



TGEN153 Introduction to Operating  
Systems

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Group Assignment

Configuration with Fedora Linux

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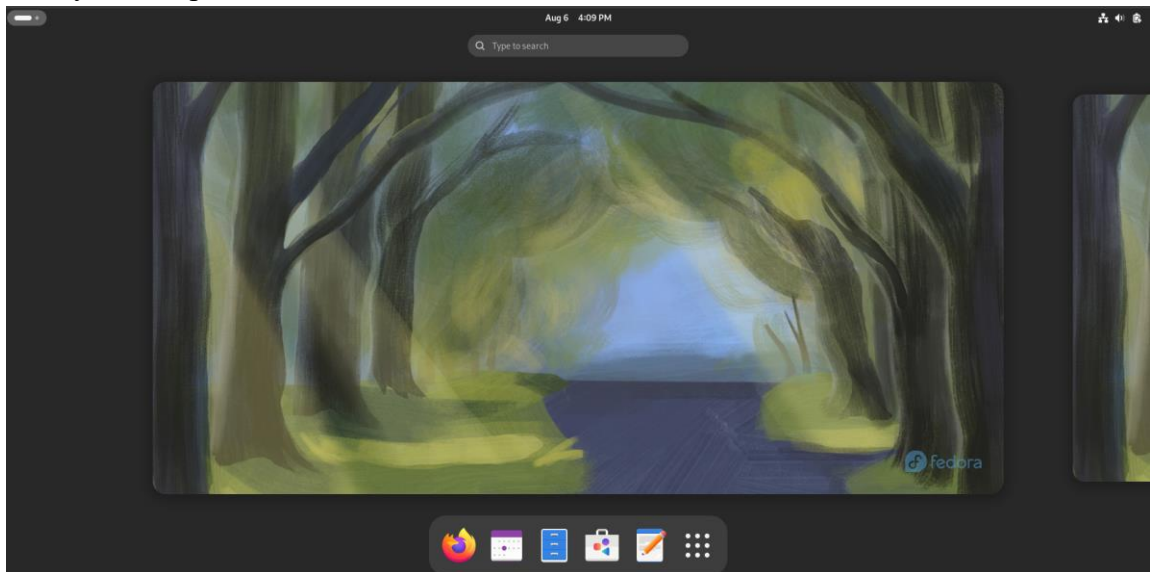
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## Introduction

Fedora Linux is a Linux OS that's being used for this report. In this report, ways to configure Fedora Linux will be demonstrated as a demonstration. This report will include SSH configuration, firewall configuration, MySQL configuration and Git configuration.

## SSH Configuration on Fedora Linux

1. Firstly, Boot up Fedora Linux.



2. Afterwards, open terminal to start configuration.
3. Run the command below for installing ssh server inside Fedora Linux.

```
ericphoon@fedora:~$ sudo dnf install openssh-server
```

4. It will ask for password for safety reason for preventing user not knowing the usage.

```
ericphoon@fedora:~$ sudo dnf install openssh-server
We trust you have received the usual lecture from the local System
Administrator. It usually boils down to these three things:

#1) Respect the privacy of others.
#2) Think before you type.
#3) With great power comes great responsibility.

For security reasons, the password you type will not be visible.

[sudo] password for ericphoon:
Copy repo for PyCharm owned by phracek
Fedora 40 - x86_64 - Updates
Fedora 40 - x86_64 - Updates
google-chrome
google-chrome
RPM Fusion for Fedora 40 - Nonfree - NVIDIA Driver
RPM Fusion for Fedora 40 - Nonfree - NVIDIA Driver
RPM Fusion for Fedora 40 - Nonfree - Steam
RPM Fusion for Fedora 40 - Nonfree - Steam
Package openssh-server-9.0p1-1.fc40.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
ericphoon@fedora:~$
```

5. After that, the command below have to be run for enabling SSH.

```
ericphoon@fedora:~$ sudo systemctl enable sshd
[sudo] password for ericphoon:
Created symlink /etc/systemd/system/multi-user.target.wants/sshd.service → /usr/lib/systemd/system/sshd.service.
```

6. Once SSH is enabled, the command below will be inputted to start the SSH server.

```
ericphoon@fedora:~$ sudo systemctl enable sshd
[sudo] password for ericphoon:
Created symlink /etc/systemd/system/multi-user.target.wants/sshd.service → /usr/lib/systemd/system/sshd.service.
```

7. To check that SSH is started, run “sudo systemctl status sshd”. It should show the result as demonstrated below:

```
● sshd.service - OpenSSH server daemon
   Loaded: loaded (/usr/lib/systemd/system/sshd.service; enabled; preset: disabled)
   Drop-In: /usr/lib/systemd/system/service.d
           └─10-timeout-abort.conf
   Active: active (running) since Tue 2024-08-06 16:22:45 +08; 1min 37s ago
     Docs: man:sshd(8)
           man:sshd_config(5)
   Main PID: 3525 (sshd)
    Tasks: 1 (limit: 6880)
   Memory: 1.3M (peak: 1.6M)
      CPU: 21ms
   CGroup: /system.slice/sshd.service
           └─3525 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups"

Aug 06 16:22:45 fedora systemd[1]: Starting sshd.service - OpenSSH server daemon...
Aug 06 16:22:45 fedora (sshd)[3525]: sshd.service: Referenced but unset environment variable evaluates to an empty string: OPTIONS
Aug 06 16:22:45 fedora sshd[3525]: Server listening on 0.0.0.0 port 22.
Aug 06 16:22:45 fedora sshd[3525]: Server listening on :: port 22.
Aug 06 16:22:45 fedora systemd[1]: Started sshd.service - OpenSSH server daemon.
```

