

ENTERPRISE LINUX ADMIN GUIDE

원격접속과 파일전송

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sCMD 명령어

- | | |
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| ■ scp | Secure Copy (파일 전송) : rcp |
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scp 명령어

- scp 명령어(Secure Copy)
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scp(Secure Copy)

NAME

scp - secure copy (remote file copy program)

SYNOPSIS

```
scp [-1246BCpqrv] [-c cipher] [-F ssh_config] [-i identity_file]
    [-l limit] [-o ssh_option] [-P port] [-S program]
    [[user@]host1:]file1 [...] [[user@]host2:]file2
```

DESCRIPTION

scp copies files between hosts on a network. It uses ssh(1) for data transfer, and uses the same authentication and provides the same security as ssh(1). Unlike rcp(1), scp will ask for passwords or passphrases if they are needed for authentication.

Any file name may contain a host and user specification to indicate that the file is to be copied to/from that host. Copies between two remote hosts are permitted.

When copying a source file to a target file which already exists, scp will replace the contents of the target file (keeping the inode).

If the target file does not yet exist, an empty file with the target file name is created, then filled with the source file contents. No attempt is made at "near-atomic" transfer using temporary files.

-C Compression enable. Passes the -C flag to ssh(1) to enable compression.

-P port Specifies the port to connect to on the remote host. Note that this option is written with a capital 'P', because -p is already reserved for preserving the times and modes of the file in rcp(1).

-r Recursively copy entire directories.

-v Verbose mode. Causes scp and ssh(1) to print debugging messages about their progress. This is helpful in debugging connection, authentication, and configuration problems.

sCMD 명령어

■ ssh	Secure Shell(원격 접속) : telnet, rlogin
■ scp	Secure Copy (파일 전송) : rcp
■ sftp	Secure FTP (파일 전송) : ftp

[참고] (TUI)tcpdump, (GUI)ethereal, wireshark

scp 는 secure copy client 프로그램으로 ssh 를 설치하면 같이 설치되는 프로그램이다. 별도의 ftp 클라이언트를 굳이 설치 하지 않더라도 손쉽게 파일전송을 수행할수 있으며, 데이터를 암호화시켜 전송해주게 된다.

다시 말해 scp는 자신의 컴퓨터에서 원격의 컴퓨터로 또는 원격의 컴퓨터에서 자신의 컴퓨터로 간단하게 파일을 전송 할 수 있는 프로그램이다.

(명령어 형식)

```
# scp file1 172.16.9.254:/tmp/file2
# scp file1 172.16.9.254:/test
# scp 172.16.9.254:/test/file1 /test
# scp -r dir1 172.16.9.254:/tmp
```

[참고] scp 명령어는 cp 명령어 형식과 비슷하다.

```
# cp file1 file2
# cp file1 dir1
# cp -r dir1 dir2
```

[EX] scp 명령어 실습

```
(실습 전 준비)
# service sshd restart
# pgrep -lf sshd
```

(on linux2XX)

```
# cd /test
# cp /etc/passwd linux2XX.txt
```

```
# cd ~/.ssh
# ls
known_hosts
# > known_hosts
```

```
# scp /test/linux2XX.txt root@172.16.9.252:/tmp
```

```
The authenticity of host '172.16.9.252 (172.16.9.252)' can't be established.
RSA key fingerprint is e2:f0:f8:a2:47:3b:b4:7c:ae:65:38:0e:31:bf:1f:84.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '172.16.9.252' (RSA) to the list of known hosts.
root@172.16.9.252's password: (root 암호 입력)
linux249.txt                                100% 2027      2.0KB/s   00:00
```

```
# cp /etc/services /test/CentOS2XX
```

```
# scp -P 22 /test/CentOS2XX root@172.16.9.252:/tmp /* -P : Port Number */
```

```
root@172.16.9.252's password: (root 암호 입력)
CentOS249                                100% 354KB 353.6KB/s   00:00
```

```
# ssh 172.16.9.252 ls /tmp/*2XX*
```

```
root@172.16.9.252's password: (root 암호 입력)
/tmp/CentOS249
/tmp/linux249.txt
```

(on linux252)

```
# su - fedora
$ cp /etc/passwd testfile1
```

(on linux2XX)

- 서버 쪽에서 파일을 자신 PC로 받아오기

ssh fedora@172.16.9.252 ls

```
fedora@172.16.9.252's password: (fedora)
testfile1
```

scp fedora@172.16.9.252:/home/fedora/testfile1 /test

```
fedora@172.16.9.252's password: (fedora)
testfile1                                100% 2420      2.4KB/s   00:00
```

ls /test

```
testfile1
```

(on linux2XX)

scp -r 172.16.9.252:/test /tmp

```
root@172.16.9.252's password: (centos)
rndcstats-1.10.pl          100%   15KB   14.9KB/s   00:00
echo.start                 100%    5      0.0KB/s   00:00
```

ls -l /tmp/test

```
total 20K
-rw-r--r-- 1 root root   5 Jan 20 11:00 echo.start
-rwxr-xr-x 1 root root 15K Jan 20 11:00 rndcstats-1.10.pl*
```

