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Ubuntu Linux install OpenSSH server

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How do I install OpenSSH server on Ubuntu Linux version 16.04/18.04/20.04/22.04 LTS?



Introduction: sshd (OpenSSH Daemon or server) is the daemon program for ssh client. It is a free and open source ssh server. ssh replaces insecure rlogin and rsh, and provide secure encrypted communications between two untrusted hosts over an insecure network such as the Internet. Ubuntu Desktop and minimal Ubuntu server do not come with sshd installed. However, you can easily install SSH server in Ubuntu using the following steps.

Tutorial details	
Difficulty level	Easy
Root privileges	Yes
Requirements	Linux terminal
Category	Package Manager
OS compatibility	Debian • Linux • Mint • Pop!_OS • Ubuntu
Est. reading time	4 minutes

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How to install SSH server in Ubuntu

The procedure to install a ssh server in Ubuntu Linux is as follows:

1. Open the terminal application for Ubuntu desktop.
2. For remote Ubuntu server you must use BMC or KVM or IPMI tool to get console access.
3. Type command:

```
$ sudo apt-get install openssh-server
```

4. Enable the ssh service by typing:

```
$ sudo systemctl enable ssh
## OR enable and start the ssh service immediately ##
$ sudo systemctl enable ssh --now
```

5. Start the ssh service by typing:

```
$ sudo systemctl start ssh
```

6. Test it by login into the system using:

```
$ ssh userName@Your-server-name-IP
$ ssh ec2-user@ec2-aws-ip-here
```

Let us see all Ubuntu OpenSSH server installation steps in details with config options using remote console or local terminal.

1. Login to remote server using bmc/ipmi/kvm over IP (optional)

I am using OpenPOWER based system called Talos II from Raptor Computing Systems. It is a PowerPC (ppc/ppc64le) based architecture. After a fresh installation of Ubuntu Linux (ppc64le), I found does not come with SSH server installed by default. So here is how to login to bmc server to gain access to the serial console:

```
$ ssh root@power9-bmc
```

Run obmc-console-client to get console access to the Ubuntu server console:

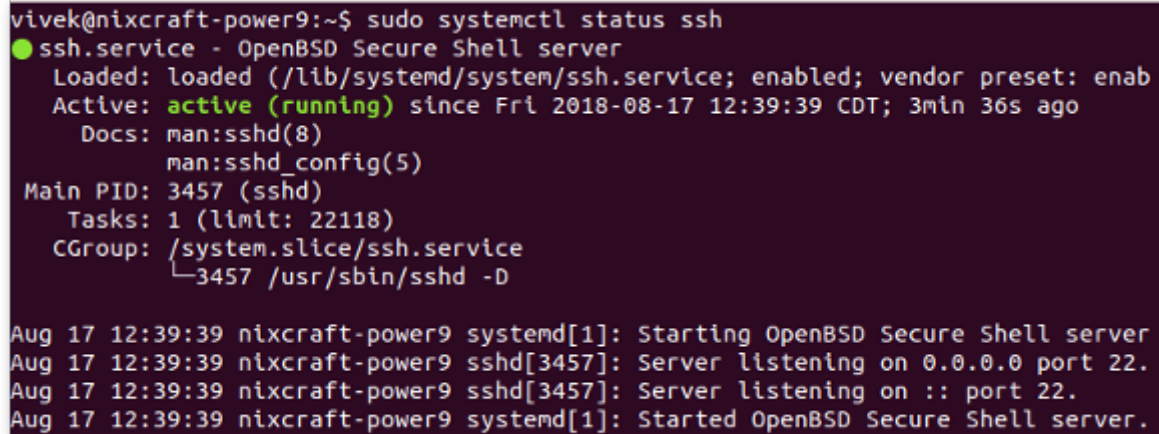
```
# obmc-console-client
```

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3. Verify that ssh service running

