new vm --> ubuntux64 machine --> 60gb --> pfsense iso

2 adapters

nat

hostonly

if lags, settings options advanced bios UEFI ok

install okokok check yes destroy

```
*** Welcome to pfSense 2.7.1-RELEASE (amd64) on pfSense ***
                               -> v4/DHCP4: 192.168.75.132/24
WAN (wan)
                 -> em0
LAN (lan)
                               -> v4: 192.168.1.1/24
0) Logout (SSH only)
                                       9) pfTop
 1) Assign Interfaces
                                      10) Filter Logs
2) Set interface(s) IP address
                                      11) Restart webConfigurator
                                      12) PHP shell + pfSense tools
3) Reset webConfigurator password
                                      13) Update from console
4) Reset to factory defaults
5) Reboot system
                                      14) Enable Secure Shell (sshd)
6) Halt system
                                      15) Restore recent configuration
7) Ping host
                                      16) Restart PHP-FPM
8) Shell
Enter an option:
```

do till above steps

2

```
Enter an option: 2
Available interfaces:
1 - WAN (em0 - dhcp, dhcp6)
2 - LAN (em1 - static)
Enter the number of the interface you wish to configure: 2
Configure IPv4 address LAN interface via DHCP? (y/n) n
Enter the new LAN IPv4 address. Press <ENTER> for none:
> 192.168.50.1
Subnet masks are entered as bit counts (as in CIDR notation) in pfSense.
     255.255.0.0 = 16
    255.0.0.0
Enter the new LAN IPv4 subnet bit count (1 to 32):
> 24
For a WAN, enter the new LAN IPv4 upstream gateway address.
For a LAN, press <ENTER> for none:
Configure IPv6 address LAN interface via DHCP6? (y/n) n
```