8. After starting the SSH, the command below should be ran for locating the IP of the device.

```
ericphoon@fedora:~$ ip addr
```

It should be displayed as below, look for the IP that's at the right of the 2<sup>nd</sup> row of number 2. (The IP I have is 192.168.0.184)

```
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
   link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
   inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
   inet6 ::1/128 scope host noprefixroute
       valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
   link/ether 08:00:27:03:11:84 brd ff:ff:ff:ff:ff:ff
   inet 192.168.0.184/24 brd 192.168.0.255 scope global dynamic noprefixroute enp0s3
       valid_lft 603152sec preferred_lft 603152sec
   inet6 2001:e68:5456:648a:ded3:2284:d871:eac1/64 scope global dynamic noprefixroute
       valid_lft 259198sec preferred_lft 172798sec
   inet6 fe80::f74b:d659:59e5:50ce/64 scope link noprefixroute
       valid_lft forever preferred_lft forever
```

9. Once the IP is located, go to another device to run the command below for accessing the SSH server you've started. (host@ip)

```
C:\Users\ericp>ssh ericphoon@192.168.0.184
```

The other device that's used are running in Windows 11 OS, thus it works with latest Windows OS.

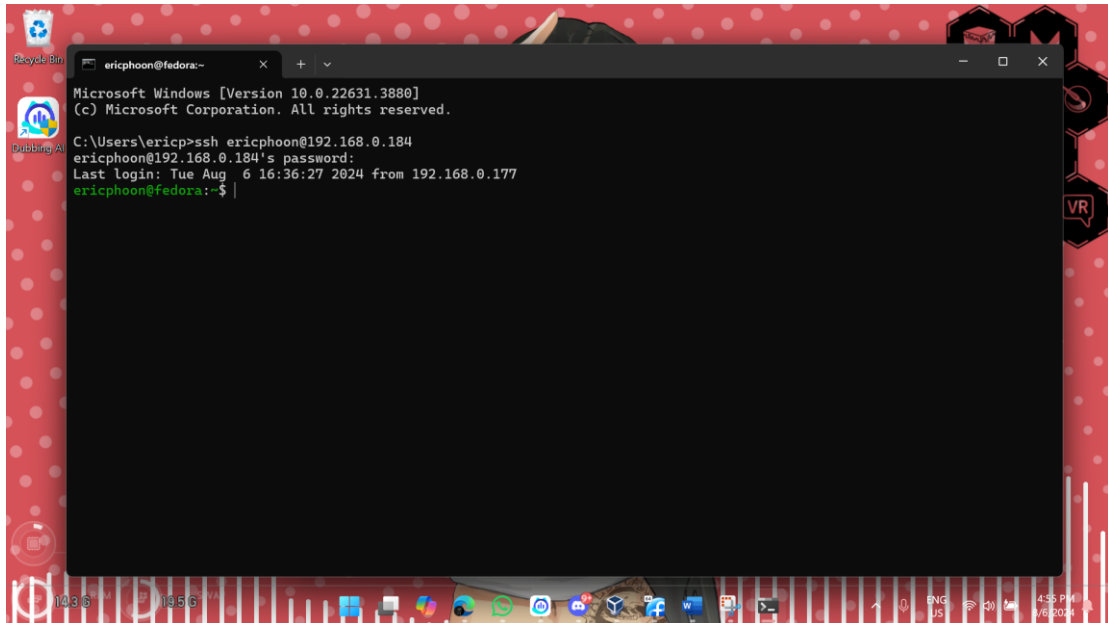
10. After your first access, the SSH server will request for verification towards the access of SSH server in Fedora Linux.

```
The authenticity of host '192.168.0.184 (192.168.0.184)' can't be
established.
ED25519 key fingerprint is SHA256:0626BdefjhhWuiqsvgFhjaKHcCvcJn
rks7d1H8RRJH0.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])?
```

Once “yes” with the fingerprint is keyed in, the SSH server will automatically add the device's IP into the Window OS.

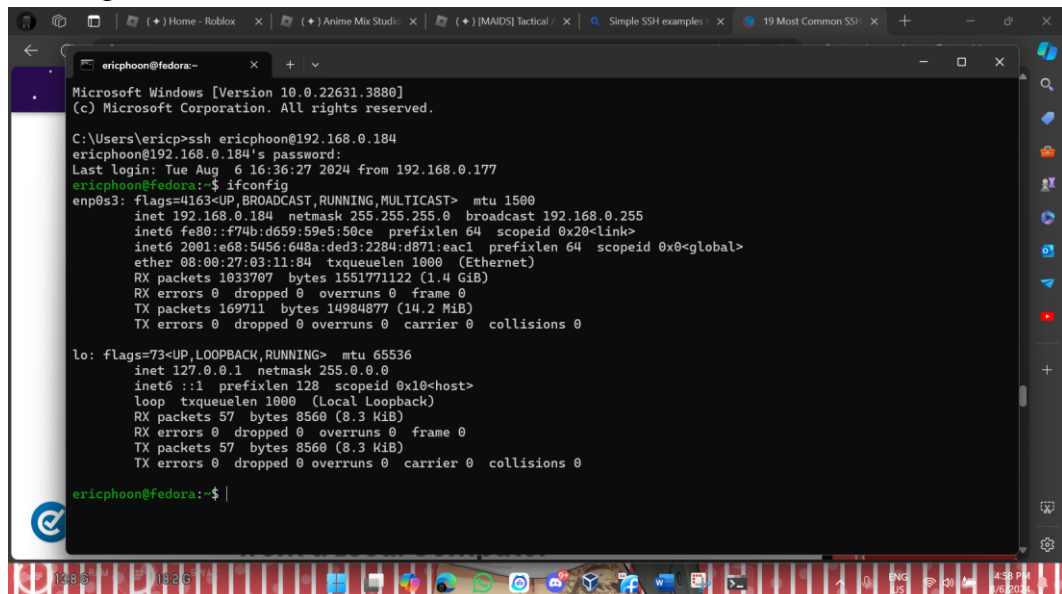
```
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.0.184' (ED25519) to the list of known hosts.
ericphoon@192.168.0.184's password:
Last login: Tue Aug 6 16:07:56 2024
```

