SQUID

Experiment: 4

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 "/etc/squid/blocksite" 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

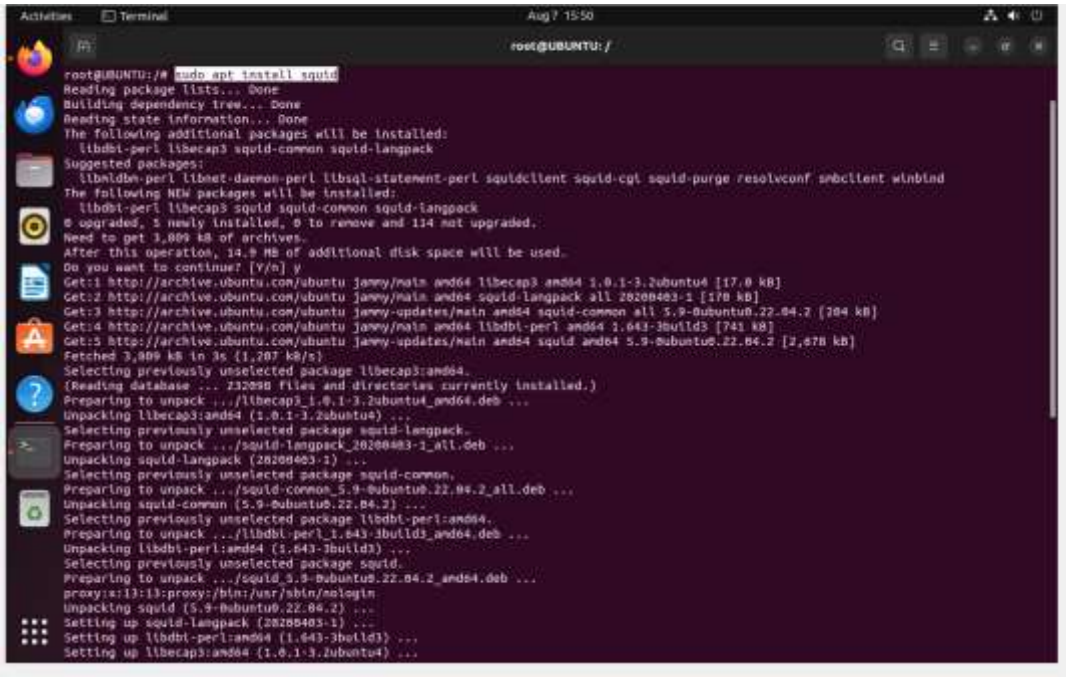
8. Select Manual Proxy configuration

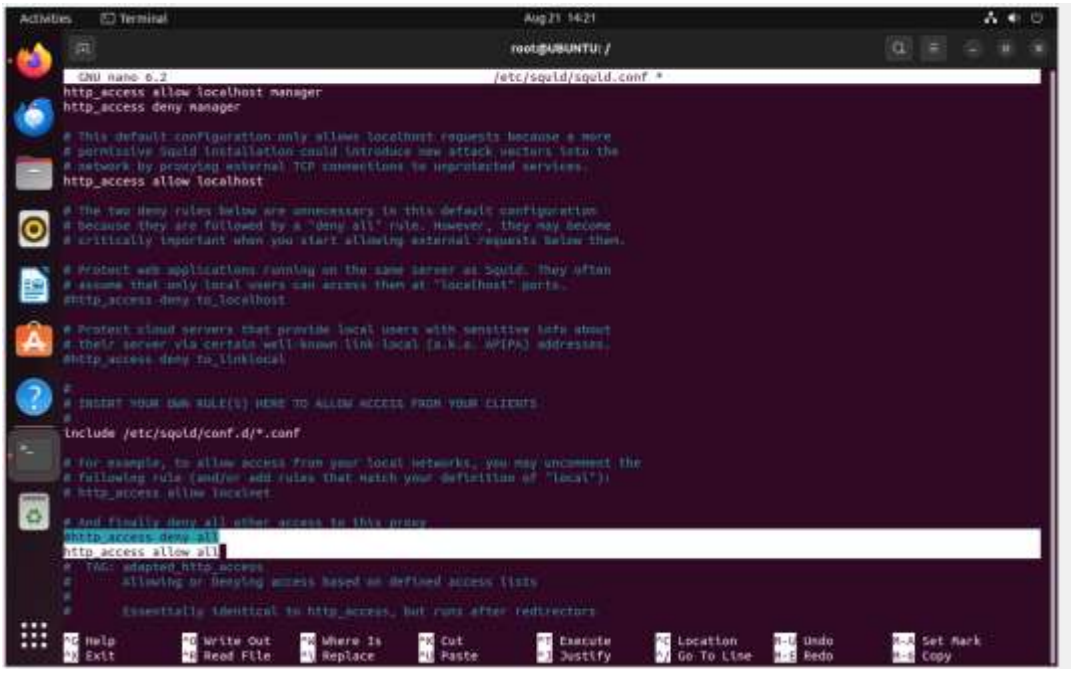
9. Type your HTTP Proxy(IP Address) and Port number as 3128.

