

# Open-Source Security

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# Opensource Software

Computer software developed as a public, open collaboration and made freely available to everyone.



# Opensource vs Proprietary

- Source code is available for use or modification
- Available under a license that controls the redistribution process
- Typically developed by a community of volunteers
- Rapid development, innovation, and transparency
- Software is a closed box (source code is hidden)
- Usually needs a subscription
- Only the vendor can modify or add features

# Opensource Licenses

			<b>BSD</b>				
Type	Permissive	Permissive	Permissive	Copyleft	Copyleft	Copyleft	
Provides copyright protection	✓ TRUE	✓ TRUE	✓ TRUE	✓ TRUE	✓ TRUE	✓ TRUE	
Can be used in commercial applications	✓ TRUE	✓ TRUE	✓ TRUE	✓ TRUE	✓ TRUE	✓ TRUE	
Provides an explicit patent license	✓ TRUE	✗ FALSE	✗ FALSE	✗ FALSE	✗ FALSE	✗ FALSE	
Can be used in proprietary (closed source) projects	✓ TRUE	✓ TRUE	✓ TRUE	✗ FALSE	✗ FALSE partially	✗ FALSE for web	
Popular open-source and free projects	Kubernetes Swift Firebase	Django React Flutter	Angular.js JQuery, .NET Core Laravel	Joomla Notepad++ MySQL	Qt SharpDevelop	SugarCRM Launchpad	

# Pros. & Cons.

Pros.	Cons.
Agility	difficulty of use
Cost effective	unexpected costs
Scalability	Requirement specifications
No vendor lock-in	Support
Community Engagement	Lack of a single point of contact
Security	Security

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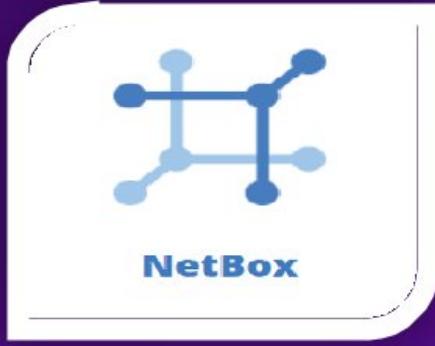
# Business Regulations

Requirement	Required?	Available?
License	Required.	Available
Support	Required	Available
SLA	Required	Not always there

# Benefits of using Oss in Business

Cost	Save cost, especially during the testing process Much better to use OSS instead of using Cracks
Needs	Solution tailored to your needs
Features	Test new features on the fly

# Open source security solutions



<https://landscape.cncf.io/>

# Use cases

Asset Inventory	Net-box OSS
Asset Resources info	Zabbix
Firewall	PfSense/OpnSense
SIEM+XDR	Wazuh
IDS/IPS	Snort/Suricata

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# Home Network Issues

Weak Generic Hardware

Misconfiguration

Limited Functionality

Lack of Planning

Human Factors

# Prerequisites

The ability to manage your hardware:

- Some hardware can't be managed(usually provided by the ISP)
- Human is not familiar with router's config

## WHAT DO WE DO?

Remove your weak router

Replace it with a more powerful one

Add more capability to your network

Increase the performance of the network

Recycle old hardware that might be going to be thrown away

# HOW DO WE DO IT?

## Remove weak router

DSL router (Bridge Mode)  
Fiber (replace ONT with SFU)

## Increase the performance

Added hardware is usually  
8X-10X the old router

## Recycle old hardware

Using your old computer  
that might be thrown away

## Add more capability

Using opensource systems  
like  
openwrt/pfsense/opnsense  
will add a lot of capabilities  
to the network



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# Steps



WAN port can be set on this page.

**ATM Configuration**

VPI(0-255):  VCI(1-65535):

Notice: The current PVC has a plurality of connection, the following parameters prohibiting to modify!

[Advance ▾](#)

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**WAN Service Setup**

**WAN Connection Type**

- Static IP
- Dynamic IP
- PPPoE
- PPPoA
- IPoA
- Bridge

**PPP Username:**   
**PPP Password:**   
**Confirm Password:**

Choose the right connection type according to your needs:

Connect on demand. The connection will be automatically on when there is Internet access  
Max Idle Time:  minutes (0 means remain active at all time)

Connect automatically. The connection will be automatically on after startup or disconnection

Connect manually. user connects manually  
Max Idle Time:  minutes (0 means remain active at all time)

