

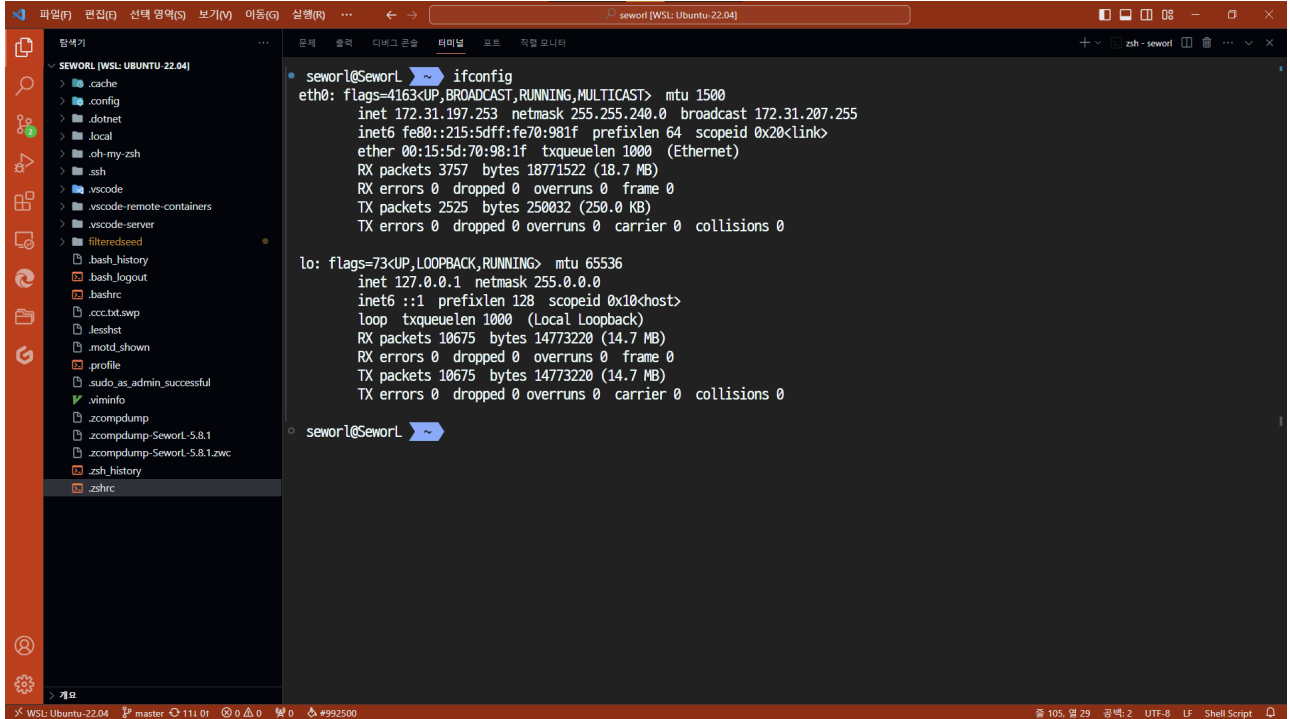
# Homework #1

School ID: 202355517

Name: 권민규

## Homework Problem 1

1. Install the ssh server on the Ubuntu (You don't have to submit your screen shot for this).
2. Find the Ubuntu's IP address using the Linux command, ifconfig.

