
Software Requirements Specification

for

Apache2triad

Requirements for Version 1.5.4

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1. Introduction

1.1 Purpose

The goal of this document is to provide support information on the Apache2Triad web server bundle (Current Version is 1.5.0). It will attempt to explain some common issues some people have while installing/running it. It will not contain information of each specific program, as this is well outside the scope of this document. It is always best to consult with the manuals/documentation of the program you are using.

1.2 Document Conventions

Apache2Triad uses lots of other programs which we will narrowly describe to give the user a simple idea of what they are doing (Thorough description and documentation exists in each program's site to which we will link)

Apache2Triad was already created when this document was written so all requirements stated here are already satisfied and some parts of this document have a style similar to a manual document.

First it is presented an overall view of Apache2Triad and then all features and functions are analyzed in detail.

There are some technical information at the end of this document. Readers can refer there at Appendix A to see the definition of some terms(glossary).

1.3 Intended Audience and Reading Suggestions

This Software Requirements document is intended for:

- Developers who can review project's capabilities and more easily understand where their efforts should be targeted to improve or add more features to it (design and code the application – it sets the guidelines for future development).
- Project testers can use this document as a base for their testing strategy as some bugs are easier to find using a requirements document. This way testing becomes more methodically organized.
- End users of this application who wish to read about what this project can do.

1.4 Project Scope

Apache2triad is a distribution of some of the most popular open source servers and interpreters for developing and providing web content using windows. Its great andantage is that it freed you from having to configure these things over and over again for each new workstation or on each os reinstall.

The global password you set up in the installer is most of the times associated with the "root" user/username and the default email address is admin@localhost.

1. Apache 2.2.0 with
ApacheMonitor 2.2.0



2. MySQL 5.0.18 with MyODBC 5.0.0 ,
MySQL Administrator 1.1.8 and
MySQL Query Browser 1.1.20



3. PostgreSQL 8.1.2 with PsqLODBC 0.3



4. Xmail 1.22



5. SlimFTPd 3.18



Servers

- Apache
- MySql
- OpenSSL
- Xmail
- SlimFTPd

Interpreters

- PHP
- Perl
- Python
- TCL

1.5 References

The official website of the project contains a brief description of the project, screenshots, links, FAQ's and a blog with all the news of the project:

<http://apache2triad.net/>

If you have any question about this program, don't hesitate to ask the Apache2Triad forums:

http://sourceforge.net/forum/forum.php?forum_id=323320

2. Overall Description

2.1 Product Perspective

Apache2Triad is a very useful and timesaving program for those who want to develop web content using windows. It installs to your computer the most popular open source servers and interpreters and it does all the needed configurations. All you need to do is to provide a password and in a few minutes everything is set up



Figure 1: Servers and interpreters that are installed and configured with Apache2Triad

2.2 Product Features

Apache2Triad provides the following functions:

- set up and edit apache server
- create, edit, delete databases using mySQL with phpMyAdmin
- send email with xmail
- configure and test the php, perl, python interpreter

2.3 User Classes and Characteristics

Advanced end users:

It is recommended that only experienced users, with a vast knowledge of how networks, and its components (Apache Web Server, ect.) should install this software.

Open source software developers and contributors:

- Software Developers: People with very good knowledge of programming language project, in order to understand and be able to extend project's source code.

- Translators: People of all age groups with very good knowledge of a language not included in the current translation list.
- Anyone who wants to help FOSS community. The whole project is based on the conception of Free and Open Source Software, so all people are welcome to contribute any way they can/like.

2.4 Operating Environment

Apache2Triad should run on Operating Systems: Windows 98/NT/XP/Vista/Seven
Xmail does NOT run under Windows 9x platforms

Nothing more than these is required for a fully functional Apache2Triad.

2.5 Design and Implementation Constraints

Apache2Triad is GNU GPLv2 licensed. Everyone, that does or is going to develop or use Apache2Triad, should agree and fully accept the terms of this kind of license.

2.6 User Documentation

User documentation components are available on project's official website:

<http://apache2triad.net/>

Don't hesitate to ask a question at the project's forums:

http://sourceforge.net/forum/forum.php?forum_id=323320

3. System Features

This section describes the functional requirements of the application and the features it provides. System features are described in detail to help the future extension and testing of the system. Features stated here are already parts of the implemented system so no

prioritization is needed. Priority is needed for features to be developed that will be added to this document later.

When the program is installed, open a web browser and go to this address:
<http://localhost/apache2triadcp/>

After you log in (using username root and password the one that you entered during installation) you see the main program.

