

# Proxyknife manual

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for version 1.5 of GNU Proxyknife. Latest update: 6 November 2006.

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This manual documents version 1.5 of GNU Proxyknife, the validator of free proxy. The latest update of this manual: 6 November 2006.

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# 1 What is proxyknife?

GNU Proxyknife is a customizable proxy hunter. It is a quite tedious work for lan users after firewall to find a quite good proxy from a lot of updating proxylist. Just as proxyhunter, proxyknife can help users to find good proxies. (It is not a really brave hunter, but a lazy and kind one who will only select beasts puted before him or her,;-).)

GNU Proxyknife reads free proxy list from a file or the web and outputs data used to value speed and response of the available free proxies . The whole process can be customized by the user, which is different from the other hunters.

You can learn to finish configuration or command line options in a few minutes. And then, if you have a big proxylist, just have a cup of coffe to wait for the result.

## 2 Featurelist

### Featurelist

1. Full commandline options. All of configuration can be controlled by commandline options which makes it feasible to customize proxyknife from scripts.
2. Checking free http proxy<sup>1</sup> with GET or CONNECT method:
  - HTTP\_CONNECT
    - This kind of http proxy accepts CONNECT request. Most of application based on tcp can use this kind of proxies, for example: telnet,ssh, http etc.
    - This kind of http proxy usually do not limit strictly the range of target port of the request.
  - HTTP\_GET
    - The common http proxy. It only proxy common service, such as http,ftp,gopher. It is due to the proxy server what kind of service can be supported.
    - It will benefit from cache of proxy server. So it is a good selection if many people use the same proxy to visit similar sites in the same time.
3. Checking free socks5 proxy with connect method:
  - SOCKS5\_CONNECT
    - Socks5 proxies accept connect command. This method of socks5 proxy is very like the connect method of http proxy. Just above, it can be used as tcp tunnel. That is to say, it can proxy any request based on TCP.
4. Checking socks4 proxy with connect method:
  - SOCKS4\_CONNECT
    - Just above, this type of socks4 proxies can be used as tcp tunnel.
5. Checking the testproxy<sup>2</sup> via myproxy.

Myproxy is the proxy which proxyknife connect to it and go to testproxy via it. Now myproxy can be http (support CONNECT method) or socks5 (support connect command) proxy. (The support to socks4 myproxy in proxyknife haven't been open now.)

Two kind of authentication of myproxy is supported for socks5 or http proxy:

Notice, the directly connection in proxyknife is open. So you can validate testproxy without firewall now.

1. Authentication with username and password needed.  
http: basic authentication socks5: username/password authentication(RFC1929).
2. no authentication.

That is to say, myproxy can be free proxy also. Certainly, you must have route to connect to myproxy directly.

6. Multithread.

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<sup>1</sup> proxies without authentication and free to use by the others

<sup>2</sup> The free proxies in proxy list file

7. All delay on process are written to file and printed on screen in the same time.  
There is a simple script available used to sort the result according to the speed of proxies.
8. You can use ctrl-c to kill it without loss on result.
9. Read testproxy by line but not reading to memory at a glance(For file mode). Proxyknife is expected to check big proxylist without influencing the other process.
10. Recv timeout or send timeout can be set to avoid wasting time on slow proxies.
11. Read proxylist from stdin, local file or the web. Only two sites is considered now. If myproxy is set, in url mode it will read proxylist from the web via myproxy.
12. Either the path to the file proxyknife read proxylist from or the file proxyknife output result can be customized. Read proxylist from the web is considered. Only two sites is fully supported now. I am not sure whether this feature is useful.
13. Send no-cache header to get true delay if possible.
14. Option to turn on debug output. It is useful to check the processing in detail.
15. Flexible, customizable. All details on validating can be customized,such as: user\_agent: you can check testproxy as any browsers with it if you like. checksite: you can select the best testproxy for a single site. key: you can select a better key in the site of target to match the result thoroughly. ...

