



PassBy[ME] - Bugzilla integration on CentOS 6.5 operating system

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Table of contents

1	Introduction.....	4
1.1	PassBy[ME] and Bugzilla architecture	4
2	Installation of Bugzilla enviroment.....	5
2.1	Operating System	5
2.2	Network requirements	5
2.3	PassBy[ME] account	5
2.4	General operating system level operations	6
2.4.1	Turn off syslog rate	6
2.4.2	Turn off SELinux settings	6
2.4.3	Enable Firewall Ports	6
2.5	Required software components	7
2.6	Installing Apache HTTP server	7
2.6.1	Installing mod_ssl Apache module (optional).....	7
2.7	MySQL database	8
2.7.1	Installing MySQL database	8
2.7.2	Starting MySQL database.....	8
2.8	Installing Perl enviroment	9
3	Installing Bugzilla	10
3.1	Creating directory structure	10
3.2	Download Bugzilla.....	10
3.3	Add PassByMe extension modul	10
3.4	Installing necessary Perl modules.....	12
3.5	Configure Bugzilla	12
3.6	Configure Apache HTTP Server	13
4	Configuring PassByMe second factor for Bugzilla.....	15



PassBy[ME] - Bugzilla integration on CentOS 6.5 operating sytem

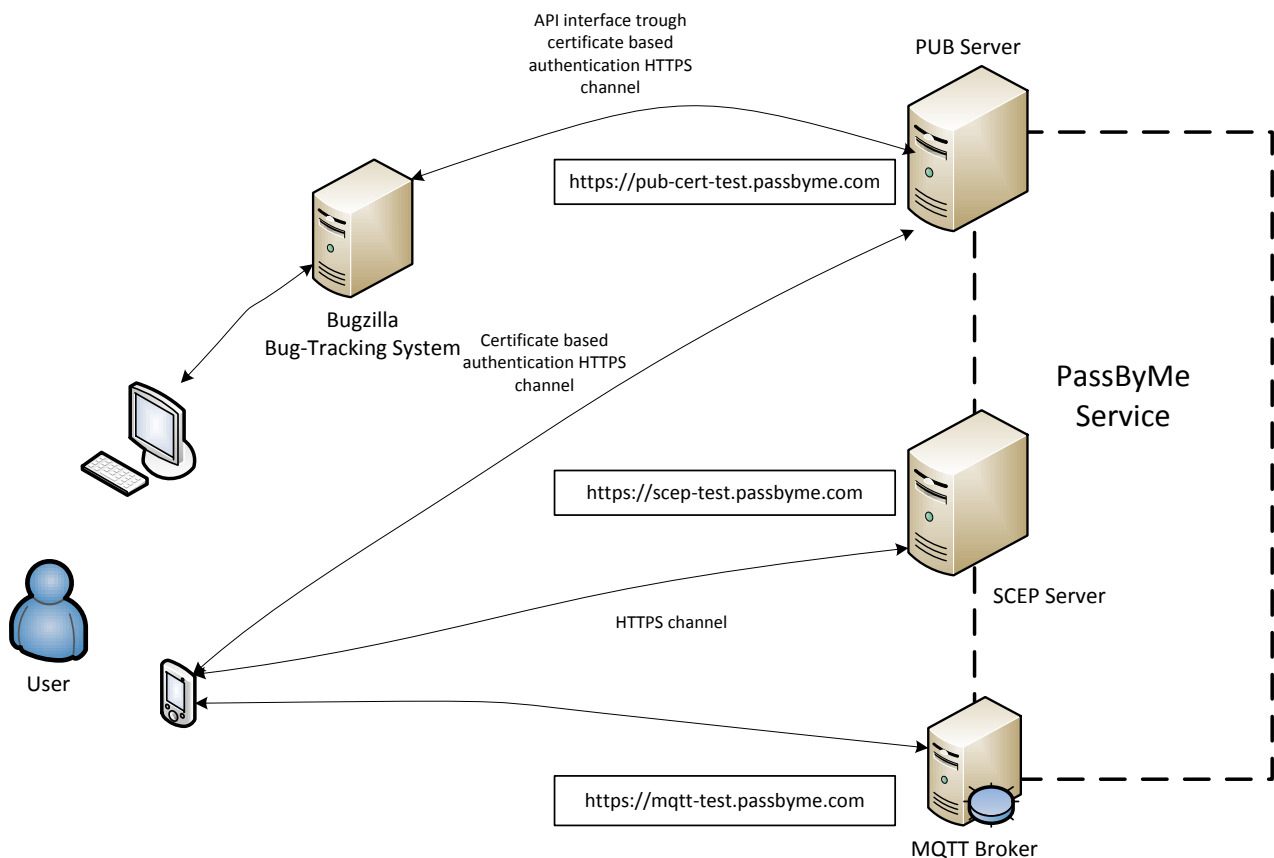
4.1	Setting authentication PFX	15
4.2	Configure PassByMe on Bugzilla administration page	15
4.2.1	Set PassBy[ME] configuration parameters	15
4.2.2	Set PassBy[ME] CGI interface	16
4.2.3	Turning off PassBy[ME] second factor authentication	16
4.2.4	Creating other users	17