2

n

enter ip you want for that interface

mask

n

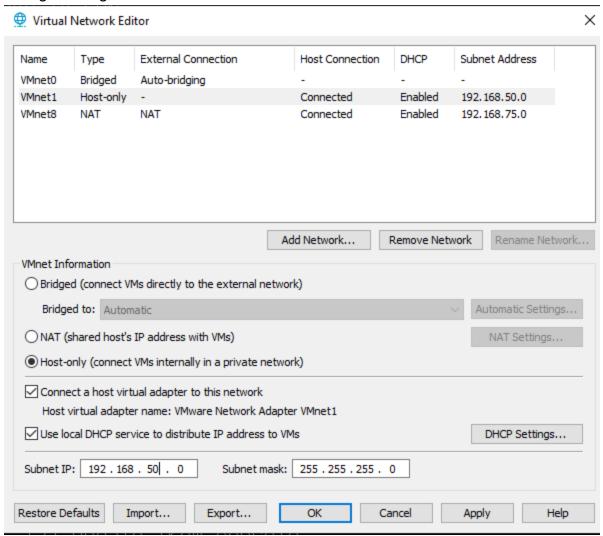
n

n

edit

virtual net adapter

change settings

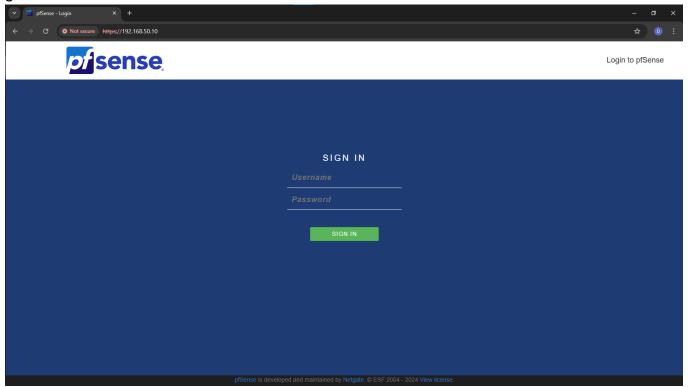


host only & chane ip to 192.168.50.0

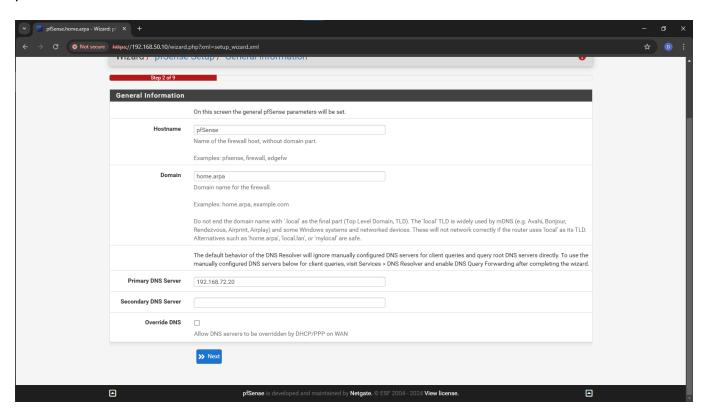
```
Connection-specific DNS Suffix .:
Link-local IPv6 Address . . . : fe80::a01:f1b2:571e:6556%5
IPv4 Address . . . . : 192.168.50.1
Subnet Mask . . . . . . : 255.255.255.0
Default Gateway . . . . . :
```

50.1 is taken by vmware automatically

go to base machine browser

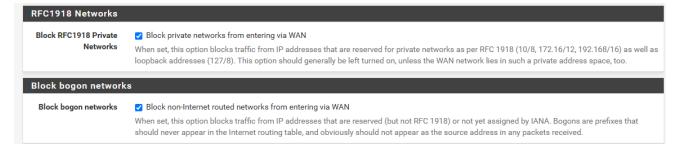


admin pfsense



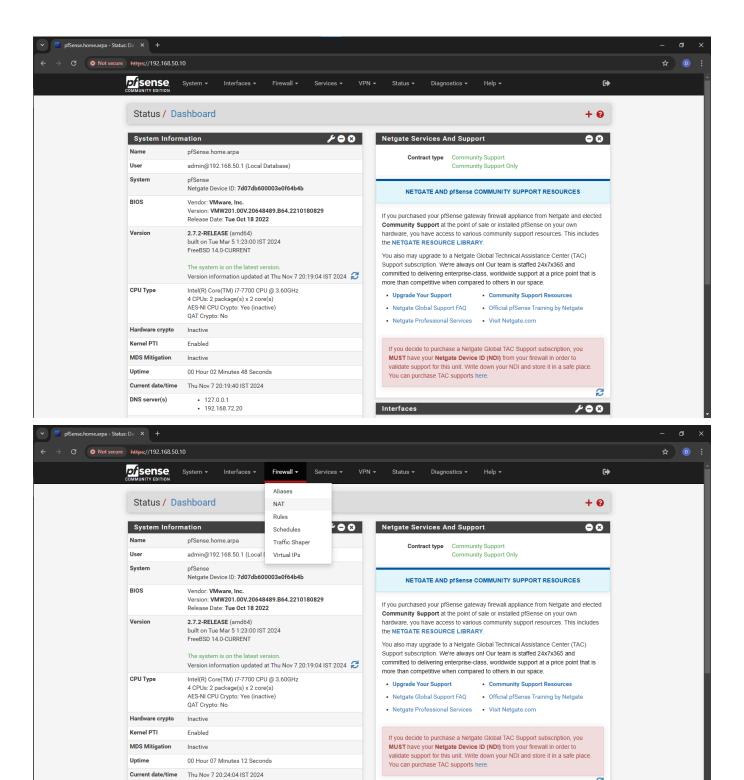
enter CDAC DNS & uncheck

next time zone as asia/kolkata



this is why private ips are not allowed and we have to do natting to conv priv ip to pub ip

