

Modulo II

Qualidade de Software com Maven

Professor

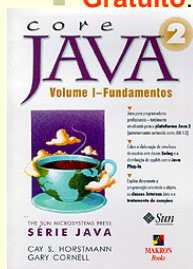
Ismael H F Santos – ismael@tecgraf.puc-rio.br

Bibliografia

- *Linguagem de Programação JAVA*
 - *Ismael H. F. Santos, Apostila UniverCidade, 2002*
- *The Java Tutorial: A practical guide for programmers*
 - *Tutorial on-line: <http://java.sun.com/docs/books/tutorial>*
- *Java in a Nutshell*
 - *David Flanagan, O'Reilly & Associates*
- *Just Java 2*
 - *Mark C. Chan, Steven W. Griffith e Anthony F. Iasi, Makron Books.*
- *Java 1.2*
 - *Laura Lemay & Rogers Cadenhead, Editora Campos*

Livros

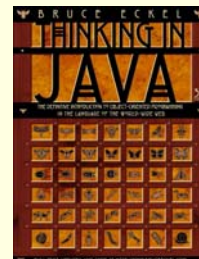
- **Core Java 2**, Cay S. Horstmann, Gary Cornell
 - Volume 1 (Fundamentos)
 - Volume 2 (Características Avançadas)
- **Java: Como Programar**, Deitel & Deitel
- **Thinking in Patterns with JAVA**, Bruce Eckel
 - **Gratuito.** <http://www.mindview.net/Books/TIJ/>



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3

Ementa

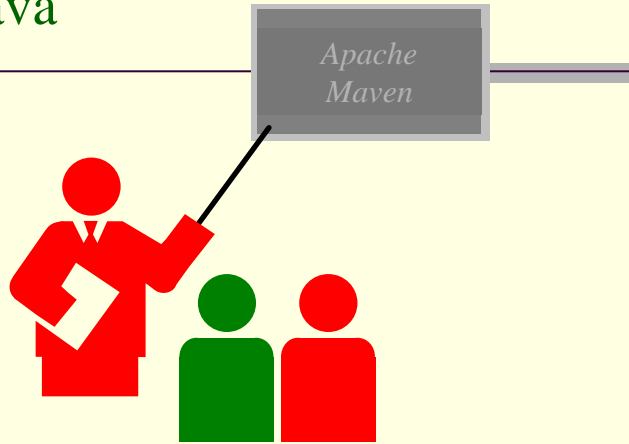
- Visão geral do MAVEN
- Entendendo o POM (*Project Object Model*)
- Executando um *build*
- MAVEN x ANT

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4

POO-Java



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5

Agenda

- Active Quality vs Passive Quality
- Review of Quality-related plugins
- Coding conventions with Checkstyle
- Binary compatibility with Clirr
- Automated functional tests with Cargo
- Test coverage with Clover
- Project documentation with a wiki (Demo of XWiki)