11. Once the password is keyed, thus another device will have access to the Fedora Linux SSH.



Example control towards SSH server:

- Viewing the IP address of the SSH server



- Installing Git into SSH server (It was installed thus it only show that it's been installed)

```
ericphoon@fedora:~$ sudo dnf install git -y
[sudo] password for ericphoon:
Last metadata expiration check: 0:34:28 ago on Tue 06 Aug 2024 04:25:47 PM +08.
Package git-2.44.0-1.fc40.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
```

- Updating Fedora Linux via SSH remote configuration

```
ericphoon@fedora:~$ sudo dnf install git -y
[sudo] password for ericphoon:
Last metadata expiration check: 0:34:28 ago on Tue 06 Aug 2024 04:25:47 PM +08.
Package git-2.44.0-1.fc40.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
ericphoon@fedora:~$ sudo dnf upgrade
[sudo] password for ericphoon:
Last metadata expiration check: 0:43:28 ago on Tue 06 Aug 2024 04:25:47 PM +08.
Dependencies resolved.
=====
Package Arch Version Repository Size
=====
Installing:
kernel x86_64 6.9.12-200.fc40 updates 170 k
kernel-modules x86_64 6.9.12-200.fc40 updates 63 M
kernel-modules-extra x86_64 6.9.12-200.fc40 updates 2.9 M
=====

Transaction Summary
=====
Install 25 Packages
Upgrade 774 Packages

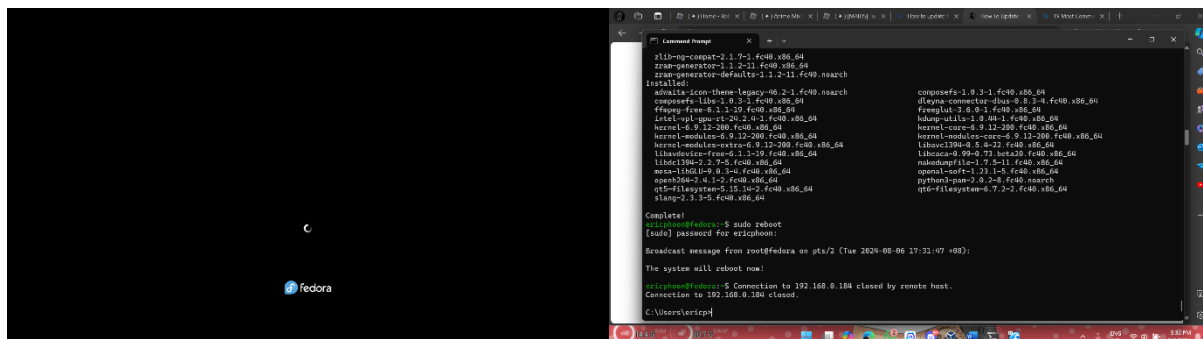
Total download size: 1.3 G
Is this ok [y/N]: |
```

```
ericphoon@fedora:~$ sudo dnf upgrade
=====
Package Arch Version Repository Size
=====
Installing:
kernel x86_64 6.9.12-200.fc40 updates 170 k
kernel-modules x86_64 6.9.12-200.fc40 updates 63 M
kernel-modules-extra x86_64 6.9.12-200.fc40 updates 2.9 M
=====

Transaction Summary
=====
Install 25 Packages
Upgrade 774 Packages

Total download size: 1.3 G
Is this ok [y/N]: |
```

- Reboot the remotd device via remote configuration



## Firewall Configuration on Fedora Linux

### Fedora Linux Firewall configuration:

#### Check Firewall service running state:

Code: Sudo systemctl status firewalld

```
danersontehjiesheng@fedora:~$ sudo systemctl status firewalld
[sudo] password for danersontehjiesheng:
● firewalld.service - firewalld - dynamic firewall daemon
   Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; preset: enabled)
   Drop-In: /usr/lib/systemd/system/service.d
            └─10-timeout-abort.conf
   Active: active (running) since Thu 2024-08-01 21:09:42 +08; 8min ago
     Docs: man:firewalld(1)
    Main PID: 906 (firewalld)
      Tasks: 2 (limit: 4639)
     Memory: 52.5M (peak: 52.8M)
        CPU: 1.886s
    CGroup: /system.slice/firewalld.service
            └─906 /usr/bin/python3 -sP /usr/sbin/firewalld --nofork --nopid

Aug 01 21:09:40 fedora systemd[1]: Starting firewalld.service - firewalld - dynamic firewall daemon...
Aug 01 21:09:42 fedora systemd[1]: Started firewalld.service - firewalld - dynamic firewall daemon.
danersontehjiesheng@fedora:~$
```

