

(anki㉿kali)-[~] \$ sudo apt install openssh-server -y

Upgrading:
 openssh-client openssh-client-gssapi openssh-server openssh-sftp-server

Summary:
Upgrading: 4, Installing: 0, Removing: 0, Not Upgrading: 1164
Download size: 65.3 kB / 1,796 kB
Space needed: 4,096 B / 21.5 GB available

Get:1 http://kali.kali.download/kali kali-rolling/main amd64 openssh-sftp-server amd64 1:10.0p1-8 [65.3 kB]

Fetched 65.3 kB in 1s (67.4 kB/s)

Preconfiguring packages ...
(Reading database ... 411960 files and directories currently installed.)

Preparing to unpack .../openssh-sftp-server_1%3a10.0p1-8_amd64.deb ...

Unpacking openssh-sftp-server (1:10.0p1-8) over (1:10.0p1-5) ...

Preparing to unpack .../openssh-server_1%3a10.0p1-8_amd64.deb ...

Unpacking openssh-server (1:10.0p1-8) over (1:10.0p1-5) ...

Preparing to unpack .../openssh-client_1%3a10.0p1-8_amd64.deb ...

Unpacking openssh-client (1:10.0p1-8) over (1:10.0p1-5) ...

Preparing to unpack .../openssh-client-gssapi_1%3a10.0p1-8_all.deb ...

Unpacking openssh-client-gssapi (1:10.0p1-8) over (1:10.0p1-5) ...

Setting up openssh-client (1:10.0p1-8) ...

Setting up openssh-client-gssapi (1:10.0p1-8) ...

Setting up openssh-sftp-server (1:10.0p1-8) ...

Setting up openssh-server (1:10.0p1-8) ...

ssh.service is a disabled or a static unit not running, not starting it.
ssh.socket is a disabled or a static unit not running, not starting it.
sshd-keygen.service is a disabled or a static unit not running, not starting it.

Processing triggers for kali-menu (2025.2.7) ...

Processing triggers for man-db (2.13.1-1) ...

(anki㉿kali)-[~] \$ sudo systemctl enable ssh

Synchronizing state of ssh.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable ssh
Created symlink '/etc/systemd/system/sshd.service' → '/usr/lib/systemd/system/ssh.service'.
Created symlink '/etc/systemd/system/multi-user.target.wants/sshd.service' → '/usr/lib/systemd/system/ssh.service'.

(anki㉿kali)-[~] \$ sudo systemctl start ssh

(anki㉿kali)-[~] \$ sudo systemctl status ssh

● ssh.service - OpenBSD Secure Shell server
 Loaded: loaded (/usr/lib/systemd/system/ssh.service; enabled; preset: disabled)
 Active: active (running) since Mon 2025-10-06 14:05:08 IST; 17s ago
 Invocation: c329ca4d1a7b4c48bbde6b9e2db9e94
 Docs: man:sshd(8)
 man:sshd_config(5)
 Process: 8441 ExecStartPre=/usr/sbin/sshd -t (code=exited, status=0/SUCCESS)
 Main PID: 8451 (sshd)
 Tasks: 1 (limit: 4546)
 Memory: 1.8M (peak: 2M)
 CPU: 63ms
 CGroup: /system.slice/sshd.service
 └─8451 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups"

Oct 06 14:05:08 kali systemd[1]: Starting ssh.service - OpenBSD Secure Shell server...
Oct 06 14:05:08 kali sshd[8451]: Server listening on 0.0.0.0 port 22.
Oct 06 14:05:08 kali sshd[8451]: Server listening on :: port 22.

Title: Establish Secure Remote Login using SSH

Aim of the Experiment: To demonstrate secure remote access to a system using key-based authentication, ensuring encrypted communication.

Tools and Techniques: Kali Linux / Ubuntu, OpenSSH, Terminal/Command Line Interface, sudo command.

Methodology Used:

- Step 1: Check and Install SSH
- Step 2: Verify SSH Service Status
- Step 3: Obtain Server IP Address

