

Systems Programming Lab #0.5

2020-03-25

sp-tas



수업 공지

- 수업 질문
 - etl Q&A 게시판 (O)
 - ta_sp20@dcslab.snu.ac.kr (O)
 - 조교 개인 메일 (X)
- 수업 숙제 Delay policy (실습과 동일)

	+1day	+2day	+3day	+4day	+5day	이후
Max. Score	-10%	-20%	-30%	-40%	-50%	0점

- 제출 방법은 etl 과제를 활용할 예정

실습 환경

- etl 엑셀 파일을 확인
- 도메인 (sp1 ~ sp4)
 - sp?.snucse.org
- Port: 22 (Secure Shell)
- 계정: 개인별 발급
 - Announce in eTL
 - Name : user?
 - Password : stu_?

실습 머신 접속 방법 (Linux 사용자)

- Linux/MacOS 사용자 → 터미널에서 다음과 같이 접속

```
# ssh username@domain
```

- (예제) 계정이 ta 인 경우,

```
# ssh ta@sp1.snucse.org
```

③ 계정 password 입력

① host 입력

② 인증키 저장 (최초 1회)

→ yes

```
osta@osta-VirtualBox:~$ ssh ta@sp1.snucse.org
The authenticity of host 'sp1.snucse.org (147.46.78.123)' can't be established.
ECDSA key fingerprint is
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'sp1.snucse.org,147.46.78.123' (ECDSA)
ta@sp1.snucse.org's password:
Welcome to Ubuntu 18.04.2 LTS (GNU/Linux 4.15.0-45-generic x86_64)

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

System information as of Mon Mar  4 14:16:56 KST 2019

System load:  0.0               Processes:    96
Usage of /:   40.5% of 9.78GB    Users logged in:  0
Memory usage: 5%               IP address for eth0: 147.46.78.123
Swap usage:  0%

 * Ubuntu's Kubernetes 1.14 distributions can bypass Docker and use containerd
   directly, see https://bit.ly/ubuntu-containerd or try it now with

   snap install microk8s --channel=1.14/beta --classic

 * Canonical Livepatch is available for installation.
   - Reduce system reboots and improve kernel security. Activate at:
     https://ubuntu.com/livepatch

1 package can be updated.
0 updates are security updates.

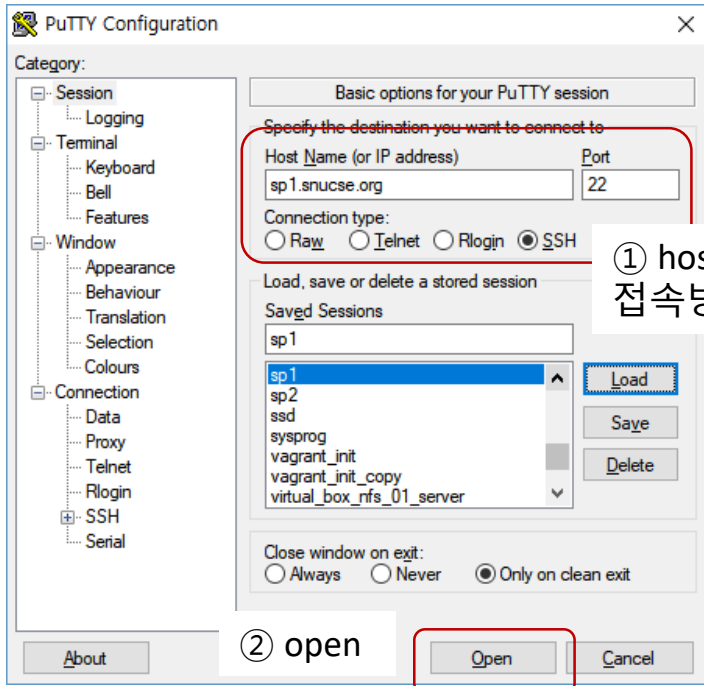
Last login: Thu Feb 28 19:20:12 2019 from 175.223.35.254
ta@sp1:~$
```