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6

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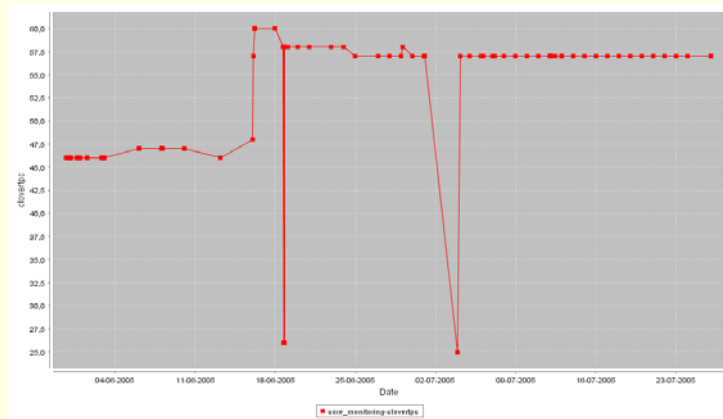
- Active Quality vs Passive Quality
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■ Active quality = before the fact

```
[INFO] [checkstyle:checkstyle]
[INFO] Starting audit...
C:\dev\cargo\trunk\core\api\container\src\main\java\org\codehaus\cargo\container\ContainerType.java:
139: Le fils de method def au niveau d'indentation 0 n'est pas indenté correctement (8)
C:\dev\cargo\trunk\core\api\container\src\main\java\org\codehaus\cargo\container\internal\util\Resou
rcesUtilis.java:111:13: warning: Déclarer des variables, des valeurs de retour ou des paramètres de ty
pe "Vector" est interdit.
C:\dev\cargo\trunk\core\api\container\src\main\java\org\codehaus\cargo\container\jar88\JSR88Deployer
.java:55:1: warning: Le Fan-Out Complexity de la classe est de 28 alors que le maximum autorisé est
de 20.
C:\dev\cargo\trunk\core\api\container\src\main\java\org\codehaus\cargo\container\api\AbstractLocalCo
ntainer.java:215: warning: Le commentaire correspond au format TODO "TODO:".
Audit done.

[INFO] There are 1 checkstyle errors.
[WARNING] Unable to locate Source XRef to link to - DISABLED
[INFO] [checkstyle:check (execution: default)]
[INFO] -----
[ERROR] BUILD FAILURE
[INFO] -----
[INFO] You have 1 checkstyle violation.
[INFO] -----
[INFO] For more information, run Maven with the -o switch
[INFO] -----
[INFO] Total time: 15 seconds
[INFO] Finished at: Fri Jul 07 10:15:15 CEST 2006
[INFO] Final Memory: 9M/17M
[INFO] -----
C:\dev\cargo\trunk\core\api\container>
```

■ Passive quality = after the fact



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9

**Active and Passive quality checks are both required...
... but moving to active is the direction to take**

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10

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- Project documentation with a wiki (Demo of XWiki)

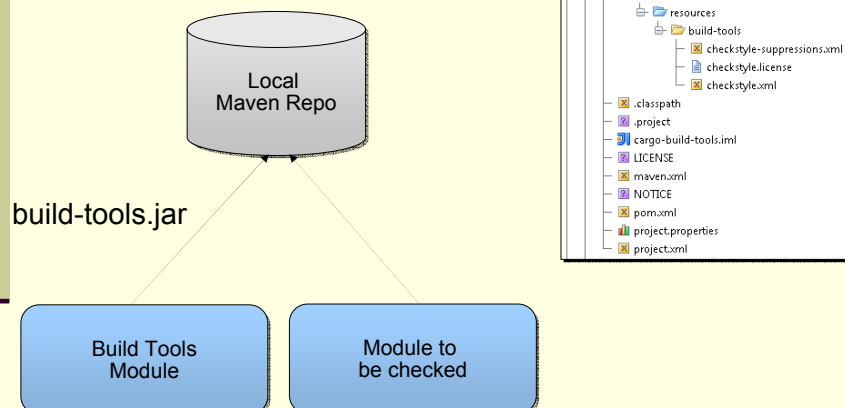
Quality-related plugins

In Maven	In Mojo	In Mojo Sandbox	Elsewhere
<ul style="list-style-type: none">● Surefire<ul style="list-style-type: none">● JUnit and TestNG● PMD● Checkstyle● Verifier● Clover● Changelog● Changes	<ul style="list-style-type: none">● Clirr● Cobertura● Jalopy● JDepend● JavaNCSS● JDiff● Selenium● JBoss	<ul style="list-style-type: none">● DBUnit● Jardiff● JCoverage● FindBugs● Simian● Emma● Fit● Tomcat● WebLogic	<ul style="list-style-type: none">● Cargo● Jetty● QALab

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Coding conventions with Checkstyle



Coding conventions with Checkstyle

```
<plugin>
  <groupId>org.apache.maven.plugins</groupId>
  <artifactId>maven-checkstyle-plugin</artifactId>
  <dependencies>
    <dependency>
      <groupId>org.codehaus.cargo</groupId>
      <artifactId>cargo-build-tools</artifactId>
      <version>${version}</version>
    </dependency>
  </dependencies>
  <configuration>
    <consoleOutput>true</consoleOutput>
    <configLocation>build-tools/checkstyle.xml</configLocation>
    <headerLocation>build-tools/checkstyle.license</headerLocation>
    <suppressionsLocation>build-tools/checkstyle-suppressions.xml</suppressionsLocation>
    <suppressionsFileExpression>checkstyle.suppressions.file</suppressionsFileExpression>
  </configuration>
  <executions>
    <execution>
      <goals>
        <goal>check</goal>
      </goals>
    </execution>
  </executions>
</plugin>
```

