add a Field»
- Wrap-up

Goals for the Application Stack

1. Simplify the Lives of the Developers
2. Allow for large and complex Apps
3. Provide Long Term Sustainability
4. The «right» Tool for the «right» Job

Requirements

- Java (Sustainability)
- Open Source (Sustainability)
- Proven in Practice (no Surprises)
- Small number of Frameworks/Components (Maintainability)

Overview of the Application Stack



Springboot with Eclipse Sc... x +

localhost:8080/?dl=outline-10469&i=tasks

Tasks

Inbox

Today

My Tasks



All

Creator

Eclipse

SpringBoot with Eclipse S x

localhost:8080

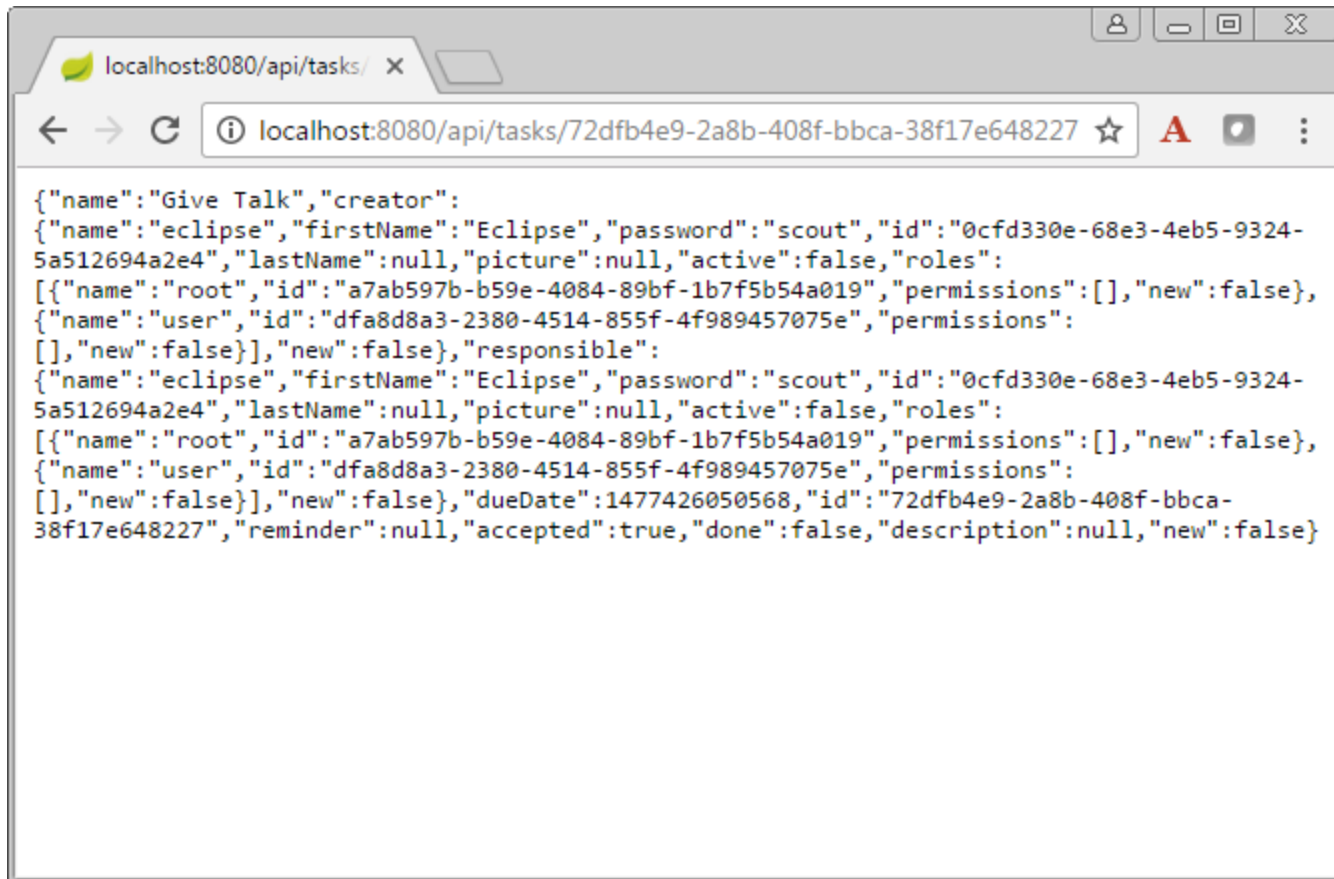


eclipse

.....