n-n-give admin pwd ditiss@123 reload



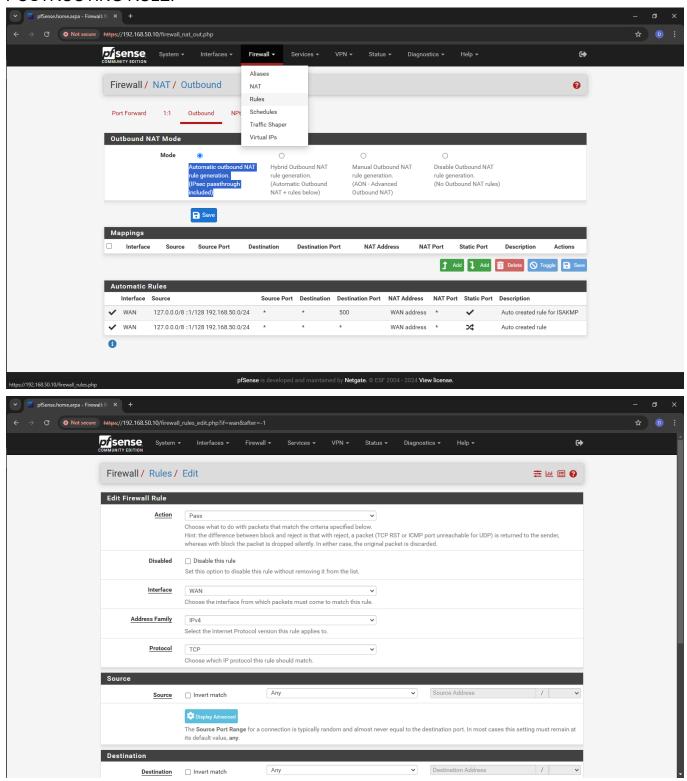
Interfaces

₽⊖8

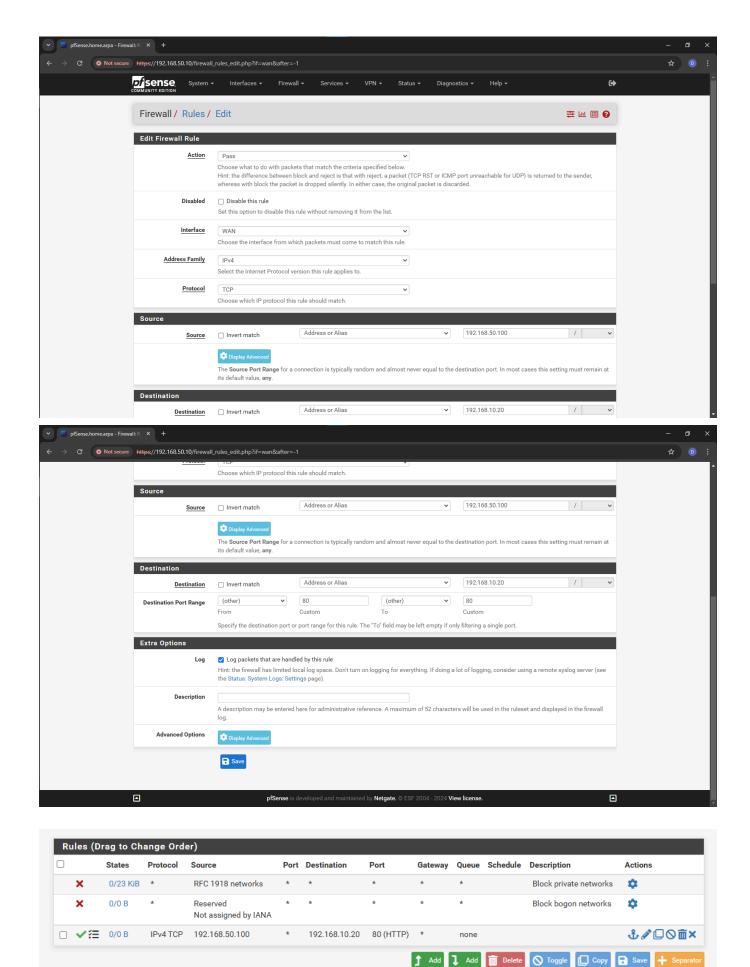
• 127.0.0.1 • 192.168.72.20

//192.168.50.10/firewall_nat.php

POSTROUTING RULE:



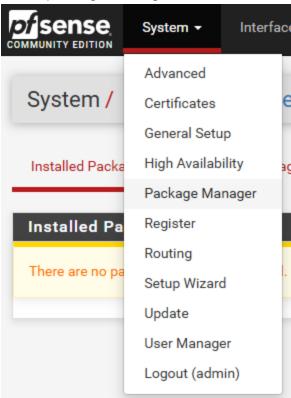
pass-accpet block-drop reject-reject



BLOCK WEBSITES---we cant as pfsense is a packet filtering firewall and can block ip's only we can block them by installing squid---which is provided by the subscription

so while bying these firewall subscriptions, you need to compare for the product, features and price for the firewall

