Test SSHd config on a different SSH port

Sometimes you need to tweak your SSH daemon on an important system and you just don't know if particular settings will break connectivity to the server or not. In such cases it's best to test new SSHd config using separate SSH daemon instance and separate SSH port – debug it there and only then apply new configs into your primary SSHd configuration.

Creating New SSHd Config

The easiest is to start by copying /etc/ssh/sshd_config file – you will need sudo/root privileges for that:

greys@s2:~ $ **sudo cp /etc/ssh/sshd_config /home/greys**

I then just remove everything I don't need from it, leaving bare minimum. These are the parameters I kept (I ended up renaming my config to /home/greys/sshd_config.minimal after edits)

greys@s2:~ $ **grep -v ^# /home/greys/sshd_config.minimal | uniq -u**
Port 2222

```
HostKey /etc/ssh/ssh_host_rsa_key

RSAAuthentication yes
PubkeyAuthentication yes

AuthorizedKeysFile /var/ssh/%u/authorized_keys

PasswordAuthentication no

UsePAM yes
```

I only updated the SSH Port parameter – you can pick any other number instead of 2222.

Starting SSH daemon with custom config file

There's a few rules for testing SSH configuration using separate file:

- you need to have sudo/root privilege (mostly to avoid mess with host SSH keys)
- it's better to increase verbosity level to see what's going on
- it's best to run SSHd in foreground (non-daemon) mode

With these principles in mind, here's the command line to test the config shown above:

```
greys@s2:~ $ sudo /usr/sbin/sshd -f /home/greys/sshd_config.minimal -ddd -D
debug2: load_server_config: filename /home/greys/sshd_config.minimal
debug2: load_server_config: done config len = 194
debug2: parse_server_config: config /home/greys/sshd_config.minimal len 194
debug3: /home/greys/sshd_config.minimal:1 setting Port 2222
debug3: /home/greys/sshd_config.minimal:10 setting HostKey /home/greys/ssh_host_rsa_key
```

```
debug3: /home/greys/sshd_config.minimal:12 setting RSAAuthentication yes
/home/greys/sshd_config.minimal line 12: Deprecated option RSAAuthentication
debug3: /home/greys/sshd_config.minimal:13 setting PubkeyAuthentication yes
debug3: /home/greys/sshd_config.minimal:18 setting AuthorizedKeysFile /var/ssh/%u/authorized_keys
debug3: /home/greys/sshd_config.minimal:20 setting PasswordAuthentication no
debug3: /home/greys/sshd_config.minimal:22 setting UsePAM yes
debug1: sshd version OpenSSH_7.4, OpenSSL 1.0.2k-fips 26 Jan 2017
debug1: private host key #0: ssh-rsa SHA256:g7xhev6zJefXRFc0ClAG4rzpFI1Ts8H7PhQ/h3PTmLM
debug1: rexec_argv[0]='/usr/sbin/sshd'
debug1: rexec_argv[1]='-f'
debug1: rexec_argv[2]='/home/greys/sshd_config.minimal'
debug1: rexec_argv[3]='-ddd'
debug1: rexec_argv[4]='-D'
debug3: oom_adjust_setup
debug1: Set /proc/self/oom_score_adj from 0 to -1000
debug2: fd 3 setting O_NONBLOCK
debug1: Bind to port 2222 on 0.0.0.0.
Server listening on 0.0.0.0 port 2222.
debug2: fd 4 setting O_NONBLOCK
debug3: sock_set_v6only: set socket 4 IPV6_V6ONLY
debug1: Bind to port 2222 on ::.
Server listening on :: port 2222.
```

That's it, the configuration is ready to be tested (assuming your firewall on server doesn't block port 2222).

Testing SSH connectivity using

Different SSH Port

Here's my login session in a separate window, connecting from my MacBook Pro to the s2 server on SSH port 2222 (I have masked my static IP with aaa.bbb.ccc.ddd and my s2 server's IP with eee.fff.ggg.hhh):

```
greys@MacBook-Pro:~ $ ssh s2 -p 2222
Warning: untrusted X11 forwarding setup failed: xauth key data
not generated
Last login: Fri May 24 15:53:59 2019 from aaa.bbb.ccc.ddd
debug3: Copy environment: XDG_SESSION_ID=14813
debug3: Copy environment: XDG_RUNTIME_DIR=/run/user/1000
Environment:
USER=greys
LOGNAME=greys
HOME=/home/greys
PATH=/usr/local/bin:/usr/bin
MAIL=/var/mail/greys
SHELL=/bin/bash
SSH_CLIENT=aaa.bbb.ccc.ddd 64168 2222
SSH_CONNECTION=aaa.bbb.ccc.ddd 64168 eee.fff.ggg.hhh 2222
SSH_TTY=/dev/pts/14
TERM=xterm-256color
XDG_SESSION_ID=14813
XDG_RUNTIME_DIR=/run/user/1000
SSH_AUTH_SOCK=/tmp/ssh-ajOUyvbR6i/agent.20996
greys@s2:~ $ uptime
16:18:08 up 86 days, 17:32, 2 users, load average: 1.00, 1.02,
1.05
```

Pretty cool, huh?

See Also

- Basic SSH configuration
- SSH port
- SSH port forwarding
- Getting started with Ansible
- How To Check SSH port status