

CS211077

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CS-6C

```
umer@umer-VirtualBox:~$ sudo apt install openssh-server
[sudo] password for umer:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  ncurses-term openssh-sftp-server ssh-import-id
Suggested packages:
  molly-guard monkeysphere ssh-askpass
The following NEW packages will be installed:
  ncurses-term openssh-server openssh-sftp-server ssh-import-id
0 upgraded, 4 newly installed, 0 to remove and 4 not upgraded.
Need to get 752 kB of archives.
After this operation, 6,050 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://pk.archive.ubuntu.com/ubuntu jammy-updates/main amd64 openssh-sftp-
server amd64 1:8.9p1-3ubuntu0.6 [38.7 kB]
Get:2 http://pk.archive.ubuntu.com/ubuntu jammy-updates/main amd64 openssh-server amd64 1:8.9p1-3ubuntu0.6 [435 kB]
Get:3 http://pk.archive.ubuntu.com/ubuntu jammy-updates/main amd64 ncurses-term all 6.3-2ubuntu0.1 [267 kB]
Get:4 http://pk.archive.ubuntu.com/ubuntu jammy/main amd64 ssh-import-id all 5.11-0ubuntu1 [10.1 kB]
Fetched 752 kB in 0s (2,199 kB/s)
```

```
Processing triggers for ufw (0.36.1-4ubuntu0.1) ...
umer@umer-VirtualBox:~$ sudo systemctl status ssh
● ssh.service - OpenBSD Secure Shell server
   Loaded: loaded (/lib/systemd/system/ssh.service; enabled; vendor preset: ena
   Active: active (running) since Thu 2024-05-16 10:56:18 PKT; 2min 3s ago
     Docs: man:sshd(8)
           man:sshd_config(5)
   Main PID: 2014 (sshd)
    Tasks: 1 (limit: 3768)
   Memory: 1.7M
      CPU: 71ms
   CGroup: /system.slice/ssh.service
           └─2014 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups"

May 16 10:56:18 umer-VirtualBox systemd[1]: Starting OpenBSD Secure Shell server.
May 16 10:56:18 umer-VirtualBox sshd[2014]: Server listening on 0.0.0.0 port 22.
May 16 10:56:18 umer-VirtualBox sshd[2014]: Server listening on :: port 22.
May 16 10:56:18 umer-VirtualBox systemd[1]: Started OpenBSD Secure Shell server.
umer@umer-VirtualBox:~$ sudo systemctl enable ssh
Synchronizing state of ssh.service with SysV service script with /lib/systemd/sy
stemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable ssh
umer@umer-VirtualBox:~$ sudo systemctl start ssh
```

applicable law.

```
umer@umer-VirtualBox:~$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/umer/.ssh/id_rsa): umer2
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in umer2
Your public key has been saved in umer2.pub
The key fingerprint is:
SHA256:cYwl8KJOXbm2GULKQPTmqG//QdUjH0s5cHs3FzS00HY umer@umer-VirtualBox
The key's randomart image is:
+---[RSA 3072]---+
|  o+ ... o ..+= |
|    o . * + o.oE|
|    = B = O oo+ |
|    B = * + * .o|
|    + + S   o   |
|    +   o +     |
|    . .   +     |
|    . .   .     |
|    .....     |
+-----[SHA256]-----+
```

```
umer@umer-VirtualBox:~$ ssh umer@localhost
The authenticity of host 'localhost (127.0.0.1)' can't be established.
ED25519 key fingerprint is SHA256:al3G8tYihqfZU/EBBHfDfORWko+4U0beeqqzhL7Mt08.
This host key is known by the following other names/addresses:
  ~/.ssh/known_hosts:1: [hashed name]
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'localhost' (ED25519) to the list of known hosts.
umer@localhost's password:
Welcome to Ubuntu 22.04.4 LTS (GNU/Linux 6.2.0-36-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

Expanded Security Maintenance for Applications is not enabled.

10 updates can be applied immediately.
8 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

1 additional security update can be applied with ESM Apps.
Learn more about enabling ESM Apps service at https://ubuntu.com/esm

Last login: Thu May 16 11:12:20 2024 from 127.0.0.1
```

```
umer@umer-VirtualBox:~$ sudo adduser hassan
[sudo] password for umer:
Adding user `hassan' ...
Adding new group `hassan' (1001) ...
Adding new user `hassan' (1001) with group `hassan' ...
Creating home directory `/home/hassan' ...
Copying files from `/etc/skel' ...
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
Changing the user information for hassan
Enter the new value, or press ENTER for the default
    Full Name []: Umer Siddiqi
    Room Number []: FYP
    Work Phone []: 0303222789
    Home Phone []: 36975311
    Other []: 0328221562
Is the information correct? [Y/n] y
umer@umer-VirtualBox:~$ y
y: command not found
umer@umer-VirtualBox:~$ sudo usermod -aG sudo hassan
```

```
umer@umer-VirtualBox:~$ sudo ufw app list
Available applications:
  CUPS
  OpenSSH
umer@umer-VirtualBox:~$ sudo ufw allow OpenSSH
Rules updated
Rules updated (v6)
umer@umer-VirtualBox:~$ sudo ufw enable
Command may disrupt existing ssh connections. Proceed with operation (y|n)? y
Firewall is active and enabled on system startup
umer@umer-VirtualBox:~$ sudo ufw status
Status: active

To Action From
--
OpenSSH ALLOW Anywhere
OpenSSH (v6) ALLOW Anywhere (v6)
```



```
hassan@umer-VirtualBox:~$ sudo apt update
[sudo] password for hassan:
Hit:1 http://pk.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://pk.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://pk.archive.ubuntu.com/ubuntu jammy-backports InRelease
Get:4 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:5 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [1,467 kB]
Get:6 http://security.ubuntu.com/ubuntu jammy-security/main i386 Packages [470 kB]
Get:7 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [252 kB]
Get:8 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [1,866 kB]
Get:9 http://security.ubuntu.com/ubuntu jammy-security/restricted i386 Packages [36.5 kB]
Get:10 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en [317 kB]
Get:11 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [852 kB]
Get:12 http://security.ubuntu.com/ubuntu jammy-security/universe i386 Packages [603 kB]
Get:13 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [164 kB]
```