## 3 Requirements

### Requirements

- CPU

i386,alpha,sparc and more

- OS

It has been tested on many GNU/Linux distribution, such as gentoo,debian ,fedora core. It works on SunOS and OSF1,too. I am not sure whether it will run at other operating system.

- Compile

Libpthread is needed. It was implemented in most of the glibc in the world. I compile it sucessfully with gcc. I am not sure whether it will be compiled by the other compilers.

- Network

A http or socks5 proxy which support CONNECT. This type of firewall is described as myproxy just as above.

Direct connection to testproxy without myproxy is supported,too. Just let mytype=21 to enable it. Marvin have written a patch for proxyknife-1.0 to support connection directly without myproxy. If you met problems with mytype=5 , you can also try this patch for that version.

- Privilege.

Common user who can create,read,write socket and file is ok. If you are puzzled ,I am sure you have this privilege, :-). Just try it.

## 4 Quick start

You can use proxyknife after a few minutes if you do like this step by step:

1. Extract from source and enter the work dir:

```
tar zxvf proxyknife-1.5.tar.gz
cd proxyknife-1.5
```

2. Compile && Install:

```
./configure
make
make install
```

3. Proxyknife will search configuration file and proxylist file in current dir. If you still in work dir, just create configuration file like this:

```
cp doc/proxyknife.conf.example proxyknife.conf
```

You can put proxyknife.conf to /etc/proxyknife.conf or ~/.proxyknife.conf. Proxyknife will search ./proxyknife.conf, then ~/.proxyknife.conf, at last /etc/proxyknife.conf until it found the first one.

Now read the configuration file "proxyknife.conf". Notice: The line begin with '#' is comment line. The line after the line begin with '#' must be customized with your own setting. And the line begin with

'#! if'

need be updated only if the condition expression after "if" is true.



## 5 Introduction to basic configuration

- **mytype** The type of myproxy, which proxyknife connect to directly. 1 for http proxy without authentication. 2 for socks5 proxy without authentication. 3 for http proxy with basic authentication. 4 for socks5 proxy with username/password authentication. 5 for connection to testproxy without myproxy(Testing).
- **myhost** The ip of domain name of myproxy. This will be in effect only if mytype !=21
- **myport** The http proxy service port of myproxy. This will be in effect only if mytype !=21
- **myuser** This will be read only if mytype=11 or 12.
- **mypass** This will be read only if mytype=3 or 4.

For example, you username at myproxy is abc, password is guest, then you should set myuser and mypass like this:

```
myuser=abc
mypass=guest
```

- **httptestmethod** The http method which should be supported by the testproxy. httptestmethod=0(HTTP\_GET) or 1(HTTP\_CONNECT) is supported now. If you need a HTTP CONNECT proxy, just set it to 1:

```
httptestmethod=1
```

- **socks5testmethod** The socks5 command which should be supported by the test-proxy. Only 2 support to (SOCKS5\_CONNECT) is implemented now. You should leave it intact now:

```
socks5testmethod=2
```

- **socks4testmethod** BIND isn't implemented for socks4. So you should leave it intact:

```
socks4testmethod=5
```

- **logfilename** The logfile with full path. If you prefer screen output:

```
logfilename=.
```

If you want to see it laterly:

```
logfilename=./proxyknife.log
```

4. If you have proxy list file like the file proxylist in directory doc, just rename it as proxylist. Otherwise, you can copy the proxylist file in doc to current directory to begin test immediately:

```
cp doc/example/proxylist .
```

Notice, proxyknife.conf must be in the directory proxyknife can find. In search order: the path come from '-f' option, current directory, /etc/proxyknife.conf.

5. At last, start checking:

```
proxyknife
```

Tips: If you have found enough free proxies, you can use "^C" to stop proxyknife at any time. The result of validating will be printed on screen and saved to file named proxyout in current directory immediately after any free proxy is found .

## 6. Example of configuration.

- Conditions: a socks5 proxy(socks.you.com) with username/password authentication. socks5 service port:1080, username:abc,password:def.

