

# pam\_xacml TUTORIAL

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pam\_xacml includes work from **Joseph Bester**<sup>1</sup> within it's distribution.

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## 1. About this document

This document will give you a very short instruction, how to get pam\_xacml running on a Linux system. If you need further assistance, please refer to the documentation of pam\_xacml.

To gain full benefit of pam\_xacml you will need to install a Policy Decision Point (PDP). There are some provided with pam\_xacml, just refer to section four for an example.

## 2. Installation

On a clean Debian or Ubuntu installation, you would issue the following command:

```
sudo apt-get install libpam0g-dev libssl-dev libldap2-dev bison flex libxml2 libxml2-dev pkg-config libtool g++ bison flex autoconf automake patch
```

Then download gSOAP:

```
wget http://downloads.sourceforge.net/gsoap2/gsoap_2.7.10.tar.gz?modtime=1201451344&big_mirror=0
```

Install gSOAP:

```
tar -xvzf gsoap_2.7.10.tar.gz
cd gsoap-2.7
./configure --prefix=/usr
make
sudo make install
cd ..
```

When done installing gSOAP you can progress with the download of pam\_xacml.

```
wget http://downloads.sourceforge.net/pamxacml/pamxacml-0.1-alpha.tbz?modtime=1219067417&big_mirror=0
```

Afterwards, install pam\_xacml:

```
tar -xvjf pamxacml-0.1-alpha.tbz
cd pamxacml-0.1-alpha
libtoolize
aclocal
autoheader
autoconf
automake -a -c --foreign
./configure --prefix=/usr
make
sudo make install
```

## 3. Configuration

Copy the file pamxacml\_test from the dist/pam.d directory of the pam\_xacml distribution to /etc/pam.d:

```
sudo cp dist/pam.d/pamxacml_test /etc/pam.d
sudo mkdir /etc/pamxacml
sudo cp dist/templates/* /etc/pamxacml
```

Afterwards edit /etc/pam.d/pamxacml\_test and comment out the very last line.

## 4. Installation of SimplePDP

Download JAXP\_14\_FCS from (sorry no direct link because of licensing issues) <https://jaxp.dev.java.net/1.4/binaryDrops.html> and place it in the directory PDP/SimplePDP/lib within pam\_xacml. Then

```
wget http://downloads.sourceforge.net/sunxacml/sunxacml-1.2.zip?modtime=1089936000&big_mirror=0
unzip sunxacml-1.2.zip
mv sunxacml-1.2/lib/* PDP/SimplePDP/lib/
wget http://www.apache.org/dist/xerces/j/Xerces-J-bin.2.9.1.tar.gz
tar -xvzf Xerces-J-bin.2.9.1.tar.gz
mv xerces-2_9_1/ PDP/SimplePDP/lib/
```

Now install java:

```
sudo apt-get install sun-java6-jdk
```

Compile SimplePDP

```
cd PDP/SimplePDP
./build.sh
```

If you get error messages, make sure you placed the libraries into the correct directories.

<sup>1</sup> Joseph Besters original work can be found at <http://www.mcs.anl.gov/~bester/xacml/>

## 5. See it work...

Now it's time to see pam\_xacml work. Open up another console to start the provided PDP (called SimplePDP, located in PDP/SimplePDP within your pam\_xacml distribution):

```
./execute.sh
```

You can now go back to your other console and change into the subdirectory tests/ of the distribution. Then call the program „pamxacml\_test“:

```
cd tests/  
./pamxacml_test
```

The output of the program should look as follows:

```
theide@kubuntu-clean:~/pamxacml-0.1-alpha/  
tests$ ./pamxacml_test  
Test 0  
pamAuthorisationConversation: Authorization  
Succeeded!
```

You will find some debug information in your system logs. If you want to switch that off, just disable the debug flag in the PAM-configuration of pamxacml\_test.

## 6. Further steps

### Write your own policy

The policy which SimplePDP uses when it comes with the distribution is located under PDP/SimplePDP/xacmlpolicy/obligationtest.xml. You can change the to any other file by editing the file called xacmlConfig.xml located in the SimplePDP-directory. Write your own policies to get started with XACML.

### Read the documentation of pam\_xacml

You will get a better understanding how you can configure pam\_xacml to work in different scenarios. Also you will learn, what different kinds of PDPs pam\_xacml can address.

Especially, have a look at the template request builder, which will help you to provide applications with XACML abilities, that don't know anything about it (they still have to use PAM, though).

### Adopt your applications to make use of pam\_xacml

It is easy to use pam\_xacml from within your application. Please note though, that pam\_xacml is currently in an early alpha state and not suitable for production systems. To get more information about how to integrate PAM and pam\_xacml within your application, refer to the PAM developer documents and to the pam\_xacml developer handbook.

### Read the source of pamxacml\_test

It will give you a glimpse how to write your own applications that gain from using pam\_xacml

### Contribute to pam\_xacml

Help us making pam\_xacml better by providing bug reports or contributions to the source code.