

Phing

Comment Phing est devenu mon meilleur ami
?

Paris, Forum PHP 2012

Qui ?

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Programmation Objet, Frameworks, Design Patterns, Industrialisation, tests unitaires, DI, AOP,
MongoDB, Agilité, Scrum, CI, ...



Code inside

La boite à outils d'un projet



Pas convaincu ?

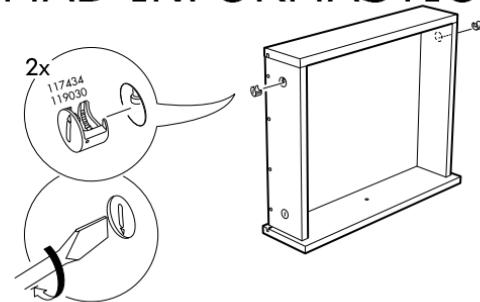


```
mysqldump --compress --extended-  
insert=FALSE --no-create-db --  
host=${importFromDbHost} -u  
${importFromDbLogin} --  
password=${importFromDbPassword} --  
ignore-  
table=${importFromDatabaseName}.logs  
${importFromDatabaseName} script.sql  
sed 's/\(\(http\|s\|\?\)\:\\\\)\?\([a-zA-Z0-9]  
\+\.\)\+\(site\.org\|mon\|site\|top\.  
com\|monsitetop\.com\)\localhost\\4\\5/g'  
script.sql
```

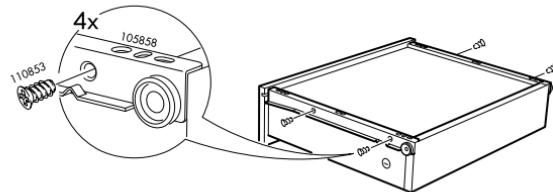
La documentation pour sauver le monde

SYSTËMAD INFÖRMASTIONAKD

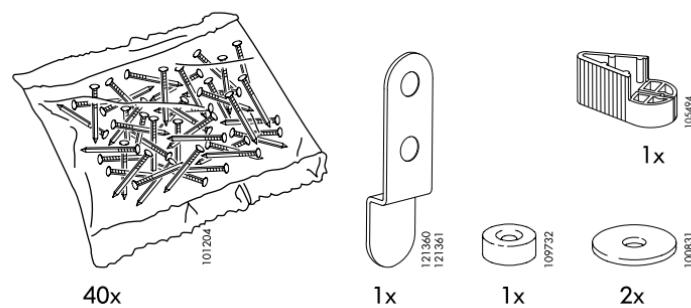
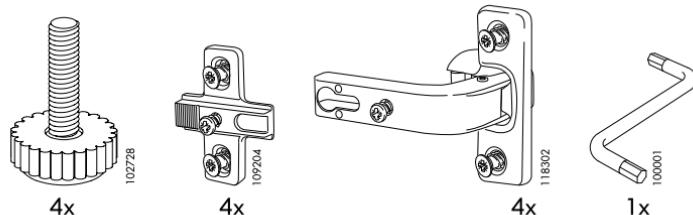
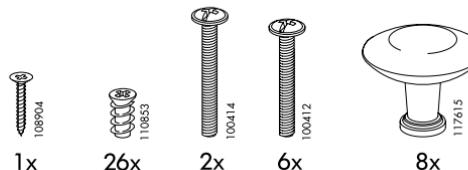
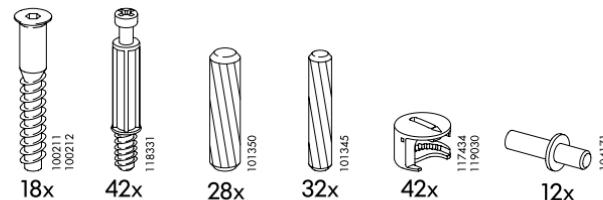
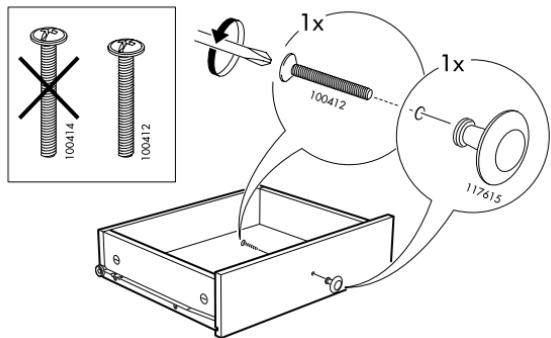
6



