

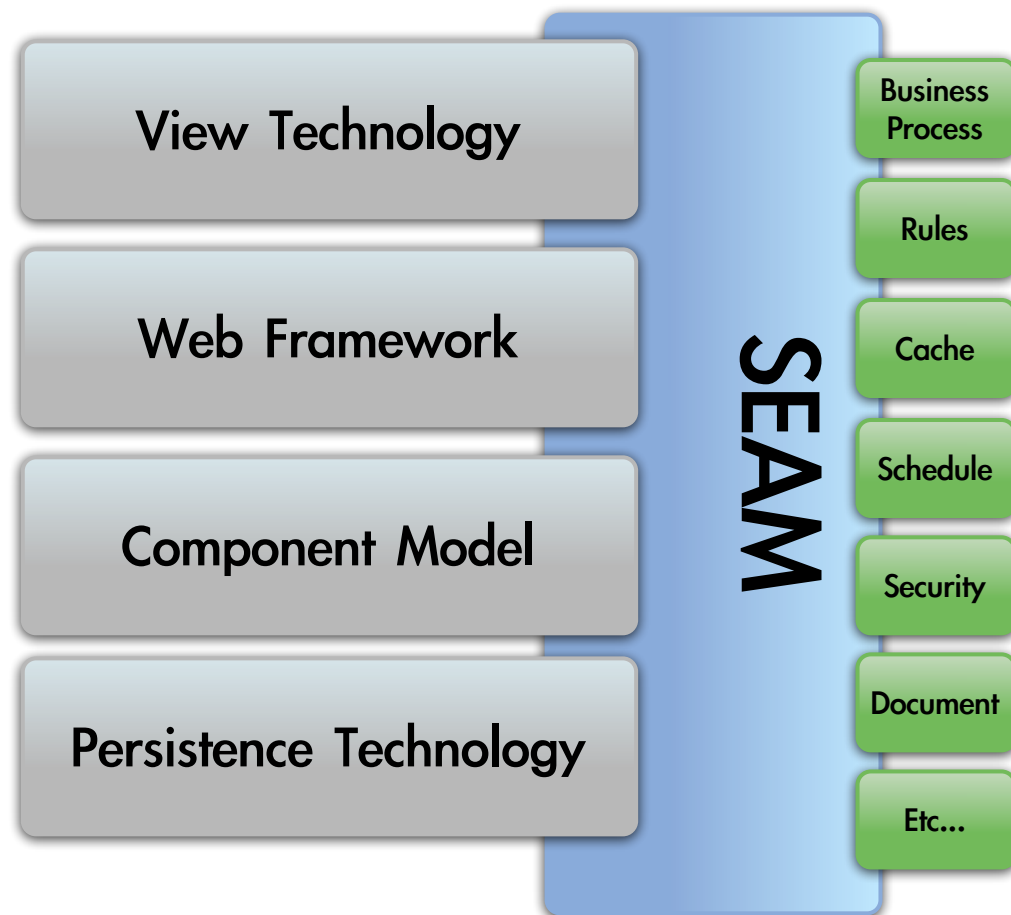
10 things you need to know about Seam

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orb@nostacktrace.com

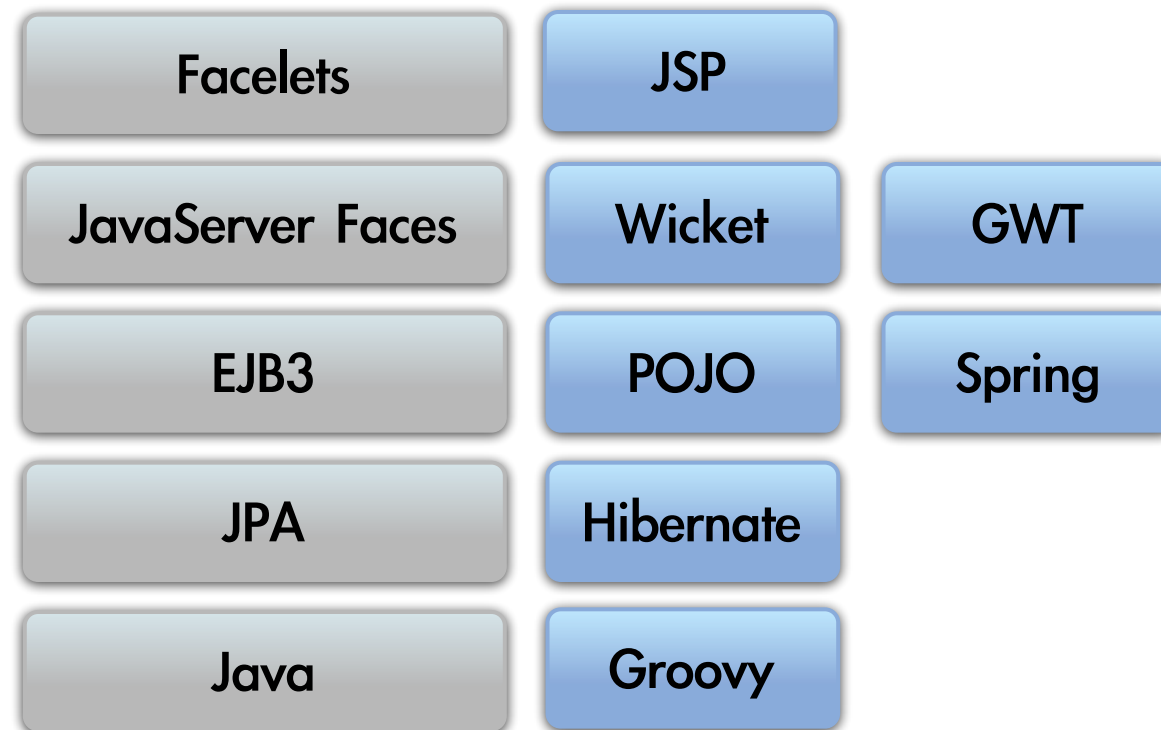
<http://seamframework.org>

1

Seam is not
a web
framework



Application stack



A few choices

2

Seam is not
a JBoss-only
solution

Seam is not a JBoss-only solution

- ▶ Seam runs in any Java EE app server
- ▶ Seam runs in Tomcat
- ▶ Seam works with any persistence provider

3

Seam uses a
contextual
component
model

Seam uses a contextual component model

- ▶ Stateful and contextual
- ▶ Injection in and out
- ▶ Annotation-driven

Stateless

Event

Page

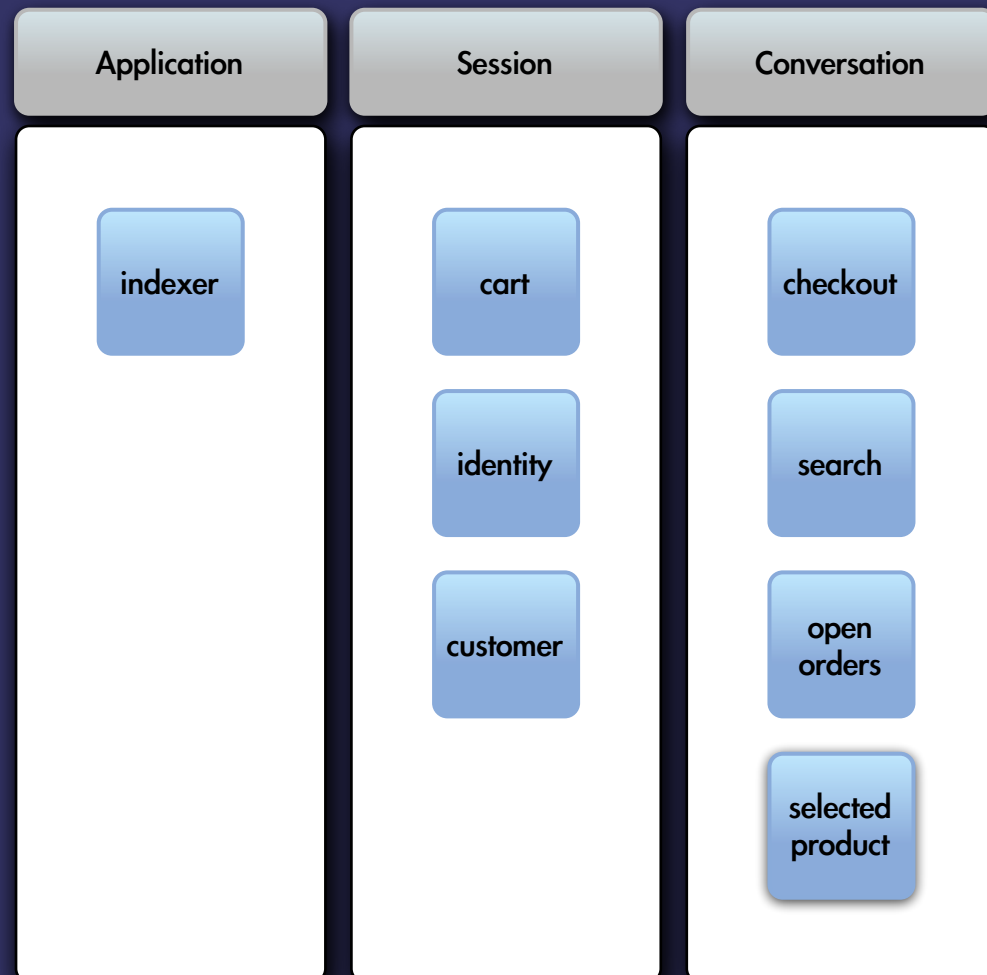
Conversation

Session

Business Process

Application

```
@Name("cart")
@Scope(SESSION)
public class ShoppingCart {
    ...
}
```



```
@Name("search")
public class Search {
    @In ShoppingCart cart;

    @Out
    Product selectedProduct;

    // ...
}
```