Want to validate: free http CONNECT proxy and free socks5 proxy which support connect command.

Your configuration should look like this:

```
#You must customize the follow
mytype=12
myhost=socks.you.com
myport=1080
myuser=abc
mypass=def
httptestmethod=1
#You should leave the following items intact.
socks5testmethod=2
socks4testmethod=5
#Optional to be changed. But you SHOULD NOT comment or remove it.
threads=50
checksite=http://www.google.com:80/webhp?hl=en
key=2006 Google
user_agent=User-Agent: MSIE 6.0
myconreplysize=256
testconreplysize=256
testtagreplysize=65535
rcvtimeo=10
sndtimeo=5
logfilename=proxyknife.log
```

- Conditions: a http proxy(proxy.you.com) without authentication. http proxy service port:8080.

Want to validate: Common free http proxy and free socks5 proxy which support connect command.

Your setting will be similiar with this:

```
#The follow lines must be customized.
mytype=1
myhost=proxy.you.com
myport=8080
httptestmethod=0
#Please leave the following items intact.
socks5testmethod=2
socks4testmethod=5
#The follow lines is optional to be changed , but you should not
#delete or remove it.
threads=50
checksite=http://www.google.com:80/webhp?hl=en
key=2006 Google
```

```
user_agent=User-Agent: MSIE 6.0
myconreplysize=256
testconreplysize=256
testtagreplysize=65535
rcvtimeo=10
sndtimeo=5
logfilename=proxyknife.log
```

## 6 Advanced configuration

Please read See [Chapter 4 \[Quick start\], page 5.](#) to know the meaning of '#!' or '#!' if' at the start of a line and what are the vars that must be customized.

Syntax: a line will be ignored unless it is in the format like this:

`varname=value`

Notice: No chars (such as whitespace,quote) will be exceptional. So any chars before, after or inside "varname=value" will be recognized as part of "varname=value".

The list of advanced vars:

- `threads` The number of threads opened at the same time. This should be set according to ulimit. The number can't be more than 65535. Though nocache header is used, it is expected that less threads give more precise delay information to evaluate the proxies better.
- `myconreplysize` The size of buffer used to receive reply after sending CONNECT request for testproxy to myproxy. This is used for some weird proxies. Please leave it intact if unsure.
- `testconreplysize` The size of buffer used to receive reply after sending CONNECT request for target to testproxy. It is only be used when you validate HTTP CONNECT proxies. Just as above, do not change it if unsure.
- `testtagreplysize` The size of buffer used to receive reply after sending GET request to the target. Proxyknife will find key from this buffer.
- `user_agent` Identified as Browsers or others to "cheat" some proxies.
- `rcvtimeo` Receiving timeouts in second.
- `sndtimeo` Sending timeouts in second.
- `logfilename` Redirect stderr to log file. Use a single "." ( "." is just before LF) to leave stderr as it is.
- `proxyknifeintype` The type of proxyknifein. 0: file mode, 1:url mode. The default value is 0.
- `proxyknifein` The input file with full path which proxyknife read proxylist from or the url to the proxylist file. Let it be "-" to read from stdin(useful for pipe reading). In url mode, this value can be "proxylist.kmip.net/list.html" or "youth.bupt.edu.cn/proxy/". I haven't try the other sites. If you do not set it,in file mode proxyknife will use file named "proxylist" in the current directory, in url mode proxyknife will try to fetch proxylist from <http://proxylist.kmip.net/list.html>. Notice: in url mode, proxyknife connect to the web server directly, no interaction with myproxy.
- `proxyknifeout` The output file with full path which proxyknife output result to. If you do not set it, proxyknife will user file named "proxyout" in the current directory.If this file do not exists, proxyknife will creat it. Otherwise, it will be overwrote.
- `debug` 1 to turn on debug output. 0 to disable debug output. It is 0 by default.

The line begin with other strings which do not appeare here or See [Chapter 4 \[Quick start\], page 5.](#) will be ignored.