7



8



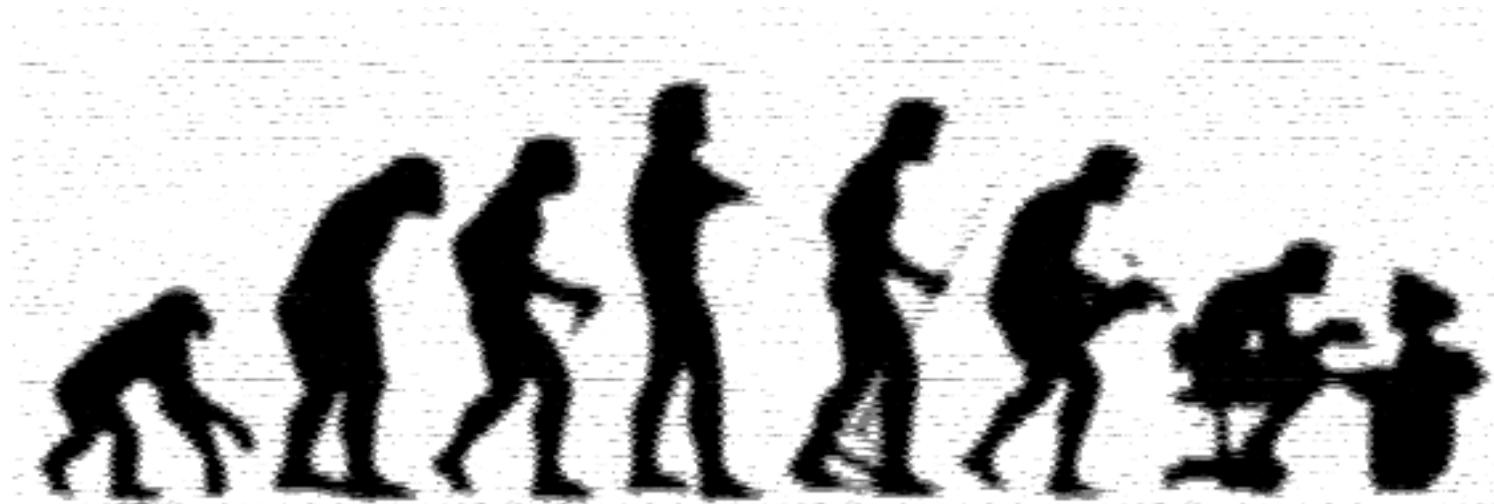
La situation cible



Pourquoi un outils de build ?

L'homme n'est pas parfait

- Il oublie
- Il se trompe
- Il n'a pas toujours envie
- Il a toujours mieux à faire



Travaillez dur !

... à devenir feignant

Revenons sur Phing

(PH)ing (I)s (N)ot (G)NU make
<http://www.phing.info>



<https://github/phingofficial/phing>

<http://ant.apache.org>



Pourquoi Phing ?

- Facile à installer
- Ecrit en PHP
- Nombreuses tâches natives...
- ... qui intègrent les outils spécifiques à PHP
- Facile à étendre...
- ... directement dans le fichier de build