#### Terminate Firewall services:

Code: Sudo systemctl stop firewalld

```
danersontehjiesheng@fedora:~$ sudo systemctl status firewalld
● firewalld.service - firewalld - dynamic firewall daemon
   Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; preset: enabled)
   Drop-In: /usr/lib/systemd/system/service.d
            └─10-timeout-abort.conf
   Active: inactive (dead) since Thu 2024-08-01 21:20:28 +08; 8s ago
     Duration: 10min 45.393s
     Docs: man:firewalld(1)
    Process: 906 ExecStart=/usr/sbin/firewalld --nofork --nopid $FIREWALLD_ARGS (code=exited, status=0/SUCCESS)
   Main PID: 906 (code=exited, status=0/SUCCESS)
        CPU: 1.994s

Aug 01 21:09:40 fedora systemd[1]: Starting firewalld.service - firewalld - dynamic firewall daemon...
Aug 01 21:09:42 fedora systemd[1]: Started firewalld.service - firewalld - dynamic firewall daemon.
Aug 01 21:20:28 fedora systemd[1]: Stopping firewalld.service - firewalld - dynamic firewall daemon...
Aug 01 21:20:28 fedora systemd[1]: firewalld.service: Deactivated successfully.
Aug 01 21:20:28 fedora systemd[1]: Stopped firewalld.service - firewalld - dynamic firewall daemon.
Aug 01 21:20:28 fedora systemd[1]: firewalld.service: Consumed 1.994s CPU time, 52.8M memory peak, 0B memory swap p
lines 1-17/17 (END)
```

## Restart Firewall:

Code: Sudo systemctl restart firewalld

```
danersontehjiesheng@fedora:~$ sudo systemctl restart firewalld
danersontehjiesheng@fedora:~$ sudo firewall-cmd --reload
success
danersontehjiesheng@fedora:~$ sudo systemctl status firewalld
• firewalld.service - firewalld - dynamic firewall daemon
  Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; preset: enabled)
  Drop-In: /usr/lib/systemd/system/service.d
           └─10-timeout-abort.conf
  Active: active (running) since Thu 2024-08-01 21:24:28 +08; 28s ago
    Docs: man:firewalld(1)
  Main PID: 3201 (firewalld)
    Tasks: 5 (limit: 4639)
  Memory: 26.6M (peak: 26.9M)
    CPU: 1.976s
  CGroup: /system.slice/firewalld.service
          └─3201 /usr/bin/python3 -sP /usr/sbin/firewalld --nofork --nopid

Aug 01 21:24:27 fedora systemd[1]: Starting firewalld.service - firewalld - dynamic firewall daemon...
Aug 01 21:24:28 fedora systemd[1]: Started firewalld.service - firewalld - dynamic firewall daemon.
danersontehjiesheng@fedora:~$
```

## List available services:

Code: Sudo firewall-cmd --list-all

```
danersontehjiesheng@fedora:~$ sudo firewall-cmd --list-all
FedoraWorkstation (default, active)
  target: default
  ingress-priority: 0
  egress-priority: 0
  icmp-block-inversion: no
  interfaces: enp0s3
  sources:
  services: dhcpv6-client http https mdns samba-client ssh
  ports: 1025-65535/udp 1025-65535/tcp
  protocols:
  forward: yes
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
danersontehjiesheng@fedora:~$
```



## Add new service:

Code: Sudo firewall-cmd --add-services=ssh --permanent

Sudo firewall-cmd --reload

```
danersontehjiesheng@fedora:~$ sudo firewall-cmd --add-service=ssh --permanent
Warning: ALREADY_ENABLED: ssh
success
danersontehjiesheng@fedora:~$ sudo systemctl status firewalld
● firewalld.service - firewalld - dynamic firewall daemon
   Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; preset: enabled)
   Drop-In: /usr/lib/systemd/system/service.d
            └─10-timeout-abort.conf
   Active: active (running) since Thu 2024-08-01 21:24:28 +08; 31min ago
     Docs: man:firewalld(1)
  Main PID: 3201 (firewalld)
    Tasks: 4 (limit: 4639)
   Memory: 27.0M (peak: 27.9M)
      CPU: 4.901s
   CGroup: /system.slice/firewalld.service
            └─3201 /usr/bin/python3 -sP /usr/sbin/firewalld --nofork --nopid

Aug 01 21:24:27 fedora systemd[1]: Starting firewalld.service - firewalld - dynamic firewall daemon...
Aug 01 21:24:28 fedora systemd[1]: Started firewalld.service - firewalld - dynamic firewall daemon.
Aug 01 21:35:40 fedora firewalld[3201]: WARNING: ALREADY_ENABLED: http
Aug 01 21:39:53 fedora firewalld[3201]: WARNING: ALREADY_ENABLED: https
Aug 01 21:55:12 fedora firewalld[3201]: WARNING: ALREADY_ENABLED: ssh
```