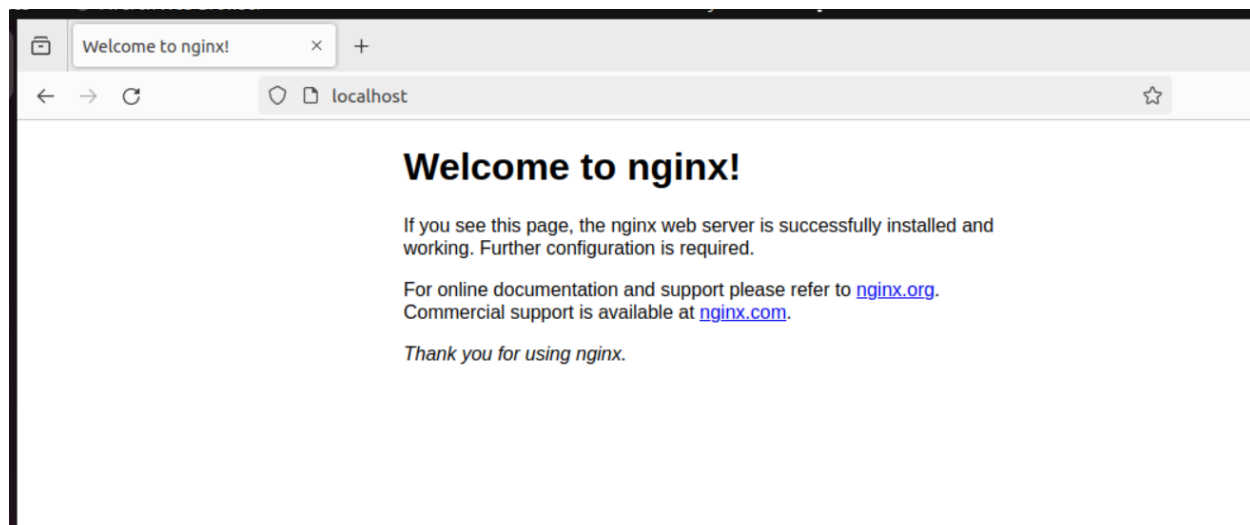
```
hassan@umer-VirtualBox:~$ sudo apt install nginx
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libnginx-mod-http-geoip2 libnginx-mod-http-image-filter
  libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream
  libnginx-mod-stream-geoip2 nginx-common nginx-core
Suggested packages:
  fcgiwrap nginx-doc
The following NEW packages will be installed:
  libnginx-mod-http-geoip2 libnginx-mod-http-image-filter
  libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream
  libnginx-mod-stream-geoip2 nginx nginx-common nginx-core
0 upgraded, 9 newly installed, 0 to remove and 69 not upgraded.
Need to get 697 kB of archives.
After this operation, 2,395 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://pk.archive.ubuntu.com/ubuntu jammy-updates/main amd64 nginx-common all 1.18.0-6ubuntu14.4 [40.0 kB]
Get:2 http://pk.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libnginx-mod-http-geoip2 amd64 1.18.0-6ubuntu14.4 [11.9 kB]
Get:3 http://pk.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libnginx-mod-http-image-filter amd64 1.18.0-6ubuntu14.4 [15.4 kB]
```

```
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for ufw (0.36.1-4ubuntu0.1) ...
Rules updated for profile 'OpenSSH'
Skipped reloading firewall
hassan@umer-VirtualBox:~$ sudo ufw app list
Available applications:
  CUPS
  Nginx Full
  Nginx HTTP
  Nginx HTTPS
  OpenSSH
hassan@umer-VirtualBox:~$
```

```
OpenSSH
hassan@umer-VirtualBox:~$ sudo ufw allow 'Nginx HTTP'
Rule added
Rule added (v6)
hassan@umer-VirtualBox:~$ sudo ufw status
Status: active

To Action From
--
OpenSSH ALLOW Anywhere
Nginx HTTP ALLOW Anywhere
OpenSSH (v6) ALLOW Anywhere (v6)
Nginx HTTP (v6) ALLOW Anywhere (v6)

hassan@umer-VirtualBox:~$ curl -4 icanhazip.com
Command 'curl' not found, but can be installed with:
sudo snap install curl # version 8.1.2, or
sudo apt install curl # version 7.81.0-1ubuntu1.14
See 'snap info curl' for additional versions.
hassan@umer-VirtualBox:~$ sudo snap install curl
curl 8.1.2 from Wouter van Bommel (woutervb) installed
hassan@umer-VirtualBox:~$ curl -4 icanhazip.com
154.57.216.74
```



```
154.57.216.74: command not found
hassan@umer-VirtualBox:~$ sudo apt install mysql-server
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libaio1 libcgi-fast-perl libcgi-pm-perl libevent-core-2.1-7
  libevent-pthreads-2.1-7 libfcgi-bin libfcgi-perl libfcgi0ldbl
  libhtml-template-perl libmecab2 libprotobuf-lite23 mecab-ipadic
  mecab-ipadic-utf8 mecab-utils mysql-client-8.0 mysql-client-core-8.0
  mysql-common mysql-server-8.0 mysql-server-core-8.0
Suggested packages:
  libipc-sharedcache-perl mailx tinycd
The following NEW packages will be installed:
  libaio1 libcgi-fast-perl libcgi-pm-perl libevent-core-2.1-7
  libevent-pthreads-2.1-7 libfcgi-bin libfcgi-perl libfcgi0ldbl
  libhtml-template-perl libmecab2 libprotobuf-lite23 mecab-ipadic
  mecab-ipadic-utf8 mecab-utils mysql-client-8.0 mysql-client-core-8.0
  mysql-common mysql-server mysql-server-8.0 mysql-server-core-8.0
0 upgraded, 20 newly installed, 0 to remove and 69 not upgraded.
```

