

Installing PAN-OS-PHP

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1. Mac OS X

You need to run PHP 5.4 or later (tested with 7.4 at the time of this writing). PHP 5.4 is available natively on Mac OS X 10.9.x.

The following command will help you to determine your PHP version : "php -v"

```
❯ swaschkut$ php -v
PHP 7.1.23 (cli) (built: Feb 22 2019 22:19:32) ( NTS )
Copyright (c) 1997-2018 The PHP Group
Zend Engine v3.1.0, Copyright (c) 1998-2018 Zend Technologies
```

1.1. Check your GitHub account

Using github's utilities to maintain a fresh copy of PAN-OS-PHP by looking for the latest sources for you.

1.2. Install and setup GitHub Desktop for Mac

Download the client from <https://desktop.github.com/> and install it. Start the client and it will first request for your Github Enterprise login.

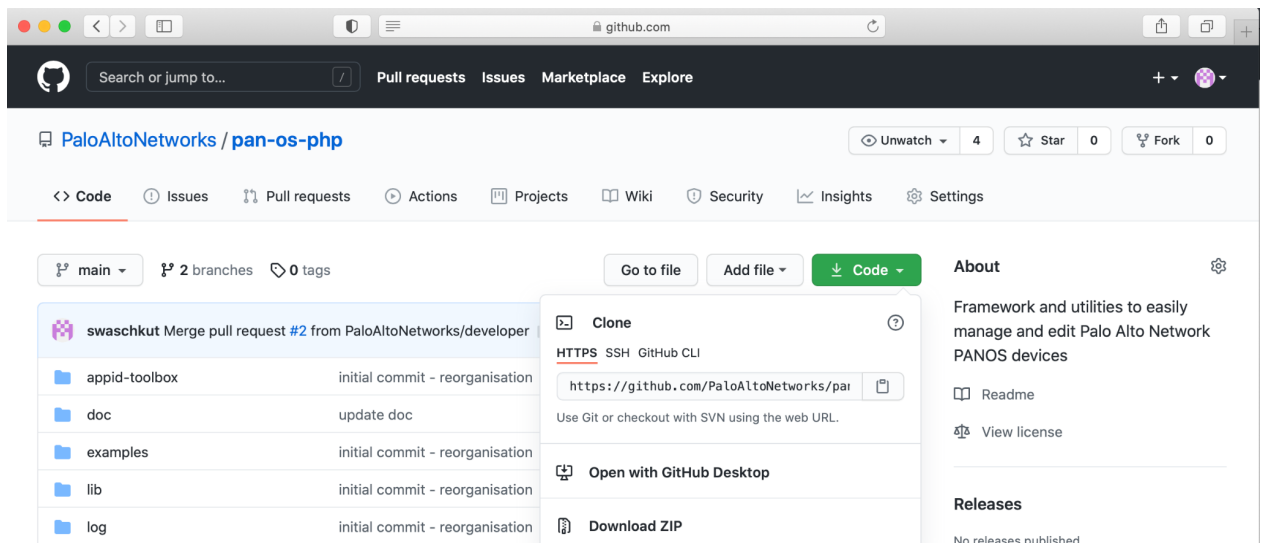
1.3. Bookmark/Star PAN-OS-PHP project

In order to know when a new version is out and also look for the project easier in GitHub client, it's a good idea to Star/bookmark the project and eventually.

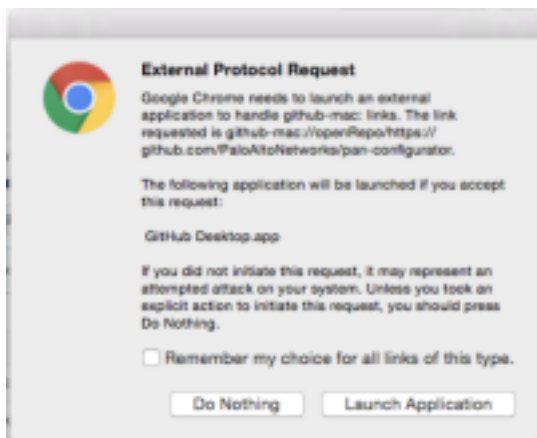
For this, go to the project page (<https://github.com/PaloAltoNetworks/pan-os-php>) and click on the "Star" button (see screenshot) and optionally on the "Watch" button to Watch it.