4

Seam
bridges the
web/business
tier gap

Seam bridges the web/business tier gap

- ▶ Doesn't force you into layered architecture
- ▶ Makes business components visible in the web tier
- ▶ Databinding, entityconverter, reduce the need for many view components
- ▶ Entity validations propagate to the view

About 10 results

| Add to Cart | Title | Starring | Price |
|--------------------------|---|----------------|---------|
| <input type="checkbox"/> | Roman Holiday | Audrey Hepburn | \$12.98 |
| <input type="checkbox"/> | My Fair Lady | Audrey Hepburn | \$26.98 |
| <input type="checkbox"/> | Funny Face | Audrey Hepburn | \$9.98 |
| <input type="checkbox"/> | Sabrina | Audrey Hepburn | \$12.98 |
| <input type="checkbox"/> | Always | Audrey Hepburn | \$19.98 |
| <input type="checkbox"/> | Breakfast at Tiffany's | Audrey Hepburn | \$19.99 |
| <input type="checkbox"/> | The Nun's Story | Audrey Hepburn | \$19.98 |
| <input type="checkbox"/> | Films of Faith Collection | Audrey Hepburn | \$29.98 |
| <input type="checkbox"/> | Wait Until Dark | Audrey Hepburn | \$19.98 |
| <input type="checkbox"/> | My Fair Lady | Audrey Hepburn | \$19.98 |

Update Shopping Cart

Login

Username

Password

Login

Create Account

Search for DVDs:

Search For

Results Per Page

Search

Search for DVDs:

Search For

hepburn

Results Per Page

15

Search

```
<h:form>
  <dl>
    <dt>Search For</dt>
    <dd><h:inputText value="#{search.searchQuery}"
                      size="15" /></dd>

    <dt>Results Per Page </dt>
    <dd>
      <h:selectOneMenu value="#{search.pageSize}">
        <!-- ... -->
      </h:selectOneMenu>
    </dd>

    <dd>
      <h:commandButton
        action="#{search.doSearch}"
        value="Search" />
    </dd>
  </dl>
</h:form>
```

About 10 results

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|--------------------------|---|----------------|---------|
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| <input type="checkbox"/> | Wait Until Dark | Audrey Hepburn | \$19.98 |
| <input type="checkbox"/> | My Fair Lady | Audrey Hepburn | \$19.98 |

Update Shopping Cart



Title: Roman Holiday
Starring: [Audrey Hepburn]
Price: 12.98

Maybe it doesn't quite live up to its sterling reputation, and maybe the leading man and director were slightly miscast. But who cares? Roman Holiday is the film that brought Audrey Hepburn to prominence, and the world movie audience went weak at the knees. The endlessly charming Hepburn had her first starring role in this sweet romance, playing a European princess on an official tour through Rome. Frustrated by her lack of connection to the real world, she slips away from her protective handlers and goes on a spree, aided by a tough-guy news reporter (Gregory Peck). Director William Wyler, more at home with such heavy-going, Oscar-winning classics as The Best Years of Our Lives and Ben-Hur, doesn't always keep the champagne bubbles afloat, and the Peck role would have fit Cary Grant like a silk glove. But the film is great fun, the location shooting is irresistible, and Hepburn embodies an image of chic style that would rule for the rest of the fifties. No coincidence: she won an Oscar, and so did veteran costume designer Edith Head.

Add to Cart

Back to Search

search
results

selected
product

@DataModel

```
List<Product> searchResults;
```

@DataModelSelection

```
Product selectedProduct;
```

New Account Registration (required fields marked with *)

(since this is a just demo, please do not enter personal information)

| | | |
|---|---|------------------------------------|
| First Name: | <input type="text" value="Norman"/> | * |
| Last Name: | <input type="text" value="Richards"/> | * |
| Address1: | <input type="text" value="2208 Lanier Dr"/> | * |
| Address2: | <input type="text"/> | |
| City: | <input type="text" value="Austin"/> | * |
| State: | <input type="text" value="TX"/> | * |
| Zip: | <input type="text" value="78757-A"/> | * not a valid zipcode |
| Email: | <input type="text" value="orb@nostacktrace.com"/> | * |
| Phone: | <input type="text"/> | |
| <input type="button" value="Continue"/> | | |

```
@Column(name="ZIP", length=10)
@Length(min=5, max=10)
@Pattern(
    regex="[0-9]{5}(-[0-9]{4})?",
    message="not a valid zipcode")
@NotNull
public String getZip() {
    return zip;
}
```

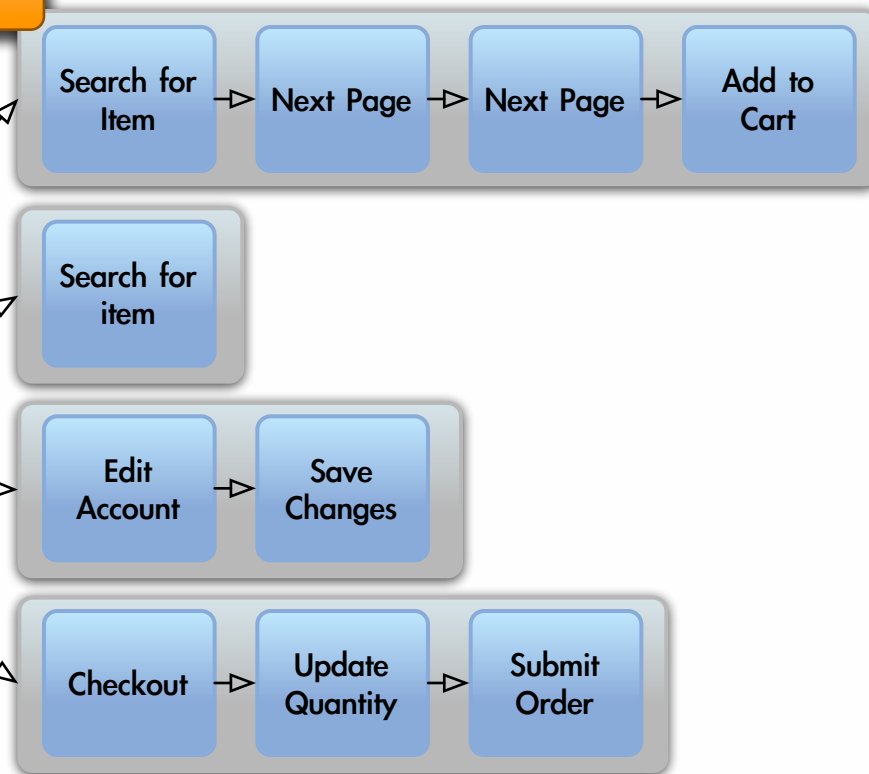
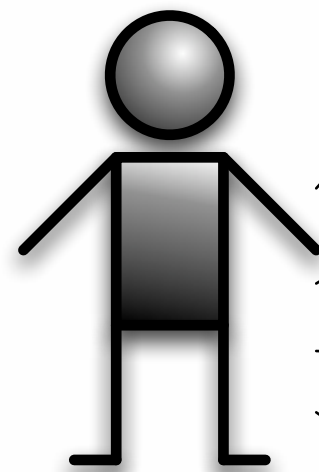

