



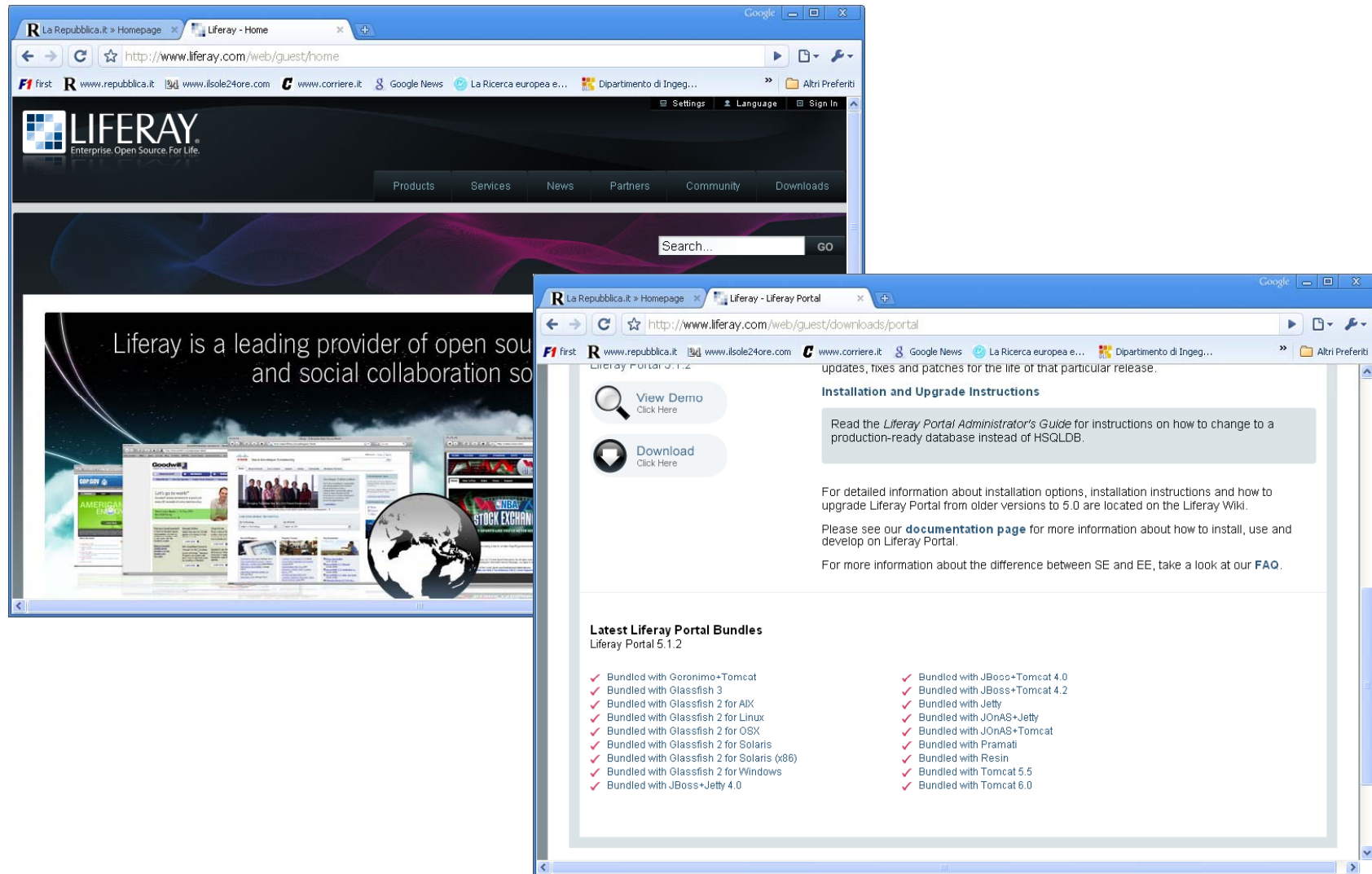
**Agent and Object Technology Lab**  
Dipartimento di Ingegneria dell'Informazione  
Università degli Studi di Parma