Type the following systemctl command:

```
$ sudo systemctl status ssh
```

A terminal window screenshot showing the output of the command 'sudo systemctl status ssh'. The output indicates that the ssh.service is active and running. It shows details like the loaded file path, active status since a specific date and time, documentation links, main PID, tasks, and CGroup. At the bottom, there are log messages from systemd and sshd confirming the server's start and listening status on port 22.

```
vivek@nixcraft-power9:~$ sudo systemctl status ssh
● ssh.service - OpenBSD Secure Shell server
   Loaded: loaded (/lib/systemd/system/ssh.service; enabled; vendor preset: enab
   Active: active (running) since Fri 2018-08-17 12:39:39 CDT; 3min 36s ago
     Docs: man:sshd(8)
           man:sshd_config(5)
   Main PID: 3457 (sshd)
      Tasks: 1 (limit: 22118)
   CGroup: /system.slice/ssh.service
           └─3457 /usr/sbin/sshd -D

Aug 17 12:39:39 nixcraft-power9 systemd[1]: Starting OpenBSD Secure Shell server
Aug 17 12:39:39 nixcraft-power9 sshd[3457]: Server listening on 0.0.0.0 port 22.
Aug 17 12:39:39 nixcraft-power9 sshd[3457]: Server listening on :: port 22.
Aug 17 12:39:39 nixcraft-power9 systemd[1]: Started OpenBSD Secure Shell server.
```

If not running enable the ssh server and start it as follows by typing the systemctl command:

```
$ sudo systemctl enable ssh
$ sudo systemctl start ssh
```

```
Synchronizing state of ssh.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable ssh
Created symlink /etc/systemd/system/sshd.service ? /lib/systemd/system/ssh.service.
```

4. Configure firewall and open port 22

You must configure the Ubuntu Linux firewall called ufw. Here is [how open or allow port 22 when using ufw on Ubuntu](#):

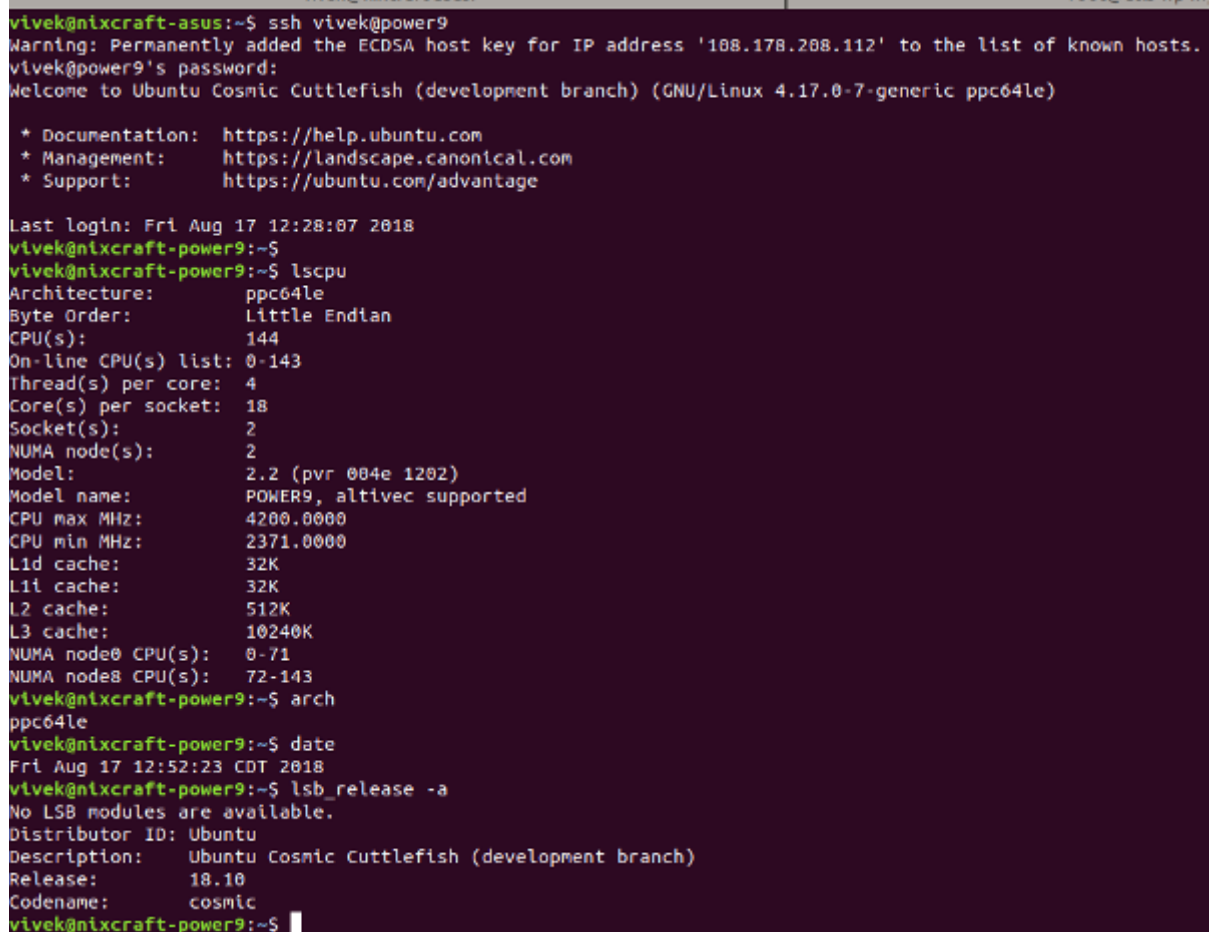
```
$ sudo ufw allow ssh
$ sudo ufw enable
$ sudo ufw status
```