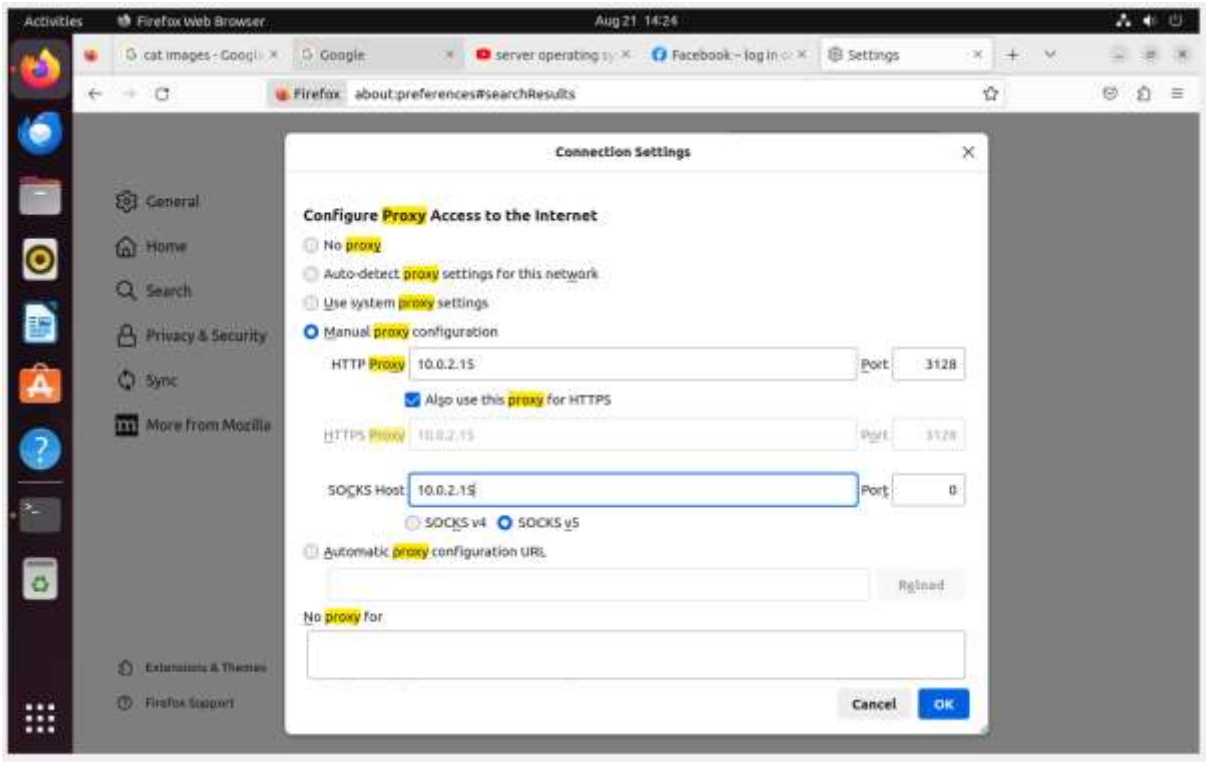
10. Select SOCKS v5 CONNECTING TO WEBSITE