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15

Agenda

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16

Binary compatibility with Clirr

- Automatically compares previous version API with current sources
- To try it quickly: `mvn clirr:check`
- Can generate reports too:

```
<plugin>
  <groupId>org.codehaus.mojo</groupId>
  <artifactId>clirr-maven-plugin</artifactId>
  <configuration>
    <minSeverity>info</minSeverity>
    <textOutputFile>${project.build.directory}/clirr.txt</textOutputFile>
    <excludes>
      <exclude>**/internal/**</exclude>
      <exclude>**/spi/**</exclude>
    </excludes>
  </configuration>
</plugin>
```

- Strategy: Exclude files that have voluntary violations

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17

Binary compatibility with Clirr

Clirr Results

The following document contains the results of Clirr.

Summary

Severity	Number
Error	2
Warning	0
Info	25

Details

Severity	Message	Class	Method / Field
Error	Method 'public org.codehaus.cargo.util.log.LogLevel getLevel()' has been added to an interface	org.codehaus.cargo.util.log.Logger	public org.codehaus.cargo.util.log.LogLevel getLevel()
Error	Method 'public void setLevel(org.codehaus.cargo.util.log.LogLevel)' has been added to an interface	org.codehaus.cargo.util.log.Logger	public void setLevel(org.codehaus.cargo.util.log.LogLevel)
Info	Class org.codehaus.cargo.util.ANTTaskFactory added	org.codehaus.cargo.util.ANTTaskFactory	
Info	Class org.codehaus.cargo.util.ANTUtils added	org.codehaus.cargo.util.ANTUtils	
Info	Class org.codehaus.cargo.util.DefaultANTTaskFactory added	org.codehaus.cargo.util.DefaultANTTaskFactory	
Info	Class org.codehaus.cargo.util.DefaultFileHandler added	org.codehaus.cargo.util.DefaultFileHandler	
Info	Class org.codehaus.cargo.util.FileHandler added	org.codehaus.cargo.util.FileHandler	
Info	Added org.codehaus.cargo.util.internal.log.AbstractLogger to the list of superclasses	org.codehaus.cargo.util.log.ANTLogger	
Info	Method 'public void debug(java.lang.String, java.lang.String)' has been removed, but an inherited definition exists.	org.codehaus.cargo.util.log.ANTLogger	public void debug(java.lang.String, java.lang.String)
Info	Method 'protected void doLog(org.codehaus.cargo.util.log.LogLevel, java.lang.String, java.lang.String)' has been added.	org.codehaus.cargo.util.log.ANTLogger	protected void doLog(org.codehaus.cargo.util.log.LogLevel, java.lang.String, java.lang.String)
Info	Method 'public void info(java.lang.String, java.lang.String)' has been removed, but an inherited definition exists.	org.codehaus.cargo.util.log.ANTLogger	public void info(java.lang.String, java.lang.String)

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18

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Automated functional tests with Cargo

- **Cargo**: A Java API to manipulate containers (install, configure, start, stop, deploy)
- Has extensions for Ant, Maven1, Maven2, IntelliJ IDEA*, Netbeans*
- Currently support J2EE containers
 - Tomcat, Orion, Resin, Jetty, WebLogic, OC4J, Geronimo, Jboss, jo!
 - Upcoming: Glassfish, WebSphere
 - Upcoming: database support