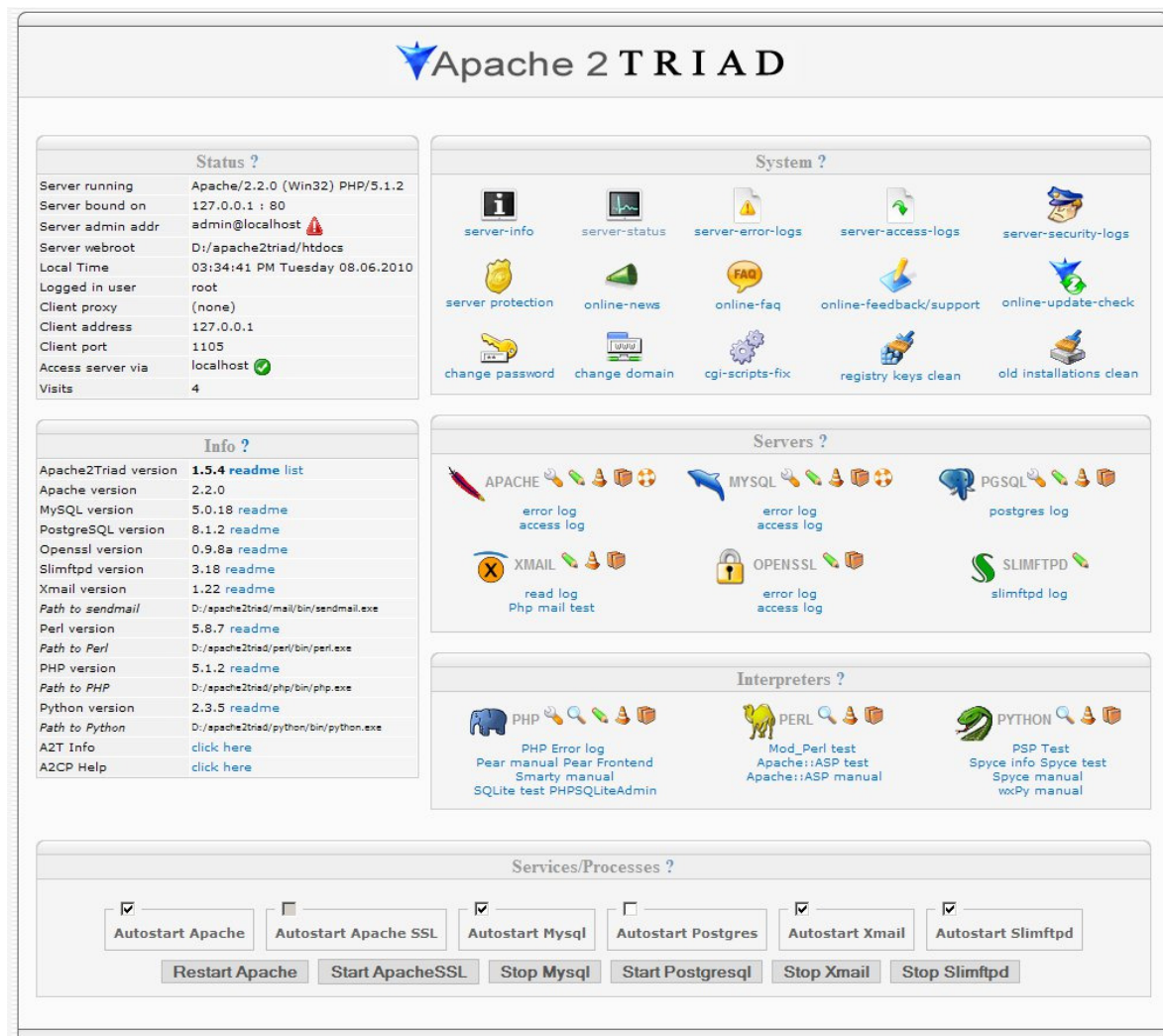


Figure 2: The main page of the program

The program consists of 6 blocks which we will describe now in detail.

3.1 The Status Block

It presents some basic info of the status of the program

3.1.1 Description

This block shows : The name and the version of the servers and the interpreter you are running, the default location of the server, the admin's email, the server's webroot etc. If something is not working right you can check here. Also make sure the needed version of whatever language you are working with matches up.