1.4. Clone PAN-OS-PHP repository

Still on PAN-OS-PHP Github homepage, click the Clone button like below :



Chrome will warn you that it will open external program GitHub Desktop, click “Launch Application”:



Github will then ask you in which location you want to install PAN-OS-PHP.
Suggestion : install it in your Documents/pstools/pan-os-php (like in screenshot):

Clone a Repository

GitHub.com

GitHub Enterprise Server

URL

Repository URL or GitHub username and repository
(hubot/cool-repo)

https://spring.paloaltonetworks.com/swaschkut/Expedition-Converter

Local Path

/Users/swaschkut/Documents/PAN_scripting/Expedition-Conver

Choose...

Cancel

Clone

Upon successful download of latest sources, GitHub Desktop should be showing something similar to this screenshot:

Current Repository
pan-os-php

Current Branch
developer

Fetch origin
Last fetched 5 minutes ago

Changes

History

Select Branch to Compare...

introduce travis-ci for automatic unit testing

Sven Waschkut • 1h

update doc

Sven Waschkut • 1d

UTIL | fix for including framework and util library

Sven Waschkut • 2d

UTILS | bugfix add missing set_include_path for differen...

Sven Waschkut • 2d

cleanup Dockerfile

Sven Waschkut • 2d

UTILS | update include_path for proper use on sub proje...

Sven Waschkut • 2d

Update README.md

Sven Waschkut • 2d

initial commit - reorganisation

Sven Waschkut • 2d

Initial commit

Sven Waschkut • 2d

introduce travis-ci for automatic unit testing

Sven Waschkut • 0ef7d41 • 3 changed files

.travis.yml

CHANGELOG.txt

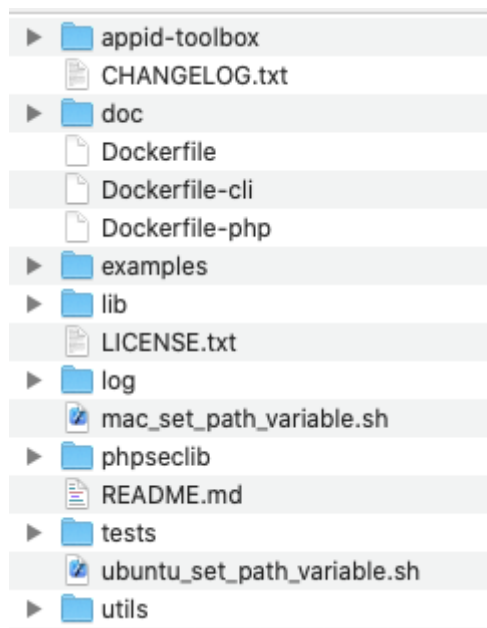
README.md

```

@@ -0,0 +1,18 @@
1 +language: php
2 +php:
3 +  - '5.6'
4 +  - '7.4'
5 +
6 +script:
7 +  - cd examples
8 +  - php example-add-security-profile-to-all-rules.php
9 +  - php example-basics-panos.php
10 +  - php example-panorama-unused-objects.php
11 +  - cd ../tests
12 +  - php test_filters.php
13 +  - php test_actions.php
14 +  - php test_mergers.php
15 +
16 +notifications:
17 +  email:
18 +    - swaschkut@paloaltonetworks.com

```

If you browse to the folder where you install PAN-OS-PHP, you should see its file structure:



1.5. Add PAN-OS-PHP install directory to PHP include_dir / Load PAN-OS-PHP alias for your CLI

Please execute the bash script:

```
sh mac_set_path_variable.sh
```

Below the different parts are explained what the bash script is doing:

Of course it always depends where you copied PAN-OS-PHP into your environment.

```
sudo cp -f /etc/php.ini.default /etc/php.ini
sudo chmod u+w /etc/php.ini
echo "include_path = \"../php/includes:/Users/$USER/Documents/pstools/pan-os-php\"" | sudo
tee-a /etc/php.ini
```

PHP stores its configurations in “/etc/php.ini”. If this file does not exist yet on your system, you need to copy the default template, you can do this from CLI. You can also use the following CLI to overwrite your existing PHP configuration:

If you want to do this manually, edit /etc/php.ini with your favorite editor (be careful of the root privilege required) to edit property “include_path” to add the path to

pan-configurator.

