

Automatic testing of Enterprise Applications...



www.jugtorino.it

...using Open
Source tools :)



About me

- C Developer since 1988
- Java developer since 1996
- XP Coach during 2000-2001
- Lead coordinator and co-founder of JUG Torino in 2001
- Sun Java Champion since 2005





Agenda

- Test... duh?
- Enterprise systems
- Acceptance test tools
- FitNesse
- Live demo!
- Selenium
- Live demo!
- Q&A

*Advisor: this won't
be a tutorial!*



Test... duh?

- Tests are part of development cycle
- They may be used to drive development (TDD)
- They're used to block regressions
- Two kind of tests:
 - Unit Tests
 - Acceptance Tests
- Sometimes they mean just time used to handle project delays :(



Unit Tests

- Development and anti-regression
- Specific tool for each language
- Characteristics:
 - written by a developer
 - executed by a developer
 - data are self-contained inside tests
 - don't drive UI
- Writing unit tests require java knowledge



Unit Tests: tools

The most known tools in Java:

- Jetif
 - TestNG
 - JUnit
-
- In these days JUnit is a de-facto standard



Time for a question :))

- Who wrote JUnit?



JUnit

- Built by
 - Kent Beck (XP “father”)
 - Erich Gamma (GOF star)
- Tests are developed as Java classes
- Built-in in most famous IDEs
- Works in text and graphic mode
- May produce HTML reports
- May be used also for integration or functional testing



JUnit

Live Demo?