Authentication Method:  AUTO  ALUW

# Steps

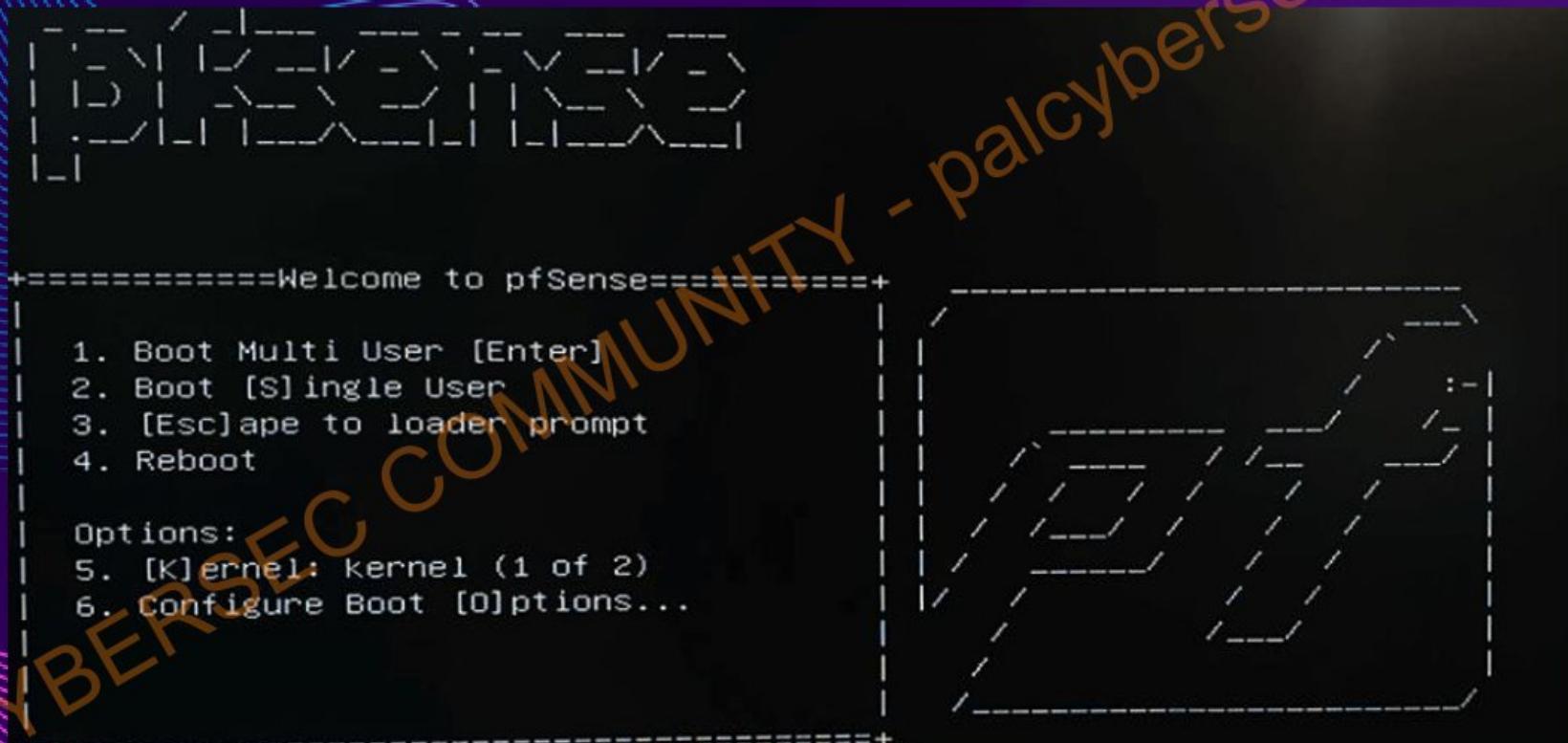


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# Steps



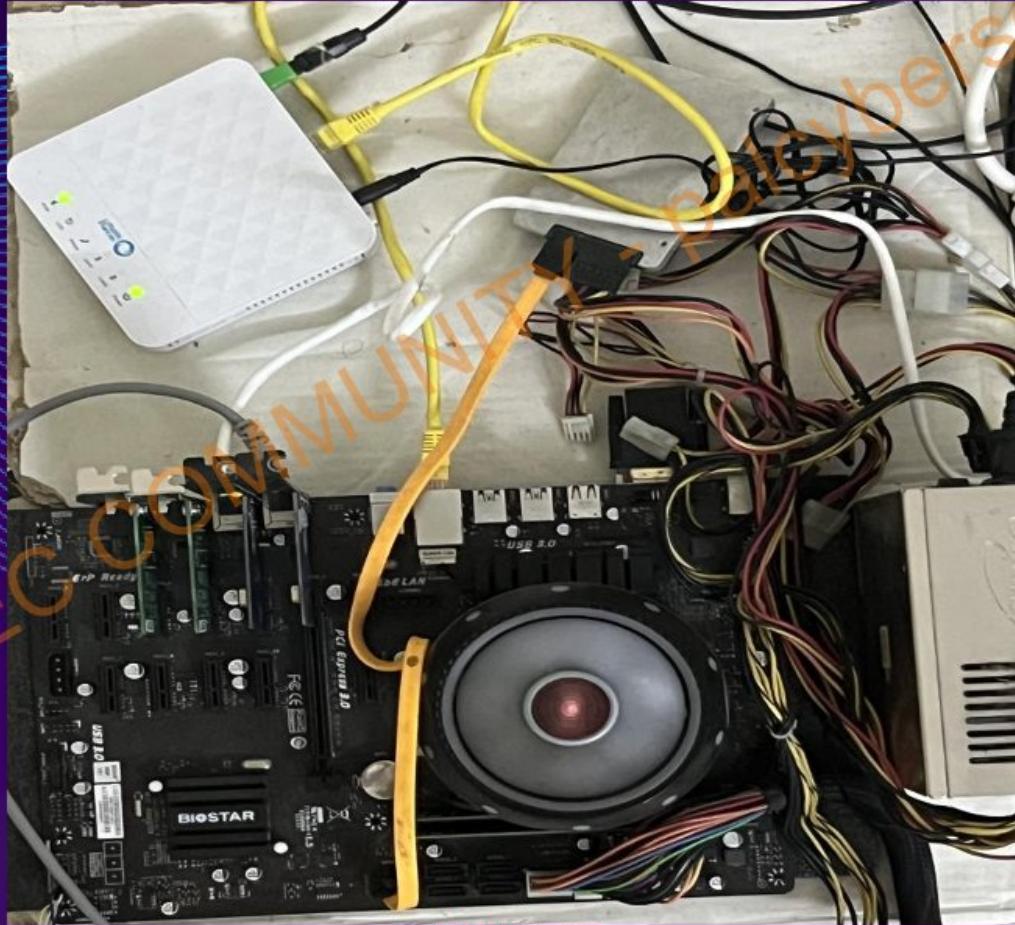
# Steps



# Examples



# Examples



# Added functionality examples

# Added functionality examples

Firewall / pfBlockerNG

