***** Linux Firewall *****

Firewall can be defined as a system of network security that controls & filter the traffic on the rule's predefined set.

Hardware firewall :
Software Firewall:
GUi firewall :
Cli firewall :

* firewall is group of rules
* when a packet of data moves out or incoming , then its content are checked againest the rules of firewall to see if it must be permitted through

* firewalld is tool to manage the rules of firewall

*** Firewalld Install ***

Sudo apt install firewalld   : debian based OS

Sudo yum install firewall -y

*** Firewall service ***

**Sudo systemctl start firewalld.service
>>> start the firewall service**

**Sudo systemctl status firewalld.service
>>> check the status**

**Sudo systemctl enable
firewalld.service   >>> bios time start**

**** Firewall commands & Options ****

Command to manage : " firewall-cmd "

1. Check all the available Zones

Command : firewall-cmd —get-zones

Trusted Zone : accepts all the incoming traffic , you can use this zone to manage the traffic because it will not filter anything

HoMe : designed for home network , it permits only selected incoming traffic & rejects all

Work : designed for work network , it permits only selected incoming traffic & rejects all

Internal : designed for internal network , it permits only what is allowed & rejects all

Public : rejects all the incoming traffic , except what is granted also known as default Zone

DMZ : designed to use zone with limited access

Block : designed to reject all incoming traffic with an icmp host prohibited msg is returned . It permits only outgoing traffic

Drop : designed to drop all incoming traffic with no notification like ICMP Errors .

External : we use in NAT (outgoing traffic)

2. Check for our default zone

Command : firewall-cmd —get-default-zone

3. Check for active zones & activeted network interface

Command : firewall-cmd —get-active-zones

4. Check for if there are any rules listed on the active public zone

Command :
firewall-cmd —list-all
Firewall-cmd —list-all —zone='public'

** Standard Commands **

5. Add a service in the public zone

Command : firewall-cmd —zone=public —add-service=ftp

6. To add a service permanently

Options : —permanent

7. Reload the configuration

Options : —reload

8. Remove service in the specified zone

Options : —remove-service

9. Allow a port

Options : —add-port

10. Remove a port

Options : —remove-port

11. List all the ports

Options : —list-ports