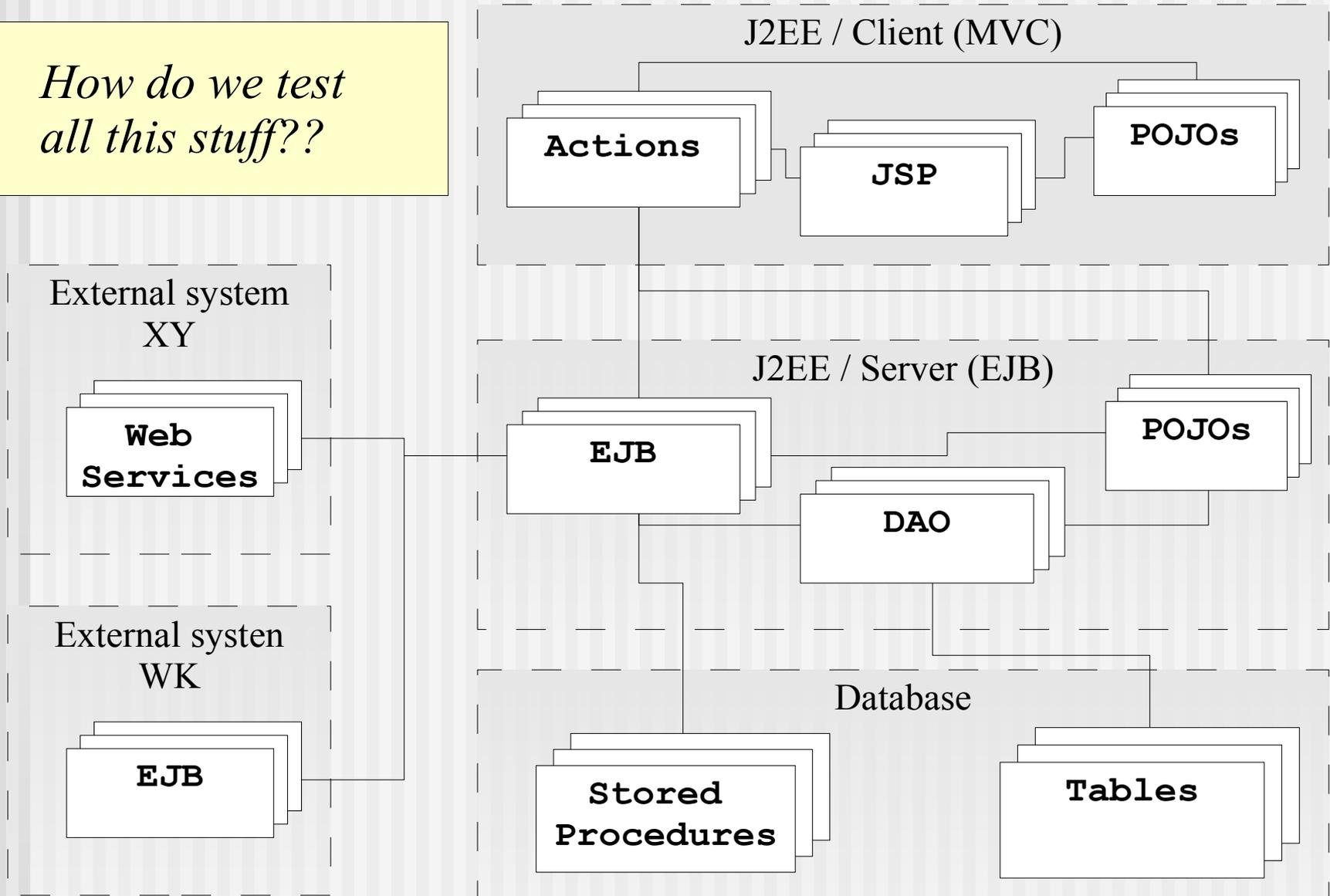
Acceptance tests

- Functional tests on:
 - business functions
 - use cases
- They interact with
 - User interfaces
 - Application services
- Written by an analyst or, better, directly by a customer
- Must run automatically, eventually by non-technical people