Installation



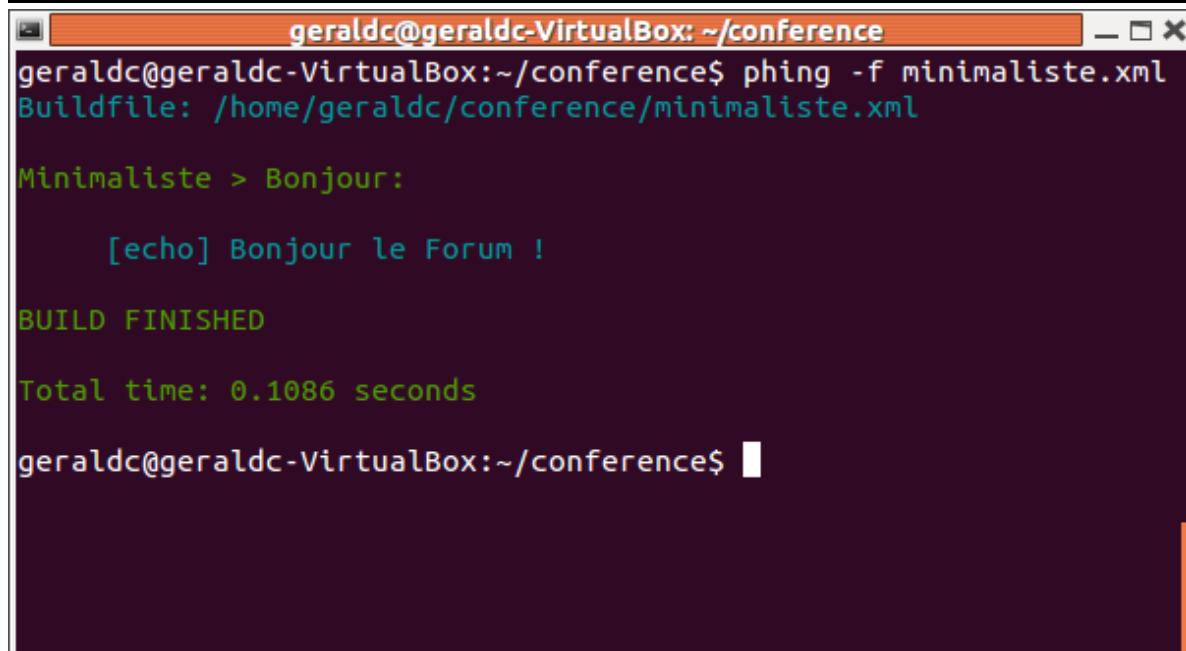
```
$> pear channel-discover  
pear.phing.info
```

```
$> pear config-set  
preferred_state beta
```

```
$> pear install --alldeps  
phing/phing
```

Le fichier build minimaliste

```
<project name="Minimaliste" default="Bonjour">
  <target name="Bonjour">
    <echo>Bonjour le Forum !</echo>
  </target>
</project>
```



A screenshot of a terminal window titled "geraldc@geraldc-VirtualBox: ~/conference". The command entered is "phing -f minimalist.xml". The output shows:

```
geraldc@geraldc-VirtualBox:~/conference$ phing -f minimalist.xml
Buildfile: /home/geraldc/conference/minimaliste.xml

Minimaliste > Bonjour:
  [echo] Bonjour le Forum !

BUILD FINISHED

Total time: 0.1086 seconds

geraldc@geraldc-VirtualBox:~/conference$ █
```

```
$> phing -projecthelp
```

Liste les cibles possibles.

```
$> phing -f file.xml
```

Permet de spécifier un fichier build spécifique

```
$> phing cible
```

Permet d'indiquer la cible à lancer

Lexique

Tâche

- Action spécifique et unitaire (Copie de fichiers, Lancement de tests, génération de métriques, ...)

Cible

- Regroupe un ensemble de tâches configurées pour atteindre un objectif particulier

Téléchargement de librairies tierces

Téléchargement http, VCS, Appels groupés,
uniquement si manquant

Télécharger des librairies

```
<project name="download" default="atoum" description="Téléchargement du
phar de atoum">

<target name="atoum">
    <echo message="Téléchargement de atoum..." />
    <delete dir=".libs/atoum" />
    <mkdir dir=".libs/atoum" />

    <httpget
        url="http://downloads.atoum.org/nightly/mageekguy.atoum.phar"
        dir=".libs/atoum" filename="atoum.phar"
    />
</target>
</project>
```

Télécharger des librairies via VCS

```
<target name="doctrine">
    <property name="doctrine.path" value=".libs/doctrine/" />
    <resolvepath propertyName="doctrine.path" file="${doctrine.path}" />
    <delete dir="${doctrine.path}" />
    <mkdir dir="${doctrine.path}" />

    <gitclone
        repository="git://github.com/doctrine/doctrine2.git"
        targetpath="${doctrine.path}"
    />

    <gitcheckout
        repository="${doctrine.path}/"
        branchname="2.2.1" />
</target>
```