# Advanced Software Engineering

## **Project Introduction**

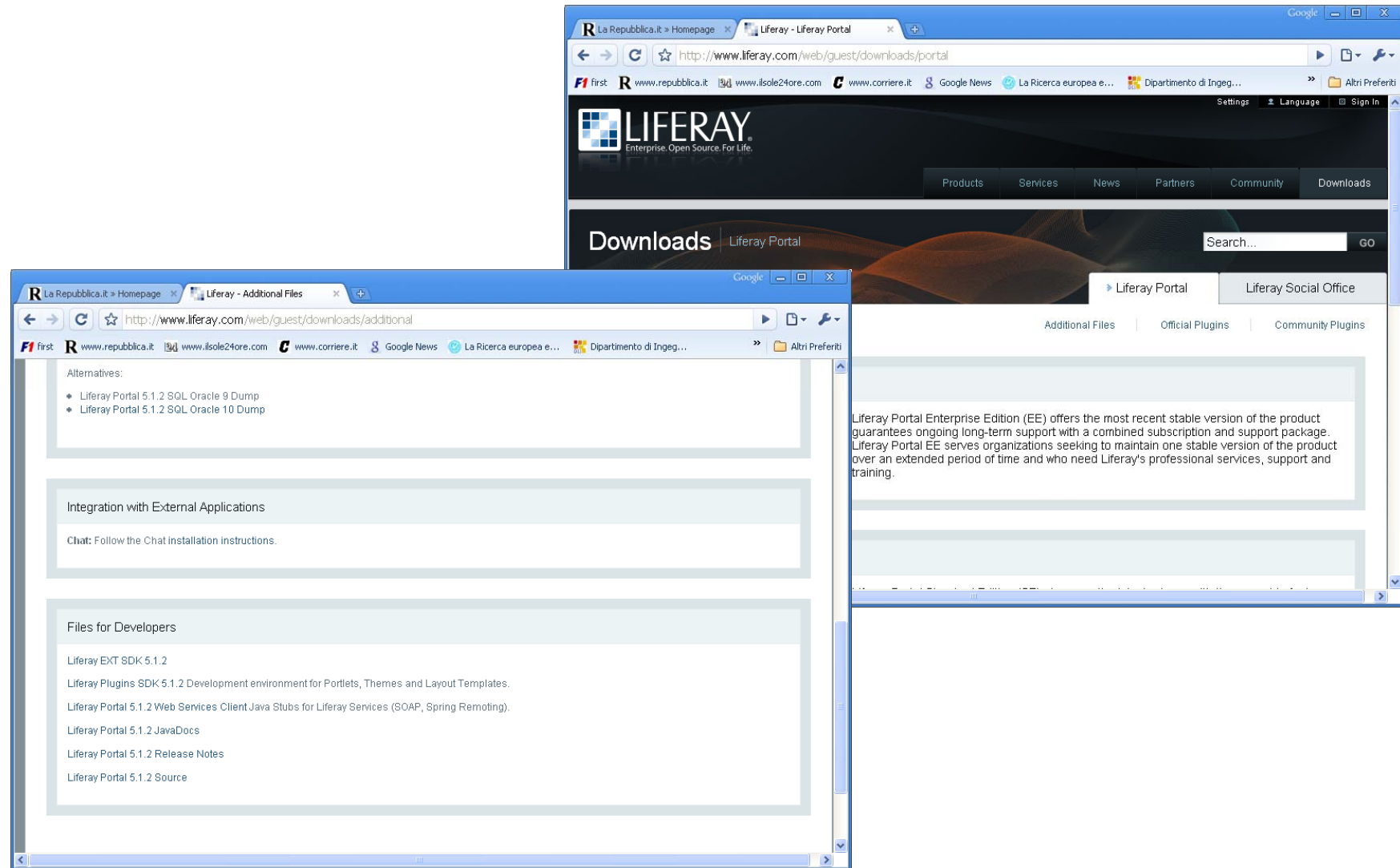
**Prof. Agostino Poggi**

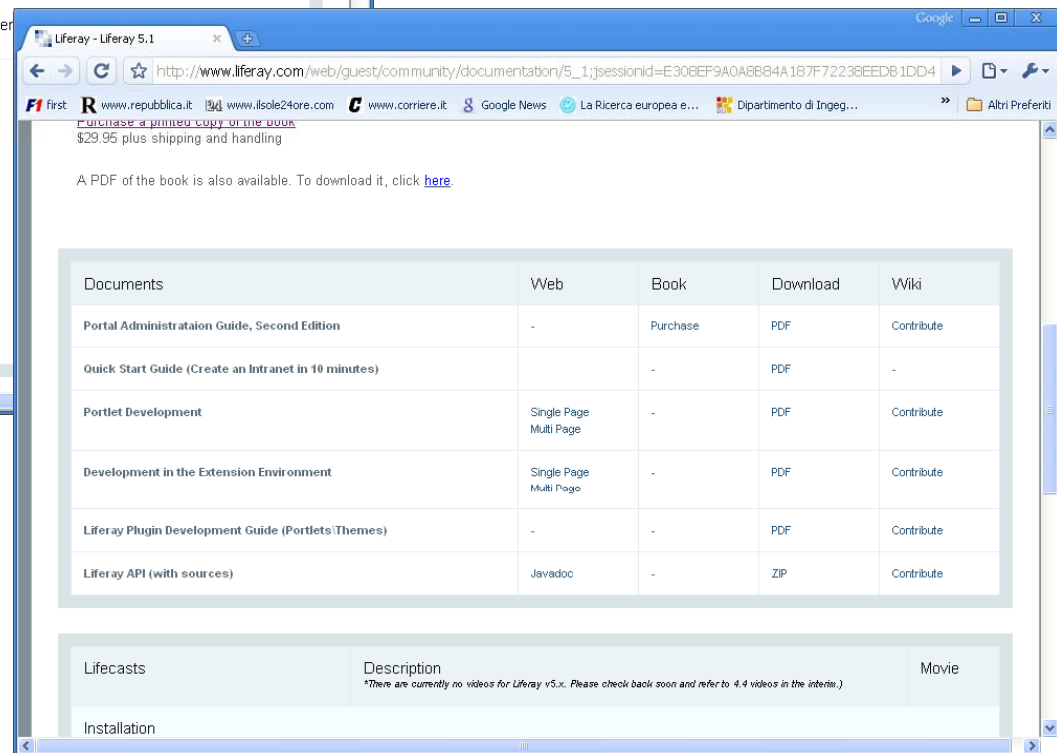
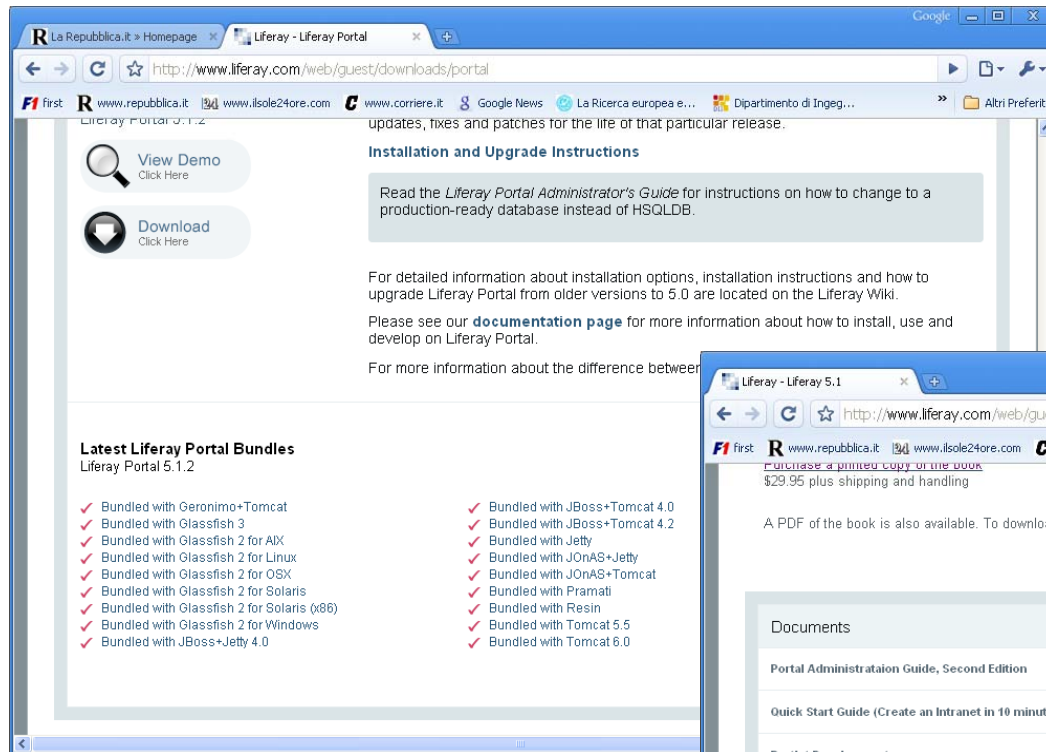


The image displays two screenshots of the Liferay website. The left screenshot shows the Liferay homepage with the tagline "Liferay is a leading provider of open source and social collaboration solutions". The right screenshot shows the "Liferay Portal" download page, which includes links for "View Demo" and "Download", "Installation and Upgrade Instructions", and a list of "Latest Liferay Portal Bundles" for version 5.1.2.