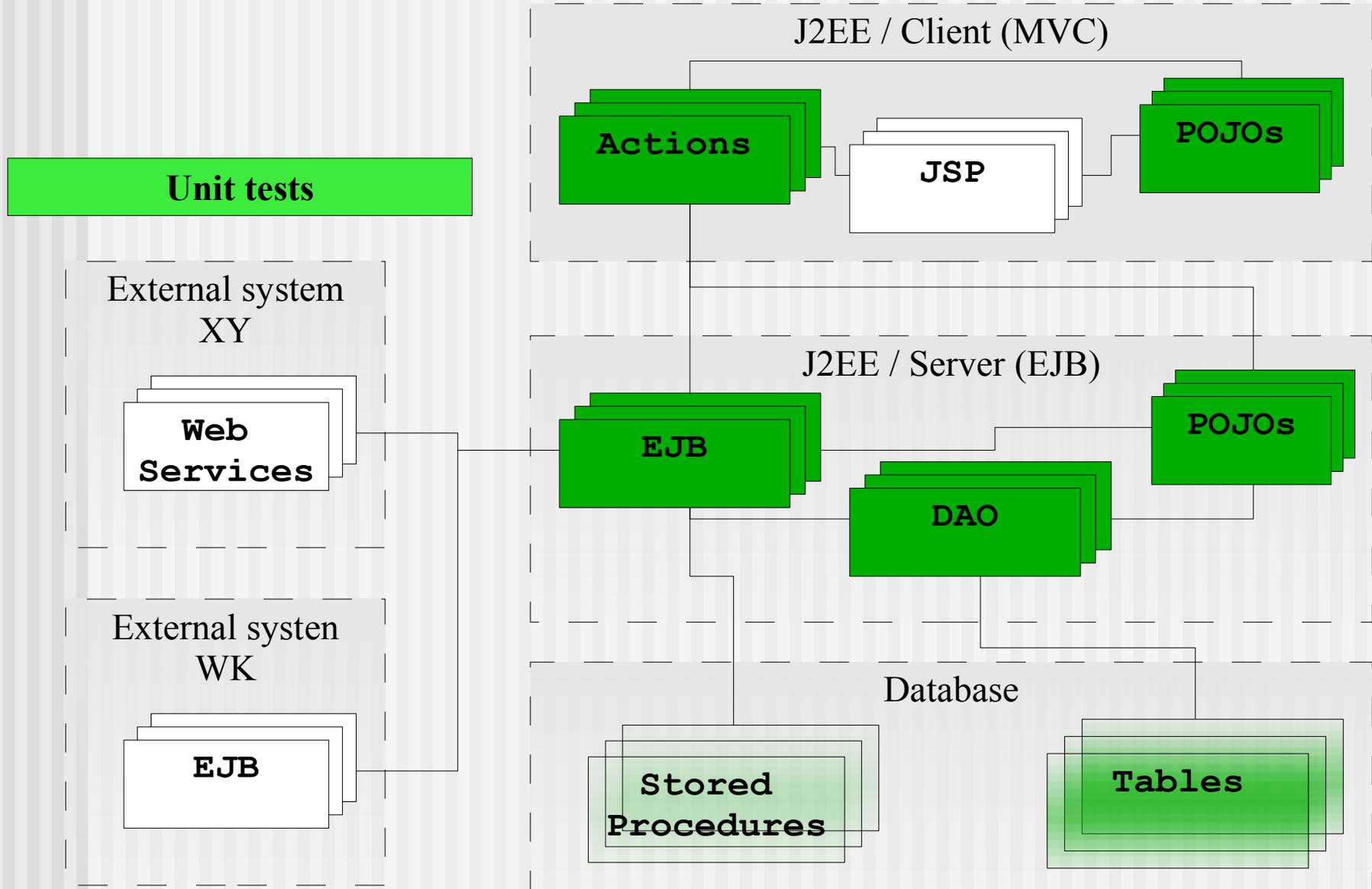
Enterprise systems

How do we test all this stuff??