Télécharger des librairies via VCS - 2

```
<target name="doctrine_2">
    <property name="doctrine.path" value="./libs/doctrine/" />
    <resolvepath propertyName="doctrine.path" file="${doctrine.path}" />
    <delete dir="${doctrine.path}" />
    <mkdir dir="${doctrine.path}" />

    <exec command="git clone git://github.com/doctrine/doctrine2.git ./"
        dir="${doctrine.path}"
        logoutput="true" />
    <exec command="git checkout 2.2.1"
        dir="${doctrine.path}"
        logoutput="true" />
    <exec command="git submodule update --init --recursive"
        dir="${doctrine.path}"
        logoutput="true" />
</target>
```

Tout télécharger...

```
<project name="download" default="all"
```

Uniquement si manquant

```
<target name="update_atoum">
  <available file="./tests/mageekguy.atoum.phar"
    property="atoum.exists"
    value="Yes"
  />

  <if>
    <equals arg1="${atoum.exists}" arg2="Yes" />
    <then>
      <echo message="No need to update atoum" />
    </then>
    <else>
      <httpget url="http://downloads.atoum.org/nightly/mageekguy.atoum.phar"
        dir="tests" />
    </else>
  </if>
</target>
```

If / then / else

- not
- or
- and
- equals
- isset
- contains
- istrue
- isfalse
- referenceexists
- available

```
<if>
    <equals arg1="${first}" arg2="${sec}" />
    <then>
        <task ... />
    </then>

    <elseif>
        <equals arg1="${first}" arg2="${third}" />
        <then>
            <task ... />
        </then>
    </elseif>

    <else>
        <task ... />
    </else>
</if>
```

Committer si la version est plus récente

```
<target name="update_atoum">
    <exec command="php -n ./tests/mageekguy.atoum.phar -v"
          outputProperty="version.before" />
    <httpget url="http://downloads.atoum.org/nightly/mageekguy.atoum.phar"
              dir="tests" />
    <exec command="php -n ./tests/mageekguy.atoum.phar -v"
          outputProperty="version.after" />
    <if>
        <equals arg1="${version.before}" arg2="${version.after}" />
        <then>
            <echo message="atoum is already up to date" />
        </then>
        <else>
            <echo message="Updating from ${version.before} to ${version.after}"/>
            <exec command='git commit -m "${version.after}" ./tests/mageekguy.
atoum.phar' logoutput="true"/>
        </else>
    </if>
</target>
```

Génération de documentation

DocBlox / PhpDocumentor, Sélection de fichiers

FileSet

- Sélection d'un ensemble de fichiers

```
<fileset dir=".//sources/" includes="**/*.php" excludes="**/test_*.php" />

<fileset dir=".//sources/">
    <include name="classes/*.php" />
    <include name="**/*.html" />
    <exclude name="**/*back*" />
</fileset>
```

- Crédit de sélections réutilisables

```
<fileset dir=".//sources/"
    includes="**/*.php"
    id="fichiers.php" />

<sometask>
    <fileset refid="fichiers.php" />
</sometask>
```

Expressions de fichiers

- * une partie du nom
- ** une partie du chemin

*.html : tous les fichiers html

**/*.html : les fichiers html de l'arborescence

test**.php : les fichiers php dont le chemin commence par test

/test/ : les fichiers dont le chemin contient un répertoire test

PatternSet

- Définition de critères

```
<patternset id="fichiers.php.notest">
  <include name="**/*.php" />
  <include name="**/*.inc" />
  <exclude name="**/test/**" />
</patternset>
```

- Utilisation des critères dans FileSet

```
<fileset dir=".sources/">
  <patternset refid="fichiers.php.notest" />
</fileset>
```

Générer une documentation

```
<project name="documentation" default="doctrine">
    <target name="doctrine">
        <delete dir=".//documentation/doctrine" />
        <mkdir dir=".//documentation/doctrine" />

        <phpdoc2 title="Documentation technique doctrine" destdir="documentation/doctrine">
            <fileset dir=".//libs/doctrine/lib/Doctrine/">
                <include name="**/*.php" />
            </fileset>
        </phpdoc2>
    </target>
</project>
```