Status ?	
Server running	Apache/2.2.0 (Win32) PHP/5.1.2
Server bound on	127.0.0.1 : 80
Server admin addr	admin@localhost 
Server webroot	C:/apache2triad/htdocs
Local Time	04:18:54 PM Monday 28.06.2010
Logged in user	root
Client proxy	(none)
Client address	127.0.0.1
Client port	49171
Access server via	localhost 
Visits	1


Figure 3: The Status Block

3.2 The Info Block

This block displays information about current server status, user info and setup info.

3.2.1 Description

You can be informed about the servers and the interpreters that are installed, their version, and the path of installation.

You can click the readme link to see more information about one of these items or you can click the  to see more information about this block.

Info ?	
Apache2Triad version	1.5.4 readme list
Apache version	2.2.0
MySQL version	5.0.18 readme
PostgreSQL version	8.1.2 readme
Openssl version	0.9.8a readme
Slimftpd version	3.18 readme
Xmail version	1.22 readme
Path to sendmail	C:/apache2triad/mail/bin/sendmail.exe
Perl version	5.8.7 readme
Path to Perl	C:/apache2triad/perl/bin/perl.exe
PHP version	5.1.2 readme
Path to PHP	C:/apache2triad/php/bin/php.exe
Python version	2.3.5 readme
Path to Python	C:/apache2triad/python/bin/python.exe
A2T Info	click here
A2CP Help	click here

Figure 4: the Info Block

3.3 The System Block

The system's basic changes and information

3.3.1 Description

Here you can observe some statistics about the server, have online help or change some properties of your account.

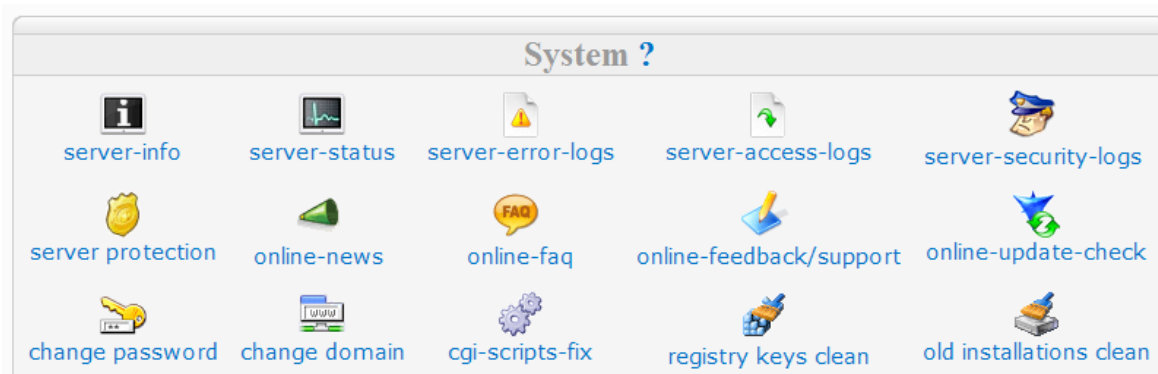


Figure 5: the System Block

Let's describe each activity in detail:

server-info : Apache's built in server information script. Displays a variety of information.

server-status – Apache's built in status script. Displays a variety of information.

server-error-logs – Displays most frequent errors and the last 10 errors from Apache, Apache SSL, MySQL, PHP error log. This is very useful in finding common errors on your system.

server-access-logs - Displays all of the servers access information.

server-security-logs – Displays a list of past known hacking attempts on your server. If possible, it's recommended to check this frequently and filter out these IP addresses. (Use your firewall to deny these IP addresses access). It should be also noted, some of these may be valid attempts. Caution should be used here.

server-protection This script will attempt to add some security settings to various scripts/programs. What is displayed on the screen will be changed.

online-news : Here you can see news about Apache2Triad

online-faq: Here you can see the most common problems users face while using this program. It also shows you how to solve these problems.

online-feedback/support : If you click here you will be redirected to the forums of this program when you can make some questions or see the answers of similar-to-your-problem questions.

online-update-check: Click here to check for new version of the program.

change password: This is the first thing you should do after installing Apache2triad! Take heed: You must not have a password with common or dictionary words because of security! Your Old Password WILL BE DISPLAYED, this is not a field for entering your old password. There are programs available that use dictionary and even brute force attacks to break passwords, and they do work. The best password is one that someone could not associate with you (pet's names, kid's names ect.). A ideal password should include letters and numbers. This will be the password for all programs using the user root. Restart all services for this to take full effect. If you do not change the password, your server(s) will be open to anyone who knows the default password (triadpass).