1 Introduction

This documentation assumes that you are familiar with the basic working model of PassBy[ME] API interface and gives a detailed step by step tutorial to integrate the PassBy[ME] second channel authentication service into a free, and widespread webapplication.

This document will describe the main technical characteristics to integrate the PassBy[ME] second factor authentication mechanism into a Bugzilla Bug-Tracking system as a Service Provider (SP).

1.1 PassBy[ME] and Bugzilla architecture





2 Installation of Bugzilla environment

Do all of the following steps with root rights!!

2.1 Operating System

This document describes the installation process on a physical or virtual server machine with installed CentOS operating system.

Version: CentOS release 6.5 (Final) x86-64

If you would like to integrate the PassBy[ME] second factor into Bugzilla, you can choose another system which is supported by Bugzilla.

2.2 Network requirements

The physical or virtual server machine has to be connected to the internet.

Ensure network availability to the PassBy[ME] Authentication API:

The PassBy[ME] test service:

Web based administration interface: <https://pub-test.passbyme.com>

Authentication API webservice: <https://pub-cert-test.passbyme.com/frontend>

Management API webservice: <https://pub-cert-test.passbyme.com/register>

The PassBy[ME] production service:

Web based administration interface: <https://admin.passbyme.com>

Authentication API webservice: <https://api.passbyme.com/frontend>

Management API webservice: <https://api.passbyme.com/register>

2.3 PassBy[ME] account

You'll need a PassBy[ME] account, an application key (ID) and a certificate to integrate you application into PassBy[ME]. To get this account data do the following steps:

1. Sign up for a PassBy[ME] account on the web based administration interface, and register a new organization if you haven't registered before. If you have already registered into the PassBy[ME] service,



- please log in as an administrator with your previously created credential data (username/password and your PassBy[ME] ready mobile device).
2. Create a new Application under this organization by selecting "Register new Application" under the "Application" navigation menu. This will generate an application key (UUID).
 3. Download and save the certificate by clicking on "Download PFX" under the "Application" navigation menu. Save the pfx's password by clicking the „Show PFX password“ button.

Client certificate authentication is enforced by the server. In order to have PassBy[ME] second factor you are required to use your authentication certificate during all PassBy[ME] second factor requests.

2.4 General operating system level operations

2.4.1 Turn off syslog rate

Create: /etc/rsyslog.d/noratelimit.conf

```
$SystemLogRateLimitInterval 0
```

Reloading syslog configuration

```
/etc/init.d/rsyslog reload
```

2.4.2 Turn off SELinux settings

Modifying /etc/sysconfig/selinux

```
SELINUX=disabled
```

Next step: reboot the system.

2.4.3 Enable Firewall Ports

Installing *system_config_firewall* program

```
yum install system_config_firewall-tui
```

```
system-config-firewall-tui
```

Trusted Services:

- www (HTTP) (80)
- www (HTTPS) (443)



2.5 Required software components

The following software components should be installed on CentOS 6.5 operating system to run the Bugzilla application:

- Apache webserver (version 2.2.15)
- MySQL Database (version: 5.1.x MySQL Community Server (GPL))
- Perl 5.10.1
- Bugzilla Bug-Tracking System (version: 4.4.6)
- Perl modules for Bugzilla
- OpenSSL (built in)
- cURL (built in)

The next chapters will describe the step by step instructions for installing the necessary software components.

