

Firewalld: Basic Operation 2022/01/07

```
[root@dlp ~]#
systemctl enable --now firewalld
[2] By default, [public] zone is applied with a NIC, and cockpit, dhcpv6-client, ssh are allowed. When operating with [firewall-cmd] command, if you input the command without [--zone=***] specification, then, configuration is set to the default zone.
```

display the default zone

```
[root@dlp ~]#
firewall-cmd --get-default-zone
# display current settings
[root@dlp ~]#
firewall-cmd --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: enp1s0
  sources:
  services: cockpit dhcpv6-client ssh
  ports:
  protocols:
  forward: yes
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
```

This is the Basic Operation of Firewalld.

[1] To use Firewalld, start the Service.

The definition of services is set to zones on Firewalld.

To enable Firewall, associate a zone to a NIC with related commands.

[#] display all zones defined by default

```
[root@dlp ~]#
firewall-cmd --list-all-zones
block
  target: %%REJECT%%
  icmp-block-inversion: no
  interfaces:
  sources:
  services:
  ports:
  protocols:
  forward: yes
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
  . . . . .
# display allowed services on a specific zone
[root@dlp ~]#
firewall-cmd --list-service --zone=external
# change default zone
[root@dlp ~]#
firewall-cmd --set-default-zone=external
success
# change zone for an interface
[root@dlp ~]#
firewall-cmd --change-interface=enp1s0 --zone=external
[root@dlp ~]#
firewall-cmd --list-all --zone=external
external (active)
  target: default
  icmp-block-inversion: no
  interfaces: enp1s0
  sources:
  services: ssh
  ports:
  protocols:
  forward: yes
  masquerade: yes
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
[3] Display services defined by default.
[root@dlp ~]#
firewall-cmd --get-services
RH-Satellite-6 RH-Satellite-6-capsule amanda-client amanda-k5-client amqp amqps apcupsd audit bacula bacula-client bb bgp
# definition files are placed under the directory like follows
# if you'd like to add your original definition, add XML file on there
ls /usr/lib/firewalld/services
amanda-client.xml
                                  mqtt.xml
amanda-k5-client.xml
                                  mssql.xml
                                  ms-wbt.xml
amqps.xml
amqp.xml
                                  murmur.xml
apcupsd.xml
                                  mysql.xml
minidlna.xml
                                  xmpp-client.xml
mongodb.xml
                                  xmpp-local.xml
mosh.xml
                                  xmpp-server.xml
```

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  mountd.xml
                                         zabbix-agent.xml
  mqtt-tls.xml
                                         zabbix-server.xml
      Add or Remove allowed services.
  [4] The change will be back after rebooting the system.
     If you change settings permanently, add the [--permanent] or [--runtime-to-permanent] option.
  # for example, add [http]
  [root@dlp ~]#
  firewall-cmd --add-service=http
  [root@dlp ~]#
  firewall-cmd --list-service
  cockpit dhcpv6-client http ssh
  # for example, remove [http]
  [root@dlp ~]#
  firewall-cmd --remove-service=http
  [root@dlp ~]#
  firewall-cmd --list-service
  cockpit dhcpv6-client ssh
  # permanent setting: [--permanent] - add setting to the permanent environment
  [root@dlp ~]#
  firewall-cmd --add-service=http --permanent
  success
  [root@dlp ~]#
  firewall-cmd --list-service
  cockpit dhcpv6-client ssh
  # reload settings from the permanent environment to apply new setting
  [root@dlp ~]#
  firewall-cmd --reload
  success
  [root@dlp ~]#
  firewall-cmd --list-service
  cockpit dhcpv6-client http ssh
  # permanent setting : [--runtime-to-permanent] - save the current runtime environment to the permanent environment
  [root@dlp ~]#
  firewall-cmd --add-service=http
  success
  [root@dlp ~]#
  firewall-cmd --list-service
  cockpit dhcpv6-client http ssh
  [root@dlp ~]#
  firewall-cmd --runtime-to-permanent
  success
  [5] Add or remove allowed ports.

If you change settings permanently, add the [--permanent] or [--runtime-to-permanent] option like the examples of [4].
  # for example, add [TCP 465]
  [root@dlp ~]#
  firewall-cmd --add-port=465/tcp
  success
  [root@dlp ~]#
  firewall-cmd --list-port
  465/tcp
  # for example, remove [TCP 465]
  [root@dlp ~]#
  firewall-cmd --remove-port=465/tcp
  success
  [root@dlp ~]#
  firewall-cmd --list-port
```

[6] Add or remove prohibited ICMP types.

for example, add [echo-request] to prohibit it

 $[root@dlp \sim] \# \\ firewall-cmd --add-icmp-block=echo-request$

success [root@dlp ~]#

firewall-cmd --list-icmp-blocks

echo-request

for example, remove [echo-request]

[root@dlp ~]#

firewall-cmd --remove-icmp-block=echo-request

success

 $[root@dlp\sim]\#$

firewall-cmd --list-icmp-blocks

display available ICMP types

[root@dlp ~]#

firewall-cmd --get-icmptypes

address-unreachable bad-header beyond-scope communication-prohibited destination-unreachable echo-reply echo-request fails

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