Lancez les tests unitaires

PHPUnit, atoum

Avec PHPUnit

```
<target name="test">
    <echo msg="Launching tests" />
    <phpunit processisolation="true" haltonerror="true"
              haltonfailure="true" haltonincomplete="true"
              haltonskipped="true">
        <batchtest>
            <fileset dir=".tests">
                <include name="**/*Test*.php"/>
            </fileset>
        </batchtest>
    </phpunit>
</target>
```

Avec atoum

```
<target name="test">
    <atoum
        atoumpharpath="./tests/mageekguy.atoum.phar"
        phppath="/usr/bin/php"
        codecoverage="true"
        codecoveragereportpath="./coverage/"
        showcodecoverage="true"
        showmissingcodecoverage="true"
        showprogress="true"
        showmemory="true"
        showduration="true"
        maxchildren="2"
    >
    <fileset dir="./tests/units">
        <include name="**/*.php" />
    </fileset>
</atoum>
</target>
```

Création de PHAR

Uniquement si les tests unitaires passent correctement, sans les commentaires php ni les fichiers de tests

PharPackage

```
<target name="phar" depends="test,preparebuild">
  <pharpackage
    destfile="build/libraries.phar"
    basedir="/"
    stub="stub.php"
  >
  <fileset dir="sources">
    <include name="**/**" />
  </fileset>
  <metadata>
    <element name="version" value="${version}" />
    <element name="authors">
      <element name="Gérald Croës">
        <element name="e-mail" value="gerald@croes.org" />
      </element>
    </element>
  </metadata>
</pharpackage>
</target>
```

Les filtres

- Utilisable dans certaines fonctions de fichiers (copy & move en particulier)
- <filterchain>
 - Iconv
 - LineContains
 - ReplaceTokens
 - ReplaceRegexp
 - StripLineBreaks
 - StripPhpComments
 - StripWhitespace
 - TabToSpace
 - Tidy
 - Xslt

En utilisant les filtres...

```
<target name="phar" depends="test,preparebuild">
    <copy todir="./build/phar2" overwrite="true">
        <fileset dir="./Oktopus">
            <include name="**/*.php" />
        </fileset>
        <filterchain>
            <stripphpcomments />
            <stripwhitespace />
        </filterchain>
    </copy>

    <pharpackage
        destfile="build/libraries.phar"
        ...
    </pharpackage>
```

Mappers

Transformation des chemins

- flatten
- glob
- regexp
- merge

Exemple avec JpGraph 1/2

```
<httpget url="http://jpgraph.net/download/download.php?p=5"
          dir="../downloads/"
          filename="jpgraph.tar.gz" />

<untar file="../downloads/jpgraph.tar.gz"
        todir="../downloads/extracted/" />

<move todir="../downloads/jpgraph">
  <mapper type="regexp" from="jpgraph\-.*/src/(.*)" to="\1" />
  <fileset dir="../downloads/extracted/">
    <include name="jpgraph*/src/**" />
    <exclude name="jpgraph*/src/**.php" />
    <exclude name="**/Examples/**" />
  </fileset>
</move>
```

Exemple avec JpGraph 2/2

```
<move todir="./downloads/jpgraph">
  <mapper type="regexp" from="jpgraph\-.*/src/(.*)" to="\1" />
  <fileset dir="./downloads/extracted/">
    <include name="jpgraph*/src/**.php" />
    <exclude name="**/Examples/**" />
  </fileset>
  <filterchain>
    <stripwhitespace />
  </filterchain>
</move>

<pharpackage
  destfile="./build/jpgraph_striped.phar"
  basedir="./"
>
  <fileset dir="./downloads/jpgraph/">
    <include name="**" />
  </fileset>
  <metadata>
  </metadata>
</pharpackage>
```

Supression de fichiers temporaires

Qui datent de plus de X jours, qui
contiennent des données particulières...