2.6 Installing Apache HTTP server

Version: 2.2.15

```
yum install apr-1.3.9-5.el6_2.x86_64 apr-util-1.3.9-3.el6_0.1.x86_64 httpd-  
tools-2.2.15-26.el6.centos.x86_64 apr-util-ldap-1.3.9-3.el6_0.1.x86_64  
httpd-2.2.15-26.el6.centos.x86_64
```

Installing c_rehash

```
yum install openssl-perl
```

2.6.1 Installing mod_ssl Apache module (optional)

```
yum install mod_ssl
```

2.6.1.1 Setting mod_ssl parameters

The content of /etc/httpd/conf.d/ssl.conf

```
Listen 443
```

```
LoadModule ssl_module modules/mod_ssl.so
```

```
SSLPassPhraseDialog builtin
```

```
SSLSessionCache shmcb:/var/cache/mod_ssl/scache(512000)
```

```
SSLSessionCacheTimeout 300
```

```
SSLMutex default
```

```
SSLRandomSeed startup file:/dev/urandom 512
```



```
SSLRandomSeed connect file:/dev/urandom 512
SSLCryptoDevice builtin
SSLHonorCipherOrder On
SSLCipherSuite
RC4:HIGH:MEDIUM:+TLSv1:!EDH:!aNULL:!eNULL:!LOW:!EXPORT:!ADH:!SSL
v2
SSLProtocol all -SSLv2 -SSLv3
```

2.7 MySQL database

Version: 5.1.x MySQL Community Server (GPL)

Create /etc/my.cnf (if not exist)

```
[mysqld]
datadir=/var/lib/mysql
socket=/var/lib/mysql/mysql.sock
user=mysql
# Disabling symbolic-links is recommended to prevent assorted security risks
symbolic-links=0

[mysqld_safe]
log-error=/var/log/mysqld.log
pid-file=/var/run/mysqld/mysqld.pid
```

2.7.1 Installing MySQL database

MySQL database environment installation process

```
yum install mysql-server mysql
yum install mysql-libs
yum install unixODBC
yum install mysql-connector-odbc
yum install mysql-devel
```

2.7.2 Starting MySQL database

```
/etc/init.d/mysqld start
```




2.8 Installing Perl environment

Create symlink to Perl interpreter

```
cd /usr/local/bin  
ln -s /usr/bin/perl .
```

Installing environment

```
yum install perl-CPAN  
yum install perl-XML-Parser  
yum install perl-YAML  
yum install perl-XML-Twig  
yum install mod_perl  
yum install perl-CGI-Session  
yum install gcc autoconf automake bison flex libtool glibc-devel zlib-devel  
kernel-headers expat expat-devel
```



3 Installing Bugzilla

The Bugzilla Bug-Tracking application is a free Software which can be downloaded from the following website:

<http://www.bugzilla.org/>

See the Bugzilla Guide - 4.4.6+ Release:

<http://www.bugzilla.org/docs/4.4/en/html/>

The PassBy[ME] capable version is: 4.4.6

(<http://ftp.mozilla.org/pub/mozilla.org/webtools/bugzilla-4.4.6.tar.gz>)

Do all of the following steps with root rights!!

3.1 Creating directory structure

```
mkdir -p /msc/srv/www/bugzillademo/htdocs  
mkdir -p /msc/srv/www/bugzillademo/pfx
```

3.2 Download Bugzilla

```
cd /msc/srv/www/bugzillademo/htdocs  
wget http://ftp.mozilla.org/pub/mozilla.org/webtools/bugzilla-4.4.6.tar.gz  
  
tar xzf bugzilla-4.4.6.tar.gz  
ln -s bugzilla-4.4.6 bugzilla
```

3.3 Add PassBy[ME] extension module

```
mkdir -p /msc/srv/www/bugzillademo/src  
cd /msc/srv/www/bugzillademo/src  
  
Download PassByMe2FA Perl client package:  
https://www.passbyme.com/static/sdk/perl/passbyme2fa-client-perl-1.00.tar.gz  
Download PassByMe2FA Bugzilla extension package:  
https://www.passbyme.com/static/plugins/bugzilla-4.4.6/bugzilla-passbyme2fa-extension-1.00.tar.gz
```



PassBy[ME] - Bugzilla integration on CentOS 6.5 operating system

```
tar xzf passbyme2fa-client-perl-1.00.tar.gz  
tar xzf passbyme2fa-extension-1.00.tar.gz
```