5

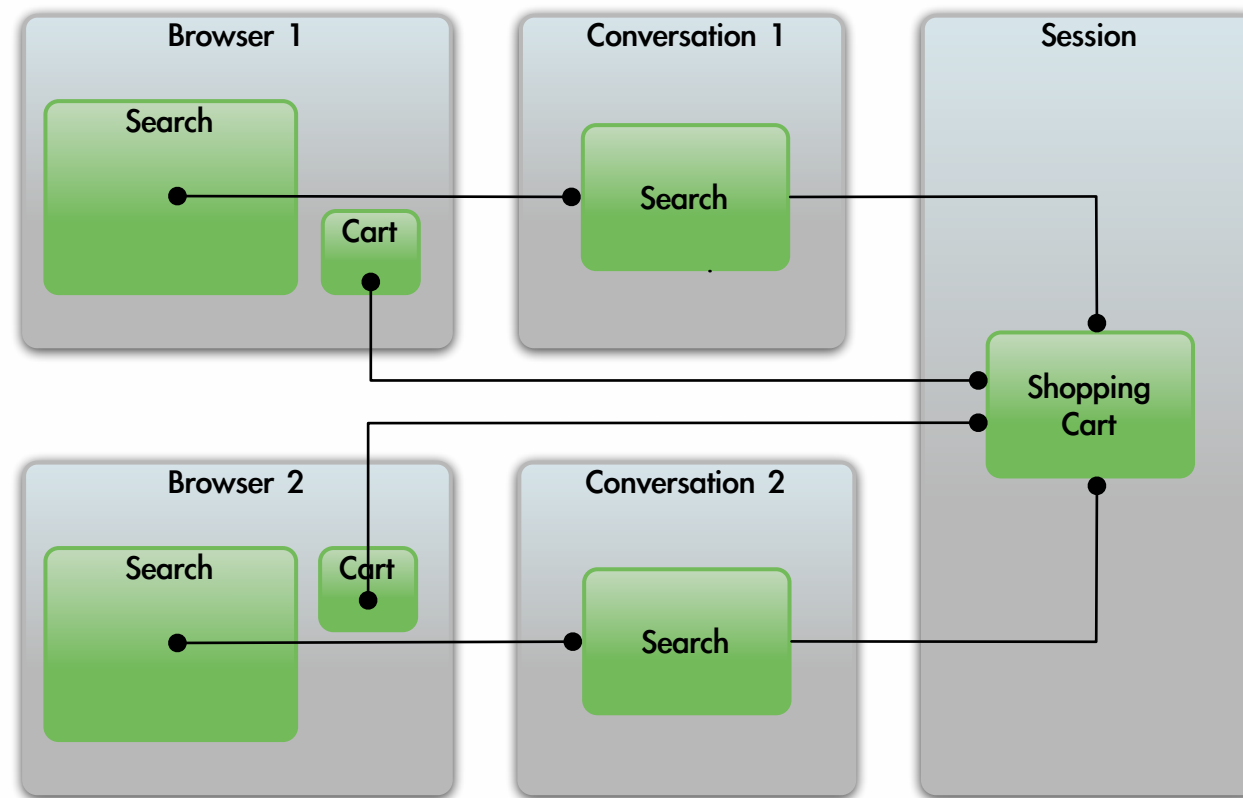
Seam supports
conversations

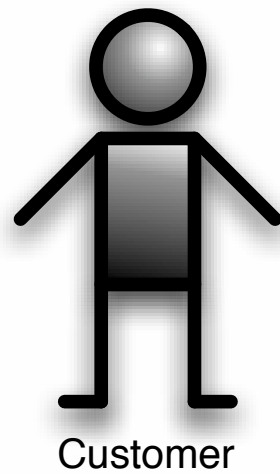
Seam supports conversations

- ▶ Conversations are a series of clicks across multiple pages to accomplish one task
- ▶ State is maintained over the entire conversation
- ▶ Better back-button support, double click prevention
- ▶ Workspaces
- ▶ Better state management (good for clustering)

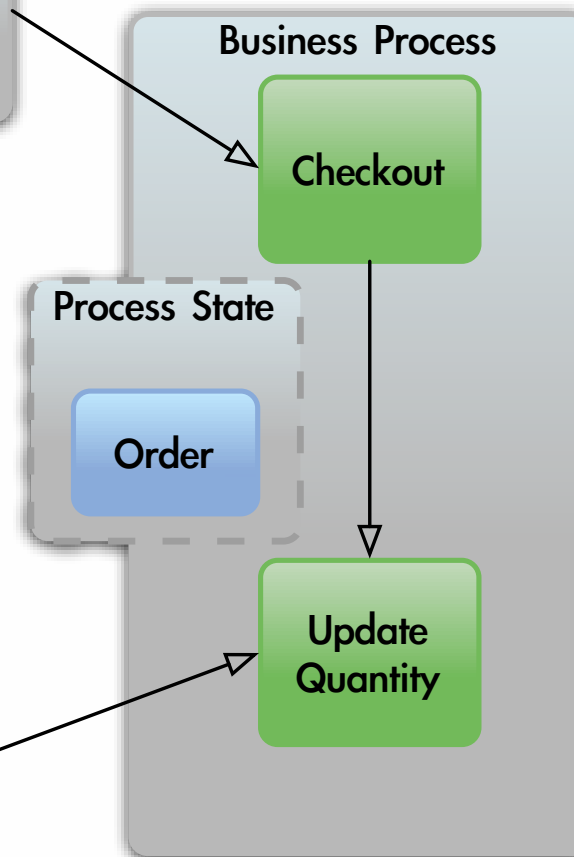
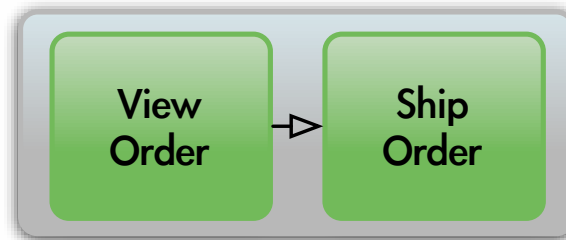
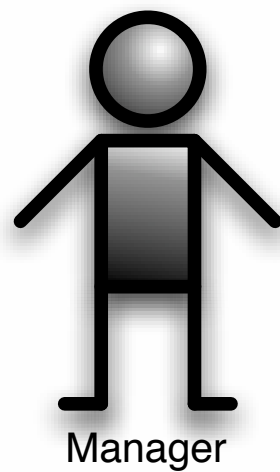
Conversations are basic interactions the user has with an application. Seam can manage the state of components within these interactions, keeping interactions separate.







A business process is a sequence on conversations with users in a system. Processes have state that is shared between the participants.