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

All done!
hassan@umer-VirtualBox:~$ sudo mysql-V
sudo: mysql-V: command not found
hassan@umer-VirtualBox:~$ sudo mysql -V
mysql Ver 8.0.36-0ubuntu0.22.04.1 for Linux on x86_64 ((Ubuntu))
hassan@umer-VirtualBox:~$
```


IP Tables Commands:

```
umer@umer-VirtualBox: ~  
umer@umer-VirtualBox:~$ sudo apt-get install iptables  
[sudo] password for umer:  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
iptables is already the newest version (1.8.7-1ubuntu5.2).  
iptables set to manually installed.  
0 upgraded, 0 newly installed, 0 to remove and 69 not upgraded.  
umer@umer-VirtualBox:~$ sudo iptables -L  
Chain INPUT (policy DROP)  
target    prot opt source                destination  
ufw-before-logging-input all -- anywhere             anywhere  
ufw-before-input all -- anywhere             anywhere  
ufw-after-input all -- anywhere             anywhere  
ufw-after-logging-input all -- anywhere             anywhere  
ufw-reject-input all -- anywhere             anywhere  
ufw-track-input all -- anywhere             anywhere  
  
Chain FORWARD (policy DROP)  
target    prot opt source                destination  
ufw-before-logging-forward all -- anywhere             anywhere  
ufw-before-forward all -- anywhere             anywhere  
ufw-after-forward all -- anywhere             anywhere  
ufw-after-logging-forward all -- anywhere             anywhere
```

```
Chain ufw-user-output (0 references)  
target    prot opt source                destination  
umer@umer-VirtualBox:~$ sudo iptables -F  
umer@umer-VirtualBox:~$ sudo iptables -L
```

```
Chain ufw-user-output (0 references)  
target    prot opt source                destination  
umer@umer-VirtualBox:~$ sudo iptables -F  
umer@umer-VirtualBox:~$ sudo iptables -A INPUT -p tcp --tcp-flags ALL ALL -j DROP  
umer@umer-VirtualBox:~$ sudo iptables -A INPUT -p tcp --tcp-flags ALL NONE -j DROP  
umer@umer-VirtualBox:~$ sudo iptables -A INPUT -p tcp ! --syn -m state --state NEW  
-j DROP
```

Hmm. We're having trouble finding that site.

We can't connect to the server at www.programiz.com.

If you entered the right address, you can:

- Try again later
- Check your network connection
- Check that Firefox has permission to access the web (you might be connected but behind a firewall)

Try Again

Programiz
C++ Online Compiler

Programiz PRO

Premium Coding
Courses by Programiz

Learn More

Programiz PRO >

main.cpp

1 // Online C++ compiler to run C++ program online

2 #include <iostream>

3

4 int main() {

5 // Write C++ code here

6 std::cout << "Try programiz.pro";

7

8 return 0;

9 }

Run

Output

Clear

JS