

# How to copy files \ directories \ filesystems via network.

The article describes ways of copying content over network.

When upgrading a home server, I copy all the data from the old server to a new system. In the examples below, I work from the new server and both servers are on the same subnet:

- New server (IP: 192.168.0.14)
- Old server (IP: 192.168.0.1)

Both the ssh and scp commands communicate over a secure connection (TCP port 22). Please note that you need to enable the sshd daemon on the remote host.

## Copy Files / Directories

If you need to copy single files or directories, you can use the scp command:

```
scp -r -v -p root@192.168.0.1:/etc /local_dir
```

Flag explanation:

- -r: recursive (copy all the content of /etc including its subdirectories)
- -p: preserve file attributes (eg. file creation or modification times)
- -v: verbose output

In the example above we copy the /etc directory located on a remote host (the old server: 192.168.0.1) to /local\_dir on the local host ("new" server).

Please note that the scp command cannot copy the whole file system hierarchy including /proc, /dev or /lost+found. Fortunately, there is a workaround which was [provided](#) by Patrick Volkerding.

## Copy whole filesystem hierarchy

The following command should successfully copy a whole filesystem hierarchy:

```
ssh root@192.168.0.1 "(cd / ; tar cf - . )" | (mkdir -p /local_dir ; cd /local_dir ; umask 000 ; tar xvf -)
```

# Sources

- Originally written by [John Ciemgals](#) 2013/02/10 03:51
- With help from Patrick Volkerding

[howtos](#), [copy](#), [ssh](#)

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