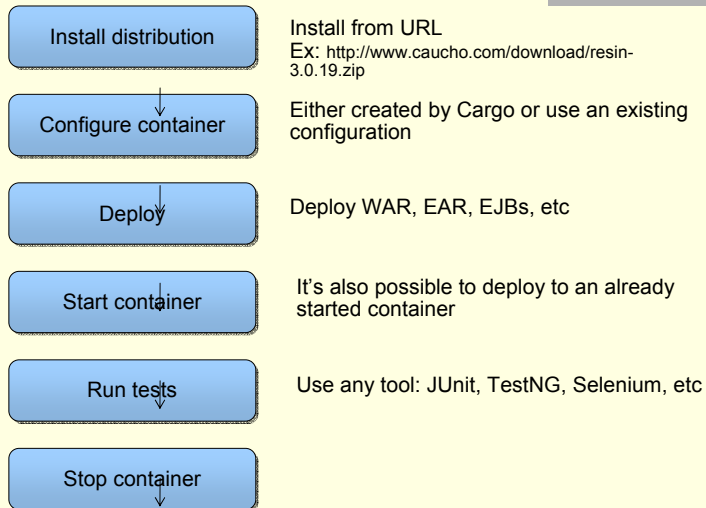


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20

Automated functional tests with Cargo



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21

Automated functional tests with Cargo

```

[...]  
<configuration>  
  <!-- Container configuration -->  
  <container>  
    <containerId>orion2x</containerId>  
    <home>${app}/orion-2.0.5x/home</home> or  
    <zipUrlInstaller>  
      <url>http://www.orionserver.com/distributions/orion2.0.5.zip</url>  
      <installDir>${java.io.tmpdir}/cargoinstall</installDir>  
    </zipUrlInstaller>  
    <output>${project.build.directory}/orion2x/container.log</output>  
    <append>false</append>  
    <log>${project.build.directory}/orion2x/cargo.log</log>  
  </container>  
  
  <!-- Configuration to use with the container or the deployer -->  
  <configuration>  
    <type>standalone</type>  
    <home>${project.build.directory}/orion2x/home</home>  
    <properties>  
      <cargo.servlet.port>8080</cargo.servlet.port>  
      <cargo.logging>high</cargo.logging>  
    </properties>  
  
    <deployables>  
      <deployable>  
        <groupId>war group id</groupId>  
        <artifactId>war artifact id</artifactId>  
        <type>war</type>  
        <properties>  
          <context>optional root context</context>  
        </properties>  
      </deployable>  
      <deployable>  
        <groupId>ear group id</groupId>  
        <artifactId>ear artifact id</artifactId>  
        <type>ear</type>  
      </deployable>  
      [...]   
    </deployables>  
  </configuration>  
</configuration>  
[...]
```

```

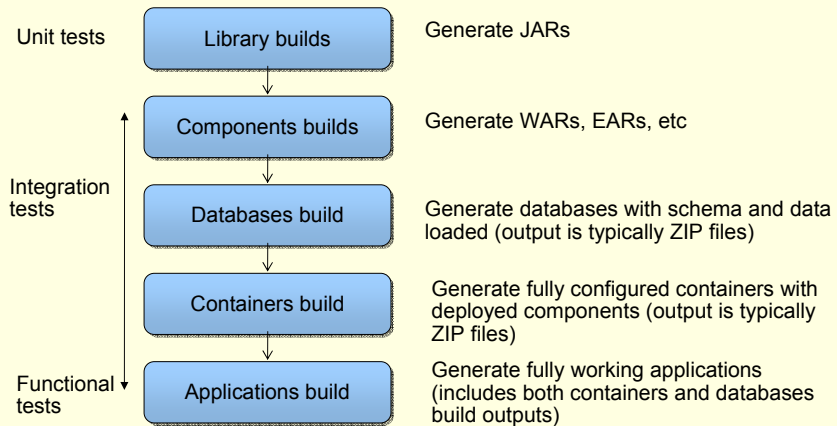
<plugin>  
  <groupId>org.codehaus.cargo</groupId>  
  <artifactId>cargo-maven2-plugin</artifactId>  
  <executions>  
    <execution>  
      <id>start-container</id>  
      <phase>pre-integration-test</phase>  
      <goals>  
        <goal>start</goal>  
      </goals>  
    </execution>  
    <execution>  
      <id>stop-container</id>  
      <phase>post-integration-test</phase>  
      <goals>  
        <goal>stop</goal>  
      </goals>  
    </execution>  
  </executions>  
  <configuration>  
    [Cargo plugin configuration goes in here]  
  </configuration>  
</plugin>
```

Demo!

