

SQUID

Experiment: 5

Aim: To create and configure Squid -proxy server

Description:

SQUID – PROXY SERVER

Squid is a full-featured web proxy cache server application which provides proxy and cache services for HyperText Transport Protocol (HTTP), File Transfer Protocol (FTP), and other popular network protocols. Squid can implement caching and proxying of Secure Sockets Layer (SSL) requests and caching of Domain Name Server (DNS) lookups, and perform transparent caching. Squid also supports a wide variety of caching protocols, such as Internet Cache Protocol (ICP), the HyperText Caching Protocol (HTCP), the Cache Array Routing Protocol (CARP), and the Web Cache Coordination Protocol (WCCP).

The Squid proxy cache server is an excellent solution to various proxy and caching server needs, and scales from the branch office to enterprise-level networks while providing extensive, granular access control mechanisms, and monitoring of critical parameters via the Simple Network Management Protocol (SNMP). When selecting a computer system for use as a dedicated Squid caching proxy server for many users ensure it is configured with a large amount of physical memory as Squid maintains an in-memory cache for increased performance.

Port No: 3128

Package name: squid

Configuration file: /etc/squid/squid.conf

Procedure:

1. At a terminal prompt, enter the following command to install the Squid server:

```
$sudo apt install squid
```

2. Squid is configured by editing the directives contained within the /etc/squid/squid.conf configuration file.
3. Change the access as shown below:

```
acl localnet src 192.168.234.139(your ip address)
```

```
acl blocksite dstdomain &quot;/etc/squid/blocksite&quot;;
```

```
http_access deny blocksite
```

```
http_access allow localnet
```

```
#http_access deny all
```

```
http_access allow all
```

4. To block access to the website we must configure using
"etc/squid/blocksite"

we edit the file by running:

```
$cd /etc/squid
```

```
$sudo gedit blocksite
```

5. Add the websites to block:

in this case, I am blocking youtube, facebook, google

6. To check the actual functioning of the proxy server go to the browser and click settings, search proxy in connection settings.
7. To configure Proxy access to the internet
8. Select Manual Proxy configuration
9. Type your HTTP Proxy(IP Address) and Port number as 3128.
10. Select SOCKS v5

CONNECTING TO WEBSITE

11. Search for the blocked websites
12. Access is denied to the above websites.

Result:

```
Activities Terminal Aug 21 14:00
root@UBUNTU: /etc/squid

root@UBUNTU: /home/ubuntu22# cd
root@UBUNTU:~#
root@UBUNTU:~# sudo apt install squid
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libdbi-perl libecap3 squid-common squid-langpack
Suggested packages:
  libnldb-perl libnet-daemon-perl libsql-statement-perl squidclient squid-cgi squid-purge resolvconf smbclient winbind
The following NEW packages will be installed:
  libdbi-perl libecap3 squid squid-common squid-langpack
0 upgraded, 5 newly installed, 0 to remove and 150 not upgraded.
Need to get 3,809 kB of archives.
After this operation, 14.9 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu jammy/main amd64 libecap3 amd64 1.0.1-3.2ubuntu4 [17.0 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy/main amd64 squid-langpack all 20200403-1 [170 kB]
Get:3 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 squid-common all 5.9-0ubuntu0.22.04.2 [204 kB]
Get:4 http://archive.ubuntu.com/ubuntu jammy/main amd64 libdbi-perl amd64 1.643-3build3 [741 kB]
Get:5 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 squid amd64 5.9-0ubuntu0.22.04.2 [2,678 kB]
Fetched 3,809 kB in 7s (583 kB/s)
Selecting previously unselected package libecap3:amd64.
(Reading database ... 205701 files and directories currently installed.)
Preparing to unpack .../libecap3_1.0.1-3.2ubuntu4_amd64.deb ...
Unpacking libecap3:amd64 (1.0.1-3.2ubuntu4) ...
Selecting previously unselected package squid-langpack.
Preparing to unpack .../squid-langpack_20200403-1_all.deb ...
Unpacking squid-langpack (20200403-1) ...
Selecting previously unselected package squid-common.
Preparing to unpack .../squid-common_5.9-0ubuntu0.22.04.2_all.deb ...
Unpacking squid-common (5.9-0ubuntu0.22.04.2) ...
Selecting previously unselected package libdbi-perl:amd64.
Preparing to unpack .../libdbi-perl_1.643-3build3_amd64.deb ...
Unpacking libdbi-perl:amd64 (1.643-3build3) ...
Selecting previously unselected package squid.
Preparing to unpack .../squid_5.9-0ubuntu0.22.04.2_amd64.deb ...
Unpacking squid (5.9-0ubuntu0.22.04.2) ...
Setting up squid (5.9-0ubuntu0.22.04.2) ...
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
```

```
Activities Terminal Aug 21 14:02
root@UBUNTU: /etc/squid

GNU nano 6.2 squid.conf
# WELCOME TO SQUID 5.9
#
# This is the documentation for the Squid configuration file.
# This documentation can also be found online at:
#   http://www.squid-cache.org/Doc/config/
#
# You may wish to look at the Squid home page and wiki for the
# FAQ and other documentation:
#   http://www.squid-cache.org/
#   http://wiki.squid-cache.org/SquidFaq
#   http://wiki.squid-cache.org/ConfigExamples
#
# This documentation shows what the defaults for various directives
# happen to be. If you don't need to change the default, you should
# leave the line out of your squid.conf in most cases.
#
# In some cases "none" refers to no default setting at all,
# while in other cases it refers to the value of the option
# - the comments for that keyword indicate if this is the case.
#
# Configuration options can be included using the "include" directive.
# Include takes a list of files to include. Quoting and wildcards are
# supported.
#
# For example,
# include /path/to/included/file/squid.acl.config
#
# Includes can be nested up to a hard-coded depth of 16 levels.
# This arbitrary restriction is to prevent recursive include references
# from causing Squid entering an infinite loop whilst trying to load
#
# Read 9184 lines
#
# AC Help      AO Write Out  AW Where Is   AR Cut        AT Execute
# AX Exit      AR Read File  AL Replace   AU Paste      AJ Justify
#              AL Location  AU Undo      AL Go To Line A-U Redo
#              AL Set Mark  M-A Copy
```

