Phing User Guide

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Preface

PHing **I**s **N**ot **GN**U make; it's a PHP project build system or build tool based on Apache Ant. You can do anything with it that you could do with a traditional build system like GNU make, and its use of simple XML build files and extensible PHP "task" classes make it an easy-to-use and highly flexible build framework. Features include running PHPUnit and SimpleTest unit tests (including test result and coverage reports), file transformations (e.g. token replacement, XSLT transformation, Smarty template transformations), file system operations, interactive build support, SQL execution, CVS/SVN operations, tools for creating PEAR packages, documentation generation (DocBlox, PhpDocumentor) and much more.

If you find yourself writing custom scripts to handle the packaging, deploying, or testing of your applications, then we suggest looking at the Phing framework. Phing comes packaged with numerous out-of-the-box operation modules (tasks), and an easy-to-use OO model for adding your own custom tasks.

Phing provides the following high level features:

- Easy to read XML buildfiles

- Rich set of predefined tasks

- Easily extendible via PHP classes

- Platform-independent: works on UNIX, Windows, MacOSX

- No required external dependencies apart from a working PHP5 installation

- Built & optimized for ZendEngine2/PHP5

Chapter 1. About this book

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1.2. Copyright

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1.3. License

This documentation is made available under the GNU Free Document License (see Section A.6, "The GFDL License")

```
Copyright (c) 2002 - 2013, The Phing Group

Permission is granted to copy, distribute and/or modify this document
under the terms of the GNU Free Documentation License, Version 1.1 or
any later version published by the Free Software Foundation;
```

1.4. DocBook

All Phing reference documentation is written using the DocBook5 XML markup (see DocBook Project [http://docbook.sourceforge.net/]). The main advantage with DocBook is that it is a single source but multiple outputs. These document sources can be rendered into many possible output formats such as (X)HTML, PDF, EPub, Webhelp, RTF, Text and many more. Another advantage, inherit with the

text based XML format, is that the document sources are all completely text based written using UTF-8 encoding. Only a plain text editor is required to extend or edit this documentation.

However, XML tends to be quite verbose and even if a plain text editor technically is all that is needed the actual entering of text will be made much easier with custom XML editor. These editors can be used to hide the XML tags and do auto-completion and on-the-fly validation to make sure that what is written is a valid DocBook5 document.

To work with the documentation we recommend to use one of the free XML/DocBook aware editors available. For example

- Emacs with the nXML mode (see nXML mode [http://www.thaiopensource.com/nxml-mode/])

- Serna Free, (Free of charge) A Java based XML editor with extended support for DocBook5 (see Serna Free - Open Source XML Editor [http://www.syntext.com/products/serna-free/])

- XMLMind XML Editor, Personal Edition (Free of charge), A java based XML editor with extended support for DocBook5 (see XMLMind Personal Edition [http://www.xmlmind.com/xmleditor/persoedition.html])

The sources for the documentation are included under the `docs/docbook5` directory. The DocBook sources are split into several files in order to make it more maintainable using the XML standard `XInclude` (see XML Inclusions (XInclude) Version 1.0 [http://www.w3.org/TR/xinclude/]).

For the writing of the book only a subset of all available DocBook elements are used as shown in Section 1.4.4, "DocBook v5 elements used in the manual and their meaning"

As of this writing the build process has been validated using version 1.78.1 of the DocBook5 stylesheets.

> **Important**
>
> Make sure all documentation is written using UTF-8 text encoding.

1.4.1. Building the documentation

In order to build the documentation it is necessary to have the DocBook5 XSL stylesheets installed together with "`xsltproc`" which is used to transform the source into various output formats. In addition, to build the versions (either HTML or PDF) that supports highlighting of included source (within the `<programlisting>` element) the `Saxon 6.5.5` XSL processor must be used. This is necessary since the syntax highlighting in DocBook is based on a Java extension (`xslthl-2.x.x`) which requires a Java based processor (such as Saxon).

> **Tip**
>
> The easiest way to setup a complete build environment for DocBook5 for people new to DocBook is to install a clean version of Debian 7.x and then run the "`deb-setup.sh`" shell script. This will create a fully tested and working build environment for DocBook5 as it is used with Phing. This could easily be done using a virtual setup (for example using VirtualBox).

All DocBook sources are structured in a tree under `docs/docbook5`. The top level is the language of the manual. As of this writing only an English manual is available and hence the only top level direc-

tory available is "`en`". Under this directory the following structure applies (also for any new language translation that is added):

```
### scripts
### source
#   ### appendixes
#   ### chapters
### stylesheets
    ### css
    #   ### img
    ### xsl
        ### images
```

All document sources are stored under the subdirectory "`source`" and the master document is aptly named "`master.xml`". This document pulls in all chapters and appendixes in the right order. For example, new tasks added should normally be documented in the "`appendix/optionaltasks.xml`" file. Look at the existing tasks and follow the same structure.

> ⚠️ **Important**
>
> In order to get highlighting to work both the "`xslthl-2.x.x.jar`" package must be installed as well as Saxon 6.5.x. The jar file must be installed somewhere in the `CLASSPATH`, for example "`/usr/share/java`" if you run this on Linux. The xslthl package is available on SourceForge, please see XSLT syntax highlighting [http://sourceforge.net/projects/xslthl/]. By using the automated setup for Debian 7.x all these dependencies will be taken care of!

The customized stylesheets used are stored under "`stylesheets`" which uses one sub-folder for the customized XSL stylesheets (responsible for the transformation from DocBook to the chosen output format) and one sub-folder for the CSS stylesheets used to give the generated HTML documents there "*look & feel*".

Finally the "`scripts`" directory stores utility scripts. This currently contains two scripts, `deb-setup.sh` and "`hlsaxon`". The first scripts helps to create a full build environment for DocBook5 starting with a clean Debian 7 installation. This is meant to help people new to DocBook5 to get a working build environment as easy as possible. This script takes care of all detailed setup and will make a fulloy working DocBook5 build environment out-of-the-box.

The second script (`hlsaxon`) is wrapper file used from the buildfiles to call the Saxon translator (a Java based XSL procesor) with highlighting enabled and suitable paths to supporting libraries In this script the path to the DocBook installed stylesheets must be adjusted depending on your system (unless the automated setup have been used - with the `deb-setup.sh` file which takes care of that setup automatically). Mutatis mutandis.

In order to drive the transformation a Phing build script is available in the docbook root, `build.xml`. The build script supports the following public targets

```
all*        Builds all available targets (default)
chunk       Builds the chunked HTML
clean       Removes all output files
epub        Builds the EPUB version
hlhtml      Builds the HTML version with syntax highlight
hlpdf       Builds the PDF version with syntax highlight
html        Builds the HTML version
htmlfancy   Builds the HTML version with an alternative styling for screen output
pdf         Builds the PDF version
webhelp     Builds the webhelp version (Note: This requires Java and Ant to be installed!)
validate    Validates all sources against the DocBook5 grammar
```

All generated output is stored under the directory "`output`" (which is created if it doesn't exist) with a subdirectory corresponding to the name of the chosen output format.

1.4.2. Template for new tasks

For creating documentation for new tasks the easistes thing is to use the included template `template_for_tasks.xml` which is a skeleton tasks with all commonly used elements. This will ensure a correct setting of all attributes. The skeleton can then be added to a suitable appendix as needed.

> **Note**
>
> All new task description should go into one of the Appendices.

1.4.3. Customization of the look & feel of the rendered outputs

> **Note**
>
> The following section is only meant for the maintainers that work on the core layout of the official Phing manual and is not necessary for developers adding documentation for new tasks of improving documentation for existing tasks.

Furthermore, by necessity this assumes a rudimentary knowledge of Docbook5 bubild process and what XSL and CSS stylesheets are. It is not possible in this short space to give a full description of that setup.

XSL Customization layer

All DocBook5 renderings are started from one of the customized XSL stylesheet under "`stylesheets/xsl`". All commonly adjusted properties should go into the appropriate stylesheet for that rendering. No properties should be passed on via the command line. To keep the customization layer as future proof as possible only in very rare circumstances should any cores XSL templates be copied and modified. As usual the recommended way is to use the provided hooks.

CSS styelsheets

The CSS stylesheets are used to create the look & feel for the HTML based renderings. These are entirely standard CSS files which by design are kept very simple. It should be noted that a few styling option depends in turn of the modified XSL transformations in the XSL customization layer. This had to be done in order to gain some more detialed control not provided by DocBook5 out-of-the-box.

Webhelp

The `webhelp` output rendering is a bit of a special case. This rendering depends not only on DocBook5 but also on Java as well as Ant build processor. These dependencies are inherited from the official DocBook5 webhelp process and will remain. Unfortunately adjusting the look & fell for this rendering is not as simple as for the other outputs since a fair amount of the layout (as well as look & feel) are hardcoded in the Webhelp build system. While it is perfectly possible to adjust the hard coded values and design choises it is not future proof. Since the Webhelp rendering is the newest and fastest improving output from DocBook the intention for the Phing documentation is to track these improvements and not spend time ourself to duplicate this effor with a parallell development.

1.4.4. DocBook v5 elements used in the manual and their meaning

To keep things simple the manual uses only a small subset of all available elements in the DocBook schema. This makes it fairly easy to quickly get up to speed with adding and editing the manual. It also helps to keep the look&feel consistent and makes the writing of the CSS and XSL stylesheets a little bit easer.

The following list shows the supported elements and how they should be used in the manual

`<chapter>`, `<appendix>`   This is the top element for each chapter and appendix in the manual. Each <chapter> or <appendix> must also have a title.

Table 1.1: Required attributes

Attribute	Value	Description
xmlns	http:// docbook.org/ns/ docbook	Name space for DocBook. Always needed.
xmlns:xi	http:// www.w3.org/2001/ XInclude	Name space for XInclude. Needed since we use XInclude to split the manual into different files.
xmlns:xlink	http:// www.w3.org/1999/ xlink	Name space for xlink. Needed sine we make use of link and xref elements to link to other sites and cross references within the manual.
version	5.0	Versions of DocBook. Always needed
xml:id	app.XXX, ch.XXX	The id for the chapter or the appendix. Used in other part of the manual to refer to this chapter/appendix with an `<xref>` element.

Table 1.2: Required nested elements

Element	Value
`<title>`	The title of the chapter/appendix

Example:

```
<appendix xmlns="http://docbook.org/ns/docbook"
    xmlns:xi="http://www.w3.org/2001/XInclude"
    xmlns:xlink="http://www.w3.org/1999/xlink"
    version="5.0"
    xml:id="app.coretasks">
    <title>Core tasks</title>
...
</appendix>
```

`<sectN>`   The section tags divides each chapter and appendix into logical parts. Each task description must be contained in a `<sect1>` element and each example section for the task must be contained within a `<sect2>` element. Depending on the description needed for each task additional `<sect2>` may be added as needed to make the text logically

structured. If needed, a further nesting level may be used by using
`<sect3>` elements within each `<sect2>` element. No deeper nest-
ings than `<sect3>` should ever be used.

Each top level section must have the `xml:id` attribute which is used to
reference the section from other parts of the document. Each section
must have a nested title element.

Table 1.3: Required attributes

Attribute	Value	Description
role	taskdef	This is only used and required for `<sect1>` el-ements for task description. This role is not cur-rently used in the any of the XSL sheets. This is for future use.
xml:id	Name section	ofThe id for task definition should be the same as the task name for task description. For other sections the id should be a logical name that descrobes the content.

Table 1.4: Required nested elements

Element	Value
`<title>`	The title of the section

Example:

```
<sect1 role="taskdef" xml:id="AdhocTaskdefTask">
    <title>AdhocTaskdefTask</title>
...
</sect1>
```

`<para>`	Division between paragraphs in flowing text.
`<screen>`	Used to mark command lines and multi-line computer output. For inline screen output use the <literal> element
`<programlisting>`	Used for all PHP and XML program listings in the manual. Please note that this tag should not be used for command lines as entered in a terminal. Use the `<screen>` element for this.

Note: Remember to write all opening '<' as <

Table 1.5: Required attributes

Attribute	Value	Description
lan-guage	php, xml	The language attribute should indicate what pro-gramming language the programlisting contains. This is used to control what syntax highlighting should be used.

Example:

```
<programlisting language="xml">
  &lt;append
   destFile="${process.outputfile}">
  &lt;filterchain>
    &lt;xsltfilter style="${process.stylesheet}">
        &lt;param name="mode" expression="${process.xslt.mode}"/>
    &lt;/xsltfilter>
```

```
  &lt;/filterchain>
  &lt;filelist dir="book/" listfile="book/PhingGuide.book"/>
&lt;/append></programlisting>
```

| `<acronym>` | Used to indicate acronym in running text |

| `<literal>` | Used to indicate literal names in running text such as program variables, name of attributes, XML-elements etc. |

| `<filename>` | Used to indicate a file- or directory name in running text. |

***Table 1.6:** Required attributes*

Attribute	Value	Description
role	dir	Used when the filename is a directory

Example:

```
<filename role="dir">/etc/php5</filename>
```

| `<link>` | Used to include a URL link to other sites or documents outside the manual. |

***Table 1.7:** Required attributes*

Attribute	Value	Description
`xlink:href`	URL Link	The link to an external reference

Example:

```
<link xlink:href="http://qbnz.com/highlighter/"
>GeSHi Homepage</link>
```

| `<xref>` | A link to another part of the document. When the link is generated in the rendered document the name of the section, chapter or appendix that the link refers to is included literal. |

***Table 1.8:** Required attributes*

Attribute	Value	Description
`xlink:href`	Internal reference to an ID element	Internal links must be prefixed with a '#' character.

Example:

```
<xref xlink:href="#ch.projcomponents"/>
```

| `<table>` | The CALS model for table should be used. The generated rendered version will be styled by the CSS stylesheet automatically. For this to work as expected for the required attribute for a task the columns needs to have the following names (they are used in the CSS sheets). The column width specified is not important since that will be overridden by the CSS stylesheets. |

```
...
```

```
<colspec colname="name" colnum="1" colwidth="1.5*"/>
<colspec colname="type" colnum="2" colwidth="0.8*"/>
<colspec colname="description" colnum="3" colwidth="3.5*"/>
<colspec colname="default" colnum="4" colwidth="0.8*"/>
<colspec colname="required" colnum="5" colwidth="1.2*"/>
...
```

A CALS model table should have the following required nested elemenets. For more information on more advanced CALS formatting such as joining rows or columns please see Chapter 30. Tables [http://www.sagehill.net/docbookxsl/CellSpans.html] in Bob Stayton's book "DocBook XSL: The Complete Guide - 4th Edition" [http://www.sagehill.net/docbookxsl/]

Table 1.9: Required nested elements

Attribute	Description
title	The descriptive title for the table.
tgroup	Groups a set of columns together
colspec	Defines the sizing of the table
thead	Header row for table
tbody	Body of table

Example:

```
<table>
    <title>Required attributes</title>
    <tgroup cols="3">
        <colspec colname="attribute"   colnum="1"
                colwidth="1.0*"/>
        <colspec colname="value"       colnum="2"
                colwidth="1.0*"/>
        <colspec colname="description" colnum="3"
                colwidth="1.0*"/>
        <thead>
            <row>
                <entry>Attribute</entry>
                <entry>Value</entry>
                <entry>Description</entry>
            </row>
        </thead>
        <tbody>
            <row>
                <entry>...</entry>
                <entry>...</entry>
                <entry>...</entry>
            </row>
            <row>
                <entry>...</entry>
                <entry>...</entry>
                <entry>...</entry>
            </row>
        </tbody>
    </tgroup>
</table>
```

`<emphasis role="bold">` Should only be used when certain effects in flowing text are wanted that warrents the text to be rendered in a bold style to be shown as emphasised.

Example:

```
<emphasis role="bold">PH</emphasis>ing <emphasis
role="bold">I</emphasis>s <emphasis
role="bold">N</emphasis>ot <emphasis
role="bold">GN</emphasis>U make;
```

The above example will then be rendered as: "**PH**ing **I**s **N**ot **GN**U make;"

<application>   This tag is used to indicate the name of a application. The line between a command (marked with <literal>) and an application is not cut in stone but an application is usually a complex computer program with its own user interface. Examples of what we would mark as applications are "Emacs", "OpenOffice", "MatLab" etc.

This element is rarely used.

```
<emphasis role="bold">PH</emphasis>ing <emphasis
role="bold">I</emphasis>s <emphasis
role="bold">N</emphasis>ot <emphasis
role="bold">GN</emphasis>U make;
```

Chapter 2. Introduction

2.1. What Phing Is

Phing is a project build system based on Apache ant (See ant). You can do anything with Phing that you could do with a traditional build system like Gnu make (See gnumake), and Phing's use of simple XML build files and extensible PHP task classes make it an easy-to-use and highly flexible build framework.

Because Phing is based on Ant, parts of this manual are also adapted from the ant manual (see ant). We are extremely grateful to the folks in the Ant project for creating (and continuing to create) such an inspiring build system model, and for the open-source licensing that makes it possible for us to learn from each other and build increasingly better tools.

2.2. Phing & Binarycloud: History

Phing was originally a subproject of Binarycloud. Binarycloud is a highly engineered application framework, designed for use in enterprise environments. Binarycloud uses XML extensively for storing metadata about a project (configuration, nodes, widgets, site structure, etc.). Because Binarycloud is built for PHP, performing extensive XML processing and transformations on each page request is an unrealistic proposition. Phing is used to "compile" the XML metadata into PHP arrays that can be processed without overhead by PHP scripts.

Of course, XML compilation is only one of many ways that Binarycloud uses the Phing build system. The Phing build system makes it possible for you to:

* Build multi language pages from one source tree,

* Centralize metadata (e.g. your data model) in one XML file and generate several files from that XML with different XSLT.

It the beginning, Binarycloud used the GNU make system; however, this approach had some drawbacks: The space-before-tab-problem in makefiles, the fact that it is only natively available for Unix systems etc. So, the need for a better build system arose. Due to its XML build files and modular design, Apache Ant was a logical choice. The problem was that Ant is written in Java, so you need to install a JVM on your computer to use it. Besides the need for yet another interpreter (i.e. besides PHP), there was also legal/ideological conflict in requiring a commercial JVM (there were problems with Ant on JVMs other than Sun's) for an LGPL'd Binarycloud.

So, the development of Phing began. Phing is a build system written in PHP and uses the ideas of Ant. The first release was designed & developed simultaneously, and thus not very sophisticated. This original system was quickly pushed to its limits and the need for a better Phing became a priority. Andreas Aderhold, who was responsible for Phing/r1, designed and wrote much of the Phing/r2 that followed. Phing/r2 became the Phing-1.0 that exists today for PHP4.

The current development version of Phing 2.x, requires PHP5 (at least 5.2.x) and makes use of many of the available features in PHP5.2 to achieve a high degree of modularization, code efficiency as well as stability and testability.

2.3. How Phing Works

Phing uses XML buildfiles that contain a description of the things to do. The buildfile is structured into targets that contain the actual commands to perform (e.g. commands to copy a file, delete a directory,

perform a DB query, etc.). So, to use Phing, you would first write your buildfile and then you would run phing, specifying the target in your buildfile that you want to execute.

```
% phing -f mybuildfile.xml mytarget
```

By default Phing will look for a buildfile named `build.xml` (so you don't have to specify the buildfile name unless it is not `build.xml`) and if no target is specified Phing will try to execute the default target, as specified in the `<project>` tag.

In the same way as traditional make files (but without most of the traditional drawbacks) targets can have dependencies. They can depend on both other targets as well as other files.

2.4. Cool, so how can I help?

Phing is under active development and there are many things to be done. The project will also welcome non-coders to help keep the documentation up to date. If you don't already know about DocBook participåating in the documentation is a great opportunity to get experience!

To get involved start by doing the following:

- Read this manual to understandPhing ;-)

- Go to http://phing.tigris.org and subscribe to the `Phing dev` mailing list (this is usually a low volume, high quality mailing list)

- Visit the Phing website (http://www.phing.info/) [http://www.phing.info/] and look for open bugs / tickets

- ... and of course, start to actively participate in the development by forking the repository (see below)

2.4.1. Participating in the development

As of 1 January 2012 all Phing development is based on Git and the project is hosted at GitHub (https://github.com/)

In order to participate in the development you will only need to follow three basic steps

1. Register a free account at GitHub [https://github.com/]

2. Clone the Official Git repository [https://github.com/phingofficial/phing]

3. Read up on the (very well written) documentation at GitHub on how to setup your own repository and do things like cloning an existing repository and creating pull requests asking the official Phing maintainers to take in your proposed additions/changes.

The chances to have a change set accepted greatly increases if you adhere to the following recommendations

- Follow the naming and coding principle used by Phing

- Make sure you have added documentation for *all* your additions, including examples.

- Make sure you have added unit-test code as needed

- Be polite in all communication!

Note

If you have not worked with Git before and are coming from subversion there is a bit of re-adjustment needed. Fortunately there are several *SVN-To-Git* re-learning guides available (for example http://git.or.cz/course/svn.html which might make the initial transition easier.

However, it is probably best to forget about your mental picture on Subversion and realize that Git is a different animal. So trying to think of everything in terms of Subversion is not really helpful in the long run. You should therefore take the time to read the (free!) book "Pro Git", by Scott Chacon available from http://progit.org/.

Chapter 3. Setting-up Phing

The goal of this chapter is to help you obtain and correctly setup and execute Phing on your operating system. Once you setup Phing properly you shouldn't need to revisit this chapter, unless you're re-installing or moving your installation to another platform.

3.1. System Requirements

To use Phing you must have installed PHP version 5.2 or above compiled `--with-libxml2`, as well as `--with-xsl` if you want to make use of advanced functionality.

For more information on PHP and the required modules see the PHP [php] [Bibliography.html#php] website. For a brief list of software dependencies see below.

3.1.1. Operating Systems

Designed for portability from the get go, Phing runs on all platforms that run PHP. However some advanced functionality may not work properly or is simply ignored on some platforms (i.e. `chmod` on the Windows platform).

To get the most out of Phing, a Unix style platform is recommended. Namely: Linux, FreeBSD, Open-BSD, etc.

3.1.2. Software Dependencies

For a detailed list of required and/or optional software and libraries, refer to the following table of Software Dependencies.

NB: This list is not exhaustive, please refer to individual Phing tasks to find out additional software requirements.

Table 3.1: *Software Dependencies*

Software	Required for	Source
PHP 5.2+	Execution	http://www.php.net
PHPUnit 3.6.0+	Optional; enables additional task(s)	http://www.phpunit.de
Xdebug 2.0.5+	Optional; enables additional task(s)	http://www.xdebug.org
SimpleTest 1.0.1 beta+	Optional; enables additional task(s)	http://simpletest.sourceforge.net
phpDocumentor 2.0.0b7+ (PEAR package)	Optional; enables additional task(s)	http://pear.phpdoc.org
VersionControl_SVN (PEAR package)	Optional; enables additional task(s)	http://pear.php.net/package/VersionControl_SVN
VersionControl_Git (PEAR package)	Optional; enables additional task(s)	http://pear.php.net/package/VersionControl_Git

Software	Required for	Source
PHP_CodeSniffer (PEAR package)	Optional; enables additional task(s)	http://pear.php.net/package/PHP_CodeSniffer
Archive_Tar (PEAR package)	Optional; enables additional task(s)	http://pear.php.net/package/Archive_Tar
Services_Amazon_S3 (PEAR package)	Optional; enables additional task(s)	http://pear.php.net/package/Services_Amazon_S3
HTTP_Request2 (PEAR package)	Optional; enables additional task(s)	http://pear.php.net/package/HTTP_Request2
PHP Depend	Optional; enables additional task(s)	http://www.pdepend.org
PHP Mess Detector	Optional; enables additional task(s)	http://www.phpmd.org
PHP Copy/Paste Detector	Optional; enables additional task(s)	http://pear.phpunit.de

Warning

Phing does not work with safe mode enabled in PHP!

3.2. Obtaining Phing

Phing is free software distributed under the terms of the LGPL.

3.2.1. Distribution Files

There are several ways to get a Phing distribution package. If you do not want to participate in developing Phing itself it is recommended that you get the latest snapshot or stable packaged distribution. If you are interested in helping with Phing development, register an account at GitHub as described below.

The easiest way to obtain the distribution package is to visit the Phing website [phing] [Bibliography.html#phing]and download the current distribution package in the format you desire.

As of version 2.0, you have the option of downloading a PEAR-installable package or the full phing distribution. If you wish to modify phing we suggestion downloading the full version so that you can (e.g.) create your own PEAR package. If you simply wish to use Phing for your own project or need it to build another package, download & install the PEAR package.

3.2.2. Getting the latest source from Phing Git repository

The latest snapshot can always be downloaded directly the official Phing Git repository. However, be warned that there is not guarantee that the momentous state of the repository represents a completely stable application without any problems.

You can download a snapshot as a zip-tarball from:

- https://github.com/phingofficial/phing

3.3. PEAR Install

The easiest way to install Phing is using the PEAR installer. Provided that the package you downloaded is a the PEAR-ready package, you can install Phing simply from the command line (Unix or Windows):

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

The pear installer will check any dependencies and place the phing script (phing or phing.bat) into your PHP script directoy (i.e. where the "pear" script resides).

3.4. Non-PEAR Install

If you are not using the PEAR installer, you will need to setup your environment in order to run Phing. The distribution of Phing consists of three directories: `bin`, `docs` and `classes`. Only the `bin`, `classes` and `etc` directories are required to run Phing. To install Phing, choose a directory and uncompress the distribution file in that directory (you may already have done this in a prior step). This directory will be known as `PHING_HOME`.

> **Warning**
>
> On earlier Windows installations, the script used to launch Phing will have problems if `PHING_HOME` is a long filepath. This is due to limitations in the OS's handling of the "for" batch-file statement. It is recommended, therefore, that Phing be installed in a short path, such as `C:\opt\phing`.

Before you can run Phing there is some additional set up you will need to do perform:

- Add the full path to the `bin/` directory to your path.

- Set the `PHING_HOME` environment variable to the directory where you installed Phing. On some operating systems the Phing wrapper scripts can guess PHING_HOME (Unix dialects and Windows). However, it is better to not rely on this behavior.

- Set the `PHP_COMMAND` environment variable to where your Php binary is located (including the binary i.e. PHP_COMMAND=/usr/bin/php).

- Set the `PHP_CLASSPATH` environment variable (see the section below). This should be set at least point to PHING_HOME/classes. Alternatively, you can also just add the phing/classes directory to your PHP include_path ini setting.

- Check your php.ini file to make sure that you have the following settings:

  - `max_execution_time = 0 // unlimited execution time`

  - `memory_limit = 32M // you may need more memory depending on size of your build files`

If you are using Phing in conjunction with another application, you may need to add additional paths to `PHP_CLASSPATH`.

3.4.1. Unix

Assuming you are running a Unix dialect operating system with the bash bourne shell and Phing is installed in `/opt/phing` . The following sets up the environment properly:

```
export PHP_COMMAND=/usr/bin/php
export PHING_HOME=/opt/phing
export PHP_CLASSPATH=${PHING_HOME}/classes
export PATH=${PATH}:${PHING_HOME}/bin
```

3.4.2. Windows

On the Windows platform, assuming Phing is installed in `c:\opt\phing`. The following sets up your environment:

```
set PHP_COMMAND=c:\opt\php\php.exe
set PHING_HOME=c:\opt\phing
set PHP_CLASSPATH=c:\opt\phing\classes
set PATH=%PATH%;%PHING_HOME%\bin
```

3.4.3. Advanced

There are lots of variants that can be used to run/prepare Phing. You need at least the following:

- If you want Phing to be able to use other packages / classes, you can either add them to the `PHP_CLASSPATH` or to PHP's include_path.

- Some Tasks in `phing/tasks/ext` may require 3rd party libraries to be installed. Generally, tools with compatible license (and stable releases) are included in phing/lib so that outside dependencies can be avoided. PEAR libs will not, however, be bundled with Phing since they are generally bundled with PHP. If you are using a 3rd party task, see the Task documentation to be aware of any dependencies.

You are now ready to use the **phing** command at your command prompt, from everywhere in your directory tree.

3.5. Calling Phing

Now you are prepared to execute Phing on the command line or via script files. The following section briefly describe how to properly execute phing.

3.5.1. Command Line

Phing execution on the command line is simple. Just change to the directory where your buildfile resides and type

```
$ phing [target [target2 [target3] ...]]
```

at the command line (where [target...] are the target(s) you want to be executed). If no target is specified Phing will try to execute the default target, as specified in the `project` tag. When calling multipe targets, Phing will invoke each target independently of the other targets. Optionally, you may specify command line arguments as listed in Appendix A [appendixes/AppendixA-FactSheet.html#CommandLineArguments].

For example, the following command line calls the default buildscript `build.xml` using the default target with the property `ftp.upload` set to true.

```
$ phing -Dftp.upload=true
```

3.5.2. Supported command line arguments

As of version 2.4.9 the following command line arguments are supported

```
-h -help               print this message
-l -list               list available targets in this project
-v -version            print the version information and exit
-q -quiet              be extra quiet
-verbose               be extra verbose
-debug                 print debugging information
-longtargets           show target descriptions during build
-logfile <file>        use given file for log
-logger <classname>    the class which is to perform logging
-f -buildfile <file>   use given buildfile
-D<property>=<value>   use value for given property
-propertyfile <file>   load all properties from file
-find <file>           search for buildfile towards the root of the
                       filesystem and use it
-inputhandler <file>   the class to use to handle user input
```

Chapter 4. Getting started

Phing buildfiles are written in XML, and so you will need to know at least some basic things about XML to understand the following chapter. There is a lot of information available on the web:

- The Standard Recommendation of XML by the W3C http://www.w3.org/TR/2000/REC-xml: very technical but exhaustive.

- XML In 10 Points http://www.w3.org/XML/1999/XML-in-10-points: Quick introduction into XML.

- A technical introduction to XML http://www.xml.com/pub/a/98/10/guide0.html: Interesting article by the creator of DocBook.

4.1. XML And Phing

A valid Phing buildfile has the following basic structure:

- The document prolog

- Exactly one root element called `<project>`.

- Several Phing `type` elements (i.e. `<property>`, `<fileset>`, `<patternset>` etc.)

- One or more `<target>` elements containing built-in or user defined Phing `task` elements (i.e. `<install>`, `<bcc>`, etc).

4.2. Writing A Simple Buildfile

The `Foobar` project installs some PHP files from a source location to a target location, creates an archive of this files and provides an optional clean-up of the build tree:

```xml
<?xml version="1.0" encoding="UTF-8"?>

<project name = "FooBar" default = "dist">

    <!-- ============================================  -->
    <!-- Target: prepare                              -->
    <!-- ============================================  -->
    <target name = "prepare">
        <echo msg = "Making directory ./build" />
        <mkdir dir = "./build" />
    </target>


    <!-- ============================================  -->
    <!-- Target: build                                -->
    <!-- ============================================  -->
    <target name = "build" depends = "prepare">
        <echo msg = "Copying files to build directory..." />

        <echo msg = "Copying ./about.php to ./build directory..." />
        <copy file = "./about.php" tofile = "./build/about.php" />

        <echo msg = "Copying ./browsers.php to ./build directory..." />
        <copy file = "./browsers.php" tofile = "./build/browsers.php" />
```

```
        <echo msg = "Copying ./contact.php to ./build directory..." />
        <copy file = "./contact.php" tofile = "./build/contact.php" />
    </target>

    <!-- =========================================== -->
    <!-- (DEFAULT)  Target: dist                     -->
    <!-- =========================================== -->
    <target name = "dist" depends = "build">
        <echo msg = "Creating archive..." />

        <tar destfile = "./build/build.tar.gz" compression = "gzip">
            <fileset dir = "./build">
                <include name = "*" />
            </fileset>
        </tar>

        <echo msg = "Files copied and compressed in build directory OK!" />
    </target>
</project>
```

A phing build file is normally given the name `build.xml` which is the default file name that the Phing executable will look for if no other file name is specified.

To run the above build file and execute the default target (assuming it is stored in the current directory with the default name) is only a matter of calling: `$ phing`

This will then execute the `dist` target. While executing the build file each task performed will print some information on what actions and what files have been affected.

To run any of the other target is only a matter of providing the name of the target on the command line. So for example to run the `build` target one would have to execute `$ phing build`

It is also possible to specify a number of additional command line arguments as described in Appendix A, *Fact Sheet*

4.2.1. Project Element

The first element after the document prolog is the root element named `<project>` on line 3. This element is a container for all other elements and can/must have the following attributes:

Table 4.1: <project> Attributes

Attribute	Description	Required
name	The name of the project	No
basedir	The base directory of the project, use "." do denote the current directory. **Note:** if none is specified, the parent directory of the build file is used!	No
default	The default target that is to be executed if no target(s) are specified when calling this build file.	Yes
description	The description of the project.	No

See Section H.1, "Phing Projects" for a complete reference.

4.2.2. Target Element

A target can `depend` on other targets. You might have a target for installing the files in the build tree, for example, and a target for creating a distributable tar.gz archive. You can only build a distributable when

you have installed the files first, so the distribute target depends on the install target. Phing resolves these dependencies.

It should be noted, however, that Phing's depends attribute only specifies the order in which targets should be executed - it does not affect whether the target that specifies the dependency(s) gets executed if the dependent target(s) did not (need to) run.

Phing tries to execute the targets in the depends attribute in the order they appear (from left to right). Keep in mind that it is possible that a target can get executed earlier when an earlier target depends on it, in this case the dependent is only executed once:

```
<target name="A" />
<target name="B" depends="A" />
<target name="C" depends="B" />
<target name="D" depends="C,B,A" />
```

Suppose we want to execute target D. Looking at its depends attribute, you might think that first target C, then B and then A is executed. Wrong! C depends on B, and B depends on A, so first A is executed, then B, then C, and finally D.

A target gets executed only once, even when more than one target depends on it (see the previous example).

The optional description attribute can be used to provide a one-line description of this target, which is printed by the -projecthelp command-line option.

Target attributes

You can specify one or more of the following attributes within the target element.

Table 4.2: <target> Attributes

Attribute	Description	Required
name	The name of the target	Yes
depends	A comma-separated list of targets this target depends on.	No
if	The name of the Property that has to be set in order for this target to be executed	No
unless	The name of the Property that must not be set in order for this target to be executed.	No

See Section H.2, "Targets" for a complete reference.

4.2.3. Task Elements

A task is a piece of PHP code that can be executed. This code implements a particular action to perform (i.e. install a file). Therefore it must be defined in the buildfile so that it is actually invoked by Phing.

These references will be resolved before the task is executed.

Tasks have a common structure:

```
<name attribute1="value1" attribute2="value2" ... />
```

where name is the name of the task, attributeN is the attribute name, and valueN is the value for this attribute.

There is a set of core tasks (see Appendix B, *Core tasks*) along with a number of optional tasks. It is also very easy to write your own tasks (see Chapter 6, *Extending Phing*).

Tasks can be assigned an `id` attribute:

```
<taskname id="taskID" ... />
```

By doing this you can refer to specific tasks later on in the code of other tasks.

4.2.4. Property Element

`Properties` are essentially variables that can be used in the buildfile. These might be set in the buildfile by calling the property task, or might be set outside Phing on the command line (properties set on the command line always override the ones in the buildfile). A property has a name and a value only. Properties may be used in the value of task attributes. This is done by placing the property name between " `${` " and " `}` " in the attribute value. For example, if there is a `BC_BUILD_DIR` property with the value 'build', then this could be used in an attribute like this: `${BC_BUILD_DIR}/en` . This is resolved to `build/en`.

Built-in Properties

Phing provides access to system properties as if they had been defined using a `<property>` task. For example, `${os.name}` expands to the name of the operating system. See Appendix A, *Fact Sheet* for a complete list

4.3. More Complex Buildfile

```xml
<?xml version="1.0"  encoding="UTF-8" ?>

<project name = "testsite" basedir = "." default = "main">
    <property file = "./build.properties" />

    <property name = "package"  value = "${phing.project.name}" override = "true" />
    <property name = "builddir" value = "./build/testsite" override = "true" />
    <property name = "srcdir"   value = "${project.basedir}" override = "true" />

    <!-- Fileset for all files -->
    <fileset dir = "." id = "allfiles">
        <include name = "**" />
    </fileset>

    <!-- ========================================= -->
    <!-- (DEFAULT) Target: main                    -->
    <!-- ========================================= -->
    <target name = "main" description = "main target">
        <copy todir = "${builddir}">
            <fileset refid = "allfiles" />
        </copy>
    </target>

    <!-- ========================================= -->
    <!-- Target: Rebuild                           -->
    <!-- ========================================= -->
    <target name = "rebuild" description = "rebuilds this package">
        <delete dir = "${builddir}" />
        <phingcall target = "main" />
    </target>
</project>
```

This build file first defines some properties with the `<property>` task call to `PropertyTask`. Then, it defines a fileset and two targets. Let us have a quick rundown of this build file.

The first five four within the `project` tag define properties. They appear in the two ways this tag can occur:

- The second `property` tag contains only the `file` attribute. The value has to be a relative or absolute path to a property file (for the format, see Appendix I, *File Formats*).

- The other times, the tag has a `name` and a `value` attribute. After the call, the value defined in the attribute `value` is available through the key enclosed in "${" and "}".

The next noticeable thing in the build file is the `<fileset>` tag. It defines a `fileset`, i.e. a set of multiple files. You can include and exclude files with the `include` and `exclude` tags within the `fileset` tag. For more information concerning Filesets (i.e. Patterns) see Appendix D, *Core Types*. The `fileset` is given an `id` attribute, so it can be referenced later on.

One thing is worth noting here though and that is the use of double star expression, i.e. `"**"`. This special regexp refers to all files in all subdirectories as well. Compare this with a single `"*"` which would only refer to all files in the `current` subdirectory. So for example the expression `"**/*.phps"` would refer to all files with suffix `"'.phps"` in all subdirectories below the current directory.

The first task only contains a call to `CopyTask` via `<copy>`. The interesting thing is within the `copy` tag. Here, a fileset task is not written out with nested `include` or `exclude` elements, but via the `refid`, the Fileset created earlier is referenced. This way, you can use a once defined fileset multiple times in your build files.

The only noticeable thing in the second target is the call to `PhingTask` with the `<phingcall>` tag (see Appendix B, *Core tasks* for more information). The task executes a specified target within the same build file. So, the second target removes the build directory and calls `main` again, thus rebuilding the project.

A variant is to override properties defined in the build file with properties specified on the command line using the `-D` switch. For example to override the `builddir` in the build file above one could call Phing as

```
$ phing -Dbuilddir=/tmp/system-test
```

4.3.1. Handling source dependencies

A common task required in many build files is to keep some target which has a number of dependencies up to date. In traditional make files this could for example be an executable that needs to be recompiled if any of the source files have been updated. In Phing such a condition is handled by the `UpToDateTask`, see Section B.46, "UpToDateTask " for examples on how this task us used.

4.4. Relax NG Grammar

With a little bit of experience it is not that difficult to write and understand Phing build files since the XML format in itself tends to be quite verbose. However, it can become a bit tedious and the large (and growing) amount of built-in tasks and filters can sometimes make it difficult to remember the exact syntax of all the available features.

To help with this the Phing distribution contains a Relax NG Grammar (**RE**gular **LA**nguage for **X**ML **N**ext **G**eneration, http://www.relaxng.org/) file that describes the (formal) syntax of the build files. This grammar can be used to validate build files. However, the most beneficial use of the grammar is together

with a schema aware XML editor. Such an editor can make auto-completion based on the grammar. This feature makes writing complex build files significantly easier since it is usually enough to enter the first letter of an element to have the rest of the element written automatically as well as any compulsory attributes.

Most XML editors can be told to what schema (or model) to use for validation and auto-completion by adding a specification in the beginning of the XML file. For example, the following two lines in the beginning of an XML file would do (of course the exact path to the grammar will depend on your system setup)

```
<?xml version="1.0" encoding="UTF-8"?>
<?xml-model xlink:href="/usr/share/php5/PEAR/data/phing/etc/phing-grammar.rng"
            type="application/xml"
            schematypens="http://relaxng.org/ns/structure/1.0" ?>
```

Using auto-completion will make it substantially easier to edit large build files. Please note that since the phing-grammar does not have an official designation we must use the absolute filename to specify the grammar (instead of a canonical URI that is resolved by the systems XML-catalogue).

This grammar is available (as a plain text file) in the distribution at: `/etc/phing-grammar.rng`

Since we do not want to neither endorse nor forget any particular XML editor with this capability we do not make available such a list of editors. Instead, spending a few minutes with Google searching for XML-editors is bound to find a number of editors with this capability.

If you wish to validate your Phing build file, there are numerous options. Links to various validation tools and XML editors are available at the RELAX NG home page, http://www.relaxng.org/. The command line tool `xmllint` that comes with libxml2 is also able to validate a given XML file against the supplied grammar.

For example, to use **xmllint** to validate a Phing build file the following command line could be used:

```
$ xmllint -noout -relaxng phing-grammar.rng build.xml
build.xml validates
```

Chapter 5. Project components

This goal of this chapter is to make you familiar with the basic components of a buildfile. After reading this chapter, you should be able to read and understand the basic structure of any buildfile even if you don't know exactly what the individual pieces do.

For supplemental reference information, you should see Appendix B, *Core tasks*, Appendix D, *Core Types* and Appendix H, *Project Components.*

5.1. Projects

In the structure of a Phing buildfile, there must be exactly one `Project` defined; the `<project>` tag is the root element of the buildfile, meaning that everything else in the buildfile is contained within the `<project >` element.

```xml
<?xml version="1.0"?>

<project name = "test" description = "Simple test build file" default = "main" >
  <!-- Everything else here -->
<project>
```

The listing above shows a sample `<project>` tag that has all attributes available for Projects. The `name` and `description` attributes are fairly self-explanatory; the `default` attribute specifies the default `Target` to execute if no target is specified (Section H.2, "Targets" are described below). For a complete reference, see Appendix H, *Project Components*.

5.2. Version

Since Phing 2.4.2 it is possible to include a `phingVersion` attribute in the `<project>` tag. This attribute allows you to define the minimum Phing version required to execute a build file, in order to prevent compatibility issues.

```xml
<?xml version="1.0"?>

<project name = "test" phingVersion = "2.4.2" >
  <!-- Everything else here -->
<project>
```

5.3. Project Components in General

Project Components are all the elements found inside a project, i.e. targets, tasks, types, etc. Project components may have attributes and nested tags. Attributes only contain simple values, i.e. strings, integers etc. Nested elements may be complex Phing types (like FileSets) or simple wrapper classes for values with custom keys (see Appendix D, *Core Types* for example).

Any nested elements must be supported by the class that implements the project component, and because the nested tags are handled by the project component class the same nested tag may have different meanings (and different attributes) depending on the context. So, for example, the nested tag `<param.../>` within the `<phingcall>` tag is handled very differently from the`<param.../>` tag within

the `<xsltfilter>` tag -- in the first case setting project properties, in the second case setting XSLT parameters.

5.4. Targets

Targets are collections of project components (but not other targets) that are assigned a unique name within their project. A target generally performs a specific task -- or calls other targets that perform specific tasks -- and therefore a target is a bit like a `function` (but a target has no return value).

Targets may `depend` on other targets. For example, if target A depends on a target B, then when target A is called to be executed, target B will be executed first. Phing automatically resolves these dependencies. You cannot have circular references like: "target A depends on target B that depends on target A".

The following code snippet shows an example of the use of targets.

```
<target name = "othertask" depends = "buildpage" description = "Whatever">
  <!-- Task calls here -->
<target>

<target name = "buildpage" description = "Some description">
  <!-- Task calls here -->
<target>
```

When Phing is asked to execute the `othertask` target, it will see the dependency and execute `build-page` first. Notice that the dependency task can be defined after the dependent task.

5.5. Tasks

Tasks are responsible for doing the work in Phing. Basically, tasks are the individual actions that your buildfile can perform. For example, tasks exist to copy a file, create a directory, TAR files in a directory. Tasks may also be more complex such as XsltTask which copies a file and transforms the file using XSLT, SmartyTask which does something similar using Smarty templates, or CreoleTask which executes SQL statements against a specified DB. See Appendix B, *Core tasks* for descriptions of Phing tasks.

Tasks support parameters in the form of:

• Simple parameters (i.e. strings) passed as XML attributes, or

• More complex parameters that are passed by nested tags

Simple parameters are basically strings. For example, if you pass a value `"A simple string."` as a parameter, it is evaluated as a string and accessible as one. You can also reference properties as described in Chapter 4, *Getting started*.