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22

Full build automation



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23

Agenda

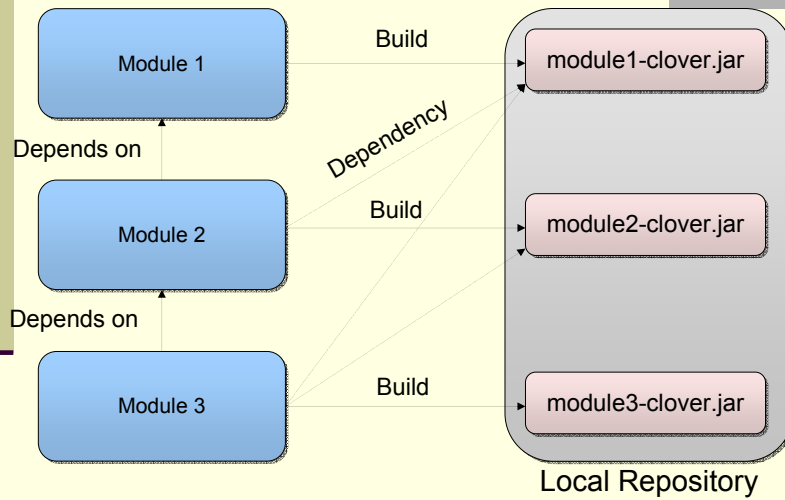
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24

Test coverage with Clover



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25

Test coverage with Clover

Reporting

```
<reporting>
  <plugins>
    <plugin>
      <groupId>org.apache.maven.plugins</groupId>
      <artifactId>maven-clover-plugin</artifactId>
    </plugin>
  </plugins>
</reporting>
<build>
  <plugins>
    <plugin>
      <groupId>org.apache.maven.plugins</groupId>
      <artifactId>maven-clover-plugin</artifactId>
      <executions>
        <execution>
          <phase>pre-site</phase>
          <goals>
            <goal>instrument</goal>
            <goal>aggregate</goal>
          </goals>
        </execution>
      </executions>
    </plugin>
  </plugins>
</build>
```

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Verification

```
<build>
  <plugins>
    <plugin>
      <groupId>org.apache.maven.plugins</groupId>
      <artifactId>maven-clover-plugin</artifactId>
      <configuration>
        <targetPercentage>70%</targetPercentage>
      </configuration>
      <executions>
        <execution>
          <id>main</id>
          <phase>verify</phase>
          <goals>
            <goal>instrument</goal>
            <goal>check</goal>
          </goals>
        </execution>
      </executions>
    </plugin>
  </plugins>
</build>
```

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26

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27

Project documentation with a wiki

- Pros
 - Easier participation and collaboration of everyone
 - Even non-committers
 - Always published; WYSIWYG
 - Dynamic pages
 - Get code snippets from SVN
 - Mini-Applications like on the fly charts for development metrics, etc
- Cons
 - Versioned separately from the sources
 - More complex to package
 - Difficult to send patches/diffs
 - Cannot work offline

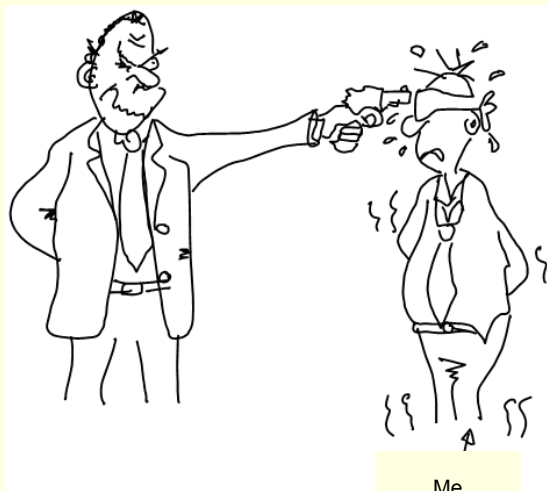
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28

XWiki demo

Questions



Example:

<http://www.bestventes.com>

Avant d'acheter, consultez ce qui se vend le mieux !

RENTREZ UN MOT CLE

Meilleures Ventes mises à jour en continu !

Il s'agit de vendre le mieux !

ils viennent de rentrer dans le TOP 3 des Ventes

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31

Example: <http://www.curriki.org>

LOG IN | REGISTER

Find a Learning Resource or Search the Site

Welcome to Curriki

Curriki Home Page

Welcome to Curriki
The Global Education & Learning Community

Our mission is to improve education around the world by empowering teachers, students and parents with free and open source curricula.