General    IP    DNSBL    Update    Reports    Feeds    Logs    Sync    Wizard

General Settings

Links    Firewall Aliases    Firewall Rules    Firewall Logs

pfBlockerNG     Enable

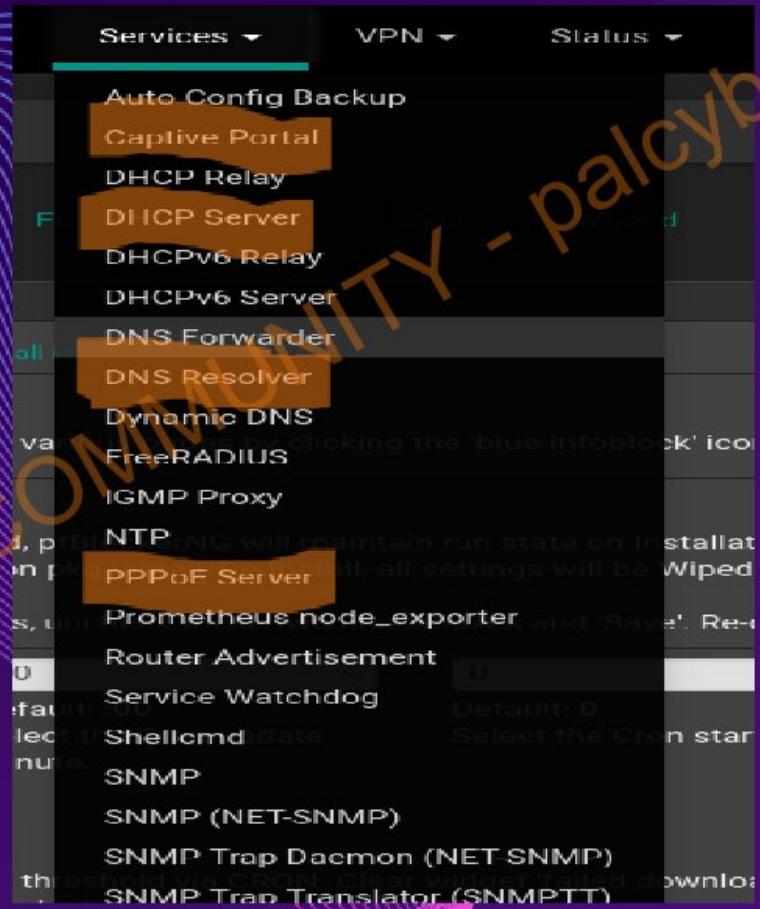
Note: Context help is available on various pages by clicking the 'blue infoblock' icons    →