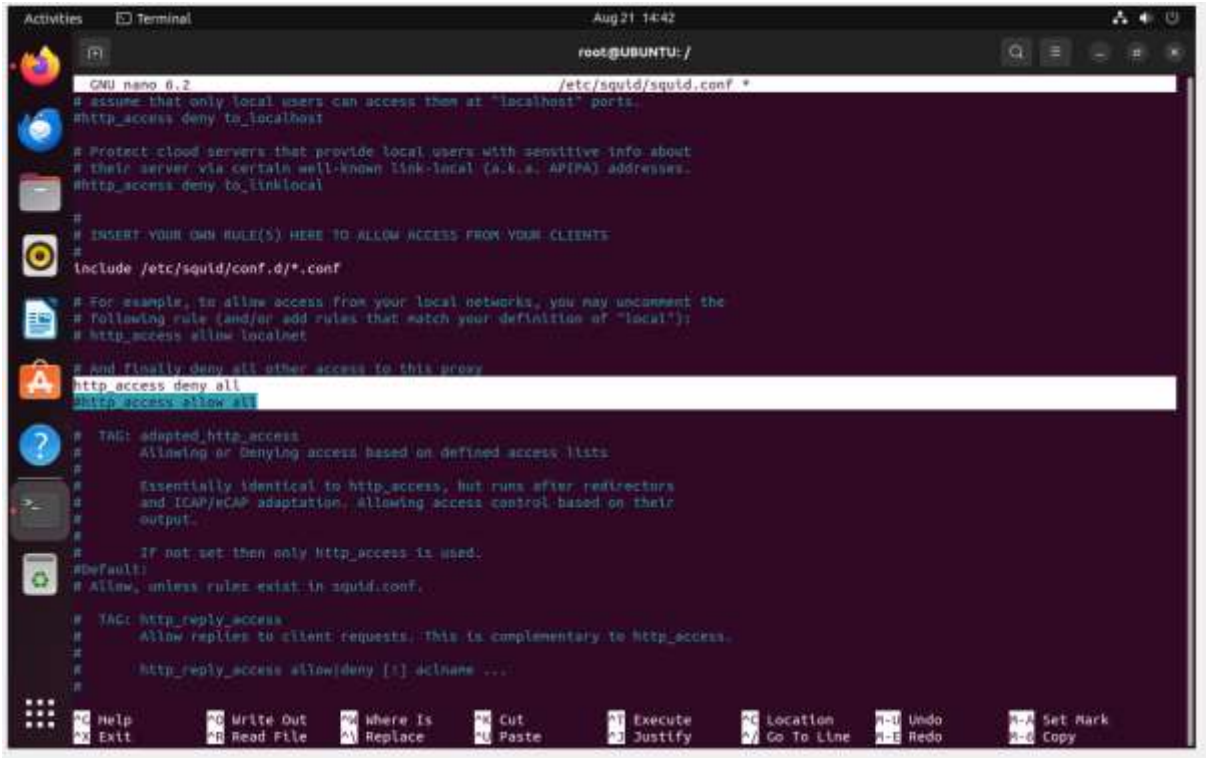
11. Search for the blocked websites 12. Access is denied to the above websites.