Simple suppression

```
<target name="deletecache">
  <delete includeemptydirs="true">
    <fileset dir="tmp">
      <include name="**.php" />
    </fileset>
  </delete>
</target>
```

Sélecteurs utilisables dans FileSet

- contains
- date
- depend
- depth
- filename
- present
- containsregexp
- size
- opérateurs
- and
- majority
- none
- not
- or
- selector

Suppression plus fine

```
<target name="deletecache">
  <delete includeemptydirs="true">
    <fileset dir="tmp">
      <date datetime="-4 week" when="before" />
      <include name="**.php" />
    </fileset>
  </delete>
</target>
```

- Avec plusieurs critères

```
<target name="deletecache">
  <delete includeemptydirs="true">
    <fileset dir="tmp">
      <and>
        <date datetime="-4 week" when="before" />
        <contains text="Temporaire" casesensitive="false" />
      </and>
      <include name="**.php" />
    </fileset>
  </delete>
</target>
```

Mettre une archive à disposition

Lancement des tests unitaires, Copie des sources, compression des js & css, compression zip & tar.gz, mise en place de la version, envois sur un serveur en ftp / en ssh

Archive simple + meta-données 1/3

```
<target name="make.download" depends="unittest,preparebuild">
    <tstamp />
    <copy todir="./build/downloads" overwrite="true">
        <fileset dir=".Libraries">
            <patternset refid="files.sources" />
        </fileset>
        <filterchain>
            <replacetokens begintoken="@@" endtoken="@@">
                <token key="version" value="nightly ${DSTAMP}" />
            </replacetokens>
        </filterchain>
    </copy>
    <copy todir="./build/downloads" overwrite="true">
        <fileset dir=".Libraries">
            <patternset refid="files.allbutsources" />
        </fileset>
    </copy>
    ...

```

Archive simple + meta-données 2/3

```
...
<fileset dir=".build/downloads/" id="files.download">
    <include name="**" />
</fileset>

<tar destfile=".build/libraries.tar.gz" compression="gzip">
    <fileset refid="files.download" />
</tar>
<tar destfile=".build/libraries.tar.bz2" compression="bzip2">
    <fileset refid="files.download" />
</tar>
<zip destfile=".build/libraries.zip">
    <fileset refid="files.download" />
</zip>

...
```

Archive simple + meta-données 3/3

```
...
<fileset id="files.nightly">
    <include name="./build/libraries.tar.gz" />
    <include name="./build/libraries.tar.bz2" />
    <include name="./build/libraries.zip" />
</fileset>

<ftpdeploy host="${ftp.server}" port="${ftp.port}"
           username="${ftp.user}" password="${ftp.pass}"
           dir=".nightly" mode="binary" clearfirst="true">
    <fileset refid="files.nightly" />
</ftpdeploy>
... ou ...
<scp username="${ssh.user}" password="${ssh.password}" host="${ssh.host}"
      todir="/var/www/downloads/nightly">
    <fileset refid="files.nightly" />
</scp>
</target>
```

Boucle foreach

<foreach>

- param
- absparam
- target

```
<target name="showhtml" description="Affiche la liste des fichiers HTML">
    <foreach target="echo" param="filename" absparam="absfilename">
        <fileset refid="fileset.all_html" />
    </foreach>
</target>

<target name="echo">
    <echo msg="\${filename} => \${absfilename}" />
</target>

<!-- Autre type d'itération -->
<foreach list="premier,second,troisieme" param="position" target="cible"
/>
```

Compression des css & js

```
...
<foreach param="filename" absparam="absfile" target="yui.minify">
    <fileset dir="${build.dir}/css">
        <include name="*.css" />
        <include name="*.js" />
    </fileset>
</foreach>
...
...
```

- YUICompressor

```
<target name="yui.minify">
    <exec command="java -jar yuicompressor.jar ${absfile} -o ${absfile}" />
</target>
```

Export / Import de données

Fichier de configuration, Export des
données, Traitement des données, Import
des données

Récupération de la base de données

```
<exec command="mysqldump --compress --no-create-db --no-data --
host=${importFromDbHost} -u ${importFromDbLogin} --
password=${importFromDbPassword} ${importFromDatabaseName}" escape="
false" checkreturn="true" output="build/install_structure.sql" />

<exec command="mysqldump --compress --extended-insert=FALSE --no-create-db
--host=${importFromDbHost} -u ${importFromDbLogin} --
password=${importFromDbPassword} --ignore-table=${importFromDatabaseName} .
logs ${importFromDatabaseName}" escape="false" checkreturn="true"
output="build/install.sql" />

<exec command="mysql --host ${importToDbHost} --user ${importToDbLogin} --
database ${importToDatabaseName} --password=${importToDbPassword} &lt;
build/install_structure.sql" escape="false" checkreturn="true" />

<exec command="mysql --host ${importToDbHost} --user ${importToDbLogin} --
database ${importToDatabaseName} --password=${importToDbPassword} &lt;
build/install.sql" escape="false" checkreturn="true" />
```