`Note:` There are special values that are not mapped to strings, but to boolean values instead. The values `true`, `false`, `yes`, `no`, `on` and `off` are translated to `true`/`false` boolean values.

```
<property name = "myprop" value = "value" override = "true"/>
```

However, some tasks support more complex data types as parameters. These are passed to the task with `nested tags`. Consider the following example:

```
<copy>
```

```
  <fileset dir = ".">
    <include name = "**" />
  </fileset>
</copy>
```

Here, `CopyTask` is passed a complex parameter, a Fileset. Tasks may support multiple complex types in addition to simple parameters. Note that the names of the nested tags used to create the complex types depend on the task implementation. Tasks may support default Phing types (see Section 5.6, " Types ") or may introduce other types, for example to wrap key/value pairs.

Refer to Appendix B, *Core tasks* for a list of system tasks and their parameters.

5.6. Types

5.6.1. Basics

Besides the simple types (strings, integer, booleans) you can use in the parameters of tasks, there are more complex Phing `Types`. As mentioned above, they are passed to a task by using nesting tags:

```
<task>
  <type />
</task>

<!-- or: -->

<task>
  <type1>
    <subtype1>
      <!-- etc. -->
    </subtype1>
  </type1>
</task>
```

Note that types may consist of multiple nested tags -- and multiple levels of nested tags, as you can see in the second task call above.

5.6.2. Referencing Types

An additional fact about types you should notice is the possibility of `referencing` type instances, i.e. you define your type somewhere in your build file and assign an id to it. Later, you can refer to that type by the id you assigned. Example:

```
<project>
  <fileset id = "foo">
    <include name = "*.php" />
  </fileset>

  <!-- Target that uses the type -->
  <target name = "foo" >
    <copy todir = "/tmp">
      <fileset refid = "foo" />
    </copy>
  </target>
</project>
```

As you can see, the type instance is assigned an id with the `id` attribute and later on called by passing a plain `fileset` tag to `CopyTask` that only contains the `refid` attribute.

5.7. Basic Types

The following section gives you a quick introduction into the basic Phing types. For a complete reference see Appendix D, *Core Types.*

5.7.1. `FileSet`

FileSets are groups of files. You can include or exclude specific files and patterns to/from a FileSet. The use of patterns is explained below. For a start, look at the following example:

```xml
<fileset dir = "/tmp" id = "fileset1">
  <include name = "sometemp/file.txt" />
  <include name = "othertemp/**" />
  <exclude name = "othertemp/file.txt" />
</fileset>

<fileset dir = "/home" id = "fileset2">
  <include name = "foo/**" />
  <include name = "bar/**/*.php" />
  <exclude name = "foo/tmp/**" />
</fileset>
```

The use of patterns is quite straightforward: If you simply want to match a part of a filename or dirname, you use *. If you want to include multiple directories and/or files, you use **. This way, filesets provide an easy but powerful way to include files.

5.7.2. `FileList`

FileLists, like FileSets, are collections of files; however, a FileList is an explicitly defined list of files -- and the files don't necessarily have to exist on the filesystem.

Besides being able to refer to nonexistent files, another thing that `FileLists` allow you to do is specify files `in a certain order`. Files in `FileSets` are ordered based on the OS-level directory listing functions, in some cases you may want to specify a list of files to be processed in a certain order -- e.g. when concatenating files using the `<append>` task.

```xml
<filelist dir = "base/" files = "file1.txt,file2.txt,file3.txt"/>

<!-- OR: -->
<filelist dir = "basedir/" listfile = "files_to_process.txt"/>
```

5.7.3. `FilterChains` and Filters

`FilterChains` can be compared to Unix pipes. Unix pipes add a great deal of flexibility to command line operations; for example, if you wanted to copy just those lines that contained the string `blee` from the first 10 lines of a file called `foo` to a file called `bar`, you could do:

```
cat foo | head -n10 | grep blee > bar
```

Something like this is not possible with the tasks and types that we have learned about thus far, and this is where the incredible usefulness of `FilterChains` becomes apparent. They emulate Unix pipes and provide a powerful dimension of file/stream manipulation for the tasks that support them.

`FilterChain` usage is quite straightforward: you pass the complex Phing type `filterchain` to a task that supports FilterChains and add individual filters to the FilterChain. In the course of executing the task, the filters are applied (in the order in which they appear in the XML) to the contents of the files that are being manipulated by your task.

```
<filterchain>
  <replacetokens>
    <token key = "BC_PATH" value = "${top.builddir}/"/>
    <token key = "BC_PATH_USER" value = "${top.builddir}/testsite/user/${lang}/"/>
  </replacetokens>

  <filterreader classname = "phing.filters.TailFilter">
    <param name = "lines" value = "10"/>
  </filterreader>
</filterchain>
```

The code listing above shows you some example of how to use filter chains. For a complete reference see Appendix D, *Core Types.* This filter chain would replace all occurrences of BC_PATH and BC_PATH_USER with the values assigned to them in lines 4 and 5. Additionally, it will only return the last 10 lines of the files.

Notice above that FilterChain filters have a "shorthand" notation and a long, generic notation. Most filters can be described using both of these forms:

```
<replacetokens>
  <token key = "BC_PATH" value = "${top.builddir}/"/>
  <token key = "BC_PATH_USER" value = "${top.builddir}/testsite/user/${lang}/"/>
</replacetokens>

<!-- OR: -->

<filterreader classname = "phing.filters.ReplaceTokens">
  <param type = "token" name = "BC_PATH" value = "${top.builddir}/"/>
  <param type = "token" name = "BC_PATH" value = "${top.builddir}/testsite/user/${lang}/"/>
</filterreader>
```

As the pipe concept in Unix, the filter concept is quite complex but powerful. To get a better understanding of different filters and how they can be used, take a look at any of the many uses of FilterChains in the build files for the binarycloud Bibliography project.

5.7.4. File Mappers

With FilterChains and filters provide a powerful tool for changing contents of files, mappers provide a powerful tool for changing the names of files.

To use a Mapper, you must specify a pattern to match on and a replacement pattern that describes how the matched pattern should be transformed. The simplest form is basically no different from the DOS copy command:

```
copy *.bat *.txt
```

In Phing this is the glob Mapper:

```
<mapper type = "glob" from = "*.bat" to = "*.txt"/>
```

Phing also provides support for more complex mapping using regular expressions:

```
<mapper type = "regexp" from = "^(.*)\.conf\.xml$$" to = "\1.php"/>
```

Consider the example below to see how Mappers can be used in a build file. This example includes some of the other concepts introduced in this chapter, such as FilterChains and FileSets. If you don't understand everything, don't worry. The important point is that Mappers are types too, which can be used in tasks that support them.

```
<copy>
```

```
<fileset dir = ".">
  <include name = "*.ent.xml"/>
</fileset>

<mapper type = "regexp" from = "^(.*)\.ent\.xml$" to = "\1.php"/>

<filterchain>
  <filterreader classname = "phing.filters.XsltFilter">
    <param name = "style" value = "ent2php.xsl"/>
  </filterreader>
</filterchain>
</copy>
```

For a complete reference, see Appendix D, *Core Types*

5.8. Conditions

Conditions are nested elements of the condition, if and waitfor tasks.

5.8.1. not

The <not> element expects exactly one other condition to be nested into this element, negating the result of the condition. It doesn't have any attributes and accepts all nested elements of the condition task as nested elements as well.

5.8.2. and

The <and> element doesn't have any attributes and accepts an arbitrary number of conditions as nested elements. This condition is true if all of its contained conditions are, conditions will be evaluated in the order they have been specified in the build file.

The <and> condition has the same shortcut semantics as the && operator in some programming languages, as soon as one of the nested conditions is false, no other condition will be evaluated.

5.8.3. or

The <or> element doesn't have any attributes and accepts an arbitrary number of conditions as nested elements. This condition is true if at least one of its contained conditions is, conditions will be evaluated in the order they have been specified in the build file.

The <or> condition has the same shortcut semantics as the || operator in some programming languages, as soon as one of the nested conditions is true, no other condition will be evaluated.

5.8.4. xor

The <xor> element performs an exclusive or on all nested elements, similar to the ^ operator in PHP. It only evaluates to true if an odd number of nested conditions are true. There is no shortcutting of evaluation, unlike the <and> and <or> tests. It doesn't have any attributes and accepts all nested elements of the condition task as nested elements as well.

5.8.5. os

Test whether the current operating system is of a given type.

Table 5.1: *OS Attributes*

Attribute	Description	Required
family	The name of the operating system family to expect.	Yes

Supported values for the family attribute are:

- windows (for all versions of Microsoft Windows)

- mac (for all Apple Macintosh systems)

- unix (for all Unix and Unix-like operating systems)

5.8.6. `equals`

Tests whether the two given Strings are identical

Table 5.2: *equals Attributes*

Attribute	Description	Required
arg1	First string to test.	Yes
arg2	Second string to test.	Yes
casesensitive	Perform a case sensitive comparison. Default is true.	No
trim	Trim whitespace from arguments before comparing them. Default is false.	No

5.8.7. `version-compare`

Compares two given versions

Table 5.3: *version-compare Attributes*

Attribute	Description	Required
version	The version you want to compare	Yes
desiredVersion	The version you want to compare against	Yes
operator	The operator to use for version comparison. Default is >=.	No
debug	Turns on debug mode, that echoes the comparion message. Default is false.	No

```
<version-compare version = "${someproperty}" desiredVersion = "1.3" operator = "gt" />
```

This condition internally uses PHP version_compare(). Operators and behavior are the same.

5.8.8. `http`

Condition to wait for a HTTP request to succeed.

Attributes are:

- url - the URL of the request.

- errorsBeginAt - number at which errors begin at.

Table 5.4: *http Attributes*

url	The URL of the request.	Yes
errorsBeginAt	Number at which errors begin at. - Default: 400	No

```
<http url = "http://url.to.test" errorsBeginAt = "404" />
```

5.8.9. socket

Condition to test for a (tcp) listener on a specified host and port.

Table 5.5: *socket Attributes*

server	The hostname or ip address of the server.	Yes
port	The port number of the server.	Yes

```
<socket server = "localhost" port = "80" />
```

5.8.10. hasfreespace

Condition returns true if selected partition has the requested space, false otherwise.

Table 5.6: *hasfreespace Attributes*

Attribute	Description	Required
partition	The partition/device to check.	Yes
needed	The amount of free space required.	Yes

```
<hasfreespace partition = "c:" needed = "10M" />
```

This condition internally uses PHP disk_free_space().

5.8.11. isset

Test whether a given property has been set in this project.

Table 5.7: *isset Attributes*

Attribute	Description	Required
property	The name of the property to test.	Yes

5.8.12. contains

Tests whether a string contains another one.

Table 5.8: *contains Attributes*

Attribute	Description	Required
string	The string to search in.	Yes

Attribute	Description	Required
substring	The string to search for.	Yes
casesensitive	Perform a case sensitive comparison. Default is true.	No

5.8.13. `istrue`

Tests whether a string evaluates to true.

Table 5.9: istrue Attributes

Attribute	Description	Required
value	value to test	Yes

```
<istrue value = "${someproperty}"/>
<istrue value = "false"/>
```

5.8.14. `isfalse`

Tests whether a string evaluates to not true, the negation of `<istrue>`

Table 5.10: isfalse Attributes

Attribute	Description	Required
value	value to test	Yes

```
<isfalse value = "${someproperty}"/>
<isfalse value = "false"/>
```

5.8.15. `referenceexists`

Tests whether a specified reference exists.

Table 5.11: referenceexists Attributes

Attribute	Description	Required
ref	reference to test for	Yes

```
<referenceexists ref = "${someid}"/>
```

5.8.16. `available`

This condition is identical to the Available task, all attributes and nested elements of that task are supported, the property and value attributes are redundant and will be ignored.

5.8.17. `filesmatch`

Test two files for matching. Nonexistence of one file results in "false", although if neither exists they are considered equal in terms of content. This test does a byte for byte comparison, so test time scales

with byte size. NB: if the files are different sizes, one of them is missing or the filenames match the answer is so obvious the detailed test is omitted.

Table 5.12: *filesmatch Attributes*

Attribute	Description	Required
file1	First file to test.	Yes
file2	Second file to test.	Yes

```
<filesmatch file1 = "${file1}" file2 = "${file2}"/>
```

Chapter 6. Extending Phing

Phing was designed to be flexible and easily extensible. Phing's existing core and optional tasks do provide a great deal of flexibility in processing files, performing database actions, and even getting user feedback during a build process. In some cases, however, the existing tasks just won't suffice and because of Phing's open, modular architecture adding exactly the functionality you need is often quite trivial.

In this chapter we'll look primarily at how to create your own tasks, since that is probably the most useful way to extend Phing. We'll also give some more information about Phing's design and inner workings.

6.1. Extension Possibilities

There are three main areas where Phing can be extended: Tasks, Types, Mappers. The following sections discuss these options.

6.1.1. Tasks

Tasks are pieces of codes that perform an atomic action like installing a file. Therefore a special worker class hast to be created and stored in a specific location, that actually implements the job. The worker is just the interface to Phing that must fulfill some requirements discussed later in this chapter, however it can - but not necessarily must - use other classes, workers and libraries that aid performing the operations needed.

6.1.2. Types

Extending types is a rare need; nevertheless, you can do it. A possible type you might implement is `urlset`, for example.

You may end up needing a new type for a task you write; for example, if you were writing the XSLTTask you might discover that you needed a special type for XSLTParams (even though in that case you could probably use the generic name/value Parameter type). In cases where the type is really only for a single task, you may want to just define the type class in the same file as the Task class, rather than creating an official stand-alone `Type`.

6.1.3. Mappers

Creating new mappers is also a rare need, since most everything can be handled by the Appendix F, *Core mappers*. The Mapper framework does provide a simple way for defining your own mappers to use instead, however, and mappers implement a very simple interface.

6.2. Source Layout

6.2.1. Files And Directories

Before you are going to start to extend Phing let's have a look at the source layout. You should be comfortable with the organization of files witch in the source tree of Phing before start coding. After

you extracted the source distribution or checked it out from git you should see the following directory structure:

```
$PHING_HOME
 |-- bin
 |-- classes
 |   `-- phing
 |       |-- filters
 |       |   `-- util
 |       |-- mappers
 |       |-- parser
 |       |-- tasks
 |       |   |-- ext
 |       |   |-- system
 |       |   |   `-- condition
 |       |   `-- user
 |       `-- types
 |-- docs
 |   `-- phing_guide
 `-- test
     |-- classes
     `-- etc
```

The following table briefly describes the contents of the major directories:

Table 6.1: *Phing source tree directories*

Directory	Contents
`bin`	The basic applications (phing, configure) as well as the wrapper scripts for different platforms (currently Unix and Windows).
`classes`	Repository of all the classes used by Phing. This is the base directory that should be on the PHP include_path. In this directory you will find the subdirectory phing/ with all the Phing relevant classes.
`docs`	Documentation files. Generated books, online manuals as well as the PHPDoc generated API documentation.
`test`	A set of testcases for different tasks, mappers and types. If you are developing in git you should add a testcase for each implementation you check in.

Currently there is no distinction between the `source` layout and the `build` layout of Phing. The directory layout [#phing.dirlayout] shows the file tree that carries some additional files like the Phing website. Later on there may be a buildfile to create a clean distribution tree of Phing itself.

6.2.2. File Naming Conventions

There are some file naming conventions used by Phing. Here's a quick rundown on the most basic conventions. A more detailed list can be found in [See Naming And Coding Standards]:

- Filenames consist of no more or less than two elements: `name` and `extension` .

- Choose short descriptive filenames (must be less than 31 chars)

- Names must not contain dots.

- Files containing PHP code must end with the extension `.php` .

- There must be only one class per file (no procedural methods allowed, use a separate file for them), with the exception of "inner"-type / helper classes that can be declared in the same file as the "outer" / main class.

- The name portion of the file must be named exactly like the class it contains.

- Buildfiles and configure rulesets must end with the extension `.xml`.

6.2.3. Coding Standards

We are using PEAR coding standards. We are using a less strict version of these standards, but we do insist that new contributions have phpdoc comments and make explicitly declarations about public/protected/private variables and methods. If you have suggestions about improvements to Phing codebase, don't hesitate to let us know.

6.3. System Initialization

PHP installations are typically quite customized -- e.g. different memory_limit, execution timeout values, etc. The first thing that Phing does is modify PHP INI variables to create a standard PHP environment. This is performed by the `init layer` of Phing that uses a three-level initialization procedure. It basically consists of three different files:

- Platform specific wrapper scripts in bin/

- Main application in bin/

- Phing class in classes/phing/

At the first look this may seem to be unnecessary overhead. Why three levels of initialization? The main reason why there are several entry points is that Phing is build so that other frontends (e.g. PHP-GTK) could be used in place of the command line.

6.3.1. Wrapper Scripts

This scripts are technical not required but provided for the ease of use. Imagine you have to type every time you want to build your project:

```
php -qC /path/to/phing/bin/phing.php -verbose all distro snapshot
```

Indeed that is not very elegant. Furthermore if you are lax in setting your environment variables these script can guess the proper variables for you. However you should always set them.

The scripts are platform dependent, so you will find shell scripts for `Unix` like platforms (sh) as well as the batch scripts for `Windows` platforms. If you set-up your path properly you can call Phing everywhere in your system with this command-line (referring to the above example):

```
phing -v2 all distro
```

6.3.2. The Main Application (phing.php)

This is basically a wrapper for the Phing class that actually does all the logic for you. If you look at the source code for phing.php you will see that all real initialization is handled in the Phing class. phing.php is simply the command line entry point for Phing.

6.3.3. The Phing Class

Given that all the prior initialization steps passed successfully the Phing is included and `Phing::startup()` is invoked by the main application script. It sets-up the system components, system constants ini-settings, PEAR and some other stuff. The detailed start-up process is as follows:

- Start Timer

- Set System Constants

- Set Ini-Settings

- Set Include Paths

After the main application completed all operations (successfully or unsuccessfully) it calls `Phing::shutdown(EXIT_CODE)` that takes care of a proper destruction of all objects and a gracefully termination of the program by returning an `exit code` for shell usage (see [See Program Exit Codes] for a list of exit codes).

6.4. System Services

6.4.1. The Exception system

Phing uses the PHP5 try/catch/throw Exception system. Phing defines a number of Exception subclasses for more fine-grained handling of Exceptions. Low level Exceptions that cannot be handled will be wrapped in a `BuildException` and caught by the outer-most catch() {} block.

6.5. Build Lifecycle

This section exists to explain -- or try -- how Phing "works". Particularly, how Phing proceeds through a build file and invokes tasks and types based on the tags that it encounters.

6.5.1. How Phing Parses Buildfiles

Phing uses an ExpatParser class and PHP's native expat XML functions to handle the parsing of build files. The handler classes all extend the phing.parser.AbstractHandler class. These handler classes "handle" the tags that are found in the buildfile.

Core tasks and datatypes are mapped to XML tag names in the defaults.properties files -- specifically phing/tasks/defaults.properties and phing/types/defaults.properties.

It works roughly like this:

1. `phing.parser.RootHandler` is registered to handle the buildfile XML document

2. RootHanlder expects to find exactly one element: `<project>`. RootHandler invokes the ProjectHandler with the attributes from the <project> tag or throws an exception if no <project> is found, or if something else is found instead.

3. `ProjectHandler` expects to find `<target>` tags; for these `ProjectHandler` invokes the `TargetHandler`. ProjectHandler also has exceptions for handling certain tasks that can be performed at the top-level: `<resolve>`, `<taskdef>`, `<typedef>`, and `<property>`; for these `Projec-`

tHandler invokes the TaskHandler class. If a tag is presented that doesn't match any expected tags, then `ProjectHandler` assumes it is a datatype and invokes the `DataTypeHandler`.

4. `TargetHandler` expects all tags to be either tasks or datatypes and invokes the appropriate handler (based on the mappings provided in the `defaults.properties` files).

5. Tasks and datatypes can have nested elements, but only if they correspond to a create*() method in the task or datatype class. E.g. a nested `<param>` tag must correspond to a `createParam()` method of the task or datatype.

```
... More to come ...
```

6.6. Writing Tasks

6.6.1. Creating A Task

We will start creating a rather simple task which basically does nothing more than echo a message to the screen. See [below] for the source code and the following [below] for the XML definition that is used for this task.

```php
<?php

require_once "phing/Task.php";

class MyEchoTask extends Task {

    /**
     * The message passed in the buildfile.
     */
    private $message = null;

    /**
     * The setter for the attribute "message"
     */
    public function setMessage($str) {
        $this->message = $str;
    }

    /**
     * The init method: Do init steps.
     */
    public function init() {
        // nothing to do here
    }

    /**
     * The main entry point method.
     */
    public function main() {
        print($this->message);
    }
}

?>
```

This code contains a rather simple, but complete Phing task. It is assumed that the file is named `MyEchoTask.php`. For this example, we're assuming that the file is placed in `/home/example/classes`. We'll explain the source code in detail shortly. But first we'd like to discuss how we should register the task to Phing so that it can be executed during the build process.

6.6.2. Using the Task

The task shown [above] must somehow get loaded and called by Phing. Therefore it must be made available to Phing so that the buildfile parser is aware a correlating XML element and it's parameters. Have a look at the minimalistic buildfile example given in [the buildfile below] that does exactly this.

```xml
<?xml version="1.0" ?>

<project name = "test" basedir = "." default = "test.myecho">
    <includepath classpath = "/home/example/classes" />
    <taskdef name = "myecho" classname = "MyEchoTask" />

    <target name = "test.myecho">
      <myecho message = "Hello World" />
    </target>
</project>
```

To register the custom task with Phing, the `taskdef` element (line 5) is used. See Section B.40, "TaskdefTask" for a more detailed explanation. Optionally, before the `taskdef` element, the `includepath` element adds a path to PHP's include path. This is of course only required if the mentioned path isn't already on the include path. See Section B.23, "IncludePathTask" for a more detailed explanation.

Now, as we have registered the task by assigning a name and the worker class ([see source code above]) it is ready for usage within the `<target>` context (line 8). You see that we pass the message that our task should echo to the screen via an XML attribute called "message".

6.6.3. Source Discussion

Now that you've got the knowledge to execute the task in a buildfile it's time to discuss how everything works.

6.6.4. Task Structure

All files containing the definition of a task class follow a common well formed structure:

• Include/require statements to import all required classes

• The class declaration and definition

• The class's properties

• The class's constructor

• Setter methods for each XML attribute

• The `init()` method

• The `main()` method

• Arbitrary `private` (or `protected`) class methods

6.6.5. Includes

Always include/require all the classes needed for this task in full written notation. Furthermore you should always include `phing/Task.php` at the very top of your include block. Then include all other required system or proprietary classes.

6.6.6. Class Declaration

If you look at line 5 in [the source code of the task] you will find the `class declaration`. This will be familiar to you if you are experienced with OOP in PHP (we assume here that you are). Furthermore there are some fine-grained rules you must obey when creating the classes (see also,[naming and coding standards]):

- Your classname must be exactly like the taskname you are going to implement plus the suffix "Task". In our example case the classname is `MyEchoTask` (constructed by the taskname "myecho" plus the suffix "`task`"). The upper/lower case casing is currently only for better reading. However, it is encouraged that you use it this way.

- The task class you are creating must at least extend "`Task`" to inherit all task specific methods.

6.6.7. Class Properties

The next lines you are coding are class properties. Most of them are inherited from the Task superclass, so there's not need to redeclare them. Nevertheless you should `declare` the following ones by your own:

- Taskname. Always hard code the `taskname` property that equals the name of the XML element that your task claims. Currently this information is not used - but it will be in the future.

- Your arbitrary properties that reflect the XML attributes/elements which your task accepts.

In the `MyEchoTask` example the coded properties can be found in lines 7 to 11. Give you properties meaningful descriptive names that clearly state their function within the context. A couple of properties are inherited from the superclass that must not be declared in the properties part of the code.

For a list of inherited properties (most of them are reserved, so be sure not to overwrite them with your own) can be found in the "Phing API Reference" in the `docs/api/` directory.

6.6.8. The Constructor

The next block that follows is the class's constructor. It must be present and call at least the constructor or the parent class. Of course, you can add some initialization data here. It is recommended that you `define` your prior declared properties here.

6.6.9. Setter Methods

As you can see in the XML definition of our task ([see buildfile above] , line 9) there is an attribute defined with the task itself, namely "message" with a value of the text string that our task should echo. The task must somehow become aware of the attribute name and the value. Therefore the `setter methods` exist.

For each attribute you want to import to the task's namespace you have to define a method named exactly after the very attribute plus the string "set" prepended. This method accepts exactly one parameter that holds the value of the attribute. Now you can set the a class internal property to the value that is passed via the setter method.

In the setter method you should also perform any casting operations and/or check if the attribute value is a valid value. If this is not the case, throw a `BuildException`. In some cases, such as when you have three attributes and at least one of them should be set, you may want to check the attribute values inside the init() or main() method.

In out example the setter is named `setMessage` , because the XML attribute the echo task accepts is "message". setMessage now takes the string "Hello World" provided by the parser and sets the value of the internal class property `$strMessage` to "Hello World". It is now available to the task for further disposal.

6.6.10. Creator Methods

Creator methods allow you to manage nested XML tags in your new Phing Task.

6.6.11. `init()` Method

The `init` method gets called when the `<taskname>` xml element closes. It must be implemented even if it does nothing like in the example above. You can do init steps here required to setup your task object properly. After calling the Init-Method the task object remains untouched by the parser. Init should not perform operations related somehow to the action the task performs. An example of using init may be cleaning up the $strMessage variable in our example (i.e. `trim($strMessage)`) or importing additional workers needed for this task.

The init method should return true or an error object evaluated by the governing logic. If you don't implement init method, phing will shout down with a fatal error.

6.6.12. `main()` Method

There is exactly one entry point to execute the task. It is called after the complete buildfile has been parsed and all targets and tasks have been scheduled for execution. From this point forward the very implementation of the tasks action starts. In case of our example a message (imported by the proper setter method) is Logged to the screen through the system's "Logger" service (the very action this task is written for). The `Log()` method-call in this case accepts two parameters: a event constant and the message to log.

6.6.13. Arbitrary Methods

For the more or less simple cases (as our example) all the logic of the task is coded in the Main() method. However for more complex tasks common sense dictates that particular action should be swapped to smaller, logically contained units of code. The most common way to do this is separating logic into private class methods - and in even more complex tasks in separate libraries.

```
private function myPrivateMethod() {
    // definition
}
```

6.7. Writing Types

You should only create a standalone Type if the Type needs to be shared by more than one Task. If the Type is only needed for a specific Task -- for example to handle a special parameter or other tag needed for that Task -- then the Type class should just be defined within the same file as the Task. (For example, `phing/filters/XSLTFilter.php` also includes an `XSLTParam` class that is not used anywhere else.)

For cases where you do need a more generic Type defined, you can create your own Type class --
similar to the way a Task is created.

6.7.1. Creating a DataType

Type classes need to extend the abstract DataType class. Besides providing a means of categorizing
types, the DataType class provides the methods necessary to support the "refid" attribute. (All types
can be given an id, and can be referred to later using that id.)

In this example we are creating a DSN type because we have written a number of DB-related Tasks,
each of which need to know how to connect to the database; instead of having database parameters
for each task, we've created a DSN type so that we can identify the connection parameters once and
then use it in all our db Tasks.

```php
require_once "phing/types/DataType.php";

/**
 * This Type represents a DB Connection.
 */
class DSN extends DataType {

  private $url;
  private $username;
  private $password;
  private $persistent = false;

  /**
   * Sets the URL part: mysql://localhost/mydatabase
   */
  public function setUrl($url) {
    $this->url = $url;
  }

  /**
   * Sets username to use in connection.
   */
  public function setUsername($username) {
    $this->username = $username;
  }

  /**
   * Sets password to use in connection.
   */
  public function setPassword($password) {
    $this->password = $password;
  }

  /**
   * Set whether to use persistent connection.
   * @param boolean $persist
   */
  public function setPersistent($persist) {
    $this->persistent = (boolean) $persist;
  }

  public function getUrl(Project $p) {
    if ($this->isReference()) {
      return $this->getRef($p)->getUrl($p);
    }
    return $this->url;
  }

  public function getUsername(Project $p) {
    if ($this->isReference()) {
      return $this->getRef($p)->getUsername($p);
```

```php
      }
      return $this->username;
    }

    public function getPassword(Project $p) {
      if ($this->isReference()) {
        return $this->getRef($p)->getPassword($p);
      }
      return $this->password;
    }

    public function getPersistent(Project $p) {
      if ($this->isReference()) {
        return $this->getRef($p)->getPersistent($p);
      }
      return $this->persistent;
    }

    /**
     * Gets a combined hash/array for DSN as used by PEAR.
     * @return array
     */
    public function getPEARDSN(Project $p) {
      if ($this->isReference()) {
        return $this->getRef($p)->getPEARDSN($p);
      }

      include_once 'DB.php';
      $dsninfo = DB::parseDSN($this->url);
      $dsninfo['username'] = $this->username;
      $dsninfo['password'] = $this->password;
      $dsninfo['persistent'] = $this->persistent;

      return $dsninfo;
    }

    /**
     * Your datatype must implement this function, which ensures that there
     * are no circular references and that the reference is of the correct
     * type (DSN in this example).
     *
     * @return DSN
     */
    public function getRef(Project $p) {
      if ( !$this->checked ) {
        $stk = array();
        array_push($stk, $this);
        $this->dieOnCircularReference($stk, $p);
      }
      $o = $this->ref->getReferencedObject($p);
      if ( !($o instanceof DSN) ) {
        throw new BuildException($this->ref->getRefId()." doesn't denote a DSN");
      } else {
        return $o;
      }
    }
  }

}
```

6.7.2. Using the DataType

The `TypedefTask` provides a way to "declare" your type so that you can use it in your build file. Here is how you would use this type in order to define a single DSN and use it for multiple tasks. (Of course you could specify the DSN connection parameters each time, but the premise behind needing a DSN datatype was to avoid specifying the connection parameters for each task.)

```xml
<?xml version="1.0" ?>

<project name = "test" basedir = ".">

  <typedef name = "dsn" classname = "myapp.types.DSN" />

  <dsn
      id = "maindsn"
      url = "mysql://localhost/mydatabase"
      username = "root"
      password = ""
      persistent = "false" />

  <target name = "main">

    <my-special-db-task>
        <dsn refid = "maindsn"/>
    </my-special-db-task>

    <my-other-db-task>
      <dsn refid = "maindsn"/>
    </my-other-db-task>

  </target>

</project>
```

6.7.3. Source Discussion

Getters & Setters

You must provide a setter method for every attribute you want to set from the XML build file. It is good practice to also provide a getter method, but in practice you can decide how your tasks will use your task. In the example above, we've provided a getter method for each attribute and we've also provided an additional method:`DSN::getPEARDSN()` which returns the DSN hash array used by `PEAR::DB`, `PEAR::MDB`, and Creole. Depending on the needs of the Tasks using this DataType, we may only wish to provide the `getPEARDSN()` method rather than a getter for each attribute.

Also important to note is that the getter method needs to check to see whether the current DataType is a reference to a previously defined DataType -- the `DataType::isReference()` exists for this purpose. For this reason, the getter methods need to be called with the current project, because References are stored relative to a project.

The getRef() Method

The `getRef()` task needs to be implemented in your Type. This method is responsible for returning a referenced object; it needs to check to make sure the referenced object is of the correct type (i.e. you can't try to refer to a RegularExpresson from a DSN DataType) and that the reference is not circular.

You can probably just copy this method from an existing Type and make the few changes that customize it to your Type.

6.8. Writing Mappers

Writing your own filename mapper classes will allow you to control how names are transformed in tasks like `CopyTask`, `MoveTask`, `XSLTTask`, etc. In some cases you may want to extend existing mappers

(e.g. creating a GlobMapper that also transforms to uppercase); in other cases, you may simply want to create a very specific name transformation that isn't easily accomplished with other mappers like `GlobMapper` or `RegexpMapper`.

6.8.1. Creating a Mapper

Writing filename mappers is simplified by interface support in PHP5. Essentially, your custom file-name mapper must implement `phing.mappers.FileNameMapper`. Here's an example of a filename mapper that creates DOS-style file names. For this example, the "to" and "from" attributes are not needed because all files will be transformed. To see the "to" and "from" attributes in action, look at `phing.mappers.GlobMapper` or `phing.mappers.RegexpMapper`.

```php
require_once "phing/mappers/FileNameMapper.php";

/**
 * A mapper that makes those ugly DOS filenames.
 */
class DOSMapper implements FileNameMapper {

  /**
   * The main() method actually performs the mapping.
   *
   * In this case we transform the $sourceFilename into
   * a DOS-compatible name.  E.g.
   * ExtendingPhing.html -> EXTENDI~.DOC
   *
   * @param string $sourceFilename The name to be coverted.
   * @return array The matched filenames.
   */
  public function main($sourceFilename) {

    $info = pathinfo($sourceFilename);
    $ext = $info['extension'];
    // get basename w/o extension
    $bname = preg_replace('/\.\w+\$/', '', $info['basename']);

    if (strlen($bname) > 8) {
      $bname = substr($bname,0,7) . '~';
    }

    if (strlen($ext) > 3) {
      $ext = substr($bname,0,3);
    }

    if (!empty($ext)) {
      $res = $bname . '.' . $ext;
    } else {
      $res = $bname;
    }

    return (array) strtoupper($res);
  }

  /**
   * The "from" attribute is not needed here, but method must exist.
   */
  public function setFrom($from) {}

    /**
   * The "from" attribute is not needed here, but method must exist.
   */
  public function setTo($to) {}

}
```

6.8.2. Using the Mapper

Assuming that this mapper is saved to `myapp/mappers/DOSMapper.php` (relative to a path on PHP's `include_path` or in `PHP_CLASSPATH` env variable), then you would refer to it like this in your build file:

```
<mapper classname = "myapp.mappers.DOSMapper"/>
```

Appendix A. Fact Sheet

A.1. Built-In Properties

<div align="center">Table A.1: Phing Built-In Properties</div>

Property	Contents
`application.startdir`	Current work directory
`env.*`	Environment variables, extracted from `$_SERVER`.
`host.arch`	System architecture, i.e. i586. Not available on Windows machines.
`host.domain`	DNS domain name, i.e. `php.net`. Not available on Windows machines.
`host.fstype`	The type of the files ystem. Possible values are UNIX, WINNT and WIN32
`host.name`	Operating System hostname as returned by `posix_uname()`. Not available on Windows machines.
`host.os`	Operating System description as set in PHP_OS variable (see PHP Manual [http://www.php.net/manual/en/reserved.constants.core.php]).
`host.os.release`	Operating version release, i.e. 2.2.10. Not available on Windows machines.
`host.os.version`	Operating system version, i.e. #4 Tue Jul 20 17:01:36 MEST 1999. Not available on Windows machines.
`line.separator`	Character(s) that signal the end of a line, "\n" for Linux, "\r\n" for Windows system, "\r" for Macintosh.
`os.name`	Operating System description as set in PHP_OS variable.
`phing.file`	Full path to current buildfile.
`phing.dir`	Path that contains the current buildfile.
`phing.home`	Phing installation directory, not set in PEAR installations.
`phing.version`	Current Phing version.
`phing.project.name`	Name of the currently processed project.
`php.classpath`	The value of the environment variable `PHP_CLASSPATH`.
`php.version`	Version of the PHP interpreter. Same as PHP constant `PHP_VERSION` (see PHP Manual [http://www.php.net/manual/en/reserved.constants.core.php]).
`project.basedir`	The current project basedir.
`user.home`	Value of the environment variable `HOME`.

A.2. Command Line Arguments

The following table lists the command line arguments currently available.

<div align="center">Table A.2: Phing Command Line Arguments</div>

Parameter	Meaning
`-h -help`	Display the help screen

Parameter	Meaning
`-l -list`	List all available targets in buildfile (excluding targets that have their `hidden` attribute set to `true`)
`-v -version`	Print version information and exit
`-q -quiet`	Quiet operation, no output at all
`-S -silent`	Print nothing but task outputs and build failures
`-verbose`	Verbose, give some more output
`-debug`	Output debug information
`-emacs -e`	Produce logging information without adornments
`-diagnostics`	Print diagnostics information
`-longtargets`	Show target descriptions during build
`-logfile <file>`	Use given file for log
`-logger path.to.Logger`	Specify an alternate logger. Default is phing.listener.AnsiColorLogger. Other options include phing.listener.NoBannerLogger, phing.listener.DefaultLogger, phing.listener.XmlLogger, phing.listener.TargetLogger and phing.listener.HtmlColorLogger.
`-f -buildfile <file>`	Specify an alternate buildfile name. Default is build.xml
`-D<property>=<value>`	Set the property to the specified value to be used in the buildfile
`-keep-going -k`	Execute all targets that to not depend on failed target(s)
`-propertyfile <file>`	Load properties from the specified file
`-find <file>`	Search for a buildfile towards the root of the filesystem and use that
`-inputhandler <file>`	The class to use to handle user input

A.3. Distribution File Layout

```
$PHING_HOME
   |-- bin
   |-- classes
   |    `-- phing
   |          |-- filters
   |          |    `-- util
   |          |-- mappers
   |          |-- parser
   |          |-- tasks
   |          |    |-- ext
   |          |    |-- system
   |          |    |    `-- condition
   |          |    `-- user
   |          `-- types
   |-- docs
   |    `-- phing_guide
   `-- test
        |-- classes
```

```
        `-- etc
```

A.4. Program Exit Codes

Phing is script-safe - means that you can execute Phing and Configure within a automated script context. To check back the success of a Phing call it returns an exit code that can be captured by your calling script. The following list gives you details on the used exit codes and their meaning.

Table A.3: *Program Exit Codes*

Exitcode	Description
-2	Environment not properly defined
-1	Parameter or configuration error occurred
0	Successful execution (build succeeded), no errors (there may be warnings)
1	Unsuccessful execution (build failed), errors occurred

A.5. The LGPL License

Source http://www.gnu.org/licenses/lgpl.txt

```
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```

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Appendix B. Core tasks

This appendix contains a reference of all core tasks, i.e. all tasks that are needed to build a basic project.

This reference lists the tasks alphabetically by the name of the classes that implement the tasks. So if you are searching for the reference to the `<copy>` tag, for example, you will want to look at the reference of `CopyTask`.

B.1. AdhocTaskdefTask

The AdhocTaskdefTask allows you to define a task within your build file.

Note that you should use <![CDATA[...]]> so that you don't have to quote entities within your `<adhoc-task></adhoc-task>` tags.

Table B.1: Attributes

Name	Type	Description	Default	Required
name	String	Name of XML tag that will represent this task.	n/a	Yes

B.1.1. Examples

```
<target name="main"
        description="==>test AdhocTask ">

        <adhoc-task name="foo"><![CDATA[
            class FooTest extends Task {
                private $bar;

                function setBar($bar) {
                    $this->bar = $bar;
                }

                function main() {
                    $this->log("In FooTest: " . $this->bar);
                }
            }
        ]]></adhoc-task>

        <foo bar="B.L.I.N.G"/>
</target>
```

B.2. AdhocTypedefTask

The AdhocTypedefTask allows you to define a datatype within your build file.

Note that you should use <![CDATA[...]]> so that you don't have to quote entities within your `<adhoc-type></adhoc-type>` tags.

Table B.2: Attributes

Name	Type	Description	Default	Required
name	String	Name of XML tag that will represent this datatype..	n/a	Yes

B.2.1. Example

```
<target name="main"
        description="==>test AdhocType">

        <adhoc-type name="dsn"><![CDATA[
            class CreoleDSN extends DataType {
                private $url;

                function setUrl($url) {
                    $this->url = $url;
                }

                function getUrl() {
                  return $this->url;
                }
            }
        ]]></adhoc-type>

    <!-- creole-sql task doesn't exist; just an example -->
    <creole-sql file="test.sql">
      <dsn url="mysql://root@localhost/test"/>
      </creole-sql>

</target>
```

B.3. AppendTask

The Append Task appends text or contents of files to a specified file.

In the example above, AppendTask is reading a filename from `book/PhingGuide.book`, processing the file contents with XSLT, and then appending the result to the file located at `${process.outputfile}`. This is a real example from the build file used to generate this book!

Table B.3: Attributes

Name	Type	Description	Default	Required
destFile	File	Path of file to which text should be appended.	n/a	Yes
file	File	Path to file that should be appended to dest-File.	n/a	No
text	String	Some literal text to append to file.	n/a	No

B.3.1. Examples

```
<append destFile = "${process.outputfile}">
  <filterchain>
    <xsltfilter style = "${process.stylesheet}">
        <param name = "mode" expression = "${process.xslt.mode}"/>
    </xsltfilter>
  </filterchain>
  <filelist dir = "book/" listfile = "book/PhingGuide.book"/>
</append>
```

B.3.2. Supported Nested Tags

- `filelist`

- `fileset`

- `filterchain`

B.4. ApplyTask

Applies a system command on each resource of the specified resource collection.

When the os attribute is specified, then the command is only executed when run on one of the specified operating systems.

The files of a number of Resource Collections – including but not restricted to FileSets or FileLists – are passed as arguments to the system command.

Table B.4: Attributes

Name	Type	Description	Default	Required	Alias
`executable`	`String`	The command to execute without any command line arguments.	n/a	Yes	
`dir`	`String`	The directory the command is to be executed in.	n/a	No	
`output`	`String`	Where to direct stdout.	n/a	No	
`error`	`String`	Where to direct stderr.	n/a	No	
`os`	`String`	Only execute if the Appendix A, *Fact Sheet* property contains specified text.	n/a	No	
`escape`	`Boolean`	Escape shell metacharacters before execution. Setting this to true will enable the escape precaution.	`false`	No	
`passthru`	`Boolean`	Whether to use PHP's passthru() function instead of exec().	`false`	No	
`spawn`	`Boolean`	Whether to spawn unix programs to the background, redirecting stdout (output will not be logged by Phing).	`false`	No	
`returnProperty`	`String`	Property name to set return value to from the execution.	n/a	No	
`outputProperty`	`String`	Property name to set output value to from the execution.	n/a	No	
`checkreturn`	`Boolean`	Whether to check the return code of the execution, throws a BuildException when returncode != 0.	`false`	No	failonerror
`append`	`Boolean`	Whether output (and error) should be appended to or overwrite an existing file. If you set parallel to false, you will probably want to set this one to true.	`false`	No	
`parallel`	`Boolean`	Run the command only once, appending all files as arguments. If false, command will be executed once for every file.	`false`	No	

Name	Type	Description	Default	Required	Alias
addsource-file	Boolean	Whether source file name(s) should be added to the end of command-line automatically. If you need to place it somewhere different, use a nested <srcfile> element between your <arg> elements to mark the insertion point.	true	No	
relative	Boolean	Whether the filenames should be passed on the command line as relative pathnames (relative to the base directory of the corresponding fileset/list for source files).	false	No	
forwardslash	Boolean	Whether the file names should be passed with forward slashes even if the operating system requires other file separator.	false	No	
maxparallel	Boolean	Limit the amount of parallelism by passing at most this many sourcefiles at once. Set it to <= 0 for unlimited.	false	No	

B.4.1. Examples

```xml
<!-- Invokes somecommand arg1 SOURCEFILENAME arg2 for each file in /tmp -->
<apply executable = "somecommand" parallel = "false">
  <arg value = "arg1"/>
  <srcfile/>
  <arg value = "arg2"/>
  <fileset dir = "/tmp"/>
</apply>


<!-- List all the .conf files of "/etc" to the "out.log" file. -->
<apply executable = "ls" output = "/tmp/out.log" append = "true" >
  <arg value = "-alh" />
  <fileset dir = "/etc" >
    <include name = "*.conf" />
  </fileset>
</apply>
```

B.4.2. Supported Nested Tags

- arg

Table B.5: Attributes

Name	Type	Description	Default	Required
value	String	A single command-line argument; can contain space characters.	n/a	One of these
file	String	The name of a file as a single command-line argument; will be replaced with the absolute filename of the file.	n/a	
path	String	A string that will be treated as a path-like string as a single command-line argument;	n/a	

Name	Type	Description	Default	Required
		you can use ; or : as path separators and Phing will convert it to the platform's local conventions.		
line	String	A space-delimited list of command-line arguments.	n/a	

- `fileset`

- `filelist`

- `srcfile`

B.5. AvailableTask

Available Task tests if a resource/file is set and sets a certain property to a certain value if it exists.

Here, `AvailableTask` first checks for the existence of either file or directory named `test.txt` in `/tmp`. Then, it checks for the directory `foo` in `/home` and then for the file or directory `bar` in `/home/foo`. If `/tmp/test.txt` is found, the property `test_txt_exists` is set to `"Yes"`, if `/home/foo` is found and a directory, `properties.yetanother` is set to `"true"` (default). If `/home/foo/bar` exists, `AvailableTask` will set `foo.bar` to `"Well, yes"`. And last it checks if extension `foo` is loaded, so the property `foo.ext.loaded` is set to `"true"` (default).

NB: the Available task can also be used as a condition, see conditions.

Table B.6: Attributes

Name	Type	Description	Default	Required
property	String	Name of the property that is to be set.	n/a	Yes
value	String	The value the property is to be set to.	`"true"`	No
file	String	File/directory to check existence.	n/a	Yes (or `resource` or `extension`)
resource	String	Path of the resource to look for.	n/a	Yes (or `file` or `extension`)
extension	String	Name of the extension to look for.	n/a	Yes (or `file` or `resource`)
type	String (file|dir)	Determines if `AvailableTask` should look for a file or a directory at the position set by `file`. If empty, it checks for either file or directory.	n/a	No
filepath	String	The path to use when looking up `file`.	n/a	No
followSymlinks	Boolean	Whether to dereference symbolic links when looking up `file`.	false	No

B.5.1. Examples

```
<available file = "/tmp/test.txt" property = "test_txt_exists" value = "Yes"/>
```

```
<available file = "/home/foo" type = "dir" property = "properties.yetanother" />

<available file = "/home/foo/bar" property = "foo.bar" value = "Well, yes" />
```

B.6. Basename

Task to determine the basename of a specified file, optionally minus a specified suffix.

When this task executes, it will set the specified property to the value of the last path element of the specified file. If file is a directory, the basename will be the last directory element. If file is a full-path, relative-path, or simple filename, the basename will be the simple file name, without any directory elements.

Table B.7: Attributes

Name	Type	Description	Default	Required
property	String	Name of the property that is to be set.	n/a	Yes
file	String	The path to take the basename of.	n/a	Yes
suffix	String	The suffix to remove from the resulting base-name (specified either with or without the ".").	n/a	No

B.6.1. Examples

```
<basename property = "cmdname" file = "./foo.exe"
    suffix = ".exe"/>
```

B.7. ChmodTask

Sets the mode of a file or directory.

For more informations, see chmod [http://php.net/chmod] in the PHP Manual.

Table B.8: Attributes

Name	Type	Description	Default	Required
file	String	The name of the file or directory. You either have to specify this attribute, or use a fileset.	n/a	Yes
mode	String	The new mode (octal) for the file. Specified in octal, even if the first digit is not a '0'.	n/a	Yes
quiet	Boolean	Set quiet mode, which suppresses warnings if chmod() fails	false	No
failonerror	Boolean	This flag means 'note errors to the output, but keep going'	true	No
verbose	Boolean	Give more information in error message in case of a failure	true	No

B.7.1. Examples

```
<chmod file = "test.txt" mode = "0755" />
<chmod file = "/home/test" mode = "0775" />
<chmod file = "/home/test/mine.txt" mode = "0500" verbose = "true" />
```

B.7.2. Supported Nested Tags

- `fileset`

B.8. ChownTask

Changes the owner of a file or directory.

Table B.9: *Attributes*

Name	Type	Description	Default	Required
file	String	The name of the file or directory. You either have to specify this attribute, or use a fileset.	n/a	Yes
user	String	The new owner of the file. Can contain a user name and a groupname, separated by a dot.	n/a	No
group	String	The new group owner of the file.	n/a	No
quiet	Boolean	Set quiet mode, which suppresses warnings if `chmod()` fails	false	No
failonerror	Boolean	This flag means 'note errors to the output, but keep going'	true	No
verbose	Boolean	Give more information in error message in case of a failure	true	No

B.8.1. Examples

```
<chown file = "my-file.txt" user = "foo" />
<chown file = "my-file.txt" user = "username.groupname" />
<chown file = "/home/test/my-directory" user = "bar" />
<chown file = "/home/test/my-file.txt" user = "foo" verbose = "true" failonerror = "false" />
```

B.8.2. Supported Nested Tags

- `fileset`

B.9. ConditionTask

Sets a property if a certain condition holds true - this is a generalization of Section B.5, "AvailableTask" and Section B.46, "UpToDateTask ".

If the condition holds true, the property value is set to true by default; otherwise, the property is not set. You can set the value to something other than the default by specifying the `value` attribute.

Conditions are specified as nested elements, you must specify exactly one condition - see conditions for a complete list of nested elements.

Table B.10: *Attributes*

Name	Type	Description	Default	Required
property	String	The name of the property to set.	n/a	Yes
value	String	The value to set the property to. Defaults to "true".	true	No

B.9.1. Examples

```xml
<condition property = "isMacOrWindows">
    <or>
      <os family = "mac"/>
      <os family = "windows"/>
    </or>
  </condition>
```

B.9.2. Supported Nested Tags

- or

- and

B.10. CopyTask

Copies files or directories. Files are only copied if the source file is newer than the destination file, or when the destination file does not exist. It is possible to explicitly overwrite existing files.

CopyTask does not allow self copying, i.e. copying a file to the same name for security reasons.

Table B.11: *Attributes*

Name	Type	Description	Default	Required
file	String	The source file.		Yes
tofile	String	The destination the file is to be written to. tofile specifies a full filename. If you only want to specify a directory to copy to, use todir. Either this or the todir attribute is required.	n/a	Yes (or todir)
todir	String	The directory the file is to be copied to. The file will have the same name of the source file. If you want to specify a different name, use tofile. The directory must exist.	n/a	Yes (or tofile)
overwrite	Boolean	Overwrite existing files even if the destination files are newer.	false	No
tstamp or preserve-lastmodified	Boolean	If set to true, the new file will have the same mtime as the old one.	false	No

Name	Type	Description	Default	Required
preservemode or preservepermissions	Boolean	If set to `true`, the new file (and directory) will have the same permissions as the old one. The `mode` specified for directory creation will be ignored.	true	No
includeempty-dirs	Boolean	If set to `true`, also empty directories are copied.	true	No
mode	Integer	Mode (octal) to create directories with.	From umask	No
haltonerror	Boolean	If set to `true`, halts the build when errors are encountered.	true	No

Note

No automatic expansion of symbolic links

By default, `CopyTask` does not expand / dereference symbolic links, and will simply copy the link itself. To enable dereferencing, set `expandsymboliclinks` to `true` in the `<fileset>` tag.

B.10.1. Examples

On the one hand, CopyTask can be used to copy file by file:

```
<copy file = "somefile.txt" tofile = "/tmp/anotherfile.bak" overwrite = "true"/>
```

Additionally, `CopyTask` supports Filesets, i.e. you can easily include/exclude one or more files. For more information, see Appendix D, *Core Types* -- pay particular attention to the `defaultexcludes` attribute. Appendix F, *Core mappers* and Appendix E, *Core filters* are also supported by `CopyTask`, so you can do almost everything that needs processing the content of the files or the filename.