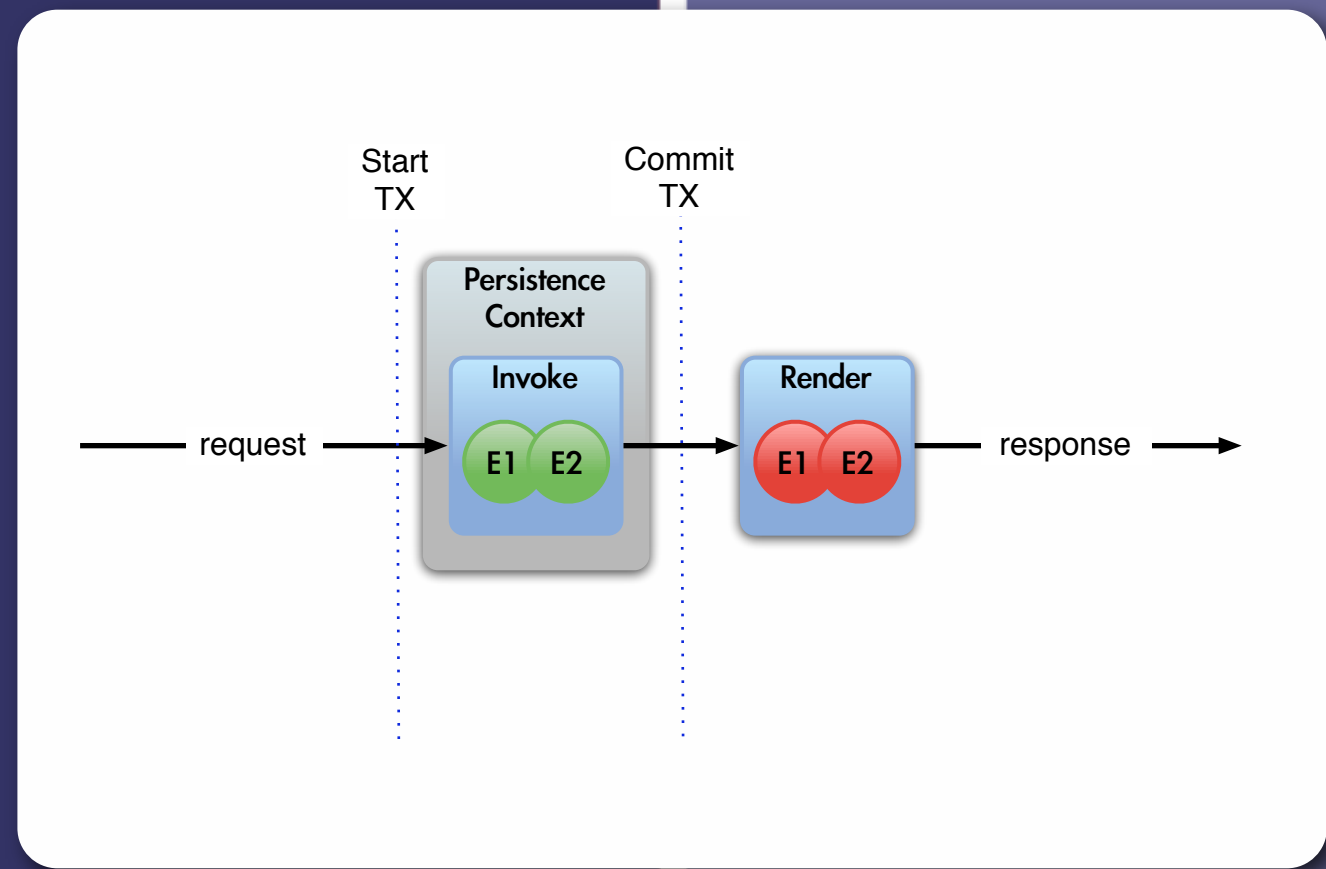


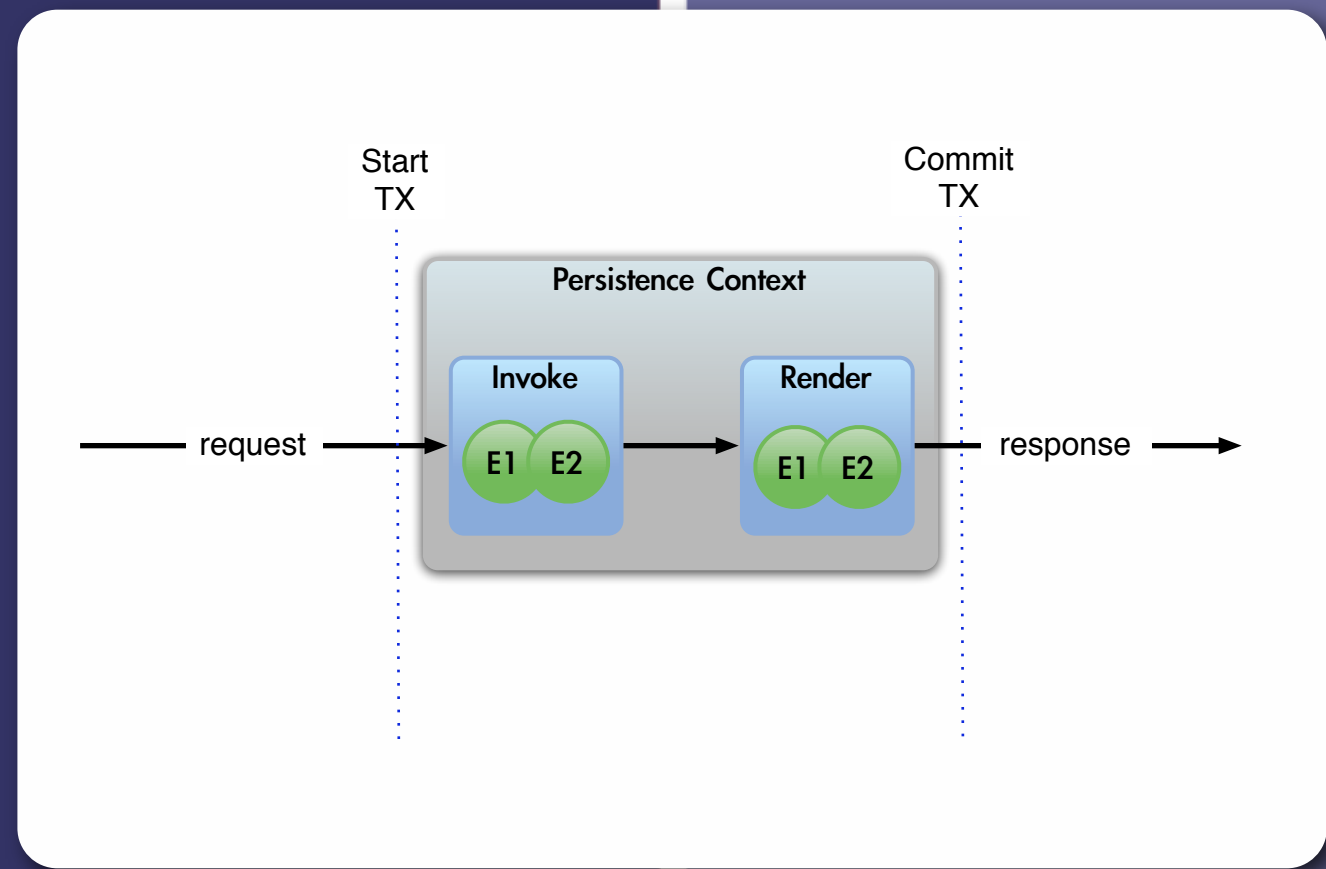
6

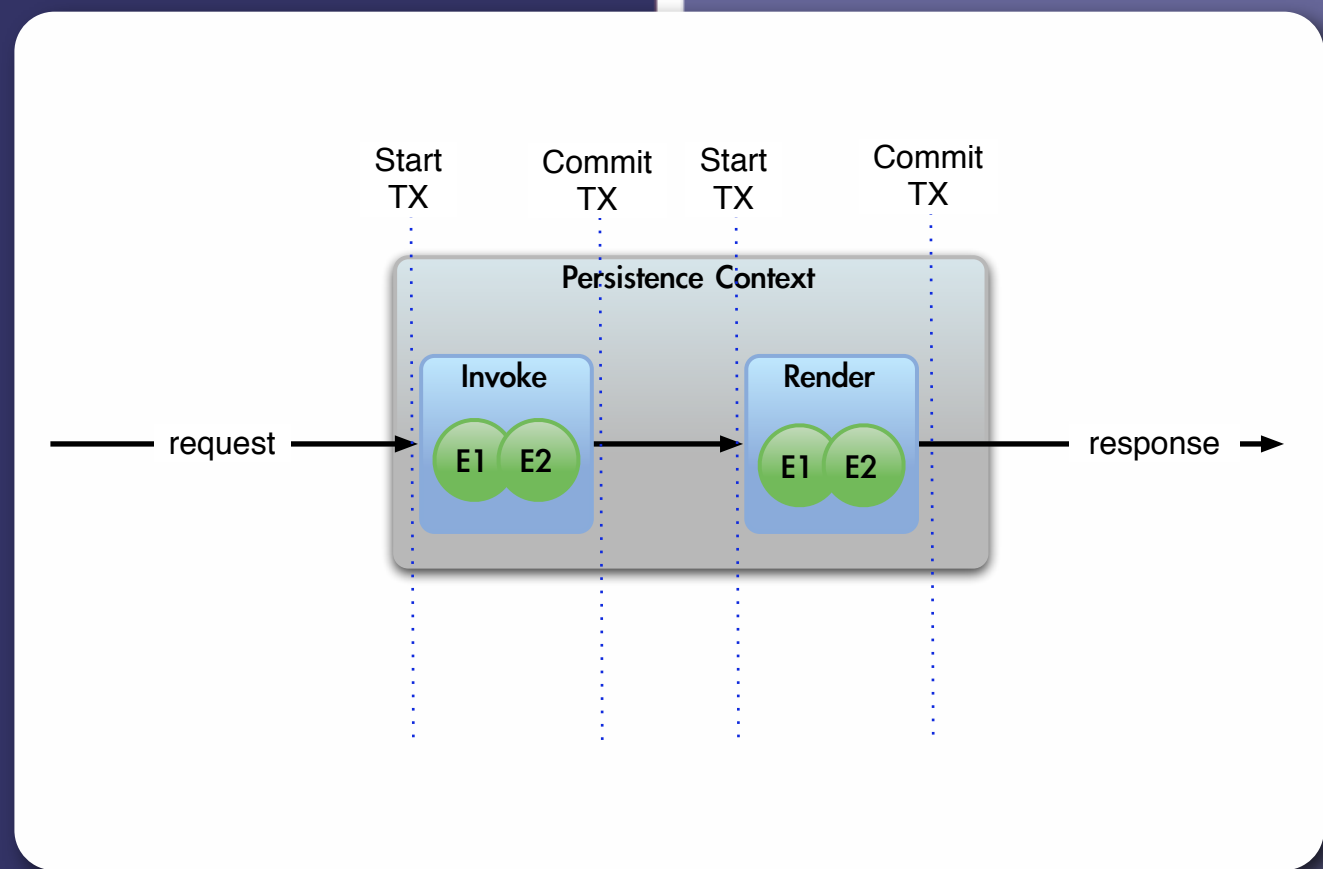
Seam uses
persistence
right

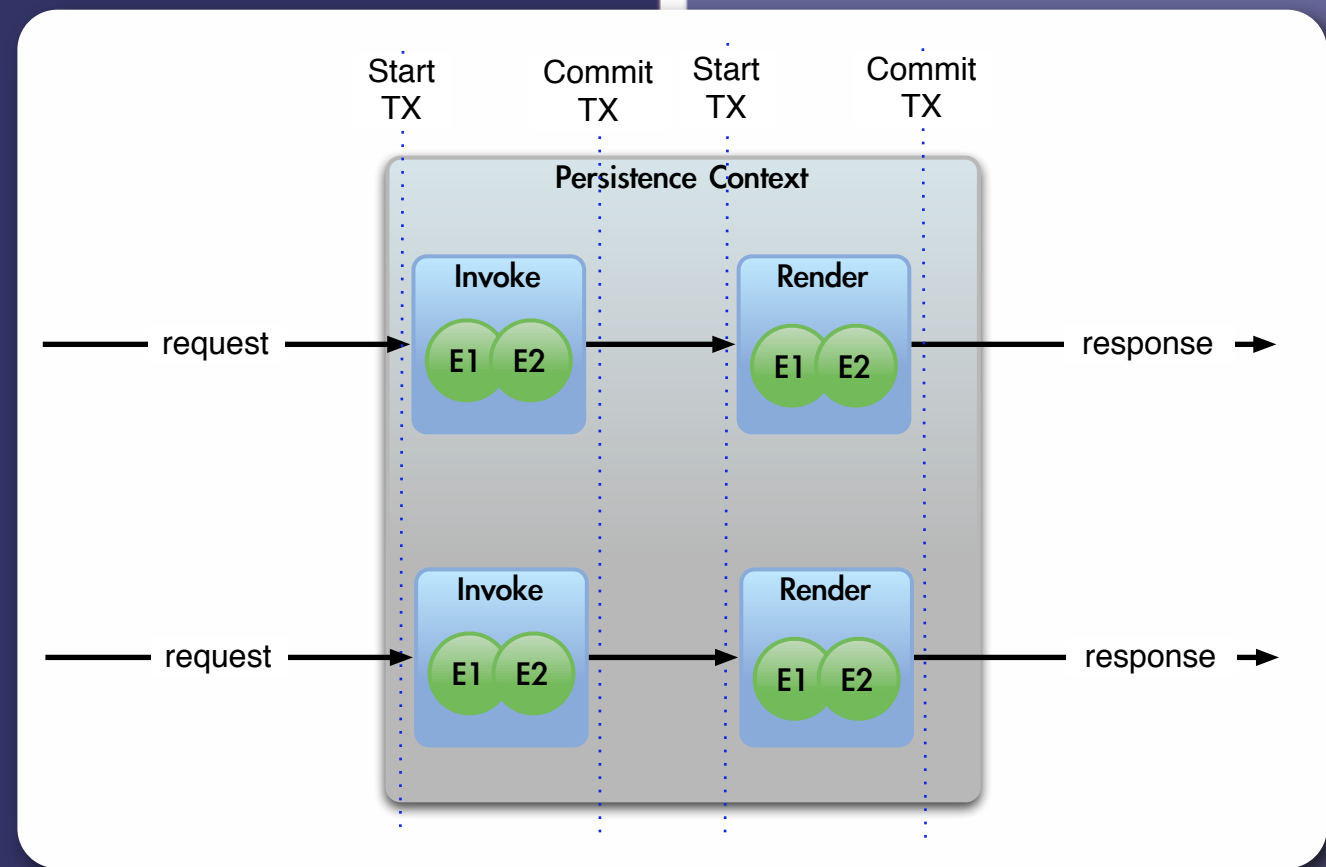
Seam uses persistence right