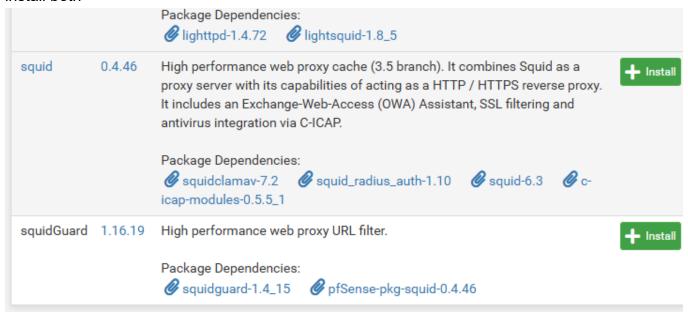
install package managers

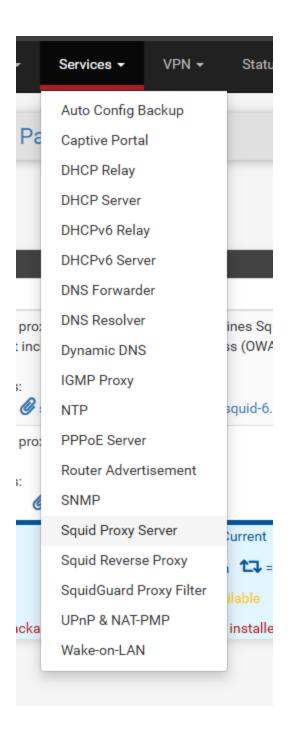


go to available packages -- search squid

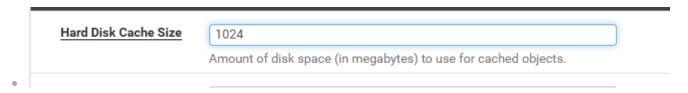
squidgaurd=allows to have webbased filtering (url filter) squid=proxy netsquid= for reports/logging who is using how man y websites most visited sites ,etc