```
<copy todir = "/tmp/backup" >
  <fileset dir = ".">
    <include name = "**/*.txt" />
    <include name = "**/*.doc" />
    <include name = "**/*.swx" />
  </fileset>
  <filelist dir = "." files = "test.html"/>
</copy>
```

```
<copy todir = "build" >
  <fileset defaultexcludes = "false" expandsymboliclinks = "true" dir = ".">
    <include name = "**/*.php" />
  </fileset>
</copy>
```

B.10.2. Supported Nested Tags

- `fileset`

- `filelist`

- `filterchain`

- `mapper`

B.11. CvsTask

Allows rudimentary interfacing with the CVS versioning system.

As you would expect, this lets you do pretty much anything with CVS. The CvsTask calls ExecTask which actually does the command execution.

Table B.12: Attributes

Name	Type	Description	Default	Required
`cvsRoot`	`String`	The root directory on the CVS server	n/a	No
`CvsRsh`	`String`	Path to the rsh to execute	n/a	No
`port`	`Integer`	Port ion the server to use	0	No
`passfile`	`String` `file-name`	Name of file with CVS passwords	n/a	No
`dest`	`String`	The directory where checked out files should be placed	n/a	Yes
`modules`	`String`	The package/module to operate upon	n/a	Yes
`tag`	`String`	The tag of the package/module to operate up-on	n/a	No
`date`	`String`	Use the most recent revision no later than the given date	n/a	No
`quiet`	`Boolean`	Quiet run	`false`	No
`noexec`	`Boolean`	If true, only report changes don't actually do anything	`false`	No
`failonerror`	`Boolean`	Stop the build process if the command returns any errors	`false`	No
`compression`	`Boolean`	If true, turns on compression using default (3) compression level	`false`	No
`compression-level`	`Integer`	Specifies compression level 1-9	`false`	No
`output`	`String` `file-name`	File to which output should be written	n/a	No
`error`	`String` `file-name`	File to which error output should be written	n/a	No
`command`	`String`	Optional command line to be given to the CVS task	null	No

B.11.1. Examples

```
<cvs cvsRoot = ":pserver:guest@cvs.tigris.org:/cvs"
```

```
        module = "phing" dest = "${ws.dir}"/>
```

or, using the optional command line arguments:

```
<cvs output = "patch" command = "-q diff -u -N" />
```

B.12. CvsPassTask

This lets you create your own cvs password file -- i.e. this is necessary if you want to provide a password in your build file.

If no password file is specified the default location `.cvspass` in users home directory is used.

Table B.13: Attributes

Name	Type	Description	Default	Required
cvsRoot	String	The root directory on the CVS server	n/a	Yes
passFile	String	Password file to add password to	n/a	No
password	String	Password to add to file	n/a	Yes

B.12.1. Examples

```
<!-- create a password file -->
<cvspass cvsRoot = ":pserver:guest@cvs.tigris.org:/cvs" passfile = "cvspass" password = "guest"

<!-- use the just-created password file -->
<cvs cvsRoot = ":pserver:guest@cvs.tigris.org:/cvs" module = "phing" passFile = "cvspass" />
```

B.13. DeleteTask

Deletes a file or directory, or set of files defined by a fileset. See Appendix D, *Core Types* for information on Filesets.

Table B.14: Attributes

Name	Type	Description	Default	Required
file	String	The file that is to be deleted. You either have to specify this attribute, `dir`, or use a fileset.	n/a	Yes (or `dir`)
dir	String	The directory that is to be deleted. You either have to specify this attribute, `file`, or use a fileset.	n/a	Yes (or `file`)
verbose	Boolean	Used to force listing of all names of deleted files.	n/a	No
quiet	Boolean	If the file does not exist, do not display a di-agnostic message or modify the exit status to reflect an error. This means that if a file or di-	n/a	No

Name	Type	Description	Default	Required
		rectory cannot be deleted, then no error is reported.		
		This setting emulates the -f option to the Unix `rm` command. Default is false meaning things are verbose		
failonerror	Boolean	If this attribute is set to `true`, DeleteTask will verbose on errors but the build process will not be stopped.	false	No
includeempty-dirs	Boolean	Determines if empty directories are also to be deleted.	false	No

B.13.1. Examples

```
<!-- Delete a specific file -->
<delete file = "/tmp/foo.bar" />

<!-- Delete a directory -->
<delete dir = "/tmp/darl" includeemptydirs = "true" verbose = "true" failonerror = "true" />

<!-- Delete using a fileset -->
<delete>
  <fileset dir = "/tmp">
    <include name = "*.bar" />
  </fileset>
</delete>
```

B.13.2. Supported Nested Tags

- `fileset`

B.14. Diagnostics

Runs phing's -diagnostics code inside phing itself. This is good for debugging phing's configuration under an IDE.

B.14.1. Example

```
<target name = "diagnostics" description = "diagnostics">
            <diagnostics/>
            </target>
```

B.15. Dirname

Task to determine the directory path of a specified file.

When this task executes, it will set the specified property to the value of the specified file (or directory) up to, but not including, the last path element. If the specified file is a path that ends in a filename, the filename will be dropped. If the specified file is just a filename, the directory will be the current directory.

Note: This is not the same as the UNIX dirname command, which is defined as "strip non-directory suffix from filename". <dirname> determines the full directory path of the specified file.

Table B.15: Attributes

Name	Type	Description	Default	Required
file	String	The path to take the dirname of.	n/a	yes
property	String	The name of the property to set.	n/a	yes

B.15.1. Example

```
<dirname property = "foo.dirname" file = "foo.txt"/>
```

will set `foo.dirname` to the project's basedir.

B.16. EchoTask

Echoes a message to the current loggers and listeners which means standard out unless overridden. A level can be specified, which controls at what logging level the message is filtered at.

The task can also echo to a file, in which case the option to append rather than overwrite the file is available, and the level option is ignored

Additionally, the task can echo the contents of a nested fileset element.

Table B.16: Attributes

Name	Type	Description	Default	Required
msg	String	The string that is to be send to the output.	n/a	Yes
message	String	Alias for `msg`.	n/a	Yes
file	String	The file to write the message to.	n/a	No
append	Boolean	Append to an existing file?	false	No
level	String	Control the level at which this message is re-ported. One of `error`, `warning`, `info`, `verbose`, `debug`.	info	No

B.16.1. Examples

```
<echo msg = "Phing rocks!" />

<echo message = "Binarycloud, too." />

<echo>And don't forget Propel.</echo>
```

```
<echo file = "test.txt" append = "false">This is a test message</echo>
```

B.16.2. Supported Nested Tags

- `fileset`

B.17. echoproperties

Displays all the current properties in the project. The output can be sent to a file if desired. This task can be used as a somewhat contrived means of returning data from an `<phing>` invocation, but is really for debugging build files.

Table B.17: *Attributes*

Name	Type	Description	Default	Required
destfile	String	If specified, the value indicates the name of the file to send the output of the statement to. If not specified, then the output will go to the Phing log.	n/a	no
srcfile	String	If specified, the value indicates the name of the property file to read from. If not specified, then the system properties will be taken.	n/a	no
prefix	String	a prefix which is used to filter the properties only those properties starting with this prefix will be echoed.	n/a	no
regex	String	a regular expression which is used to filter the properties only those properties whose names match it will be echoed.	n/a	no
failonerror	String	By default, the "failonerror" attribute is enabled. If an error occurs while writing the properties to a file, and this attribute is enabled, then a BuildException will be thrown, causing the build to fail. If disabled, then IO errors will be reported as a log statement, and the build will continue without failure from this task.	n/a	no
format	String	One of text or xml. Determines the output format. Defaults to text.	n/a	no

B.17.1. Example

```
<echoproperties />
```

Report the current properties to the log.

```
<echoproperties destfile = "my.properties"/>
```

Report the current properties to the file "my.properties", and will fail the build if the file could not be created or written to.

```
<echoproperties destfile = "my.properties" failonerror = "false"/>
```

Report the current properties to the file "my.properties", and will log a message if the file could not be created or written to, but will still allow the build to continue.

```
<echoproperties prefix = "phing."/>
```

List all properties beginning with "phing."

Lists all properties that contain "phing" in their names.

B.18. ExecTask

Executes a shell command. You can use this to quickly add a new command to Phing. However, if you want to use this regularly, you should think about writing a Task for it.

Table B.18: Attributes

Name	Type	Description	Default	Required
command	String	The command that is to be executed.	n/a	One of the two
executable	String	The command to execute without any com-mand line arguments.	n/a	
dir	String	The directory the command is to be executed in.	n/a	No
output	String	Where to direct stdout.	n/a	No
error	String	Where to direct stderr.	Redirected to std-out, unless passthru is set to true.	No
os	String	Only execute if the Appendix A, *Fact Sheet* property contains specified text.	n/a	No
escape	Boolean	By default, we escape shell metacharacters before executing. Setting this to false will disable this precaution.	true	No
passthru	Boolean	Whether to use PHP's passthru() function instead of exec().	false	No
logoutput	Boolean	Whether to log returned output as MSG_INFO instead of MSG_VERBOSE.	false	No
spawn	Boolean	Whether to spawn unix programs to the background, redirecting stdout.	false	No
returnProperty	String	Property name to set return value to from exec() call.	n/a	No
outputProperty	String	Property name to set output value to from exec() call.	n/a	No

Name	Type	Description	Default	Required
checkreturn	Boolean	Whether to check the return code of the program, throws a BuildException when return-code != 0.	false	No
level	String	Control the level at which status messages are reported. One of `error`, `warning`, `info`, `verbose`, `debug`.	verbose	No

B.18.1. Examples

```xml
<!-- List the contents of "/home". -->
<exec command = "ls -l" dir = "/home" />

<!-- Start the make process in "/usr/src/php-4.0". -->
<exec command = "make" dir = "/usr/src/php-4.0" />

<!-- List the contents of "/tmp" out to a file. -->
<exec command = "ls -l /tmp > foo.out" escape = "false" />
```

B.18.2. Supported Nested Tags

- arg

Table B.19: Attributes

Name	Type	Description	Default	Required
value	String	A single command-line argument; can contain space characters. To pass an empty argument, enclose two double quotes in single quotes (""").	n/a	One of these
file	String	The name of a file as a single command-line argument; will be replaced with the absolute filename of the file.	n/a	
path	String	A string that will be treated as a path-like string as a single command-line argument; you can use ; or : as path separators and Phing will convert it to the platform's local conventions.	n/a	
line	String	A space-delimited list of command-line arguments.	n/a	

B.19. FailTask

Causes the current build script execution to fail and the script to exit with an (optional) error message.

Table B.20: Attributes

Name	Type	Description	Default	Required
message	String	The message to display (reason for script abort).	"No Message"	No

Name	Type	Description	Default	Required
msg	String	Alias for message	"No Mes- sage"	No
if	String	Name of property that must be set for script to exit.	n/a	No
unless	String	Name of property that must not be set in order for script to exit.	n/a	No

B.19.1. Examples

```xml
<!-- Exit w/ message -->
<fail message = "Failed for some reason!" />

<!--  Exit if ${errorprop} is defined -->
<fail if = "errorprop" message = "Detected error!" />

<!-- Exit unless ${dontfail} prop is defined. -->
<fail unless = "dontfail" message = "Detected error!" />
```

B.20. ForeachTask

The `foreach` task iterates over a list, a list of `filesets`, or both. If both, `list` and `filesets`, are specified, the list will be evaluated first. Nested `filesets` are evaluated in the order they appear in the task.

Table B.21: Attributes

Name	Type	Description	Default	Required
list	String	The list of values to process, with the delim- iter character, indicated by the "delimiter" at- tribute, separating each value.	n/a	No
target	String	The target to call for each token, passing the token as the parameter with the name indicat- ed by the "param" attribute.	n/a	Yes
param	String	The name of the parameter to pass the tokens in as to the target.	n/a	Yes
absparam	String	The name of the absolute path parameter to pass the tokens in as to the target (used while processing nested filesets).	n/a	No
delimiter	String	The delimiter string that separates the values, in the "list" parameter. The default is ",".	n/a	No

B.20.1. Examples

```xml
<!-- loop through languages, and call buildlang task with setted param -->
<property name = "languages" value = "en,fr,de" />
<foreach list = "${languages}" param = "lang" target = "buildlang" />

<!-- loop through files, and call subtask task with set param and absparam -->
<foreach param = "filename" absparam = "absfilename" target = "subtask">
```

```
  <fileset dir = ".">
    <include name = "*.php"/>
  </fileset>
</foreach>
```

B.20.2. Supported Nested Tags

- `fileset`

- `filelist`

- `mapper`

B.21. IfTask

Perform some tasks based on whether a given condition holds true or not.

This task doesn't have any attributes, the condition to test is specified by a nested element - see the conditions for a complete list of nested elements.

Just like the `<condition>` task, only a single condition can be specified - you combine them using `<and>` or `<or>` conditions.

In addition to the condition, you can specify three different child elements, `<elseif>` , `<then>` and `<else>` . All three subelements are optional. Both `<then>` and `<else>` must not be used more than once inside the if task. Both are containers for Phing tasks.

The `<elseif>` behaves exactly like an `<if>` except that it cannot contain the `<else>` element inside of it. You may specify as may of these as you like, and the order they are specified is the order they are evaluated in. If the condition on the `<if>` is false, then the first `<elseif>` who's conditional evaluates to true will be executed. The `<else>` will be executed only if the `<if>` and all `<elseif>` conditions are false.

B.21.1. Examples

```
<if>
 <equals arg1 = "${foo}" arg2 = "bar" />
 <then>
   <echo message = "The value of property foo is bar" />
 </then>
 <else>
   <echo message = "The value of property foo is not bar" />
 </else>
</if>
```

```
<if>
 <equals arg1 = "${foo}" arg2 = "bar" />
 <then>
   <echo message = "The value of property foo is 'bar'" />
 </then>

 <elseif>
  <equals arg1 = "${foo}" arg2 = "foo" />
  <then>
   <echo message = "The value of property foo is 'foo'" />
  </then>
 </elseif>
```

```
<else>
  <echo message = "The value of property foo is not 'foo' or 'bar'" />
</else>
</if>
```

B.22. ImportTask

Imports another build file into the current project.

On execution it will read another Phing file into the same Project. Functionally it is nearly the same as copy and pasting the imported file onto the end of the importing file.

The import task may only be used as a top-level task. This means that it may not be used in a target.

Table B.22: Attributes

Name	Type	Description	Default	Required
file	String	The file to import.	n/a	Yes
optional	Boolean	If true, do not stop the build if the file does not exist.	false	No

B.22.1. Target Overriding

If a target in the main file is also present in at least one of the imported files, the one from the main file takes precedence.

So if I import for example a `docs/build.xml` file named `builddocs`, that contains a "`docs`" target, I can redefine it in my main buildfile and that is the one that will be called. This makes it easy to keep the same target name, so that the overriding target is still called by any other targets--in either the main or imported buildfile(s)--for which it is a dependency, with a different implementation. The target from `docs/build.xml` is made available by the name "`builddocs.docs`". This enables the new implementation to call the old target, thus enhancing it with tasks called before or after it.

B.22.2. Special Properties

Imported files are treated as they are present in the main buildfile. This makes it easy to understand, but it makes it impossible for them to reference files and resources relative to their path. Because of this, for every imported file, Phing adds a property that contains the path to the imported buildfile. With this path, the imported buildfile can keep resources and be able to reference them relative to its position.

So if I import for example a `docs/build.xml` file named `builddocs`, I can get its path as `phing.file.builddocs`, similarly to the `phing.file` property of the main buildfile. Additionally, the directory will be stored in `phing.dir.builddocs`.

Note that "builddocs" is not the filename, but the name attribute present in the imported project tag.

If import file does not have a name attribute, the `phing.file.projectname` and `phing.dir.projectname` properties will not be set.

B.22.3. Resolving Files Against the Imported File

Suppose your main build file called `importing.xml` imports a build file `imported.xml`, located anywhere on the file system, and `imported.xml` reads a set of properties from `imported.properties`:

```xml
<!-- importing.xml -->
<project name = "importing" basedir = "." default = "...">
  <import file = "${path_to_imported}/imported.xml"/>
</project>

<!-- imported.xml -->
<project name = "imported" basedir = "." default = "...">
  <property file = "imported.properties"/>
</project>
```

This snippet however will resolve `imported.properties` against the basedir of `importing.xml`, because the basedir of `imported.xml` is ignored by Phing. The right way to use `imported.properties` is:

```xml
<!-- imported.xml -->
<project name = "imported" basedir = "." default = "...">
  <property file = "${phing.file.imported}/imported.properties"/>
</project>
```

As explained above `${phing.file.imported}` stores the full path of the build script, that defines the project called *imported*, (in short it stores the path to `imported.xml`) and `${phing.dir.imported}` stores its directory. This technique also allows `imported.xml` to be used as a standalone file (without being imported in other project).

B.22.4. Examples

```xml
<import file = "path/to/build.xml"/>
<import file = "path/to/build.xml" optional = "true"/>
```

Additionally, `ImportTask` supports Filesets, i.e. you can easily include/exclude one or more files. For more information, see Appendix D, *Core Types*.

```xml
<import" >
  <fileset dir = ".">
    <include name = "path/to/build.xml" />
  </fileset>
  <filelist dir = "." files = "path/to/build.xml"/>
</import>
```

B.23. IncludePathTask

Modifies the PHP `include_path [http://php.net/include_path]` configuration option for the duration of this phing run.

The given path can be prepended (default) or appended to the current include path, or it can replace the include path.

Table B.23: Attributes

Name	Type	Description	Default	Required
classpath	String	the new include path[s]	n/a	Yes
classPathRef	String	Reference to a previously defined Path type	n/a	No
mode	String	Whether to `prepend`, `append` or `replace` the include path with the given path.	prepend	No

B.23.1. Examples

```
<includepath classpath = "new/path/here" />
<includepath classpath = "path1:path2" />
```

```
<path id = "project.class.path">
  <pathelement dir = "lib/"/>
  <pathelement dir = "ext/"/>
</paentry>
<includepath classpathref = "project.class.path" />
```

B.24. InputTask

The InputTask can be used to interactively set property values based on input from the console (or other Reader).

Table B.24: Attributes

Name	Type	Description	Default	Required
propertyName	String	The name of the property to set.	n/a	No
defaultValue	String	The default value to be set if no new value is provided.	n/a	Yes
message	String	Prompt text (same as CDATA).	n/a	Yes
promptChar	String	The prompt character to follow prompt text.	n/a	No
validArgs	String	Comma-separated list of valid choices the user must supply. If used, one of these options must be chosen.	n/a	No

B.24.1. Examples

```
<!-- Getting string input -->
<echo>HTML pages installing to: ${documentRoot}</echo>
<echo>PHP classes installing to: ${servletDirectory}</echo>

<input propertyname = "documentRoot">Web application document root</input>
<input propertyname = "servletDirectory"
  defaultValue = "/usr/servlets" promptChar = "?">PHP classes install dir</input>

<echo>HTML pages installed to ${documentRoot}</echo>
<echo>PHP classes installed to ${servletDirectory}</echo>

<!-- Having the user choose from a set of valid choices -->
<echo>Choose a valid option:</echo>

<input propertyname = "optionsChoice" validargs = "foo,bar,bob">
  Which item would you like to use
</input>
```

B.25. LoadFileTask

The LoadFileTask loads the contents of a (text) file into a single property.

Table B.25: Attributes

Name	Type	Description	Default	Required
property	String	The name of the property to set.	n/a	Yes
file (or srcFile)	String	The file to load.	n/a	Yes

B.25.1. Examples

```
<loadfile property = "version" file = "version.txt"/>
```

B.25.2. Supported Nested Tags:

- filterchain

B.26. MkdirTask

Creates a directory, including any necessary but non-existent parent directories. Does nothing if the directory already exists.

Table B.26: Attributes

Name	Type	Description	Default	Required
dir	String	The directory that is to be created.	n/a	Yes
mode	Integer	The mode to create the directory with.	From umask	No

B.26.1. Examples

```
<!-- Create a temp directory -->
<mkdir dir = "/tmp/foo" />

<!-- Using mkdir with a property -->
<mkdir dir = "${dirs.install}/tmp" />
```

B.27. MoveTask

Moves a file or directory to a new file or directory. By default, the destination file is overwritten if it already exists. When overwrite is turned off, then files are only moved if the source file is newer than the destination file, or when the destination file does not exist.

Source files and directories are only deleted if the file or directory has been copied to the destination successfully.

B.27.1. Examples

```
<!-- The following will move the file "somefile.txt" to "/tmp" and
     change its filename to "anotherfile.bak". It will overwrite
```

```
    an existing file. -->
<move file = "somefile.txt" tofile = "/tmp/anotherfile.bak" overwrite = "true"/>

<!-- This will move the "/tmp" directory to "/home/default/tmp",
     preserving the directory name. So the final name is
     "/home/default/tmp/tmp". Empty directories are also copied -->
<move file = "/tmp" todir = "/home/default/tmp" includeemptydirs = "true" />
```

B.27.2. Attributes and Nested Elements

For further documentation, see Section B.10, "CopyTask ", since MoveTask only is a child of CopyTask and inherits all attributes.

B.28. PathToFileSetTask

Coverts a path to a fileset. This is useful if you have a path but need to use a fileset as input in a phing task.

Table B.27: Attributes

Name	Type	Description	Default	Required
dir	String	The root of the directory tree of this FileSet.	n/a	Yes
pathrefid	String	The reference to the path to convert from.	n/a	Yes
ignorenonrelative	Boolean	This boolean controls what will happen if any of the files in the path are not in the directory for the fileset. If this is "true" the files are ignored, if this is "false" a build exception is thrown. (Note: if files are not present no check is made).	false	No
name	String	This is the identifier of the fileset to create. This fileset will contain the files that are relative to the directory root. Any files that are not present will not be placed in the set.	n/a	Yes

B.28.1. Examples

```
<path id = "modified.sources.path" dir = "C:\Path\to\phing\classes\phing\" />
<pathtofileset name = "modified.sources.fileset"
               pathrefid = "modified.sources.path"
               dir = "." />

<copy todir = "C:\Path\to\phing\docs\api">
    <mapper type = "glob" from = "*.php" to = "*.php.bak" />
    <fileset refid = "modified.sources.fileset" />
</copy>
```

B.29. PhingTask

This task calls another build file. You may specify the target that is to be called within the build file. Additionally, the `<phing>` Tag may contain `<property>` Tags (see Section B.33, "PropertyTask ").

Table B.28: Attributes

Name	Type	Description	Default	Required
inheritAll	Boolean	If true, pass all properties to the new phing project.	true	No
inheritRefs	Boolean	If true, pass all references to the new phing project.	false	No
dir	String	The directory to use as a base directory for the new phing project. Default is the current project's basedir, unless inheritall has been set to `false`, in which case it doesn't have a default value. This will override the basedir setting of the called project.	n/a	No
phingFile	String	The build file to use. Defaults to "build.xml". This file is expected to be a filename relative to the dir attribute given.	n/a	Yes
target	String	The target of the new Phing project to execute. Default is the new project's default target.	n/a	No
haltonfailure	Boolean	If true, fail the build process when the called build fails	false	No

B.29.1. Examples

```xml
<!-- Call target "xslttest" from buildfile "alternativebuildfile.xml" -->
 <phing phingfile = "alternativebuild.xml" inheritRefs = "true" target = "xslttest" />

<!-- Do a more complex call -->
<phing phingfile = "somebuild.xml" target = "sometarget">
  <property name = "foo" value = "bar" />
  <property name = "anotherone" value = "32" />
</phing>
```

B.29.2. Supported Nested Tags

- fileset

B.29.3. Base directory of the new project

The base directory of the new project is set dependent on the `dir` and the `inheritAll` attribute. This is important to keep in mind or else you might run into bugs in your `build.xml`'s. The following table shows when which value is used:

Table B.29: How attributes are used

dir	inheritAll	new project's basedir
value provided	true	value of `dir` attribute
value provided	false	value of `dir` attribute
omitted	true	basedir of calling task (the build file containing the `<phing>` call.
omitted	false	basedir attribute of the `<project>` element of the new project

B.30. PhingCallTask

The PhingCallTask calls a target within the same Phing project.

A `<phingcall>` tag may contain `<property>` tags that define new properties. These properties are only set if properties of the same name have not been set outside the "phingcall" tag.

When a target is invoked by `phingcall`, all of its dependent targets will also be called within the context of any new parameters. For example. if the target "doSomethingElse" depended on the target "init", then using `phingcall` to execute "doSomethingElse" will also execute "init". Note: the top level tasks of a project will always be executed!

Table B.30: *Attributes*

Name	Type/ Values	Description	Default	Required
target	String	The name of the target in the same project that is to be called.	n/a	Yes

Note

Local scope.

Every `<phingcall>` tag creates a new local scope. Thus, any properties or other variables set inside that scope will cease to exist (or revert to their previous value) once the `<phingcall>` tag completes.

B.30.1. Examples

```
<target name = "foo">
    <phingcall target = "bar">
        <property name = "property1" value = "aaaaa" />
        <property name = "foo" value = "baz" />
    </phingcall>
</target>
```

In the example above, the properties `property1` and `foo` are defined and only accessible inside the called target.

```
<target name = "bar" depends = "init">
    <echo message = "prop is ${property1} ${foo}" />
</target>
```

B.30.2. Supported Nested Tags

- `property`

- `param` (alias for property)

B.31. Phingversion

Stores the Phing version (when used as task) or checks for a specific Phing version (when used as condition).

Table B.31: Attributes

Name	Type	Description	Required (Task)	Required (Condition)
atleast	String	The version that this at least. The format is `major.minor.point`.	No	One of these.
exactly	String	The version that this phing is exactly. The format is `major.minor.point`.	No	
property	String	The name of the property to set.	Yes	No (ignored)

B.31.1. Example

```
<phingversion property = "phingversion"/>
```

Stores the current Phing version in the property `phingversion`.

```
<phingversion property = "phingversion" atleast = "2.9"/>
```

Stores the Phing version in the property `phingversion` if the current Phing version is 2.9.0 or higher. Otherwise the property remains unset.

```
<phingversion property = "phing-is-exact-292" exactly = "2.9.2"/>
```

Sets the property `phing-is-exact-292` if Phing 2.9.2 is running. Neither 2.8.2 nor 2.9.1 would match.

B.32. PhpEvalTask

With the `PhpEvalTask`, you can set a property to the results of evaluating a PHP expression or the result returned by a function/method call.

Table B.32: Attributes

Name	Type	Description	Default	Required
function	String	The name of the Property.	n/a	One of these is required.
expression	String	The expression to evaluate.	n/a	
class	String	The static class which contains function.	n/a	No
returnProperty	String	The name of the property to set with result of expression or function call. *Note:* if this attribute is set, the expression must return a value.	n/a	No
level	String	Control the level at which php reports status messages. One of `error`, `warning`, `info`, `verbose`, `debug`.	info	No

B.32.1. Examples

```
<php function = "crypt" returnProperty = "enc_passwd">
  <param value = "${auth.root_passwd}"/>
</php>
```

```
<php expression = "3 + 4" returnProperty = "sum"/>
```

```
<php expression = "echo 'test';">
```

B.32.2. Supported Nested Tags

- `param`

B.33. PropertyTask

With `PropertyTask`, you can define `user` properties in your build file.

Table B.33: Attributes

Name	Type	Description	Default	Required
name	String	The name of the Property.	n/a	Yes (unless using `file` or `environment`)
value	String	The value of the Property.	n/a	Yes (unless using `file` or `environment`)
environment	String	Loads properties from the environment with the specified value as prefix. Thus if you specify environment="myenv" you will be able to access OS-specific environment variables via property names "myenv.PATH" or "myenv.TERM".	n/a	No
file	String	Path to properties file.	n/a	No
override	Boolean	Whether to force override of existing value.	`false`	No
prefix	String	Used when properites are loaded from file. Prefix is applied to properties loaded from specified file. A "." is appended to the prefix if not specified.	n/a	No
refid	String	A reference to a previously defined propeprty	n/a	No
fallback	String	If a reference cannot be found within the current project scope this attribute specifies a fallback project scope.	n/a	No
logoutput	Boolean	Whether to log returned output as MSG_INFO instead of MSG_VERBOSE.	`true`	No

Note

Important note about scope: when the `<property>` tag is called inside a `<phingcall>` tag, any properties are set in a new local scope. Thus, any properties or other variables set inside

that scope will cease to exist (or revert to their previous value) once the parent `<phingcall>` tag completes.

B.33.1. Examples

```
<property name = "strings.test" value = "Harr harr, more power!" />
<echo message = "${strings.test}" />

<property name = "foo.bar" value = "Yet another property..." />
<echo message = "${foo.bar}" />

<property file = "build.properties" />

<property environment = "env" />

<property name = "newproperty" value = "Hello">
  <filterchain>
    <replaceregexp>
      <regexp pattern = "Hello" replace = "World" ignoreCase = "true"/>
    </replaceregexp>
  </filterchain>
</property>
```

B.33.2. Supported Nested Tags:

- filterchain

B.34. PropertyPromptTask

PropertyPromptTask is a simple task to read in user input into a property. If you need something more advanced, see the Section B.24, "InputTask ".

Table B.34: Attributes

Name	Type	Description	Default	Required
propertyName	String	The name of the Property to set.	n/a	Yes
promptText	String	The text to use for the prompt.	n/a	Yes
promptCharacter	String	The character to use after the prompt.	?	No
defaultValue	String	A default value to use (if user just hits enter).	n/a	No
useExistingValue	String	Whether existing property should be used if available. (This will result in user only being prompted if the propertyName property is not already set.)	false	No

B.34.1. Examples

```
<propertyprompt propertyName = "someprop" defaultValue = "/var/www"
        promptText = "Enter your web root" />
<echo>${someprop}</echo>
```

B.35. Record

A recorder is a listener to the current build process that records the output to a file.

Several recorders can exist at the same time. Each recorder is associated with a file. The filename is used as a unique identifier for the recorders. The first call to the recorder task with an unused filename will create a recorder (using the parameters provided) and add it to the listeners of the build. All subsequent calls to the recorder task using this filename will modify that recorders state (recording or not) or other properties (like logging level).

Some technical issues: the file's output stream is flushed for "finished" events (buildFinished, targetFinished and taskFinished), and is closed on a buildFinished event.

Table B.35: Attributes

Name	Type	Description	Default	Required
name	String	The name of the file this logger is associated with.	n/a	yes
action	String	This tells the logger what to do: should it start recording or stop? The first time that the recorder task is called for this logfile, and if this attribute is not provided, then the default for this attribute is "start". If this attribute is not provided on subsequent calls, then the state remains as previous. [Values = {start|stop}, Default = no state change]	n/a	no
append	Boolean	Should the recorder append to a file, or create a new one? This is only applicable the first time this task is called for this file. [Values = {yes|no}, Default=no]	no	no
emacsmode	Boolean	Removes [task] banners like Phings's -emacs command line switch if set to `true`.	false	no
loglevel	String	At what logging level should this recorder instance record to? This is not a once only parameter (like append is) -- you can increase or decrease the logging level as the build process continues. [Values= {error|warn|info|verbose|debug}, Default = no change]	false	no

B.35.1. Example

The following build.xml snippet is an example of how to use the recorder to record just the `<echo>` task:

```
...
            <record name = "log.txt" action = "start"/>
            <echo ...
            <record  name = "log.txt" action = "stop"/>
             ...
```

The following two calls to `<record>` set up two recorders: one to file "records-simple.log" at logging level info (the default) and one to file "ISO.log" using logging level of verbose.

```
...
            <record name = "records-simple.log"/>
            <record name = "ISO.log" loglevel = "verbose"/>
```

```
                       ...
```

B.36. ReflexiveTask

The `ReflexiveTask` performs operations on files. It is essentially a convenient way to transform (using filter chains) files without copying them.

Table B.36: Attributes

Name	Type	Description	Default	Required
file	String	A single file to be processed.	n/a	Yes (unless \<fileset> provided)

B.36.1. Examples

```xml
<reflexive>
  <fileset dir = ".">
    <include pattern = "*.html">
  </fileset>
  <filterchain>
    <replaceregexp>
      <regexp pattern = "\r(\n)" replace = "\1"/>
    </replaceregexp>
  </filterchain>
</reflexive>
```

B.36.2. Supported Nested Tags:

- `fileset`

- `filterchain`

B.37. ResolvePathTask

The `ResolvePathTask` turns a relative path into an absolute path, with respect to specified directory or the project basedir (if no dir attribute specified).

This task is useful for turning a user-defined relative path into an absolute path in cases where buildfiles will be called in different directories. Without this task, buildfiles lower in the directory tree would misinterpret the user-defined relative paths.

Table B.37: Attributes

Name	Type	Description	Default	Required
file	String	The file or directory path to resolve.	n/a	Yes
dir	File	The base directory to use when resolving "file".	project.basedir	No
propertyName	String	The name of the property to set with resolved (absolute) path.	n/a	Yes

Name	Type	Description	Default	Required
level	String	Control the level at which status messages are reported. One of `error`, `warning`, `info`, `verbose`, `debug`.	verbose	No

B.37.1. Examples

```
<property name = "relative_path" value = "./dirname"/>

<resolvepath propertyName = "absolute_path" file = "${relative_path}"/>

<echo>Resolved [absolute] path: ${absolute_path}</echo>
```

B.38. Retry

Retry is a container which executes a single nested task until either: there is no failure; or: its retrycount has been exceeded. If this happens a BuildException is thrown..

Table B.38: Attributes

Name	Type	Description	Default	Required
retrycount	Integer	number of times to attempt to execute the nested task	1	Yes
retrydelay	Integer	number of seconds to wait between retry attempts task.	0	No, defaults to no delay

Any valid Phing task may be embedded within the retry task.

B.38.1. Example

```
<retry retrycount = "3">
          $lt;httpget url="http://www.unreliable-server.com/unreliable.tar.gz" dir="/home
          </retry>
```

This example shows how to use `<retry>` to wrap a task which must interact with an unreliable network resource.

B.39. SwitchTask

Task definition for the phing task to switch on a particular value.

Table B.39: Attributes

Name	Type	Description	Default	Required
value	String	The value to switch on.	n/a	Yes
caseinsensitive	Boolean	Should we do case insensitive comparisons?	false	No

B.39.1. Supported Nested Tags

At least one `<case>` or `<default>` is required.

`case`

An individual case to consider, if the value that is being switched on matches to value attribute of the case, then the nested tasks will be executed.

Table B.40: *Attributes*

Name	Type	Description	Default	Required
value	String	The value to match against the tasks value at-tribute.	n/a	Yes

`default`

The default case for when no match is found. Must not appear more than once per task.

B.39.2. Examples

```
<switch value = "${foo}">
    <case value = "bar">
        <echo message = "The value of property foo is bar" />
    </case>
    <case value = "baz">
        <echo message = "The value of property foo is baz" />
    </case>
    <default>
        <echo message = "The value of property foo is not sensible" />
    </default>
</switch>
```

B.40. TaskdefTask

With the `TaskdefTask` you can import a user task into your buildfile.

Table B.41: *Attributes*

Name	Type	Description	Default	Required
classname	String	The path to the class that defines the TaskClass.	n/a	Yes, unless the `file` attribute has been specified.
name	String	The name the task is available as after importing. If you specify "validate", for example, you can access the task imported here with `<validate>`.	n/a	Yes, unless the `file` attribute has been specified.
file	String	Name of the file to load definitions from.	n/a	No
classpath	String	The classpath to use when including classes. This is added to PHP's include_path.	n/a	No
classpathref	String	Reference to classpath to use when including classes. This is added to PHP's include_path.	n/a	No

B.40.1. Examples

```
<!-- Includes the Task named "ValidateHTMLTask" and makes it available by
     <validatehtml> -->
<taskdef classname = "user.tasks.ValidateHTMLTask" name = "validatehtml" />

<!-- Includes the Task "RebootTask" from "user/sometasks" somewhere inside
     the $PHP_CLASSPATH -->
<taskdef classname = "user.sometasks.RebootTask" name = "reboot" />

<!-- Includes all tasks from the property file. Each line in the property
file defines a task in the format: name=path.to.Task -->
<taskdef file = "/path/to/mytasks.properties" />
```

NB: Taskdef now supports the PEAR-style naming convention to define and load tasks:

```
<taskdef name = "sampletask" classname = "Dir_Subdir_SampleTask"/>
```

will load class `Dir_Subdir_SampleTask` from file `Dir/Subdir/SampleTask.php`.

B.40.2. Supported Nested Tags

- `classpath`

B.41. Tempfile Task

This task sets a property to the name of a temporary file. Unlike PhingFile::createTempFile(), this task does not actually create the temporary file, but it does guarantee that the file did not exist when the task was executed.

Table B.42: Attributes

Name	Type	Description	Default	Required
property	String	Sets the property you wish to assign the tem- porary file to.	n/a	yes
destdir	String	Sets the destination directory. If not set, the basedir directory is used instead.	basedir	no
prefix	String	Sets the optional prefix string for the temp file.	n/a	no
suffix	String	Sets the optional suffix string for the temp file.	n/a	no
deleteonexit	Boolean	Whether the temp file will be marked for dele- tion on normal exit (even though the file may never be created).	false	no
createfile	Boolean	Whether the temp file should be created by this task.	false	no

B.41.1. Example

```
<tempfile property = "temp.file"/>
```

create a temporary file

```
<tempfile property = "temp.file" suffix = ".xml"/>
```

create a temporary file with the .xml suffix

```
<tempfile property = "temp.file" destDir = "build"/>
```

create a temporary file in the `build` subdirectory

B.42. TouchTask

The `TouchTask` works like the Unix `touch` command: It sets the `modtime` of a file to a specific time. Default is the current time.

Table B.43: Attributes

Name	Type	Description	Default	Required
file	String	The file which time is to be changed.	n/a	Yes, or nested `<fileset>` tag
datetime	Date-Time	The date and time the mtime of the file is to be set to. The format is "MM/DD/YYYY HH:MM AM or PM"	now	No
millis	Integer	The number of milliseconds since Midnight Jan 1 1970 (Unix epoche).	now	No

B.42.1. Examples

```
<touch file = "README.txt" millis = "102134111" />

<touch file = "COPYING.lib" datetime = "10/10/1999 09:31 AM" />
```

B.42.2. Supported Nested Tags

- `fileset`

B.43. TryCatchTask

This task is a wrapper task that lets you run tasks(s) when another set of tasks fails, mirroring PHP's `try/catch` functionality (with the addition of `finally` block)

The tasks inside of the `try` block will always be run. If one of them throws a BuildException, the following things can happen:

- If there is no `catch` block, the exception will be passed to Phing.

- If the `property` attribute has been set a property of that name will contain the message of the exception.

- If there is a `catch` block, the nested tasks will be run.

If a `finally` block is present, the nested tasks will be run regardless of whether the tasks in the `try` block have thrown an exception or not.

This task was inspired by http://ant-contrib.sourceforge.net/tasks/tasks/trycatch.html.

Table B.44: *Attributes*

Name	Type	Description	Default	Required
property	String	Name of a property that will receive the message of the exception that has been caught (if any)	n/a	No

B.43.1. Examples

```
<trycatch property="foo">
    <try>
        <fail>Tada!</fail>
    </try>

    <catch>
        <echo>In catch.</echo>
    </catch>

    <finally>
        <echo>In finally.</echo>
    </finally>
</trycatch>

<echo>As property: ${foo}</echo>
```

B.44. TstampTask

Sets the `DSTAMP`, `TSTAMP`, and `TODAY` properties in the current project. By default, the `DSTAMP` property is in the format `"%Y%m%d"`, `TSTAMP` is in the format `"%H%M"`, and `TODAY` is in the format `"%B %d %Y"`. Use the nested `<format>` element to specify a different format.

These properties can be used in the build-file, for instance, to create time-stamped filenames, or used to replace placeholder tags inside documents to indicate, for example, the release date. The best place for this task is probably in an initialization target.

Table B.45: *Attributes*

Name	Type	Description	Default	Required
prefix	String	Prefix used for all properties set.	n/a	No

B.44.1. Examples

```
<tstamp/>
```

sets the standard DSTAMP, TSTAMP, and TODAY properties according to the default formats.