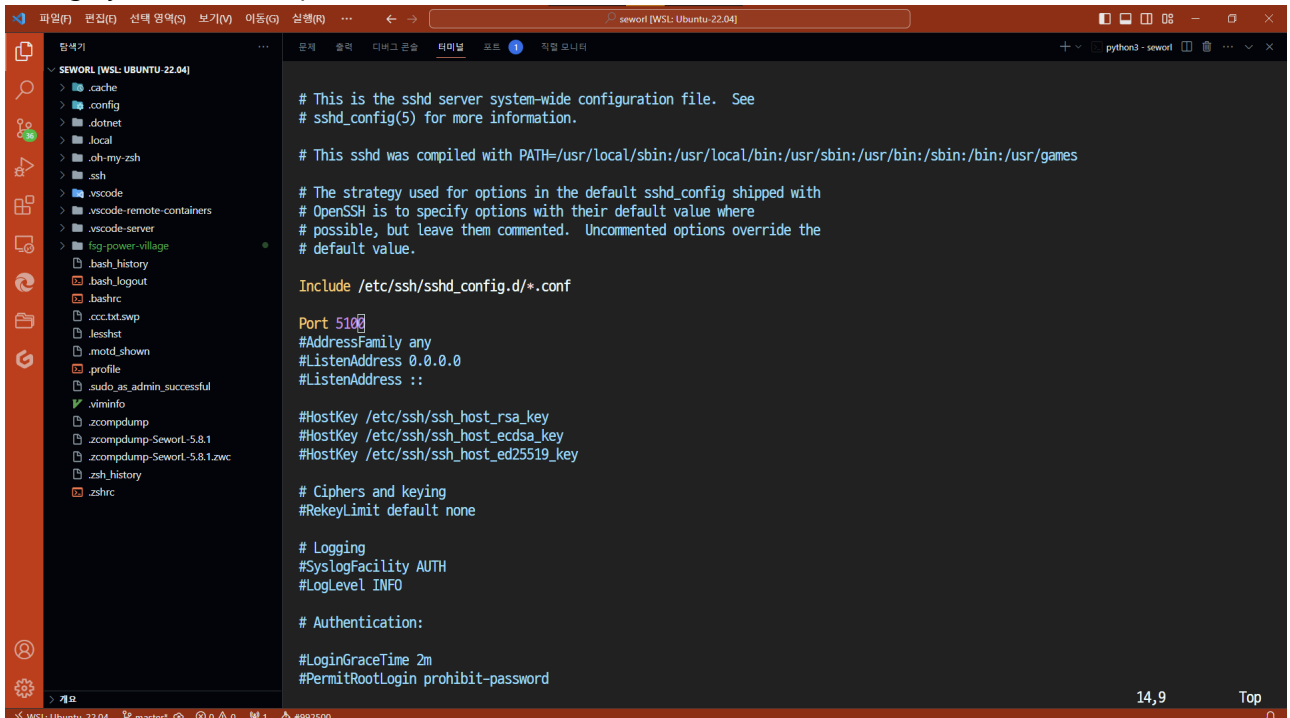


```
seworl@seworl ~$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 172.31.197.253 netmask 255.255.240.0 broadcast 172.31.207.255
    inet6 fe80::215:5dff:fe70:981f prefixlen 64 scopeid 0x20<link>
    ether 00:15:5d:70:98:1f txqueuelen 1000 (Ethernet)
    RX packets 3757 bytes 18771522 (18.7 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 2525 bytes 250032 (250.0 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 10675 bytes 14773220 (14.7 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 10675 bytes 14773220 (14.7 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

seworl@seworl ~$
```

3. Change your ssh server port 22 to 5100



```
# This is the sshd server system-wide configuration file. See
# sshd_config(5) for more information.

# This sshd was compiled with PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games

# The strategy used for options in the default sshd_config shipped with
# OpenSSH is to specify options with their default value where
# possible, but leave them commented. Uncommented options override the
# default value.

Include /etc/ssh/sshd_config.d/*.conf

Port 5100
#AddressFamily any
#ListenAddress 0.0.0.0
#ListenAddress ::

#HostKey /etc/ssh/ssh_host_rsa_key
#HostKey /etc/ssh/ssh_host_ecdsa_key
#HostKey /etc/ssh/ssh_host_ed25519_key

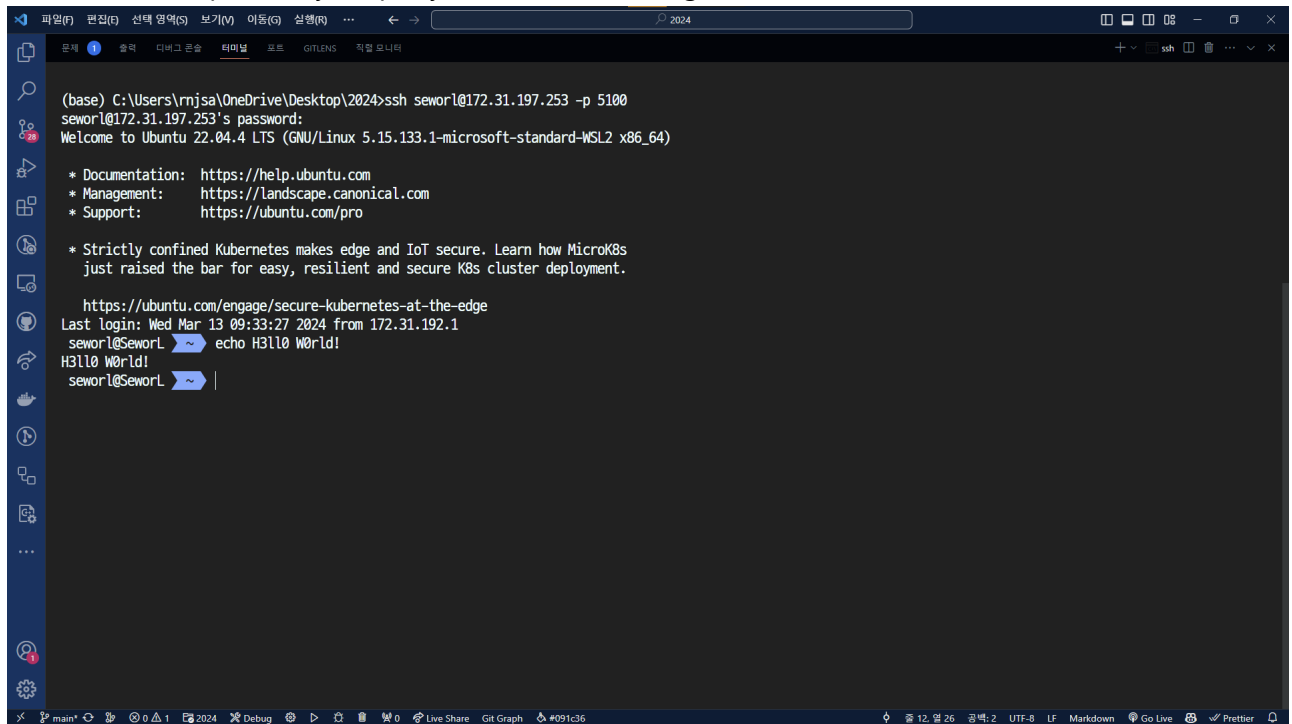
# Ciphers and keying
#RekeyLimit default none

# Logging
#SyslogFacility AUTH
#LogLevel INFO

# Authentication:

#LoginGraceTime 2m
#PermitRootLogin prohibit-password
```