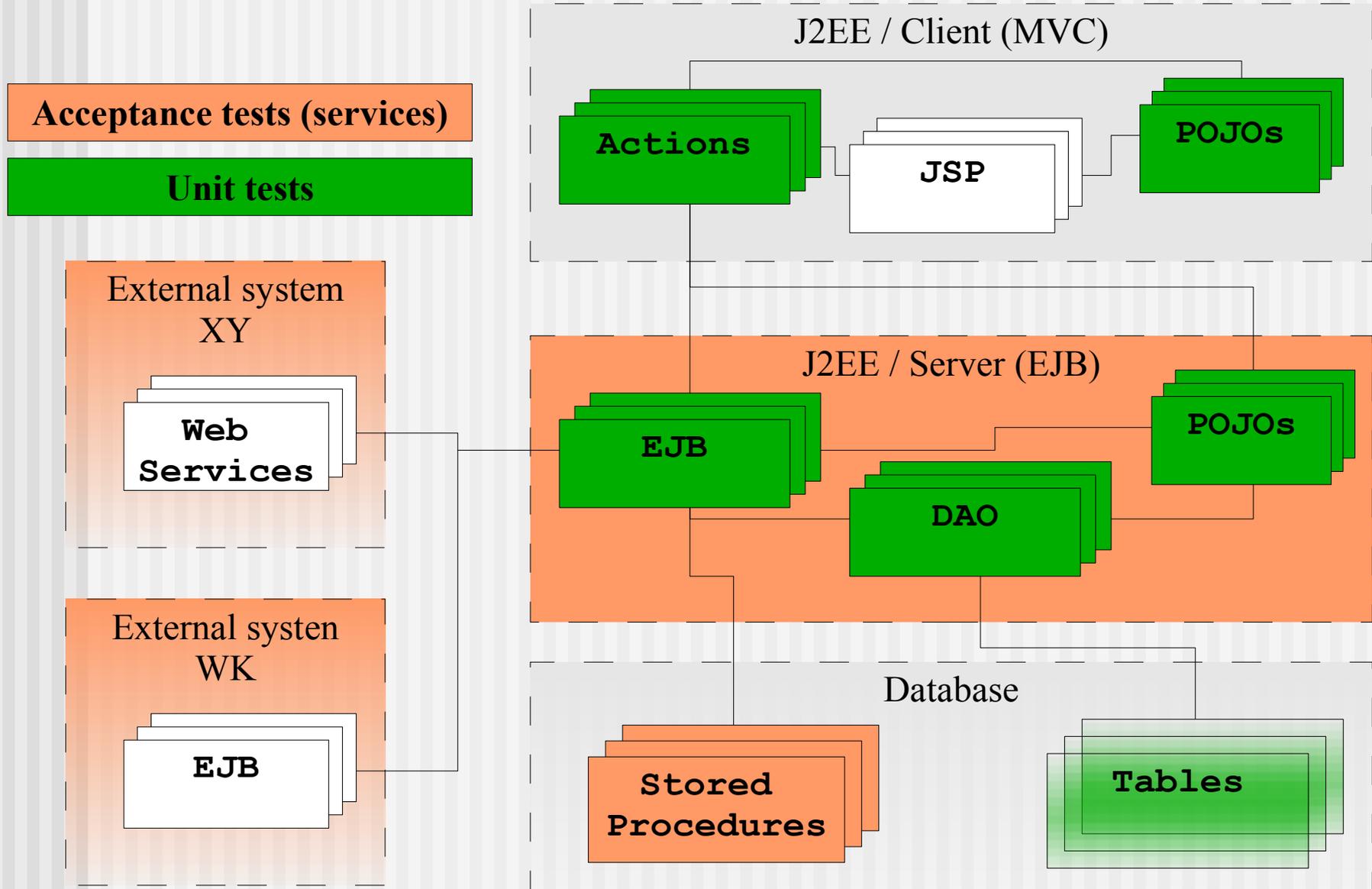


Enterprise systems





Enterprise systems



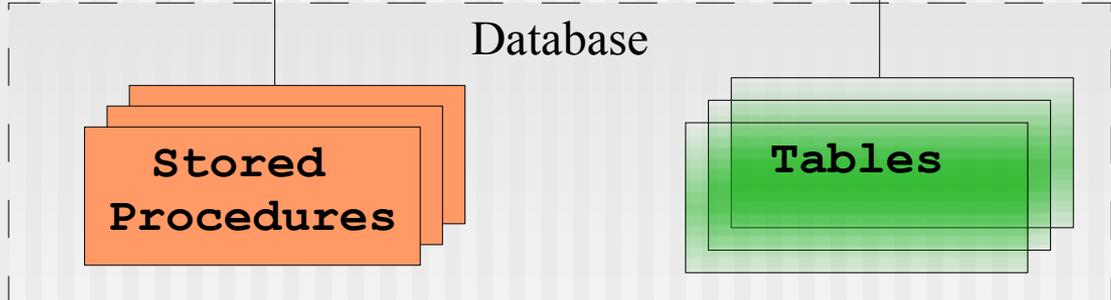