2 sftp

NAME

sftp - secure file transfer program

SYNOPSIS

```
sftp [-1Cv] [-B buffer_size] [-b batchfile] [-F ssh_config]
      [-o ssh_option] [-P sftp_server_path] [-R num_requests] [-S program]
      [-s subsystem | sftp_server] host
sftp [[user@]host[:file [file]]]
sftp [[user@]host[:dir[/]]]
sftp -b batchfile [user@]host
```

DESCRIPTION

sftp is an interactive file transfer program, similar to ftp(1), which performs all operations over an encrypted ssh(1) transport. It may also use many features of ssh, such as public key authentication and compression. sftp connects and logs into the specified host, then enters an interactive command mode.

The second usage format will retrieve files automatically if a non-interactive authentication method is used; otherwise it will do so after successful interactive authentication.

The third usage format allows sftp to start in a remote directory.

The final usage format allows for automated sessions using the -b option.

In such cases, it is necessary to configure non-interactive authentication to obviate the need to enter a password at connection time (see sshd(8) and ssh-keygen(1) for details).

-B buffer_size

Specify the size of the buffer that sftp uses when transferring files. Larger buffers require fewer round trips at the cost of higher memory consumption. The default is 32768 bytes.

-b batchfile

Batch mode reads a series of commands from an input batchfile instead of stdin. Since it lacks user interaction it should be used in conjunction with non-interactive authentication. A batchfile of '-' may be used to indicate standard input. sftp will abort if any of the following commands fail: get, put, rename, ln, rm, mkdir, chdir, ls, lchdir, chmod, chown, chgrp, lpwd and lmkdir. Termination on error can be suppressed on a command by command basis by prefixing the command with a '-' character (for example, -rm /tmp/blah*).

-C Enables compression (via ssh's -C flag).

-v Raise logging level. This option is also passed to ssh.

INTERACTIVE COMMANDS

Once in interactive mode, sftp understands a set of commands similar to those of ftp(1). Commands are case insensitive. Pathnames that contain spaces must be enclosed in quotes. Any special characters contained within pathnames that are recognized by glob(3) must be escaped with backslashes ('\').

bye Quit sftp.

cd path

Change remote directory to path.

chgrp grp path

Change group of file path to grp. path may contain glob(3) characters and may match multiple files. grp must be a numeric GID.

chmod mode path

Change permissions of file path to mode. path may contain glob(3) characters and may match multiple files.

chown own path

Change owner of file path to own. path may contain glob(3) characters and may match multiple files. own must be a numeric UID.

exit Quit sftp.

get [-P] remote-path [local-path]

Retrieve the remote-path and store it on the local machine. If the local path name is not specified, it is given the same name it has on the remote machine. remote-path may contain glob(3) characters and may match multiple files. If it does and local-path is specified, then local-path must specify a directory. If the -P flag is specified, then full file permissions and access times are copied too.

help Display help text.

lcd path

Change local directory to path.

lls [ls-options [path]]

Display local directory listing of either path or current directory if path is not specified. ls-options may contain any flags supported by the local system's ls(1) command. path may contain glob(3) characters and may match multiple files.

lmkdir path
Create local directory specified by path.

ln oldpath newpath
Create a symbolic link from oldpath to newpath.

lpwd Print local working directory.

ls [-laflnrSt] [path]
Display a remote directory listing of either path or the current directory if path is not specified. path may contain glob(3) characters and may match multiple files.
The following flags are recognized and alter the behaviour of ls accordingly:

- l Produce single columnar output.
- a List files beginning with a dot ('.').
- f Do not sort the listing. The default sort order is lexicographical.
- l Display additional details including permissions and ownership information.
- n Produce a long listing with user and group information presented numerically.
- r Reverse the sort order of the listing.
- S Sort the listing by file size.
- t Sort the listing by last modification time.

lumask umask
Set local umask to umask.

mkdir path
Create remote directory specified by path.

progress
Toggle display of progress meter.

put [-P] local-path [remote-path]
Upload local-path and store it on the remote machine. If the remote path name is not specified, it is given the same name it has on the local machine. local-path may contain glob(3) characters and may match multiple files. If it does and remote-path is specified, then remote-path must specify a directory. If the -P flag is specified, then the file's full permission and access time are copied too.

pwd Display remote working directory.

quit Quit sftp.

rename oldpath newpath
Rename remote file from oldpath to newpath.

rm path
Delete remote file specified by path.

rmdir path
Remove remote directory specified by path.

symlink oldpath newpath
Create a symbolic link from oldpath to newpath.

version
Display the sftp protocol version.

! command
Execute command in local shell.

!
Escape to local shell.

?
Synonym for help.

