SSH Bastion

(In this example 192.168.229.136 is the bastion, and 192.168.229.137 is the internal server)

Use the ~/.ssh/config file on the localhost to setup the bastion as a proxy for remote hosts.
The .ssh folder must have 700 permissions, and the config file must have 600 permissions.

```
[travis@localhost ~]$ ls -al | grep .ssh
drwx------.  2 travis travis   83 Mar  1 20:12 .ssh
[travis@localhost ~]$ ls -al .ssh/ | grep config
-rw-------.  1 travis travis   67 Mar  1 20:03 config
[travis@localhost ~]$
```

The ~/.ssh/config file should look like the following

```
[travis@localhost ~]$ cat .ssh/config
Host 192.168.229.137
   ProxyCommand ssh 192.168.229.136 -W %h:%p
[travis@localhost ~]$
```

Opening an SSH connection to the intended host will now open a connection to the bastion first,
and then the internal host.

```
[travis@localhost ~]$ ssh travis@192.168.229.137
travis@192.168.229.136's password:
travis@192.168.229.137's password:
Welcome to Ubuntu 16.04.3 LTS (GNU/Linux 4.4.0-87-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage
Last login: Thu Mar  1 17:10:52 2018
travis@internal:~$
```

Generating Keys

```
[travis@localhost ~]$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/travis/.ssh/id_rsa):
/home/travis/.ssh/internal_key
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
```

Your identification has been saved in /home/travis/.ssh/internal_key.
Your public key has been saved in /home/travis/.ssh/internal_key.pub.
The key fingerprint is:
SHA256:LkAR532Q1J1TBre8Q6uCBdVVdxaRyyzKWPlC+vfwSDA
travis@localhost.localdomain
The key's randomart image is:

```
+---[RSA 2048]----+
|   o...oo.o.==+O|
|     + ..o. =+ +o|
|   . . o . ..* .|
|   .    o + o * |
|   .  S BEo = |
|    . . = +oo . |
|     . o o oo  |
|      .  o..+ |
|          ...o |
+----[SHA256]-----+
```

[travis@localhost ~]$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/travis/.ssh/id_rsa):
/home/travis/.ssh/bastion_key
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/travis/.ssh/bastion_key.
Your public key has been saved in /home/travis/.ssh/bastion_key.pub.
The key fingerprint is:
SHA256:5jejUz9tr0PIY5iGtakgET5UvyKCcbZCJK7uxOL8OF0
travis@localhost.localdomain
The key's randomart image is:

```
+---[RSA 2048]----+
|..  ..        |
|+  o .        |
|.ooo . .      |
|o= .+   ..    |
|+ o .o. So * . |
|o. ..E.+. B = . |
|.+. .. ..++o + |
|*...   oo oo + |
| =o.   ..  o.+.|
+----[SHA256]-----+
```
[travis@localhost ~]$

Copying Key to Remote Host

```
[travis@localhost ~]$ ssh-copy-id -i .ssh/internal_key.pub travis@192.168.229.137
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: ".ssh/internal_key.pub"
travis@192.168.229.136's password:
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that
are already installed
travis@192.168.229.136's password:
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is
to install the new keys
travis@192.168.229.136's password:
travis@192.168.229.137's password:
Killed by signal 1.

Number of key(s) added: 1

Now try logging into the machine, with:   "ssh 'travis@192.168.229.137'"
and check to make sure that only the key(s) you wanted were added.

[travis@localhost ~]$ ssh-copy-id -i .ssh/bastion_key.pub travis@192.168.229.136
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: ".ssh/bastion_key.pub"
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that
are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is
to install the new keys
travis@192.168.229.136's password:

Number of key(s) added: 1

Now try logging into the machine, with:   "ssh 'travis@192.168.229.136'"
and check to make sure that only the key(s) you wanted were added.

[travis@localhost ~]$
```

Adding the keys to ~/.ssh/config under the correct host will allow you to use different keys for
each host.

```
[travis@localhost ~]$ cat .ssh/config
     Host 192.168.229.137
        ProxyCommand ssh 192.168.229.136 -W %h:%p
        IdentityFile ~/.ssh/internal_key

     Host 192.168.229.136
```

IdentityFile ~/.ssh/bastion_key
[travis@localhost ~]$

Now connections to the internal server through the bastion will use the keys.
[travis@localhost ~]$ ssh travis@192.168.229.137
Enter passphrase for key '/home/travis/.ssh/bastion_key':
Enter passphrase for key '/home/travis/.ssh/internal_key':
Welcome to Ubuntu 16.04.3 LTS (GNU/Linux 4.4.0-87-generic x86_64)

 * Documentation: https://help.ubuntu.com
 * Management: https://landscape.canonical.com
 * Support: https://ubuntu.com/advantage
Last login: Thu Mar 1 18:11:43 2018 from 192.168.229.136
travis@internal:~$