<<Now you have this content tree in the directory >>

```
/msc/srv/www/bugzillademo/src/  
├── bugzilla-passbyme2fa-extension/  
│   ├── bugzilla-4.4.6-factor2-auth-hooks.patch  
│   └── PassByMe2FA/  
│       ├── Config.pm  
│       ├── Extension.pm  
│       ├── lib/  
│       │   └── ...  
│       ├── template/  
│       │   └── ...  
│       └── web/  
│           └── ...  
└── passbyme2fa-client-perl-1.00/  
    ├── PassByMe2FA/  
    │   └── ...  
    └── passbyme2fa.pl
```

Copy PassByME2FA Perl client library to Bugzilla lib directory

```
cp -r passbyme2fa-client-perl-1.00/PassByMe2FA  
/msc/srv/www/bugzillademo/htdocs/bugzilla/lib
```

Copy PassByMe2FA Bugzilla extension to Bugzilla extension directory

```
cp -r bugzilla-passbyme2fa-extension/PassByMe2FA  
/msc/srv/www/bugzillademo/htdocs/bugzilla/extensions
```

Patch Bugzilla to enable PassByMe 2FA integration

```
cd /msc/srv/www/bugzillademo/htdocs/bugzilla  
patch -p1 < ../../src/bugzilla-passbyme2fa-extension/bugzilla-4.4.6-factor2-  
auth-hooks.patch
```

You will see this line on standard output:

```
patching file Bugzilla/Auth.pm
```

3.4 Installing necessary Perl modules

```
cd /msc/srv/www/bugzillademo/htdocs/bugzilla
```

```
./checksetup.pl --check-modules
```

```
(
```

In case of „Can't locate version.pm” run the following commands:

```
perl -MCPAN -e shell
```

```
cpan> install version
```

```
)
```

Install the missing perl modules.

```
cd /msc/srv/www/bugzillademo/htdocs/bugzilla
```

```
/usr/bin/perl install-module.pl -all
```

Run again the ./checksetup.pl (without --check-modules)

```
cd /msc/srv/www/bugzillademo/htdocs/bugzilla
```

```
./checksetup.pl
```

3.5 Configure Bugzilla

Create database

```
[root]#mysql
```

```
mysql> create database passbyme_bugzilla character set utf8;
```

```
mysql> grant all privileges on passbyme_bugzilla.* to
```

```
'pbm_bugzilla'@'localhost' identified by 'tMbyxK85#';
```

Edit Bugzilla config file

```
cd /msc/srv/www/bugzillademo/htdocs/bugzilla
```

```
vim localconfig
```

Set the following parameters in localconfig

```
$create_htaccess = 1;
```

```
$webservergroup = 'apache';
```

```
$use_suexec = 0;
```

```
$db_driver = 'mysql';
```



PassBy[ME] - Bugzilla integration on CentOS 6.5 operating system

```
$db_host = 'localhost';  
$db_name = 'passbyme_bugzilla';  
$db_user = 'pbm_bugzilla';  
$db_pass = 'tMbyxK85#';  
$db_port = 0;  
$db_sock = '';  
$db_check = 1;  
$index_html = 0;  
$cvsbin = '/usr/bin/cvs';  
$interdiffbin = '';  
$diffpath = '/usr/bin';
```

Run again the `./checksetup.pl` (without `--check-modules`)

```
cd /msc/srv/www/bugzillademo/htdocs/bugzilla
```

```
./checksetup.pl
```

If you the script can connect to the mysql database, you will be prompted to give some data (administrator e-mail, full name, password).

Important: Your administrator e-mail will be your login name which have to be the same as your PassBy[ME] ID, which is registered in the PassBy[ME] system.

3.6 Configure Apache HTTP Server

Edit the `httpd.conf` file

```
cd /etc/httpd/conf  
vim httpd.conf
```

Create VirtualHost at the and of the default `httpd.conf` file

```
<VirtualHost *:80>  
    ServerName bugzillademo.test.com  
    ServerAlias bugzillademo2.test.com  
    DocumentRoot /msc/srv/www/bugzillademo/htdocs  
    ErrorLog logs/bugzillademo.test.com -error_log  
    CustomLog logs/bugzillademo.test.com -access_log common  
  
    RewriteEngine On  
    RewriteRule ^/(bugzilla)?$ /bugzilla/ [R,L]
```



PassBy[ME] - Bugzilla integration on CentOS 6.5 operating system

```
<Directory /msc/srv/www/bugzillademo/htdocs>  
  AddHandler cgi-script .cgi  
  Options +ExecCGI  
  DirectoryIndex index.cgi index.html  
  AllowOverride Limit FileInfo Indexes Options  
  Allow from all  
</Directory>
```

```
</VirtualHost>
```

Start Apache http server

```
/etc/init.d/httpd start
```

Now you can access the installed Bugzilla website on the following url:

<http://bugzillademo.test.com/>



4 Configuring PassByMe second factor for Bugzilla

4.1 Setting authentication PFX

See chapter PassBy[ME] account to know how you can have a PFX key file for using PassBy[ME] service.