Keep Settings     Enable

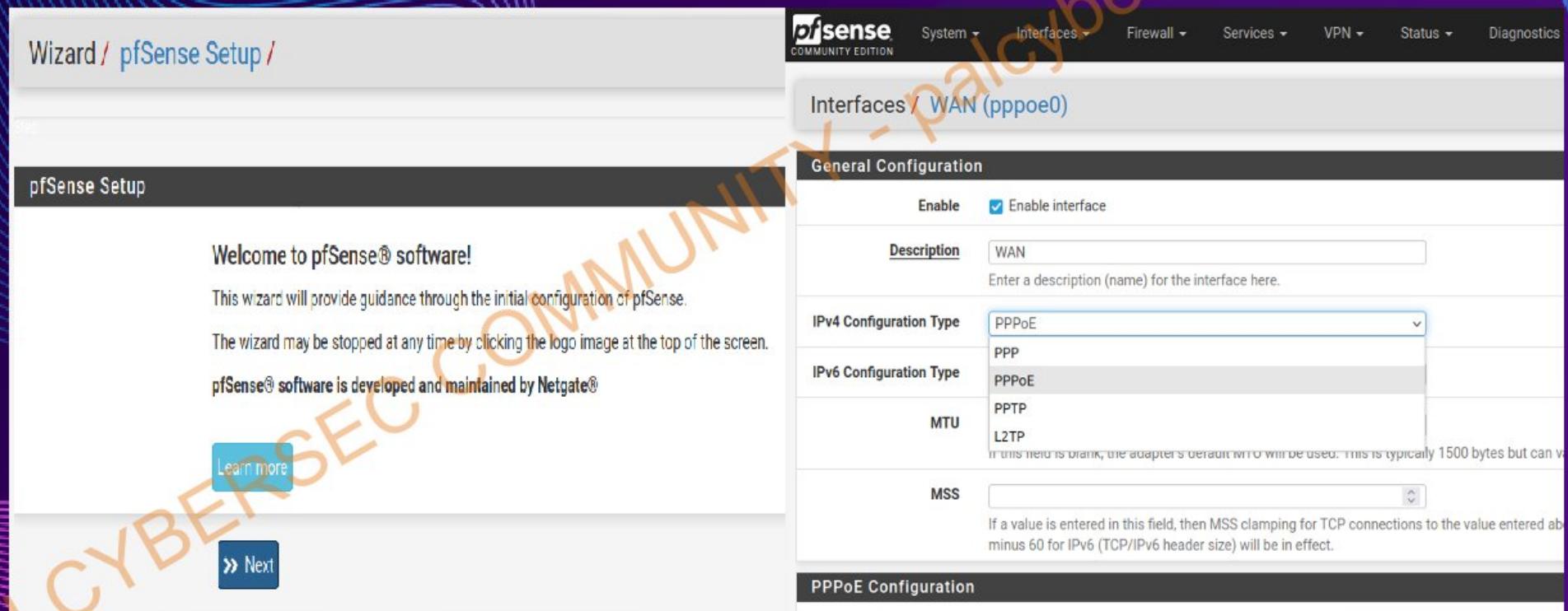
Note: With 'Keep settings' enabled, pfBlockerNG will maintain run state on Installation/Upgrade.  
If 'Keep Settings' is not 'enabled' on pkg Install/De-Install, all settings will be Wiped!

Note: To clear all downloaded lists, uncheck these two checkboxes and 'Save'. Re-check both boxes and run a 'Force Update|Reload'

# Added functionality examples



# Easy Setup



The image shows two side-by-side screenshots of pfSense software. On the left is the 'Wizard / pfSense Setup / pfSense Setup' screen, which displays a welcome message, information about the Netgate development team, and a 'Learn more' button. On the right is the 'Interfaces / WAN (pppoe0)' configuration page under the 'General Configuration' tab, showing settings for IPv4, IPv6, MTU, and MSS, with a dropdown menu for IPv4 Configuration Type set to PPPoE.

Wizard / pfSense Setup /

pfSense Setup

Welcome to pfSense® software!

This wizard will provide guidance through the initial configuration of pfSense.

The wizard may be stopped at any time by clicking the logo image at the top of the screen.

pfSense® software is developed and maintained by Netgate®

Learn more

» Next

pfSense  
COMMUNITY EDITION

System ▾ Interfaces ▾ Firewall ▾ Services ▾ VPN ▾ Status ▾ Diagnostics

Interfaces / WAN (pppoe0)

General Configuration

Enable  Enable interface

Description WAN  
Enter a description (name) for the interface here.

IPv4 Configuration Type PPPoE

IPv6 Configuration Type PPPoE

MTU  
If this field is blank, the adapter's default MTU will be used. This is typically 1500 bytes but can vary.

MSS  
If a value is entered in this field, then MSS clamping for TCP connections to the value entered above minus 60 for IPv6 (TCP/IPv6 header size) will be in effect.

PPPoE Configuration



What now?

Do whatever you want!

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THANKS

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