```
<tstamp>
  <format property = "DATE" pattern = "%c" locale = "nl_NL"/>
```

```
</tstamp>
```

sets the standard properties as well as the property DATE with the date/time pattern "%c" using the Dutch locale.

```
<tstamp prefix = "start"/>
```

sets three properties with the standard formats, prefixed with "start.": start.DSTAMP, start.TSTAMP, and start.TODAY.

B.44.2. Supported Nested Tags

- format

  The Tstamp task supports a <format> nested element that allows a property to be set to the current date and time in a given format. The date/time patterns are as defined in the PHP strftime() function.

Table B.46: Attributes

Name	Type	Description	Default	Required
property	String	The property to receive the date/time string in the given pattern.	n/a	Yes
pattern	String	The date/time pattern to be used. The values are as defined by the PHP strftime() function.	n/a	Yes
locale	String	The locale used to create date/time string. For more information see the PHP setlocale() function.	n/a	No

B.45. TypedefTask

With the TypedefTask you can import a user type into your buildfile.

Table B.47: Attributes

Name	Type	Description	Default	Required
classname	String	The path to the class that defines the type class.	n/a	Yes
name	String	The name the type is available as after importing. If you specify "cproject", for example, you can access the type imported here with <cproject>.	n/a	Yes
classpath	String	The classpath to use when including classes. This is added to PHP's include_path.	n/a	No
classpathref	String	Reference to classpath to use when including classes. This is added to PHP's include_path.	n/a	No

B.45.1. Examples

```
<!--
```

```
Includes the Type named "CustomProject" and makes it available by
<cproject>
-->
<typedef classname = "user.types.CustomProject" name = "cproject" />
```

B.45.2. Supported Nested Tags

- `classpath`

B.46. UpToDateTask

`UpToDateTask` tests if a file is newer than another file or files and sets a property if it is. This is a common way to avoid, possibly time consuming, creation of a target if none of the files/resources it depends on have changed.

Table B.48: Attributes

Name	Type	Description	Default	Required
property	String	Name of the property that is to be set	n/a	Yes
value	String	The value the property is to be set to	true	No
srcfile	String	The file to check against target file(s)	n/a	Yes (or nested `fileset`)
targetfile	String	The file for which we want to determine the status	n/a	Yes (or nested `mapper`)

B.46.1. Examples

```
<uptodate property = "propelBuild.notRequired" targetfile = "${deploy}/propelClasses.tgz" >
  <fileset dir = "${src}/propel">
    <include="**/*.php"/>
  </fileset>
</uptodate>
```

The above example sets the property `propelBuild.notRequired` to true if the `${deploy}/propelClasses.tgz` file is more up-to-date than any of the PHP class files in the `${src}/propel` directory.

```
<target name = "CompileTarget">
  <uptodate property = "target.uptodate" targetfile = "main">
    <fileset refid = "sources"/>
  </uptodate>
  <if>
    <not><isset property = "target.uptodate"/></not>
     <then>
       <!-- Some commands to update the target ... -->
     </then>
  </if>
</target>
```

The above example shows a common use when doing a "compile" type target where a single target depends on other source files. In this case the commands to update the target (whatever they are) are only run if any of the source files are more up to date than the target.

B.46.2. Supported Nested Tags

- `filelist`

- `fileset`

- `mapper`

B.47. WaitForTask

Wait for a condition to become true or a timeout, whichever comes first.

Table B.49: Attributes

Name	Type	Description	Default	Required
`MaxWait`	`Integer`	Set the maximum length of time to wait in units	3min	Yes
`MaxWaitUnit`	`String`	Set the max wait time unit. Must be one of "week","day", "hour", "minute", "second", and "millisecond"	millisec-ond	No
`CheckEvery`	`Integer`	Set the time between each check	500ms	Yes
`CheckEveryUnit`	`String`	Set the check every time unit. Must be one of "week","day", "hour", "minute", "second", and "millisecond"	millisec-onds	No
`TimeoutProper-ty`	`String`	Name of the property to set after a timeout.	null	No

B.47.1. Examples

Wait for a maximum of ten seconds for the file "`ready`" to appear.

```
<waitfor maxwaitunit = "second" maxwait = "10">
  <available file = "ready"/>
</waitfor>
```

B.47.2. Supported Nested Tags

All conditionals including `and`, `or`, `not` etc.

B.48. XsltTask

With `XsltTask`, you can run a XSLT transformation on an XML file. Actually, `XsltTask` extends `CopyTask`, so you can use all the elements allowed there.

`XsltTask` is implemented by means of the `XsltFlter` and hence relies on PHP5 XSLT support via (`libxslt`) which must be available in php5. The `XsltTask` is equivalent to running command line `xsltproc` since that is a frontend for libxslt.

Table B.50: *Attributes*

Name	Type	Description	Default	Required
style	String	The path where the Xslt file is located	n/a	Yes
resolvedocu-mentexternals	Boolean	Whether to resolve entities in the XML document. (see this link [http://www.php.net/manual/en/class.domdocument.php#domdocument.props.resolveexternals] for details)	false	No
re-solvestyleshee-texternals	Boolean	Whether to resolve entities in the stylesheet. false		No

`Note:` You can also use all the attributes available for Section B.10, "CopyTask ".

B.48.1. Examples

```
<!-- Transform docbook with an imaginary XSLT file -->
<xslt todir = "/srv/docs/phing" style = "dbk2html.xslt" >
  <fileset dir = ".">
    <include name = "**/*.xml" />
  </fileset>
</xslt>
```

B.48.2. Supported Nested Tags

- `mapper`

- `filterchain`

- `param`

`Note:` You can use all the elements also available for Section B.10, "CopyTask ".

Additionally, you can use <param> tags with a `name` and a `expression` (or `value` alias) attribute. These parameters are then available from within the xsl style sheet.

Appendix C. Optional tasks

This appendix contains a reference of all optional tasks, i.e. tasks that are not directly needed for building projects, but can assist in various aspects of development and deployment.

This reference lists the tasks alphabetically by the name of the classes that implement the tasks. So if you are searching for the reference to the `<phplint>` tag, for example, you will want to look at the reference of PhpLintTask.

C.1. ApiGenTask

This task runs ApiGen [http://apigen.org/], a tool for creating professional API documentation from PHP source code, similar to discontinued phpDocumentor/phpDoc.

Table C.1: Attributes

Name	Type	Description	Default	Required
executable	String	ApiGen executable name.	apigen	No
config	String	Config file name.	n/a	Source and destination are required - either set explicitly or using a config file. Attribute values set explicitly have precedence over values from a config file.
source	String	List of source files or directories.	n/a	
destination	String	Destination directory.	n/a	
exclude	String	List of masks (case sensitive) to exclude files or directories from processing.	n/a	No
skipdocpath	String	List of masks (case sensitive) to exclude elements from documentation generating.	n/a	No
skipdocprefix	String	Name prefix (case sensitive) to exclude elements from documentation generating.	n/a	No
charset	String	Character set of source files.	UTF-8	No
main	String	Main project name prefix.	n/a	No
title	String	Title of generated documentation.	n/a	No
baseurl	String	Documentation base URL.	n/a	No
googlecseid	String	Google Custom Search ID.	n/a	No
googlecselabel	String	Google Custom Search label.	n/a	No
googleanalytics	String	Google Analytics tracking code.	n/a	No
templateconfig	String	Template config file name.	n/a	If not set the default template is used.

Name	Type	Description	Default	Required
allowedhtml	String	List of HTML tags allowed in the documentation.	b, i, a, ul, ol, li, p, br, var, samp, kbd, tt	No
accesslevels	String	Element access levels. Documentation only for methods and properties with the given access level will be generated.	public, protected	No
internal	Boolean	Whether to generate documentation for elements marked as internal and internal documentation parts or not.	No	No
php	Boolean	Whether to generate documentation for PHP internal classes or not.	Yes	No
tree	Boolean	Whether to generate tree view of classes, interfaces, traits and exceptions or not.	Yes	No
deprecated	Boolean	Whether to generate documentation for deprecated elements or not.	No	No
todo	Boolean	Whether to generate documentation of tasks or not.	No	No
sourcecode	Boolean	Whether to generate highlighted source code files or not.	Yes	No
download	Boolean	Whether to generate a link to download documentation as a ZIP archive or not.	No	No
report	String	File name for checkstyle report of poorly documented elements.	n/a	No
wipeout	Boolean	Whether to wipe out the destination directory first or not.	Yes	No
quiet	Boolean	Whether to enable scaning and generating messages or not.	No	No
updatecheck	Boolean	Whether to check for ApiGen updates or not.	No	No
debug	Boolean	Whether to enable the debug mode or not.	No	No

C.1.1. Example

```
<apigen
  source = "classes"
  destination = "api"
  exclude = "*/tests/*"
  title = "My Project API Documentation"
  deprecated = "true"
  todo = "true"/>
```

C.2. AutoloaderTask

The AutoloaderTask includes autoload file to bootstrap all necessary components in Phing execution context. It could be useful if build tools (e.g. phpunit, phploc etc.) are installed as Composer dependencies.

Table C.2: *Attributes*

Name	Type	Description	Default	Required
autoloaderpath	String	Path to autoloader file	vendor/autoload.php	Yes

C.2.1. Example

```
<autoloader autoloaderpath = "foo/autoload.php"/>
```

C.3. ComposerTask

The ComposerTask runs the Composer tool (http://getcomposer.org) directly from Phing.

Table C.3: *Attributes*

Name	Type	Description	Default	Required
php	String	Path to the PHP interpreter	Defaults to the `${php.interpreter}` property which is the interpreter used to execute phing itself.	No
composer	String	Path to Composer	composer.phar	No
command	String	The Composer command to execute	n/a	No

C.3.1. Supported Nested Tags

- arg

Table C.4: *Attributes*

Name	Type	Description	Default	Required
value	String	A single command-line argument; can contain space characters.	n/a	One of these
file	String	The name of a file as a single command-line argument; will be replaced with the absolute filename of the file.	n/a	
path	String	A string that will be treated as a path-like string as a single command-line argument; you can use ; or : as path separators and Phing will convert it to the platform's local conventions.	n/a	

Name	Type	Description	Default	Required
line	String	A space-delimited list of command-line arguments.	n/a	

C.4. CoverageMergerTask

The CoverageMergerTask merges code coverage information from external sources with an existing code coverage database.

The format of the code coverage files is expected to be identical to:

```
file_put_contents('/www/live/testcases/coverage.data', serialize(xdebug_get_code_coverage));
```

C.4.1. Example

```xml
<coverage-merger>
  <fileset dir = "/www/live/testcases">
    <include name = "**/*.data"/>
  </fileset>
</coverage-merger>
```

C.4.2. Supported Nested Tags

- fileset

C.5. CoverageReportTask

The CoverageReportTask formats a coverage database into a framed HTML report using XSLT. The report can optionally make use of the **Ge**neric **S**yntax **Hi**ghlighting library, GeSHi (See GeSHi Homepage [http://qbnz.com/highlighter/]) library to mark up source code. The path to the library (if not in the default path) can be specified as an attribute.

Table C.5: Attributes

Name	Type	Description	Default	Required
outfile	String	The location for the intermediate XML file.	coverage.xml	Yes
classpath	String	Additional classpath to locate source referenced in the report	n/a	No
geshipath	String	Path to GeSHi highlighting library	n/a	No/Yes* If syntax highlighting si to be enabled
geshilanguagespath	String	Language to use with GeSHi	n/a	No

C.5.1. Example

```
<coverage-report outfile = "reports/coverage.xml">
  <report todir = "reports/coverage" styledir = "/home/phing/etc"/>
</coverage-report>
```

C.5.2. Supported Nested Tags

- report

Table C.6: Attributes

Name	Type	Description	Default	Required
styledir	String	The directory where the stylesheets are lo-cated.	The etc directory in the Phing installation	No
todir	String	The directory where the files resulting from the transformation should be written to.		Yes
title	String	Title of the project (used in the generated document(s))		No
usesorttable	Boolean	Whether to use the sorttable JavaScript library (see http://www.kryogenix.org/code/browser/sorttable/)	false	No

C.6. CoverageSetupTask

The CoverageSetupTask prepares a database which can be used to gather code coverage information for unit tests.

Table C.7: Attributes

Name	Type	Description	Default	Required
database	String	The location for the coverage database.	coverage.db	Yes

C.6.1. Example

```
<coverage-setup database = "./reports/coverage.db">
  <fileset dir = "classes">
    <include name = "**/*.php"/>
  </fileset>
</coverage-setup>
<phpunit codecoverage = "true">
  <batchtest>
    <fileset dir = "src">
      <include name = "*Test.php"/>
    </fileset>
  </batchtest>
</phpunit>
```

C.6.2. Supported Nested Tags

- classpath

- fileset

- filelist

C.7. CoverageThresholdTask

This task validates the code coverage database and will stop the build cycle if any class or method or entire project's coverage is lower than the specified threshold.

Table C.8: *Attributes*

Name	Type	Description	Default	Required
database	String	The location of the coverage database. (This is optional if CoverageSetupTask has run before)	n/a	No
perProject	Integer	The minimum code coverage for the entire project.	25	No
perClass	Integer	The minimum code coverage for any class.	25	No
perMethod	Integer	The minimum code coverage for any method.	25	No
verbose	Boolean	Whether to enable detailed logging or not.	false	No

C.7.1. Example

```
<coverage-threshold database = "./reports/coverage.db"/>
```

C.7.2. Supported Nested Tags

- classpath

- excludes

Validates an optional code coverage database against the default thresholds.

```
<coverage-threshold
    perProject = "50"
    perClass = "60"
    perMethod = "70"/>
```

Validates the code coverage database (from CoverageSetupTask) against the specified thresholds.

```
<coverage-threshold
    perProject = "50"
    perClass = "60"
    perMethod = "70"/>
    <excludes>
        <file>**/*Processor.php</file>
```

```
        <class>Model_Filter_Windows</class>
        <method>Model_System::execute()</method>
    </excludes>
```

Validates the code coverage database (from CoverageSetupTask) against the specified thresholds and excludes the given file, class and method from threshold validation. The filename is relative to the project basedir. A Method can be named either "Model_System::execute()" or "Model_System::execute". The method name is considered only for the given class "Model_System".

C.8. DbDeployTask

The `DbDeployTask` creates .sql files for making revisions to a database, based on dbdeploy conventions centering around a changelog table in the database. See rules for using dbdeploy [http://dbdeploy.com/documentation/getting-started/rules-for-using-dbdeploy/] for more information. You will need a changelog table like so:

Table C.9: Attributes

Name	Type	Description	Default	Required
url	String	PDO connection url	n/a	Yes
userid	String	DB userid to use for accessing the changelog table	none	As required by db
password	String	DB password to use for accessing the changelog table	none	As required by db
dir	String	Directory containing dbdeploy delta scripts	none	Yes
outputfile	String	Filename in which deployment SQL will be generated	dbdeploy_deploy.sql	No
undooutputfile	String	Filename in which undo SQL will be generated	dbdeploy_undo.sql	No
deltaset	String	deltaset to check within db	Main	No
lastchange-toapply	Integer	Highest-numbered delta script to apply to db	999	No
appliedBy	String	Value of the 'applied_by' column for each entry in the changelog table	dbdeploy	No
checkall	Boolean	False means dbdeploy will only apply patches that have a higher number than the last patch-number that was applied True means dbdeploy will apply all changes that aren't applied already (in ascending order)	false	No

C.8.1. Example

```
CREATE TABLE changelog (
  change_number BIGINT NOT NULL,
  delta_set VARCHAR(10) NOT NULL,
  start_dt TIMESTAMP NOT NULL,
  complete_dt TIMESTAMP NULL,
  applied_by VARCHAR(100) NOT NULL,
  description VARCHAR(500) NOT NULL
)
```

```
<dbdeploy
  url = "sqlite:${project.basedir}/data/db.sqlite"
  userid = "dbdeploy"
  password = "dbdeploy"
  dir = "${project.basedir}/data/dbdeploy/deltas"
/>
```

The above example uses a sqlite database and delta scripts located in dbdeploy/deltas in the project base dir.

C.9. ExportPropertiesTask

Exports all defined properties to a specified file.

Table C.10: *Attributes*

Name	Type	Description	Default	Required
targetfile	String	Target file for saved properties	n/a	Yes
disallowed-PropertyPrefixes	String	Exclude properties starting with these prefixes (separated by ,	`'host.',` `'ph-` `ing.',` `'os.',` `'php.',` `'line.',` `'env.',` `'user.'`	No

C.9.1. Example

```
<exportproperties targetfile = "output.props" />
```

C.10. FileHashTask

Calculates either MD5 or SHA1 hash value of a file and stores the value as a hex string in a property.

Other popular algorithms [http://php.net/manual/en/function.hash-algos.php] like "crc32" or "sha512" may be used with help of the `algorithm` attribute.

Table C.11: *Attributes*

Name	Type	Description	Default	Required
file	String	Filename	n/a	Yes
hashtype	Integer	Specifies what hash algorithm to use. 0=MD5, 1=SHA1	0	No
algorithm	String	Specifies what hash algorithm to use. Supported algorithms [http://php.net/manual/en/function.hash-algos.php].	n/a	No

Name	Type	Description	Default	Required
propertyname	String	Name of property where the hash value is stored	isfilehash-value	No

C.10.1. Example

```
<filehash file = "${builddir}/${tarball}.tar.${compression}" />
<echo msg = "Hashvalue is; ${filehashvalue}" />
```

C.11. FileSizeTask

Stores the size of a specified file in a property. The file size is returned in bytes.

Table C.12: Attributes

Name	Type	Description	Default	Required
file	String	Filename	n/a	Yes
propertyname	String	Name of property where the file size is stored	filesize	No

C.11.1. Example

```
<filesize file = "${builddir}/${tarball}.tar.${compression}" />
<php expression = "floor(${filesize}/1024)" returnProperty = "ksize" />
<php expression = "floor(${filesize}/1024/1024)" returnProperty = "msize" />
<echo msg = "Filesize is: ${ksize} kB"/>
<echo msg = "Filesize is: ${msize} MB"/>
```

C.12. FileSyncTask

Syncs files or directories using the rsync command. Syncing can be done on the same server or from/ to a remote server.

Table C.13: Attributes

Name	Type	Description	Default	Required
rsyncPath	String	Path to rsync command	/usr/bin/ rsync	Yes
sourceDir	String	Source directory (use [user@]host:path for remote sources)	n/a	Yes
destinationDir	String	Destination directory (use [user@]host:path for remote destinations). Note: sub directories are created by default if they do not exist in the destination directory.	n/a	Yes

Name	Type	Description	Default	Required
exclude	String	Excluded file matching pattern	n/a	No
excludeFile	String	Excluded patterns file	n/a	No
backupDir	String	Creates a backup so users can rollback to an existing restore point	n/a	No
options	String	Any options that rsync supports, removes the default options. Should you wish to change the port ssh uses for remote transfers, set this attribute to `-e 'ssh -p XXXXX' -rpKzl`	-rpKz	No
verbose	Boolean	This option increases the amount of information you are given during the transfer	True	No
dryRun	Boolean	This option makes rsync perform a trial run that doesn't make any changes	False	No
itemizeChanges	Boolean	This option requests a simple itemized list of the changes that are being made to each file, including attribute changes	False	No
checksum	Boolean	This option will cause rsync to skip files based on checksum, not mod-time & size	False	No
delete	Boolean	This option deletes files that don't exist on sender after transfer including `force` and `ignore-errors`	False	No
identityFile	String	Identity file for ssh authentication of a remote transfer	n/a	No

C.12.1. Examples

```
<filesync sourcedir = "/var/www/development/project1" destinationdir = "/var/www/project1" />

<filesync sourcedir = "host::module" destinationdir = "/var/www/project1/" />

<filesync
  sourcedir = "/var/www/development/project1"
  destinationdir = "user@server:/var/www/project1"
  dryrun = "true"
  itemizechanges = "true"
  verbose = "true"
  checksum = "true" />
```

In the `sourcedir` and `destinationdir` properties user name for remote connections is optional.

C.13. FtpDeployTask

Deploys a set of files to a remote FTP server.

Table C.14: *Attributes*

Name	Type	Description	Default	Required
host	String	The hostname of the remote server.	none	Yes

Name	Type	Description	Default	Required
port	Integer	The port of the remote server.	21	No
username	String	The username to use when logging in to the remote server.	none	Yes
password	String	The password to use when logging in to the remote server	none	Yes
dir	String	Directory on the remote server.	none	No
mode	String	The transfer mode to use, either `ascii` or `bi-nary`.	binary	No
clearfirst	Boolean	Delete all files in the remote directory before uploading	false	No
passive	Boolean	Open connection in passive mode	false	No
dirmode	mixed	Permissions of the uploaded files, can either be 'inherit' or it can be a octal value without the leading zero. Settings the dirmode to 'inherit' will cause the uploaded files to have the same permissions as on the filesystem.	false	No
filemode	mixed	This option does the same as dirmode, except it only affects regular files.	false	No
depends	boolean	If depends is set to true, the task will only update files with a local modification timestamp that is newer than the corresponding timestamp on the server.	false	No
level	String	Control the level at which the task reports status messages. One of `error`, `warning`, `info`, `verbose`, `debug`.	verbose	No
rawdatafall-back	boolean	If Net_FTP is not able to parse the raw ftp data, the depends option does not work at all. Setting rawdatafallback will cause phing trying to parse the ftp data on its own, so the depends option might work again. If depends is set to false, rawdatafallback is ignored.	No	
skiponsamesize	Boolean	Skip upload, if file of same size exists.	false	No

C.13.1. Example

```xml
<ftpdeploy
  host = "${ftp.host}"
  port = "${ftp.port}"
  username = "${ftp.username}"
  password = "${ftp.password}"
  dir = "${ftp.dir}"
  passive = "false"
  mode = "${ftp.mode}">
  <fileset dir = ".">
    <include name = "**"/>
    <exclude name = "phing"/>
    <exclude name = "build.xml"/>
    <exclude name = "images/**.png"/>
    <exclude name = "images/**.gif"/>
    <exclude name = "images/**.jpg"/>
```

```
    </fileset>
</ftpdeploy>
```

C.13.2. Supported Nested Tags

- `fileset`

  The files to deploy

C.14. GitInitTask

Create an empty git repository or reinitialize an existing one.

Table C.15: Attributes

Name	Type	Description	Default	Required
gitPath	String	Path to Git binary	/usr/bin/ git	No
repository	String	Path to Git repository	n/a	Yes
bare	Boolean	Create bare repository. See --bare option of git-init [http://www.kernel.org/pub/software/scm/git/docs/git-init.html].	false	No

C.14.1. Example

```
<property name = "repo.dir" value = "./relative/path/to/repo" />
<resolvepath propertyName = "repo.dir.resolved" file = "${repo.dir}" />

<!-- Initialize normal repository -->
<gitinit repository = "${repo.dir.resolved}" />

<!-- Initialize bare repository -->
<gitinit bare = "true" repository = "${repo.dir.resolved}" />
```

C.15. GitCloneTask

Clone a repository into a new directory.

Table C.16: Attributes

Name	Type	Description	Default	Required
gitPath	String	Path to Git binary	/usr/bin/ git	No
repository	String	The (possibly remote) repository to clone from.	n/a	Yes

Name	Type	Description	Default	Required
targetPath	String	The name of a new directory to clone into. Cloning into an existing directory is only allowed if the directory is empty.	n/a	Yes
bare	Boolean	Create bare repository. See --bare option of git-clone [http://www.kernel.org/pub/software/scm/git/docs/git-clone.html].	false	No
depth	Integer	Create a shallow clone with a history truncated to the specified number of revisions. See --depth option of git-clone [http://www.kernel.org/pub/software/scm/git/docs/git-clone.html].	0	No

C.15.1. Example

```
<property name = "repo.dir" value = "./relative/path/to/repo" />
<resolvepath propertyName = "repo.dir.resolved" file = "${repo.dir}" />

<!-- Clone repository -->
<gitclone
    repository = "git://github.com/path/to/repo/repo.git"
    targetPath = "${repo.dir.resolved}" />

<!-- Clone bare repository -->
<gitclone
    repository = "git://github.com/path/to/repo/repo.git"
    targetPath = "${repo.dir.resolved}"
    bare = "true" />
```

C.16. GitGcTask

Cleanup unnecessary files and optimize the local repository.

Table C.17: *Attributes*

Name	Type	Description	Default	Required
gitPath	String	Path to Git binary	/usr/bin/git	No
repository	String	The repository to cleanup.	n/a	Yes
aggressive	Boolean	This option will cause git gc to more aggressively optimize the repository at the expense of taking much more time. See --aggressive option of git-gc [http://www.kernel.org/pub/software/scm/git/docs/git-gc.html].	false	No
auto	Boolean	With this option, git gc checks whether any housekeeping is required; if not, it exits without performing any work. See --auto option of git-gc [http://www.kernel.org/pub/software/scm/git/docs/git-gc.html].	false	No

Name	Type	Description	Default	Required
noprune	Boolean	Do not prune any loose objects. See --no-prune option of git-gc [http://www.kernel.org/pub/software/scm/git/docs/git-gc.html].	false	No
prune	String	Prune loose objects older than date. See --prune option of git-gc [http://www.kernel.org/pub/software/scm/git/docs/git-gc.html].	2.weeks.ago	No

C.16.1. Example

```xml
<property name = "repo.dir" value = "./relative/path/to/repo" />
<resolvepath propertyName = "repo.dir.resolved" file = "${repo.dir}" />

<!-- Clone repository -->
<gitclone
    repository = "git://github.com/path/to/repo/repo.git"
    targetPath = "${repo.dir.resolved}" />

<!-- Cleanup repository-->
<gitgc
    repository = "${repo.dir.resolved}"
    aggressive = "true"
    prune = "1.week.ago" />
```

C.17. GitBranchTask

Create, move or delete repository branches. See official documentation [http://www.kernel.org/pub/software/scm/git/docs/git-branch.html] (branch listing functionality is omitted in current implementation).

Table C.18: *Attributes*

Name	Type	Description	Default	Required
gitPath	String	Path to Git binary	/usr/bin/git	No
repository	String	Path to Git repository	n/a	Yes
branchname	String	The name of the branch to create or delete.	n/a	Yes
newbranch	String	The new name for an existing branch.	n/a	Yes, if branch move invoked
startpoint	String	The new branch head will point to this commit. It may be given as a branch name, a commit-id, or a tag. If this option is omitted, the current HEAD will be used instead. See <start-point> argument of git-branch [http://www.kernel.org/pub/software/scm/git/docs/git-branch.html].		No
setupstream	String	If specified branch does not exist yet or if --force has been given, acts exactly like --track. Otherwise sets up configuration like --track would when creating the branch, except that where branch points to		No

Name	Type	Description	Default	Required
		is not changed. See --set-upstream option of git-branch [http://www.kernel.org/pub/software/scm/git/docs/git-branch.html].		
track	Boolean	See --track option of git-branch [http://www.kernel.org/pub/software/scm/git/docs/git-branch.html].	false	No
notrack	Boolean	See --no-track option of git-branch [http://www.kernel.org/pub/software/scm/git/docs/git-branch.html].	false	No
force	Boolean	Reset <branchname> to <startpoint> if <branchname> exists already. Without -f git branch refuses to change an existing branch.	false	No
move	Boolean	Move/rename a branch and the corresponding reflog.	false	No
forcemove	Boolean	Move/rename a branch even if the new branch name already exists.	false	No
delete	Boolean	Delete a branch. The branch must be fully merged in its upstream branch, or in HEAD if no upstream was set with --track or --set-up-stream.	false	No
forcedelete	Boolean	Delete a branch irrespective of its merged sta-tus.	false	No

C.17.1. Example

```xml
<property name = "repo.dir" value = "./relative/path/to/repo" />
<resolvepath propertyName = "repo.dir.resolved" file = "${repo.dir}" />


<!-- Initialize normal repository -->
<gitinit repository = "${repo.dir.resolved}" />


<!-- Create branch "sample-branch" tracking current HEAD -->
<gitbranch
    repository = "${repo.dir.resolved}"
    branchname = "sample-branch" />


<!--
Create branch "sample-branch" tracking origin/master
Note that you can omit both startpoint and track attributes in this case
-->
<gitbranch
    repository = "${repo.dir.resolved}"
    branchname = "sample-branch"
    startpoint = "origin/master"
    track = "true" />


<!-- Delete fully merged branch "sample-branch" -->
<gitbranch
    repository = "${repo.dir.resolved}"
    branchname = "sample-branch"
    delete = "true" />


<!-- Force delete even unmerged branch "sample-branch" -->
<gitbranch
    repository = "${repo.dir.resolved}"
```

```
    branchname = "sample-branch"
    forcedelete = "true" />

<!-- Renabe "branch1" to "branch2" -->
<gitbranch
    repository = "${repo.dir.resolved}"
    branchname = "branch1"
    newbranch = "branch2"
    move = "true" />
```

C.18. GitFetchTask

Download objects and refs from another repository. See official documentation [http://www.kernel.org/pub/software/scm/git/docs/git-fetch.html].

Table C.19: Attributes

Name	Type	Description	Default	Required
gitPath	String	Path to Git binary	/usr/bin/git	No
repository	String	Path to Git repository	n/a	Yes
source	String	The "remote" repository that is the source origin of a fetch or pull operation. See <repository> in git-fetch [http://www.kernel.org/pub/software/scm/git/docs/git-fetch.html].		No
refspec	String	See <refspec> in git-fetch [http://www.kernel.org/pub/software/scm/git/docs/git-fetch.html].		No
group	String	A name referring to a list of repositories as the value of remotes.<group> in the configuration file. See <group> in git-fetch [http://www.kernel.org/pub/software/scm/git/docs/git-fetch.html].		No
quiet	Boolean	Silence any internally used git commands. Progress is not reported to the standard error stream. See --quiet in git-fetch [http://www.kernel.org/pub/software/scm/git/docs/git-fetch.html].	false	No
all	Boolean	Fetch all remotes. See --all in git-fetch [http://www.kernel.org/pub/software/scm/git/docs/git-fetch.html].	false	No
keep	Boolean	Keep downloaded pack. See --keep in git-fetch [http://www.kernel.org/pub/software/scm/git/docs/git-fetch.html].	false	No
prune	Boolean	After fetching, remove any remote tracking branches which no longer exist on the remote. See --prune in git-fetch [http://www.kernel.org/pub/software/scm/git/docs/git-fetch.html].	false	No
tags	Boolean	See --tags in git-fetch [http://www.kernel.org/pub/software/scm/git/docs/git-fetch.html].	false	No

Name	Type	Description	Default	Required
notags	Boolean	See --no-tags in git-fetch [http://www.kernel.org/pub/software/scm/git/docs/git-fetch.html].	false	No
force	Boolean	When git fetch is used with <rbranch>:<lbranch> refspec, it refuses to update the local branch <lbranch> unless the remote branch <rbranch> it fetches is a descendant of <lbranch>. This option overrides that check. See --force in git-fetch [http://www.kernel.org/pub/software/scm/git/docs/git-fetch.html].	false	No

C.18.1. Example

```
<property name = "repo.dir" value = "./relative/path/to/repo" />
<resolvepath propertyName = "repo.dir.resolved" file = "${repo.dir}" />

<!-- Initialize normal repository -->
<gitinit repository = "${repo.dir.resolved}" />

<!-- Fetch objects from all remotes -->
<gitfetch
    repository = "${repo.dir.resolved}" all = "true" />

<!-- Fetch from origin/master to "refspec-branch" local branch -->
<gitfetch
    repository = "${repo.dir.resolved}"
    source = "origin"
    refspec = "master:refspec-branch"
    quiet = "true" />
```

C.19. GitCheckoutTask

Checkout a branch or paths to the working tree. See official documentation [http://www.kernel.org/pub/software/scm/git/docs/git-checkout.html].

Table C.20: Attributes

Name	Type	Description	Default	Required
gitPath	String	Path to Git binary	/usr/bin/git	No
repository	String	Path to Git repository	n/a	Yes
branchname	String	Branch to checkout. See <branch> in git-checkout [http://www.kernel.org/pub/software/scm/git/docs/git-checkout.html].	origin	No
startpoint	String	The name of a commit at which to start the new branch; Defaults to HEAD. See <start_point> in git-checkout [http://www.kernel.org/pub/software/scm/git/docs/git-checkout.html].		No
create	Boolean	Create a new branch named <branchname> and start it at <startpoint>	false	No

Name	Type	Description	Default	Required
forcecreate	Boolean	Creates the branch <branchname> and start it at <startpoint>; if it already exists, then reset it to <startpoint>. This is equivalent to running "git branch" with "-f".	false	No
merge	Boolean	See --merge in git-checkout [http://www.kernel.org/pub/software/scm/git/docs/git-checkout.html].	false	No
track	Boolean	See --track in git-checkout [http://www.kernel.org/pub/software/scm/git/docs/git-checkout.html].	false	No
notrack	Boolean	See --no-track in git-check-out [http://www.kernel.org/pub/software/scm/git/docs/git-checkout.html].	false	No
quiet	Boolean	Quiet, suppress feedback messages. See --quiet in git-checkout [http://www.kernel.org/pub/software/scm/git/docs/git-checkout.html].	false	No
force	Boolean	When switching branches, proceed even if the index or the working tree differs from HEAD. This is used to throw away local changes. See --force in git-checkout [http://www.kernel.org/pub/software/scm/git/docs/git-checkout.html].	false	No

C.19.1. Example

```xml
<property name = "repo.dir" value = "./relative/path/to/repo" />
<resolvepath propertyName = "repo.dir.resolved" file = "${repo.dir}" />

<!-- clone repository -->
<gitclone
    repository = "git://github.com/path/to/repo/repo.git"
    targetPath = "${repo.dir.resolved}" />

<!-- create and switch to "mybranch" branch -->
<gitcheckout
    repository = "${repo.dir.resolved}"
    branchname = "mybranch" quiet = "true" create = "true" />

<!-- get back to "master" branch -->
<gitcheckout
    repository = "${repo.dir.resolved}"
    branchname = "master" quiet = "true" />

<!-- create (force) already created branch -->
<gitcheckout
    repository = "${repo.dir.resolved}"
    branchname = "mybranch" quiet = "true"
    forceCreate = "true" />
```

C.20. GitCommitTask

Record changes to the repository. See official documentation [http://www.kernel.org/pub/software/scm/git/docs/git-commit.html].

Table C.21: Attributes

Name	Type	Description	Default	Required
gitPath	String	Path to Git binary	/usr/bin/ git	No
repository	String	Path to Git repository	n/a	Yes
message	String	Commit message	n/a	No
allFiles	Boolean	Whether to automatically stage files that have been modified and deleted (see --all in git-commit [http://www.kernel.org/pub/soft-ware/scm/git/docs/git-commit.html])	n/a	No

C.20.1. Example

```
<!-- commit all modified / deleted files -->;
<gitcommit
    repository = "/path/to/repo"
    message = "Commit message" allFiles = "true" />;
```

C.20.2. Supported Nested Tags

- fileset

C.21. GitMergeTask

Join two or more development histories together. See official documentation [http://www.kernel.org/ pub/software/scm/git/docs/git-merge.html].

Table C.22: Attributes

Name	Type	Description	Default	Required
gitPath	String	Path to Git binary	/usr/bin/ git	No
repository	String	Path to Git repository	n/a	Yes
remote	String	Space separated list of branches to merge into current HEAD. See <commit> in git-merge [http://www.kernel.org/pub/soft-ware/scm/git/docs/git-merge.html].	n/a	No
message	String	Commit message to be used for the merge commit (in case one is created). See <msg> in git-merge [http://www.kernel.org/pub/soft-ware/scm/git/docs/git-merge.html].	n/a	No
fastForward-Commit	Boolean	If set false (default), will not gener-ate a merge commit if the merge re-solved as a fast-forward, only update the branch pointer. If set true, will generate a	false	No

Name	Type	Description	Default	Required
		merge commit even if the merge resolved as a fast-forward. See --ff/--no-ff options in git-merge [http://www.kernel.org/pub/software/scm/git/docs/git-merge.html].		
strategy	String	Merge strategy. One of "resolve", "recursive", "octopus", "ours", or "subtree". See <strategy> in git-merge [http://www.kernel.org/pub/software/scm/git/docs/git-merge.html].	n/a	No
strategyOption	String	Pass merge strategy specific option through to the merge strategy. See <strategy-option> in git-merge [http://www.kernel.org/pub/software/scm/git/docs/git-merge.html].	n/a	No
commit	Boolean	See --commit in git-merge [http://www.kernel.org/pub/software/scm/git/docs/git-merge.html].	false	No
nocommit	Boolean	See --no-commit in git-merge [http://www.kernel.org/pub/software/scm/git/docs/git-merge.html].	false	No
quiet	Boolean	Quiet, suppress feedback messages. See --quiet in git-merge [http://www.kernel.org/pub/software/scm/git/docs/git-merge.html].	false	No

C.21.1. Example

```xml
<property name = "repo.dir" value = "./relative/path/to/repo" />
<resolvepath propertyName = "repo.dir.resolved" file = "${repo.dir}" />

<!-- clone repository -->
<gitclone
    repository = "git://github.com/path/to/repo/repo.git"
    targetPath = "${repo.dir.resolved}" />

<!-- create couple of test branches -->
<gitbranch
    repository = "${repo.dir.resolved}"
    branchname = "merge-test-1" startpoint = "origin/master" />
<gitbranch
    repository = "${repo.dir.resolved}"
    branchname = "merge-test-2" startpoint = "origin/master" />

<!-- Merge those branches back into master -->
<gitmerge
    repository = "${repo.dir.resolved}"
    remote = "merge-test-1 merge-test-2"
    message = "merging repos" commit = "true" />
```

C.22. GitPullTask

Fetch from and merge with another repository or a local branch. See official documentation [http://www.kernel.org/pub/software/scm/git/docs/git-pull.html].

Table C.23: *Attributes*

Name	Type	Description	Default	Required
gitPath	String	Path to Git binary	/usr/bin/git	No
repository	String	Path to Git repository	n/a	Yes
all	Boolean	Fetch all remotes	false	No
source	String	The "remote" repository that is the source of aorigin fetch or pull operation. See <repository> in git-pull [http://www.kernel.org/pub/software/scm/git/docs/git-pull.html].		Yes, if allRemotes set to false
refspec	String	See <refspec> in git-pull [http:// www.kernel.org/pub/software/scm/git/docs/git-pull.html].	n/a	No
strategy	String	Merge strategy. One of "resolve", "recursive", "octopus", "ours", or "subtree". See <strategy> in git-pull [http://www.kernel.org/pub/software/scm/git/docs/git-pull.html].	n/a	No
strategyOption	String	Pass merge strategy specific option through to the merge strategy. See <strategy-option> in git-pull [http://www.kernel.org/pub/software/scm/git/docs/git-pull.html].	n/a	No
rebase	Boolean	See --rebase in git-pull [http://www.kernel.org/pub/software/scm/git/docs/git-pull.html].	false	No
norebase	Boolean	See --no-rebase in git-pull [http://www.kernel.org/pub/software/scm/git/docs/git-pull.html].	false	No
tags	Boolean	Enable tag references following. See --tags in git-pull [http://www.kernel.org/pub/software/scm/git/docs/git-pull.html].	false	No
notags	Boolean	Disable tag references following. See --no-tags in git-pull [http://www.kernel.org/pub/software/scm/git/docs/git-pull.html].	false	No
keepFiles	Boolean	See --keep in git-pull [http://www.kernel.org/pub/software/scm/git/docs/git-pull.html].	false	No
append	Boolean	See --append in git-pull [http://www.kernel.org/pub/software/scm/git/docs/git-pull.html].	false	No
quiet	Boolean	Quiet, suppress feedback messages. See --quiet in git-pull [http://www.kernel.org/pub/software/scm/git/docs/git-pull.html].	false	No
force	Boolean	Force update. See --force in git-pull [http://www.kernel.org/pub/software/scm/git/docs/git-pull.html].	false	No

C.22.1. Example

```
<property name = "repo.dir" value = "./relative/path/to/repo" />
<resolvepath propertyName = "repo.dir.resolved" file = "${repo.dir}" />
```

```
<!-- clone repository -->
<gitclone
    repository = "git://github.com/path/to/repo/repo.git"
    targetPath = "${repo.dir.resolved}" />

<!-- pull from all remotes -->
<gitpull
    repository = "${repo.dir.resolved}" all = "true" />

<!-- pull remote origin/foobranch and rebase when merging -->
<gitpull
    repository = "${repo.dir.resolved}"
    source = "origin" refspec = "foobranch"
    strategy = "recursive" keep = "true"
    force = "true" quiet = "true" rebase = "true" />
```

C.23. GitPushTask

Update remote refs along with associated objects. See official documentation [http://www.kernel.org/pub/software/scm/git/docs/git-push.html].

Table C.24: Attributes

Name	Type	Description	Default	Required
gitPath	String	Path to Git binary	/usr/bin/ git	No
repository	String	Path to Git repository	n/a	Yes
all	Boolean	Push all references	false	No
destination	String	The "remote" repository that is destina-origin tion of a push operation. See <repository> in git-push [http://www.kernel.org/pub/software/scm/git/docs/git-push.html].		Yes, if allRemotes set to false
refspec	String	See <refspec> in git-push [http://n/a www.kernel.org/pub/software/scm/git/docs/git-push.html].		No
mirror	Boolean	See --mirror in git-push [http://www.kernel.org/false pub/software/scm/git/docs/git-push.html].		No
delete	Boolean	Delete "remote" reference. Same as pre-false fixing the refspec with colon. See --delete in git-push [http://www.kernel.org/pub/software/scm/git/docs/git-push.html].		No
tags	Boolean	Push all references under refs/tags. See --false tags in git-push [http://www.kernel.org/pub/software/scm/git/docs/git-push.html].		No
quiet	Boolean	Quiet, suppress feedback messages. See --false quiet in git-push [http://www.kernel.org/pub/software/scm/git/docs/git-push.html].		No
force	Boolean	Force update. See --force infalse git-push [http://www.kernel.org/pub/software/scm/git/docs/git-push.html].		No

C.23.1. Example

```
<property name = "repo.dir" value = "./relative/path/to/repo" />
<resolvepath propertyName = "repo.dir.resolved" file = "${repo.dir}" />

<!-- clone repository -->
<gitclone
    repository = "git://github.com/path/to/repo/repo.git"
    targetPath = "${repo.dir.resolved}" />

<!-- push branch "master" into "foobranch" on "origin" remote -->
<gitpush
    repository = "${repo.dir.resolved}"
    refspec = "master:foobranch" tags = "true" />

<!-- create new branch "newbranch" on "origin" remote -->
<gitpush
    repository = "${repo.dir.resolved}"
    refspec = "master:newbranch" quiet = "true" />