Copy the authentication pfx file to the following file path

```
cd /msc/srv/www/bugzillademo/pfx/  
cp <file>.pfx .
```

4.2 Configure PassBy[ME] on Bugzilla administration page

Log in to Bugzilla <http://bugzillademo.test.com/> as administrator.

4.2.1 Set PassBy[ME] configuration parameters

Navigate to the Administration/Parameters/PassByMe2FA menu, and set the parameters below

Name of the parameter	Description
passbyme2fa_enabled	When this options is turned on, PassByMe 2nd factor authentication is enabled.
passbyme2fa_server_urlbase	The URL base of the PassByMe2FA server. For testing use the following url: https://pub-cert-test.passbyme.com/frontend/
passbyme2fa_application_id	PassByMe2FA Application Id of this Bugzilla system. e.g.: 99d163df-efe8-4d58-8cb2-a8f3a76d5d84
passbyme2fa_auth_cert_pfx_file_path	Path of the PFX file which contains the PassByMe2FA authentication certificate and key. e.g.: /msc/srv/www/bugzillademo/pfx/<file>.pfx
passbyme2fa_auth_cert_pfx_password	Password of the PFX file.
passbyme2fa_communication_timeout	Timeout (in seconds) for PassByME2FA server communication. e.g.: 10
passbyme2fa_status_refresh_interval	Refresh interval (in seconds) of PassByMe2FA pending status page. e.g.: 2



PassBy[ME] - Bugzilla integration on CentOS 6.5 operating system

passbyme2fa_authentication_message	<p>PassByMe2FA authentication message. {username} will be replaced with the username you are trying to log in with.</p> <p>This message will be shown during the authentication process in the PassBy[ME] application on the mobile device.</p> <p>e.g.: You are trying to authenticate to bugzillademo.test.com as user {username}.</p>
------------------------------------	--

4.2.2 Set PassBy[ME] CGI interface

Navigate to the Administration/Parameters/User Authentication

Name of the parameter	Description
user_info_class	<p>Mechanism(s) to be used for gathering a user's login information. More than one may be selected. If the first one returns nothing, the second is tried, and so on.</p> <p>Set the value of select to: CGI.PassByMe2FA</p>

Press "Save Changes" at the bottom of the page.

Now your Bugzilla application is PassBy[ME] ready.

During next log in you have to use your mobile device

4.2.3 Turning off PassBy[ME] second factor authentication

If you are the administrator, and you have lost your mobile device, you can't log in into the Bugzilla system. In this case, you can turn off the using of PassBy[ME] second factor at server side.

Edit PassBy[ME] configuration file (use your file editor)

/msc/srv/www/bugzillademo/bugzilla/extensions/PassByMe2FA/ Config.pm

Set AUTHENTICATION_DISABLED to 1

use constant AUTHENTICATION_DISABLED => 1;



PassBy[ME] - Bugzilla integration on CentOS 6.5 operating system

Restart Apache webserver

/etc/init.d/httpd restart

Now you can log in without using PassBy[ME] second factor.

At the Administration/Parameters/PassByMe2FA menu you will give the following alert message, if the PassByMe2FA was turned on through the webpage before.

passbyme2fa_enabled
When this options is turned on, PassByMe 2nd factor authentication is enabled.

PassByME 2nd factor authentication is disabled in the module configuration!
To enable PassByMe 2nd factor authentication, edit the Config.pm file in the extension directory, and modify the next line:

```
use constant AUTHENTICATION_DISABLED => 1;
```

Change the value '1' to '0' to enable PassByMe 2nd factor authentication! Restarting the web server may be needed for the changes to take effect!

Turning on PassByMe 2nd factor authentication here only takes effect if PassByMe2FA authentication is also enabled in the module's configuration file!

On Off

Reset

4.2.4 Creating other users

If you create other users in the Bugzilla Bug-Tracking System, you should give for each user the same username as their PassBy[ME] ID in the PassBy[ME] system.