## Remove service:

Code: Sudo firewall-cmd --remove-service=ssh --permanent

Sudo firewall-cmd --reload

```
danersontehjiesheng@fedora:~$ sudo firewall-cmd --remove-service=ssh --permanent
Warning: NOT_ENABLED: ssh
success
danersontehjiesheng@fedora:~$ sudo systemctl status firewalld
● firewalld.service - firewalld - dynamic firewall daemon
   Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; preset: enabled)
   Drop-In: /usr/lib/systemd/system/service.d
            └─10-timeout-abort.conf
   Active: active (running) since Thu 2024-08-01 21:59:57 +08; 3min 4s ago
     Docs: man:firewalld(1)
  Main PID: 3564 (firewalld)
    Tasks: 2 (limit: 4639)
   Memory: 24.7M (peak: 25.1M)
      CPU: 1.744s
   CGroup: /system.slice/firewalld.service
            └─3564 /usr/bin/python3 -sP /usr/sbin/firewalld --nofork --nopid

Aug 01 21:59:57 fedora systemd[1]: Starting firewalld.service - firewalld - dynamic firewall daemon...
Aug 01 21:59:57 fedora systemd[1]: Started firewalld.service - firewalld - dynamic firewall daemon.
Aug 01 22:01:27 fedora firewalld[3564]: WARNING: ALREADY_ENABLED: ssh
Aug 01 22:02:47 fedora firewalld[3564]: WARNING: NOT_ENABLED: ssh
danersontehjiesheng@fedora:~$
```

## Add new port:

Code: Sudo firewall-cmd --add-port=9090/tcp --permanent

Sudo firewall-cmd --reload

```
danersontehjiesheng@fedora:~$ sudo firewall-cmd --add-port=7676/tcp --permanent
Warning: ALREADY_ENABLED: 7676:tcp
success
danersontehjiesheng@fedora:~$ sudo systemctl status firewalld
• firewalld.service - firewalld - dynamic firewall daemon
  Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; preset: enabled)
  Drop-In: /usr/lib/systemd/system/service.d
           └─10-timeout-abort.conf
  Active: active (running) since Thu 2024-08-01 21:59:57 +08; 6min ago
  Docs: man:firewalld(1)
  Main PID: 3564 (firewalld)
  Tasks: 2 (limit: 4639)
  Memory: 24.7M (peak: 25.1M)
  CPU: 1.855s
  CGroup: /system.slice/firewalld.service
           └─3564 /usr/bin/python3 -sP /usr/sbin/firewalld --nofork --nopid

Aug 01 21:59:57 fedora systemd[1]: Starting firewalld.service - firewalld - dynamic firewall daemon...
Aug 01 21:59:57 fedora systemd[1]: Started firewalld.service - firewalld - dynamic firewall daemon.
Aug 01 22:01:27 fedora firewalld[3564]: WARNING: ALREADY_ENABLED: ssh
Aug 01 22:02:47 fedora firewalld[3564]: WARNING: NOT_ENABLED: ssh
Aug 01 22:06:12 fedora firewalld[3564]: WARNING: ALREADY_ENABLED: 7676:tcp
```

## Remove port:

Code: Sudo firewall-cmd --remove-port=9090/tcp --permanent

Sudo firewall-cmd --reload

```
danersontehjiesheng@fedora:~$ sudo firewall-cmd --remove-port=7676/tcp --permanent
Warning: NOT_ENABLED: 7676:tcp
success
danersontehjiesheng@fedora:~$ sudo systemctl status firewalld
Unit firewalld.service could not be found.
danersontehjiesheng@fedora:~$ sudo systemctl status firewalld
• firewalld.service - firewalld - dynamic firewall daemon
  Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; preset: enabled)
  Drop-In: /usr/lib/systemd/system/service.d
           └─10-timeout-abort.conf
  Active: active (running) since Thu 2024-08-01 21:59:57 +08; 10min ago
  Docs: man:firewalld(1)
  Main PID: 3564 (firewalld)
  Tasks: 2 (limit: 4639)
  Memory: 24.7M (peak: 25.1M)
  CPU: 2.139s
  CGroup: /system.slice/firewalld.service
           └─3564 /usr/bin/python3 -sP /usr/sbin/firewalld --nofork --nopid

Aug 01 21:59:57 fedora systemd[1]: Starting firewalld.service - firewalld - dynamic firewall daemon...
Aug 01 21:59:57 fedora systemd[1]: Started firewalld.service - firewalld - dynamic firewall daemon.
Aug 01 22:01:27 fedora firewalld[3564]: WARNING: ALREADY_ENABLED: ssh
Aug 01 22:02:47 fedora firewalld[3564]: WARNING: NOT_ENABLED: ssh
Aug 01 22:06:12 fedora firewalld[3564]: WARNING: ALREADY_ENABLED: 7676:tcp
Aug 01 22:09:43 fedora firewalld[3564]: WARNING: NOT_ENABLED: 7676:tcp
```

## Allowing IP address:

Code: Sudo firewall-cmd --permanent --add-rich-rule “ rule family= ‘ipv4’ source address=’192.168.1.100’ accept”

Sudo firewall-cmd --reload

```
• firewallld.service - firewallld - dynamic firewall daemon
  Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; preset: enabled)
  Drop-In: /usr/lib/systemd/system/service.d
           └─10-timeout-abort.conf
  Active: active (running) since Thu 2024-08-01 22:19:04 +08; 1min 41s ago
  Docs: man:firewalld(1)
  Main PID: 3822 (firewalld)
  Tasks: 2 (limit: 4639)
  Memory: 24.6M (peak: 24.9M)
  CPU: 1.306s
  CGroup: /system.slice/firewalld.service
          └─3822 /usr/bin/python3 -sP /usr/sbin/firewalld --nofork --nopid

Aug 01 22:19:03 fedora systemd[1]: Starting firewallld.service - firewallld - dynamic firewall daemon...
Aug 01 22:19:04 fedora systemd[1]: Started firewallld.service - firewallld - dynamic firewall daemon.
Aug 01 22:20:30 fedora firewallld[3822]: WARNING: ALREADY_ENABLED: rule family="ipv4" source address="192.168.0.1" accept
```