<!-- delete "newbranch" branch from "origin" remote -->
<gitpush
    repository = "${repo.dir.resolved}"
    delete = "true"
    refspec = "newbranch" quiet = "true" />
```

C.24. GitTagTask

Create, list, delete or verify a tag object signed with GPG. See official documentation [http://www.kernel.org/pub/software/scm/git/docs/git-tag.html].

Table C.25: Attributes

Name	Type	Description	Default	Required
gitPath	String	Path to Git binary	/usr/bin/git	No
repository	String	Path to Git repository	n/a	Yes
message	String	Use given tag message. See -m of git-tag [http://www.kernel.org/pub/software/scm/git/docs/git-tag.html]	n/a	No
name	String	Tag name	n/a	Yes
commit	String	<commit> argument to git-tag	n/a	No
object	String	<object> argument to git-tag	n/a	No
pattern	String	<pattern> argument to git-tag	n/a	No
outputProperty	String	Property name to set with output value from git-tag	n/a	No
file	String	Take tag message from given file. See -F of git-tag [http://www.kernel.org/pub/software/scm/git/docs/git-tag.html]	n/a	No
annotate	Boolean	Make unsigned, annotated tag object. See -a of git-tag [http://www.kernel.org/pub/software/scm/git/docs/git-tag.html]	false	No

Name	Type	Description	Default	Required
force	Boolean	Replace existing tag with given name. See -f of git-tag [http://www.kernel.org/pub/software/scm/git/docs/git-tag.html]	false	No
delete	Boolean	Delete existing tags with given names. See -d of git-tag [http://www.kernel.org/pub/software/scm/git/docs/git-tag.html]	false	No
list	Boolean	List tags with names matching given pattern. See -l of git-tag [http://www.kernel.org/pub/software/scm/git/docs/git-tag.html]	false	No
num	Integer	Specifies how many lines from the annotation, if any, are printed when using -l. See -n of git-tag [http://www.kernel.org/pub/software/scm/git/docs/git-tag.html]	n/a	No
contains	String	Only list tags containing specified commit. See --contains of git-tag [http://www.kernel.org/pub/software/scm/git/docs/git-tag.html]	n/a	No
sign	Boolean	Make GPG-signed tag. See -s of git-tag [http://www.kernel.org/pub/software/scm/git/docs/git-tag.html]	false	No
keySign	String	Make GPG-signed tag, using given key. See -u of git-tag of git-tag [http://www.kernel.org/pub/software/scm/git/docs/git-tag.html]	n/a	No
verify	Boolean	Verify GPG signature of given tag names. See -v of git-tag [http://www.kernel.org/pub/software/scm/git/docs/git-tag.html]	false	No

C.24.1. Example

```xml
<property name = "repo.dir" value = "./relative/path/to/repo" />
<resolvepath propertyName = "repo.dir.resolved" file = "${repo.dir}" />

<!-- clone repository -->
<gitclone
    repository = "git://github.com/path/to/repo/repo.git"
    targetPath = "${repo.dir.resolved}" />

<gittag repository = "${repo.dir.resolved}" name = "ver1.0" />
<!-- Force duplicate tag creation -->
<gittag
    repository = "${repo.dir.resolved}"
    name = "ver1.0" force = "true"/>
<!-- Create tag with annotation and message -->
<gittag
    repository = "${repo.dir.resolved}"
    name = "ver1.0"
    annotate = "true" message = "Version 1.0 tag"/>
<!-- Delete tag -->
<gittag
    repository = "${repo.dir.resolved}"
        name = "ver2.0" delete = "true" />
<!-- List tags matching to pattern "marked" into "tags" variable -->
<gittag repository = "${repo.dir.resolved}"
    list = "true"
    outputProperty = "tags"
```

```
    pattern = "marked" />
```

C.25. GitLogTask

Show commit logs. See official documentation [http://www.kernel.org/pub/software/scm/git/docs/git-log.html].

Table C.26: Attributes

Name	Type	Description	Default	Required
gitPath	String	Path to Git binary	/usr/bin/git	No
repository	String	Path to Git repository	n/a	Yes
paths	String	<paentry> arguments to git-log. Accepts one or more paths delimited by PATH_SEPARATOR	n/a	No
outputProperty	String	Property name to set with output value from git-log	n/a	No
format	String	Commit format. See --format of git-log. Can be one of `oneline`, `short`, `medium`, `full`, `fuller`, `email`, `raw` and `format:<string>`	medium	No
date	String	Date format. See --date of git-log.	n/a	No
since	String	<since> argument to git-log.	n/a	No
until	String	<until> argument to git-log.	HEAD	No
stat	String	Generate a diffstat. See --stat of git-log	n/a	No
nameStatus	Boolean	Names + status of changed files. See --name-status of git-log.	false	No
maxCount	Integer	Number of commits to show. See -<n>|-n|--max-count of git-log.	n/a	No
noMerges	Boolean	Don't show commits with more than one parent. See --no-merges of git-log.	false	No

C.25.1. Example

```
<property name = "repo.dir" value = "./relative/path/to/repo" />
<resolvepath propertyName = "repo.dir.resolved" file = "${repo.dir}" />

<!-- clone repository -->
<gitclone
    repository = "git://github.com/path/to/repo/repo.git"
    targetPath = "${repo.dir.resolved}" />

<gitlog
    paths = "${repo.dir.resolved}"
    format = "oneline"
    maxCount = "2"
    stat = "true"
    noMerges = "false"
```

```
    since = "Sun Jan 23 23:55:42 2011 +0300"
    until = "Mon Jan 24 09:59:33 2011 +0300"
    outputProperty = "logs"
    repository = "${repo.dir.resolved}" />
```

C.26. GrowlNotifyTask

When you have a long process and want to be notified when it is finished, without to stay focused on the console windows. Then use the GrowlNotify task.

This task requires the PEAR Net_Growl [http://pear.php.net/package/Net_Growl] package installed (version 2.6.0).

Features

- Compatible Windows and Mac/OSX

- Do not forget notification with sticky option

- Define priority of messages

- Send notification on private or public network

Table C.27: Attributes

Name	Type	Description	Default	Required
name	String	Name of application to be register	Growl forPhing	No
sticky	Boolean	Indicates if the notification should be sticky on desktop	false	No
message	String	Text of notification. Use \n to specify a line break	n/a	Yes
title	String	Title of notification	GrowlNotify	No
notification	String	The notification name/type	General Notification	No
appicon	String	• absolute url (http://domain/image.png) • absolute file path (c:\temp\image.png) • relative file path (.\folder\image.png)	n/a	No
host	String	The host address where to send the notification	127.0.0.1	No
password	String	The password required to send notifications over network	n/a	No
priority	String	The notification priority. Valid values are : • low • moderate • normal	normal	No

Name	Type	Description	Default	Required
		• high		
		• emergency		
protocol	String	The protocol used to send the notification. May be either gntp or udp.	gntp	No
icon	String	The icon to show for the notification. Must be a valid file type (png, jpg, gif, ico). Can be any of the following:	embedded growl icon v2	No
		• absolute url (http://domain/image.png)		
		• absolute file path (c:\temp\image.png)		
		• relative file path (.\folder\image.png)		

C.26.1. Examples

Send a single notification on a remote host

Both sender and Growl client (Mac or Windows) should share the same password.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<project name = "phing-GrowlNotifyTask" basedir = "." default = "notification">

    <taskdef name = "growlnotify" classname = "phing.tasks.ext.GrowlNotifyTask" />

    <target name = "notification"
        description = "display a single message with growl gntp over network"
    >
        <growlnotify message = "Deployment of project LAMBDA is finished."
            host = "192.168.1.2"
            password = "seCretPa$$word"
        />
    </target>

</project>
```

Send a single notification with UDP protocol

When you don't have a Macintosh, OS compatible with Growl GNTP, you should use the basic UDP protocol.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<project name = "phing-GrowlNotifyTask" basedir = "." default = "notification">

    <taskdef name = "growlnotify" classname = "phing.tasks.ext.GrowlNotifyTask" />

    <target name = "notification"
        description = "display a single message with growl udp over network"
    >
        <growlnotify message = "Notify my MAC that does not accept GNTP."
            host = "192.168.1.2"
            password = "seCretPa$$word"
            protocol = "udp"
        />
    </target>

</project>
```

Send an important notification

If you want to send a notification that is so important that you don't want to missed it, even if you are away from your computer. Use the sticky attribute.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<project name = "phing-GrowlNotifyTask" basedir = "." default = "notification">

    <taskdef name = "growlnotify" classname = "phing.tasks.ext.GrowlNotifyTask" />

    <target name = "notification"
        description = "display a sticky message on desktop"
    >
        <growlnotify message = "Project LAMDBA, unit tests FAILED."
            priority = "high"
            sticky = "true"
        />
    </target>

</project>
```

Use your icons to identify an application

You may customize the Growl notification system, with different icons and more.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<project name = "phing-GrowlNotifyTask" basedir = "." default = "notification">

    <taskdef name = "growlnotify" classname = "phing.tasks.ext.GrowlNotifyTask" />

    <target name = "notification"
        description = "display a custom icon message"
    >
        <growlnotify message = "Have a look on my beautiful message!"
            name = "phing Notifier"
            title = "phing notification"
            priority = "low"
            sticky = "false"
            appicon = "../images/my_icon.png"
        />
    </target>

</project>
```

C.27. HttpGetTask

This task will download a file through HTTP GET and save it to a specified directory. You need an installed version of HTTP_Request2 [http://pear.php.net/package/HTTP_Request2] to use this task.

Table C.28: Attributes

Name	Type	Description	Default	Required
url	String	The request URL	n/a	Yes
dir	String	The directory to save the file	n/a	Yes
filename	String	The filename for the downloaded file	The file-No name part of the URL	

Name	Type	Description	Default	Required
followRedi-rects	Boolean	Whether to follow HTTP redirects	false	No
sslVerifyPeer	Boolean	Whether to verify SSL certificates	true	No
authUser	String	The authentication user name	n/a	No
authPassword	String	The authentication password	n/a	No
authScheme	String	The authentication scheme	basic	No

C.27.1. Example

```
<httpget url = "http://buildserver.com/builds/latest.stable.tar.bz2" dir = "/usr/local/lib"/>
```

C.27.2. Supported Nested Tags

- `config`

  Holds additional config data. See HTTP_Request2 documentation [http://pear.php.net/manual/en/package.http.http-request2.config.php] for supported values.

  Table C.29: Attributes

Name	Type	Description	Default	Required
name	String	Config parameter name	n/a	Yes
value	Mixed	Config value	n/a	Yes

- `header`

  Holds additional header `name` and `value`.

  Table C.30: Attributes

Name	Type	Description	Default	Required
name	String	Header name	n/a	Yes
value	String	Header value	n/a	Yes

C.27.3. Global configuration

In addition to configuring a particular instance of `HTTP_Request2` via nested `<config>` tags it is also possible to set default configuration values for `HttpGetTask` / `HttpRequestTask` by setting `phing.http.*` properties.

```
<property name="phing.http.proxy" value="socks5://localhost:1080/"/>
<!-- This request will go through the default proxy -->
<httpget url="http://example.com/file.zip" dir="./"/>
<httpget url="http://example.org/file.exe" dir="./">
    <!-- This proxy will be used instead of the default one -->
    <config name="proxy" value="http://foo:bar@proxy.example.org:3128/"/>
</httpget>
```

C.28. HttpRequestTask

This task will make an HTTP request to the provided URL and match the response against the provided regular expression. If an regular expression is provided and doesn't match the build will fail. You need an installed version of HTTP_Request2 [http://pear.php.net/package/HTTP_Request2] to use this task.

Table C.31: Attributes

Name	Type	Description	Default	Required
url	String	The request URL	n/a	Yes
responseRegex	String	The regular expression for matching the response	n/a	No
authUser	String	The authentication user name	n/a	No
authPassword	String	The authentication password	n/a	No
authScheme	String	The authentication scheme	basic	No
verbose	Boolean	Whether to enable detailed logging	false	No
observerEvents	String	Comma-separated list of events to log when verbose is set to true	connect, sentHeaders, sentBodyPart, receivedHeaders, receivedBody, disconnect	No
method	String	The HTTP method of the request, currently only GET or POST supported	GET	No

C.28.1. Example

```
<http-request url = "http://my-production.example.com/check-deployment.php"/>
```

Just perform a HTTP request to the given URL.

```
<http-request
   url = "http://my-production.example.com/check-deployment.php"
   responseRegex = "/Heartbeat/"
   verbose"true"
   observerEvents = "connect, disconnect"/>
```

Perform a HTTP request to the given URL and matching the response against the given regex pattern. Enable detailed logging and log only the specified events.

```
<http-request url = "http://my-production.example.com/check-deployment.php">
   <config name = "adapter" value = "HTTP_Request2_Adapter_Curl"/>
   <header name = "user-agent" value = "Phing HttpRequestTask"/>
 </http-request>
```

Perform a HTTP request to the given URL. Setting request adapter to curl instead of socket. Setting an additional header.

```
<http-request
            url = "http://my-production.example.com/check-deployment.php"
```

```
                    verbose"true"
                    method = "POST">
                      <postparameter name = "param1" value = "value1" />
                      <postparameter name = "param2" value = "value2" />
                    </http-request>
```

Perform an HTTP POST request to the given URL. Setting POST request parameters to emulate form submission.

C.28.2. Supported Nested Tags

- config

  Holds additional config data. See HTTP_Request2 documentation [http://pear.php.net/manual/en/package.http.http-request2.config.php] for supported values.

  Table C.32: *Attributes*

Name	Type	Description	Default	Required
name	String	Config parameter name	n/a	Yes
value	Mixed	Config value	n/a	Yes

- header

  Holds additional header name and value.

  Table C.33: *Attributes*

Name	Type	Description	Default	Required
name	String	Header name	n/a	Yes
value	String	Header value	n/a	Yes

- postparameter

  Used when performing a POST request. Contains name and value of a form field.

  Table C.34: *Attributes*

Name	Type	Description	Default	Required
name	String	Field name	n/a	Yes
value	String	Field value	n/a	Yes

C.28.3. Global configuration

In addition to configuring a particular instance of HTTP_Request2 via nested <config> tags it is also possible to set default configuration values for HttpGetTask / HttpRequestTask by setting phing.http.* properties.

```
<property name="phing.http.proxy" value="socks5://localhost:1080/"/>
<!-- This request will go through the default proxy -->
<http-request url="http://example.com/foo"/>
<http-request url="http://example.org/restricted" dir="./">
    <!-- This proxy will be used instead of the default one -->
    <config name="proxy" value="http://foo:bar@proxy.example.org:3128/"/>
</http-request>
```

C.29. IniFileTask

The `IniFileTask` is inspired by the Ant-Contrib IniFile [http://ant-contrib.sourceforge.net/tasks/tasks/inifile.html] and can be used to build and edit .ini files.

Table C.35: Attributes

Name	Type	Description	Default	Required
dest	string	The name of the .ini file to write to. If not specified, the source file will be modified instead.	none	No
haltOnError	boolean	Should the build fail when problems occur?	false	No
source	string	The name of the .ini file to read from. If not specified, the dest file will be used instead.	none	No

C.29.1. Supported Nested Tags

- `remove`

  Use to remove either a specific key or section from an .ini file

Table C.36: Attributes

Name	Type	Description	Default	Required
section	String	Name of the section.	n/a	Yes
property	String	Name of the key to remove. If not specified the entire section is removed.	n/a	No

- `set`

  Use to set a key in a section to a specific value

Table C.37: Attributes

Name	Type	Description	Default	Required
section	String	Name of the section.	n/a	Yes
property	String	Name of the key/property.	n/a	yes
operation	String	The operation to perform on the existing value, which must be numeric. Possible values are "+" and "-", which add and subtract 1, respectively from the existing value. If the value doesn't already exist, the set is not performed, triggering an error.	n/a	No, if operation is specified.
value	String	The new value for the property.	n/a	No, if operation is specified.

C.29.2. Example

```
    <inifile
        haltonerror = "no"
        dest = "${project.basedir}/application/configs/application.ini">
        <set section = "production" property = "buildTimestamp" value = "${DSTAMP}${TSTAMP}
        <set section = "production" property = "buildNumber" operation = "+" />
        <remove section = "development : staging" />
    </inifile>
```

C.30. IoncubeEncoderTask

The `IoncubeEncoderTask` executes the ionCube [http://www.ioncube.com] encoder (for either PHP4 or PHP5 projects).

For more information on the meaning of the various options please consult the ionCube user guide [http://www.ioncube.com/USER-GUIDE.pdf].

Table C.38: *Attributes*

Name	Type	Description	Default	Required
allowedserver	String	Restricts the encoded files to particular servers and/or domains. Consult the IonCude documentation for more information.	none	No
binary	Boolean	Whether to save encoded files in binary format (default is ASCII format)	false	No
copy	String	Specifies files or directories to exclude from being encoded or encrypted and copy them to the target directory (separated by space).	none	No
encode	String	Specifies additional file patterns, files or directories to encode, or to reverse the effect of `copy`	none	No
encrypt	String	Specify files or directories (space separated list) that are to be encrypted.	none	No
expirein	String	Sets a period in seconds (s), minutes (m), hours (h) or days (d) after which the files expire. Accepts: `500s` or `55m` or `24h` or `7d`	none	No
expireon	String	Sets a YYYY-MM-DD date to expire the files.	none	No
fromdir	String	Path containing source files	none	Yes
ignore	String	Set files and directories to ignore entirely and exclude from the target directory (separated by space).	none	Yes
ioncubepath	String	Path to the ionCube binaries	/usr/local/ioncube	No
keep	String	Set files and directories not to be ignored (separated by space).	none	No
licensepath	String	Path to the license file that will be used by the encoded files	none	No
nodoccomments	String	Omits documents comments (/** ... */) from the encoded files.	none	No

Name	Type	Description	Default	Required
obfuscationkey	String	The obfuscation key must be supplied when using the obfuscate option	none	No
obfuscate	String	The Encoder can obfuscate the names of global functions, the names of local variables in global functions, and line numbers. Use either `all` or any of `functions`, `locals` or `linenos` separated by a space.	none	No
optimize	String	Controls the optimization of the encoded files, accepts either `more` or `max`	none	No
passphrase	String	The passphrase to use when encoding with a license file	none	No
phpversion	Integer	The PHP version to use	5	No
targetoption	String	Option to use when target directory exists, accepts `replace`, `merge`, `update` and `rename`	none	No
todir	String	Path to save encoded files to	none	Yes
withoutruntimeloadersupport	Boolean	Whether to disable support for runtime initialization of the ionCube Loader	false	No
noshortopentags	Boolean	Whether to disable support for short PHP tags	false	No
callbackfile	String	Path to callback file (.php)	n/a	No
obfuscationexclusionsfile	String	Path to obfuscation exclusions file	n/a	No
ignoredeprecatedwarnings	Boolean	Whether to ignore deprecated warnings	false	No
ignorestrictwarnings	Boolean	Whether to ignore strict warnings	false	No
allowencodingintosource	Boolean	Whether to allow encoding into the source tree	false	No
messageifnoloader	String	A valid PHP expression to customize the "no loader installed" message	n/a	No
actionifnoloader	String	A valid PHP expression to replace the "no loader installed" action	n/a	No
showcommandline	Boolean	whether to show command line before it is executed	false	No

C.30.1. Example

```
<ioncubeencoder
   binary = "true"
   copy = "*.ini config/*"
   encode = "*.inc licenses/license.key"
   encrypt = "*.tpl *.xml"
   fromdir = "files"
   ignore = "*.bak RCS/ *~ docs/"
   ioncubepath = "/usr/local/ioncube"
```

```
   keep = "docs/README"
   licensepath = "mylicense.txt"
   optimize = "max"
   passphrase = "mypassphrase"
   phpversion = "4"
   noshortopentags = "false"
   targetoption = "replace"
   todir = "encoded"
   withoutruntimeloadersupport = "true"
   callbackfile = "errhandler.php"
   obfuscationexlusionsfile = "obfex.txt">
  <comment>A project encoded with the ionCube encoder.</comment>
</ioncubeencoder>
```

C.30.2. Supported Nested Tags

- comment

  Custom text that is added to the start of each encoded file.

C.31. IoncubeLicenseTask

The IoncubeLicenseTask executes the ionCube [http://www.ioncube.com] make_license program.

For more information on the meaning of the various options please consult the ionCube user guide [http://www.ioncube.com/USER-GUIDE.pdf].

Table C.39: Attributes

Name	Type	Description	Default	Required
ioncubepath	String	Path to the ionCube binaries	/usr/ local/ion- cube	No
licensepath	String	Path to the license file that will be generated	none	No
passphrase	String	The passphrase to use when generating the license file	none	No
allowedserver	String	Restricts the license to particular servers and/ or domains. Consult the IonCude documenta- tion for more information.	none	No
expirein	String	Sets a period in seconds (s), minutes (m), hours (h) or days (d) after which the license expires. Accepts: 500s or 55m or 24h or 7d.	none	No
expireon	String	Sets a YYYY-MM-DD date to expire the li- cense.	none	No

C.31.1. Example

```
<ioncubelicense
   ioncubepath = "/usr/local/ioncube"
   licensepath = "mylicense.txt"
   passphrase = "mypassphrase"
   allowedserver = "00:06:4F:01:8F:2C"
```

```
    expireon = "2010-09-01"
    expirein = "7d">
   <comment>A license file made with the ionCube encoder.</comment>
</ioncubelicense>
```

C.31.2. Supported Nested Tags

- comment

    Custom text that is added to the start of each encoded file.

C.32. JsHintTask

This task runs JSHint [http://www.jshint.com/], a tool that helps to detect errors and potential problems in JavaScript code.

Table C.40: Attributes

Name	Type	Description	Default	Required
file	String	Single file to perform check on.	n/a	No
haltOnError	boolean	Should the build fail when there are errors in the JS code?	false	No
haltOnWarning	boolean	Should the build fail when there are warnings in the JS code?	false	No
reporter	String	JSHint reporter.	check-style	No
checkstyleRe-portPath	String	Path where the the report in Checkstyle format should be saved.	n/a	No

C.32.1. Example

```
<jshint
    haltonerror = "false"
    haltOnWarning = "false"
    reporter = "jslint"
    checkstyleReportPath = "${project.basedir}/build/checkstyle-jshint.xml">
    <fileset dir = "${project.basedir}/public_html/www/js">
        <include name = "**/**.js"/>
        <exclude name = "js-cache/**"/>
    </fileset>
</jshint>
```

C.33. JslLintTask

The JslLintTask uses the Javascript Lint [http://www.javascriptlint.com] program to check the sytax on one or more JavaScript source code files.

NB: the Javascript lint program must be in the system path!

Table C.41: Attributes

Name	Type	Description	Default	Required
executable	String	Path to JSL executable	jsl	No
file	String	Path to source file	n/a	No
haltonfailure	Boolean	Stop the build process if the linting process encounters an error.	false	No
haltonwarning	Boolean	Stop the build process if the linting process encounters a warning.	false	No
showwarnings	Boolean	Sets the flag if warnings should be shown.	true	No
cachefile	String	If set, enables writing of last-modified times to cachefile, to speed up processing of files that rarely change	none	No
conffile	String	Path to JSL config file	none	No
tofile	String	File to write list of 'bad files' to.	n/a	No

C.33.1. Example

```
<jsllint
          file = "path/to/source.js"/>
```

Checking syntax of one particular source file.

```
<jsllint>
  <fileset dir = "src">
    <include name = "**/*.js"/>
  </fileset>
</jsllint>
```

Check syntax of a fileset of source files.

C.33.2. Supported Nested Tags

- fileset

C.34. JsMinTask

The JsMinTask minifies JavaScript files using JShrink [https://github.com/tedivm/JShrink], which can be installed using composer (Phing will try to use the composer autoloader)

Table C.42: Attributes

Name	Type	Description	Default	Required
targetDir	String	Path where to store minified JavaScript files	none	Yes
suffix	String	Suffix to append to the filenames.	-min	No
failonerror	Boolean	Whether an error while minifying a JavaScript file should stop the build or not	false	No

C.34.1. Example

```
<jsMin targetDir = "docroot/script/minified" failOnError = "false">
  <fileset dir = "docroot/script">
    <include name = "**/*.js"/>
  </fileset>
</jsMin>
```

C.34.2. Supported Nested Tags

- `fileset`

  JavaScript files to be minified.

C.35. LiquibaseTask

The `LiquibaseTask` is a generic task for liquibase commands that don't require extra command parameters. You can run commands like `updateSQL`, `validate` or `updateTestingRollback` with this task but not `rollbackToDateSQL` since it requires a date parameter after the command.

Table C.43: Attributes

Name	Type	Description	Default	Required
jar	String	Location of the Liquibase jar file.	n/a	Yes
classpath	String	Additional classpath entries.	n/a	Yes
changeLogFile	String	Location of the changelog file in which the changes get written or read from.	n/a	Yes
username	String	The username needed to connect to the database.	n/a	Yes
password	String	The password needed to connect to the database.	n/a	Yes
url	String	The JDBC Url representing the database datasource, e.g `jdbc:mysql://localhost/mydatabase`	n/a	Yes
command	String	What liquibase command to run. Currently only supports commands that doesn't require command parameters, such as validate and updateSQL.	n/a	Yes
display	Boolean	Whether to display the output of the command. Only used if `passthru` isn't true.	false	No
passthru	Boolean	Whether to use PHP's `passthru()` function instead of `exec()`. True by default for backwards compatibility. When true, the attributes `display`, `outputProperty` and `checkReturn` are ignored.	true	No
checkreturn	Boolean	Whether to check the return code of the execution, throws a BuildException when returncode != 0.	false	No

Name	Type	Description	Default	Required
outputProperty	String	Property name to set output value to from then/a execution. Ignored if `passthru` attribute is true.	n/a	No

C.35.1. Example

```
<liquibase
    jar = "./vendor/alcaeus/liquibase/liquibase.jar"
    classpathref = "./libs/mysql-connector-java.jar"
    changelogFile = "./DB/master.xml"
    username = "${deploy.user}"
    password = "${deploy.password}"
    url = "jdbc:mysql://${database.host}/${database.name}"
    display = 'true'
    checkreturn = "true"
    passthru = 'false'
    outputProperty = "liquibase.updateSQL.output"
    command = "updateSQL"
>
    <parameter name = "logLevel" value = "info" />
    <property name = "tablename" value = "Person" />
</liquibase>
```

The nested parameters in the example above will result in the command:

```
--logLevel='info' updateSQL -Dtablename='Person'
```

C.35.2. Supported Nested Tags

- `parameter`

  Use these nested parameter tags to set optional liquibase commands like --logLevel or --defaultsFile.

  Table C.44: *Attributes*

Name	Type	Description	Default	Required
name	String	Name of the liquibase parameter. Do not include the '--'.	n/a	Yes
value	String	Value of the liquibase parameter.	n/a	Yes

- `property`

  These tags are used to set what Liquibase calls "Change Log Properties" which are used for substitution in the change log(s). Note that they are not the same thing as regular Phing properties.

  Table C.45: *Attributes*

Name	Type	Description	Default	Required
name	String	Name of the property. Do not include the '-D'.	n/a	Yes
value	String	Value of the property.	n/a	Yes

C.36. LiquibaseChangeLogTask

The `LiquibaseChangeLogTask` writes the Change Log XML to copy the current state of the database to the given changeLogFile.

Table C.46: Attributes

Name	Type	Description	Default	Required
jar	String	Location of the Liquibase jar file.	n/a	Yes
classpath	String	Additional classpath entries.	n/a	Yes
changeLogFile	String	Location of the changelog file in which then changes get written or read from.	n/a	Yes
username	String	The username needed to connect to the database.	n/a	Yes
password	String	The password needed to connect to the database.	n/a	Yes
url	String	The JDBC Url representing the database datasource, e.g `jdbc:mysql://local-host/mydatabase`	n/a	Yes
display	Boolean	Whether to display the output of the command. Only used if `passthru` isn't true.	false	No
passthru	Boolean	Whether to use PHP's `passthru()` function instead of `exec()`. True by default for backwards compatibility. When true, the attributes `display`, `outputProperty` and `checkReturn` are ignored.	true	No
checkreturn	Boolean	Whether to check the return code of the execution, throws a BuildException when returncode != 0.	false	No
outputProperty	String	Property name to set output value to from then execution. Ignored if `passthru` attribute is true.	n/a	No

C.36.1. Example

```
<liquibase-changelog
  jar = "/usr/local/lib/liquibase/liquibase.jar"
  classpathref = "/usr/local/lib/liquibase/lib/mysql-connector-java-5.1.15-bin.jar"
  changelogFile = "./changelogTest.xml"
  username = "liquibase"
  password = "liquibase"
  url = "jdbc:mysql://localhost/mydatabase"
/>
```

C.36.2. Supported Nested Tags

- `parameter`

  Same as for Section C.35, "LiquibaseTask".

- `property`

Same as for Section C.35, "LiquibaseTask".

C.37. LiquibaseDbDocTask

The `LiquibaseDbDocTask` generates a Javadoc-like documentation based on current database and the given changelog file.

Table C.47: Attributes

Name	Type	Description	Default	Required
jar	String	Location of the Liquibase jar file.	n/a	Yes
classpath	String	Additional classpath entries.	n/a	Yes
changeLogFile	String	Location of the changelog file in which the changes get written or read from.	n/a	Yes
username	String	The username needed to connect to the database.	n/a	Yes
password	String	The password needed to connect to the database.	n/a	Yes
url	String	The JDBC URL representing the database data source, e.g `jdbc:mysql://localhost/mydatabase`	n/a	Yes
outputDir	String	Absolute path where the documentation gets written to. If the given directory does not exist, it get`s created automatically.	n/a	Yes
display	Boolean	Whether to display the output of the command. Only used if `passthru` isn't true.	false	No
passthru	Boolean	Whether to use PHP's `passthru()` function instead of `exec()`. True by default for backwards compatibility. When true, the attributes `display`, `outputProperty` and `checkReturn` are ignored.	true	No
checkreturn	Boolean	Whether to check the return code of the execution, throws a BuildException when returncode != 0.	false	No
outputProperty	String	Property name to set output value to from the execution. Ignored if `passthru` attribute is true.	n/a	No

C.37.1. Example

```
<liquibase-dbdoc
  jar = "/usr/local/lib/liquibase/liquibase.jar"
  classpathref = "/usr/local/lib/liquibase/lib/mysql-connector-java-5.1.15-bin.jar"
  changelogFile = "./changelogTest.xml"
  username = "liquibase"
  password = "liquibase"
  url = "jdbc:mysql://localhost/mydatabase"
  outputDir = "/tmp/generateddocs"
/>
```

C.37.2. Supported Nested Tags

- `parameter`

  Same as for Section C.35, "LiquibaseTask".

- `property`

  Same as for Section C.35, "LiquibaseTask".

C.38. LiquibaseDiffTask

The `LiquibaseDiffTask` creates a diff between two databases. Will output the changes needed to convert the reference database to the state of the database.

Table C.48: Attributes

Name	Type	Description	Default	Required
jar	String	Location of the Liquibase jar file.	n/a	Yes
classpath	String	Additional classpath entries.	n/a	Yes
changeLogFile	String	Location of the changelog file in which the changes get written or read from.	n/a	Yes
username	String	The username needed to connect to the database.	n/a	Yes
password	String	The password needed to connect to the database.	n/a	Yes
url	String	The JDBC Url representing the database datasource, e.g `jdbc:mysql://localhost/mydatabase`	n/a	Yes
referenceUser-name	String	The username needed to connect to the reference database.	n/a	Yes
referencePass-word	String	The password needed to connect to the reference database.	n/a	Yes
referenceUrl	String	The JDBC Url representing the database reference datasource, e.g `jdbc:mysql://localhost/refdatabase`	n/a	Yes
display	Boolean	Whether to display the output of the command. Only used if `passthru` isn't true.	false	No
passthru	Boolean	Whether to use PHP's `passthru()` function instead of `exec()`. True by default for backwards compatibility. When true, the attributes `display`, `outputProperty` and `checkReturn` are ignored.	true	No
checkreturn	Boolean	Whether to check the return code of the execution, throws a BuildException when returncode != 0.	false	No
outputProperty	String	Property name to set output value to from the execution. Ignored if `passthru` attribute is true.	n/a	No

C.38.1. Example

```
<liquibase-diff
  jar = "/usr/local/lib/liquibase/liquibase.jar"
  classpathref = "/usr/local/lib/liquibase/lib/mysql-connector-java-5.1.15-bin.jar"
  changelogFile = "./changelogTest.xml"
  username = "liquibase"
  password = "liquibase"
  url = "jdbc:mysql://localhost/mydatabase"
  referenceUsername = "liquibase"
  referencePassword = "liquibase"
  referenceUrl = "jdbc:mysql://localhost/refdatabase"
/>
```

C.38.2. Supported Nested Tags

- parameter

  Same as for Section C.35, "LiquibaseTask".

- property

  Same as for Section C.35, "LiquibaseTask".

C.39. LiquibaseRollbackTask

The LiquibaseRollbackTask rolls back the database to the state is was when the tag was applied.

Table C.49: Attributes

Name	Type	Description	Default	Required
jar	String	Location of the Liquibase jar file.	n/a	Yes
classpath	String	Additional classpath entries.	n/a	Yes
changeLogFile	String	Location of the changelog file in which the changes get written or read from.	n/a	Yes
username	String	The username needed to connect to the database.	n/a	Yes
password	String	The password needed to connect to the database.	n/a	Yes
url	String	The JDBC Url representing the database datasource, e.g `jdbc:mysql://localhost/mydatabase`	n/a	Yes
rollbackTag	String	The name of the tag to roll the database back to.	n/a	Yes
display	Boolean	Whether to display the output of the command. Only used if passthru isn't true.	false	No
passthru	Boolean	Whether to use PHP's `passthru()` function instead of `exec()`. True by default for backwards compatibility. When true, the attributes `display`, `outputProperty` and `checkReturn` are ignored.	true	No

Name	Type	Description	Default	Required
checkreturn	Boolean	Whether to check the return code of the exe-cution, throws a BuildException when return-code != 0.	false	No
outputProperty	String	Property name to set output value to from execution. Ignored if `passthru` attribute is true.	n/a	No

C.39.1. Example

```
<liquibase-rollback
  jar = "/usr/local/lib/liquibase/liquibase.jar"
  classpathref = "/usr/local/lib/liquibase/lib/mysql-connector-java-5.1.15-bin.jar"
  changelogFile = "./changelogTest.xml"
  username = "liquibase"
  password = "liquibase"
  url = "jdbc:mysql://localhost/mydatabase"
  rollbackTag = "tag_0_1"
/>
```

C.39.2. Supported Nested Tags

- `parameter`

  Same as for Section C.35, "LiquibaseTask".

- `property`

  Same as for Section C.35, "LiquibaseTask".

C.40. LiquibaseTagTask

The `LiquibaseTagTask` tags the current database state for future rollback.

Table C.50: *Attributes*

Name	Type	Description	Default	Required
jar	String	Location of the Liquibase jar file.	n/a	Yes
classpath	String	Additional classpath entries.	n/a	Yes
changeLogFile	String	Location of the changelog file in which changes get written or read from.	n/a	Yes
username	String	The username needed to connect to the database.	n/a	Yes
password	String	The password needed to connect to the database.	n/a	Yes
url	String	The JDBC Url representing the database datasource, e.g `jdbc:mysql://local-host/mydatabase`	n/a	Yes
tag	String	The name of the tag to apply.	n/a	Yes

Name	Type	Description	Default	Required
display	Boolean	Whether to display the output of the command. Only used if `passthru` isn't true.	false	No
passthru	Boolean	Whether to use PHP's `passthru()` function instead of `exec()`. True by default for backwards compatibility. When true, the attributes `display`, `outputProperty` and `checkReturn` are ignored.	true	No
checkreturn	Boolean	Whether to check the return code of the execution, throws a BuildException when returncode != 0.	false	No
outputProperty	String	Property name to set output value to from execution. Ignored if `passthru` attribute is true.	n/a	No

C.40.1. Example

```
<liquibase-tag
  jar = "/usr/local/lib/liquibase/liquibase.jar"
  classpathref = "/usr/local/lib/liquibase/lib/mysql-connector-java-5.1.15-bin.jar"
  changelogFile = "./changelogTest.xml"
  username = "liquibase"
  password = "liquibase"
  url = "jdbc:mysql://localhost/mydatabase"
  tag = "tag_0_1"
/>
```

C.40.2. Supported Nested Tags

- `parameter`

  Same as for Section C.35, "LiquibaseTask".

- `property`

  Same as for Section C.35, "LiquibaseTask".

C.41. LiquibaseUpdateTask

The `LiquibaseUpdateTask` applies the latest changes from the changelog file to the definied database.

Table C.51: Attributes

Name	Type	Description	Default	Required
jar	String	Location of the Liquibase jar file.	n/a	Yes
classpath	String	Additional classpath entries.	n/a	Yes
changeLogFile	String	Location of the changelog file in which the changes get written or read from.	n/a	Yes
username	String	The username needed to connect to the database.	n/a	Yes

Name	Type	Description	Default	Required
password	String	The password needed to connect to the database.	n/a	Yes
url	String	The JDBC Url representing the database datasource, e.g `jdbc:mysql://localhost/mydatabase`	n/a	Yes
display	Boolean	Whether to display the output of the command. Only used if `passthru` isn't true.	false	No
passthru	Boolean	Whether to use PHP's `passthru()` function instead of `exec()`. True by default for backwards compatibility. When true, the attributes `display`, `outputProperty` and `checkReturn` are ignored.	true	No
checkreturn	Boolean	Whether to check the return code of the execution, throws a BuildException when return-code != 0.	false	No
outputProperty	String	Property name to set output value to from then execution. Ignored if `passthru` attribute is true.	n/a	No

C.41.1. Example

```
<liquibase-update
  jar = "/usr/local/lib/liquibase/liquibase.jar"
  classpathref = "/usr/local/lib/liquibase/lib/mysql-connector-java-5.1.15-bin.jar"
  changelogFile = "./changelogTest.xml"
  username = "liquibase"
  password = "liquibase"
  url = "jdbc:mysql://localhost/mydatabase"
/>
```

C.41.2. Supported Nested Tags

- `parameter`

  Same as for Section C.35, "LiquibaseTask".

- `property`

  Same as for Section C.35, "LiquibaseTask".

C.42. MailTask

A task to send email. Attachments are supported if the PEAR Mail package [http://pear.php.net/package/Mail] is installed.

Table C.52: Attributes

Name	Type	Description	Default	Required
from	String	Email address of sender.	none	Yes
tolist	String	Comma-separated list of recipients.	none	Yes

Name	Type	Description	Default	Required
message	String	Message to send in the body of the email.	none	No
subject	String	Email subject line.	none	No
backend	String	PEAR Mail backend (see here [http://mail pear.php.net/manual/en/ package.mail.mail.factory.php] for possible values).		No
backendParams	String	Comma-separated key-value pairs with backend specific parameters (see here [http://pear.php.net/manual/en/ package.mail.mail.factory.php] for possible values).	none	No

C.42.1. Example

```
<mail tolist = "user@example.org" subject = "build complete">The  build  process  is  a  succe
```

C.42.2. Supported Nested Tags

- fileset

  Files to be attached.

C.43. ManifestTask

This task generates a simple manifest file with optional checksums.

Table C.53: Attributes

Name	Type	Description	Default	Required
salt	String	Salt to use when generating checksums.	n/a	No
checksum	String	Comma separated list of checksums (hashing algorithms) to run, or false to disable checksum generation. Possible values are md5, crc32 or any of the algorithms returned by hash_algos() [http://www.php.net/manual/en/ function.hash-algos.php].	false	No
file	String	The path to the manifest file.	n/a	Yes.

C.43.1. Supported Nested Tags

- fileset

C.44. PackageAsPathTask

Converts dot-notation packages to relative paths and stores it in a property.

Table C.54: *Attributes*

Name	Type	Description	Default	Required
package	String	The package to convert.	n/a	Yes
name	String	The property to store the path in.	n/a	Yes

C.44.1. Example

Sample build command:

```
<packageaspath package = "phing.classes" name = "path"/>
```

C.45. ParallelTask

Executes nested tasks in parallel.

Parallel tasks have a number of uses in a Phing build file including:

- Taking advantage of available processing resources to execute external programs simultaneously.

- Testing servers, where the server can be run in one thread and the test harness is run in another thread.

Any valid Phing task may be embedded within a parallel task, including other parallel tasks.

While the tasks within the parallel task are being run, the main thread will be blocked waiting for all the child threads to complete. If one of the tasks within the parallel task fails, the remaining tasks will continue to run until all tasks have completed. In this situation, the parallel task will also fail.

The threadCount attribute can be used to place a maximum number of available threads for the execution. When not present the value is based on the number of processors present. When present then the maximum number of concurrently executing tasks will not exceed the number of threads specified. Furthermore, each task will be started in the order they are given. But no guarantee is made as to the speed of execution or the order of completion of the tasks, only that each will be started before the next.

Warning

This task is highly experimental, and will only work on *nix machines that have the PHP pcntl extension installed.

Table C.55: *Attributes*

Name	Type	Description	Default	Required
threadCount	Integer	Maximum number of threads / processes to use.	n/a	No

C.45.1. Example

```
<parallel threadCount = "4">
```

```
            <echo>Job 1</echo>
            <echo>Job 2</echo>
            <echo>Job 3</echo>
            <echo>Job 4</echo>
            </parallel>
```

C.46. PatchTask

The `PatchTask` uses the patch [http://savannah.gnu.org/projects/patch] program to apply diff file to originals.

NB: the `patch` program must be in the system path!

Table C.56: Attributes

Name	Type	Description	Default	Required
patchfile	String	File that includes the diff output	n/a	Yes
originalfile	String	File to patch. If not specified Task tries to guess it from the diff file	none	No
destfile	String	File to send the output to instead of patching the file in place	none	No
backups	Boolean	Keep backups of the unpatched files	false	No
quiet	Boolean	Work silently unless an error occurs	false	No
reverse	Boolean	Assume patch was created with old and new files swapped	false	No
ignorewhite-space	Boolean	Ignore whitespace differences	false	No
strip	Integer	Strip the smallest prefix containing specified number of leading slashes from filenames	none	No
dir	String	The directory in which to run the patch command	none	No
haltonfailure	Boolean	Stop the build process if the patching process encounters an error.	false	No

C.46.1. Example

```
<patch
  patchfile = "/path/to/patches/file.ext.patch"
  dir = "/path/to/original"
/>
```

Apply "file.ext.path" to original file locataed in "/path/to/original" folder.

C.47. PDOSQLExecTask

The `PDOSQLExecTask` executes SQL statements using PDO.

> **Note**
>
> The combination of large SQL files and `delimitertype` set to `normal` can trigger segmentation faults with large files.

Table C.57: *Attributes*

Name	Type	Description	Default	Required
url	String	PDO connection URL (DSN)	none	Yes
userid	String	Username for connection (if it cannot be specified in URL)	none	No
password	String	The password to use for the connection (if it cannot be specified in URL)	none	No
src	File	A single source file of SQL statements to execute.	none	No
onerror	String	The action to perform on error (continue, stop, abort or abort)	none	No
delimiter	String	The delimiter to separate SQL statements; (e.g. "GO" in MSSQL)	none	No
delimitertype	String	The delimiter type ("normal", "row" or "none"). Normal means that any occurrence of the delimiter terminate the SQL command whereas with row, only a line containing just the delimiter is recognized as the end of the command. None disables all delimiter detection.	none	No
autocommit	Boolean	Whether to auto (implicitly) commit every single statement, disabling transactions.	false	No
encoding	String	Encoding to use for read SQL files	none	No

C.47.1. Example

```
<pdosqlexec url = "pgsql:host=localhost dbname=test">
  <fileset dir = "sqlfiles">
      <include name = "*.sql"/>
      </fileset>
</pdosqlexec>
```

```
<pdosqlexec url = "mysql:host=localhost;dbname=test" userid = "username" password = "password">
  <transaction src = "path/to/sqlfile.sql"/>
  <formatter type = "plain" outfile = "path/to/output.txt"/>
  </pdosqlexec>
```

> **Note**
>
> Because of backwards compatibility, the PDOSQLExecTask can also be called using the `'pdo'` statement.