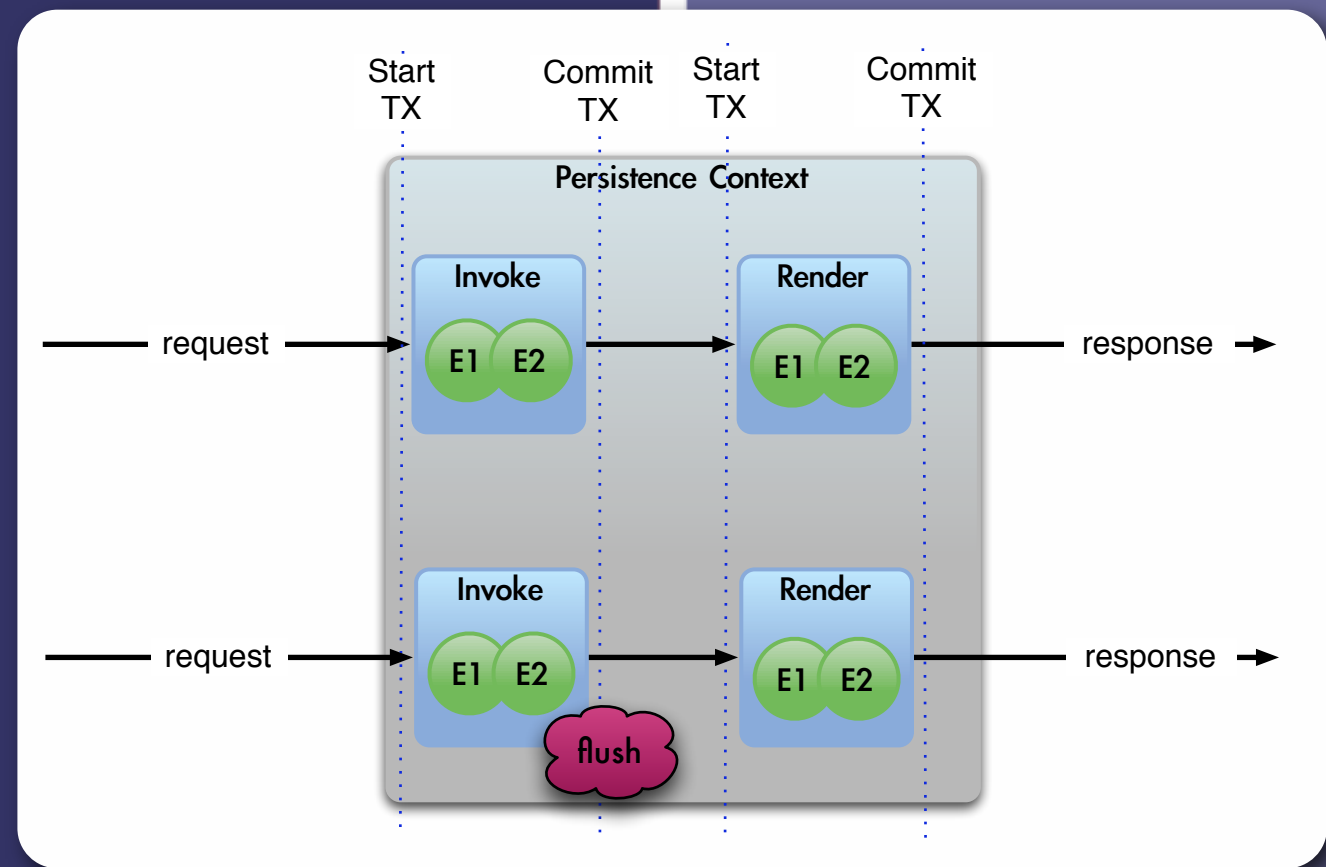
- ▶ Who better than the hibernate guys to finally get it right?
- ▶ Conversation-scoped persistence (no merge, meaningful cache)
- ▶ Seam-managed TX solves LIEs
- ▶ Supports manual flush mode (application transaction)