## Rejecting IP address:

Code: Sudo firewall-cmd --permanent --add-rich-rule “ rule family=’ipv4’ source address=’192.168.1.100’ reject”

Sudo firewall-cmd --reload

```
danersontehjiesheng@fedora:~$ sudo firewall-cmd --permanent --add-rich-rule='rule family="ipv4" source address="192.168.0.1" reject'
Warning: ALREADY_ENABLED: rule family="ipv4" source address="192.168.0.1" reject
success
danersontehjiesheng@fedora:~$ sudo systemctl status firewallld
• firewallld.service - firewallld - dynamic firewall daemon
  Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; preset: enabled)
  Drop-In: /usr/lib/systemd/system/service.d
           └─10-timeout-abort.conf
  Active: active (running) since Thu 2024-08-01 22:19:04 +08; 5min ago
  Docs: man:firewalld(1)
  Main PID: 3822 (firewalld)
  Tasks: 2 (limit: 4639)
  Memory: 24.7M (peak: 25.1M)
  CPU: 1.602s
  CGroup: /system.slice/firewalld.service
          └─3822 /usr/bin/python3 -sP /usr/sbin/firewalld --nofork --nopid

Aug 01 22:19:03 fedora systemd[1]: Starting firewallld.service - firewallld - dynamic firewall daemon...
Aug 01 22:19:04 fedora systemd[1]: Started firewallld.service - firewallld - dynamic firewall daemon.
Aug 01 22:20:30 fedora firewallld[3822]: WARNING: ALREADY_ENABLED: rule family="ipv4" source address="192.168.0.1" accept
Aug 01 22:23:56 fedora firewallld[3822]: WARNING: ALREADY_ENABLED: rule family="ipv4" source address="192.168.0.1" reject
```

## Mysql configuration(fedora)

### 1.Code: Sudo dnf update

Update the os service to the latest date.

```
hellopotato@fedora:~ — sudo dnf update
hellopotato@fedora:~$ sudo dnf update
[sudo] password for hellopotato:
Copr repo for PyCharm owned by phracek      1.4 kB/s | 1.8 kB    00:01
Fedora 40 - x86_64                          8.8 kB/s | 9.7 kB    00:01
Fedora 40 openh264 (From Cisco) - x86_64   1.4 kB/s | 989 B     00:00
Fedora 40 - x86_64 - Updates                9.9 kB/s | 9.6 kB    00:00
Fedora 40 - x86_64 - Updates                3.2 MB/s | 6.0 MB    00:01
google-chrome                             10 kB/s | 1.3 kB     00:00
google-chrome                             9.1 kB/s | 1.8 kB     00:00
RPM Fusion for Fedora 40 - Nonfree - NVIDIA Dri 8.9 kB/s | 16 kB     00:01
RPM Fusion for Fedora 40 - Nonfree - NVIDIA Dri 3.4 kB/s | 7.0 kB     00:02
RPM Fusion for Fedora 40 - Nonfree - Steam    8.2 kB/s | 15 kB     00:01
RPM Fusion for Fedora 40 - Nonfree - Steam   391 B/s | 1.5 kB     00:03
Dependencies resolved.
=====
Package                                Arch  Version                                Repo    Size
=====
Installing:
kernel                                x86_64 6.9.11-200.fc40                       updates 170 k
kernel-modules                       x86_64 6.9.11-200.fc40                       updates  63 M
kernel-modules-extra                 x86_64 6.9.11-200.fc40                       updates 2.9 M
Upgrading:
ImageMagick                          x86_64 1:7.1.1.33-1.fc40                     updates  73 k
ImageMagick-libs                     x86_64 1:7.1.1.33-1.fc40                     updates 2.6 M
```

2.Code: Sudo dnf install -y community-mysql-server

Installing the sql server.

```
hellopotato@fedora:~$ sudo dnf install -y community-mysql-server
[sudo] password for hellopotato:
Last metadata expiration check: 3:02:44 ago on Thu 01 Aug 2024 02:09:21 PM +08.
Dependencies resolved.
=====
Package                Architecture Version                Repository            Size
=====
Installing:
mysql-server            x86_64          8.0.37-3.fc40          updates              17 M
Installing dependencies:
mecab                   x86_64          0.996-7.fc40           fedora               358 k
mysql                   x86_64          8.0.37-3.fc40          updates             2.5 M
mysql-common            noarch          8.0.37-3.fc40          updates              76 k
mysql-errmsg            noarch          8.0.37-3.fc40          updates             507 k
mysql-selinux           noarch          1.0.10-3.fc40          fedora               37 k
protobuf-lite           x86_64          3.19.6-8.fc40          fedora              260 k

Transaction Summary
=====
Install  7 Packages

Total download size: 21 M
```

3.The sql in first after installed the status is in disable, we need to change it to enable.