Fichiers de propriétés

- De simples fichiers "ini"

```
#Les paramètres de connexion à la base de données à importer  
importFromDbHost=diablo2.battle.net  
importFromDbLogin=Wirt  
importFromDbPassword=The peg leg  
importFromDatabaseName=Tristram
```

```
#Où sera copiée la base de données à importer  
importToDbHost=diablo3.battle.net  
importToDbLogin=Deckard  
importToDbPassword=Cain  
importToDatabaseName=Tristram
```

```
<property file="build.properties" />
```

Propriétés natives

- env.*\$_SERVER.
- host.fstype UNIX, WINNT, WIN32
- host.os PHP_OS
- line.separator "\n", "\r\n", "\r"
- phing.file
- phing.home
- phing.version
- phing.project.name
- php.classpath
- php.version
- project.basedir

Demandes de confirmation

input

- **propertyName**
- **validArgs**

```
<input propertyName="confirmation" validArgs="oui,non">
Êtes vous bien sûr de vouloir écraser la base ${from.db}@${from.host} par
le contenu de la base ${to.db}@${to.host} ?
</input>
```

- Traitement normal de la propriété...

```
<if>
  <equals arg1="${confirmation}" arg2="non" />
  <then>
    <fail message="Abandon de l'installation par l'utilisateur" />
  </then>
</if>
```

Etendre Phing, création de tâche

- Définition de la tâche

```
MyTask extends Task
{
    private $param;
    public function setParam($value)
    {
        $this->param = $value;
    }
    public function main ()
    {
        //code de la tâche
    }
}
```

- Inclusion de la tâche

```
<taskdef name="tache" classname="repertoire.sousrepertoire.tache" />
```

Création de tâches dans le fichier de build

```
<target name="stuff">
    <adhoc-task name="SimpleTache"><![CDATA[
        SimpleTache extends Task
        {
            private $param;
            public function setParam($value)
            {
                $this->param = $value;
            }
            public function main ()
            {
                //code de la tâche
            }
        } ]]>

        <simpletache param="foo" />
    </target>
```

Conversion d'url

Lançons l'éditeur de code, cela ne tiendra jamais sur un slide...

Pendant ce temps, sachez que l'on peut tout étendre : tâches, filtres, sélecteurs, mappers, types,

...

Création d'un autoloader

Utiliser une propriété de type FileSet

Phing + Jenkins

La vie est plus belle avec des graphiques...

En quelques mots

- Build automatique
- PhpCS
- PhpMD
- PhpCPD
- xUnit
- Greenballs
- HTMLPublisher
- Git / Svn / CVS
- Phing

En image

The screenshot displays two side-by-side browser windows. The left window is a Jenkins instance at localhost:8080/job/AlptisLibraries/, titled "Jenkins". It shows the "Projet AlptisLibraries" dashboard with various build artifacts like Documentation, Code Coverage, and HTML Report. The right window is a Hudson instance at localhost:8080/job/AlptisLibraries/108/console, titled "Sortie Console". It shows the build log for revision b6e38f298cb69ad952d7ad1a950ac05381cd8 (origin/develop). The log includes commands like "phingcall" and "checkAtoum", and PHP version information. Below the log is a chart titled "Tendance des résultats des tests" showing a green shaded area representing the trend of test results.