Also remember, if you have manually changed your passwords for the different apps and then use this script, it could possibly break those passwords and make the programs inoperable.

change domain: Where New Domain is your domain (default is localhost), enter the domain and click Change domain. You must own the domain in which you are changing to. If not there will be errors as it simply will not route properly. If you use a domain router (no-ip.com, dns2go.com ect.) enter it here. Leave out and suffix (e.g. www) It's generally not a good idea to use IP address here.

cgi-scripts-fix: This script will change all acceptable files (either perl, python or TCL) to the appropriate location it needs to point to. This is a very useful script.

registry-keys-clean: This script will fix MySQL registry keys from a old MySQL installation , with wrong service paths, known to cause problems for apache2triad. Run this if you have problems and have had a variation of Apache/MySQL ect previously.

old-installations-clean: This script will search for some files from old installations of php MySQL and perl , known to cause problems for apache2triad. Delete any files it finds.

3.3.2 Functional Requirements

REQ-1: You must restart apache and xmail after the "change domain" step so as the changes are applied.

REQ-2: You must be connected to the internet in order to work the "online-news", "online-faq", "online-feedback/support" and "online-update-check" steps.

3.4 The Servers Block

In this block you can see and manage the servers that are installed with this program.

3.4.1. Description

User can configure, edit and test one of the installed servers.

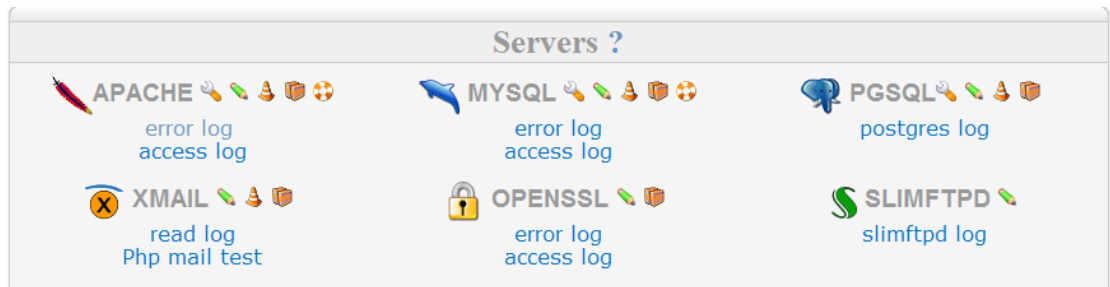


Figure 6: The Servers Block

Notice that on the right of each server’s name there are some icons.
Let’s explain what they do:




Figure 7: The Icons’ meaning

Now, let’s describe what each server does and what user can do on each server. (We will follow a narrow description of each server, further information you can find in their web pages)

3.4.2 The Apache Server



User can do many things about this Server, we will analyze each of them now:

- Click the  to bring up AWStats. You will be asked to enter a username and a password. Use "root" for username and the password you entered while installation as password

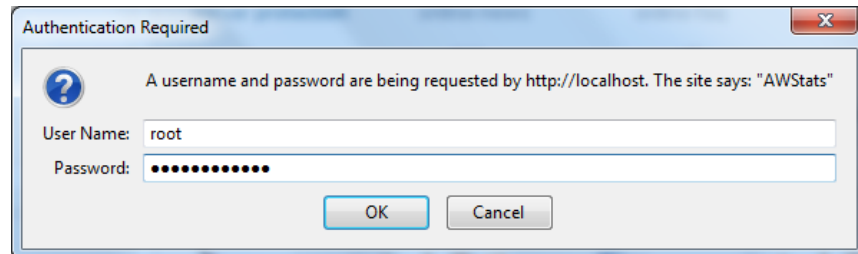



Figure 8: Entering username and password at AWStats




After you log in, you are redirected to AWStats main page.

AWStats is a free powerful tool that generates advanced web, streaming, ftp or mail server statistics, graphically.

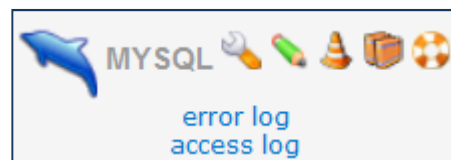
Here you get valuable information about your server such as:




- Number of visits, and number of unique visitors
 - Visits duration and last visits
 - Authenticated users, and last authenticated visits
 - Days of week and rush hours (pages, hits, KB for each hour and day of week)
 - Domains/countries of hosts visitors (pages, hits, KB, 269 domains/countries detected, Geolp detection)
 - Hosts list, last visits and unresolved IP addresses list, Most viewed, entry and exit pages
 - Files type
 - Web compression statistics (for mod_gzip or mod_deflate)
 - OS used (pages, hits, KB for each OS, 35 OS detected)
 - Browsers used (pages, hits, KB for each browser, each version (Web, Wap, Media browsers: 97 browsers, more than 450 if using browsers_phone.pm library file)
 - Visits of robots (319 robots detected)
 - Worms attacks (5 worm's families)
 - Search engines, keyphrases and keywords used to find your site (The 115 most famous search engines are detected like yahoo, google, altavista, etc...)
 - HTTP errors (Page Not Found with last referrer, ...)
 - Other personalized reports based on url, url parameters, referer field for miscellaneous/marketing purpose
 - Number of times your site is "added to favourites bookmarks"
 - Screen size (need to add some HTML tags in index page).
- Click the  to configure the Apache Server. You can enable/disable CGI (Perl/Python) , SSI , PHP, ASP, Mod Perl, Mod Python , Python PSP

and you can modify The server name and port of the server, The ip/port the server will listen on The server admin email address.

- Click the  to edit configuration files of the server
- Click the  to test the server.
- Click the  to get some help about what you can do with Apache.
- Click the [error log](#) to see and edit the file that contains all the errors that happen to your Apache server.
- Click the [access log](#) to see and edit the file that contains all the information about who and when accessed your server.

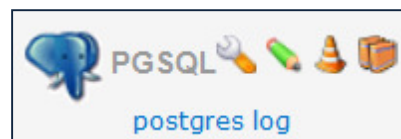
3.4.3 The MYSQL Server



- Click the  to bring up [phpMyAdmin](#) which supports a wide range of operations with MySQL. The most frequently used operations are supported by the user interface (managing databases, tables, fields, relations, indexes, users, permissions, etc), while you still have the ability to directly execute any SQL statement.
- Click the  to configure the MYSQL Server. Here you can do many useful changes listed below:
 - Enable/Disable Log Binary
 - Enable/Disable Log Warnings
 - Enable/Disable BerkleyDB Support
 - Enable/Disable InnoDB Support
 - The IP address the server will listen on
 - The port number the server will listen on
 - Temporary directory for slave loading
 - Temporary directory
 - The base directory
 - The data directory
 - The path and name of the access log
 - The path and name of the error log
- Click the  to edit configuration files of the server. For instance, you can change the user name and the password of the server.

- Click the 🚦 to test the server.
- Click the 🏠 to get some help about what you can do with Apache.
- Click the [error log](#) to see the MySQL error log, check here if you have problems with MySQL
- Click the [access log](#) to see and edit the file that contains all the information about who and when accessed your server.

3.4.4 The PGSQL Server



- Click the 🐘 to go to phpPgAdmin panel. First, you must enter the username (by default it is "root") and then the password, which is the one you entered during installation.

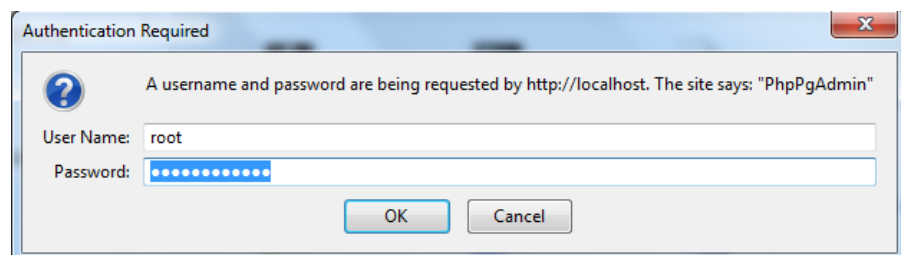
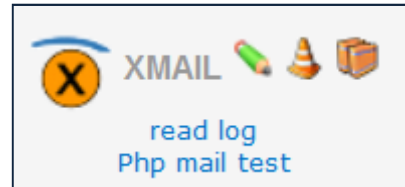


Figure 9: Entering username and password at PhpPgAdmin

- Click the 🛠 to configure the PGSQL Server. Here you can do many useful changes listed below:
 - The IP address/hostname the server will listen on
 - The port number the server will listen on
 - Locks Per Transaction
 - Deadlock timeout in milliseconds
 - Whether to enable SSL encrypted connections
 - Whether to use password encryption
 - Whether to log connections
 - Whether to log disconnections
 - Whether to log hostnames
- Click the 📝 to edit configuration files of the server. All changes you do affect the postgresql.conf configuration file

- Click the 🍌 to test the server. It redirects you to a new page that shows if the pgsql php extension is loaded.