+ Ask anything

ChatGPT can make mistakes. Please verify the information provided.

```

File Actions Edit View Help
└─(anki㉿kali)-[~]
$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
      inet 192.168.1.9 netmask 255.255.255.0 broadcast 192.168.1.255
        inet6 fe80::a00:27ff:fe28:1417 prefixlen 64 scopeid 0x20<link>
          ether 08:00:27:28:14:17 txqueuelen 1000 (Ethernet)
            RX packets 443979 bytes 664167651 (633.3 MiB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 183920 bytes 11768418 (11.2 MiB)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
      inet 127.0.0.1 netmask 255.0.0.0
        inet6 ::1 prefixlen 128 scopeid 0x10<host>
          loop txqueuelen 1000 (Local Loopback)
            RX packets 8 bytes 480 (480.0 B)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 8 bytes 480 (480.0 B)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

SSH remote login setup
└─(anki㉿kali)-[~]
$ ssh anki@192.168.1.9
The authenticity of host '192.168.1.9 (192.168.1.9)' can't be established.
ED25519 key fingerprint is SHA256:XtIySG1dZz6Ab4hkyl03QWt2fC+yoeTjcfJPNdW/1sI.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.1.9' (ED25519) to the list of known hosts.
anki@192.168.1.9's password:
Linux kali 6.12.25-amd64 #1 SMP PREEMPT_DYNAMIC Kali 6.12.25-1kali1 (2025-04-30) x86_64

The programs included with the Kali GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/*copyright.
Coding decoding theory

Kali GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
└─(anki㉿kali)-[~]
$ ssh anki@127.0.0.1
The authenticity of host '127.0.0.1 (127.0.0.1)' can't be established.
ED25519 key fingerprint is SHA256:XtIySG1dZz6Ab4hkyl03QWt2fC+yoeTjcfJPNdW/1sI.
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 '127.0.0.1' (ED25519) to the list of known hosts.
anki@127.0.0.1's password:
Linux kali 6.12.25-amd64 #1 SMP PREEMPT_DYNAMIC Kali 6.12.25-1kali1 (2025-04-30) x86_64

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(Ensure th
Privacy and cognitive biases

Kali GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
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Last login: Mon Oct  6 14:07:09 2025 from 192.168.1.9
└─(anki㉿kali)-[~]
$ Ankit Kumar H
Free

```

File Actions Edit View Help

(anki㉿kali)-[~]

```
$ ssh-keygen -t rsa -b 2048
Generating public/private rsa key pair.
Enter file in which to save the key (/home/anki/.ssh/id_rsa):
Enter passphrase for "/home/anki/.ssh/id_rsa" (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/anki/.ssh/id_rsa
Your public key has been saved in /home/anki/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:4+Gi7qIogSF1Y0zsYVDaUKwRcUcegQp7UAUSeCFAJqs anki@kali
The key's randomart image is:
+---[RSA 2048]---+
|*00#o=.
|*o=@o .
|.*.O.o.
|= + .
|Eo      S
|o      o o
| .. . o
|o. o . . login setup
|+ . o
+---[SHA256]---+
```

(anki㉿kali)-[~]

```
$ ssh anki@127.0.0.1
anki@127.0.0.1's password:
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(anki㉿kali)-[~]

```
$ ssh anki@127.0.0.1
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Last login: Mon Oct 6 14:16:43 2025 from 127.0.0.1

(anki㉿kali)-[~]

```
$ ssh-copy-id anki@127.0.0.1
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/home/anki/.ssh/id_rsa.pub"
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
anki@127.0.0.1's password:
```

Number of key(s) added: 1

Now try logging into the machine, with: "ssh 'anki@127.0.0.1'"
and check to make sure that only the key(s) you wanted were added.

Title: Establish Secure Remote Login using SSH

Aim of the Experiment: To demonstrate secure remote access to a key-based authentication, ensuring encrypted communication.

Tools and Techniques: Kali Linux/Ubuntu, OpenSSH, Terminal/Command Line Interface.

Methodology Used:

- Step 1: Check and Install SSH

```
bash
sudo apt update
sudo apt install openssh-server
sudo systemctl enable ssh
sudo systemctl start ssh
```

- Step 2: Verify SSH Service Status

```
bash
sudo systemctl status ssh
```

- Step 3: Obtain Server IP Address

+ Ask anything

ChatGPT can make me

File Actions Edit View Help

Title: Establish Secure Remote Login using SSH

Aim of the Experiment: To demonstrate secure remote access to a server using key-based authentication, ensuring encrypted communication.

Tools and Techniques: Kali Linux / Ubuntu, OpenSSH, Terminal/Command Line.

Methodology Used:

- Step 1: Check and Install SSH**

```
sudo apt update
sudo systemctl start ssh
sudo systemctl enable ssh
```

- Step 2: Verify SSH Service Status**

```
sudo systemctl status ssh
```

(Ensure that the SSH service is active and running.)

- Step 3: Obtain Server IP Address**

+ Ask anything

ChatGPT, an AI made just for you.

```
|*00#*o=.
|*o=o .
|.*.o . Kali Linux Kali Tools Kali Docs Kali Forums Kali NetHunter Exploit-DB Google Hacking DB
|= + .
|Eo S
|o o o o
|... . o .
|o. o . .
|+ . o .
+---[SHA256]---+
Search chats
(anki㉿kali)-[~]
$ ssh anki@127.0.0.1
anki@127.0.0.1's password:
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/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keyssh
anki@127.0.0.1's password:

Number of key(s) added: 1

Now try logging into the machine, with: "ssh 'anki@127.0.0.1'"
and check to make sure that only the key(s) you wanted were added.

Number of key(s) added: 1
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$ ssh anki@127.0.0.1
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Last login: Mon Oct  6 14:19:36 2025 from 127.0.0.1
(anki㉿kali)-[~]
```