Activities Terminal Aug 21 14:25

root@UBUNTU: /etc/squid

GNU nano 6.2 squid.conf

```
#http_access deny to_localhost

# Protect cloud servers that provide local users with sensitive info about
# their server via certain well-known link-local (a.k.a. APIPA) addresses.
#http_access deny to_linklocal

#
# INSERT YOUR OWN RULE(S) HERE TO ALLOW ACCESS FROM YOUR CLIENTS
#
include /etc/squid/conf.d/*.conf

# For example, to allow access from your local networks, you may uncomment the
# following rule (and/or add rules that match your definition of "local"):
# http_access allow localnet

# And finally deny all other access to this proxy
#http_access deny all
http_access allow all

# TAG: adapted_http_access
#     Allowing or Denying access based on defined access lists
#
#     Essentially identical to http_access, but runs after redirectors
#     and ICAP/eCAP adaptation. Allowing access control based on their
#     output.
#
#     If not set then only http_access is used.
#Default:
# Allow, unless rules exist in squid.conf.

# TAG: http_reply_access
#     Allow replies to client requests. This is complementary to http_access.
#
```

Help Write Out Where Is Cut Execute Location M-U Undo M-A Set Mark
Exit Read File Replace Paste Justify Go To Line M-E Redo M-C Copy

Activities Terminal Aug 21 14:25

root@UBUNTU: /etc/squid

GNU nano 6.2 squid.conf

```
#http_access deny to_localhost

# Protect cloud servers that provide local users with sensitive info about
# their server via certain well-known link-local (a.k.a. APIPA) addresses.
#http_access deny to_linklocal

#
# INSERT YOUR OWN RULE(S) HERE TO ALLOW ACCESS FROM YOUR CLIENTS
#
include /etc/squid/conf.d/*.conf

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# following rule (and/or add rules that match your definition of "local"):
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Help Write Out Where Is Cut Execute Location M-U Undo M-A Set Mark
Exit Read File Replace Paste Justify Go To Line M-E Redo M-C Copy

Activities Terminal Aug 21 15:20

root@UBUNTU: /etc/squid

GNU nano 6.2 squid.conf

```
#http_access deny to_localhost

# Protect cloud servers that provide local users with sensitive info about
# their server via certain well-known link-local (a.k.a. APIPA) addresses.
#http_access deny to_linklocal