3.4.5 The XMAIL Server



XMail is an Internet and intranet mail server featuring an ESMTP server, POP3 server.

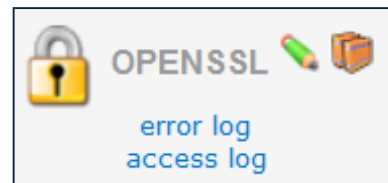
It offers:

- SMTP relay checking
- DNS based maps check
- custom (IP based and address based) spam protection
- SMTP authentication
- a POP3 account synchronizer with external POP3 accounts
- account aliases
- domain aliases
- custom mail processing
- direct mail files delivery
- custom mail filters
- mailing lists
- remote administration
- custom mail exchanger
- logging
- and multi-platform code

- Click the 🍌 and you will be redirected to the main page of the program. Enter for username: admin@localhost and as a password the one that you entered during the installation. After you log in, you can change the password, the realname and the homepage of the program.
- Click the 🍌 for remote editing of config files.

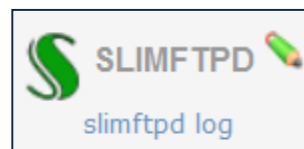
- Click the 📧 to test the server. It sends an email to the apache server's admin email address (admin@localhost)
- Click the [read log](#) to read the log of mail read through our server since the day it was installed
- Click the [Php mail test](#) to test if the mail service works. This script sends an email to the apache server's admin email address (admin@localhost)

3.4.6 The OPEN SSL




- Click the 📧 to access your email address. By default you enter as username admin@localhost and as password the one that you entered during installation
- Click the 📁 for remote editing of config files.
- Click the [error log](#) to see the OPENSSL error log, check here if you have problems with OPENSSL
- Click the [access log](#) to see and edit the file that contains all the information about who and when accessed your server.

3.4.7 The SlimFTPd



SlimFTPd is a fully multi-threaded standards-compliant FTP server that runs as a system service. Once started, SlimFTPd runs quietly in the background. It reads its configuration from a config file in the same folder as the executable, and it outputs all activity to a log file in the same place.

Its virtual file system allows you to mount any local drive or path to any virtual path on the server. It is a fully standards-compliant FTP server implementation with an advanced virtual file system. It is extremely small, but don't let its file size deceive you: SlimFTPd packs a lot of bang for the kilobyte.

- Click the  and you will be redirected to the main page of the program. Enter the default password (the one you entered during installation) and you are logged in.

After log in, you will be at the main page of the program.

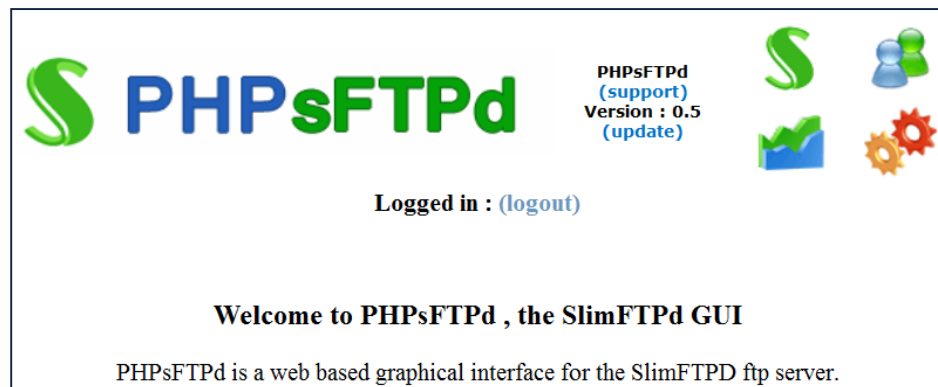







Figure 10: The SlimFTPd Gui after log in

- Click  to go to the first page of the program.
- Click  to add, edit or remove users
- Click  to get statistics of the program such as:
 - Good starts
 - Bad starts
 - Connections
 - Downloads
 - Users
 - Files
 - file path/name
 - Times downloaded
 - User ip/hostname
 - Times connected
- Click  to edit SlimFTPd. You can choose:
 - which network interface should be used to listen for connections

- wich TCP port should be used to listen for incoming connections
 - the time to wait for a command before dropping the connection
 - how many seconds to wait for a data socket to connect with a client
 - the maximum number of connections that may be made to the server
 - look up the corresponding host names for IP addresses (On/Off)
- Click the  for remote editing of config files.
 - Click the [slimftpd log](#) to view and edit the log files.