**Latest Liferay Portal Bundles**  
Liferay Portal 5.1.2

- ✓ Bundled with Goronimo+Tomcat
- ✓ Bundled with Glassfish 3
- ✓ Bundled with Glassfish 2 for AIX
- ✓ Bundled with Glassfish 2 for Linux
- ✓ Bundled with Glassfish 2 for OS/2
- ✓ Bundled with Glassfish 2 for Solaris
- ✓ Bundled with Glassfish 2 for Solaris (x86)
- ✓ Bundled with Glassfish 2 for Windows
- ✓ Bundled with JBoss+Jetty 4.0
- ✓ Bundled with JBoss+Tomcat 4.0
- ✓ Bundled with JBoss+Tomcat 4.2
- ✓ Bundled with Jetty
- ✓ Bundled with JOnAS+Jetty
- ✓ Bundled with JOnAS+Tomcat
- ✓ Bundled with Pramati
- ✓ Bundled with Resin
- ✓ Bundled with Tomcat 5.5
- ✓ Bundled with Tomcat 6.0





The image shows two overlapping screenshots of the MySQL website. The background screenshot is the main MySQL website (http://www.mysql.com/), and the foreground screenshot is the MySQL Downloads page (http://dev.mysql.com/downloads/).

**Main MySQL Website (Background):**

- Header:** MySQL logo, Sun Microsystems logo, "The world's most popular open source database", "Contact a MySQL Representative", "Login | Register", and flags for various countries.
- Navigation:** MySQL.com, Developer Zone, Partners & Solutions, Customer Login, Products, Downloads, Documentation, Services, Customers, Why MySQL?, News & Events, How to Buy.
- GET STARTED:**
  - MySQL Enterprise 30-day Trial
  - MySQL Enterprise Unlimited
  - MySQL Training
  - Free Web Seminars
  - Success Stories
  - Contact MySQL
- Free Trial of Sun's Servers or Storage:**
  - Ideal for MySQL deployments. Available on Linux, Windows, Solaris.
  - Learn More »
- DISCOVER:**
  - ISV/OEM Corner
  - CIO Corner
  - White Papers
  - TCO Calculator
  - DBA Calculator
  - Learn how MySQL is used in:
    - Embedded Applications
    - Enterprise 3.0
- TEST DRIVE:**
  - MySQL Enterprise 30-day Trial
  - Sun Try & Buy
  - MySQL Enterprise Monitor
  - Demos
  - Documentation
  - Buy
  - Contact MySQL
- LEARN:**
  - MySQL Consulting**
    - Performance Tuning
    - High Availability Jumpstart
    - Architecture & Design
    - More Consulting
  - MySQL Training**
    - MySQL for Database Administrators
- WHAT'S NEW:**
  - News & Events
    - Sun Invests in MySQL
    - Sun Strike Million Dollars to Deploy MySQL
    - Gartner Ranks MySQL as a Leader

**MySQL Downloads Page (Foreground):**

- Header:** MySQL logo, "The world's most popular open source database", "Contact a MySQL Representative", "Login | Register", and flags for various countries.
- Navigation:** MySQL.com, Developer Zone, Partners & Solutions, Customer Login, Products, Downloads, Documentation, Services, Customers, Why MySQL?, News & Events, How to Buy.
- GET STARTED:**
  - MySQL Enterprise 30-day Trial
  - MySQL Enterprise Unlimited
  - MySQL Training
  - Free Web Seminars
  - Success Stories
  - Contact MySQL
- Free Trial of Sun's Servers or Storage:**
  - Ideal for MySQL deployments. Available on Linux, Windows, Solaris.
  - Learn More »
- DISCOVER:**
  - ISV/OEM Corner
  - CIO Corner
  - White Papers
  - TCO Calculator
  - DBA Calculator
  - Learn how MySQL is used in:
    - Embedded Applications
    - Enterprise 3.0
- TEST DRIVE:**
  - MySQL Enterprise 30-day Trial
  - Sun Try & Buy
  - MySQL Enterprise Monitor
  - Demos
  - Documentation
  - Buy
  - Contact MySQL
- LEARN:**
  - MySQL Consulting**
    - Performance Tuning
    - High Availability Jumpstart
    - Architecture & Design
    - More Consulting
  - MySQL Training**
    - MySQL for Database Administrators
- WHAT'S NEW:**
  - News & Events
    - Sun Invests in MySQL
    - Sun Strike Million Dollars to Deploy MySQL
    - Gartner Ranks MySQL as a Leader