4. Take a screen-capture of your putty, which is connecting the Ubuntu.



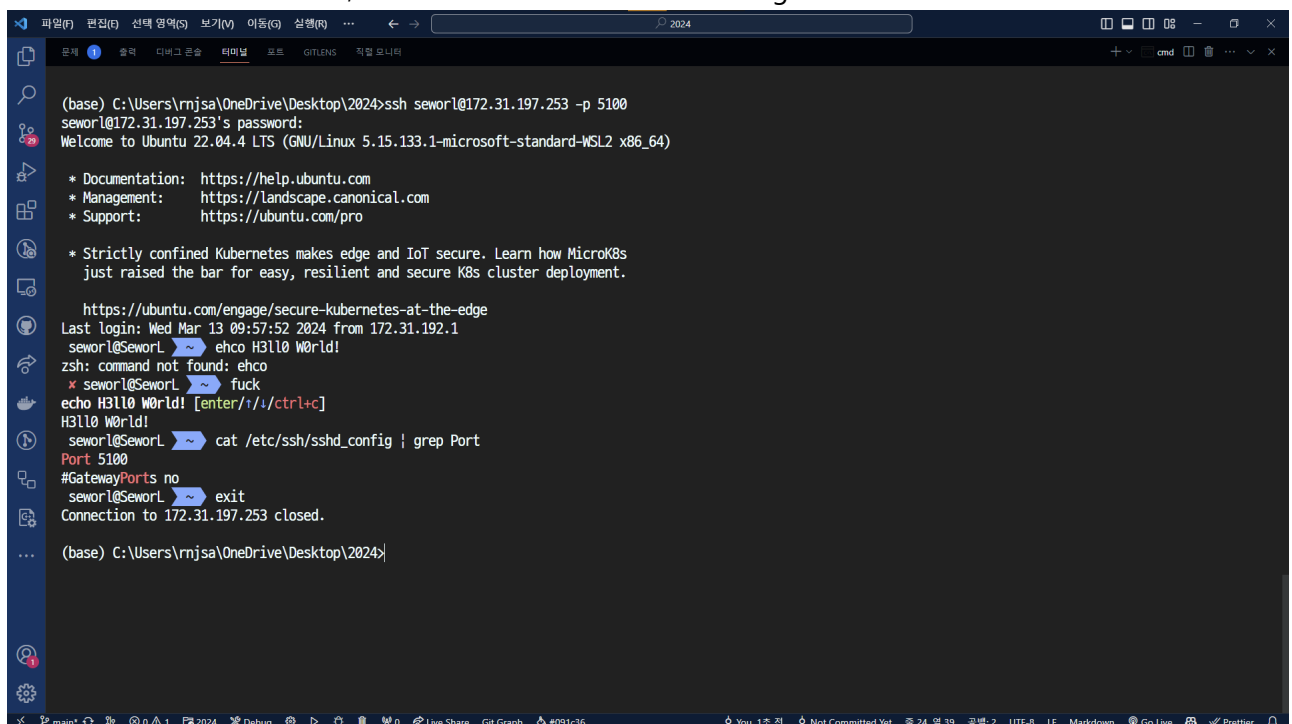
```
(base) C:\Users\rnj\sa\OneDrive\Desktop\2024>ssh seworl@172.31.197.253 -p 5100
seworl@172.31.197.253's password:
Welcome to Ubuntu 22.04.4 LTS (GNU/Linux 5.15.133.1-microsoft-standard-WSL2 x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:        https://ubuntu.com/pro

 * Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
   just raised the bar for easy, resilient and secure K8s cluster deployment.

https://ubuntu.com/engage/secure-kubernetes-at-the-edge
Last login: Wed Mar 13 09:33:27 2024 from 172.31.192.1
seworl@seworl ~$ echo H3ll0 W0rld!
H3ll0 W0rld!
seworl@seworl ~$
```

