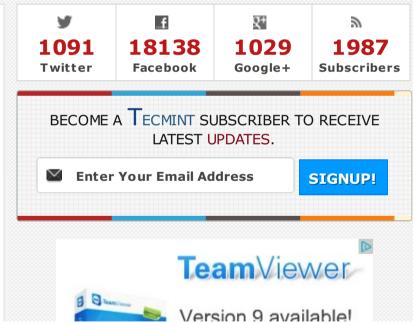


By Oltjano Terpollari Under: SSH On: November 13, 2013

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Being a network administrator requires a deep knowledge about remote login protocols such as rlogin, telnet and ssh. The one I will discuss in this article is ssh, a secure remote protocol which is used to work remotely on other machines or transfer data between computers using **SCP** (Secure Copy) command. But, what is **OpenSSH** and how to install it in your **Linux** distribution?





What is OpenSSH?

OpenSSH is a free open source set of computer tools used to provide secure and encrypted communication over a computer network by using the **ssh** protocol. Many people, new to computers and protocols, create a misconception about **OpenSSH**, they think it is a protocol, but it is not, it is a set of computer programs that use the **ssh protocol**.

OpenSSH is developed by the Open BSD group and it is released under **Simplified BSD License**. A main factor which has made possible for **OpenSSH** to be used so much among system administrators is its multi-platform capability and very useful nice features it has. The latest version is **OpenSSH 6.4** which has been released on **November 8, 2013**.

This version of **OpenSSH** comes with many new features and patches, so if you already use **OpenSSH** for administering your machines, I suggest you to do an upgrade.

Why Use OpenSSH And Over Telnet Or Ftp?

The most important reason why should use **OpenSSH** tools over **ftp** and **telnet** is that all communications and user credentials using **OpenSSH** are encrypted, they are also protected from man in the middle attacks. If a third party tries to intercept your connection, **OpenSSH** detects it and informs you about that.

What Are Some Of The OpenSSH Features?



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- Secure Communication
- Strong Encryption (3DES, Blowfish, AES, Arcfour)
- **X11** Forwarding (encrypt **X** Window System traffic)
- Port Forwarding (encrypted channels for legacy protocols)
- Strong Authentication (**Public Key**, One-Time Password and Kerberos Authentication)
- Agent Forwarding (Single-Sign-On)
- Interoperability (Compliance with SSH 1.3, 1.5, and 2.0 protocol Standards)
- SFTP client and server support in both SSH1 and SSH2 protocols.
- Kerberos and AFS Ticket Passing
- Data Compression

Installation of OpenSSH in Linux

To install **OpenSSH**, open a terminal and run the following commands with superuser permissions.

On Ubuntu/Debian/Linux Mint

\$ sudo apt-get install openssh-server openssh-client

On RHEL/Centos/Fedora

Type the following **yum** command to install openssh client and server.

yum -y install openssh-server openssh-clients

Configuration of OpenSSH

It's time to configure our **OpenSSH** behaviour through the **ssh config** file, but before editing the **/etc/ssh/sshd_config** file we need to backup a copy of it, so in case we make any mistake we have the original copy.

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Open a terminal and run the following command to make a copy of the original sshd configuration file.

\$ sudo cp /etc/ssh/sshd config /etc/ssh/sshd config.original copy

As you can see from the command I typed, I added the **original_copy suffix**, so every time I see this file I know it is an original copy of the sshd config file.

How Do I Connect to OpenSSH

Before we go further, we need to verify if our **openssh** server is working or not. How to do that? You can try to connect to the **openssh** server from your **localhost** through your **openssh client** or do a **portscan** with **nmap**, but I like to use a small tool called **netcat**, also known as the **TCP/IP** Swiss army knife. I love working with this amazing tool on my machine, so let me show it to you.

nc -v -z 127.0.0.1 22

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Referring to the **netcat** results, the ssh service is running on port **22** on my machine. Very good! What if we want to use another port, instead of **22**? We can do that by editing the sshd configuration file.

Set your **OpenSSH** to listen on **TCP** port **13** instead of the default TCP port **22**. Open the **sshd_config** file with your favourite text editor and change the port directive to **13**.

What ports, IPs and protocols we listen for Port 13

Restart **OpenSSH** server so the changes in config file can take place by typing the following command and run **netcat** to verify if the port you set for listening is open or not.

\$ sudo /etc/init.d/ssh restart

Should we verify is our openssh server is listening on port 13, or not?. This verification is necessary, so I am calling my lovely tool **netcat** to help me do the job.

nc -v -z 127.0.0.1 13

Do you like to make your openssh server display a nice login banner? You can do it by modifying the content of **/etc/issue.net** file and adding the following line inside the sshd configuration file.

Banner /etc/issue.net

Conclusion



There are many things you can do with the **openssh** tools when it comes to the way you configure your **openssh server**, I can say that your imagination is the limit!.

Read Also: 5 Best Practices to Secure and Protect OpenSSH Server



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Oltjano Terpollari

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