```
<pdo url = "pgsql:host=localhost dbname=test">
  <fileset dir = "sqlfiles">
```

```
        <include name = "*.sql"/>
  </fileset>

  <!-- xml formatter -->
  <formatter type = "xml" output = "output.xml"/>

  <!-- custom formatter -->
  <formatter classname = "path.to.CustomFormatterClass">
    <param name = "someClassAttrib" value = "some-value"/>
  </formatter>

  <!-- No output file + usefile=false means it goes to phing log -->
  <formatter type = "plain" usefile = "false" />
</pdo>
```

C.47.2. Supported Nested Tags

- `transaction`

  Wrapper for a single transaction. Transactions allow several files or blocks of statements to be executed using the same PDO connection and commit operation in between.

  Table C.58: *Attributes*

Name	Type	Description	Default	Required
src	String	File with statements to be run as one transaction	n/a	No

- `fileset`

  Files containing SQL statements.

- `filelist`

  Files containing SQL statements.

- `formatter`

  The results of any queries that are executed can be printed in different formats. Output will always be sent to a file, unless you set the `usefile` attribute to `false`. The path to the output file can be specified by the `outfile` attribute; there is a default filename that will be returned by the formatter if no output file is specified.

  There are three predefined formatters - one prints the query results in XML format, the other emits plain text. Custom formatters that extend phing.tasks.pdo.PDOResultFormatter can be specified.

  Table C.59: *Attributes*

Name	Type	Description	Default	Required
type	String	Use a predefined formatter (either `xml` or `plain`).	n/a	One of these attributes is required.
classname	String	Name of a custom formatter class (must extend phing.tasks.ext.pdo.PDOResultFormatter).	n/a	
usefile	Boolean	Boolean that determines whether output should be sent to a file.	true	No
outfile	File	Path to file in which to store result.	Depends on formatter	No

Name	Type	Description	Default	Required
showheaders	Boolean	(only applies to plain formatter) Whether to show column headers.	false	No
coldelim	String	(only applies to plain formatter) The column, delimiter.		No
rowdelim	String	(only applies to plain formatter) The row de-limiter.	\n	No
encoding	String	(only applies to XML formatter) The xml doc-ument encoding.	(PHP de-fault)	No
formatoutput	Boolean	(only applies to XML formatter) Whether to format XML output.	true	No

C.48. PearPackageTask

With the PearPackageTask, you can create a package.xml which can be installed using the PEAR installer. Use this in conjunction with the Section C.84, "TarTask" to completely script the building of a PEAR package.

Note

Note that this task creates a version 1 package.xml file.

This task uses the `PEAR_PackageFileManager` class. In order to be maximally flexi-ble, the majority of options are set generically (using `<option>` tag) and are set using `PEAR_PackageFileManager::setOptions()`. Use the `<mapping>` tag to represent complex val-ues (which are turned into associative arrays and also set using `setOptions()` method).

Table C.60: Attributes

Name	Type	Description	Default	Required
name	String	The name of the PEAR package.	n/a	Yes
dir	String	The base directory of files to add to package.	n/a	Yes
destFile	String	The file to create.	package.xml in base di-rectory	No

C.48.1. Example

```
<pearpkg name = "phing" dir = "${build.src.dir}" destFile = "${build.base.dir}/package.xml">
<fileset dir = ".">
  <include name = "**"/>
</fileset>
<option name = "notes">Sample release notes here.</option>
<option name = "description">Package description</option>
<option name = "summary">Short description</option>
<option name = "version" value = "2.0.0b1"/>
<option name = "state" value = "beta"/>
```

```
 <mapping name = "maintainers">
  <element>
   <element key = "handle" value = "hlellelid"/>
   <element key = "name" value = "Hans"/>
   <element key = "email" value = "hans@xmpl.org"/>
   <element key = "role" value = "lead"/>
  </element>
 </mapping>
</pearpkg>
```

C.48.2. Supported Nested Tags

- `fileset`

- `option`

- `mapping`

    The <mapping> tag represents a complex data type. You can use nested <mapping> (and nested <element> with <element> tags) to represent the full complexity of the structure. Bear in mind that what you are creating will be mapped to an associative array that will be passed in via `PEAR_PackageFileMaintainer::setOptions()`.

    ```
    <mapping name = "option_name">
        <element key = "key_name" value = "key_val"/>
        <element key = "key_name" value = "key_val"/>
    </mapping>
    ```

- `role`   See   PEAR_PackageFileManager::addRole   [http://pear.php.net/manual/en/package.pear.pear-packagefilemanager.pear-packagefilemanager.addrole.php] for more information.

Table C.61: Available options

Name	Type	Description	Default	Required
extension	String	The file extension	n/a	Yes
role	String	The file extension	n/a	Yes

C.49. PearPackage2Task

With the PearPackage2Task, you can create a `version 2` package.xml which can be installed using the PEAR installer. Use this in conjunction with the TarTask [#TarTask] to completely script the building of a PEAR package.

This task uses the PEAR_PackageFileManager2 class. In order to be maximally flexible, the majority of options are set generically (using `<option>` tag) and are set using PEAR_PackageFileManager::setOptions(). Use the `<mapping>` tag to represent complex values.

Note that Travis Swicegood has created a more complete implementation of this functionality which can be found here: pear.domain51.com [http://domain51.github.io/pear.domain51.com/].

Table C.62: Attributes

Name	Type	Description	Default	Required
name	String	The name of the PEAR package.	n/a	Yes

Name	Type	Description	Default	Required
dir	String	The base directory of files to add to package.	n/a	Yes

C.49.1. Example

```
<pearpkg2 name = "phing" dir = "${build.src.dir}">
   <option name = "outputdirectory" value = "./build"/>
   <option name = "packagefile" value = "package2.xml"/>
   <option name = "packagedirectory" value = "./${build.dist.dir}"/>
   <option name = "baseinstalldir" value = "${pkg.prefix}"/>
   <option name = "channel" value = "my.pear-channel.com"/>
   <option name = "summary" value = "${pkg.summary}"/>
   <option name = "description" value = "${pkg.description}"/>
   <option name = "apiversion" value = "${pkg.version}"/>
   <option name = "apistability" value = "beta"/>
   <option name = "releaseversion" value = "${pkg.version}"/>
   <option name = "releasestability" value = "beta"/>
   <option name = "license" value = "none"/>
   <option name = "phpdep" value = "5.0.0"/>
   <option name = "pearinstallerdep" value = "1.4.6"/>
   <option name = "packagetype" value = "php"/>
   <option name = "notes" value = "${pkg.relnotes}"/>
   <mapping name = "maintainers">
    <element>
     <element key = "handle" value = "hlellelid"/>
     <element key = "name" value = "Hans"/>
     <element key = "email" value = "hans@xmpl.org"/>
     <element key = "role" value = "lead"/>
    </element>
   </mapping>
</pearpkg2>
```

C.49.2. Supported Nested Tags

- fileset

- option

Table C.63: *Available options*

Name	Type	Description	Default	Required
summary	String		n/a	Yes
description	String		n/a	Yes
license	String		n/a	Yes
channel	String	Channel name (not alias!). Must be registered (`pear channel-discover channel`) on the machine, where the build will be.	n/a	Yes
apiversion	String		n/a	Yes
releaseversion	String		n/a	Yes
releasestability	String	One from: snapshot, devel, alpha, beta or stable.	n/a	Yes
apistability	String	One from: devel, alpha, beta or stable.	n/a	Yes
note	String		n/a	Yes

Name	Type	Description	Default	Required
packagetype	String		n/a	Yes
phpdep	String		n/a	Yes
pearin-stallerdep	String		n/a	Yes

- mapping

The `<mapping>` tag represents a complex data type. You can use nested `<mapping>` (and nested `<element>` with `<element>` tags) to represent the full complexity of the structure. Bear in mind that what you are creating will be mapped to an associative array that will be passed in via `PEAR_PackageFileMaintainer::setOptions()`.

```
<mapping name = "option_name">
    <element key = "key_name" value = "key_val"/>
    <element key = "key_name" value = "key_val"/>
</mapping>
```

Available mappings and they structures:

- deps (optional) see PEAR_PackageFileManager::addDependency() [http://pear.php.net/manual/en/package.pear.pear-packagefilemanager.pear-packagefilemanager.adddependency.php] for more info

Table C.64: *Parameters*

Name	Type	Description	Default	Required
channel	String	Channel name, from package is.	n/a	Yes
name	String	Package name in channel.	n/a	Yes
version	String	Minimal version.	n/a	Yes
max	String	Maximum version.	Same as version.	No
recommended	String	Recommended version.	Same as version.	No

- extdeps (optional) see PEAR_PackageFileManager::addDependency() [http://pear.php.net/manual/en/package.pear.pear-packagefilemanager.pear-packagefilemanager.adddependency.php] for more info

Table C.65: *Parameters*

Name	Type	Description	Default	Required
name	String	Package name.	n/a	Yes
version	String	Minimal version.	n/a	Yes
max	String	Maximum version.	Same as version.	No
recommended	String	Recommended version.	Same as version.	No

- maintainers (required at least one) see PEAR_PackageFileManager::addMaintainer() [http://pear.php.net/manual/en/package.pear.pear-packagefilemanager.pear-packagefilemanager.addmaintainer.php] for more info

Table C.66: *Parameters*

Name	Type	Description	Default	Required
handle	String	User identifier in channel.	n/a	Yes
name	String	Real name.	n/a	Yes
email	String		n/a	Yes
role	String	One from: lead, developer, contributor or helper.	n/a	Yes

- `replacements` (optional) see PEAR_PackageFileManager::addReplacement() [http:// pear.php.net/manual/en/package.pear.pear-packagefilemanager.pear- packagefilemanager.addreplacement.php] for more info

Table C.67: *Parameters*

Name	Type	Description	Default	Required
path	String	Relative path of file.	n/a	Yes
type	String	Variable type, either php-const, pear-config or package-info.	n/a	Yes
from	String	Text to replace in the source file.	n/a	Yes
to	String	Variable name to use for replacement.	n/a	Yes

- `role` See PEAR_PackageFileManager::addRole [http://pear.php.net/manual/en/ package.pear.pear-packagefilemanager.pear-packagefilemanager.addrole.php] for more informa- tion.

    Available options:

Table C.68: *Parameters*

Name	Type	Description	Default	Required
extension	String	The file extension	n/a	Yes
role	String	The file extension	n/a	Yes

C.50. PharDataTask

PharData [http://php.net/manual/en/class.phardata.php] archives generating with Phing. This task re- quire PECL's Phar [http://pecl.php.net/package/phar] extension to be installed on your system. Phar is built-in in PHP from 5.3 version.

Table C.69: *Attributes*

Name	Type	Description	Default	Required
basedir	String	Base directory, which will be deleted from each included file (from path). Paths with deleted `basedir` part are local paths in archive.	n/a	Yes
destfile	String	Destination (output) file. Will be recreated, if exists!	n/a	Yes

Name	Type	Description	Default	Required
compression	String	Compression type (gzip, bzip2, none) to apply to the archive.	none	No

C.50.1. Example

Sample build command:

```
<phardata
  destfile = "./build/archive.tar"
  basedir = "./"
  compression = "gzip">
  <fileset dir = "./classes">
    <include name = "**/**" />
  </fileset>
</phardata>
```

C.50.2. Supported Nested Tags

- fileset

C.51. PharPackageTask

Phar [http://www.php.net/manual/en/book.phar.php] packages generating with Phing. This task require PECL's Phar [http://pecl.php.net/package/phar] extension to be installed on your system. Phar is built-in in PHP from 5.3 version.

Table C.70: Attributes

Name	Type	Description	Default	Required
basedir	String	Base directory, which will be deleted from each included file (from path). Paths with deleted basedir part are local paths in package.	n/a	Yes
destfile	String	Destination (output) file. Will be recreated, if exists!	n/a	Yes
compression	String	Compression type (gzip, bzip2, none) to apply to the packed files.	none	No
webstub	String	Relative path within the phar package to run, if accessed through a web browser.	n/a	No
clistub	String	Relative path within the phar package to run, if accessed on the command line.	n/a	No
stub	String	A path to a php file that contains a custom stub	n/a	No
alias	String	An alias to assign to the phar package	n/a	No
signature	String	Signature algorithm (md5, sha1, sha256, sha512), used for this package.	sha1	No
key	String	The private key to sign the phar package with (PEM or PKCS#12 encoded)	n/a	No

Name	Type	Description	Default	Required
keyPassword	String	The password to use for the private key	n/a	No

C.51.1. Example

Sample build command:

```xml
<pharpackage
  destfile = "./build/package.phar"
  basedir = "./">
  <fileset dir = "./classes">
    <include name = "**/**" />
  </fileset>
  <metadata>
    <element name = "version" value = "1.0" />
    <element name = "authors">
      <element name = "John Doe">
        <element name = "e-mail" value = "john@example.com" />
      </element>
    </element>
  </metadata>
</pharpackage>
```

C.51.2. Supported Nested Tags

- fileset

- metadata

C.52. PhkPackageTask

This task runs PHK_Creator.phk to build PHK-package. Learn more about build process in PHK Builder's Guide [http://phk.tekwire.net/joomla/support/doc/builders_guide.htm].

Table C.71: Attributes

Name	Type	Description	Default	Required
phkcreatorpath	String	Path to PHK_Creator.phk.	n/a	Yes
inputdirectory	String	Path to directory, that will be packed.	n/a	Yes
outputfile	String	Output PHK-file. Directory, where file will be stored, must exist!	n/a	Yes
compress	String	Compression type (gzip, bzip2, none) to apply to the packed files.	none	No
strip	Boolean	When true, PHP source file(s) are stripped (filtered through php_strip_whitespace()) before being stored into the archive.	false	No
name	String	The package's name (Information only).	n/a	No
webrunscript	String	The script to run in web direct access mode. Subfile path.	n/a	No
crccheck	Boolean	If true, a CRC check will be forced every time the package is mounted.	false	No

C.52.1. Example

Sample build command:

```
<phkpackage
    phkcreatorpath = "/path/to/PHK_Creator.phk"
    inputdirectory = "src"
    outputfile = "build/sample-project.phk"
    compress = "gzip"
    strip = "true"
    name = "Sample Project"
    webrunscript = "index.php">
    <webaccess>
        <paentry>/</paentry>
    </webaccess>
</phkpackage>
```

C.52.2. Supported Nested Tags

- `webaccess`

    Collection of `path` tags (see example below), that will be visible outside package in web mode.

C.53. PhpCodeSnifferTask

This task runs PHP_CodeSniffer [http://pear.php.net/package/PHP_CodeSniffer] to detect violations of a defined set of coding standards.

Table C.72: Attributes

Name	Type	Description	Default	Required
standard	String	The list of coding standards to test against. Separated by space, comma or semicolon.	Generic	No
format	String	The output format. The `full` format is specified in the task itself. Additionally all report formats of PHP_CodeSniffer can be chosen (ex. `checkstyle`, `full`, `summary`, ...).	full	No Ignored if nested `formatter` elements are supplied.
showSniffs	Boolean	Print the list of used sniffs.	false	No
showWarnings	Boolean	Print warnings.	true	No
showSources	Boolean	Flag that determines whether to show sources or not.	true	No
docGenerator	String	The name of the doc generator (HTML, Text).	n/a	No
docFile	String	Path to write output file to. If not set documentation will be written to STDOUT when `docGenerator` is set.	n/a	No
file	String	The file or folder to check (usually the nested tag `fileset` is used instead).	false	Either this attribute or the nested tag `fileset` is required.

Name	Type	Description	Default	Required
sniffs	String	The list of allowed sniffs (separated by space, comma or semicolon). The sniffs must be part of the chosen standard.	n/a	No
verbosity	Integer	The verbosity level of CodeSniffer where level 1 prints progress information and level 2 prints developer debug information.	0	No
encoding	String	The encoding of the files to check	iso-8859-1	No
tabWidth	Integer	Replaces tabs with the given number of spaces. If zero no replacing is done.	0	No
reportWidth	Integer	The max. width for the report.	80	No
allowedFileEx- tensions	String	The allowed file extensions / file types to process. Separated by space, comma or semicolon.	php, inc, js, css	No
allowedTypes	String	The allowed types used by PHP_CodeSniffer::suggestType() which is used internally by some PHPCS rules (e.g. Squiz.Commenting.FunctionComment uses it to check variables / parameter types). Separated by space, comma or semicolon.	n/a (is PHP_CodeSniffer default is used)	No
ignorePatterns	String	The patterns to ignore files and folders (separated by space, comma or semicolon) when a directory is specified in the `file` attribute.	n/a	No
noSubdirecto- ries	Boolean	Do not recurse into subdirectories when a directory is specified in the `file` attribute.	false	No
haltonerror	Boolean	Stop the build process if errors occurred during the run.	false	No
haltonwarning	Boolean	Stop the build process if warnings occurred during the run.	false	No
skipver- sioncheck	Boolean	Skips the version check when the task starts.	false	No

C.53.1. Examples

Checks all files in the directory `file` matching the allowed file extension with the `PEAR` standard and prints the `summary` report without warnings.

```
<phpcodesniffer
  standard = "PEAR"
  format = "summary"
  file = "/path/to/source-files"
  allowedFileExtensions = "php php5 inc"/>
```

Checks all matching files in the `fileset` with the `Zend` standard, sets the `zend_ca_path` configuration which may be required by one of the sniffs, prints a list of used sniffs and prints the `default` report with warnings and the `checkstyle` report to `/path/to/checkstyle.xml`.

```
<phpcodesniffer
  standard = "Zend"
  showSniffs = "true"
```

```
    showWarnings = "true">
    <fileset dir = "/path/to/source-files">
      <include name = "**/*.php"/>
    </fileset>
    <config name = "zend_ca_path" value = "/path/to/ZendStudio/bin/ZendCodeAnalyzer"/>
    <formatter type = "full" usefile = "false"/>
    <formatter type = "checkstyle" outfile = "/path/to/checkstyle.xml"/>
</phpcodesniffer>
```

Checks all files in the directory `file` with the `PEAR` standard and prints the `checkstyle` report without warnings. It also generates the documentation for the selected coding standard and writes it to the given file.

```
<phpcodesniffer
  standard = "PEAR"
  file = "/path/to/source-files"
  docGenerator = "HTML"
  docFile = "/path/to/doc.html">
  <formatter type = "checkstyle" outfile = "/path/to/checkstyle.xml"/>
</phpcodesniffer>
```

Checks all files in the directory `file` matching the allowed file extension with the custom `Foo` standard and prints the `summary` report without warnings.

```
<phpcodesniffer
  standard = "Foo"
  format = "summary"
  file = "/path/to/source-files"
  allowedFileExtensions = "php php5 inc">
    <config name = "installed_paths" value = "/path/to/Standards/directory"/>
</phpcodesniffer>
```

C.53.2. Supported Nested Tags

- `fileset`

  Either this nested tag or the attribute `file` is required.

- `config`

  The configuration parameters which are usually loaded from the CodeSniffer.conf can be set.

Table C.73: Attributes

Name	Type	Description	Default	Required
name	String	Name of the configuration parameter.	n/a	Yes
value	String	Value of the configuration parameter.	n/a	Yes

- `formatter`

  The results of the tests can be printed in different formats. Output will always be sent to a file, unless you set the `usefile` attribute to `false`.

Table C.74: Attributes

Name	Type	Description	Default	Required
type	String	The output format. Accepts the same values as the `format` attribute (`default`, `xml`, `checkstyle`, `csv`, `report`, `summary` & `doc`).	n/a	Yes

Name	Type	Description	Default	Required
usefile	Boolean	Boolean that determines whether output should be sent to a file.	true	No
outfile	String	Path to write output file to.	n/a	Yes, if usefile is true.

C.54. PHPCPDTask

This task runs phpcpd [http://github.com/sebastianbergmann/phpcpd/], a Copy/Paste Detector (CPD) for PHP Code. You need an installed version of this software to use this task.

NB: if you have installed the PHPCPD PHAR, make sure you set the `pharlocation` attribute!

Table C.75: Attributes

Name	Type	Description	Default	Required
file	String	Path to source file or path	n/a	Only when there are *no* nested fileset elements
minTokens	Integer	Sets the minimum number of identical tokens (default: 70)	70	No
minLines	Integer	Sets the minimum number of identical lines (default: 5)	5	No
format	String	The format for the report when no nested formatter is used.	for-default	No
fuzzy	Boolean	If fuzzy is set to true, the task will perform a fuzzy match.	false	No
pharlocation	String	Location of the PHPCPD PHAR package.	n/a	No

C.54.1. Examples

```
<phpcpd file = "path/to/source.php"/>
```

Checking for copy/paste code in one particular source file. Sending Default-Report to STDOUT.

```
<phpcpd file = "path/to/source">
   <formatter type = "pmd" outfile = "reports/pmd-cpd.xml"/>
 </phpcpd>
```

Checking for copy/paste code in files of the given path.

```
<phpcpd>
   <fileset dir = "${builddir}" id = "filestocpd">
     <include name = "apps/**/*.php" />
     <include name = "lib/de/**/*.php" />
     <include name = "lib/task/**/*.php" />
     <include name = "lib/services/**/*.php" />
     <include name = "lib/form/**/*.php" />
```

```
        <include name = "lib/model/**/*.php" />
    </fileset>
    <formatter type = "pmd" outfile = "reports/pmd-cpd.xml"/>
 </phpcpd>
```

C.54.2. Supported Nested Tags

- `fileset`

  This nested tag is required when the `file` attribute is not set.

- `formatter`

  The results of the copy/paste scan can be printed in different formats. Output will always be sent to a file, unless you set the `usefile` attribute to `false`.

Table C.76: Attributes

Name	Type	Description	Default	Required
type	String	The output format. Accepts the same values as the `format` attribute (`default`, `pmd`).	n/a	Yes
useFile	Boolean	Flag that determines whether output should be sent to a file or not.	true	No
outfile	String	Path to write output file to.	n/a	Yes

C.55. PHPLocTask

This task runs phploc [http://github.com/sebastianbergmann/phploc/], a tool for measuring the size of PHP projects. You need an installed version of this tool (installable via PEAR) to use this task.

NB: if you have installed the PHPLOC PHAR, make sure you set the `pharlocation` attribute!

Table C.77: Attributes

Name	Type	Description	Default	Required
reportType	String	The type of the report. Available types are cli|csv|txt|xml.	cli	No
reportName	String	The name of the report type without a file extension.	phploc-report	No
reportDirectory	String	The directory to write the report file to.	false	Yes, when report type csv, txt or xml is defined.
countTests	Boolean	Flag to count the projects tests or not.	false	No
file	String	The name of the file to check.	n/a	Yes, when no nested fileset is defined.
suffixes	String	A comma-separated list of file suffixes to check.	php	No

Name	Type	Description	Default	Required
pharlocation	String	Location of the PHPLOC PHAR package.	n/a	No

C.55.1. Examples

```
<target name = "-measure-and-log" description = "Measures and logs the size of the project" hidde
             <tstamp>
               <format property = "check.date.time" pattern = "%Y%m%d-%H%M%S" locale = "en_U
             </tstamp>
             <phploc reportType = "txt" reportName = "${check.date.time}-report"
                 reportDirectory = "phploc-reports">
               <fileset dir = ".">
                 <include name = "**/*.php" />
                 <include name = "*.php" />
               </fileset>
             </phploc>
           </target>
```

Checks the size of the project living in ${project.basedir} and writes the result as a txt report to ${project.basedir}/phploc-reports/${check.date.time}-report.txt.

```
<target name = "project-size-and-tests" description = "Measures the size of the project and count
             <phploc countTests = "true">
               <fileset dir = ".">
                 <include name = "**/*.php" />
                 <include name = "*.php" />
               </fileset>
             </phploc>
           </target>
```

Checks the size of the project living in ${project.basedir}, counts the project tests and writes/logs the result to the CLI.

C.55.2. Supported Nested Tags

- fileset

C.56. PHPMDTask

This task runs phpmd [http://phpmd.org], a Project Mess Detector (PMD) for PHP Code. You need an installed version of this software to use this task.

NB: if you have installed the PHPMD Phar file, make sure you set the pharLocation attribute!

Table C.78: *Attributes*

Name	Type	Description	Default	Required
file	String	Path to source file or path	n/a	Only when there are *no* nested file-set elements
rulesets	String	Sets the rulesets used for analyzing source code	thecodesize, unused-code	No

Name	Type	Description	Default	Required
minimumPriori-ty	Integer	The minimum priority for rules to load.	5	No
allowedFileEx-tensions	String	Comma-separated list of valid file extensionsphp (without dot) for analyzed files.		No
ignorePatterns	String	Comma-separated list of directory patterns to ignore.	.git, .svn, CVS, .bzr, .hg	No
format	String	The format for the report when no nested for-text matter is used.		No
pharlocation	String	Location of the PHPMD Phar file.	n/a	No

C.56.1. Example

```
<phpmd file = "path/to/source.php"/>
```

Checking syntax of one particular source file. Sending Text-Report to STDOUT.

```
<phpmd file = "path/to/source">
   <formatter type = "html" outfile = "reports/pmd.html"/>
 </phpmd>
```

Checking syntax of source files in the given path.

```
<phpmd>
   <fileset dir = "${builddir}">
     <include name = "apps/**/*.php" />
     <include name = "lib/de/**/*.php" />
   </fileset>
   <formatter type = "xml" outfile = "reports/pmd.xml"/>
 </phpmd>
```

Checking syntax of source files in the fileset pathes.

C.56.2. Supported Nested Tags

- fileset

  This nested tag is required when the file attribute is not set.

- formatter

  The results of the analysis can be printed in different formats. Output will always be sent to STDOUT, unless you set the usefile attribute to true and set an filename in the outfile attribute.

Table C.79: Attributes

Name	Type	Description	Default	Required
type	String	The output format. Accepts the same valuesn/a as the format attribute (xml, html, text).		Yes
usefile	Boolean	Boolean that determines whether outputtrue should be sent to a file.		No

Name	Type	Description	Default	Required
outfile	String	Path to write output file to.	n/a	Yes

C.57. PhpDependTask

This task runs PHP_Depend [http://pdepend.org], a software analyzer and metric tool for PHP Code. You need an installed version of this software to use this task.

NB: if you have installed the PHP_Depend Phar file, make sure you set the `pharLocation` attribute!

Table C.80: Attributes

Name	Type	Description	Default	Required
file	String	Path to source file or path	n/a	Only when there are *no* nested `file-set` elements
configFile	String	Path to PHP_Depend configuration file	n/a	No
allowedFileEx-tensions	String	Comma-separated list of valid file extensions (without dot) for analyzed files.	php,php5	No
excludeDirec-tories	String	Comma-separated list of directory patterns to ignore.	.git, .svn, CVS	No
excludePack-ages	String	Comma-separated list of packages to ignore.	n/a	No
withoutAnnota-tions	Boolean	Should the parse ignore doc comment annotations?	false	No
supportBadDoc-umentation	Boolean	Should PHP_Depend treat `+global` as a regular project package?	false	No
debug	Boolean	Enable debug output?	false	No
haltonerror	Boolean	Stop the build process if errors occurred during the run.	false	No
pharlocation	String	Location of the PHP_Depend Phar file.	n/a	No

C.57.1. Example

```
<phpdepend file = "path/to/source">
   <logger type = "phpunit-xml" outfile = "reports/metrics.xml"/>
 </phpdepend>
```

Running code analysis for source files in the given path.

```
<phpdepend>
   <fileset dir = "${builddir}">
     <include name = "apps/**/*.php" />
     <include name = "lib/de/**/*.php" />
   </fileset>
   <logger type = "jdepend-xml" outfile = "reports/jdepend.xml"/>
   <analyzer type = "coderank-mode" value = "method"/>
```

```
    </phpdepend>
```

Running code analysis for source files in the fileset pathes with CodeRank strategy `method`.

C.57.2. Supported Nested Tags

- `fileset`

  This nested tag is required when the `file` attribute is not set.

- `logger`

  The results of the analysis can be parsed by differed loggers. At least one logger is required. Output will always be sent to a file.

Table C.81: Attributes

Name	Type	Description	Default	Required
type	String	The name of the logger. Valid loggers are: `jdepend-chart`, `jdepend-xml`, `overview-pyramid`, `phpunit-xml` and `summary-xml`.	n/a	Yes
outfile	String	Path to write output file to.	n/a	Yes

- `analyzer`

  Some additional analyzers can be added to the runner.

Table C.82: Attributes

Name	Type	Description	Default	Required
type	String	The name of the analyzer. Valid analyzers are: `coderank-mode`.	n/a	Yes
value	String	The value for the analyzer.	n/a	Yes

C.58. PhpDocumentorTask

This task is now deprecated in favor of the Section C.59, "PhpDocumentor2Task".

This task runs phpDocumentor [http://www.phpdoc.org/], an auto-documentation tool for PHP similar to Javadoc.

Table C.83: Attributes

Name	Type	Description	Default	Required
title	String	Title for browser window / package index.	n/a	No
destdir	String	Destination directory for output files.	n/a	Yes
target	String	Alias of `destdir` ("target" is config param used by PhpDocumentor)	n/a	
output	String	Output format (such as `HTML:Smarty:PHP`).	n/a	Yes
sourcecode	Boolean	Generate syntax-highlighted sourcecode file for each file parsed?	false	No

Name	Type	Description	Default	Required
examplesdir	String	Path to directory in which to look for example documentation.	n/a	No
parseprivate	Boolean	Parse @internal and elements marked private.	false	No
javadocdesc	Boolean	JavaDoc-compliant description parsing. Use on/off, default off (more flexibility)	false	No
quiet	Boolean	Suppress output to STDOUT.	false	No
packageoutput	String	Output documentation only for selected packages. Use a comma-delimited list	n/a	No
ignoretags	String	Comma-separated list of tags to ignore (@package, @subpackage, @access and @ignore may not be ignored).	n/a	No
defaultpacka-gename	String	name to use for the default package. If not specified, uses 'default'	n/a	No
defaultcatego-ryname	String	name to use for the default category. If not specified, uses 'default'	n/a	No
pear	Boolean	Treat parse dirs as PEAR repository? (package is directory, _members are @access private)	false	No
templatebase	String	Set base dirctory of all templates for this parse.	n/a	No
undocument-edelements	Boolean	Control whether or not warnings will be shown for undocumented elements. Useful for identifying classes and methods that haven't yet been documented.	false	No
customtags	Boolean	Custom tags, will be recognized and put in tags[] instead of unknowntags[].	false	No
ignore	String	List of files to ignore, separated by ','.	n/a	No

C.58.1. Example

```
<phpdoc title = "API Documentation"
  destdir = "apidocs"
  sourcecode = "false"
  output = "HTML:Smarty:PHP">
   <fileset dir = "./classes">
      <include name = "**/*.php" />
   </fileset>
   <projdocfileset dir = ".">
      <include name = "README" />
      <include name = "INSTALL" />
      <include name = "CHANGELOG" />
   </projdocfileset>
</phpdoc>
```

C.58.2. Supported Nested Tags

- `fileset` - Files that should be included for parsing

- `projdocfileset` - Files that should be treated as README/INSTALL/CHANGELOG files

C.59. PhpDocumentor2Task

This task runs phpDocumentor 2 [http://www.phpdoc.org/], a PHP 5.3-compatible API documentation tool. This project is the result of the merge of the phpDocumentor and DocBlox projects.

Table C.84: Attributes

Name	Type	Description	Default	Required
title	String	Title of the project.	n/a	No
destdir	String	Destination directory for output files.	n/a	Yes
quiet	Boolean	DEPRECATED	n/a	No
template	String	Name of the documentation template to use.	respon-sive-twig	No
defaultPacka-geName	String	Name of the default package.	Default	No
pharlocation	String	Location of the phpDocumentor PHAR pack-age.	n/a	No

C.59.1. Example

```
<phpdoc2 title = "API Documentation"
  destdir = "apidocs"
  template = "responsive-twig">
   <fileset dir = "./classes">
      <include name = "**/*.php" />
   </fileset>
</phpdoc2>
```

C.59.2. Supported Nested Tags

- `fileset` - Files that should be included for parsing

C.60. PhpDocumentorExternalTask

This task is now deprecated in favor of the Section C.59, "PhpDocumentor2Task".

This is the same as the Section C.58, "PhpDocumentorTask" but uses the command line application. Use this as a fallback in case you're running into troubles when using the phpDocumentor-library with the PhpDocumentorTask directly, e.g. when you're using Smarty and have Smarty in your library path too.

This task supports everything the PhpDocumentorTask supports, differences are documented below.

Table C.85: Parameters

Name	Type	Description	Default	Required
programpath	String	Path to the phpdoc executable (relative or ab-solute).	n/a	No

Name	Type	Description	Default	Required
sourcepath	String	A directory to scan for parsable files. Supports multiple directories separated with a comma.	n/a	Yes, if no `<fileset>` is given

Table C.86: Unsupported Parameters

Name	Description
configdir	Currently not supported. The attribute will be ignored and a warning messag will be generated. The build continues (to ease when changing an existing phpdoc task) however this may have unexpected side effects.

C.60.1. Example

```
<phpdocext title = "API Documentation"
  programpath = "/usr/bin/phpdoc"
  destdir = "apidocs"
  sourcecode = "false"
  output = "HTML:Smarty:PHP">
  <fileset dir = "./classes">
      <include name = "**/*.php" />
  </fileset>
  <projdocfileset dir = ".">
      <include name = "README" />
      <include name = "INSTALL" />
      <include name = "CHANGELOG" />
  </projdocfileset>
</phpdocext>
```

C.61. PhpLintTask

The `PhpLintTask` checks syntax (lint) on one or more PHP source code files.

Table C.87: Attributes

Name	Type	Description	Default	Required
file	String	Path to source file	n/a	No
haltonfailure	Boolean	Stop the build process if the linting process encounters an error.	false	No
errorproperty	String	The name of a property that will be set to contain the error string (if any).	n/a	No
interpreter	String	Path to alternative PHP interpreter	Defaults to the `${php.interpreter}` property which is the interpreter used to execute phing itself.	No

Name	Type	Description	Default	Required
cachefile	String	If set, enables writing of last-modified times to `cachefile`, to speed up processing of files that rarely change	none	No
level	String	Control the level at which phplint reports status messages. One of `error`, `warning`, `info`, `verbose`, `debug`.	debug	No
tofile	String	File to write list of 'bad files' to.	n/a	No
deprecatedAsError	Boolean	Whether to treat deprecated warnings (introduced in PHP 5.3) as errors.	false	No

C.61.1. Example

```
<phplint file = "path/to/source.php"/>
```

Checking syntax of one particular source file.

```
<phplint>
  <fileset dir = "src">
    <include name = "**/*.php"/>
  </fileset>
</phplint>
```

Check syntax of a fileset of source files.

C.61.2. Supported Nested Tags

- `fileset`

C.62. PHPUnitTask

This task runs testcases using the PHPUnit [http://www.phpunit.de/] framework. It is a functional port of the Ant JUnit [http://ant.apache.org/manual/OptionalTasks/junit.html] task.

NB: if you have installed the PHPUnit PHAR, make sure you set the `pharlocation` attribute!

NB: the identifiers `phpunit2` (PHPUnit2Task) and `phpunit3` (PHPUnit3Task) have been deprecated!

Table C.88: *Attributes*

Name	Type	Description	Default	Required
printsummary	Boolean	Print one-line statistics for each testcase.	false	No
bootstrap	String	The name of a bootstrap file that is run before executing the tests.	none	No
codecoverage	Boolean	Gather code coverage information while running tests (requires Xdebug).	false	No
haltonerror	Boolean	Stop the build process if an error occurs during the test run.	false	No

Name	Type	Description	Default	Required
haltonfailure	Boolean	Stop the build process if a test fails (errors are considered failures as well).	false	No
haltonincomplete	Boolean	Stop the build process if any incomplete tests are encountered.	false	No
haltonskipped	Boolean	Stop the build process if any skipped tests are encountered.	false	No
failureproperty	String	Name of property to set (to true) on failure.	n/a	No
errorproperty	String	Name of property to set (to true) on error.	n/a	No
incompleteproperty	String	Name of property to set (to true) on incomplete tests.	n/a	No
skippedproperty	String	Name of property to set (to true) on skipped tests.	n/a	No
usecustomerrorhandler	Boolean	Use a custom Phing/PHPUnit error handler to process PHP errors.	true	No
processisolation	Boolean	Enable process isolation when executing tests.	false	No
configuration	String	Path to a PHPUnit configuration file (such as `phpunit.xml`). Supported elements are: `bootstrap`, `processIsolation`, `stopOnFailure`, `stopOnError`, `stopOnIncomplete` and `stopOnSkipped`. Values provided **overwrite** other attributes!	n/a	No
groups	String	Only run tests from the specified group(s).	n/a	No
excludeGroups	String	Exclude tests from the specified group(s).	n/a	No
pharlocation	String	Location of the PHPUnit PHAR package.	n/a	No

C.62.1. Supported Nested Tags

- `formatter`

  The results of the tests can be printed in different formats. Output will always be sent to a file, unless you set the `usefile` attribute to `false`. The name of the file is predetermined by the formatter and can be changed by the `outfile` attribute.

  There are three predefined formatters - `xml` and `clover` print the test results in the JUnit and Clover XML formats, the `plain` formatter emits a short statistics line for all test cases. Custom formatters that implement phing.tasks.ext.phpunit.formatter.PHPUnitResultFormatter can be specified.

Table C.89: Attributes

Name	Type	Description	Default	Required
type	String	Use a predefined formatter (either `xml`, `plain`, `clover`, or `summary`).	n/a	One of these is required.
classname	String	Name of a custom formatter class.	n/a	
usefile	Boolean	Boolean that determines whether output should be sent to a file.	true	No

Name	Type	Description	Default	Required
todir	String	Directory to write the file to.	n/a	No
outfile	String	Filename of the result.	Depends on formatter	No

- `batchtest`

  Define a number of tests based on pattern matching. `batchtest` collects the included files from any number of nested <fileset>s. It then generates a lists of classes that are (in)directly defined by each PHP file.

Table C.90: Attributes

Name	Type	Description	Default	Required
exclude	String	A list of classes to exclude from the pattern matching. For example, when you have two baseclasses `BaseWebTest` and `BaseMathTest`, which are included a number of testcases (and thus added to the list of testclasses), you can exclude those classes from the list by typing `exclude="BaseWebTest BaseMathTest"`.	n/a	No
classpath	String	Used to define more paths on which - besides the PHP include_path - to look for the test files.	n/a	No
name	String	The name that is used to create a testsuite from this batchtest.	Phing Batchtest	No

C.62.2. Example

```
<phpunit>
  <formatter todir = "reports" type = "xml"/>
  <batchtest>
    <fileset dir = "tests">
      <include name = "**/*Test*.php"/>
      <exclude name = "**/Abstract*.php"/>
    </fileset>
  </batchtest>
</phpunit>
```

Runs all matching testcases in the directory `tests`, writing XML results to the directory `reports`.

```
<phpunit codecoverage = "true" haltonfailure = "true" haltonerror = "true">
  <formatter type = "plain" usefile = "false"/>
  <batchtest>
    <fileset dir = "tests">
      <include name = "**/*Test*.php"/>
    </fileset>
  </batchtest>
</phpunit>
```

Runs all matching testcases in the directory `tests`, gathers code coverage information, writing plain text results to the console. The build process is aborted if a test fails.

```
<phpunit bootstrap = "src/autoload.php">
```

```
  <formatter type = "plain" usefile = "false"/>
  <batchtest>
    <fileset dir = "tests">
      <include name = "**/*Test*.php"/>
    </fileset>
  </batchtest>
</phpunit>
```

Runs all matching testcases in the directory `tests`, writing plain text results to the console. Additionally, before executing the tests, the bootstrap file `src/autoload.php` is loaded.

Important note: using a mechanism such as an "AllTests.php" file to execute testcases will bypass the Phing hooks used for reporting and counting, and could possibly lead to strange results. Instead, use one of more fileset's to provide a list of testcases to execute.

C.62.3. Supported Nested Tags

- `fileset`

C.63. PHPUnitReport

This task transforms PHPUnit xml reports to HTML using XSLT.

NB: the identifiers `phpunit2report` (PHPUnit2Report) and `phpunit3report` (PHPUnit3Report)have been deprecated!

Table C.91: Attributes

Name	Type	Description	Default	Required
infile	String	The filename of the XML results file to use.	testsuites.xml	No
format	String	The format of the generated report. Must be `noframes` or `frames`.	noframes	No
styledir	String	The directory where the stylesheets are located. They must conform to the following conventions: frames format: the stylesheet must be named `phpunit-frames.xsl`. noframes format: the stylesheet must be named `phpunit-noframes.xsl`. If unspecified, the task will look for the stylesheet(s) in the following directories: the PHP include path, the Phing home directory and the PEAR data directory (if applicable).	n/a	No
todir	String	An existing directory where the files resulting from the transformation should be written to.		Yes
usesorttable	Boolean	Whether to use the sorttable JavaScript library (see http://www.kryogenix.org/code/browser/sorttable/)	false	No

C.63.1. Example

```
<phpunitreport infile = "reports/testsuites.xml"
    format = "frames"
```

```
        todir = "reports/tests"
        styledir = "/home/phing/etc"/>
```

Generates a framed report in the directory `reports/tests` using the file `reports/testsuites.xml` as input.

Important note: testclasses that are not explicitly placed in a package (by using a '@package' tag in the class-level DocBlock) are listed under the "default" package.

C.64. RegexTask

Performs regular expression operations on an subject string, and sets the results to a property. There are two different operations that can be performed:

- Replace - The matched regular expression is replaced with a substitution pattern
- Match - Groupings within the regular expression are matched via a selection expression.

Table C.92: Attributes

Name	Type	Description	Default	Required
property	String	The name of the property to set.	n/a	Yes
override	Boolean	If the property is already set, should we change it's value. Can be `true` or `false`	false	No
subject	String	The subject to be processed	n/a	Yes
pattern	String	The regular expression pattern which is matched in the subject.	n/a	Yes
match	String	A pattern which indicates what match pattern you want in the returned value. This uses the substitution pattern syntax to indicate where to insert groupings created as a result of the regular expression match.	n/a	Yes (unless a replace is specified)
replace	String	A regular expression substitition pattern, which will be used to replace the given regular expression in the subject.	n/a	Yes (unless a match is specified)
casesensitive	Boolean	Should the match be case sensitive	true	No
limit	Integer	The maximum possible replacements for each pattern in each subject string. Defaults to -1 (no limit).	-1	No
defaultValue	Integer	The value to set the output property to, if the subject string does not match the specific regular expression.	n/a	No

C.64.1. Match expressions

Expressions are matched in a the same syntax as a regular expression substitution pattern.

- $0 indicates the entire property name (default).
- $1 indicates the first grouping

- $2 indicates the second grouping

- etc...

C.64.2. Replace

It is important to note that when doing a "replace" operation, if the subject string does not match the regular expression, then the property is not set. You can change this behavior by supplying the "defaultValue" attribute. This attribute should contain the value to set the property to in this case.

- $0 indicates the entire property name (default).

- $1 indicates the first grouping

- $2 indicates the second grouping

- etc...

C.64.3. Example

```
<propertyregex property = "pack.name"
    subject = "package.ABC.name"
    pattern = "package\.([^.]*)\.name"
    match = "$1"
    casesensitive = "false"
    defaultvalue = "test1"/>

<echo message = "${pack.name}"/>

<propertyregex property = "pack.name"
    override = "true"
    subject = "package.ABC.name"
    pattern = "(package)\.[^.]*\.(name)"
    replace = "$1.DEF.$2"
    casesensitive = "false"
    defaultvalue = "test2"/>

<echo message = "${pack.name}"/>
```

C.65. rSTTask

Renders rST (reStructuredText) files into different output formats.

This task requires the `python docutils` installed. They contain `rst2html`, `rst2latex`, `rst2man`, `rst2odt`, `rst2s5`, `rst2xml`.

Homepage: https://gitorious.org/phing/rsttask

Table C.93: *Attributes*

Name	Type	Description	Default	Required
file	String	rST input file to render	n/a	Yes (or fileset)
format	String	Output format:	html	No
		• html		
		• latex		

Name	Type	Description	Default	Required
		• man		
		• odt		
		• s5		
		• xml		
`destination`	`String`	Path to store the rendered file to. Used as directory if it ends with a `/`.	magically determined from input file	No
`uptodate`	`Boolean`	Only render if the input file is newer than the target file	`false`	No
`toolpath`	`String`	Path to the rst2* tool	determined from `format`	No
`toolparam`	`String`	Additional commandline parameters to the rst2* tool	n/a	No
`mode`	`Integer`	The mode to create directories with.	From umask	No

C.65.1. Features

- renders single files

- render nested filesets

- mappers to generate output file names based on the rst ones

- multiple output formats

- filter chains to e.g. replace variables after rendering

- custom parameters to the rst2* tool

- configurable rst tool path

- uptodate check

- automatically overwrites old files

- automatically creates target directories

C.65.2. Examples

Render a single rST file to HTML

By default, HTML is generated. If no target file is specified, the input file name is taken, and its extension replaced with the correct one for the output format.

```xml
<?xml version="1.0" encoding="utf-8"?>
<project name = "example" basedir = "." default = "single">
```

```xml
    <target name = "single" description = "render a single rST file to HTML">

      <rST file = "path/to/file.rst" />

    </target>
</project>
```

Render a single rST file to any supported format

The `format` attribute determines the output format:

```xml
<?xml version="1.0" encoding="utf-8"?>
<project name = "example" basedir = "." default = "single">
  <target name = "single" description = "render a single rST file to S5 HTML">

    <rST file = "path/to/file.rst" format = "s5" />

  </target>
</project>
```

Specifying the output file name

```xml
<?xml version="1.0" encoding="utf-8"?>
<project name = "example" basedir = "." default = "single">
  <target name = "single" description = "render a single rST file">

    <rST file = "path/to/file.rst" destination = "path/to/output/file.html" />

  </target>
</project>
```

Rendering multiple files

A nested `fileset` tag may be used to specify multiple files.

