

Lab. Session 0

Computer Security Lab.

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Setup: SSH to Server – Terminal

- **#1. Open Terminal**
 - e.g., PowerShell, Bash, and etc.

- **#2. Type the SSH command**

```
$ ssh -p <port> compsec@kayle.snu.ac.kr
```

- <port>: port number
 - please check your **port number** in eTL
- **#3. Press Enter and type your password**
 - please check your **initial password** in eTL

Setup: SSH to Server – VS Code (Recommend)

- #1. **Install** VS Code
 - Click [here](#) to download
- #2. **Install** the Remote - SSH Extension
 - Go to the **Extensions** view by clicking on the icon () or typing Ctrl+Shift+X
 - Search for **Remote -SSH** and click **install**
- #3. **Open** the Command Palette
 - Open the Command Palette by typing Ctrl+Shift+P

Setup: SSH to Server – VS Code (Recommend)

- **#4. Connect to Host**

- In the Command Palette, type **Remote-SSH: Connect to Host...** and select it
- Enter the following SSH command:

```
ssh compsec@kalye.snu.ac.kr -p [port]
```

- Replace [port] with your own port number

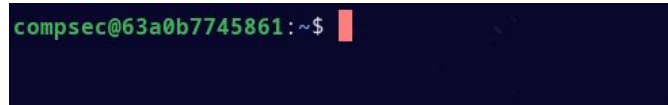
- **#5. Configure SSH Configurations (Optional)**

- In the Command Palette, type **Remote-SSH: Open SSH Configuration File...** and select it
 - Windows: C:\Users\<username>\.ssh\config
 - Mac/Linux: ~/.ssh/config

- **#6. Enter your Password**

Linux Basics – Bash & Home Directory

- Bash Shell
 - Default user interface
 - Every Linux user has its own home directory
- Home directory
 - “~” : an user’s home directory
 - “/home/compsec” = “~”

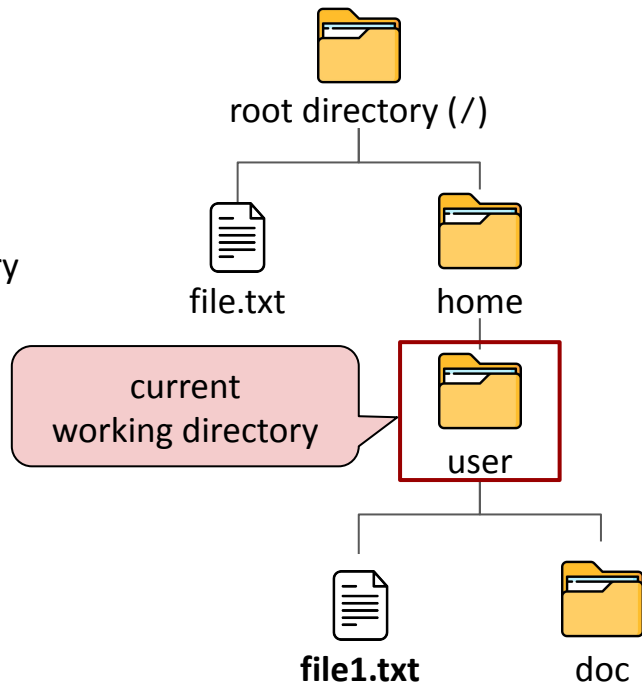


```
compsec@63a0b7745861:~$
```

Linux Basics – Path

- Path

- Two ways of representing location
- Absolute Path
 - points to location
 - regardless of the current working directory
 - include the root directory (/)
 - example) /home/user/file1.txt
- Relative Path
 - path starts from current working directory
 - . means current working directory
 - .. means parent directory
 - example) ./file1.txt or ~/file1.txt



Linux Basics – Command List

Command	Description
<code>pwd</code>	print current working directory
<code>ls</code>	list current location
<code>touch [new filename]</code>	make new empty file
<code>mkdir [new directory name]</code>	make new directory
<code>cd [location]</code>	move to another location
<code>cp [source] [destination]</code>	copy source file to destination
<code>cp -r [source] [destination]</code>	copy directories recursively
<code>mv [source] [destination]</code>	move source file to destination
<code>rm [filename]</code>	remove file
<code>rm -r [directory name]</code>	remove directories and their contents recursively

Linux Commands in Bash Shell

- **mkdir** (make directory)
- **cd** (change directory)
- **ls** (list)
- **rm** (remove)

```
user@XXX:~ $ mkdir temp
```

Linux Commands in Bash Shell

- mkdir (make directory)
- cd (change directory)
- ls (list)
- rm (remove)

```
user@XXX:~ $ cd temp
user@XXX:~/temp $ pwd
/home/user/temp
user@XXX:~/temp $ cd ~
user@XXX:~ $ pwd
/home/user
```

Linux Commands in Bash Shell

- mkdir (make directory)
- cd (change directory)
- ls (list)
- rm (remove)

```
user@XXX:~/temp $ cd ..  
user@XXX:~ $ ls  
temp  
user@XXX:~ $ ls -l  
drwxrwxr-x 3 vagrant vagrant 4096  
Jun 1 00:00 temp
```

Linux Commands in Bash Shell

- mkdir (make directory)
- cd (change directory)
- ls (list)
- rm (remove)

```
user@XXX:~ $ echo > file
user@XXX:~ $ ls
file temp
user@XXX:~ $ rm file
user@XXX:~ $ ls
temp
user@XXX:~ $ rm -r temp
user@XXX:~ $ ls
```

Setup: Docker (Optional)

- **#1. Install Docker**

- Windows: [Link](#)
- Mac: [Link](#)
- Linux: [Link](#)
- Type the command to confirm if docker is installed

```
$ docker -v
```

- **#2. Download the Dockerfile**

- Create a new directory on your local machine

```
$ mkdir class-compsec  
$ cd class-compsec
```

- Download the [Dockerfile](#) into this directory

Setup: Docker (Optional)

- **#3. Build the Docker Image**

- In the directory which contains the Dockerfile, run the following command

```
$ docker build -t class-compsec-image .
```

- Once your build is complete, please check if the image is ready

```
$ docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
class-compsec-image	latest	2f30fc2c1a43	About a minute ago	802MB

Setup: Docker (Optional)

- **#4. Create and Run the Docker Container**

- Once the image is built, now you can create and run a container

```
$ docker run -d -name class-compsec-container --init --cpus="4" \
  --memory="8g" -p 22222:22 --security-opt seccomp=unconfined \
  --privileged class-compsec-image
```

- To check that your container is running, run the command (*please check port number*)

```
$ docker ps -a
```

CONTAINER ID	...	PORTS	NAMES
4c93ea1deb49	...	0.0.0.0:22222->22/tcp	class-compsec-container

Setup: Docker (Optional)

- #5. **Access** the Container

```
$ ssh -p 22222 compsec@localhost
```

- #6. **Stopping** and **Removing** the Container

- To stop the container

```
$ docker stop class-compsec-container
```

- To remove the container after stopping it

```
$ docker rm class-compsec-container
```