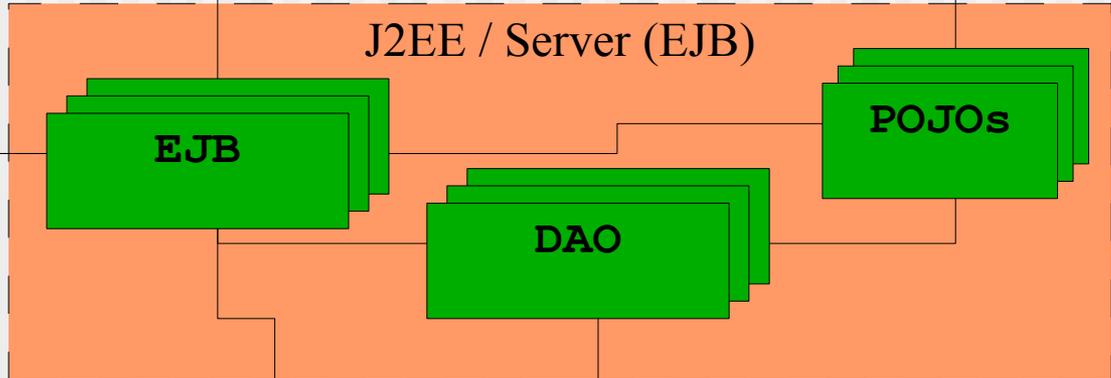
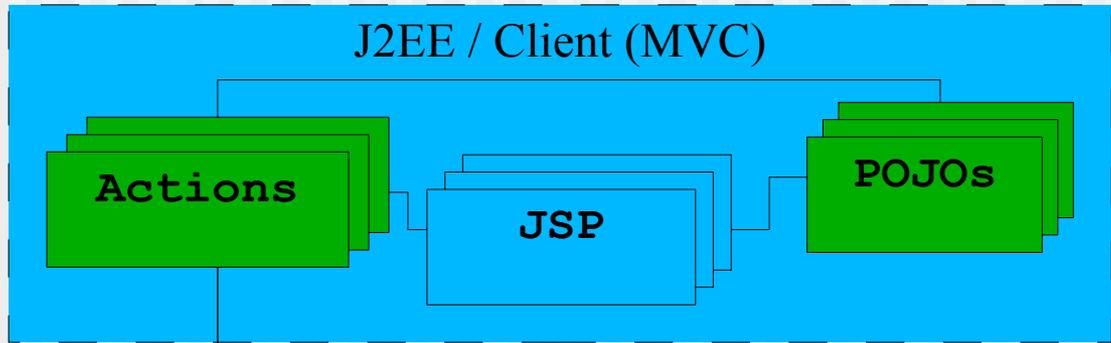
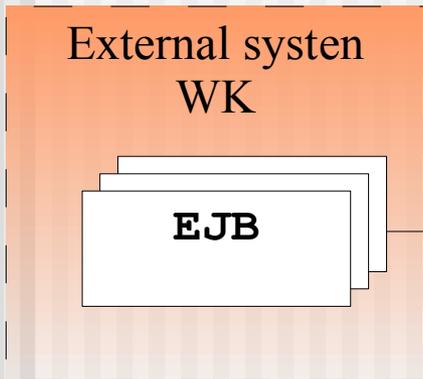
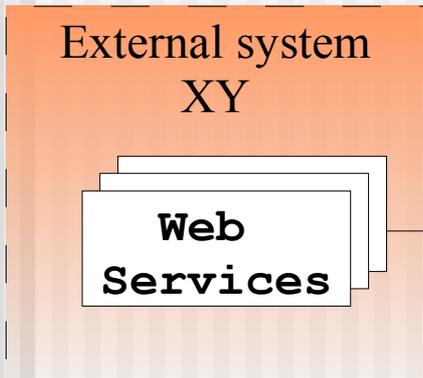