Login

REST API



The image shows a web browser window with the address bar displaying `localhost:8080/api/tasks/72dfb4e9-2a8b-408f-bbca-38f17e648227`. The main content area displays a JSON response for a task. The task is named "Give Talk" and was created by a user named "eclipse". The response includes details about the creator, the task's due date, and its status.

```
{
  "name": "Give Talk",
  "creator": {
    "name": "eclipse",
    "firstName": "Eclipse",
    "password": "scout",
    "id": "0cfd330e-68e3-4eb5-9324-5a512694a2e4",
    "lastName": null,
    "picture": null,
    "active": false,
    "roles": [
      {
        "name": "root",
        "id": "a7ab597b-b59e-4084-89bf-1b7f5b54a019",
        "permissions": [],
        "new": false
      },
      {
        "name": "user",
        "id": "dfa8d8a3-2380-4514-855f-4f989457075e",
        "permissions": [],
        "new": false
      }
    ],
    "new": false
  },
  "responsible": {
    "name": "eclipse",
    "firstName": "Eclipse",
    "password": "scout",
    "id": "0cfd330e-68e3-4eb5-9324-5a512694a2e4",
    "lastName": null,
    "picture": null,
    "active": false,
    "roles": [
      {
        "name": "root",
        "id": "a7ab597b-b59e-4084-89bf-1b7f5b54a019",
        "permissions": [],
        "new": false
      },
      {
        "name": "user",
        "id": "dfa8d8a3-2380-4514-855f-4f989457075e",
        "permissions": [],
        "new": false
      }
    ],
    "new": false
  },
  "dueDate": 1477426050568,
  "id": "72dfb4e9-2a8b-408f-bbca-38f17e648227",
  "reminder": null,
  "accepted": true,
  "done": false,
  "description": null,
  "new": false
}
```


Spring Boot

Spring Boot

- **Spring** is strong for Server-Side Programming
- **Spring Boot**: Radically faster "getting started experience"
- Production ready: Auditing, health and metrics gathering ...