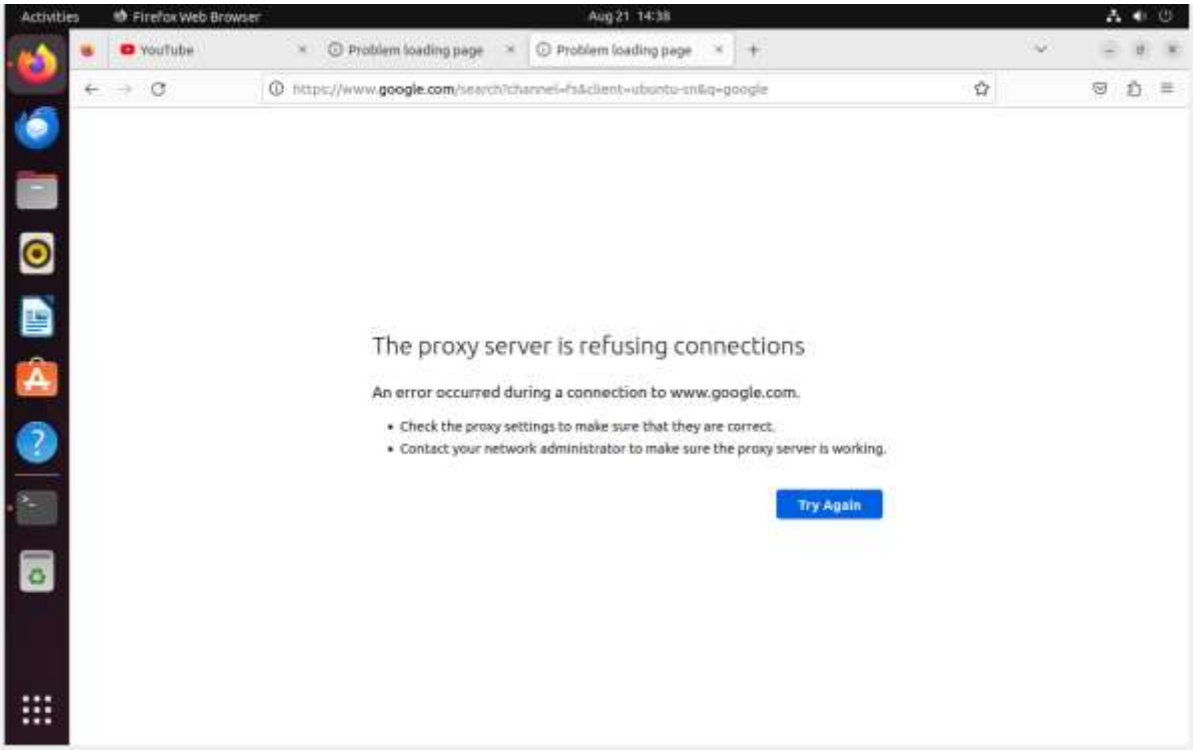
Result:

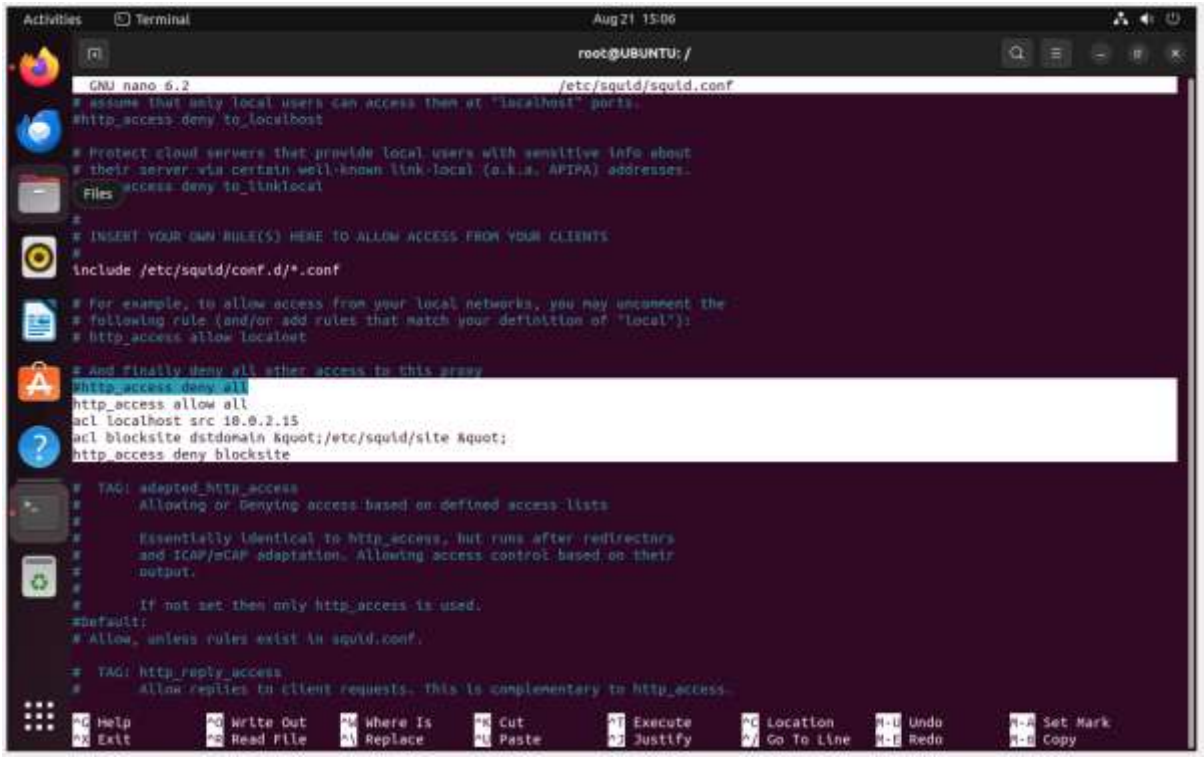


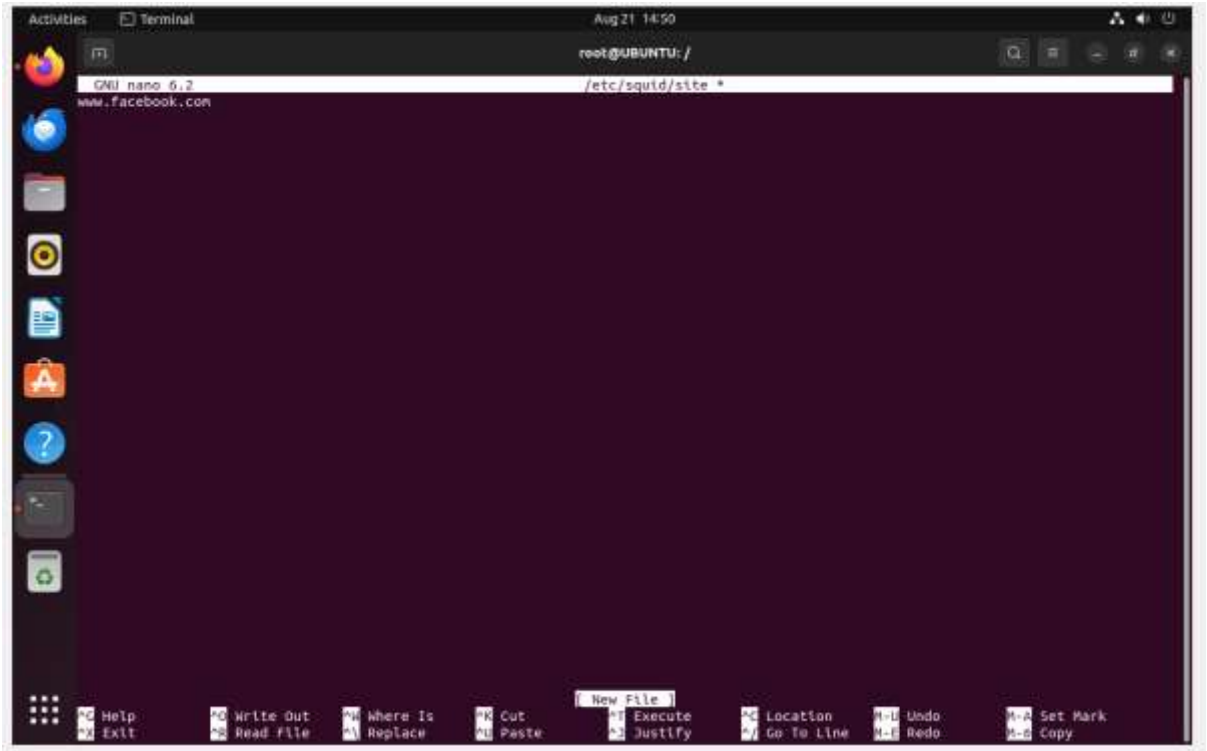


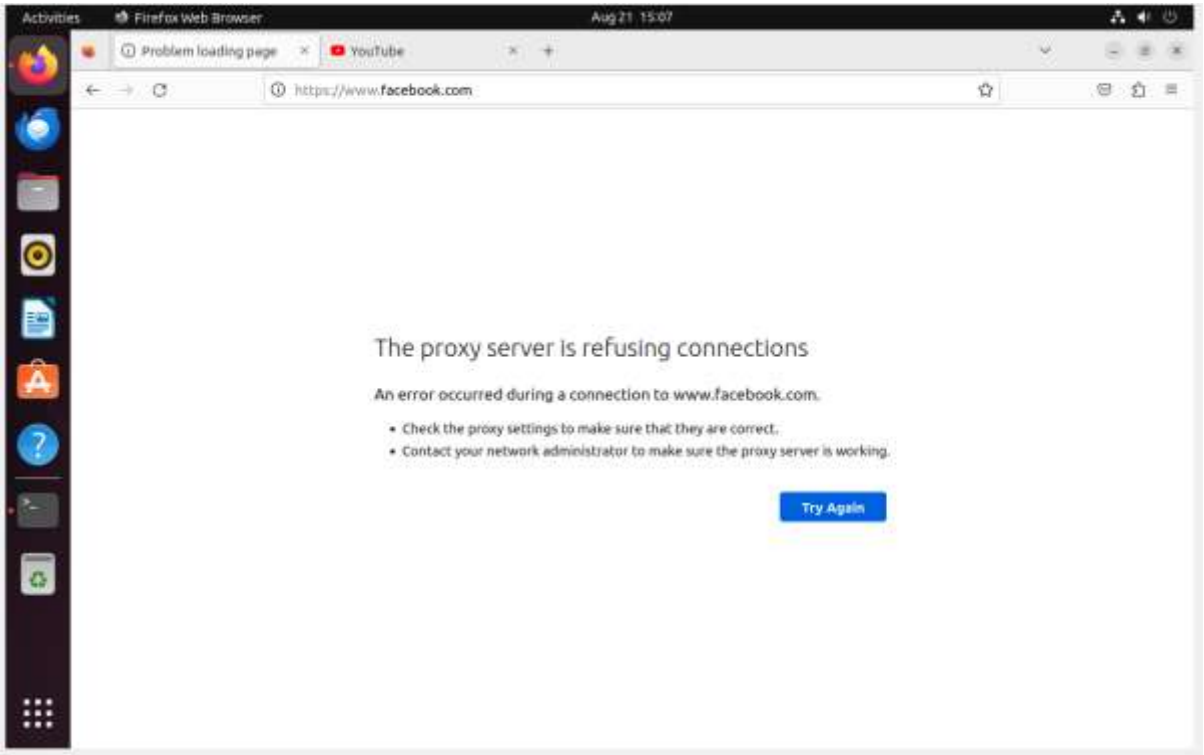

Activities
Firefox Web Browser
Aug 21 14:24
cat images - Google
Google
server operating sy
Facebook - log in o
Settings
Firefox
about:preferences#searchResults
General
Home
Search
Privacy & Security
Sync
More from Mozilla
Extensions & Themes
Firefox Support
Connection Settings
Configure Proxy Access to the Internet
No proxy
Auto-detect proxy settings for this network
Use system proxy settings
Manual proxy configuration
HTTP Proxy
10.0.2.15
Port
3128
Also use this proxy for HTTPS
HTTPS Proxy
10.0.2.15
Port
3128
SOCKS Host
10.0.2.15
Port
0
SOCKS v4
SOCKS v5
Automatic proxy configuration URL
Reload
No proxy for
Cancel
OK