Enterprise systems

Acceptance tests (UI)

Acceptance tests (services)

Unit tests





Acceptance tests: tools

More than 50 tools are available!

Designed for:

- fat-client applications
- web applications
- services oriented systems
- general purpose
- ...

All open source :)



Acceptance tests: tools

- IE Automation
- WebTst
- WebInject
- **Watir** e **Watij**
- TextTest
- TestGen4Web
- TclWebTest
- Solex
- Staf
- SoapUI
- SharpRobo
- **Selenium**
- Samie
- **Sahi**
- Qat
- Pounder
- Pamie
- MaxQ
- Latka
- **JWebUnit**
- Jemmy
- Jamaleon
- Jacobie
- **FitNesse**



Break!

I'll be also at JavaPolis!

JavaPolis!

Anyway, **don't miss that event!**

<http://www.javapolis.com/>



FitNesse

- It's a collaboration tool
- It's a tool to manage tests
 - you define tests
 - you launch tests clicking a button and results are immediately showed
- It's a Wiki
 - allows you also to share information within tests
- It's web server
 - no setup, click'n'run!

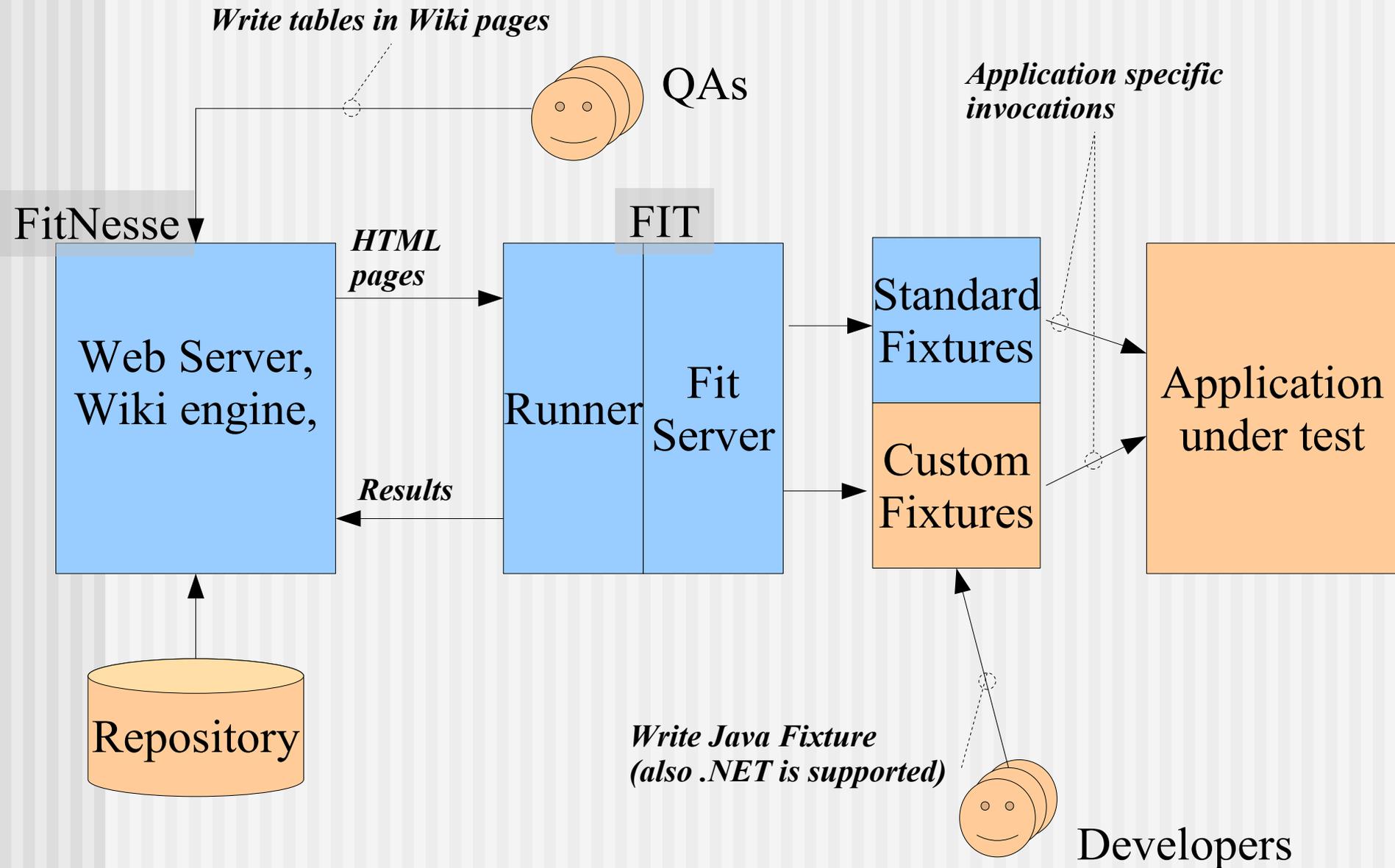


FitNesse

- Integration and functional tests
- Tests are written as tables in a Wiki
- It's possible to import / export such tables as Excel sheets
- Java knowledge is needed to write test skeleton (fixture)
- When writing or executing test cases Java knowledge is not needed



FitNesse





FitNesse

- It may be used to test:
 - business logic
 - application services, internal or external
 - stored procedures
- It's possible to manage test chains hierarchically
- You can execute tests directly from the Wiki
- It produces detailed HTML reports
- It may be automated by an ANT task



FitNesse

Live Demo!



Time for a question :))

- Who wrote FitNesse?



Selenium

- Functional test on web applications
- Java knowledge is not needed to write and execute tests
- Tests are automatically recorded by a Firefox plug-in
- Tests may be executed on most browsers / OS
- Tests are recorded as HTML files
- It's possible to import tables written in Excel



Selenium

- It's written in Javascript / DHTML
- Uses a javascript bot “injected” in application HTML pages under test
- Allows you to:
 - send commands to browser
 - interact with widgets as a user
 - execute javascript code
 - localize page elements in different ways
- Extensible using javascript
- It may be automated by an ANT task



Selenium tools

- Selenium IDE
 - a complete IDE implemented as a Firefox extension, allows test record, edit and debug.
- Selenium core
 - web application to execute test suites with high degree of control
- Selenium Remote Control
 - allows you to write automated web application UI tests in any programming language against any HTTP website



Selenium IDE

Live Demo!



Selenium Core

Live Demo!



Selenium ANT integration

Live Demo!



Q&A

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JUnit: <http://www.junit.org>

FitNesse: <http://www.fitnesse.org>

Selenium: <http://www.openqa.org/selenium>



<http://www.jugtorino.it>



The really big question!

- Win a K500i!
- Thanks to Aaron Houston (Sun) support! :)
- Ready?
- 4 question, difficult decreasing



Question 1

- Which Italian project (or which JUG) won the Duke Award last year?



Question 2

- Who knows the names of at least FOUR italian JUGS?



Question 3

- Who scored the goal for Italy in the latest Soccer World Championship final?



Question 4

- What was the color of Napoleon white horse?
- :)