Spring Boot x

← → ↻ <https://projects.spring.io/spring-boot/> ☆ A

 DOCS GUIDES **PROJECTS** BLO

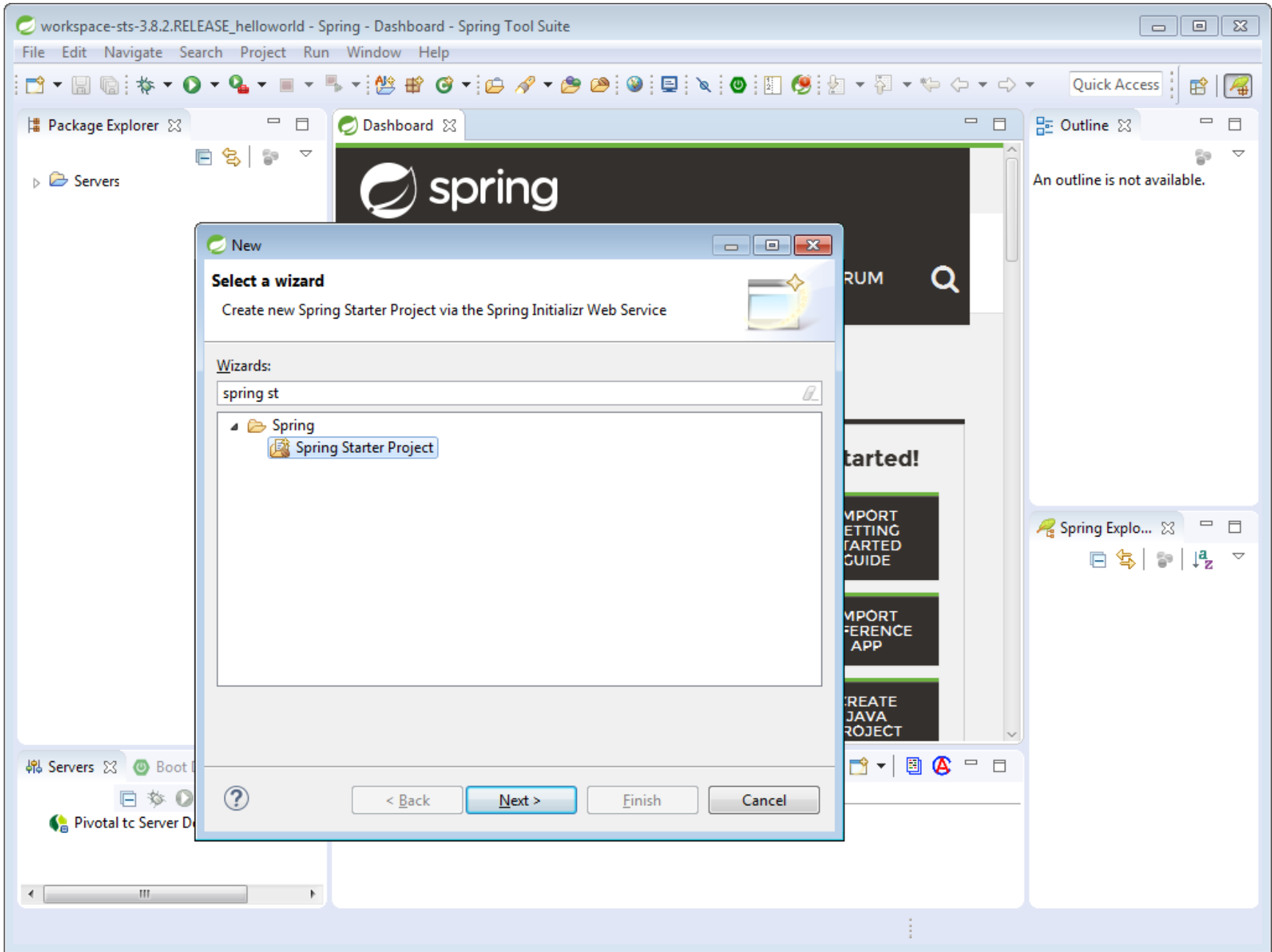
PROJECTS

Spring Boot

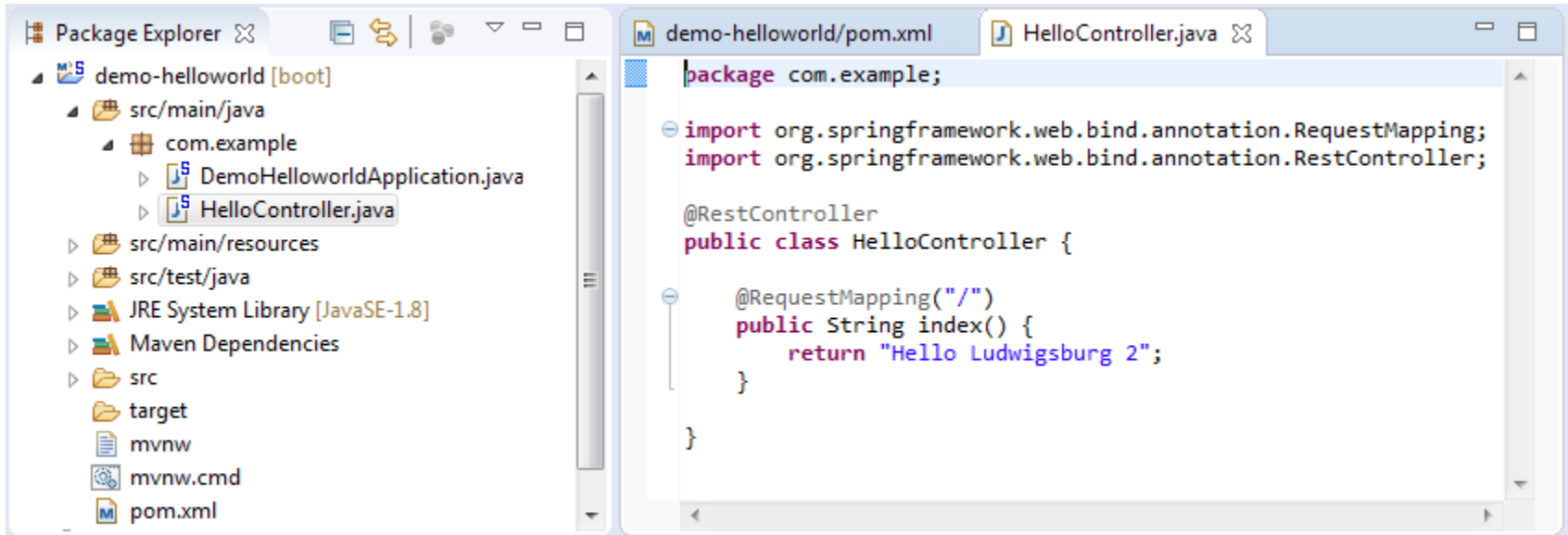


Takes an opinionated view of building production-ready Spring applications. Spring Boot favors convention over configuration and is designed to get you up and running as quickly as possible.

QUICK START



Spring Boot «Hello World»



Spring Boot «Tasks»

Main Dependencies

- spring-boot-starter-web
- spring-boot-starter-data-jpa
- lombok (<https://projectlombok.org/>)

«Tour»

- **Application** (Spring Boot Application)
- **Task** (Model Class)
- **TaskService** (Service Interface)
- **DefaultTaskService** (Service Implementation)
- **TaskRepository** (Persistence: JPA)
- **TaskController** (API: REST)

Eclipse Scout

Eclipse Scout

- **Eclipse Scout:** is strong for building UI's
- Comes with an abstract Application Model
- Scout code is UI technology independent
- Multi-Device support
- Proven in Production - even longer than Spring ;-)