SFTP는 Secure File Transfer Protocol 의 약자로 기존 FTP에 보안이 강화된 전송 방식을 말한다. FTP는 일반적으로 인터넷 상에서 파일을 전송할 때 많이 사용되고 있는 프로토콜이나 로그인 정보 및 파일 정보를 암호화 하지 않기 때문에 정보 노출의 위험성이 있다. 이런 위험을 방지하기 위해서 SFTP는 파일 전송 시 로그인 정보 및 파일 정보를 암호화해서 통신을 하는 것을 말한다.

(명령어 형식)

sftp [계정]@[상대방주소]:[소스경로]

[EX1] sftp 명령어 실습

(on linux252)

\$ pwd

```
/home/fedora
```

\$ cp /etc/services file1

\$ cp file1 file2

\$ cp file1 file3

(on linux2XX)

cd /test

rm -rf /test/*

sftp fedora@172.16.9.252:/home/fedora/*

```
Connecting to 172.16.9.252...
fedora@172.16.9.252's password: (fedora)
Fetching /home/fedora/file1 to file1
/home/fedora/file1          100% 3338    3.3KB/s   00:01
Fetching /home/fedora/file2 to file2
/home/fedora/file2          100%   12    0.0KB/s   00:00
Fetching /home/fedora/file3 to file3
```

pwd

```
/test
```

ls

```
file1 file2 file3
```

rm -rf /test/*

cp /etc/passwd linux2XX

cp /etc/services linuxfile2XX

sftp fedora@172.16.9.252

```
Connecting to 172.16.9.XXX...
fedora@172.16.9.XXX's password: (fedora)
sftp> help

sftp> pwd
sftp> ls
sftp> put linux*
sftp> ls

sftp> lcd /root
sftp> mget linux*

sftp> ! ls /root
sftp> quit
```

ls /root

-> linux* 파일 존재

원격접속 명령어(ssh 명령어)

- **ssh 명령어**

```
# ssh 172.16.9.252
# ssh fedora@172.16.9.252

# ssh 172.16.9.252 CMD
# ssh 172.16.9.252 hostname
# ssh 172.16.9.252 ls /tmp
```

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ssh

NAME

ssh - OpenSSH SSH client (remote login program)

SYNOPSIS

```
ssh [-1246AaCfGkMNNqsTtVvXxY] [-b bind_address] [-c cipher_spec] [-D
[bind_address:]port] [-e escape_char] [-F configfile]
[-i identity_file] [-L [bind_address:]port:host:hostport]
[-l login_name] [-m mac_spec] [-O ctl_cmd] [-o option] [-p port]
[-R [bind_address:]port:host:hostport] [-S ctl_path]
[-w tunnel:tunnel] [user@]hostname [command]
```

DESCRIPTION

ssh (SSH client) is a program for logging into a remote machine and for executing commands on a remote machine. It is intended to replace rlogin and rsh, and provide secure encrypted communications between two untrusted hosts over an insecure network. X11 connections and arbitrary TCP ports can also be forwarded over the secure channel.

ssh connects and logs into the specified hostname (with optional user name). The user must prove his/her identity to the remote machine using one of several methods depending on the protocol version used (see below).

(ssh 명령어 형식)

```
# ssh 172.16.9.250
# ssh root@172.16.9.250
# ssh fedora@172.16.9.250

# ssh 172.16.9.250 CMD
# ssh 172.16.9.250 ls /test
```

[EX1] telnet/ssh 명령어 실습

```
# telnet 172.16.9.252
```

```
root 사용자로 로그인
```

```
# hostname
```

```
# id
```

```
# exit
```

```
# cd ~/.ssh
```

```
# ls
```

```
# > known_hosts
```

```
# ssh 172.16.9.252
```

```
The authenticity of host '172.16.9.252 (172.16.9.252)' can't be established.  
RSA key fingerprint is e2:f0:f8:a2:47:3b:b4:7c:ae:65:38:0e:31:bf:1f:84.  
Are you sure you want to continue connecting (yes/no)? yes  
Warning: Permanently added '172.16.9.252' (RSA) to the list of known hosts.  
root@172.16.9.252's password: (centos)  
Last login: Mon Jan 20 11:10:45 2014 from 172.16.9.11
```

```
# hostname
```

```
# id
```

```
# exit
```

[EX2] ssh/scp 명령어를 통한 파일 전송

```
# cd /test
```

```
# rm -rf /test/*
```

```
# cp /bin/* /test
```

```
# mkdir -p /backup
```

```
# tar cvzf /backup/linux2XX.tar.gz /test
```

```
# scp /backup/linux2XX.tar.gz 172.16.9.252:/backup
```

```
# ssh 172.16.9.252 ls /backup
```

[EX3] 로컬 && 원격 파일/디렉토리 비교

```
# cat /etc/hosts
```

```
# ssh 172.16.9.252 cat /etc/hosts
```

```
# ls /test
```

```
# ssh 172.16.9.252 ls /test
```