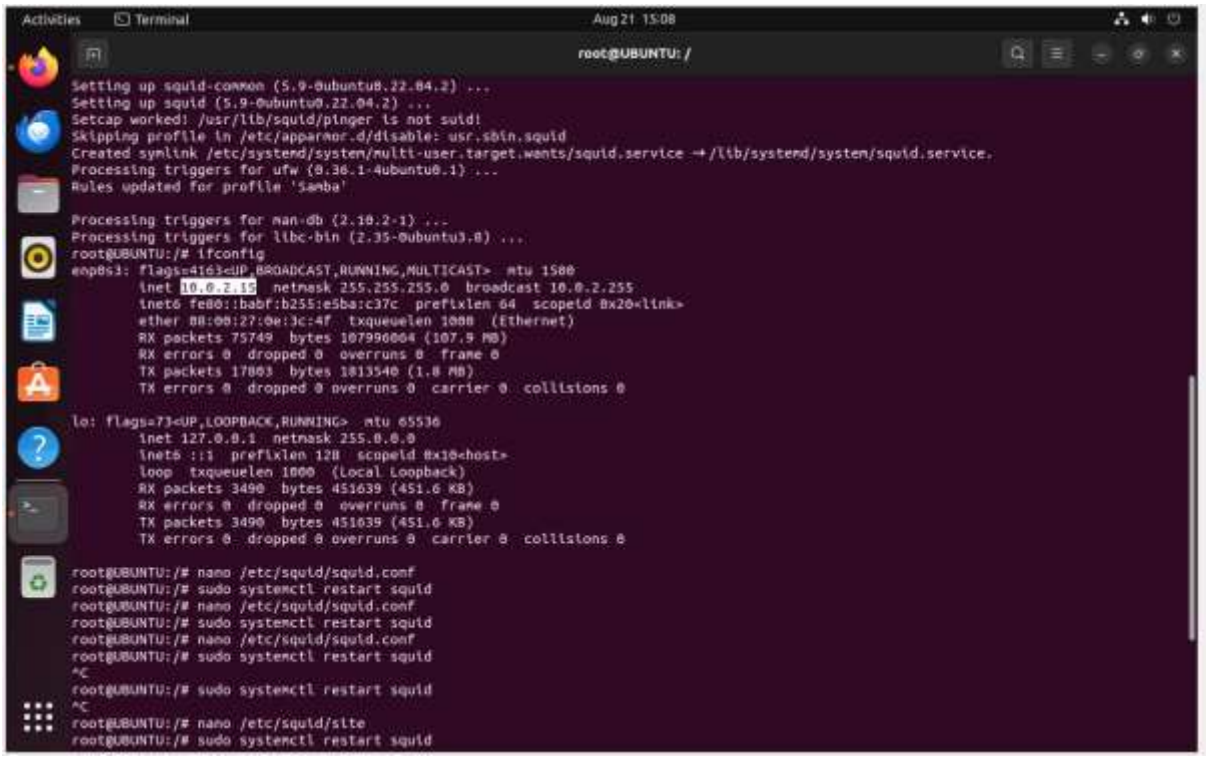

Activities
Terminal
Aug 21 14:42
root@UBUNTU: /
GNU nano 6.2
/etc/squid/squid.conf *
assume that only local users can access them at "localhost" ports.
#http_access deny to_localhost
Protect cloud servers that provide local users with sensitive info about
their server via certain well-known link-local (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.
#
http_reply_access allow|deny [!] aclname ...
#
^G Help
^O Write Out
^W Where Is
^K Cut
^T Execute
^C Location
M-U Undo
M-A Set Mark
^X Exit
^R Read File
^\ Replace
^U Paste
^J Justify
^/ Go To Line
M-E Redo
M-6 Copy


Activities
Firefox Web Browser
Aug 21 14:38
YouTube
Problem loading page
Problem loading page
https://www.google.com/search?channel=fs&client=ubuntu-sn&q=google
The proxy server is refusing connections
An error occurred during a connection to www.google.com.
Check the proxy settings to make sure that they are correct.
Contact your network administrator to make sure the proxy server is working.
Try Again


Activities
Terminal
Aug 21 15:06
root@UBUNTU: /
GNU nano 6.2
/etc/squid/squid.conf
assume that only local users can access them at "localhost" ports.
#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 localhost src 18.0.2.15
acl blocksite dstdomain "/etc/squid/site "
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
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.
^G Help
^O Write Out
^W Where Is
^K Cut
^T Execute
^C Location
M-U Undo
M-A Set Mark
^X Exit
^R Read File
^\ Replace
^U Paste
^J Justify
^/ Go To Line
M-E Redo
M-6 Copy


Activities
Terminal
Aug 21 14:50
root@UBUNTU: /
GNU nano 6.2
/etc/squid/site *
www.facebook.com
[New File]
^G Help
^X Exit
^O Write Out
^R Read File
^W Where Is
^\ Replace
^K Cut
^U Paste
^T Execute
^J Justify
^C Location
M-/ Go To Line
M-U Undo
M-E Redo
M-A Set Mark
M-6 Copy


Activities
Firefox Web Browser
Aug 21 15:07
Problem loading page
YouTube
https://www.facebook.com
The proxy server is refusing connections
An error occurred during a connection to www.facebook.com.
Check the proxy settings to make sure that they are correct.
Contact your network administrator to make sure the proxy server is working.
Try Again



Conclusion:

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