Eclipse Scout


https://www.eclipse.org/scout/


Eclipse Scout


News Documentation Community Support


Eclipse Scout

Future Proof Business Applications




Demo
Try our online Apps



Download
Download and install Scout


Tutorial
Do the "Hello World!"

helloworld08 - Java - Eclipse








File Edit Navigate Search Project Scout Run Window Help

Welcome



Welcome to Eclipse for Scout Developers

Workbench

-  [Create the Scout "Hello World" application](#)
Create a new Scout maven-based archetype project
-  [Import the Scout demo applications](#)
Import the Scout demo apps using Eclipse Oomph. In the installer search for "scout" and tick "Scout Demo App".
-  [Checkout projects from Git](#)
Checkout Eclipse projects hosted in a Git repository
-  [Review IDE configuration settings](#)
Review the IDE's most fiercely contested preferences
-  [Overview](#)
Get an overview of the features
-  [Tutorials](#)
Go through tutorials
-  [What's New](#)
Find out what is new

Always show Welcome at start up

Eclipse Scout «Tasks»

Main Dependencies

- org.eclipse.scout.rt.ui.html
 - org.eclipse.scout.rt.client
 - org.eclipse.scout.rt.shared
 - org.eclipse.scout.rt.platform

«Tour»

- **HomeOutline** (Main Entry Point for Navigation)
- **AbstractTaskTablePage** (Parent Task Table)
- **InboxTaskTablePage** (User's Inbox Table Page)
- **TaskForm** (Form to create and edit Tasks)



Package Explorer

- org.eclipse.scout.tasks.scout.platform
- org.eclipse.scout.tasks.scout.ui
 - org.eclipse.scout.tasks.scout.ui.task
 - AbstractTaskTablePage.java
 - AllTasksTablePage.java
 - CreateTaskPermission.java
 - InboxTablePage.java
 - MyTaskTablePage.java
 - ReadTaskPermission.java
 - TaskForm.java
 - TaskForm
 - MainBox
 - ModifyHandler
 - NewHandler
 - taskId
 - taskService
 - calculateSubTitle() : String
 - computeExclusiveKey() : Object
 - exportFormFieldData(Task) : void
 - getAcceptedField() : AcceptedField
 - getCancelButton() : CancelButton
 - getConfiguredDisplayHint() : int
 - getConfiguredTitle() : String
 - getCreatorField() : CreatorField
 - getDescriptionField() : DescriptionField
 - getDoneField() : DoneField

```
281
282 public class ModifyHandler extends AbstractDirtyFormHandler {
283
284     @Override
285     protected void execLoad() {
286         setEnabledPermission(new UpdateTaskPermission());
287
288         Task task = taskService.getTask(getTaskId());
289         importFormFieldData(task);
290
291         getForm().setSubTitle(calculateSubTitle());
292     }
293
294     @Override
295     protected void execStore() {
296         Task task = taskService.getTask(getTaskId());
297         exportFormFieldData(task);
298
299         taskService.saveTask(task);
300     }
301 }
```

Problems @ Javadoc Declaration Console Tasks

No consoles to display at this time.

Eclipse Scout «Tasks»

Main Deviation form typical Scout Apps

- Client only Application
- Just a single Maven Module
- Some generic Infrastructure Classes to bridge to Spring
- @Inject for Services (not BEANS.get)
- Optionally: BEANS.get can be used to access Spring Services

Demo «Add a Field»

Springboot with Eclipse x

localhost:8080

Tasks

- Inbox
- Today
- My Tasks
- All

Task Buy Coffee

OK Cancel

Title * Buy Coffee Due Date * 10/25/2016

Category Private Reminder

Creator Eclipse

Responsible * Eclipse

Description

Accepted Done

Add a Field

Spring

→ Add « `private String category;` » to Task

Scout

→ Add `CategoryColumn` to `AbstractTaskTablePage`

→ Add Mapping in `importTableRowData`

→ Add `CategoryField` to `TaskForm`

→ Add Mappings in `{import|export}FormFieldData`

Wrap-up

Summary

What have we seen?

- Combination of **Spring Boot** and **Eclipse Scout**
 - JPA Persistence (Spring Data)
 - Business Model (Spring)
 - REST API (Spring Web)
 - UI (Scout)

Tasks for «Tasks»

- Complete Role & User Management
- Fine-tuning here and there
- Documentation on Github

Take-home Message

- Spring and Scout play along nicely
- Only A small set of good OSS Technologies needed
- Developer can concentrate on Business Value

GitHub

- <https://github.com/BSI-Business-Systems-Integration-AG/SpringBoot-and-EclipseScout>

Thanks

@ZimMatthias

@EclipseScout

Thanks

and please, cast your Vote



Evaluate the Sessions

Sign in and vote at eclipsecon.org

- 1 0 + 1