**MySQL Downloads Page Content:**

- If You Like Free Software, You'll Love Our 60-Day Free Trial Offer on Systems:**
  - Learn More »
- MySQL Community Server:**
  - Download »
- MySQL Enterprise:**
  - Learn More »
  - 30-day Trial »
- When it comes to using MySQL, you have choices. Use this grid to help you determine which version best meets your needs.**
- Important Platform Support Updates »**
- MySQL Community Server:**
  - Current Release (Recommended):**
    - MySQL 5.0—Generally Available (GA) release for production use
  - Upcoming Releases:**
    - MySQL 5.1 — Release Candidate release, Test new features early!
    - MySQL 6.0 — Alpha
    - MySQL Maria Preview
    - Snapshots — source code snapshots of the development trees
- Quick Jump:**
  - MySQL Community Server
  - MySQL Cluster
  - MySQL Workbench
  - MySQL Tools
  - MySQL Proxy
  - Drivers and Connectors
    - MySQL Connector/J
    - MySQL Connector/Net
    - MySQL Connector/ODBC
    - MySQL Connector/MXJ
    - MySQL Connector/PHP
    - MySQL native Driver for...



The image displays two screenshots of the Spring Framework website. The left screenshot shows the main homepage, and the right screenshot shows the 'Downloads' page.

**Spring Framework Homepage (Left Screenshot):**

- Header:** Spring source COMMUNITY. Navigation links: Community, SpringSource, Projects, Downloads, Documentation, Forums, Training, Blogs. Search bar: Search Term.
- Left Sidebar:** Complimentary analyst research on SpringSource and Spring portfolio. 42 pages of unbiased research. [DOWNLOAD NOW >>](#)
- Main Content:**
  - springOne AMERICAS 2008:** December 1-4, 2008 | Hollywood, FL, USA. Welcome to the home of Spring, the leading platform to build and applications. Led and sustained by SpringSource, Spring delivers many projects, increasing development productivity and runtime performance, improving test coverage and application quality.
  - Rob Harrop to present at Philadelphia Spring Use:** Submitted by Thomas Risberg on Wed, 2008-10-08 11:03. Start: 2008-10-21 18:30. End: 2008-10-21 21:00. Timezone: Etc/GMT-4. Location: King of Prussia, Pennsylvania. Following up on the well received OSGi presentation by Oleg Zhurakousky, "Introduction to the SpringSource dm Server" presentation on October 21st project lead Rob Harrop. Rob is a popular conference speaker and we expect a seat for this meeting.
- Bottom Left:** NEW COURSE! Developing Rich Web Applications with Spring! Dates and

**Spring Framework Downloads Page (Right Screenshot):**

- Header:** Spring source COMMUNITY. Navigation links: Community, SpringSource, Projects, Downloads, Documentation, Forums, Training, Blogs. Search bar: Search Term.
- Left Sidebar:** Complimentary analyst research on SpringSource and Spring portfolio. 42 pages of unbiased research. [DOWNLOAD NOW >>](#)
- Main Content:**
  - Spring Downloads:** Get the latest Spring Framework releases here.
  - For all Spring Framework releases, the basic release contains only the binaries while the -with-dependencies release contains everything the basic release contains plus all third-party dependencies, buildable source trees, and sample applications.
  - Spring Framework **2.5.5** is the current production release (requires Java 1.4+)
      - [Download](#) | [Changelog](#)
    - Spring Framework **2.0.8** is the latest Spring 2.0.x release (compatible with Java 1.3+)
      - [Download](#) | [Changelog](#) | [Announcement](#)
    - Spring Framework **nightly snapshots** are available for testing and development purposes
      - [Download](#)
  - Bottom Left:** NEW COURSE! Developing Rich Web Applications with Spring! Dates and
  - Right Sidebar:**
    - Current Analysis:** In-depth unbiased report: SpringSource Application Platform. [DOWNLOAD NOW >>](#)
    - Using Spring Inside Your Product?** [CERTIFY YOUR SOLUTION NOW >>](#)
    - Upcoming events:**
      - Webinar: Building, Running, and