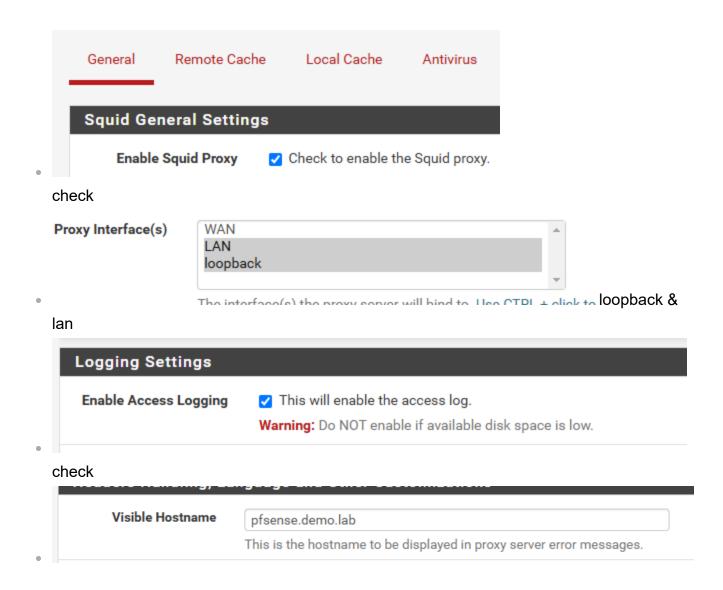
install both





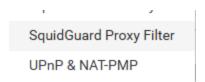
go to local cache and change to





https://dsi.ut-capitole.fr/blacklists/download/



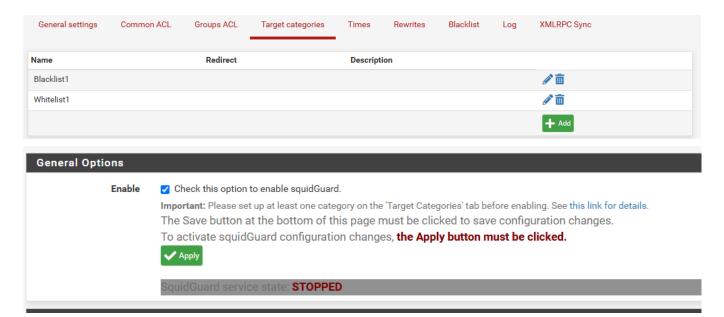




go to the blacklist tab and click on download

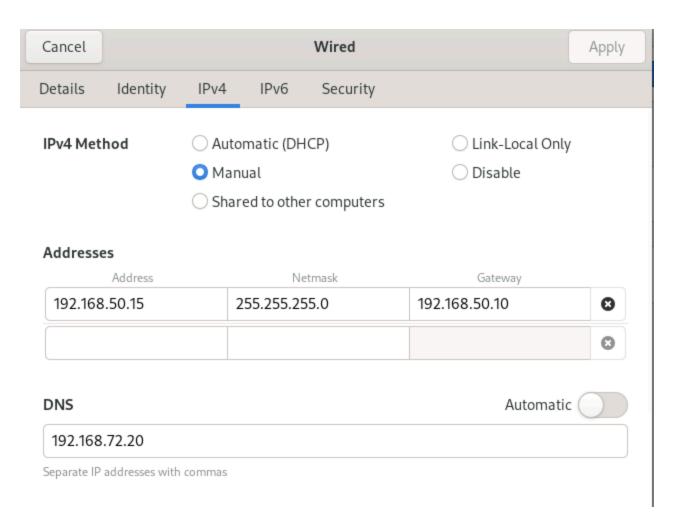
target categories tab add give name, check logs save

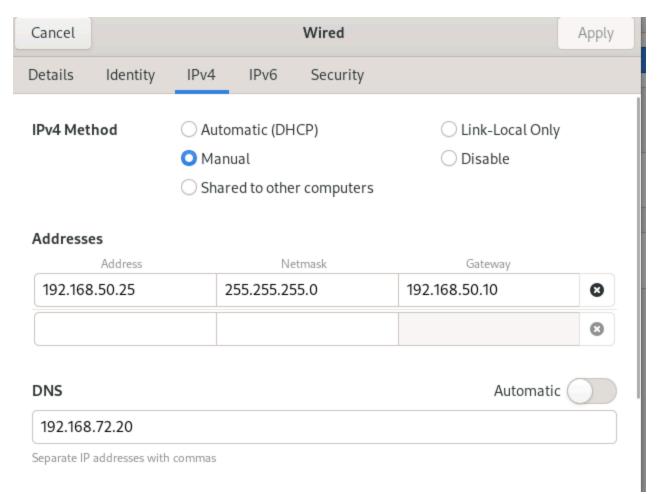
Blacklist1 for block whitelist1 to allow