3.4.8 Functional Requirements

Req-3: Apache::ASP needs mod perl to be loaded in order for it to function

Req-4: When enabling CGI you are enabling Perl , Python in CGI mode

Req-5: When enabling Python PSP you are disabling Python Spyce , both need mod_python

Req-6: Disabling one of SSI, PHP or CGI will render parts of the Apache2Triad CP inoperable

Req-7: After running the script you should restart apache for changes to take place

Req-8: After running this script you should restart mysql for changes to take effect.

Req-9: After running this script you should restart pgsql for changes to take effect.

Req-10: Locks Per Transaction : Min 10, ~200*max_connections bytes each

3.5 The Interpreters Block

Here the user can configure the interpreters that supports the program.

3.5.1 Description

More analytically, user can configure, test and view details of the three interpreters php, perl and python. So let's start describing each part.

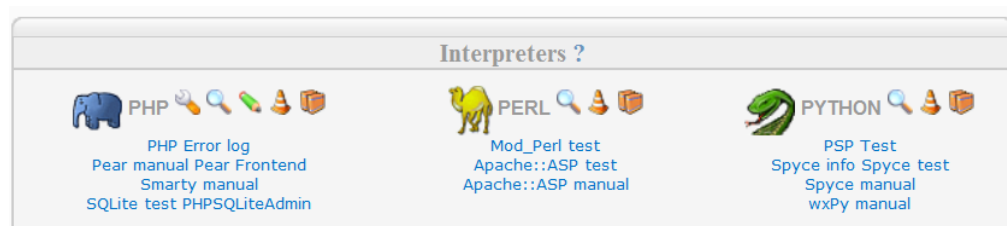
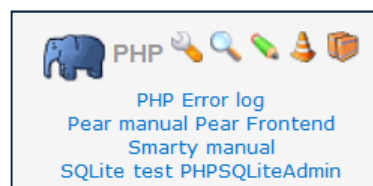



Figure 11: the Interpreters Block

3.5.2 The Php Interpreter





Php is one of the mostly used web programming language and many sites are built in this language. Apache2Triad provides many tools to handle this interpreter which we will analyze below in detail:


- Click the  to configure the Php interpreter. Here you can do many **useful changes listed below**:
 - Register/ Unregister Dbg Listener
 - Enable/Disable Xdebug
 - Enable/Disable Dbg Extension
 - Enable/Disable Zend Optimizer
 - Enable/Disable PHP's safe mode.
 - Enable/Disable the variables be registered as global variables.

- Enable/Disable Magic gpc quotes for automatically escaping incoming GET/POST/Cookie data.
- Whether or not to register the old-style input arrays like HTTP_GET_VARS,disable for performance.
- Whether or not to declare the argv&argc variables which contain the GET info, disable for performance.
- Set the maximum time each script is allowed to run before it is terminated by PHP.
- Specify the maximum amount of memory in bytes allocated per script.
- Set if errors will be shown on screen as part of the HTML output.

- Enable the inclusion of HTML tags in error messages,not for production boxes.
- Warnings for table or index scans and SQL errors will be displayed.
- Set max size of post data allowed. This setting also affects file upload.
- Change the SMTP Server.
- Change the Email Address for Sendmail .
- Enable/Disable the use of ASP-like >% %< tags in addition to the usual >?php ?< tags.
- Enable/Disable CGI NPH Status.
- Enable/Disable the use of session cookies.

- Click the  to view extended details about php interpreter such as:
 - The php version (in our program it is 5.1.2.)
 - The operating system that we use
 - The build date
 - The php.ini path
 - The php core directives
 - The apache's environment variables
 - The http headers information
 - The environment variables
 - The Php variables

- Click the  for remote editing of config files. (non graphical editing)

- Click the  to whether the interpreter works fine. You will be redirected to a page that shows you if the interpreter works and informs you about the environment variables, so in case of an error In php you will be well informed about what went wrong.

- Click the [SQLite test](#) to test whether SQLite php extension is loaded.

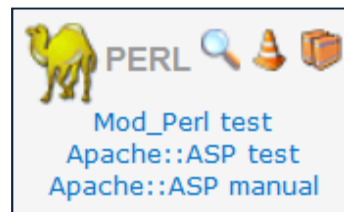
- Click the [PHPSQLiteAdmin](#) to administrate databases with SQLite.
Here you can:

- Create a new table
- Show Database schema
- Vacuum Database



or have an action at one of the tables of the database such as:

- Structure (change the structure of the table)
- Browse (view the contents of the table)
- Query (run a query at the table's contents)
- Empty (erase all the table's data)
- Drop (delete the table)

3.5.3 The Perl Interpreter





Perl is another useful well-known web-interpreter and at this part we will explain what the user can do with it.