Code: sudo systemctl enable mysqld

```
hellopotato@fedora:~$ sudo systemctl enable mysqld
Created symlink /etc/systemd/system/multi-user.target.wants/mysqld.service → /usr/lib/systemd/system/mysqld.service.
```

4.start sql

Code: sudo systemctl start mysqld.service

```
hellopotato@fedora:~$ sudo systemctl start mysqld.service
```

## 5.Setting the sql

Code: `sudo mysql_secure_installation`

```
hellopotato@fedora:~$ sudo mysql_secure_installation

Securing the MySQL server deployment.

Connecting to MySQL using a blank password.

VALIDATE PASSWORD COMPONENT can be used to test passwords
and improve security. It checks the strength of password
and allows the users to set only those passwords which are
secure enough. Would you like to setup VALIDATE PASSWORD component?

Press y|Y for Yes, any other key for No: ☐
```

This is my settings

```
Securing the MySQL server deployment.

Connecting to MySQL using a blank password.

VALIDATE PASSWORD COMPONENT can be used to test passwords
and improve security. It checks the strength of password
and allows the users to set only those passwords which are
secure enough. Would you like to setup VALIDATE PASSWORD component?

Press y|Y for Yes, any other key for No: no
Please set the password for root here.

New password:

Re-enter new password:
By default, a MySQL installation has an anonymous user,
allowing anyone to log into MySQL without having to have
a user account created for them. This is intended only for
testing, and to make the installation go a bit smoother.
You should remove them before moving into a production
environment.

Remove anonymous users? (Press y|Y for Yes, any other key for No) : y
Success.

Normally, root should only be allowed to connect from
'localhost'. This ensures that someone cannot guess at
the root password from the network.

Disallow root login remotely? (Press y|Y for Yes, any other key for No) : no
... skipping.
By default, MySQL comes with a database named 'test' that
anyone can access. This is also intended only for testing,
and should be removed before moving into a production
environment.

Remove test database and access to it? (Press y|Y for Yes, any other key for No) : yes
- Dropping test database...
Success.

- Removing privileges on test database...
Success.

Reloading the privilege tables will ensure that all changes
made so far will take effect immediately.

Reload privilege tables now? (Press y|Y for Yes, any other key for No) : yes
Success.
```

## 6.Login sql

Code: `sudo mysql -u root -p`

```
hellopotato@fedora:~$ sudo mysql -u root -p
[sudo] password for hellopotato:
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 10
Server version: 8.0.37 Source distribution

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> 
```

Finish

Example

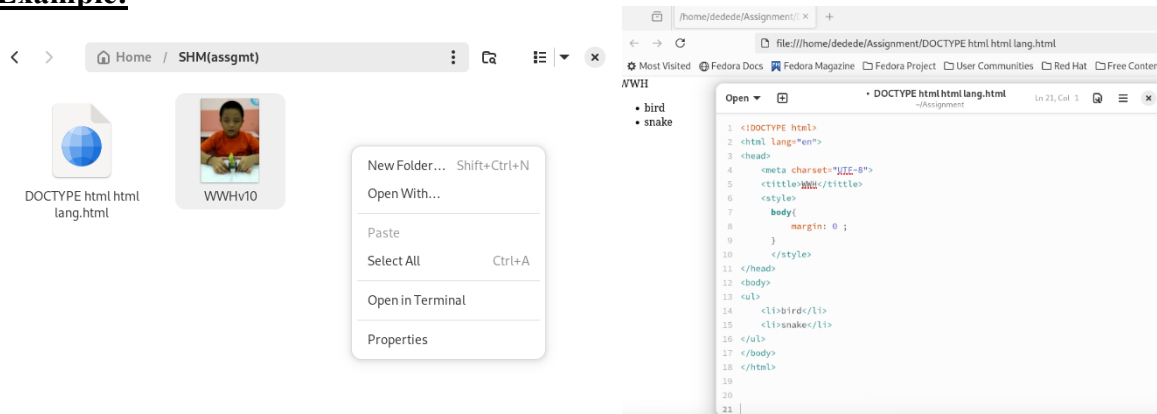
```
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
4 rows in set (0.00 sec)

mysql> 
```

## 1. Install git: **sudo dnf install git**

```
dedede@fedora:~$ sudo dnf install git
[sudo] password for dedede:
Last metadata expiration check: 0:30:29 ago on Thu 01 Aug 2024 01:21:30 PM +08.
Package git-2.45.2-2.fc40.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
```

### Example:



## 2. Control the projects( files): **sudo git init**

```
dedede@fedora:~/SHM(assignmt)$ sudo git init
[sudo] password for dedede:
hint: Using 'master' as the name for the initial branch. This default branch name
hint: is subject to change. To configure the initial branch name to use in all
hint: of your new repositories, which will suppress this warning, call:
hint:
hint:   git config --global init.defaultBranch <name>
hint:
hint: Names commonly chosen instead of 'master' are 'main', 'trunk' and
hint: 'development'. The just-created branch can be renamed via this command:
hint:
hint:   git branch -m <name>
Initialized empty Git repository in /home/dedede/SHM(assignmt)/.git/
```

## 3. Check the data status in the files(no matter its already been managed or not):

### **Sudo git status**

```
dedede@fedora:~/SHM(assignmt)$ sudo git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    DOCTYPE.html.html lang.html
    WWHV10

nothing added to commit but untracked files present (use "git add" to track)
```