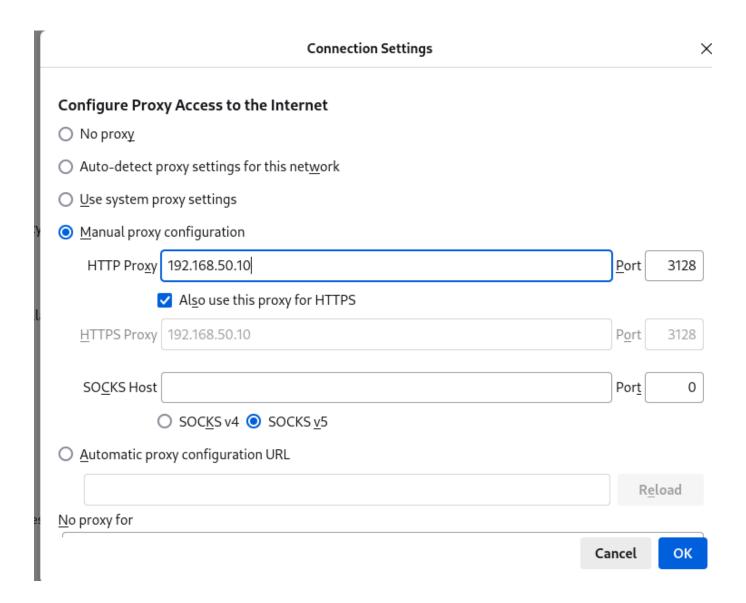


everything into the firewall = UTM

else packet filter firewall web filter firewall





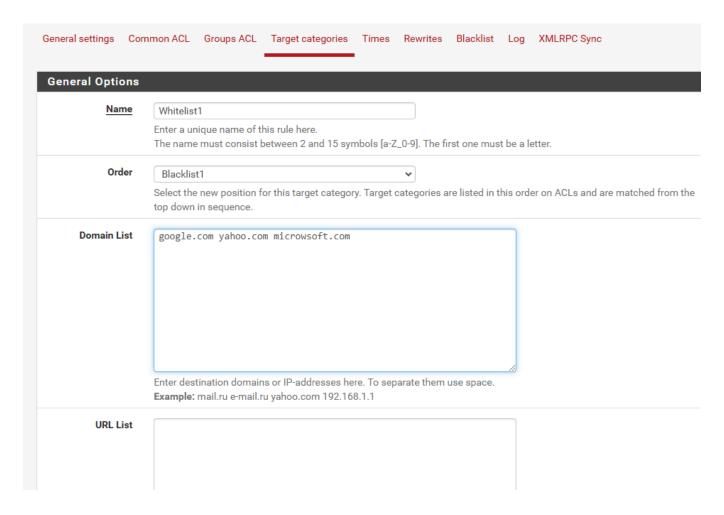


default action in pfsense is deny all whixch is why any sites wont open

pfsense site:

common acl target rule + allow whitelist1

- Do no allow ip address in url
- use safe search engine
- log



whenever you make any changes, go to general settings and click on apply

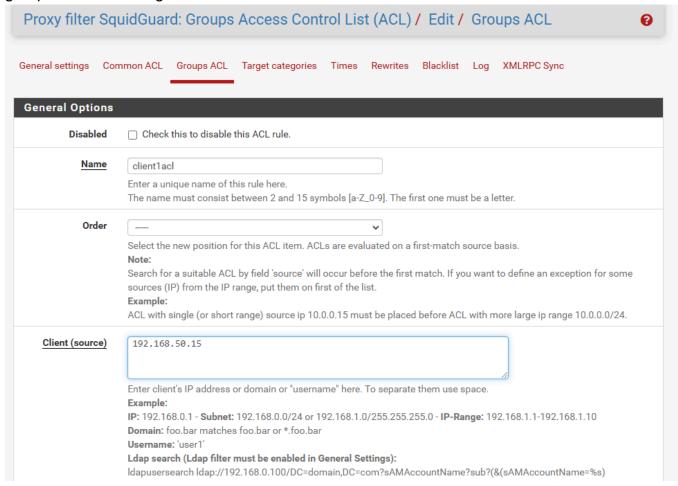
GROUP ACL

WE WANT TO ALLOW MORW SITES FOR CLIENT 1

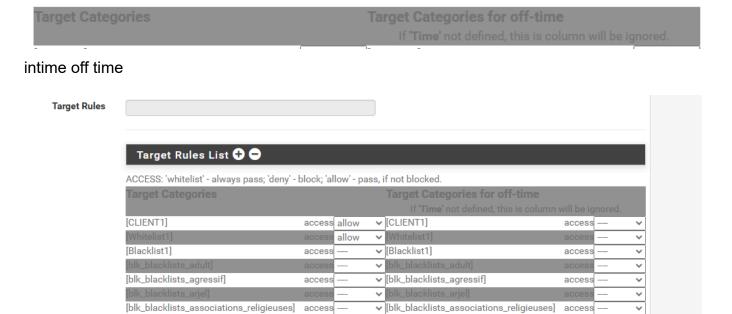
Proxy filter SquidGuard: Target categories / Edit / Target categories						
General settings	Common ACL Groups ACL Target categories Times Rewrites Blacklist Log XMLRPC Sync					
General Optio	18					
<u>Nam</u>	Enter a unique name of this rule here. The name must consist between 2 and 15 symbols [a-Z_0-9]. The first one must be a letter.					
Orde	Whitelist1 Select the new position for this target category. Target categories are listed in this order on ACLs and are matched from the top down in sequence.					
Domain Lis	t cdac.in micromax.in pythin.org					

log save

group acl --> add --> give name



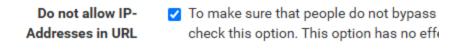
for any user on that machine, give his username in single quotes