Welcome

Access to basic knowledge and learning tools for our children should never be proprietary. In fact, this can and should be a basic right of every child. Yet, over 100 million kids around the world do not have access to these primary education tools. We want to change this. The benefits to providing universal access to an education are endless.

At Curriki, the sole mission is to educate. By building a world class learning environment that is community developed and supported, and publishing it for free on the Web, Curriki works to ensure that anyone, from anywhere can participate. [Read more](#)

Curriki in Your World of Educational Resources

ABOUT US

We are an interactive community of teachers, students and parents who use and share learning resources and curricula for K-12 instruction.

All of the lessons, assessments, resources and textbooks here are free and open source. They have been developed and reviewed by the Curriki community of educators and experts who know how important it is to have quality lessons and curricula available to support instruction around the globe.

Learn More about Curriki
Coming Soon. [Take a tour to see where we are going](#)

Join the Curriki Community

JOB NOW

The Curriki Community is comprised of thousands of people like you who want to create and use high-quality educational resources. Become a member so you can view and post resources and interact with other educators who are striving to provide the best possible K-12 education to children all over the world. And, it's free!

Featured Content

VIEW FEATURED CONTENT

Members of the community are adding resources every day. Take a look at some samples.

Contribute Content

Registered users are invited to contribute their Learning Resources. Please join us so you can contribute, too. [Join Curriki](#)

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32

Example:

<http://www.capdigital.com>

cap digital
data region

FR | EN CAP DIGITAL ASSOCIATION PROJET FINANCEMENT INTERNATIONAL ACTUALITE

Bienvenue sur Cap Digital

Cap Digital est l'un des trois pôles mondiaux français labellisés par le gouvernement en 2005. Il compte d'ores et déjà plus de 230 adhérents (PME, grandes entreprises et laboratoires publics), qui souhaitent travailler ensemble pour aborder une compétitivité et une visibilité internationale.

Le développement de la R&D, la croissance des entreprises, et la mise en réseau des organismes appliqués dans le **secteur numérique** sont au cœur de **Cap Digital** que se fixe Cap Digital.

29 novembre
Deuxièmes Rencontres Cap Digital - 13 novembre 2006 - Merci !
Vous êtes plus de 200 à participer à la deuxième édition des Rencontres Cap Digital le 13 novembre dernier ! En attendant le compte-rendu des Rencontres... [en savoir plus](#)

27 novembre
Prix européen ICT 2007
Participez au Prix européen ICT 2007 : 700 000 euros attribués. [en savoir plus](#)

27 novembre
Candidats au Carrefour des Possibles

4 décembre 2006
Serious Games Summit 2006 - LYON
Inscriptions : <http://www.sgamecock.com/> ou appelez Virginie Vega au 04 26 23 41 21 [en savoir plus](#)

12 décembre 2006 - 14 décembre 2006
Nicephore days 2006
L'édition 2006 combinera à la fois l'approche grand public et professionnelle. [en savoir plus](#)

30 janvier 2007
Atelier-workshop sur le thème de MxT
Le Pôle audiovisuel du Nord-Pas-de-Calais, en collaboration avec la Plate-forme Ant-Sciences-technologies, organise un atelier- [en savoir plus](#)

CONNECTION
Identification

CONTACT

PLAN DU SITE

FAQ

Quelles conditions faut-il remplir pour pouvoir adhérer à Cap Digital ?
Qu'est-ce qui me garantit que mon projet restera confidentiel lors du processus d'évaluation ?

CAP DIGITAL EN FLUX

Flux RSS

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33

Example:

<http://www.agrospheres.eu>

somme
LE CONSEIL GÉNÉRAL

AGROSPHÈRES

Une volonté marquée du Conseil général de la Somme de promouvoir la filière agri-agro.

