

SSH Proxy Setup

Modified on: Fri, May 27, 2022 at 11:06 AM

Using the SSH Config File

Using the ssh config file, it is possible to ssh through an intermediate machine(s) in order to arrive at a destination only through that path. Since sftp and scp both operate over ssh, this configuration applies to those commands also.

The ssh config file allows the user to specify default settings that the client is to use for connections to specific hosts. By specifying default user names, key files, or proxy commands, it is possible to greatly reduce the number of arguments that need to be entered on the command line. This in turn simplifies access to Colosseum resources.

Note: this procedure will apply only to your current user account on your machine.

Procedure

1. On your local machine, create an ssh config file if one does not already exist, or open the existing config file within the .ssh/ directory, which is typically found in the user home directory. The example below shows a terminal command to open/create the file in the vi editor, but any terminal or graphical text editor can be used.

```
vi ~/.ssh/config
```

2. Within the SSH config file, add the following lines and save the changes.

```
# SSH Gateway
Host colosseum-gw
    Hostname gw.colosseum.net
    User <your-colosseum-user-name>
    IdentityFile <path-to-private-key-on-your-local-machine>

# File Proxy Server
Host file-proxy
    Hostname file-proxy
    User <your-colosseum-user-name>
    ProxyCommand ssh -W %h:%p colosseum-gw

# SRNs (User Container)
Host <your-colosseum-team-name>-???
    User root
    StrictHostKeyChecking no
    UserKnownHostsFile=/dev/null
    ProxyCommand ssh -W %h:%p colosseum-gw
```

Note: If you are not sure of your team name, just log into the Colosseum portal and open the "Reservations" page:

Manage <team-name> Reservations

Your team has 2753 tokens left this week. Your team will reset to 3480 - Tue Oct 19th at 9am
Please contact Colosseum help desk in case of issues.

+ New Reservation

Sun 17 October	4:00 pm	8:00 pm	Mon 18 October	12:00 am	4:00 am	8:00 am	12:00 pm
							121580

Note: The entry for the SSH Gateway may have already been created during the procedure to [Upload SSH Public Keys](https://colosseumneu.freshdesk.com/support/solutions/articles/61000253402-upload-ssh-public-keys) (<https://colosseumneu.freshdesk.com/support/solutions/articles/61000253402-upload-ssh-public-keys>).

Note: The three question marks in the last entry are single-character wildcards. These will automatically match all of the SRN container hostnames. "cont-srn" is to be replaced by the corresponding team name.

Note: If a username besides root has been configured within the container to be used for SSH access, be sure to specify that username either in the config file or on the command line (for example: `ssh otherusername@cont-srn-001`)

Note: The SRN hostnames and the file-proxy hostname listed above are only routable within the Colosseum network and are effectively "nicknames" used by the ssh command.

Note: The default path for the private key for Linux systems is: `/home/<user>/.ssh/id_rsa`

3. Now it should be possible to ssh directly to one of the end destination hosts specified in the config file. For example, it should be possible to ssh to the File Proxy server using the following: `ssh file-proxy`. You will be prompted for a password for each intermediate host as well as the destination host.

Details

The ssh config file specifies parameters to use for specific hosts. This is a convenient way to instruct ssh to use a specific user name for specific hosts, or other similar parameters.

In particular, the "ProxyCommand" parameter indicates a command to be run in order to connect to the specified host. In the example here, this instructs ssh that, for these hosts, it should first connect to the ssh gateway (gw.sc2colosseum.com) by ssh.

References

This article was based primarily on the following reference:

https://en.wikibooks.org/wiki/OpenSSH/Cookbook/Proxies_and_Jump_Hosts (https://en.wikibooks.org/wiki/OpenSSH/Cookbook/Proxies_and_Jump_Hosts) (Look for: Recursively Chaining Gateways Using stdio Forwarding)

For more information on the ssh config file, see the man page:

```
man ssh_config
```

Preview