last option as deny

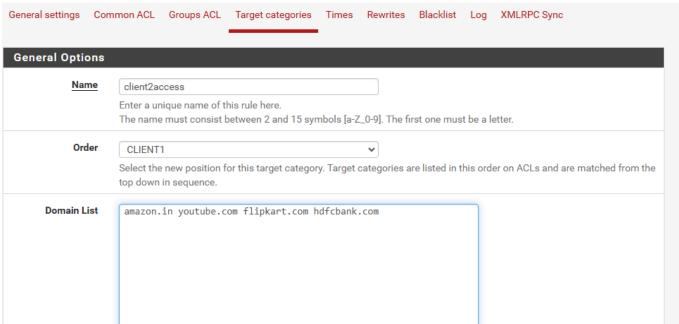


· do not check for any rule, compulsorily allow



safemode and logs as well

client2



common acl is more restrictive

GROUP ACL HAS PRIORITY OVER COMMON ACL

block bad words

donot start any names with allow block deny etc

Regular Expression

movie|hacking|games|gambling|cricket|bitcoin|gaming

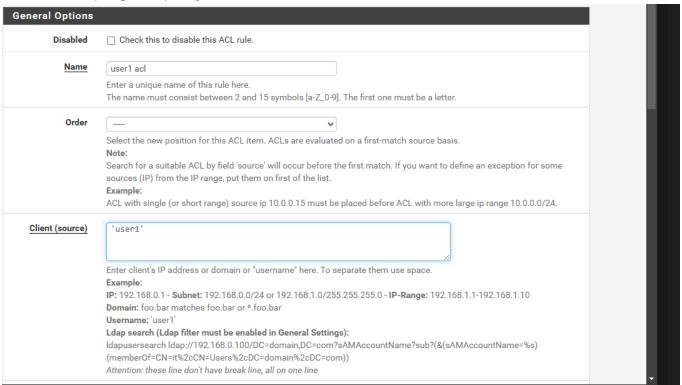


Creating users

services --> squid proxy server --> Auth method local

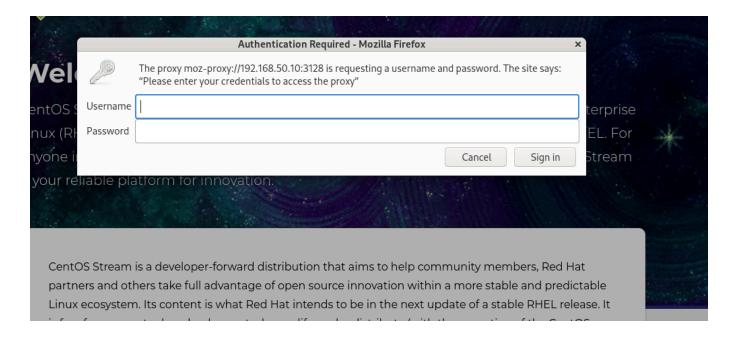
users add save general --> restart the service

services-->squidguard proxy filter



target list whitelist-alllow clienttg-allow

defaiult accesss deny



priority bw user and ip acl

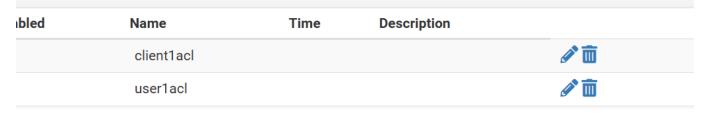
user1--deny=whiutelist---default rule=allow