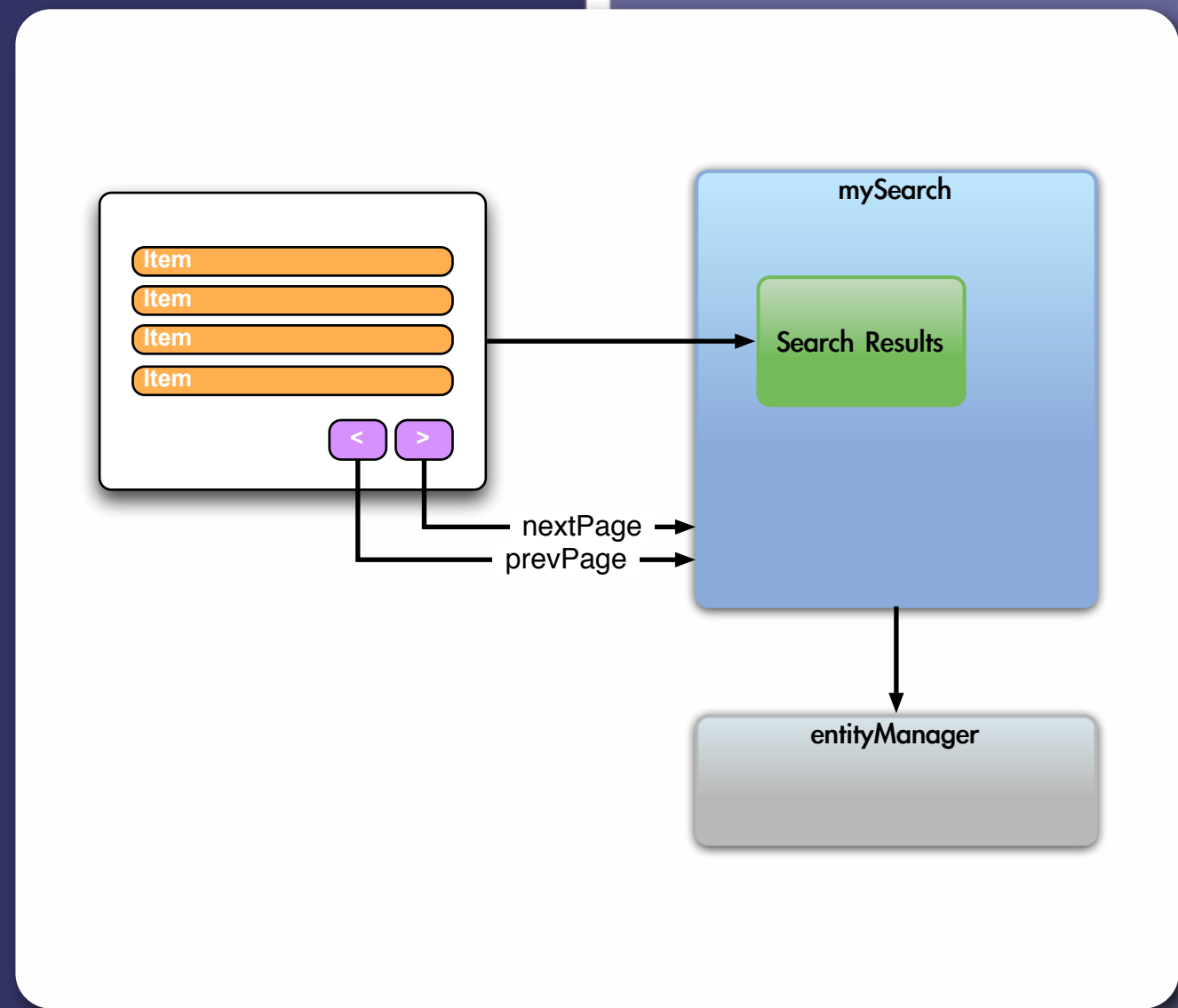


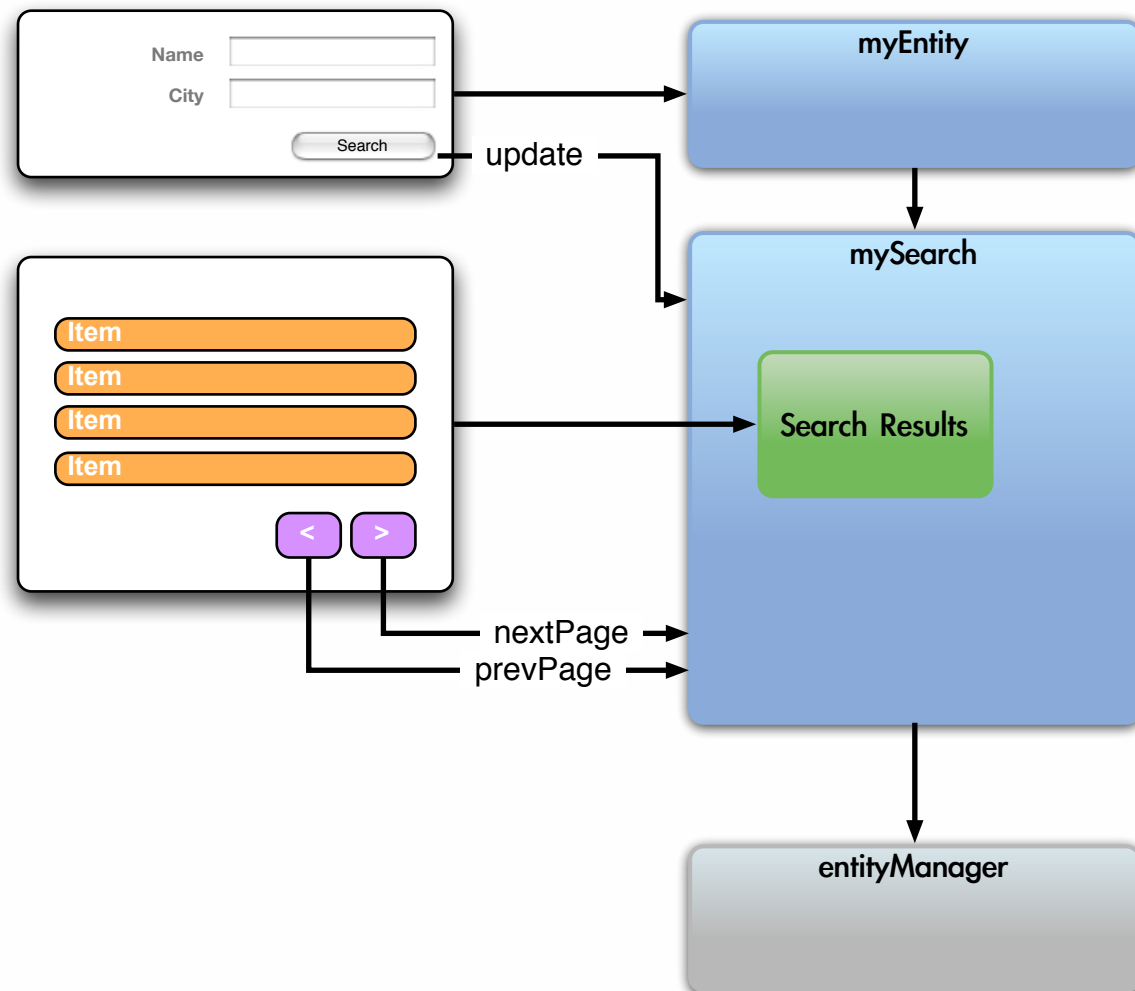
7

The Seam
application
framework
provides
application
controllers

The Seam application framework provides application controllers

- ▶ UI controllers manage instances or sets of instance with UI-oriented operations
- ▶ Home controller for CRUD
- ▶ Query controller for entity queries
- ▶ Prototype instances
- ▶ Configurable in XML or code



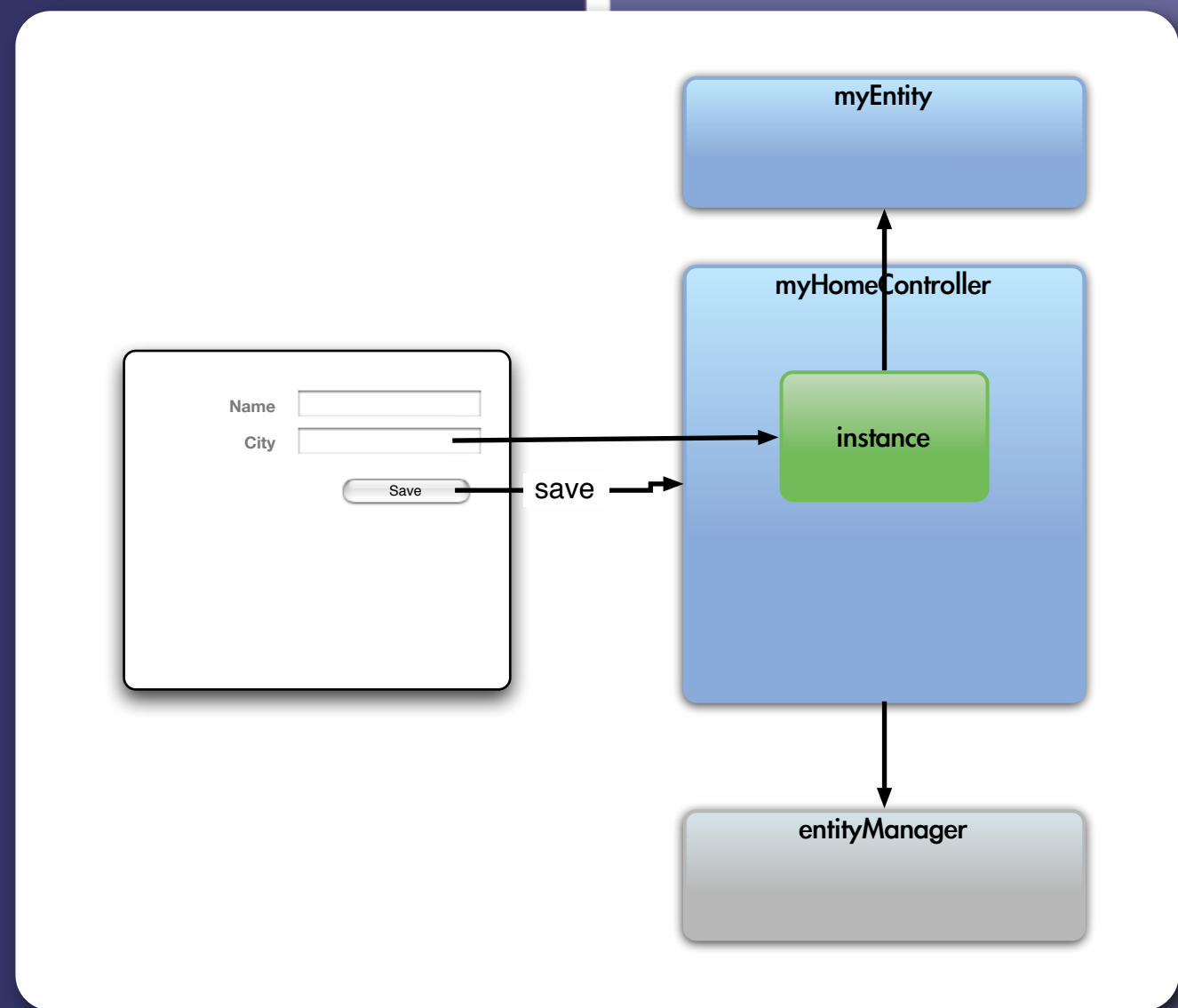


```

<component name="myEntity"
  class="MyEntity" />

<fw:entity-query name="mySearch"
  max-results="10"
  ejbql="select from Item i">
  <fw:restrictions>
    <value>i.name = #{myEntity.name}</value>
    <value>i.city = #{myEntity.city}</value>
  </fw:restrictions>
</fw:entity-query>