5. With some shell commands, show that the ssh server is running on the Ubuntu.



```
(base) C:\Users\rnj\sa\OneDrive\Desktop\2024>ssh seworl@172.31.197.253 -p 5100
seworl@172.31.197.253's password:
Welcome to Ubuntu 22.04.4 LTS (GNU/Linux 5.15.133.1-microsoft-standard-WSL2 x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:        https://ubuntu.com/pro

 * Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
   just raised the bar for easy, resilient and secure K8s cluster deployment.

https://ubuntu.com/engage/secure-kubernetes-at-the-edge
Last login: Wed Mar 13 09:57:52 2024 from 172.31.192.1
seworl@seworl ~$ echo H3ll0 W0rld!
H3ll0 W0rld!
seworl@seworl ~$ ehco H3ll0 W0rld!
zsh: command not found: ehco
seworl@seworl ~$ fuck
seworl@seworl ~$ echo H3ll0 W0rld! [enter/t/ctrl+c]
H3ll0 W0rld!
seworl@seworl ~$ cat /etc/ssh/sshd_config | grep Port
Port 5100
#GatewayPorts no
seworl@seworl ~$ exit
Connection to 172.31.197.253 closed.
...
(base) C:\Users\rnj\sa\OneDrive\Desktop\2024>
```

6. Run a new terminal and Kill the terminal where the ssh session (or connection) run 172.31.197.253 on the Ubuntu using "kill -9 processID" command.

(if you want to do this, the following steps may be required.)

The image shows two terminal windows. The left window shows a successful SSH connection from a Windows command prompt to a WSL Ubuntu instance. The right window shows the user running 'ps -ef | grep ssh' to find the sshd process, then using 'kill -9 5235' to terminate it, and finally running 'ps -ef | grep ssh' again to confirm it has been killed.

```
(base) C:\Users\rnjsa\OneDrive\Desktop\2024>ssh seworl@172.31.197.253 -p 5100
seworl@172.31.197.253's password:
Welcome to Ubuntu 22.04.4 LTS (GNU/Linux 5.15.133.1-microsoft-standard-WSL2 x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:        https://ubuntu.com/pro

 * Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
   just raised the bar for easy, resilient and secure K8s cluster deployment.

https://ubuntu.com/engage/secure-kubernetes-at-the-edge
Last login: Wed Mar 13 13:01:45 2024 from 172.31.192.1
seworl@seworl ~$ ps -ef | grep ssh
root      227      1   0 12:55 ?        00:00:00 sshd: /usr/sbin/sshd -D [l
stener] 0 of 10-100 startups
root      5179    227   0 13:02 ?        00:00:00 sshd: seworl [priv]
seworl    5235    5179   0 13:02 ?        00:00:00 sshd: seworl@pts/8
seworl    5341    1383   0 13:02 pts/7    00:00:00 grep --color=auto --excl
-dir=.bzip --exclude-dir=CVS --exclude-dir=.git --exclude-dir=.hg --exclude-dir=
.svn --exclude-dir=.idea --exclude-dir=.tox ssh
seworl@seworl ~$ kill -9 5235
seworl@seworl ~$ ps -ef | grep ssh
root      227      1   0 12:55 ?        00:00:00 sshd: /usr/sbin/sshd -D [l
stener] 0 of 10-100 startups
seworl    5487    1383   0 13:02 pts/7    00:00:00 grep --color=auto --excl
-dir=.bzip --exclude-dir=CVS --exclude-dir=.git --exclude-dir=.hg --exclude-dir=
.svn --exclude-dir=.idea --exclude-dir=.tox ssh
seworl@seworl ~$
```

- Ubuntu와 putty 양쪽 모두 이미 사용하던 wsl과 vscode의 remote-ssh extension을 통해 동일한 결과를 얻을 수 있어 이를 사용했습니다.
- 노트북의 사양/연식 문제로 VM 사용이 어려워 양해 부탁드립니다.
- 문제가 있을 시 연락 부탁드립니다. 감사합니다.