See our “[setting up ufw firewall on Ubuntu](#)” guide for more info.

5. Test it

Now you can login from your desktop computer powered by Linux, *BSD, macOS, MS-Windows (putty client) or Unix-like system using the ssh command:

```
$ ssh vivek@server-ip
$ ssh vivek@power9
```



```
vivek@nixcraft-asus:~$ ssh vivek@power9
Warning: Permanently added the ECDSA host key for IP address '108.178.208.112' to the list of known hosts.
vivek@power9's password:
Welcome to Ubuntu Cosmic Cuttlefish (development branch) (GNU/Linux 4.17.0-7-generic ppc64le)

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

Last login: Fri Aug 17 12:28:07 2018
vivek@nixcraft-power9:~$
vivek@nixcraft-power9:~$ lscpu
Architecture:        ppc64le
Byte Order:          Little Endian
CPU(s):              144
On-line CPU(s) list: 0-143
Thread(s) per core:  4
Core(s) per socket:  18
Socket(s):           2
NUMA node(s):        2
Model:               2.2 (pvr 004e 1202)
Model name:          POWER9, altivec supported
CPU max MHz:         4200.0000
CPU min MHz:         2371.0000
L1d cache:           32K
L1i cache:           32K
L2 cache:            512K
L3 cache:            10240K
NUMA node0 CPU(s):   0-71
NUMA node8 CPU(s):   72-143
vivek@nixcraft-power9:~$ arch
ppc64le
vivek@nixcraft-power9:~$ date
Fri Aug 17 12:52:23 CDT 2018
vivek@nixcraft-power9:~$ lsb_release -a
No LSB modules are available.
Distributor ID: Ubuntu
Description:    Ubuntu Cosmic Cuttlefish (development branch)
Release:       18.10
Codename:      cosmic
vivek@nixcraft-power9:~$
```

You can install [copy and install the public key using ssh-copy-id command for password less login](#):

```
$ ssh-copy-id vivek@power9
```

See “[SSH Public Key Based Authentication on a Linux/Unix server](#)” for more info.

Ssh config file

One can create shortcuts for ssh login / client options. For example create a file named `~/.ssh/config` as follows:

```
$ nano ~/.ssh/config
```

OR

```
$ vi $HOME/.ssh/config
```

Append the following to login into my EC2 Ubuntu server at AWS cloud:

```
Host web01
    HostName aws-ec2-www-server1.cyberciti.biz
    Port 22
    IdentityFile ~/.ssh/AWS_EC2_Virginia_US_East_Ubuntu_Boxes.pem
    User ubuntu
```

To log in simply type:

```
$ ssh web01
```

See “[OpenSSH Config File Examples](#)” for more info.

Conclusion

In this tutorial, you learn how to install the OpenSSH server application at a terminal prompt. Although instructions tested for Power9 (ppc64le) architecture, they should work on Intel AMD64 or ARM64 server as well. For more info see OpenSSH home page [here](#) and [how to secure OpenSSH server tutorial here](#). Make sure you read manual pages too using the [man command](#):

```
$ man sshd_config
```

This entry is **6 of 23** in the **Linux/Unix OpenSSH Tutorial** series. Keep reading the rest of the series:

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About the author: Vivek Gite is the founder of nixCraft, the oldest running blog about Linux and open source. He wrote more than 7k+ posts and helped numerous readers to master IT topics. Join the nixCraft community via [RSS Feed](#) or [Email Newsletter](#).

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