```xml
<?xml version="1.0" encoding="utf-8"?>
<project name = "example" basedir = "." default = "multiple">
  <target name = "multiple" description = "renders several rST files">

    <rST>
     <fileset dir = ".">
       <include name = "README.rst" />
       <include name = "docs/*.rst" />
     </fileset>
    </rST>

  </target>
</project>
```

Rendering multiple files to another directory

A nested `mapper` may be used to determine the output file names.

```xml
<?xml version="1.0" encoding="utf-8"?>
<project name = "example" basedir = "." default = "multiple">
  <target name = "multiple" description = "renders several rST files">

    <rST>
     <fileset dir = ".">
       <include name = "README.rst" />
       <include name = "docs/*.rst" />
     </fileset>
     <mapper type = "glob" from = "*.rst" to = "path/to/my/*.xhtml"/>
    </rST>
```

```
    </target>
  </project>
```

Modifying files after rendering

You may have variables in your rST code that can be replaced after rendering, i.e. the version of your software.

```
<?xml version="1.0" encoding="utf-8"?>
<project name = "example" basedir = "." default = "filterchain">
  <target name = "filterchain" description = "renders several rST files">

    <rST>
     <fileset dir = ".">
       <include name = "README.rst" />
       <include name = "docs/*.rst" />
     </fileset>
     <filterchain>
       <replacetokens begintoken = "##" endtoken = "##">
         <token key = "VERSION" value = "1.23.0" />
       </replacetokens>
     </filterchain>
    </rST>

  </target>
</project>
```

Rendering changed files only

The `uptodate` attribute determines if only those files should be rendered that are newer than their output file.

```
<?xml version="1.0" encoding="utf-8"?>
<project name = "example" basedir = "." default = "multiple">
  <target name = "multiple" description = "renders several rST files">

    <rST uptodate = "true">
     <fileset dir = ".">
       <include name = "docs/*.rst" />
     </fileset>
    </rST>

  </target>
</project>
```

Specify a custom CSS file

You may pass any additional parameters to the rst conversion tools with the `toolparam` attribute.

```
<?xml version="1.0" encoding="utf-8"?>
<project name = "example" basedir = "." default = "single">
  <target name = "single" description = "render a single rST file to S5 HTML">

    <rST file = "path/to/file.rst" toolparam = "--stylesheet-path=custom.css" />

  </target>
</project>
```

C.65.3. Supported Nested Tags

- `fileset`

- `mapper`

- `filterchain`

C.66. S3PutTask

Uploads an object to Amazon S3. This task requires the PEAR package Services_Amazon_S3 [http://pear.php.net/package/Services_Amazon_S3]

Table C.94: *Attributes*

Name	Type	Description	Default	Required
`key`	String	Amazon S3 key	n/a	Yes (or defined before task call as: amazon.key)
`secret`	String	Amazon S3 secret	n/a	Yes (or defined before task call as: amazon.secret)
`bucket`	String	Bucket to store the object in	n/a	Yes (or defined before task call as: amazon.bucket)
`content`	String	Content to store in the object	n/a	Yes (or source or fileset)
`source`	String	Where to read content for the object from	n/a	Yes (or content or fileset)
`object`	String	Object name	n/a	Yes (unless fileset)
`contentType`	String	Content type of the object, set to `auto` if you want to autodetect the content type based on the source file extension	bina- ry/octet- stream	No
`fileNameOnly`	Boolean	Whether filenames should contain paths when uploaded to a bucket	false	No

C.66.1. Example

Uploading a file

```
<s3put source = "/path/to/file.txt" object = "file.txt" bucket = "mybucket" key = "AmazonKey" sec
```

You can also define "bucket, key, secret" outside of the task call:

```
<property name = "amazon.key" value = "my_key" />
<property name = "amazon.secret" value = "my_secret" />
<property name = "amazon.bucket" value = "mybucket" />

<s3put source = "/path/to/file.txt" object = "file.txt" />
```

You can also specify inline content instead of a file to upload:

```
<property name = "amazon.key" value = "my_key" />
```

```
<property name = "amazon.secret" value = "my_secret" />
<property name = "amazon.bucket" value = "mybucket" />

<s3put content = "Some content here" object = "file.txt" />
```

It also works with filesets

```
<property name = "amazon.key" value = "my_key" />
<property name = "amazon.secret" value = "my_secret" />
<property name = "amazon.bucket" value = "mybucket" />
<s3put>
    <fileset dir = "${project.basedir}">
        <include name = "**/*.jpg" />
    </fileset>
</s3put>
```

C.66.2. Supported Nested Tags

- `fileset`

C.67. S3GetTask

Downloads an object from Amazon S3. This task requires the PEAR package Services_Amazon_S3 [http://pear.php.net/package/Services_Amazon_S3]

Table C.95: Attributes

Name	Type	Description	Default	Required
key	String	Amazon S3 key	n/a	Yes (or defined before task call as: amazon.key)
secret	String	Amazon S3 secret	n/a	Yes (or defined before task call as: amazon.secret)
bucket	String	Bucket containing the object	n/a	Yes (or defined before task call as: amazon.bucket)
object	String	Object name	n/a	Yes
target	String	Where to store the object after download	n/a	Yes

C.67.1. Example

Downloading an object

```
<s3get object = "file.txt" target = "${project.basedir}" bucket = "mybucket" key = "AmazonKey"
```

You can also define "bucket, key, secret" outside of the task call:

```
<property name = "amazon.key" value = "my_key" />
<property name = "amazon.secret" value = "my_secret" />
```

```
<property name = "amazon.bucket" value = "mybucket" />

<s3get object = "file.txt" target = "${project.basedir}" />
```

C.68. ScpTask

The `ScpTask` copies files to and from a remote host using scp. This task requires the PHP SSH2 extension [http://pecl.php.net/package/ssh2] to function.

Table C.96: *Attributes*

Name	Type	Description	Default	Required
host	String	Remote host	none	Yes
port	Integer	Remote port	22	No
username	String	Username to use for the connection	none	Yes
password	String	Password to use for the connection	none	No
pubkeyfile	String	Public key file (OpenSSH format) to use for the connection	none	No
privkeyfile	String	Private key file (OpenSSH format) to use for the connection	none	No
privkey-filepassphrase	String	Private key file passphrase to use for the connection	none	No
autocreate	Boolean	Whether to autocreate remote directories	true	No
todir	String	Directory to put file(s) in	none	No
file	String	Filename to use	none	No
fetch	Boolean	Whether to fetch (instead of copy to) the file	false	No
level	String	Control the level at which the task reports status messages. One of `error`, `warning`, `info`, `verbose`, `debug`.	verbose	No

C.68.1. Example

```
<scp username = "john" password = "smith"
host = "webserver" fetch = "true"
todir = "/home/john/backup"
file = "/www/htdocs/test.html" />
```

Fetches a single file from the remote server.

```
<scp username = "john" password = "smith"
host = "webserver"
todir = "/www/htdocs/"
file = "/home/john/dev/test.html" />
```

Copies a single file to the remote server.

```
<scp username = "john" password = "smith"
host = "webserver" todir = "/www/htdocs/project/">
    <fileset dir = "test">
```

```
        <include name = "*.html" />
    </fileset>
</scp>
```

Copies multiple files to the remote server.

C.68.2. Supported Nested Tags

- `fileset`

- `sshconfig`

  Sometimes it is necessary to set specific configuration parameters on the ssh connection when connecting to a remote server. You can set them with the sshconfig nested tag. Set the parameters to specify connection and encryption options. These are the parameters as specified by the $methods parameter of the ssh2_connect function. See ssh2_connect [http://us3.php.net/ssh2_connect] for more information

  sshconfig can also be used as project level parameter with a refid so the same parameters can be re-used across a project easily.

Table C.97: Attributes

Name	Type	Description	Default	Required
kex	String	List of key exchange methods to advertise, comma separated in order of preference.	n/a	No
hostkey	String	List of hostkey methods to advertise, come separated in order of preference.	n/a	No
client	Nested Tag	Element containing attributes crypt, comp, and mac method preferences for messages sent from client to server. All attributes are optional.	n/a	No
server	Nested Tag	Element containing attributes crypt, comp, and mac method preferences for messages sent from server to client. All attributes are optional.	n/a	No

C.69. SshTask

The `SshTask` executes commands on a remote host using ssh. This task requires the PHP SSH2 extension [http://pecl.php.net/package/ssh2] to function.

Table C.98: Attributes

Name	Type	Description	Default	Required
host	String	Remote host	none	Yes
port	Integer	Remote port	22	No
username	String	Username to use for the connection	none	Yes
password	String	Password to use for the connection	none	No
pubkeyfile	String	Public key file (OpenSSH format) to use for the connection	none	No

Name	Type	Description	Default	Required
privkeyfile	String	Private key file (OpenSSH format) to use for the connection	none	No
privkey-filepassphrase	String	Private key file passphrase to use for the connection	none	No
command	String	Command to execute on the remote server	none	Yes
property	String	The name of the property to capture (any) output of the command	none	No
display	Boolean	Whether to display the output of the command	true	No
pty	String	The terminal type to open	none	No
failonerror	Boolean	Decides if a command chain will fail if one of the executed commands failed. Added for backward compatibility. Set to true if you execute more than one command and want the task to fail on any error.	False	No

C.69.1. Example

```
<ssh username = "john" password = "smith"
host = "webserver" command = "ls" />
```

Executes a single command on the remote server.

C.69.2. Supported Nested Tags

- sshconfig

  Sometimes it is necessary to set specific configuration parameters on the ssh connection when connecting to a remote server. You can set them with the sshconfig nested tag. Set the parameters to specify connection and encryption options. These are the parameters as specified by the $methods parameter of the ssh2_connect function. See ssh2_connect [http://us3.php.net/ssh2_connect] for more information

  sshconfig can also be used as project level parameter with a refid so the same parameters can be re-used across a project easily.

Table C.99: Attributes

Name	Type	Description	Default	Required
kex	String	List of key exchange methods to advertise, comma separated in order of preference.	n/a	No
hostkey	String	List of hostkey methods to advertise, comma separated in order of preference.	n/a	No
client	Nested Tag	Element containing attributes crypt, comp, and mac method preferences for messages sent from client to server. All attributes are optional.	n/a	No
server	Nested Tag	Element containing attributes crypt, comp, and mac method preferences for messages	n/a	No

Name	Type	Description	Default	Required
		sent from server to client. All attributes are optional.		

C.70. SimpleTestTask

This task runs testcases using the SimpleTest [http://www.simpletest.org/] framework.

Table C.100: Attributes

Name	Type	Description	Default	Required
printsummary	Boolean	Print one-line statistics for each testcase.	false	No
haltonerror	Boolean	Stop the build process if an error occurs during the test run.	false	No
haltonfailure	Boolean	Stop the build process if a test fails (errors are considered failures as well).	false	No
failureproperty	String	Name of property to set (to true) on failure.	n/a	No
errorproperty	String	Name of property to set (to true) on error.	n/a	No
debug	Boolean	Switch debugging on/off	false	No

C.70.1. Example

```
<simpletest>
  <formatter type = "plain"/>
  <fileset dir = "tests">
    <include name = "**/*Test*.php"/>
    <exclude name = "**/Abstract*.php"/>
  </fileset>
</simpletest>
```

Runs all matching testcases in the directory `tests`, writing plain text results to the console.

```
<simpletest haltonfailure = "true" haltonerror = "true">
  <formatter type = "plain" usefile = "false"/>
  <fileset dir = "tests">
    <include name = "**/*Test*.php"/>
  </fileset>
</simpletest>
```

Runs all matching testcases in the directory `tests`, writing plain text results to the console. The build process is aborted if a test fails.

C.70.2. Supported Nested Tags

- `formatter`

  The results of the tests can be printed in different formats. Output will always be sent to a file, unless you set the `usefile` attribute to `false`. The name of the file is predetermined by the formatter and can be changed by the `outfile` attribute.

There are three predefined formatters - two print the test results in XML format, the other one prints plain text. Custom formatters that implement phing.tasks.ext.PHPUnitResultFormatter can be specified.

If you use the XML formatter, it may not include the same output that your tests have written as some characters are illegal in XML documents and will be dropped.

Table C.101: *Attributes*

Name	Type	Description	Default	Required
type	String	Use a predefined formatter (either `xml`, `plain`, or `summary`).	n/a	One of these is required.
classname	String	Name of a custom formatter class.	n/a	
usefile	Boolean	Boolean that determines whether output should be sent to a file.	true	No
todir	String	Directory to write the file to.	n/a	No
outfile	String	Filename of the result.	Depends on formatter	No

- `fileset`

C.71. SvnCheckoutTask

The `SvnCheckoutTask` checks out a Subversion repository to a local directory.

Table C.102: *Attributes*

Name	Type	Description	Default	Required
svnpath	String	Path to Subversion binary	/usr/bin/ svn	No
repositoryurl	String	URL of SVN repository	none	Yes
username	String	A username used to connect to the SVN server	none	No
password	String	A password used to connect to the SVN server	none	No
nocache	Boolean	Connection credentials will not be cached	`false`	No
todir	String	Path to export to	none	Yes
depth	String	Limit operation by depth	`empty, files, immediates` or `infinity`	No
ignoreexternals	Boolean	Ignore externals definitions	`false`	No
trustServerCert	Boolean	Trust self-signed certificates	`false`	No

C.71.1. Example

```
<svncheckout
    svnpath = "/usr/bin/svn"
    username = "anony"
    password = "anony"
    nocache = "true"
    repositoryurl = "svn://localhost/project/trunk/"
    todir = "/home/user/svnwc"/>
```

```
<svncheckout
    svnpath = "C:/Subversion/bin/svn.exe"
    repositoryurl = "svn://localhost/project/trunk/"
    todir = "C:/projects/svnwc"/>
```

C.72. SvnCommitTask

The `SvnCommitTask` commits a local working copy to a SVN repository and sets the specified property (default `svn.committedrevision`) to the revision number of the committed revision.

Table C.103: Attributes

Name	Type	Description	Default	Required
svnpath	String	Path to Subversion binary	/usr/bin/ svn	No
username	String	A username used to connect to the SVN server	none	No
password	String	A password used to connect to the SVN server	none	No
nocache	Boolean	Connection credentials will not be cached	false	No
depth	String	Limit operation by depth	empty, files, immedi- ates or infini- ty	No
workingcopy	String	Working copy	none	Yes
message	String	The commit message	none	Yes
ignoreexter- nals	Boolean	Ignore externals definitions	false	No
trustServerCert	Boolean	Trust self-signed certificates	false	No
propertyname	String	Name of property to set to the last committed revision number	svn.committedrevision	No

C.72.1. Example

```
<svncommit
    svnpath = "/usr/bin/svn"
    username = "anony"
    password = "anony"
    nocache = "true"
    workingcopy = "/home/joe/dev/project"
```

```
        message = "Updated documentation, fixed typos" />
```

The most basic usage only needs the working copy and the commit message as in

```
<svncommit
    workingcopy = "/home/joe/dev/project"
    message = "Updated documentation, fixed typos" />
<echo message = "Committed revision: ${svn.committedrevision}"/>
```

C.73. SvnCopyTask

The `SvnCopyTask` duplicates something in a working copy or repository, remembering history.

Table C.104: *Attributes*

Name	Type	Description	Default	Required
message	String	Log message	n/a	No
svnpath	String	Path to Subversion binary	/usr/bin/ svn	No
repositoryurl	String	URL of SVN repository	none	Yes
username	String	A username used to connect to the SVN server	none	No
password	String	A password used to connect to the SVN server	none	No
force	Boolean	Force overwrite files if they already exist	false	No
nocache	Boolean	Connection credentials will not be cached	false	No
todir	String	Path to export to	none	Yes
depth	String	Limit operation by depth	empty, files, immediates or infinity	No
trustServerCert	Boolean	Trust self-signed certificates	false	No

C.73.1. Example

```
<svncopy
    svnpath = "/usr/bin/svn"
    username = "anony"
    password = "anony"
    nocache = "true"
    repositoryurl = "svn://localhost/project/trunk/"
    todir = "svn://localhost/project/tags/0.1"/>
```

C.74. SvnExportTask

The `SvnExportTask` exports a Subversion repository to a local directory.

Table C.105: Attributes

Name	Type	Description	Default	Required
revision	String	Revision to use in export	HEAD	No
svnpath	String	Path to Subversion binary	/usr/bin/ svn	No
repositoryurl	String	URL of SVN repository	none	Yes
username	String	A username used to connect to the SVN server	none	No
password	String	A password used to connect to the SVN server	none	No
nocache	Boolean	Connection credentials will not be cached	false	No
todir	String	Path to export to	none	Yes
depth	String	Limit operation by depth	empty, files, immediates or infinity	No
ignoreexter-nals	Boolean	Ignore externals definitions	false	No
trustServerCert	Boolean	Trust self-signed certificates	false	No

C.74.1. Example

```
<svnexport
    svnpath = "/usr/bin/svn"
    username = "anony"
    password = "anony"
    force = "true"
    nocache = "true"
    repositoryurl = "svn://localhost/project/trunk/"
    todir = "/home/user/svnwc"/>
```

```
<svnexport
    svnpath = "C:/Subversion/bin/svn.exe"
    repositoryurl = "svn://localhost/project/trunk/"
    todir = "C:/projects/svnwc"/>
```

C.75. SvnInfoTask

The `SvnInfoTask` parses the output of the 'svn info --xml' command and extracts one specified element (+ optional sub element) from that output.

Table C.106: Attributes

Name	Type	Description	Default	Required
svnpath	String	Path to Subversion binary	/usr/bin/ svn	No

Name	Type	Description	Default	Required
workingcopy	String	Working copy directory	none	Yes, or `repositoryurl`
repositoryurl	String	URL of remote repository	none	Yes, or `workingcopy`
username	String	A username used to connect to the SVN server	none	No
password	String	A password used to connect to the SVN server	none	No
propertyname	String	Name of property to use	svn.info	No
element	String	Sets whether to store actual last changed revision of the directory/file mentioned	url	No
subelement	String	Sets whether to force compatibility with older SVN versions (< 1.2)	none	No

C.75.1. Example

```
<svninfo
   svnpath = "/usr/bin/svn"
   workingcopy = "/home/user/svnwc"
   element = "url"
   propertyname = "svn.url"/>
```

```
<svninfo
   repositoryurl = "http://svn.phing.info/"
   element = "commit"
   subelement = "author"
   propertyname = "svn.author"/>
```

C.76. SvnLastRevisionTask

The `SvnLastRevisionTask` stores the number of the last revision of a Subversion workingcopy in a property.

Table C.107: *Attributes*

Name	Type	Description	Default	Required
svnpath	String	Path to Subversion binary	/usr/bin/svn	No
workingcopy	String	Working copy directory	none	Yes, or `repositoryurl`
repositoryurl	String	URL of remote repository	none	Yes, or `workingcopy`
username	String	A username used to connect to the SVN server	none	No
password	String	A password used to connect to the SVN server	none	No
propertyname	String	Name of property to use	svn.lastrevision	No

Name	Type	Description	Default	Required
lastChanged	Boolean	Sets whether to store actual last changed revision of the directory/file mentioned	false	No
forceCompatible	Boolean	*Deprecated:* Sets whether to force compatibility with older SVN versions (< 1.2)	false	No

C.76.1. Example

```
<svnlastrevision
    svnpath = "/usr/bin/svn"
    workingcopy = "/home/user/svnwc"
    propertyname = "svn.lastrevision"/>
```

```
<svnlastrevision
    svnpath = "C:/Subversion/bin/svn.exe"
    workingcopy = "C:/projects/svnwc"
    propertyname = "svn.lastrevision"/>
```

```
<svnlastrevision
    svnpath = "C:/Subversion/bin/svn.exe"
    repositoryurl = "http://svn.phing.info/"
    propertyname = "svn.lastrevision"/>
```

C.77. SvnListTask

The `SvnListTask` stores the output of a svn list command on a workingcopy or repositoryurl in a property. The result will be stored in an array, one string that is separated by ' | ' (in words: space pipe space) for easy parsing.

Table C.108: *Attributes*

Name	Type	Description	Default	Required
svnpath	String	Path to Subversion binary	/usr/bin/ svn	No
workingcopy	String	Working copy directory	none	One of the two
repositoryurl	String	URL of remote repository	none	
username	String	A username used to connect to the SVN server	none	No
password	String	A password used to connect to the SVN server	none	No
propertyname	String	Name of property to use	svn.list	No
forceCompatible	Boolean	*Deprecated:* Sets whether to force compatibility with older SVN versions (< 1.2)	true	No
limit	Integer	Limits the number of items to get back from the command	n/a	No
orderDescending	Boolean	Sets whether to reverse the order of the listed items	false	No

C.77.1. Example

```
<svnlist svnpath = "/usr/bin/svn" workingcopy = "/home/user/svnwc" propertyname = "svn.list"/>
```

```
<svnlist svnpath = "/usr/bin/svn" repositoryurl = "http://svn.example.com/myrepo/tags" orderDesce
```

The latter example could produce a list of your tags like this:

```
revision | author | date         | item
4028     | tony   | May 19 18:31 | Release_2.9.1.7
4026     | tony   | May 18 14:33 | Release_2.9.1.6
4023     | tony   | May 16 15:53 | Release_2.9.1.5
4018     | tony   | May 13 11:55 | Release_2.9.1.4
4005     | tony   | Apr 27 12:09 | Release_2.9.1.3
...
```

C.78. SvnLogTask

The `SvnLogTask` stores the output of a svn log command on a workingcopy or repositoryurl in a property. The result will be stored in an array, one string that is separated by ' | ' (in words: space pipe space) for easy parsing.

Table C.109: Attributes

Name	Type	Description	Default	Required
svnpath	String	Path to Subversion binary	/usr/bin/ svn	No
workingcopy	String	Working copy directory	none	One of the two
repositoryurl	String	URL of remote repository	none	
username	String	A username used to connect to the SVN serv- er	none	No
password	String	A password used to connect to the SVN server	none	No
propertyname	String	Name of property to use	svn.list	No
forceCompati- ble	Boolean	*Deprecated:* Sets whether to force compatibil- ity with older SVN versions (< 1.2)	true	No
limit	Integer	Limits the number of items to get back from the command	n/a	No

C.78.1. Example

```
<svnlog svnpath = "/usr/bin/svn" workingcopy = "/home/user/svnwc" propertyname = "svn.log"/>
```

```
<svnlog svnpath = "/usr/bin/svn" repositoryurl = "http://svn.example.com/myrepo/trunk" limit = "1
```

The latter example could produce a history of the latest revisions in the trunk:

```
4033 | tony  | 2011-05-23T14:21:12.496274Z  | some svn commit comment
4032 | tony  | 2011-05-23T13:24:46.496265Z  | some svn commit comment
4031 | tony  | 2011-05-23T09:23:28.093167Z  | some svn commit comment
...
```

C.79. SvnUpdateTask

The `SvnUpdateTask` updates a local directory.

Table C.110: Attributes

Name	Type	Description	Default	Required
svnpath	String	Path to Subversion binary	/usr/bin/ svn	No
username	String	A username used to connect to the SVN server	none	No
password	String	A password used to connect to the SVN server	none	No
nocache	Boolean	Connection credentials will not be cached	false	No
todir	String	Path to the working copy	none	Yes
revision	Integer	Specific revision to update the working copy to	none	No
ignoreexternals	Boolean	Ignore externals definitions	false	No
trustServerCert	Boolean	Trust self-signed certificates	false	No

C.79.1. Example

```
<svnupdate
    svnpath = "/usr/bin/svn"
    username = "anony"
    password = "anony"
    nocache = "true"
    todir = "/home/user/svnwc"/>
```

```
<svnupdate
    svnpath = "C:/Subversion/bin/svn.exe"
    todir = "C:/projects/svnwc"/>
```

C.80. SvnSwitchTask

The `SvnSwitchTask` changes a local directory from one repository to another.

Table C.111: Attributes

Name	Type	Description	Default	Required
svnpath	String	Path to Subversion binary	/usr/bin/ svn	No
repositoryurl	String	URL of remote repository	none	Yes
todir	String	Path to the checked out project	none	Yes
username	String	A username used to connect to the SVN server	none	No
password	String	A password used to connect to the SVN server	none	No

Name	Type	Description	Default	Required
nocache	Boolean	Connection credentials will not be cached	false	No
depth	String	Limit operation by depth	empty, files, immediates or infinity	No
ignoreexternals	Boolean	Ignore externals definitions	false	No
trustServerCert	Boolean	Trust self-signed certificates	false	No

C.80.1. Example

```
<svnswitch
    svnpath = "/usr/bin/svn"
    username = "anony"
    password = "anony"
    nocache = "true"
    repositoryurl = "http://svn.phing.info/tags/2.4.2"
    todir = "/home/user/svnwc"/>
```

```
<svnswitch
    svnpath = "C:/Subversion/bin/svn.exe"
    repositoryurl = "http://svn.phing.info/tags/2.4.2"
    todir = "C:/projects/svnwc"/>
```

C.81. StopwatchTask

The StopwatchTask provides an easy way to measure execution time of phing tasks.

Table C.112: Attributes

Name	Type	Description	Default	Required
name	String	Name of the timer.		Yes
category	String	Set a category for the timer.		No
action	String	Action could be one of start, stop or lap	start	No

C.81.1. Example

```
<stopwatch name = "test" />
<!-- some other task... -->
<stopwatch name = "test" action = "lap" />
<!-- some other task... -->
<stopwatch name = "test" action = "lap" />
<!-- some other task... -->
<stopwatch name = "test" action = "lap" />
<!-- some other task... -->
<stopwatch name = "test" action = "stop" />
```

C.82. SymfonyConsoleTask

Executes Symfony2 console commands

Table C.113: Attributes

Name	Type	Description	Default	Required
command	String	The Symfony Console command to execute	n/a	Yes
console	String	The path to symfony console application	app/ console	No
debug	Boolean	The symfony cli debug mode	true	No

C.82.1. Examples

Simple example

```
<SymfonyConsole command = "cache:clear"/>
```

Complex example

```
<SymfonyConsole command = "cache:warmup">
  <arg name = "env" value = "prod" />
  <arg value = "some/path/or/single/value" quotes = "true">
</SymfonyConsole>
```

C.82.2. Supported Nested Tags

- arg

Table C.114: Attributes

Name	Type	Description	Default	Required
name	String	the name for this argument, -- will be append-ed	n/a	No
value	String	the value for the argument	n/a	No
quotes	String	set to true if the value should be enclosed in double quotes	false	No

C.83. SymlinkTask

Creates symlink(s) to a specified file / directory or a collection of files / directories.

Table C.115: Attributes

Name	Type	Description	Default	Required
target	String	What you're trying to symlink from	n/a	Yes (or nested FileSet)
link	String	Where you'd like the symlink(s)	n/a	Yes

Name	Type	Description	Default	Required
overwrite	Boolean	Whether to override the symlink if it exists but points to a different location	false	No

C.83.1. Example

Single symlink

```
<symlink target = "/path/to/original/file" link = "/where/to/symlink" />
```

Using filesets

```
<symlink link = "/where/to/symlink">
    <fileset dir = "/some/directory">
        <include name = "*" />
    </fileset>
</symlink>
```

In the fileset example, assuming the contents of "/some/directory" were:

• Somedir

• somefile

Then the contents of "/where/to/symlink" would be:

• Somedir -> /some/directory/Somedir

• somefile -> /some/directory/somefile

C.83.2. Supported Nested Tags

• fileset

C.84. TarTask

The TarTask creates a tarball from a fileset or directory.

Table C.116: *Attributes*

Name	Type	Description	Default	Required
destfile	String	Tarball filename	none	Yes
basedir	String	Base directory to tar (if no fileset specified, entire directory contents will be included in tar)	none	No
compression	String	Type of compression to use (gzip, bzip2, none)	none	No
includeempty-dirs	Boolean	If set to true, also empty directories are copied.	true	No
longfile	String	How to handle long files, those with a path > 100 chars. Allowable values are: truncate - paths are truncated to the maximum length, fail - paths greater than the maximim cause	warn	No

Name	Type	Description	Default	Required
		a build exception `warn` - paths greater than the maximum cause a warning and GNU is used, `gnu` - GNU extensions are used for any paths greater than the maximum, `omit` - paths greater than the maximum are omitted from the archive		
prefix	String	File path prefix to use when adding files to the archive	none	No

Note

files are not replaced if they are already present in the archive.

Note

using basedir and fileset simultaneously can result in strange contents in the archive.

C.84.1. Example

```
<tar destfile = "phing.tar">
 <fileset dir = ".">
     <include name = "**/**" />
 </fileset>
</tar>
```

The above example uses a fileset to determine which files to include in the archive.

```
<tar destfile = "phing.tar.gz" basedir = "." compression = "gzip"/>
```

The second example uses the basedir attribute to include the contents of that directory (including sub-directories) in the archive, compressing the archive using gzip.

C.84.2. Supported Nested Tags

- `fileset`

C.85. ThrowTask

Extension of build in `FailTask` that can throw an exception that is given by a reference. This may be useful if you want to rethrow the exception that has been caught by a `TryCatchTask` in the <catch> block.

Table C.117: Attributes

Name	Type	Description	Default	Required
refid	String	Id of the referenced exception.	n/a	No

> **Note**
>
> In addition, all attributes of the `FailTask` are supported.

C.85.1. Example

```
<target name = "tryCatchThrow">
  <trycatch property = "foo" reference = "bar">
    <try>
      <fail>Tada!</fail>
    </try>

    <catch>
      <echo>In <catch>.</echo>
    </catch>

    <finally>
      <echo>In <finally>.</echo>
    </finally>
  </trycatch>

  <echo>As property: ${foo}</echo>
  <property name = "baz" refid = "bar" />
  <echo>From reference: ${baz}</echo>

  <echo>Throw ...</echo>
  <throw refid = "bar" />

</target>
```

C.86. UntarTask

The `UntarTask` unpacks one or more tar archives.

Table C.118: Attributes

Name	Type	Description	Default	Required
file	String	Archive filename	n/a	No
todir	String	Directory to unpack the archive(s) to	none	Yes
removepath	String	Path to remove from files in the archive(s)	none	No
forceExtract	Boolean	When set to false, only extract files if the destination does not exist yet or is older than the archive. When set to true, always extract files.	false	No
preservePermissions	Boolean	When set to true, preserve permissions (mode, uid, gid) as set in the tar file..	false	No

C.86.1. Example

```
<untar file = "testtar.tar.gz" todir = "dest">
  <fileset dir = ".">
    <include name = "*.tar.gz"/>
    <include name = "*.tar"/>
  </fileset>
```

```
</untar>
```

C.86.2. Supported Nested Tags

- `fileset`

C.87. UnzipTask

The `UnzipTask` unpacks one or more ZIP archives.

Table C.119: Attributes

Name	Type	Description	Default	Required
file	String	Archive filename	n/a	No
todir	String	Directory to unpack the archive(s) to	none	Yes
forceExtract	Boolean	When set to false, only extract files if the destination does not exist yet or is older than the archive. When set to true, always extract files.	false	No

C.87.1. Example

```
<unzip file = "testzip.zip" todir = "dest">
  <fileset dir = ".">
    <include name = "*.zip"/>
  </fileset>
</unzip>
```

C.87.2. Supported Nested Tags

- `fileset`

C.88. VersionTask

The `VersionTask` increments a three-part version number from a given file and writes it back to the file. The resulting version number is also published under supplied property.

The version number in the text file is expected in the format of Major.Minor.Bugfix (e.g. 1.3.2).

Table C.120: Attributes

Name	Type	Description	Default	Required
releasetype	String	Specifies desired version release (Major, Minor or Bugfix)	n/a	Yes
file	String	File containing three-part version number to increment	n/a	Yes
property	String	Property which contains the resulting version number	n/a	Yes

C.88.1. Example

```
<version releasetype = "Major" file = "version.txt" property = "version.number"/>
```

C.89. WikiPublishTask

This task can publish Wiki document via Wiki WebAPI. It supports only MediaWiki [http://www.mediawiki.org/] engine for now.

cURL [http://www.php.net/manual/en/book.curl.php] extension is required.

Table C.121: *Attributes*

Name	Type	Description	Default	Required
apiUrl	String	Wiki API URL (eg. http://localhost/wi-ki/api.php)	n/a	Yes
apiUser	String	Wiki API user name	n/a	No
apiPassword	String	Wiki API user password	n/a	No
id	Integer	ID of page that will be changed	n/a	One of these attributes is required.
title	String	Title of page that will be changes. Can also be used as page identifier	n/a	
content	String	Content of published page	n/a	No
mode	String	Edit mode (overwrite, prepend, append)	append	No

C.89.1. Example

```
<wikipublish
              apiUrl = "http://localhost/wiki/api.php"
              apiUser = "testUser"
              apiPassword = "testPassword"
              title = "Some Page"
              content = "Some content"
              mode = "prepend"/>
```

C.90. XmlLintTask

The `XmlLintTask` checks syntax (lint) one or more XML files against an XML Schema Definition.

`Note:` This assumes that the DOM extension is loaded in PHP5 since this is used to drive the validation process.

Table C.122: *Attributes*

Name	Type	Description	Default	Required
schema	String	Path to XSD file	n/a	Yes
file	String	Path to XML file	n/a	No

Name	Type	Description	Default	Required
`haltonfailure`	`Boolean`	Stops the build when validation fails	`true`	No
`useRNG`	`Boolean`	Set to Yes if the Schema is in the n Relax NG format	`false`	No

C.90.1. Examples

```
<xmllint schema = "schema.xsd" file = "config.xml"/>
```

Validate one XML file against one XSD file.

```
<xmllint schema = "schema.xsd">
  <fileset dir = ".">
    <include name = "**/config.xml"/>
  </fileset>
</xmllint>
```

Validate more XML files against one XSD file.

```
<fileset dir = "./sources" id = "sources">
  <include name = "main.xml"/>
  <include name = "chapter*.xml"/>
  <include name = "appendix*.xml"/>
</fileset>
<property name = "docbook.relaxng" value = "/usr/share/xml/docbook/schema/rng/5.0/docbookxi.rng

<xmllint schema = "${docbook.relaxng}" useRNG = "yes">
  <fileset refid = "sources" />
</xmllint>
```

Validate a set of DocBook files against the DocBook RNG grammar

C.90.2. Supported Nested Tags

- `fileset`

C.91. XmlPropertyTask

Loads property values from a well-formed xml file. There are no other restrictions than "well-formed".

Table C.123: Attributes

Name	Type	Description	Default	Required
`file`	`String`	The XML file to parse.	`n/a`	Yes
`prefix`	`String`	The prefix to prepend to each property	`n/a`	No
`keepRoot`	`Boolean`	Keep the xml root tag as the first value in the property name.	`true`	No
`collapseAt-tributes`	`Boolean`	Treat attributes as nested elements.	`false`	No
`delimiter`	`String`	Delimiter for splitting multiple values.	`,`	No

Name	Type	Description	Default	Required
required	Boolean	If this is set to `true` then a build exception will be raised if the file cannot be found otherwise only a warning will be logged.	false	No

C.91.1. Example

Consider the following XML file:

```xml
<root-tag myattr = "true">
    <inner-tag someattr = "val">Text</inner-tag>
    <a2><a3><a4>false</a4></a3></a2>
</root-tag>
```

Used with the following entry (**default**):

```xml
<xmlproperty file = "somefile.xml"/>
```

results in the following properties:

```
root-tag(myattr)=true
root-tag.inner-tag=Text
root-tag.inner-tag(someattr)=val
root-tag.a2.a3.a4=false
```

Used with the following entry (`collapseAttributes=true`):

```xml
<xmlproperty file = "somefile.xml" collapseAttributes = "true"/>
```

results in the following properties:

```
root-tag.myattr=true
root-tag.inner-tag=Text
root-tag.inner-tag.someatt=val
root-tag.a2.a3.a4=false
```

Used with the following entry (`keepRoot=false`):

```xml
<xmlproperty file = "somefile.xml" keepRoot = "false"/>
```

results in the following properties:

```
inner-tag=Text
inner-tag(someattr)=val
a2.a3.a4=false
```

C.92. ZendCodeAnalyzerTask

The `ZendCodeAnalyzerTask` analyze PHP source files using the Zend Code Analyzer tool that ships with all versions of Zend Studio.

Table C.124: *Attributes*

Name	Type	Description	Default	Required
analyzerPath	String	Path to Zend Code Analyzer binary	n/a	Yes

Name	Type	Description	Default	Required
`file`	`String`	Path to PHP source file	n/a	No
`disable`	`String`	Disable warnings separated by comma	n/a	No
`enable`	`String`	Enable warnings separated by comma	n/a	No
`haltonwarning`	`Boolean`	Stop the build process if warnings occurred during the run.	`false`	No

C.92.1. Example

```
<zendcodeanalyzer
  analyzerPath = "/usr/local/Zend/ZendStudioClient-5.1.0/bin/ZendCodeAnalyzer"
  file = "SomeClass.php"/>
```

Analyze one PHP source file with all default warnings enabled.

```
<zendcodeanalyzer
  analyzerPath = "/usr/local/Zend/ZendStudioClient-5.1.0/bin/ZendCodeAnalyzer"
  disable = "var-ref-notmodified,if-if-else">
  <fileset dir = ".">
    <include name = "**/*.php"/>
  </fileset>
</zendcodeanalyzer>
```

Analyze a set of PHP source files and disable a few warnings.

NOTE: the `analyze` tag has been deprecated as of Phing 2.4.

C.92.2. Supported Nested Tags

- `fileset`

C.93. ZendGuardEncodeTask

The `ZendGuardEncodeTask` is a wrapper for ZendGuard zendenc executable. It pre-compiles the PHP code which improves speed and can prevent unauthorized code modification. Additionally it allows signing or licensing the code so it can only be used with a valid license.

For more information about ZendGuard encode parameters see the ZendGuard documentation [http://static.zend.com/topics/Zend-Guard-User-Guidev5x.pdf].

Table C.125: Attributes

Name	Type	Description	Default	Required
`zendEncoder-Path`	`String`	Path to zendenc or zendenc5 binary.	n/a	Yes
`deleteSource`	`Boolean`	Whether to delete the original file and replace with encoded.	`true`	No
`renameSource-Ext`	`String`	If defined the original file will be copied to originalfile.renameSourceExt before encod-	n/a	No

Name	Type	Description	Default	Required
		ing. This property overrides the deleteSource property.		
shortTags	Boolean	Turns on/off support for PHP short tags (<?). True to enable support.	true	No
aspTags	Boolean	Turns on/off support for ASP tags (<%). True to enable support.	false	No
noHeader	Boolean	Disables the PHP-compatible header that is added to the top of every encoded file by default and is displayed if the Zend Optimizer is not properly installed.	false	No
useCrypto	Boolean	Enables cryptography support.	false	No
encodedOnly	Boolean	If enabled the encoded files will only work with other encoded files (I.e. encoded and not-encoded files cannot be used together).	false	No
forceEncode	Boolean	Allow encoding previously encoded files. Not recommended.	false	No
expires	String	Make an encoded file to expire on the given data. Date is in yyyy-mm-dd format.	n/a	No
obfuscation-Level	Integer	Level of obfuscation. Defaults to 0 (no obfuscation).	0	No
optMask	Integer	Optimization mask. Integer representing a bit mask.	n/a	No
privateKeyPath	String	Path to the company private key. This is required when either signProduct or licenseProduct is enabled.	n/a	No
licenseProduct	Boolean	Enabled product licensing. The encoded files won't work without a valid license. If enabled privateKeyPath property also needs to be defined.	false	No
signProduct	Boolean	Enabled product signing. If signing is enabled the files will be encoded with license support. However valid license won't be required for the files to work. If enabled privatKeyPath property also needs to be defined.	false	No
productName	String	Name of the product. This must match the product name in the license and is required when either licenseProduct or signProduct is enabled.	n/a	No
prologFile	String	Path to a file containing a text that will be prepended to each encoded file and displayed in case the Zend Optimizer is not installed.	n/a	No

C.93.1. Example

```
<zendguardencode
  shortTags = "false"
  productName = "Phing"
```

```
  privateKeyPath = "/var/data/phing.key"
  licenseProduct = "true"
  zendEncoderPath = "/usr/local/Zend/ZendGuard-5_0_1/bin/zendenc5"
  >

  <fileset dir = "src">
    <include name = "**/*.php" />
    <exclude name = "cache/**" />
    <exclude name = "plugins/**" />
  </fileset>

  <fileset dir = "src">
    <include name = "plugins/cs*/**/*.php" />
    <include name = "plugins/cs*/*.php" />
  </fileset>
</zendguardencode>
```

Encode all php files in the current directory and subdirectories. Exlude everything in `cache/` and `plugins/` but include everything in plugins that starts with cs.

C.93.2. Supported Nested Tags

- `fileset`

C.94. ZendGuardLicenseTask

The `ZendGuardLicenseTask` is a wrapper for ZendGuard `zendenc_sign` executable. It generates ZendGuard license either from a license template file or from the defined properties.

For more information about ZendGuard sign parameters see the ZendGuard documentation [http://static.zend.com/topics/Zend-Guard-User-Guidev5x.pdf].

Table C.126: Attributes

Name	Type	Description	Default	Required
zendsignPath	String	Path to zendenc_sign binary.	n/a	Yes
privateKeyPath	String	Path to the company private key.	n/a	Yes
outputFile	String	Path where should the license be generated.	n/a	Yes
licenseTemplate	String	Path to a license template file. If defined all other licensing properties will be ignored (even if they are otherwise required).	n/a	No
productName	String	Name of the product. This has to match the product name that was used to encode the files (see ZendGuardEncodeTask).	n/a	Yes
registeredTo	String	Name to which the product will be registered to.	n/a	Yes
expires	Mixed	This allows to define when the license will expire. The license can be issued so it either never expires or expires at a specified data. Use: `'Never'`, 0 or false to set expiry data to Never. Date in yyyy-mm-dd format to set the expiry	n/a	Yes

Name	Type	Description	Default	Required
		date to a specific date. Relative format supported by strtotime function (e.g. '+6 months' to generate a license that will expire in half a year).		
ipRange	String	Limits the use of the license to IP addresses that fall within specification. Supports wildcards for any of the IP place holders, as well as the two types of the net masks (e.g. 10.1.0.0/16 or 10.1.0.0./255.255.0.0).	n/a	No
hardwareLocked	Boolean	Option that indicates if the license will be locked to a specific machine using the Zend Host ID code(s). If set to true the Host-ID property is required.	false	No
hostID	String	Coded string (Zend Host ID) used to lock the license to a specific hardware. The Zend Host Id obtained from the machine where the encoded files and license are to be installed. Can be obtained by using the zendid utility. This is REQUIRED if the Hardware-Locked property is set to true. You can define multiple Host IDs separated by semicolon.	n/a	No
userDefined-Values	String	Optional user defined values in format key=value. Multiple key-value pairs can be defined and separated by semicolon. These values then will be part of the license and can be obtained using the zend guard api (provided by Zend Optimizer). These values CANNOT be modified after the license is generated. Their modification would invalidate the license. Example: Drink=Tea;Material=Wood	n/a	No
xUserDefined-Values	String	Optional user defined values in format key=value. Multiple key-value pairs can be defined and separated by semicolon. These values then will be part of the license and can be obtained using the zend guard api (provided by Zend Optimizer). These values CAN be modified after the license is generated. Their modification won't invalidate the license. Example: Drink=Tea;Material=Wood	n/a	No

C.94.1. Examples

```
<zendguardlicense
        privateKeyPath = "/var/data/phing.key"
        zendsignPath = "/usr/local/Zend/ZendGuard-5_0_1/bin/zendenc_sign"
        outputFile = "./data/license/license.zl"
        productName = "Phing"
        registeredTo = "YourCustomerName"
        hardwareLocked = "true"
        expires = "+6 months"
        HostID = "H:MFM43-Q9CXC-B9EDX-GWYSU;H:MFM43-Q9CXC-B9EDX-GWYTY"
        ipRange = "10.1.*.*"
        userDefinedValues = "Drink=Tea;Material=Wood"
        xUserDefinedValues = "Drink=Tea;Material=Wood"
```

```
/>
```

Creates a license using the given properties.

```
<zendguardlicense
            privateKeyPath = "/var/data/phing.key"
            zendsignPath = "/usr/local/Zend/ZendGuard-5_0_1/bin/zendenc_sign"
            outputFile = "./data/license/license.zl"
            licenseTemplate = "./data/license/license.template.zl"
/>
```

Creates a license using a license template file.

C.95. ZipTask

The `ZipTask` creates a .zip archive from a fileset or directory.

Table C.127: Attributes

Name	Type	Description	Default	Required
destfile	String	.ZIP filename	n/a	Yes
basedir	String	Base directory to zip (if no fileset specified, entire directory contents will be included in the archive)	none	No
prefix	String	File path prefix to use when adding files to zip	none	No
includeempty-dirs	Boolean	If set to `true`, also empty directories are copied.	true	No
comment	String	Comment to add to the zip archive	none	No

Important note: using basedir and fileset simultaneously can result in strange contents in the archive.

C.95.1. Example

```
<zip destfile = "phing.zip">
 <fileset dir = ".">
     <include name = "**/**" />
 </fileset>
</zip>
```

The above example uses a fileset to determine which files to include in the archive.