```



<http://localhost:8080/mynotes/NoteList.seam>

Q Google

mynotes

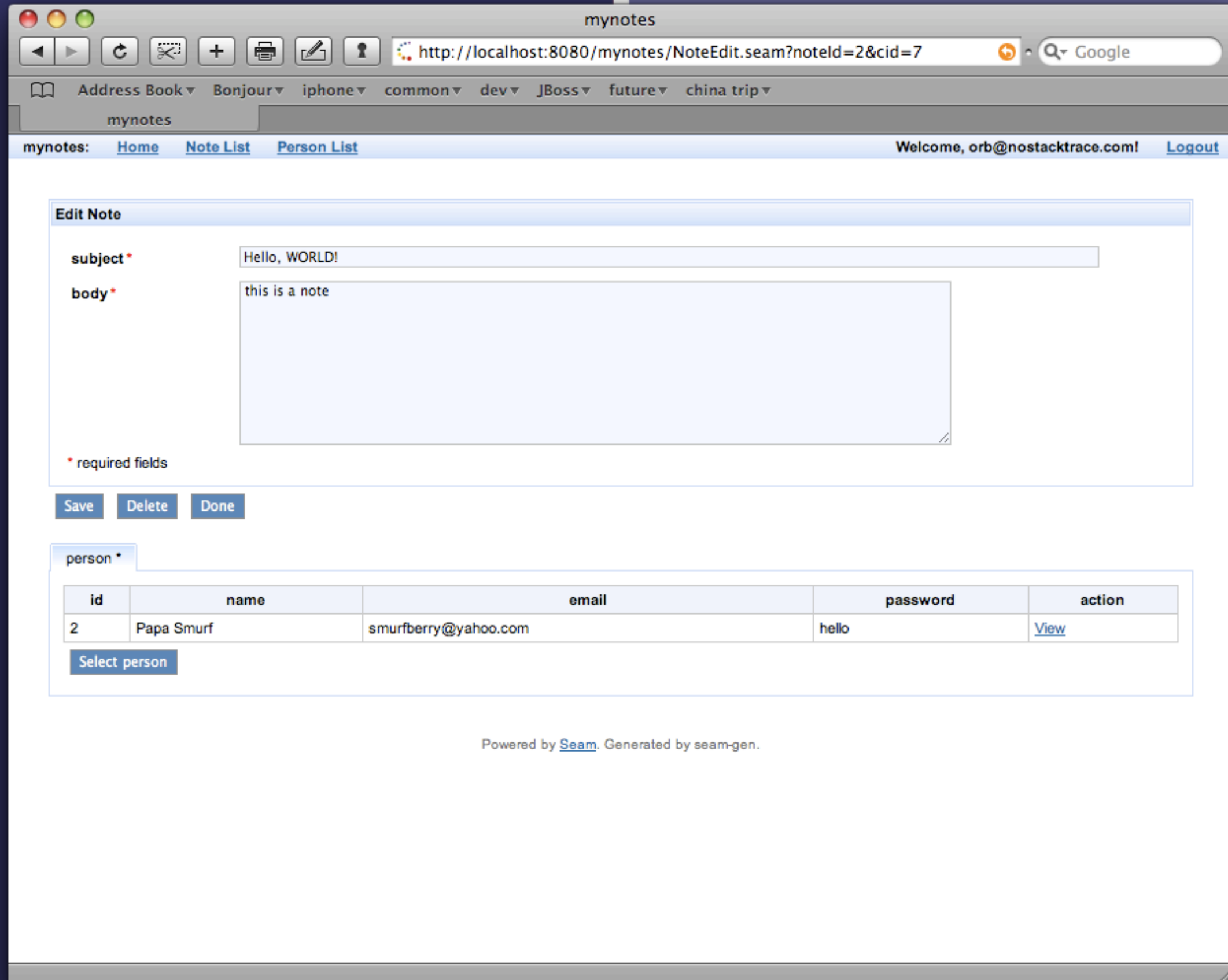
[Login](#)

Search

| id | person id | subject | body | action |
|----|-----------|----------------------------|---|------------------------|
| 2 | 2 | Hello, WORLD! | this is a note | Select |
| 8 | 1 | This is a new note | I *hope* that this works well. Something cool: =wiki =two =three | Select |
| 9 | 1 | This is a test | It's easy to make *bold text* , <i>/italic text/</i> , monospace , ~deleted text~, super^scripts^ or _underlines_. | Select |
| 10 | 1 | Some important information | +This is a big heading You /must/ have some text following a heading! ++This is a smaller heading This is the first paragraph. We can split it across multiple lines, but we must end it with a blank line. This is the second paragraph. | Select |
| 12 | 6 | notes | notes | Select |
| 16 | 1 | It works! | =Yi =Er =San =Si =Wu | Select |
| 17 | 5 | foo | bar | Select |
| 18 | 2 | foo | bar | Select |
| 19 | 1 | New note | Hello! ??? | Select |
| 20 | 1 | Hello | World | Select |

Create note

Powered by [Seam](#). Generated by seam-gen.

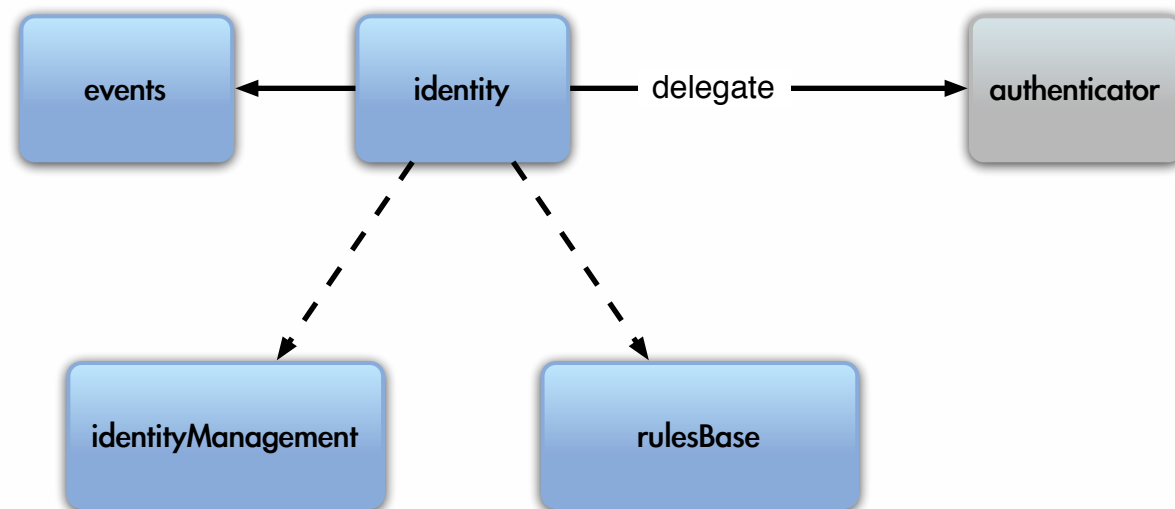


8

Seam security
brings your
application
into security
decisions

Seam security brings your application into security decisions

- ▶ Identity component runs in application space
- ▶ Fine-grained permissions
- ▶ Entity / page permissions
- ▶ Can also do SSO, JAAS, LDAP, etc...