4. Save the completed data in the file:

**Sudo git add .**

or

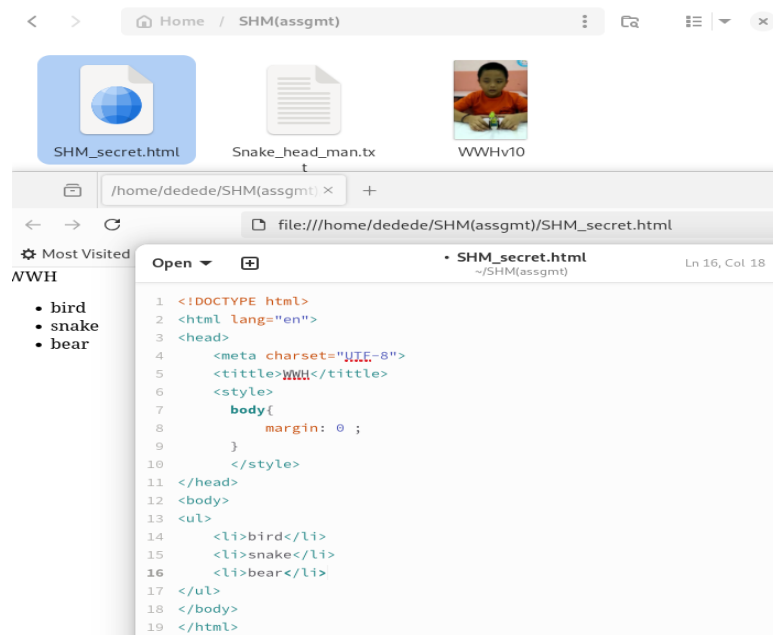
**Sudo git add (data name)**

```
dedede@fedora:~/SHM(assignmt)$ sudo git add .
dedede@fedora:~/SHM(assignmt)$ sudo git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   DOCTYPE html html lang.html
    new file:   WWHv10
```

5. Now I add a txt file in it, and edit the html file.



```
dedede@fedora:~/SHM(assignmt)$ sudo git status
[sudo] password for dedede:
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   DOCTYPE html html lang.html
    new file:   WWHv10

Changes not staged for commit:
  (use "git add/rm <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
    deleted:    DOCTYPE html html lang.html

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    SHM_secret.html
    Snake_head_man.txt
```

```
dedede@fedora:~/SHM(assignmt)$ sudo git add .
dedede@fedora:~/SHM(assignmt)$ sudo git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   SHM_secret.html
    new file:   Snake_head_man.txt
    new file:   WWHv10
```

6. Before upload your files/projects as a version you must set your own identity:

**Sudo git config --global user.email "[your@email.com](#)"**

**Sudo git config --global user.name "your\_name"**

```
dedede@fedora:~$ sudo git config --global user.email "dedede76@gmail.com"
[sudo] password for dedede:
dedede@fedora:~$ sudo git config --global user.name "De De De"
```

If doesn't set, it will come out like this:

```
Author identity unknown

*** Please tell me who you are.

Run

    git config --global user.email "you@example.com"
    git config --global user.name "Your Name"

to set your account's default identity.
Omit --global to set the identity only in this repository.

fatal: unable to auto-detect email address (got 'root@fedora.(none)'
```

Upload the file as a version: **sudo git commit -m 'version\_name'**

```
dedede@fedora:~/SHM(assignmt)$ sudo git commit -m 'version 1'
[master (root-commit) 9b9be02] version 1
3 files changed, 20 insertions(+)
create mode 100644 SHM_secret.html
create mode 100644 Snake_head_man.txt
create mode 100644 WWHv10
```

8. Check the version that has been uploaded: **sudo git log**

```
dedede@fedora:~/SHM(assignmt)$ sudo git log
commit 9b9be02e27a13428974aa0ee15d0e0242177cdef (HEAD -> master)
Author: De De De <dedede76@gmail.com>
Date:   Fri Aug 2 00:00:19 2024 +0800

    version 1
```

Example:

```
commit e1d663c806457cd7a86d02e408010f161af74607 (HEAD -> master)
Author: De De De <dedede76@gmail.com>
Date:   Fri Aug 2 00:16:05 2024 +0800

    version 2

commit 9b9be02e27a13428974aa0ee15d0e0242177cdef
Author: De De De <dedede76@gmail.com>
Date:   Fri Aug 2 00:00:19 2024 +0800

    version 1
```

9. Go back to / delete the previous version :

**sudo git reset --hard version\_id**

```
dedede@fedora:~/SHM(assignmt)$ sudo git reset --hard 9b9be02e27a13428974aa0ee15d0e0242177cdef
[sudo] password for dedede:
HEAD is now at 9b9be02 version 1
```

```
dedede@fedora:~/SHM(assignmt)$ sudo git log
commit 9b9be02e27a13428974aa0ee15d0e0242177cdef (HEAD -> master)
Author: De De De <dedede76@gmail.com>
Date:   Fri Aug 2 00:00:19 2024 +0800

    version 1
```

10. Check all the versions no matter that it was been deleted or not:

**Sudo git reflog**

```
dedede@fedora:~/SHM(assignmt)$ sudo git reflog
9b9be02 (HEAD -> master) HEAD@{0}: reset: moving to 9b9be02e27a13428974aa0ee15d0e0242177cdef
e1d663c HEAD@{1}: commit: version 2
9b9be02 (HEAD -> master) HEAD@{2}: commit (initial): version 1
```

11. go back to the version that has been deleted:

**sudo git reset --hard version\_id**

```
dedede@fedora:~/SHM(assignmt)$ sudo git reset --hard e1d663c
[sudo] password for dedede:
HEAD is now at e1d663c version 2
```

## References

### SSH Configuration on Fedora Linux

[How to install, start and connect to SSH Server on Fedora Linux - Linux Tutorials - Learn Linux Configuration](#)

### Firewall Configuration on Fedora Linux

<https://www.youtube.com/watch?v=GCDsJpAagUM>

<https://www.atlantic.net/vps-hosting/how-to-install-configure-firewalld-firewall-on-fedora/>

### MySQL Configuration on Fedora Linux

[https://youtu.be/n-\\_nrggWV20?si=UXhRAFb3X8V7\\_rEP](https://youtu.be/n-_nrggWV20?si=UXhRAFb3X8V7_rEP)

### Git Configuration & Usage on Fedora Linux

<https://idroot.us/install-git-fedora-39/>