```
<zip destfile = "phing.zip" basedir = "."/>
```

The second example uses the basedir attribute to include the contents of that directory (including sub-directories) in the archive.

C.95.2. Supported Nested Tags

- fileset

C.96. ZSDTPackTask

The `zsdtPackTask` Create a package with the help of the ZendServer Deployment Tool. The pack options should contain pointers to the application data directory, the package descriptor file, and the package scripts directory.

Table C.128: Attributes

Name	Type	Description	Default	Required
package	String	A directory containing the data and the script directories, in addition to the package descriptor file.	none	Yes
scripts	String	The directory which contains the package deployment scripts. The Deployment Tool will search this directory for the expected files (as described in section 2.2.1) and then packs them.	none	Yes
descriptor	String	The package descriptor file.	none	Yes
source	String	The directory that contains the application sources (PHP sources, JavaScript, etc.). The directory's internal structure must match the necessary structure for the application to be functional.	none	No
output	String	The directory in which the package is created. The package name will be created as `app-name-app-version`.zpk".	none	No
lint	String	Performs a PHP lint test on the deployment scripts before creating the package.	false	No
phpbin	String	The PHP executable to use for lint.	none	No (Yes if option lint is set to true)
schema	String	The path to the package descriptor schema used for validation.	none	No

C.96.1. Example

```
<zsdtpack lint = "true"
          schema = "file/to/schema.xsl"
          descriptor = "file/to/descriptor.xml"
          scripts = "path/to/scripts/"
          package = "path/to/package/"
          source = "path/to/source/"
          output = "path/to/output/"
          phpbin = "path/to/php" />
```

C.97. ZSDTValidateTask

The `zsdtValidateTask` validates a given Zend package descriptor against the schema file.

Table C.129: *Attributes*

Name	Type	Description	Default	Required
descriptor	String	The package descriptor file.	none	Yes
schema	String	The path to the package descriptor schemanone used for validation.		No

C.97.1. Example

```
<zsdtvalidate schema = "/path/to/schema.xsl" descriptor = "/path/to/descriptor.xml" />
```

Appendix D. Core Types

This appendix contains a reference of the system `data types` contained in Phing.

D.1. Excludes

Specifies a set of files, classes or methods to be excluded from processing.

This element has no attributes, only nested tags

D.1.1. Nested tags

- `file`
- `class`
- `method`

Table D.1: *Common attributes for all `file, class, method` tags*

Name	Type	Description	Default	Required
`name`	String	The name of the class, method or file. This may also be specified as a pattern.	n/a	Yes

D.1.2. Usage Examples

```
<coverage-threshold
    perProject = "50"
    perClass = "60"
    perMethod = "70"/>
    <excludes>
        <file>**/*Processor.php</file>
        <class>Model_Filter_Windows</class>
        <method>Model_System::execute()</method>
    </excludes>
```

D.2. FileList

FileLists offer a way to represent a specific list of files. Unlike FileSets, FileLists may contain files that do not exist on the filesystem. Also, FileLists can represent files in a specific order -- whereas FileSets represent files in whichever order they are returned by the filesystem.

Table D.2: *Attributes for the `<filelist>` tag*

Name	Type	Description	Default	Required
`dir`	String	The directory, to which the paths given in `files` or `listfile` are relative.	n/a	Yes
`files`	String	Comma or space-separated list of files.	n/a	Yes (or `list-file`)

Name	Type	Description	Default	Required
listfile	String	A text file with one filename per line.	n/a	Yes (or files)

D.2.1. Usage Examples

```
<filelist dir = "/etc" files = "httpd/conf/httpd.conf,php.ini"/>
```

Or you can use a `listfile`, which is expected to contain one filename per line:

```
<filelist dir = "conf/" listfile = "ini_files.txt"/>
```

This will grab each file as listed in `ini_files.txt`. This can be useful if one task compiles a list of files to process and another task needs to read in that list and perform some action to those files.

D.3. FileSet

FileSets offer an easy and straightforward way to include files. The tag supports Selectors and PatternSets. Additionally, you can include/exclude files in/from a fileset using the `<include>`/`<exclude>` tags. In patterns, one asterisk (`*`) maps to a part of a file/directory name within a directory level. Two asterisks (`**`) may include above the "border" of the directory separator.

Table D.3: Attributes for the `<fileset>` tag

Name	Type	Description	Default	Required
dir	String	The directory, the paths given in `include`/`exclude` are relative to.	n/a	Yes
defaultex-cludes	Boolean	Whether default exclusions should be used or not. Default excludes are: `*~`, `#*#`, `.#*`, `%*%`, `CVS`, `CVS/**`, `.cvsignore`, `SCCS`, `SCCS/**`, `vssver.scc`, `.svn`, `.svn/**`, `._*`, `.DS_Store`, `.darcs`, `.darcs/**`, `.git`, `.git/**`, `.gitattributes`, `.gitignore`, `.gitmodules`	true	No
casesensitive	Boolean	The case sensitivity of the file system.	true	No
expandsymboli-clinks	Boolean	Whether to expand/dereference (follow) symbolic links - set to 'true' to emulate old Phing behavior.	false	No
includes	String	Comma- or space-separated list of patterns of files that must be included; all files are included when omitted.	n/a	No
includesfile	String	The name of a file; each line of this file is taken to be an include pattern.	n/a	No
excludes	String	comma- or space-separated list of patterns of files that must be excluded; no files (except default excludes) are excluded when omitted.	n/a	No
excludesfile	String	The name of a file; each line of this file is taken to be an exclude pattern.	n/a	No

D.3.1. Using wildcards

- `test*.xml` will include `test_42.xml`, but it will not include `test/some.xml`.

- `test**.xml` fits to `test_42.xml` as well as to `test/bla.xml`, for example.

- `**/*.ent.xml` fits to all files that end with `ent.xml` in all subdirectories of the directory specified with the `dir` attribute of the `<fileset>` tag. However, it will not include any files that are directly in the base directory of the file set.

D.3.2. Usage Examples

```
<fileset dir = "/etc" >
  <include name = "httpd/**" />
  <include name = "php.ini" />
</fileset>

<fileset dir = "/etc" >
  <patternset>
    <include name = "**/*.php"/>
    <exclude name = "**/*Test*"/>
  </patternset>
</fileset>
```

This will include the apache configuration and PHP configuration file from `/etc`.

D.3.3. Nested tags

The tags that are supported by `Fileset` are:

- `include`

- `exclude`

- `patternset`

- any of the selectors

The `<include>` and the `<exclude>` tags must have a `name` attribute that contains the pattern to include/exclude.

D.3.4. Related types

- pearpackagefileset

D.4. PatternSet

The PatternSet data type defines patterns that can be grouped into sets and nested into FileSets. Patterns can be specified by nested <include> or <exclude> elements.

Table D.4: *Attributes for `<patternset>` tag*

Name	Type	Description	Default	Required
includes	String	Comma- or space-separated list of patterns of files that must be included; all files are included when omitted.	n/a	No

Name	Type	Description	Default	Required
includesfile	String	The name of a file; each line of this file is taken to be an include pattern.	n/a	No
excludes	String	comma- or space-separated list of patterns of files that must be excluded; no files (except default excludes) are excluded when omitted.	n/a	No
excludesfile	String	The name of a file; each line of this file is taken to be an exclude pattern.	n/a	No

D.4.1. Usage Example

```
<patternset id = "no.tests">
  <include name = "**/*.php"/>
  <exclude name = "**/*Test*"/>
</patternset>
```

D.4.2. Nested tags

The `<patternset>` tag only supports `<include>` and `<exclude>`. The `<include>` and the `<exclude>` tags must have a `name` attribute that contains the pattern to include/exclude.

D.5. Path / Classpath

The Path data type can be used to respresent path structures. In many cases the path type will be used for nested <classpaentry> tags. E.g.

```
<path id = "project.class.path">
  <pathelement dir = "lib/"/>
  <pathelement dir = "ext/"/>
</paentry>

<target name = "blah">
  <taskdef name = "mytask" path = "myapp.phing.tasks.MyTask">
    <classpath refid = "project.class.path"/>
  </taskdef>
</target>
```

Table D.5: *Attributes for `<paentry>` tag*

Name	Type	Description	Default	Required
dir	String	Specific path to directory	n/a	No
path	String	A path (which contains multiple locations separated by path.separator) to add.	n/a	No

D.5.1. Nested tags

The `<paentry>` tag supports nested `<fileset>` and `<dirset>` tags.

D.6. PearPackageFileSet

Specialized fileset that represents files of a PEAR [http://pear.php.net/] package installed on the system. It is useful for collecting dependencies, for example when packing up a phar file with all dependencies.

Table D.6: *Attributes for the* `<pearpackagefileset>` *tag*

Name	Type	Description	Default	Required
package	String	Package name, or `$channel/$package` combination. If only a package name is given, `pear.php.net` is used as channel.	n/a	Yes
config	String	Path to PEAR configuration file. If none is given, the system default is used.	n/a	No
descfile	String	`package.xml` file path. If not given, the local PEAR installation is queried for the package.	n/a	No
role	String	PEAR file role/category. PEAR supports the following roles [http://pear.php.net/manual/en/guide.developers.package2.file.php#guide.developers.package2.file.roles]: php, doc, data, www, test, script, cfg. You probably want to use `php`.	php	No

In addition, all attributes of fileset are supported.

D.6.1. Usage Examples

```
<copy todir = "lib/">
    <pearPackageFileset package = "pear.php.net/Console_Table"/>
</copy>
```

Copy all PHP files of package Console_Table [http://pear.php.net/package/Console_Table] to `lib/`

D.6.2. Nested tags

The tags that are supported by `PearPackageFileset` are:

- `include`

- `exclude`

- `patternset`

- any of the selectors

Appendix E. Core filters

Filters are a subset of Phing `data types` which provide for the transformation of file contents during the operation of another task. For example, a filter might replace tokens in a file as part of a copy task.

Filters have to be defined within a `<filterchain>` context to work. Example:

```
<filterchain>
  <expandproperties />
</filterchain>
```

There are two ways to use a filter: System filters (the ones shipped with Phing) can be used with their own tag name, such as `<xsltfilter>`, `<expandpropertyfilter>` or `<tabtospaces>`. User-defined filters can use the way is to use the `<filterreader>` tag.

E.1. PhingFilterReader

The PhingFilterReader is used when you want to use filters that are not directly available through their own tag. Example:

```
<filterchain>
  <filterreader classname = "phing.filter.ReplaceTokens">
    <!-- other way to set attributes -->
    <param name = "begintoken" value = "@@" />
    <param name = "endtoken" value = "@@" />

    <!-- other way to set nested tags -->
    <param type = "token" key = "bar" value = "foo" />
  </filterreader>
</filterchain>
```

In the `filterreader` tag you have to specify the path the class is in. The `FilterReader` will then load this class and pass the parameters to the loaded filter. There are two types of parameters: First, you can pass "normal" parameters to the loaded filter. That means, you can pass parameters as if they were attributes. If you want to do this, you only specify the `name` and `value` attributes in the `param` tag. You can also pass nested elements to the filter. Then, you have to specify the `type` attribute. This attribute specifies the name of the nested tag.

The result of the example above is identical with the following code:

```
<filterchain>
  <replacetokens begintoken = "@@" endtoken = "@@">
    <token key = "bar" value = "foo" />
  </replacetokens>
</filterchain>
```

Table E.1: *Attributes for* `<filterreader>`

Name	Type	Description	Default	Required
classname	String	Name of class to use (in dot-path notation).	n/a	Yes
classpath	String	The classpath to use when including classes. This is added to PHP's include_path.	n/a	No
classpatxlink:href	String	Reference to classpath to use when including classes. This is added to PHP's include_path.	n/a	No

E.1.1. Nested tags

The `PhingFilterReader` supports nested <classpaentry>.

E.1.2. Advanced

In order to support the `<filterreader ... />` sytax, your class must extend the BaseParamFilter-Reader class. Most of the filters that are bundled with Phing can be invoked using this syntax. The notable exception (at time of writing) is the ReplaceRegexp filter, which expects find/replace parameters that do not fit the name/value mold. For this reason, you must always use the shorthand `<replac-eregexp ...>` to invoke this filter.

E.2. ExpandProperties

The ExpandProperties simply replaces property names with their property values. For example, if you have the following in your build file:

```
<property name = "description.txt" value = "This is a text file" />

<copy todir = "/tmp">
  <filterchain>
    <expandproperties />
  </filterchain>

  <fileset dir = ".">
    <include name = "**" />
  </fileset>
</copy>
```

And the string `${description.txt}` it will be replaced by `This is a text file`.

Table E.2: *Attributes for `<expandproperties>`*

Name	Type	Description	Default	Required
level	String	Control the level at which this message is reported. One of `error`, `warning`, `info`, `verbose`, `debug`.	info	No

E.3. ConcatFilter

This filter prepends or appends the content file to the filtered files.

```
<filterchain>
          <concatfilter prepend = "license.txt"/>
          </filterchain>
```

Table E.3: *Attributes for the `<concatfilter>` tag*

Name	Type	Description	Default	Required
prepend	String	The name of the file which content should be prepended to the file.	n/a	No
append	String	The name of the file which content should be appended to the file.	n/a	No

E.4. HeadFilter

This filter reads the first `n` lines of a file; the others are not further passed through the filter chain. Usage example:

```
<filterchain>
  <headfilter lines = "20" />
</filterchain>
```

Table E.4: *Attributes for the `<headfilter>` tag*

Name	Type	Description	Default	Required
lines	Integer	Number of lines to read.	10	No

E.5. IconvFilter

The IconvFilter encodes file from `in` encoding to `out` encoding. Usage example:

```
<filterchain>
    <iconvfilter inputencoding = "UTF-8" outputencoding = "CP1251" />
</filterchain>
```

Table E.5: *Attributes for the `<iconvfilter>` tag*

Name	Type	Description	Default	Required
inputencoding	String	Input encoding.	n/a	Yes
outputencoding	String	Output encoding.	n/a	Yes

E.6. Line Contains

This filter is only "permeable" for lines that contain the expression given as parameter. For example, the following filterchain would only let all the lines pass that contain `class`:

```
<filterchain>
  <linecontains>
    <contains value = "class" />
  </linecontains>
</filterchain>
```

E.6.1. Nested tags

The `linecontains` tag must contain one or more `contains` tags. Latter must have a `value` attribute that has to be set to the string the line has to contain to be let through.

E.7. LineContainsRegexp

This filter is similar to Section E.6, "Line Contains " but you can specify regular expressions instead of simple strings.

```
<filterchain>
  <linecontainsregexp>
    <regexp pattern = "foo(.*)bar" />
  </linecontainsregexp>
</filterchain>
```

E.7.1. Nested tags

The `LineContains` filter has to contain at least one `regexp` tag. This must have a `pattern` attribute that is set to a regular expression.

E.8. PrefixLines

This filter adds a prefix to every line. The following example will add the string `foo:` in front of every line.

```
<filterchain>
  <prefixlines prefix = "foo: " />
</filterchain>
```

Table E.6: Attributes for the `<prefixlines>` tag

Name	Type	Description	Default	Required
prefix	String	String to prepend to every line.	n/a	Yes

E.9. ReplaceTokens

The `ReplaceTokens` filter will replace certain tokens. Tokens are strings enclosed in special characters. If you want to replace `##BCHOME##` by the path to the directory set in the environment variable `BCHOME`, you could do the following:

```
<property environment = "env" />

<filterchain>
  <replacetokens begintoken = "##" endtoken = "##">
    <token key = "BCHOME" value = "${env.BCHOME}" />
  </replacetokens>
</filterchain>
```

Table E.7: Attributes for the `<replacetokens>` tag

Name	Type	Description	Default	Required
begintoken	String	The string that marks the beginning of a token.	@	No
endtoken	String	The string that marks the end of a token.	@	No

E.9.1. Nested tags

The `ReplaceTokens` filter must contain one or more `token` tags. These must have a `key` and a `value` attribute.

E.10. ReplaceTokensWithFile

The `ReplaceTokensWithFile` filter will replace certain tokens with the contents of a file. The name of the file to use as replacement is derived from the token name itself. Tokens are strings enclosed in special characters which are user selectable.

This filter could for example be used to insert code examples in documentation where the example code are real executable files kept outside the documentation.

If you for example want to replace `#!example1##` with the content of the file " `example1.php` " you could do the following

```
<filterchain>
    <replacetokenswithfile begintoken = "#!" endtoken = "##"
        dir = "exampledir/" postfix = ".php" />
    </filterchain>
```

The filer above will replace all tokens within the begin and end token specified with the contents of the file whose base name is that of the token with the added postfix ".php". Only the directory specified in the `dir` attribute is searched. If the file is not found the token is left untouched and an error message is given. It is important to note that *all* found tokens will be replaced with the corresponding file. So in the example below even `#!example2##` will be replaced with the content of the file " `example2.php` "

Table E.8: *Attributes for the* `<replacetokenswithfile>` *tag*

Name	Type	Description	Default	Required
begintoken	String	The string that marks the beginning of a token.	#@#	No
endtoken	String	The string that marks the end of a token.	#@#	No
prefix	String	A string that will be added in front of the token to construct the filename that will be used as source when replacing the token.	"	No
postfix	String	A string that will be added to the end of the token to construct the filename that will be used as source when replacing the token.	"	No
dir	String	The directory where to look for the files to use as replacements for the tokens	'./'	No
translatehtml	Boolean	If true all html special characters (e.g. ">") in the file to there corresponding html entities (e.g. ">") before the file is inserted.	true	No

E.10.1. Nested tags

None.

E.11. ReplaceRegexp

The `ReplaceRegexp` filter will perform a regexp find/replace on the input stream. For example, if you want to replace ANT with Phing (ignoring case) and you want to replace references to *.java with *.php:

```
<filterchain>
  <replaceregexp>
```

```
      <regexp pattern = "ANT" replace = "Phing" ignoreCase = "true"/>
      <regexp pattern = "(\w+)\.java" replace = "\1.php"/>
   </replaceregexp>
</filterchain>
```

Or, replace all Windows line-endings with Unix line-endings:

```
<filterchain>
   <replaceregexp>
      <regexp pattern = "\r(\n)" replace = "\1"/>
   </replaceregexp>
</filterchain>
```

E.11.1. Nested tags

The `ReplaceRegExp` filter must contain one or more `regexp` tags. These must have `pattern` and `replace` attributes. The full list of supported attributes is as following:

Table E.9: *Attributes for the `<regexp>` tag*

Name	Type	Description	Default	Required
pattern	String	Regular expression used as needle. Phing relies on Perl-compatible [http://php.net/pcre] regular expressions.	n/a	Yes
replace	String	Replacement string.	n/a	Yes
ignoreCase	Boolean	Whether search is case-insensitive.	false	No
multiline	Boolean	Whether regular expression is applied in multi-line mode.	false	No
modifiers	String	Raw regular expression modifiers [http://" php.net/manual/en/ reference.pcre.pattern.modifiers.php]. You can pass several modifiers as single string, and use raw modifiers with `ignoreCase` and `multiline` attributes. In case of conflict, value specified by dedicated attribute takes precedence.		No

The previous example (using `modifiers` attribute this time):

```
<filterchain>
   <replaceregexp>
      <regexp pattern = "ANT" replace = "Phing" modifiers = "i"/>
      <regexp pattern = "(\w+)\.java" replace = "\1.php"/>
   </replaceregexp>
</filterchain>
```

E.12. SortFilter

The sort filter reads all lines and sorts them. The sort order can be reversed.

```
<filterchain>
         <sortfilter reverse = "true" />
         </filterchain>
```

Table E.10: Attributes for the `<sortfilter>` filter

Name	Type	Description	Default	Required
reverse	Boolean	whether to reverse the sort order, defaults tofalse false.	No	

E.13. StripLineBreaks

The `StripLineBreaks` filter removes all linebreaks from the stream passed through the filter chain.

```
<filterchain>
  <striplinebreaks />
</filterchain>
```

E.14. StripLineComments

The `StripLineComments` filter removes all line comments from the stream passed through the filter chain:

```
<filterchain>
  <striplinecomments>
    <comment value = "#" />
    <comment value = "--" />
    <comment value = "//" />
  </striplinecomments>
</filterchain>
```

E.14.1. Nested tags

The `striplinecomments` tag must contain one or more `comment` tags. These must have a `value` attribute that specifies the character(s) that start a line comment.

E.15. StripPhpComments

The `StripPhpComments` filter removes all PHP comments from the stream passed through the filter.

```
<filterchain>
  <stripphpcomments />
</filterchain>
```

E.16. StripWhitespace

The `StripWhitespace` filter removes all PHP comments and whitespace from the stream passed through the filter. Internally, this filter uses the php_strip_whitespace() function.

```
<filterchain>
  <stripwhitespace />
</filterchain>
```

E.17. TabToSpaces

The TabToSpaces filter replaces all tab characters with a given count of space characters.

```
<filterchain>
  <tabtospaces tablength = "8" />
</filterchain>
```

Table E.11: *Attributes for the `<tabtospaces>` filter*

Name	Type	Description	Default	Required
tablength	Integer	The number of space characters that a tab is to represent.	8	No

E.18. TailFilter

Similar to Section E.4, "HeadFilter", this filter reads the last `n` lines of a file; the others are not further passed through the filter chain. Usage example:

```
<filterchain>
  <tailfilter lines = "20" />
</filterchain>
```

Table E.12: *Attributes for the `<tailfilter>` tag*

Name	Type	Description	Default	Required
lines	Integer	Number of lines from the back to read.	10	No

E.19. TidyFilter

The `TidyFilter` allows you to use the PHP tidy extension [http://php.net/tidy] to clean up and repair HTML documents. Usage example:

```
<filterchain>
  <tidyfilter encoding = "utf8">
    <config name = "indent" value = "true" />
    <config name = "output-xhtml" value = "true" />
  </tidyfilter>
</filterchain>
```

Table E.13: *Attributes for the `<tidyfilter>` tag*

Name	Type	Description	Default	Required
encoding	String	The expected input encoding of the file.	utf8	No

E.19.1. Nested tags

The `TidyFilter` supports nested <config> tags to configure how Tidy should manipulate the documents. For a complete list of configuration options see the official Quick Reference [http://tidy.sourceforge.net/docs/quickref.html].

E.20. XincludeFilter

The `XincludeFilter` processes a stream for Xinclude tags, and processes the inclusions. This is useful for processing modular XML files. DocBook book files are one example of modular XML files. Usage example:

```
<!--
  Render a DocBook book file called manual.xml, which
  contains Xinclude tags to include individual book sections.
  -->
<copy todir = "${manual.dest.dir}">
  <filterchain>
    <xincludefilter basedir = "${manual.src.dir}" />
    <xsltfilter style = "${manual.src.dir}/html.xsl">
      <param name = "base.dir" expression = "${manual.dest.dir}/" />
    </xsltfilter>
  </filterchain>
  <fileset dir = "${manual.src.dir}">
    <include name = "manual.xml" />
  </fileset>
</copy>
```

Table E.14: Attributes for the `<xincludefilter>` tag

Name	Type	Description	Default	Required
basedir	String	The working directory from which to processProject the `Xincludes`. Relative pathnames in the include tags are based on this location.	in-basedir	No
resolveexternals	Boolean	Whether to resolve entities. (see this link [http://www.php.net/manual/en/class.domdocument.php#domdocument.props.resolveexternals] for details)	false	No

E.21. XsltFilter

The `XsltFilter` applies a XSL template to the stream. Though you can use this filter directly, you should use XslTask Appendix B, *Core tasks* which is shortcut to the following lines:

```
<filterchain>
  <xsltfilter style = "somexslt.xsl" />
</filterchain>
```

This filter relies on PHP5 XSL support via `libxslt` which must be available for php5. Usually this means including the `php5_xsl` module when configuring PHP5. In essence this uses the same core libraries as "xsltproc" processor.

Table E.15: *Attributes for the `<xsltfilter>` tag*

Name	Type	Description	Default	Required
`style`	`String`	The XSLT stylesheet to use for transforma-tion.	n/a	Yes
`html`	`Boolean`	Whether to parse the input as HTML (using libxml2 DOMDocument::loadHTML()).	false	No
`resolvedocu-mentexternals`	`Boolean`	Whether to resolve entities in the XML document. (see this link [http://www.php.net/manual/en/class.domdocument.php#domdocument.props.resolveexternals] for details)	false	No
`re-solvestyleshee-texternals`	`Boolean`	Whether to resolve entities in the stylesheet.	`false`	No

E.21.1. Nested tags

The `XsltFilter` filter may contain one or more `param` tags to pass any XSLT parameters to the stylesheet. These `param` tags must have `name` and `expression` attributes.

Appendix F. Core mappers

While filters are applied to the `content` of files, Mappers are applied to the `filenames`. All mappers have the same API, i.e. the way you use them is the same:

```
<mapper type = "mappername" from="frompattern" to="topattern" />
```

F.1. Common Attributes

Table F.1: *Attributes for the `<mapper>` tag*

Name	Type	Description	Default	Required
type	String	Type of the mapper.	n/a	One of these is required.
classname	String	Dot-path to a custom mapper class to use.	n/a	
from	String	The pattern the filename is to be matched to. The exact meaning is dependent on the implementation of the mapper.	n/a	depends on the implementation of the mapper
to	String	The pattern according to which the filename is to be changed to. Here, the usage is dependent on the implementation of the mapper, too.	n/a	depends on the implementation of the mapper

F.2. ChainedMapper

This mapper implementation can contain multiple nested mappers. File mapping is performed by passing the source filename to the first nested mapper, its results to the second, and so on. The target filenames generated by the last nested mapper comprise the ultimate results of the mapping operation. The to and from attributes are ignored.

F.2.1. Examples

```
<mapper type = "chained">
        <mapper type = "flatten"/>
        <mapper type = "glob" from = "*.php" to = "new/path/*.php"/>
        <mapper>
            <mapper type = "glob" from = "*.php" to = "*.php1"/>
            <mapper type = "glob" from = "*.php" to = "*.php2"/>
        </mapper>
    </mapper>
```

Applying the mapper, you will get the following results from the following filenames:

Table F.2: *Result of mapping*

From	To
foo/bar/a.php	new/path/a.php1 and new/path/a.php2
foo/bar/b.php	new/path/b.php1 and new/path/b.php2

F.3. CompositeMapper

This mapper implementation can contain multiple nested mappers. File mapping is performed by passing the source filename to each nested <mapper> in turn, returning all results. The to and from attributes are ignored.

```
<copy todir = "testbuild">
        <fileset dir = "${project.basedir}"/>
    </copy>
```

This code will copy all files in the fileset to /tmp. All files will be in the target directory.

F.3.1. Examples

```
<mapper type = "composite">
        <mapper type = "glob" from = "*.xsl" to = "*.from.xsl"/>
        <mapper type = "glob" from = "*.xml" to = "*.from.xml"/>
        <mapper type = "glob" from = "*.php" to = "*.from.php"/>
    </mapper>
```

Applying the mapper, you will get the following results from the following filenames:

Table F.3: Result of mapping

From	To
test.php	./tmp/test.from.php
test.xml	./tmp/test.from.xml
test.xsl	./tmp/test.from.xsl

F.4. FlattenMapper

The `FlattenMapper` removes the directories from a filename and solely returns the filename.

```
<copy todir = "/tmp">
  <mapper type = "flatten" />

  <fileset refid = "someid" />
</copy>
```

This code will copy all files in the fileset to /tmp. All files will be in the target directory.

F.4.1. Examples

```
<mapper type = "flatten" />
```

Applying the mapper, you will get the following results from the following filenames:

Table F.4: Result of mapping

From	To
test.txt	test.txt

From	To
./foo/bar/test.bak	test.bak

F.5. GlobMapper

The `GlobMapper` works like the `copy` command in DOS:

```
<copy todir = "/tmp">
  <mapper type = "glob" from = "*.php" to = "*.php.bak"/>

  <fileset refid = "someid" />
</copy>
```

This will change the extension of all files matching the pattern `*.php` to `.php.bak`.

F.5.1. Examples

```
<mapper type = "glob" from = "*txt" to = "*txt.bak"/>
```

Applying the mapper, you will get the following results from the following filenames:

Table F.5: *Result of mapping*

From	To
test.txt	test.txt.bak
./foo/bar/test.txt	./foo/bar/test.txt.bak
mytxt	mytxt.bak
SomeClass.php	ignored, SomeClass.php

F.6. IdentityMapper

The `IdentityMapper` will not change anything on the source filenames.

F.7. MergeMapper

The `MergeMapper` changes all source filenames to the same filename.

F.7.1. Examples

```
<mapper type = "merge" to = "test.tar"/>
```

Applying the mapper, you will get the following results from the following filenames:

Table F.6: Result of mapping

From	To
test.txt	test.tar
./foo/bar/test.txt	test.tar
mytxt	test.tar
SomeClass.php	test.tar

F.8. RegexpMapper

The `RegexpMapper` changes filenames according to a pattern defined by a regular expression. This is the most powerful mapper and you should be able to use it for every possible application.

F.8.1. Examples

```
<mapper type = "regexp" from = "^(.*)\.conf\.xml" to = "\1.php"/>
```

The mapper as above will do the following mappings:

Table F.7: Result of mapping

From	To
test.txt	ignore, test.txt
./foo/bar/test.conf.xml	./foo/bar/test.php
someconf.conf.xml	someconf.php

Appendix G. Core selectors

Selectors are a specific subset of Phing `data types` that allow you to fine-tune matching in a Appendix D, *Core Types*FileSet (or DirSet).

Phing supports the following core selectors, which typically match on both files and directories in a `<fileset>`:

- <Contains> - Select files that contain a specific string

- <date> - Select files/directories that have been modified either before or after a specific date/time

- <Depend> - Select files/directories that have been modified more recently than equivalent items elsewhere

- <Depth> - Select files/directories that appear at a specific depth in a directory tree

- <Filename> - Select files/directories whose name matches a particular pattern. Equivalent to the include and exclude elements of a patternset.

- <Present> - Select files/directories that either do or do not exist in some other location

- <Containsregexp><containsregexp> - Select files that contain text matching a regular expression

- <Size><size> - Select files that are larger or smaller than a particular number of bytes.

- <Type><type> - Select files/directories by type ('file' or 'dir')

Additionally, to create more complex selections, a variety of selectors that contain other selectors are available for your use. They combine the selections of their child selectors in various ways.

Phing supports the following selector containers:

- <And><and> - Select a file only if all the contained selectors select it.

- <Majority><majority> - Select a file only if all the contained selectors select it.

- <None><none> - Select a file only if none of the contained selectors select it.

- <Not><not> - Can contain only one selector, and reverses what it selects and doesn't select.

- <Or><or> - Select a file if any one of the contained selectors selects it.

- <Selector><selector> - Contains only one selector and forwards all requests to it without alteration. This is the selector to use if you want to define a reference. It is usable as an element of `<project>`.

G.1. Contains

The `<contains>` tag selects files that contain the string specified by the `text` attribute.

```
<fileset dir = "${src}" includes = "**/*.php">
  <contains text = "PHP"/>
</fileset>
```

Table G.1: *Attributes for the `<contains>` selector*

Name	Description	Default	Required
text	Specifies the text that every file must contain	n/a	Yes

Name	Description	Default	Required
`casesensitive`	Whether to pay attention to case when looking for the string in the text attribute.	`true`	No

G.2. Date

The `<date>` tag selects files whose last modified date meet the date limits specified by the selector.

```
<fileset dir = "${src}" includes = "**/*.php">
  <date datetime = "01/01/2001 12:00 AM" when = "before"/>
</fileset>
```

Table G.2: *Attributes for the `<date>` selector*

Name	Description	Default	Required
`datetime`	Specifies the date and time to test for. It should n/a be in a format parsable by PHP's strtotime() [http://www.php.net/strtotime] function.	n/a	One of the two
`seconds`	The number of seconds since 1970 that should n/a be tested for.	n/a	
`when`	Indicates how to interpret the date, whether the files to be selected are those whose last modified times should be before, after, or equal to the specified value. Accepted values are: `before` - select files whose last modified date is before the indicated date `after` - select files whose last modified date is after the indicated date `equal` - select files whose last modified date is this exact date	`equal`	No
`granularity`	The number of milliseconds leeway to use when comparing file modification times. This is needed because not every file system supports tracking the last modified time to the millisecond level.	0	No
`checkdirs`	Indicates whether or not to check dates on directories.	`false`	No

G.3. Depend

The `<depend>` tag selects files whose last modified date is later than another, equivalent file in another location.

The `<depend>` tag supports the use of a contained Appendix F, *Core mappers* element to define the location of the file to be compared against. If no `mapper` element is specified, the identity type mapper is used.

The `<depend>` tag is case-sensitive.

```
<fileset dir = "phing-2.4.5/classes" includes = "**/*.php">
```

```
   <depend targetdir = "phing-2.4.6/classes"/>
</fileset>
```

Table G.3: *Attributes for the `<depend>` selector*

Name	Description	Default	Required
targetdir	The base directory to look for the files to com-pare against. The precise location depends on a combination of this attribute and the `mapper` element, if any.	n/a	Yes
granularity	The number of milliseconds leeway to give before deciding a file is out of date. This is needed because not every file system supports tracking the last modified time to the millisecond level.	0	No

G.4. Depth

The `<depentry>` tag selects files based on how many directory levels deep they are in relation to the base directory of the fileset.

```
<fileset dir = "phing/classes" includes = "**/*.php">
  <depth max = "1"/>
</fileset>
```

Table G.4: *Attributes for the `<depentry>` selector*

Name	Description	Default	Required
min	The minimum number of directory levels below the base directory that a file must be in order to be selected.	0	One of the two
max	The maximum number of directory levels below the base directory that a file can be and still be selected.	0	

G.5. Filename

The `<filename>` tag acts like the `<include>` and `<exclude>` tags within a fileset. By using a selector instead, however, one can combine it with all the other selectors using whatever selector container is desired.

```
<fileset dir = "${src}" includes = "**/*">
  <filename name = "**/*.php">
</fileset>
```

Table G.5: *Attributes for the `<filename>` selector*

Name	Description	Default	Required
name	The name of files to select. The name parameter can contain the standard Phing wildcard characters.	n/a	Yes

Name	Description	Default	Required
casesensitive	Whether to pay attention to case when looking at file names.	true	No
negate	Whether to reverse the effects of this filename selection, therefore emulating an exclude rather than include tag.	false	No

G.6. Present

The `<present>` tag selects files that have an equivalent file in another directory tree.

The `<present>` tag supports the use of a contained mapper element to define the location of the file to be compared against. If no `mapper` element is specified, the identity type mapper is used.

The `<present>` tag is case-sensitive.

```
<fileset dir = "phing-2.4.6/classes" includes = "**/*.php">
  <present present = "srconly" targetdir = "phing-2.4.5/classes">
</fileset>
```

Table G.6: *Attributes for the `<present>` selector*

Name	Description	Default	Required
targetdir	The base directory to look for the files to compare against. The precise location depends on a combination of this attribute and the `<mapper>` element, if any.	n/a	Yes
present	Whether we are requiring that a file is present in the src directory tree only, or in both the src and the target directory tree. Valid values are: `srconly` - select files only if they are in the src directory tree but not in the target directory tree `both` - select files only if they are present both in the src and target directory trees	both	No

G.7. Containsregexp

The `<containsregexp>` tag selects the files whose contents contain a match to the regular expression specified by the expression attribute.

```
<fileset dir = "${src}" includes = "*.txt">
  <containsregexp expression = "[4-6]\.[0-9]"/>
</fileset>
```

Table G.7: *Attributes for the `<containsregexp>` selector*

Name	Description	Default	Required
expression	Specifies the regular expression that must match true in every file.	n/a	Yes
casesensitive	Perform a case sensitive match.	true	No

G.8. Size

The `<size>` tag selects files matching a specified size limit.

```
<fileset dir = "${src}">
  <size value = "4" when = "more"/>
</fileset>
```

Table G.8: *Attributes for the `<size>` selector*

Name	Description	Default	Required
value	The size of the file which should be tested for.	n/a	Yes
units	The units that the value attribute is expressed in. When using the standard single letter SI designations, such as "k","M", or "G", multiples of 1000 are used. If you want to use power of 2 units, use the IEC standard: "Ki" for 1024, "Mi" for 1048576, and so on. The default is no units, which means the value attribute expresses the exact number of bytes.	n/a	No
when	Indicates how to interpret the size, whether the files to be selected should be larger, smaller, or equal to that value. Accepted values are: `less` - select files less than the indicated size `more` - select files greater than the indicated size `equal` - select files this exact size	equal	No

G.9. Type

The `<type>` tag selects files of a certain type: directory or regular.

```
<fileset dir = "${src}">
  <type type = "dir"/>
</fileset>
```

Table G.9: *Attributes for the `<type>` selector*

Name	Description	Default	Required
type	The type of file which should be tested for. Either `file` or `dir`.	n/a	Yes

G.10. And

The `<and>` tag selects files that are selected by all of the elements it contains. It returns as soon as it finds a selector that does not select the file, so it is not guaranteed to check every selector.

```
<fileset dir = "${src}" includes = "**/*.php">
  <and>
    <size value = "1000" when = "more"/>
    <date datetime = "01/01/2011 12:00 AM" when = "before"/>
  </and>
```

```
</fileset>
```

G.11. Majority

The `<majority>` tag selects files provided that a majority of the contained elements also select it. Ties are dealt with as specified by the `allowtie` attribute.

```
<fileset dir = "${src}" includes = "**/*.php">
  <majority>
    <contains text = "project" casesensitive = "false"/>
    <contains text = "taskdef" casesensitive = "false"/>
    <contains text = "BaseSelector" casesensitive = "true"/>
  </majority>
</fileset>
```

Table G.10: *Attributes for the `<majority>` selector container*

Name	Description	Default	Required
allowtie	Whether files should be selected if there are an even number of selectors selecting them as are not selecting them.	true	No

G.12. None

The `<none>` tag selects files that are not selected by any of the elements it contains. It returns as soon as it finds a selector that selects the file, so it is not guaranteed to check every selector.

```
<fileset dir = "${src}" includes = "**/*.php">
  <none>
    <size value = "1000" when = "more"/>
    <date datetime = "01/01/2011 12:00 AM" when = "before"/>
  </none>
</fileset>
```

G.13. Not

The `<not>` tag reverses the meaning of the single selector it contains.

```
<fileset dir = "${src}" includes = "**/*.php">
  <not>
    <contains text = "Phing"/>
  </not>
</fileset>
```

G.14. Or

The `<or>` tag selects files that are selected by any one of the elements it contains. It returns as soon as it finds a selector that selects the file, so it is not guaranteed to check every selector.

```
<fileset dir = "${src}">
  <or>
    <depth max = "0"/>
    <filename name = "*.png"/>
    <filename name = "*.gif"/>
    <filename name = "*.jpg"/>
  </or>
</fileset>
```

G.15. Selector

The `<selector>` tag is used to create selectors that can be reused through references. It is the only selector which can be used outside of any target, as an element of the `<project>` tag. It can contain only one other selector, but of course that selector can be a container.

Appendix H. Project Components

This file will give you a quick introduction and a reference of the things that you may see in a build files besides tasks and types.

H.1. Phing Projects

Projects are the outermost container for everything in build files. The `<project>` tag also is the root tag in build files. It contains the name, the directory, a short description and a default target.

Project may contain task calls and targets (see below).

H.1.1. Example

```xml
<?xml version="1.0" ?>

<project name = "TestProject" basedir = "." default = "main"
         description = "This is a test project to show how to use projects ;-)">

  <!-- Everything else goes here -->

</project>
```

Phing allows declaring tasks outside targets. Note that these tasks are evaluated before any targets are executed.

H.1.3. Attributes

Table H.1: Attributes

Name	Type	Description	Default	Required
basedir	String	The base directory of the project, i.e. the directory all paths are relative to.	n/a	No
default	String	The name of the target that is executed if none is explicitly specified when calling Phing	all	Yes
description	String	A free text description of the project	n/a	No
name	String	Name of the project	n/a	No
phingVersion	String	The minimum Phing version required to execute the build file, in order to prevent compatibility issues.	n/a	No

H.2. Targets

H.2.1. Example

```xml
<target if = "lang" unless = "lang.en" depends = "foo1,foo2"
```

```
        name = "main" description = "This is an example target" >

  <!-- everything else goes here -->

</target>
```

The target defined in the example above is only executed, if the property ${lang} is set and the property ${lang.en} is not set. Additionally, it depends on the targets foo1 and foo2. That means, the targets foo1 and foo2 are executed before the target main is executed. The name of the target is main and it also has a description.

H.2.2. Attributes

Table H.2: Parameters

Name	Type	Description	Default	Required
depends	String	One or more names of targets that have to be executed before this target can be executed.	n/a	No
description	String	A free text description of the target.	n/a	No
if	String	The name of the property that is to be set if then target is to be executed.	n/a	No
name	String	The name of the target	n/a	Yes
unless	String	The name of the property that is to be set if then target is not to be executed.	n/a	No
hidden	Boolean	Whether or not to include this target in the list of targets generated by phing -l	False	No
logskipped	Boolean	Whether to log message as INFO instead of VERBOSE if target is skipped	False	No

Caution

The if and unless attributes only enable or disable the target to which they are attached. They do not control whether or not targets that a conditional target depends upon get executed. In fact, they do not even get evaluated until the target is about to be executed, and all its predecessors have already run.

Appendix I. File Formats

I.1. Build File Format

The following XML file shows a basic Phing build file skeleton that can be used as a starting point for your own build files. See the references in Appendix A, *Fact Sheet* and Appendix B, *Core tasks* for more detailed information on properties and tasks.

```xml
<?xml version="1.0" encoding="UTF-8"?>

<!--
  ==========================================================================
  The root tag of each build file must be a "project" tag.
  ==========================================================================
-->
<project name = "(projectname)" basedir = "(projectbasedir)"
         default = "(targetname)" description = "(projectdescription)">

  <!--
    ========================================================================
    Inclusion of optional overall project properties.
    ========================================================================
  -->
  <property file = "(main property file)" />

  <!--
    ========================================================================
     Build file wide properties used in the targets below
    ========================================================================
  -->

  <!-- Useful to make the current buildtime available as a property -->
  <tstamp>
      <!-- Format is, e.g. Sat, 03 Oct 2009, 16:31 -->
      <format property = "buildtime" pattern = "%a, %d %b %Y, %H:%M"/>
  </tstamp>

  <property name = "(first.property1)"  value = "(value1)" override = "true" />
  <property name = "(second.property2)"  value = "(value2)" override = "true" />

  <!--
    ========================================================================
    Type and task calls here, i.e. filesets, patternsets,
    CopyTask calls etc.
    ========================================================================
  -->
  <!-- Filesets  -->
  <fileset dir = "(fileset.directory)" id = "(fileset.reference)">
      <include name = "(include.pattern)"/>
  </fileset>

  <!-- Custom tasks  -->
  <taskdef classname = "(task.classname)" name = "task.name" />

  <!--
    ========================================================================
    All target definitions
    ("if" and "unless" attributes are optional)
    ========================================================================
  -->
```

```
    <target name = "(targetname)" [depends = "targetname1,targetname2"]
             [if = "(ifproperty)"]  [unless = "(unlessproperty)"]  >
      <!--
         ----------------------------------------------------------------------
         Type and task calls here, i.e. filesets, patternsets,
         CopyTask calls, etc.
         ----------------------------------------------------------------------
      -->
    </target>

    <!--
       ========================================================================
       More targets here
       ========================================================================
    -->
    <target name = "..." >
      <!--
         ----------------------------------------------------------------------
         Type and task calls here, i.e. filesets, patternsets,
         CopyTask calls, etc.
         ----------------------------------------------------------------------
      -->

    </target>
</project>
```

Note

By convention properties are named in *dot* notation in Phing build files, e.g. `ftp.upload`, `temp.builddir` and so on

I.2. Property File Format

Property Files define properties. Properties are stored in key/value pairs and may only contain plain text. The suffix of these files should be `.properties`, the default Property File for a Build File is `build.properties`

```
# Property files contain key/value pairs
key=value

# Property keys may contain alphanumeric chars and colons, but
# not special chars. This way you can create pseudo-namespaces
myapp.window.hsize=300
myapp.window.vsize=200
myapp.window.xpos=10
myapp.window.ypos=100

# You can refer to values of other properties by enclosing their
# keys in "${}".
text.width=${myapp.window.hsize}

# Everything behind the equal sign is the value, you do
# not have to enclose strings:
text=This is some text, Your OS is ${php.os}

# I guess that is all there is to property files
```

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