You can test that you installed everything properly by testing the following command line:

```
php -r "require('lib/pan_php_framework.php');print \"OK INSTALL  
SUCCESSFUL\\n\";" OK INSTALL SUCCESSFUL
```

It is very convenient to load the PAN-OS-PHP toolset from any location in your folder. For this the script added an alias file every time you start a new CLI console. The script above executed the following command-line to add it in your ~/.profile :

```
echo "source \" /Users/$USER/Documents/pstools/pan-os-php/utils/alias.sh\" \">> ~/.profile
```

Now open a new CLI console (to reload all your environment) and try to run command “pa_rule-edit”:

2. Windows (WSLv2 approach)

WSL (Windows Submodule Linux) is replacing the old and vulnerable part of PAN-OS-PHP Windows Toolbox by using Console2.

2.1. Requirements for Windows

- Windows 10 version 2004 and higher (Build 19041 and higher) or Windows 11
- <https://docs.microsoft.com/en-us/windows/wsl/install>

2.2. install WSL via Windows Command line

Installing WSL with default Linux distribution (*Ubuntu 20.0 by default, at the time of writing this document*)

- execute: `wsl --install`

2.3. install PAN-OS-PHP for Ubuntu 20.0

- download installer script:
https://github.com/PaloAltoNetworks/pan-os-php/blob/main/install_script/ubuntu20.sh
- execute script

3. Windows (old approach)

Windows users must go through the same steps as Mac OS X users but need to start with a different repository

3.1. Download via Github Desktop

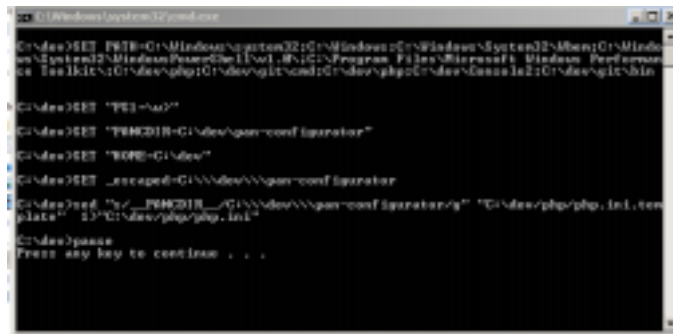
<https://github.com/PaloAltoNetworks/pan-os-php-windows-package>

3.2. Download all git submodules

Run script “update-pan-os-php.bat”.

3.3. Execute setup script

Run script “run-once-to-setup.bat”.



```
C:\Windows\system32\cmd.exe
C:\Users>SET PATH=C:\Windows\system32;C:\Windows;C:\Windows\System32\Wbin;C:\Windows\System32\WindowsPowerShell\v1.0\NIGINProgram Files\Microsoft Windows Performance Toolkit;C:\Users\php\Documents\git\pan-os-php\bin;C:\Users\php\Documents\git\bin
C:\Users>SET "PATH=%path%"
C:\Users>SET "PATHCDIR=C:\Users\php\Documents\git\pan-os-php\bin"
C:\Users>SET "BPOPE=C:\Users\php\Documents\git\pan-os-php\bin"
C:\Users>SET _escaped=C:\Users\php\Documents\git\pan-os-php\bin
C:\Users>cmd "set /P PATHCDIR=C:\Users\php\Documents\git\pan-os-php\bin" "C:\Users\php\bin\template" 1.1 C:\Users\php\bin\template
C:\Users>pause
Press any key to continue . . .
```