#
# INSERT YOUR OWN RULE(S) HERE TO ALLOW ACCESS FROM YOUR CLIENTS
#
include /etc/squid/conf.d/*.conf

# For example, to allow access from your local networks, you may uncomment the
# following rule (and/or add rules that match your definition of "local"):
# http_access allow localnet

# And finally deny all other access to this proxy
#http_access deny all
http_access allow all
acl localnet src 10.0.2.15
acl blocksite dstdomain &quot;/etc/squid/sites&quot;;
http_access deny blocksite

# TAG: adapted_http_access
#     Allowing or Denying access based on defined access lists
#
#     Essentially identical to http_access, but runs after redirectors
#     and ICAP/eCAP adaptation. Allowing access control based on their
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# If not set then only http_access is used.
#Default:
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Exit Read File Replace Paste Justify Go To Line M-E Redo M-G Copy

Activities Terminal Aug 21 15:20

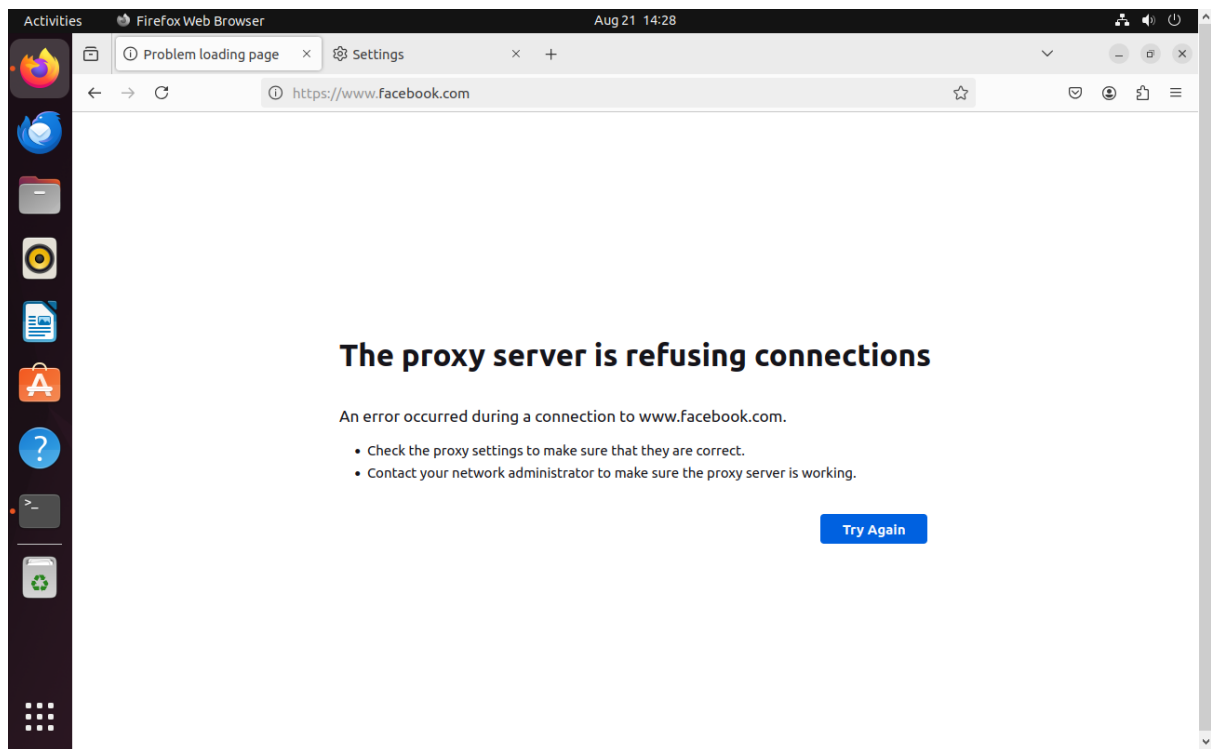
root@UBUNTU: /etc/squid

GNU nano 6.2 sites

```
www.youtube.com
www.facebook.com
```

[Wrote 2 lines]

Help Write Out Where Is Cut Execute Location M-U Undo M-A Set Mark
Exit Read File Replace Paste Justify Go To Line M-E Redo M-G Copy



Conclusion:

All the commands have been executed and the output has been obtained successfully.