create client1acl

gieve ip

trl = allow whitelist

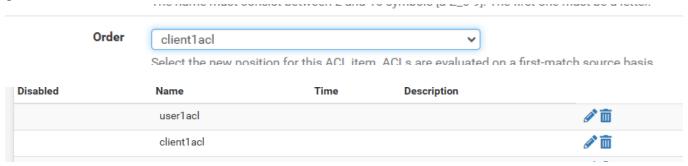
deny all



ip is given the preference

change order

go to user1acl and select client1acl

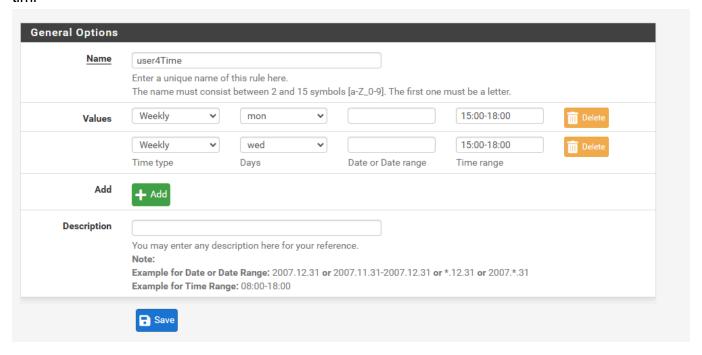


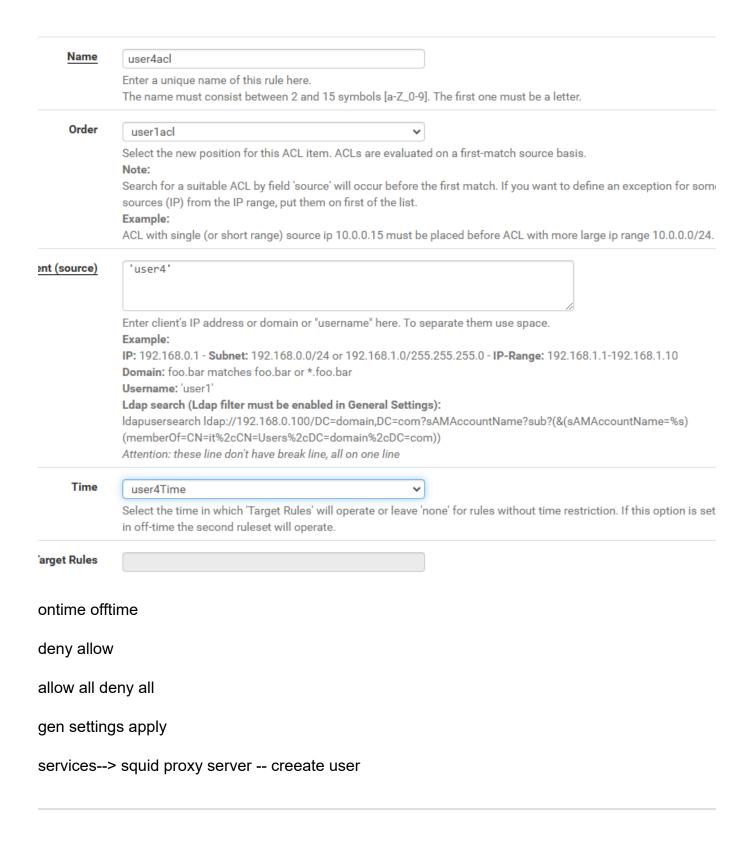
HENCE THE PREFERENCE IS DECIDED DEPENDING ON TH ORDER OF ENTRY

time based acl

guard;

timr--





exercise:

create user10 - on all days - 9:00 to 19:00-user can access all websites except amazon.in flipkart.com myntra and after 1900 user cannot access any sites except google microsoft redhat python

ACCESS: 'whitelist' - always pass; 'deny' - block; 'allow' - pass, if not blocked.

Target Categories	Target Categories for off-time					
			If 'Time' not defined, this is column v			
Blacklist1]	access	deny 🗸	[Blacklist1]	access		~
Whitelist1]	access		[Whitelist1]	access	allow	~
CLIENT1]	access -		[CLIENT1]	access		~
badwords]	access		[badwords]	access		~
siteblk]	access -		[siteblk]	access		~
target3]	access-		[target3]	access		~
client2access]	access -		[client2access]	access		~
blk_blacklists_adult]	access		[blk_blacklists_adult]	access		~
blk_blacklists_agressif]	access -		[blk_blacklists_agressif]	access		~
blk_blacklists_arjel]	access		[blk_blacklists_arjel]	access		~
blk_blacklists_associations_religieuses]	access -		[blk_blacklists_associations_religieuses]	access		~
blk_blacklists_astrology]	access		[blk_blacklists_astrology]	access		~
blk_blacklists_audio-video]	access -		[blk_blacklists_audio-video]	access		~
blk_blacklists_bank]	access-		[blk_blacklists_bank]	access		~
hlk hlacklists hitcoinl	access -		fblk blacklists bitcoin	access		v

[blk_blacklists_warez]	access		~	[blk_blacklists_warez]	access		~	
[blk_blacklists_webmail]	access		~	[blk_blacklists_webmail]	access		~	
Default access [all]	access	allow 🗸		Default access [all]	access	deny 🗸	,	

To make sure that people do not bypass the URL filter by simply using the IP-Addresses instead of the FQDN you can check this option. This option has no effect on the whitelist.