Jenkins Dashboard (Left Window)

- Retour au tableau de bord
- Statut
- Modifications
- Espace de travail
- Lancer un build
- Supprimer ce Projet
- Configurer
- Résultats Checkstyle
- Résultats PMD
- Documentation
- Code Coverage
- HTML Report
- Espace de travail
- Log du dernier accès à Git

Projet AlptisLibraries

- Documentation
- Code Coverage
- HTML Report
- Espace de travail
- Changements récents

Historique des builds (tendance)

Build #	Date
#112	30 mai 2012 09:16:47
#111	9 mai 2012 12:02:31
#110	9 mai 2012 11:47:23
#109	9 mai 2012 11:43:24
#108	19 avr. 2012 09:18:21
#107	12 avr. 2012 09:22:25
#106	9 avr. 2012 21:33:19
#105	7 avr. 2012 22:38:29
#104	5 avr. 2012 14:29:30
#103	2 avr. 2012 11:49:48
#102	26 mars 2012 09:32:42

Hudson Build Log (Right Window)

```
Un changement dans la base de code a provoqué le lancement de ce job
Checkout:workspace / /var/lib/jenkins/jobs/AlptisLibraries/workspace - hudson.remoting.LocalChannel@1628381
Using strategy: Default
Last Built Revision: Revision b6e38f298cb69ad952d7ad1a950ac05381cd8 (origin/develop)
Checkout:workspace / /var/lib/jenkins/jobs/AlptisLibraries/workspace - hudson.remoting.LocalChannel@1628381
Fetching changes from 1 remote Git repository
Fetching upstream changes from gitolite@aely158-vm:AlptisLibraries
Seen branch in repository origin/HEAD
Seen branch in repository origin/develop
Seen branch in repository origin/master
Commencing build of Revision 5b8afaa22b0c871a29b401c8d1b0d02e7390260d (origin/HEAD, origin/master)
Checking out Revision 5b8afaa22b0c871a29b401c8d1b0d02e7390260d (origin/HEAD, origin/master)
Warning : There are multiple branch changesets here
looking for '/var/lib/jenkins/jobs/AlptisLibraries/workspace/phing/build.xml'...
[phing] $ /home/geraldc/phing/bin/phing -buildfile build.xml all -logger phing.listener.DefaultLogger
Buildfile: /var/lib/jenkins/jobs/AlptisLibraries/workspace/phing/build.xml

AlptisLibraries > all:
[phingcall] Calling Buildfile '/var/lib/jenkins/jobs/AlptisLibraries/workspace/phing/build.xml' with target
'preparebuild'

AlptisLibraries > preparebuild:
[delete] Deleting directory /var/lib/jenkins/jobs/AlptisLibraries/workspace/builds/pdepend
[delete] Deleting directory /var/lib/jenkins/jobs/AlptisLibraries/workspace/builds/phpmd
[delete] Deleting directory /var/lib/jenkins/jobs/AlptisLibraries/workspace/builds/checkstyle
[mkdir] Created dir: /var/lib/jenkins/jobs/AlptisLibraries/workspace/builds/pdepend
[mkdir] Created dir: /var/lib/jenkins/jobs/AlptisLibraries/workspace/builds/phpmd
[mkdir] Created dir: /var/lib/jenkins/jobs/AlptisLibraries/workspace/builds/checkstyle
[phingcall] Calling Buildfile '/var/lib/jenkins/jobs/AlptisLibraries/workspace/phing/build.xml' with target
'test'

AlptisLibraries > checkAtoum:
[echo] Atoum already downloaded

AlptisLibraries > test:

Atoum version: nightly-1008-201203051629
Atoum path: phar:///var/lib/jenkins/jobs/AlptisLibraries/workspace/builds/tests/atoum.phar/1
Atoum author: Frédéric Hardy
PHP path: /usr/bin/php5

PHP version:
PHP 5.3.6-13ubuntu3.6 with Suhosin-Patch (cli) (built: Feb 11 2012 02:17:16)
Copyright (c) 1997-2011 The PHP Group
Zend Engine V2.3.0, Copyright (c) 1998-2011 Zend Technologies
with Xdebug v2.1.3, Copyright (c) 2002-2012, by Derick Rethans

Alptis\ActiveDirectory\Repositories\tests\units\Functionnals_RepositoryUtilisateurActiveDirectory : [SSS] 12.81
s 1.58 Mb
Alptis\ActiveDirectory\Repositories\tests\units\Functionnals_SsoClient : [S] 0.68 s 0.50 Mb
```

Tendance des résultats des tests

Des questions avant de se dire au revoir ?