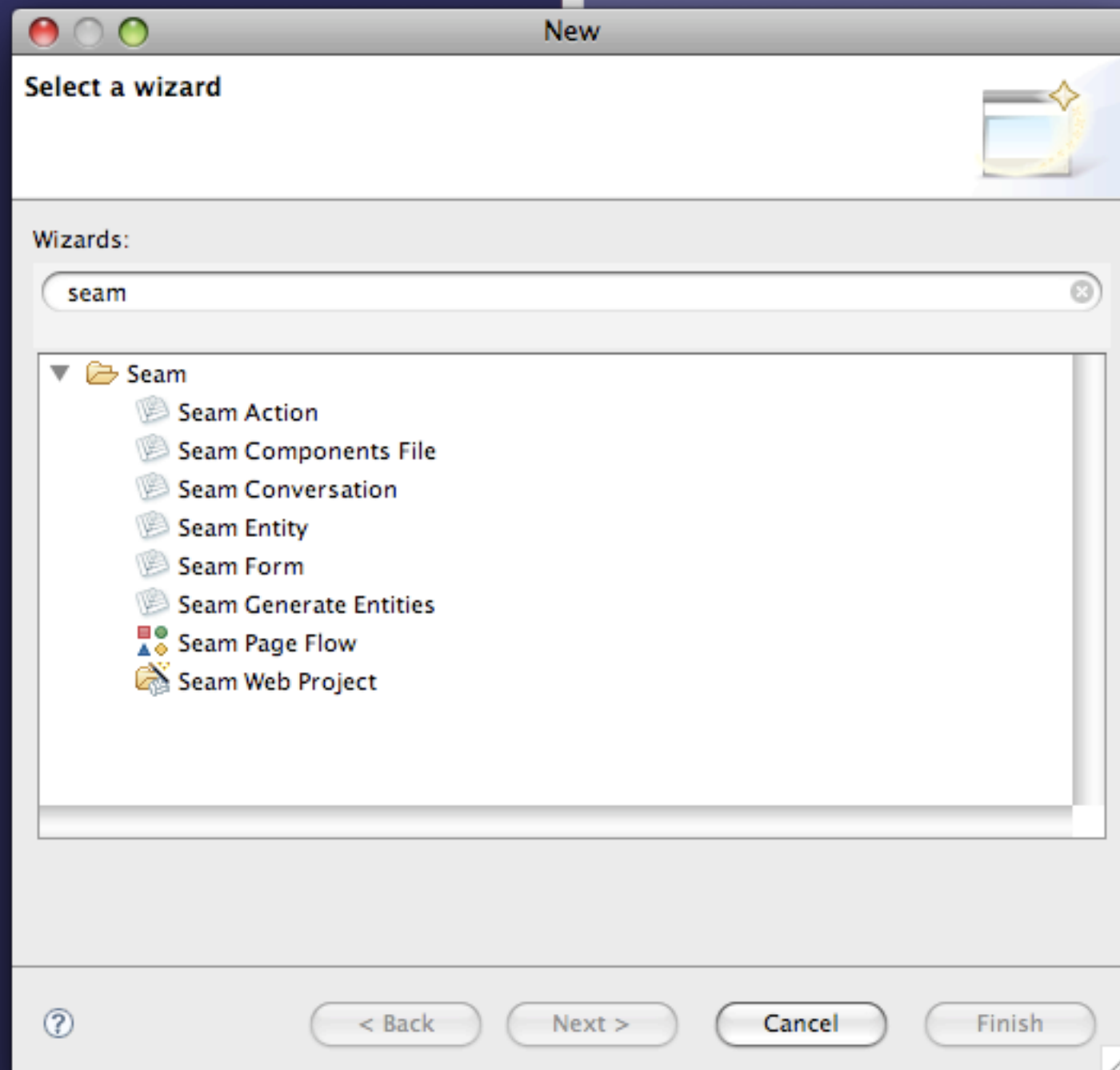


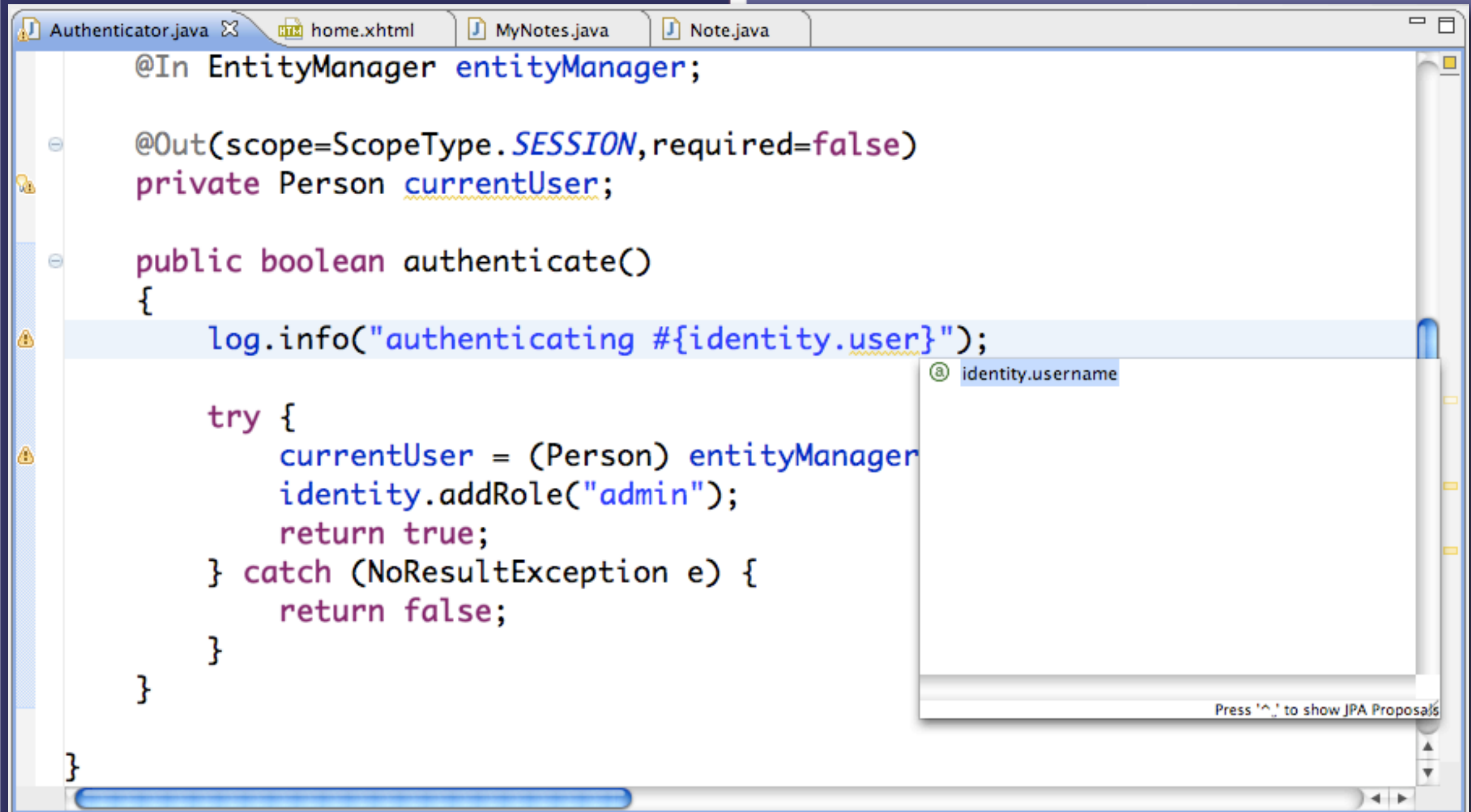
9

Seam has a
full IDE tool
suite

Seam has a full IDE tool suite

- ▶ CRUD, of course
- ▶ Wizards for many common Seam things
- ▶ Component-aware (including EL)
- ▶ Visual UI editor
- ▶ Visual pageflow and process editors
- ▶ Commercial version available





```
@In EntityManager entityManager;

@Out(scope=ScopeType.SESSION,required=false)
private Person currentUser;

public boolean authenticate()
{
    log.info("authenticating #{identity.user}");

    try {
        currentUser = (Person) entityManager
            identity.addRole("admin");
        return true;
    } catch (NoResultException e) {
        return false;
    }
}
```

identity.username

Press '^.' to show JPA Proposals

Seam - /Users/orb/proj/demo-workspace/mynotes/WebContent/home.xhtml - Eclipse Platform - /Users/orb/proj/demo-workspace

Authenticator.java home.xhtml MyNotes.java Note.java

```
<s:fragment rendered="#{!identity.loggedIn}">

<rich:panel>
  <f:facet name="header">Welcome!</f:facet>

  Please login to use the notes application.

</rich:panel>
</s:fragment>
```

#(projectName): [Home](#) [Note List](#) [Person List](#) Welcome, #{identity.username}! [Login](#) [Logout](#)

Error Messages

s:fragment

Welcome!

Hello, #{currentUser.name}. You have #{myNotes} notes.

s:fragment

Welcome!

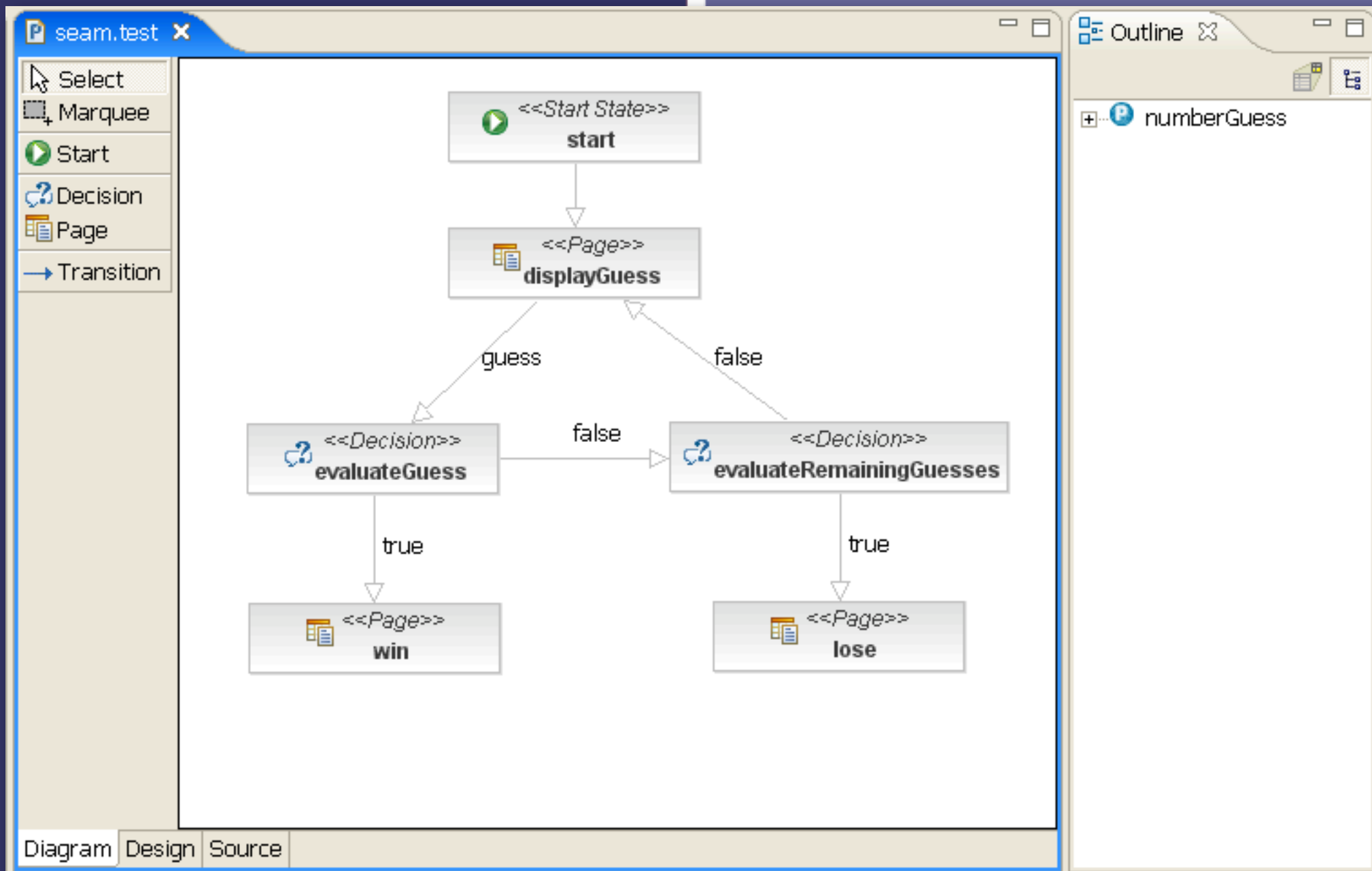
[Please login to use the notes application](#)

Powered by [Seam](#). Generated by seam-gen.

ui:composition ui:define s:fragment rich:panel

Visual/Source Visual Source Preview

ui:composition/ui:define/s:fragment/rich:panel/#text Writable Smart Insert 31 : 50



10

Seam is the
future of web
development

Seam

Guice

Web

Beans