## 7 Options

Invoke it as:

```
./proxyknife --help
```

You can see the table of map from commandline options to configuration options like this:

```
Proxyknife 1.5, a customizable proxy hunter.
Usage: proxyknife [OPTION]...
Special options:
-V, --version    display the version of Proxyknife and exit.
    --help       print this help.
```

All of the other options need arguments except '-d'!

Commandline only options:

```
-f the argument is configuration file
```

Configuration options:

```
-d debug, turn on debug output.
    Notice: no argument for this option
-t threads
-g user_agent
-m mytype, the type of myproxy.
-p myport, the port of myproxy.
-h myhost, the ip or domainname of myproxy.
-u myuser, the username of myproxy if need.
-s mypass, the password of myproxy if need.
-c checksite, the target site used to check testproxies.
-k key, the keyword used to check whether testproxies give correct response.
-r rcvtimeo, socket recv timeout in seconds.
-n sndtimeo, socket send timeout in seconds.
-S myconreplysize
-T testconreplysize
-G testtagreplysize
-H httptestmethod
-5 socks5testmethod
-4 socks4testmethod
-l logfilename
-I proxyknifeintype, the type of proxylist(local file or url)
-i proxyknifein, the proxylist file or url used as input of proxyknife.
  '-' meanings stdin.
-o proxyknifeout, the file which proxyknife output result to.
```

Notice: The option '-f' is used to customize configuration file which haven't been used in configuration file. The option '-V' is used to print version of proxyknife.

## 8 Scripts

There are two scripts in directory scripts.

- createlist

A script used to filter and create proxylist file from raw file.

Only line in format of "ip:port@proto.\*" will be reserved and the chars after proto in the line will be removed. All duplicate line will be removed.

What the script does is: start->read a line from raw file->capitalize ->find port between : and @->port is number->check the string after @ to find proto -> proto is SOCKS5 or HTTP -> write ip:port@proto to tmpfile -> continue read next line ... loop

If any of the steps failed, just break and continue with the next line from start.

After all of lines are filtered,changed and saved to tmpfile, sort and uniq are used to remove duplicate line.

Usage: `./createlist infile outfile` Example:

```
./createlist p proxylist
```

- sortlist

sort the file proxylist. Usage:

```
cp doc/sortlist .  
./sortlist
```

## 9 Format of proxylist

The format of proxylist accepted by proxyknife should like this:

ip:port@proto.\*

or

ip:port

I remove support on domain, so ip must be IPV4 address. The port must be integer range from 1 to 65535. The proto can only be HTTP,http,socks5,SOCKS5,socks4 or SOCKS4. All of the chars afterproto will be ignored.

If no @ in the line, proto is default as HTTP. Differently, no other chars after port can be appeared.

Example:

61.132.89.130:80@HTTP

202.123.52.156:8080

## 10 Format of output

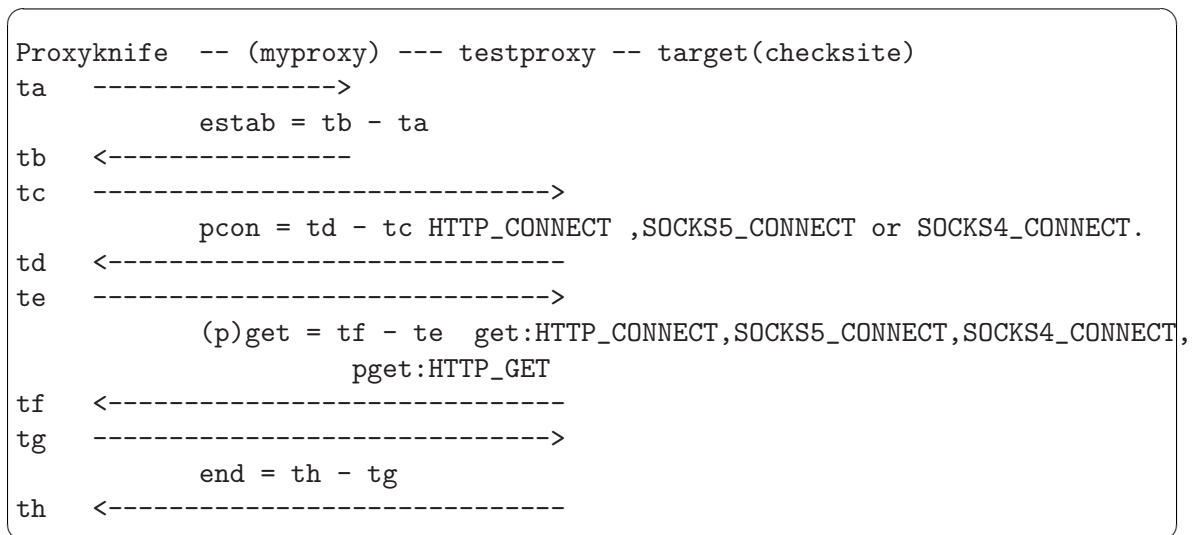
The current version of proxyknife output timeouts of every steps of validation:

Method	Output (time increase ->)
HTTP_GET	host:port@HTTP estab pget end
HTTP_CONNECT	host:port@HTTPC estab pcon get end
SOCKS5_CONNECT	host:port@SOCKS5 estab pcon get end

The figure on process of validation. See the table for the meaning of symbol in the figure:

symbol	meaning
-	start to send, the left string is time.(such as ta)
<-	The data entered,the left string is the time when data come in.

Figure:



delay	define
estab	Delay from the time(ta) proxyknife send CONNECT request for testproxy to myproxy (or connect to testproxy directly) to the time(tb) it receives "Connection Established".
pcon	Delay from the time(tc) proxyknife send CONNECT request for target to testproxy to the time(td) it receives "Connection Established". With HTTP_GET method, it is impossible to get "connection delay" for that is added to pget delay. It is only be used with HTTP_CONNECT or SOCKS5_CONNECT method.
get	Delay from the time(te) proxyknife send HTTP GET request to target to the time(tf) it receives the first byte data returned. This is only be used with HTTP_GET method and the "middle-delay"(like pcon) can't be got by the client.



pget	Delay from the time(te) proxyknife send GET request for target to testproxy to the time(tf) it receives the first byte data returned.
end	Delay from the time(tg or tf) proxyknife receive the first byte data to the time time(th) it receives data including key.

The value of the delays:

estab resp of TP

pcon resp of TP + relay of TP + resp of TG

get resp of TP + relay of TP + resp of TG + servicestart of TG

pget 2\*resp of TP + 2\*relay of TP + 2\*resp of TG + servicestart of TG

end 0.5\*resp of TP + 0.5\*relay of TP + 0.5\*resp of TG + serviceend of TG

The guide to use the delay

- If you want to select a testproxy with best response to myproxy(or proxyknife), just sort the result according to estab.
- If you need a testproxy through which you can get the best response (shortest route?) from the target defined in configuration, please sort according to pcon , get or pget.
- On the other hand , if you care for the bandwidth of the whole route to target, you should sort according to end.

Tips:

- You can sort testproxies according to estab if you want to browse webpages via test-proxy(through myproxy firstly or not).  
This is the common choice if you need quick response ,dynamic targets to access and little data to transfer.
- You can sort testproxies according to end if you want to download files via test-proxy(through myproxy firstly or not) from target.  
Bandwith but not delay is important to bulk download.
- The less delay, the more speed. You should select the testproxies with the shortest delay, such as estab,pcon,get,pget or end.

## 11 TODO

- SOCKS5\_UDP
- https.
- cgi
- text interface?
- graphic interface? A very lame gtk interface to proxyknife is developed by me.
- sort in checking. It may waste plenty of time. For large number of proxylist, I guess it will be awful.
- switchproxy

more... updating

Please contact with me if you have ideas on proxyknife.

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