- Click the  to view extended details about perl interpreter such as:
 - General Info:
 - Perl version
 - On which operating system is perl compiled
 - Where is the Perl executable
 - Where is the Perl bin folder
 - Which path perl includes
 - Enviroment Variables
 - Perl Modules
- Click the  to see whether the interpreter works fine. You will be redirected to a page that shows the:
 - CGI Perl is working fine
 - server software
 - client software

- http referer
- opened file
- server adress
- your adress

3.5.4 The Python Interpreter



- You can click the  to view extended details about this interpreter. You will be redirected to page that displays three tables. One that contains general info, one that describes the environment variables and one that shows all the python modules.
- Click the  to see whether the interpreter works fine. You will be redirected to a page that shows the:
 - CGI Perl is working fine
 - server software
 - client software
 - http referer
 - opened file
 - server adress
 - your adress

3.5.5 Functional Requirements

REQ-11: After configuring an interpreter you should restart apache for changes to take effect.

REQ-12: To enable Zend Optimizer the script will disable all the other two extensions, and to enable other extensions you need to disable Zend Optimizer.

REQ-13: While configuring php interpreter: A valid DNS name or IP address of the SMTP server PHP should use to send mail

REQ-14: While configuring php interpreter: A valid From of email address should be entered

3.6 The Services/Processes Block

This is the last but not least block of the program which administrates the services and the processes. It controls the heart of Apache2triad programs.

3.6.1 Description

This block deals with services and processes themselves.

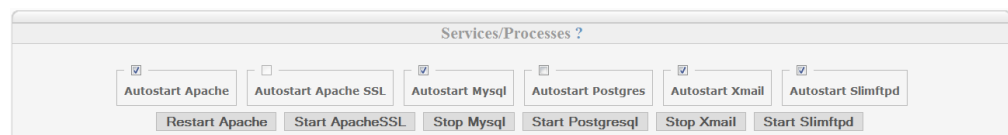


Figure 12: The Services/Processes Block

Checked boxes will auto-start when Windows starts. You can stop and start [MySQL](#), [Xmail](#), and [Slimftpd](#) from here. Note that Xmail does NOT run under Windows 9x platforms.

Here you can start, stop, restart or set for autostart the following services/processes:

- Apache
- ApacheSSL
- Mysql
- Postgresql
- Xmail
- Slimftpd

3.6.2 Functional Requirements

REQ-15: Apache can be stopped and can't be started from here. Use [ApacheMonitor](#) to restart Apache.

4. External Interface Requirements

4.1 User Interfaces

User interface of this program is a web interface so it depends on the web browser you are using.

4.2 Communications Interfaces

Internet connection and a browser are required in order for several functions to be executed such as

- online-news
- online-faq
- online-feedback/support
- online-update-check
- And many other functions

5. Other Nonfunctional Requirements

5.1 Performance Requirements

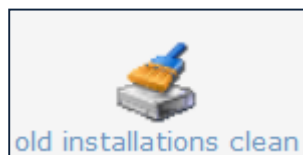
Apache2Triad is a light application that needs a few system resources in order to work. It is designed not to delay the system from other key processes. The response time of the program is direct and the application is considered real-time. Furthermore, the system can check for updates whenever is requested by the user. In this way Apache2Triad will be always up-to-date with all new supported features and bug fixes which are very important as they keep you protected from new viruses and web attacks.

5.2 Software Quality Attributes

- If you install and uninstall the program and having any problems with the remaining of previous installations, Apache2Triad has 2 functions that solve this kind of problems.



This script will fix MySQL registry keys from a old MySQL installation , with wrong service paths, known to cause problems for apache2triad. Run this if you have problems and have had a variation of Apache/MySQL ect previously.



This script will search for some files from old installations of php MySQL and perl , known to cause problems for apache2triad. Delete any files it finds.

- Apache2Triad is developed under GNU General Public License version 2 or later (copy from

<http://www.gnu.org/licenses/gpl.html>) and can be distributed under those terms.

- Apache2Triad can be found and downloaded from www.sourceforge.com and the project's official

<http://apache2triad.net/> for free.

6 Appendix

6.1 Appendix A: Glossary

SRS Document (Software Requirements Specification Document): is a complete description of the behavior of the system to be developed.

Source: http://en.wikipedia.org/wiki/Software_Requirements_Specificat

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Source: <http://www.gnu.org/copyleft/gpl.h>

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