3.4. Run PAN-OS-PHP source code update script

Run script “update-pan-os-php.bat”


```
C:\Windows\system32\cmd.exe
C:\dev\pan-configurator>git clean -f

C:\dev\pan-configurator>git pull origin master
remote: Counting objects: 35, done.
remote: Compressing objects: 100% (35/35), done.
remote: Total 35 (delta 25), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (35/35), done.
From https://github.com/PaloAltoNetworks-SD/pan-configurator
 * branch            master       -> FETCH_HEAD
 * 249e240..af383b6  master       -> origin/master
Updating 249e240..af383b6
Fast-forward
 CHANGELOG.txt                | 2 +
 doc/class-Address.html       | 1 +
 doc/class-AddressCommon.html | 1 +
 doc/class-AddressGroup.html  | 1 +
 doc/class-AggregateEthernetIfStore.html | 1 +
 doc/class-AggregateEthernetInterface.html | 1 +
 doc/class-App.html           | 1 +
 doc/class-EthernetInterface.html | 1 +
 doc/class-IPsecTunnel.html   | 1 +
 doc/class-LoopbackInterface.html | 1 +
 doc/class-ManagedDevice.html | 1 +
 doc/class-PanAPIConnector.html | 66 +
 doc/class-ReferencableObject.html | 38 +
 10 files changed, 124 insertions(+), 0 deletions(-)
create mode 100644 doc/class-Address.html
create mode 100644 doc/class-AddressCommon.html
create mode 100644 doc/class-AddressGroup.html
create mode 100644 doc/class-AggregateEthernetIfStore.html
create mode 100644 doc/class-AggregateEthernetInterface.html
create mode 100644 doc/class-App.html
create mode 100644 doc/class-EthernetInterface.html
create mode 100644 doc/class-IPsecTunnel.html
create mode 100644 doc/class-LoopbackInterface.html
create mode 100644 doc/class-ManagedDevice.html
create mode 100644 doc/class-PanAPIConnector.html
create mode 100644 doc/class-ReferencableObject.html
```

3.5. Test it

Windows zip package comes with a utility called Console2 which offers a good alternative to MS-DOS shell, plus it has all environment variables preset.

Run “console.bat” to start it:

```
Console2
File Edit View Help

*****
** PAN-Configurator environment is ready
*****
* Reminder of available alias for quick
* access from anywhere:
*
* pa_rule-edit, pa_address-edit, pa_service-edit
* pa_upload-config
->[]

Ready 25x124
```

Run the following command “pa_rule-edit” and check that it actually works:

```
Console2
File Edit View Help

* access from anywhere:
*
* pa_rule-edit, pa_address-edit, pa_service-edit
* pa_upload-config

~>pa_rule-edit

*****
***** RULE-EDIT UTILITY *****

**ERROR** "in" is missing from arguments

USAGE: php rules-edit.php in=inputfile.xml out=outputfile.xml location=all|shared|sub actions=action1:arg1 ['filter=(from has
s external) or (to has dmz)']
php rules-edit.php listactions      : list supported actions
php rules-edit.php listfilters     : list supported filter
php rules-edit.php help            : more help messages

Examples:
- php rules-edit.php in=api://192.169.50.10 location=DMZ-Firewall-Group actions=from-add:dmz2,dmz3 'filter=(to has untrust)
or (to is.any)'
- php rules-edit.php in=config.xml out=output.xml location=any actions=securityProfile-Group-Set:BlockAll

~>

Ready 25x124
```

4. More documentation

- PAN-OS-PHP GitHub homepage:
<https://github.com/PaloAltoNetworks/pan-os-php>
- PAN Live Community page for PAN-OS-PHP:
<https://live.paloaltonetworks.com/t5/API-Articles/PAN-Configurator-scripting-library-and-utilities/ta-p/52163>
- PAN Live Community helper page for “rules-edit”:
<https://live.paloaltonetworks.com/t5/api-articles/rules-edit-php-to-manage-edit-export-rules-from-cli/ta-p/53321>