

15장 SSH 서버

강사 김영석

A top-down view of a wooden desk with a laptop, glasses, a coffee cup, and a small plant.

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SSH

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SSH 서버 구축

1. SSH

- ❖ SSH(Secure Shell)은 네트워크 상의 다른 컴퓨터에 로그인하거나 원격 시스템에서 명령을 실행하고 다른 시스템으로 파일을 복사할 수 있게 해 주는 응용프로그램 또는 프로토콜을 말한다.
- ❖ 기존의 텔넷을 대체하기 위해 설계되었으며, 강력한 인증 방법 및 안전하지 못한 네트워크에서 안전하게 통신을 할 수 있는 기능을 제공한다.
- ❖ SSH 는 암호화 기법을 사용하기 때문에 통신이 노출된다 하더라도 이해할 수 없는 암호화된 문자로 보인다.


2. SSH 서버 구축

❖ SSH 서버 설치

```
user1@Server1:~$ dpkg -l | grep ssh
ii  libssh-4:amd64                0.9.6-2ubuntu0.22.04.1      amd64        tiny C SSH library (OpenSSL flavor)
ii  openssh-client                1:8.9p1-3ubuntu0.3          amd64        secure shell (SSH) client, for secure access to remote machines

user1@Server1:~$ sudo apt-get install -y ssh
[sudo] user1 암호:
패키지 목록을 읽는 중입니다... 완료
의존성 트리를 만드는 중입니다... 완료
상태 정보를 읽는 중입니다... 완료
다음 패키지가 자동으로 설치되었지만 더 이상 필요하지 않습니다:
  libutempter0
'sudo apt autoremove'를 이용하여 제거하십시오.
다음의 추가 패키지가 설치될 것입니다 :
  ncurses-term openssh-server openssh-sftp-server ssh-import-id

user1@Server1:~$ systemctl status ssh
● ssh.service - OpenBSD Secure Shell server
   Loaded: loaded (/lib/systemd/system/ssh.service; enabled; vendor preset: enabled)
   Active: active (running) since Fri 2023-08-25 09:04:44 KST; 56s ago
     Docs: man:sshd(8)
           man:sshd_config(5)
   Main PID: 11469 (sshd)
```

```
user1@Server1:~$ ssh localhost
```

```
The authenticity of host 'localhost (127.0.0.1)' can't be established.
```

```
ED25519 key fingerprint is SHA256:MQ/Wk3IryzOPyMEA8j10g1JCeID0j5qGELUypVzP72c.
```

```
This key is not known by any other names
```

```
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
```

```
Warning: Permanently added 'localhost' (ED25519) to the list of known hosts.
```

```
user1@localhost's password:
```

```
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 6.2.0-26-generic x86_64)
```

```
user1@Server1:~$ ssh 0
```

```
The authenticity of host '0.0.0.0 (0.0.0.0)' can't be established.
```

```
ED25519 key fingerprint is SHA256:MQ/Wk3IryzOPyMEA8j10g1JCeID0j5qGELUypVzP72c.
```

```
This host key is known by the following other names/addresses:
```

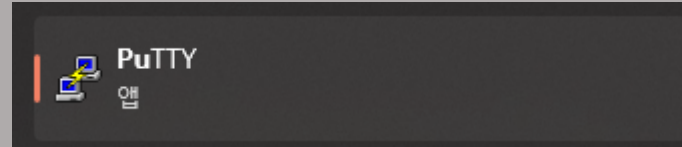
```
~/.ssh/known_hosts:1: [hashed name]
```

```
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
```

```
Warning: Permanently added '0.0.0.0' (ED25519) to the list of known hosts.
```

```
user1@0.0.0.0's password:
```

```
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 6.2.0-26-generic x86_64)
```



PuTTY Configuration

Category:

- Session
 - Logging
- Terminal
 - Keyboard
 - Bell
 - Features
- Window
 - Appearance
 - Behaviour
 - Translation
- Selection
- Colours
- Connection
 - Data
 - Proxy
 - SSH
 - Serial
 - Telnet
 - Rlogin
 - SUPDUP

Basic options for your PuTTY session

Specify the destination you want to connect to

Host Name (or IP address)	Port
10.100.0.101	22

Connection type:

☒ SSH ☐ Serial ☐ Other: Telnet

Load, save or delete a stored session

Saved Sessions

Default Settings	Load
	Save
	Delete

Close window on exit:

☐ Always ☐ Never ☒ Only on clean exit

About Open Cancel

PuTTY Security Alert

The host key is not cached for this server:
10.100.0.101 (port 22)

You have no guarantee that the server is the computer you think it is.

The server's ssh-ed25519 key fingerprint is:
ssh-ed25519 255 SHA256:MQ/Wk3lryzOPyMEA8j10g1JCeID0j5qGELUypVzP72c

If you trust this host, press "Accept" to add the key to PuTTY's cache and carry on connecting.

If you want to carry on connecting just once, without adding the key to the cache, press "Connect Once".

If you do not trust this host, press "Cancel" to abandon the connection.

More info... Accept Connect Once Cancel

```
user1@Server1: ~  
login as: user1  
user1@10.100.0.101's password:  
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 6.2.0-26-generic x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:        https://ubuntu.com/advantage  
  
Applications를 위한 확장된 보안 유지보수 비활성화됨.  
  
12개의 업데이트가 즉시 적용 가능합니다.  
추가 업데이트를 확인하려면 apt list --upgradable 을 실행하세요.  
  
2 additional security updates can be applied with ESM Apps.  
Learn more about enabling ESM Apps service at https://ubuntu.com/esm  
  
Last login: Fri Aug 25 09:38:41 2023 from 10.100.0.1  
user1@Server1:~$
```

Quiz

❖ Server2에 SSH 서버를 설치 한 후 접속 해 보세요

❖ 포트번호 변경하기

```
user1@Server1:~/바탕화면$ sudo vi /etc/ssh/sshd_config
Port 2200
#AddressFamily any
#ListenAddress 0.0.0.0
#ListenAddress ::
user1@Server1:~/바탕화면$ sudo systemctl restart sshd
```

Quiz

❖ Server2 에 SSH 서버의 포트 번호를 12345로 변경하여 접속해 보세요

A photograph of a server room with rows of server racks on both sides of a central aisle. The racks have glass doors and are filled with server units, some of which have glowing blue indicator lights. The ceiling has several long, rectangular light fixtures. The overall atmosphere is dimly lit, with the primary light sources being the server lights and the ceiling fixtures.

수고하셨습니다.