IDENTIFIEZ-VOUS
DEVENIR MEMBRE

rechercher... CONTACT | QUOI DE NEUF | FAQ | AJOUTER À MES FAVORIS

LE CLUB ► PROJETS COLLABORATIFS ► L'ASSOCIATION ► ADHÉRENTS AGROSPHÈRES.EU ► DE PÔLES À PÔLES

L'UNIVERS

LE FORUM

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34

Example: <http://new.uaic.ro>

UNIVERSITATEA ALEXANDRU IOAN CUZA

Home Universitate Academic Cercetare Resurse WebHome Studenți

„Misiunea oricărei Universități nu este numai de a răspândi știința dar și de a ajunge să creeze ea însăși valori, însușind vocații și întretinând focul sacru la generațiile care i se prezintă”
Ștefan Procopiu

Viziune
Universitatea "Alexandru Ioan Cuza" este o universitate care are propriul său caracter. Are acea individualitate care o face diferită: sobră, dar inventivă, solidă, dar cu proclamații oricând să facă față provocărilor. Promeratul este înălțarea caracteristicilor a acestei universități. La Universitatea din Iași oamenii discută între ei, colaborează din diverse domenii, cooperează și ajung la realizări care sunt recunoscute la nivel internațional. Alți profesori cât și studenți sunt angajați în procesul de reînnoire: universitatea și sectorul comercial sunt în strâns contact. Fiește toate acestea, Iașul este un oraș cu o atmosferă patriarhală deosebit de plăcută, care atrage studenți ca un magnet. Ei sunt cei care conferă tinerețe universității și orașului. Universitatea "Alexandru Ioan Cuza" este o universitate clasică ce va și să înfrunte provocările viitorului.

Citește mai mult în secțiunea Universitate

Noutăți și comunicate de presă
novembre 27, 2006
Analiza Procesului Bologna la Universitatea „Alexandru Ioan Cuza”
Spectacol caritabil pentru ajutorarea unui student de la Geografie
novembre 22, 2006
Practică în străinătate, pentru studenții de la drept
novembre 10, 2006
Încă două titluri de studiu francofone

Evenimente
Spectacol caritabil
Liga Studenților Geografi și Geologi organizează un spectacol caritabil în sprijinul colegului lor, Alexandru Luchici, care a suferit un grav accident și necesită o intervenție costisitoare în China.
Dezvoltarea comunităților prin industrii creative
Organizat de British Council în colaborare cu Universitatea "Alexandru Ioan Cuza", evenimentul va prezenta ideile de proiect concepute de tinerii care au participat la Școala de toamnă de la parcul tehnologic Tehnopolis.

Contact
Bulevardul Carol I, Nr.11, 700506
Iasi, România
T:+40 (232) 201000
F:+40 (232) 201201
E:contact@uaic.ro

Chestionar Web
Vă rugăm să completați Chestionariul nostru

Universitatea "A.I. Cuza" este membră a:

Acces eMail

Home | Ultima actualizare: 2006/11/28 14:47 Despre site — © 2006 UAIC

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35

Example:

<http://www.bonita.org>

Bonita | The Open Source Workflow project

ObjectWeb

Search :

Home Professional support Success stories Ressource Partners Download Community Developer's corner

Overview
Bonita is a workflow/BPM solution for handling long-running, user-oriented workflows providing out of the box workflow functionalities to handle your business processes.
Bonita is Open Source and is [downloadable](#) under the [LGPL License](#).

Main benefits

- Improve the efficiency of collaborative work with Bonita: a team shares a common view of the current tasks, each individual can have real-time awareness about what is going on.
- Reduce costs and risks by automating person-to-person and system-to-system processes. Processes can span over organizations and geographical locations.
- Handle efficiently unexpected situations: Bonita allows you to securely and dynamically modify the

Preview Bonita Now
[Explore the demo](#) and see how Bonita workflow can be leveraged to validate documents contained in a Java Content Repository.

Getting started !
A complete walkthrough of Bonita can be found in the [Bonita reference manual](#), in addition to a "trilogy" of articles published on TheServerSide community:
The Bonita article [Part one](#) provides everything you'll need to know about getting started with Bonita v2 Series.

Community

- Bonita Forum index
- Bonita Mailing list
- Bonita People
- Contact us !

Recent News

- Meeting in Berlin
- Bonita referenced by the EU
- Bonita v2 is out !!
- Bonita-eko at ObjectWebCode
- Bonita and eko hand in hand
- View all News

Professional Support

More Information

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36