④ 접속 완료

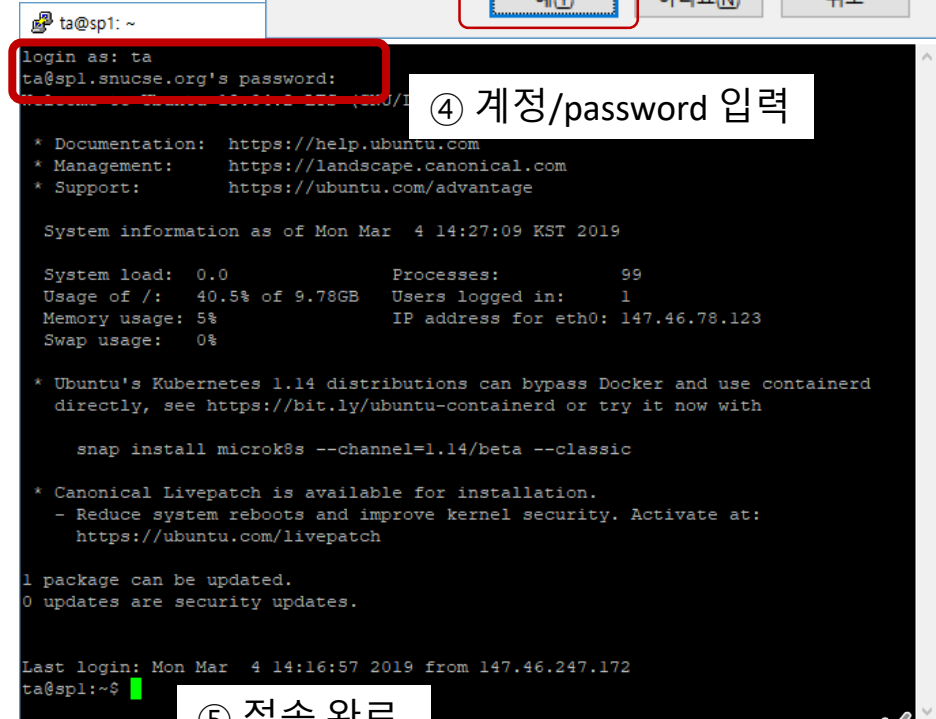
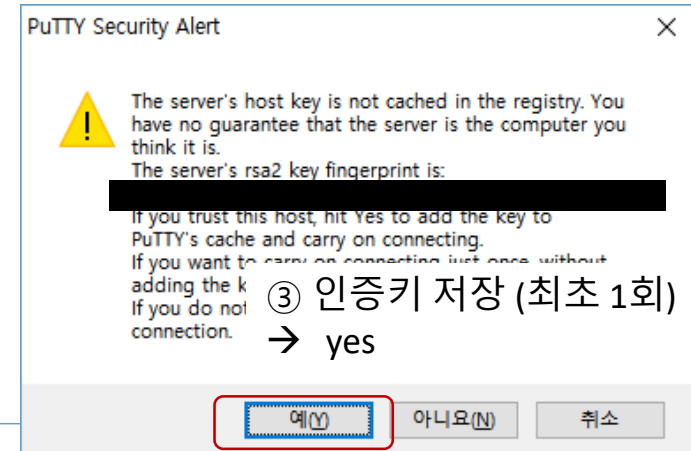
실습 머신 접속 방법 (Windows 사용자)

- Windows 사용자 → ssh 클라이언트 프로그램 사용
 - ssh 클라이언트: putty, xshell, secureCRT 등등
 - 구글/네이버 등에서 검색하여 원하는 프로그램 설치

- (예제) putty 를 사용하여 접속



① host/port 입력
접속방법: SSH



Secure Copy (scp)

- Secure Copy : 서버 간 파일 전송
- Linux/MacOS 사용자
 - 터미널에서 다음과 같이 scp 명령어 입력
scp sourceFileName username@host:/some/remote/directory
 - (예제) /home/sys/a.c 파일을 실습 머신 /home/sysprog/submit/lab0 디렉토리로 copy
scp /home/sys/a.c ta@sp1.snucse.org:/home/sysprog/submit/lab0
- Windows 사용자
 - WinSCP 등 scp 클라이언트 사용하여 전송
- SCP 명령어 참고 사이트
 - http://www.hypexr.org/linux_scp_help.php

해보기

- 1. 개인 컴퓨터에서 서버에 접속
 - # ssh [user?@sp?.snucse.org](#)
- 2. 자기 계정 password 변경 (필수)
 - # passwd
- 3. etl에서 개인 컴퓨터로 과제 파일(linklab.tgz) 다운받기
- 4. scp로 과제 파일을 서버로 옮기기
 - # scp linklab.tgz user?@sp?.snucse.org:/home/user?/
- 5. 서버에서 압축 풀기
 - # tar xvf linklab.tgz
- 6. 과제 수행



linux

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

```
aaa@aaa:~$
```


Windows – 서버 접속

- 서버 접속과 scp 과정만 다름

The screenshot shows a web browser window with two tabs: 'putty - Google Search' and 'Download PuTTY: latest release'. The address bar shows the URL 'chiark.greenend.org.uk/~sgtatham/putty/latest.html'. The page title is 'Download PuTTY: latest release (0.73)'. Below the title are links for 'Home', 'FAQ', 'Feedback', 'Licence', 'Updates', 'Mirrors', 'Keys', 'Links', and 'Team'. A download section lists 'Stable', 'Snapshot', 'Docs', 'Changes', and 'Wishlist'. The main content area is titled 'Package files' and contains text about downloading utilities, MSI installers for 32-bit and 64-bit, and a Unix source archive. Below this is the 'Alternative binary files' section, which provides links for standalone binaries like 'putty.exe' and 'pscp.exe' for both 32-bit and 64-bit systems. At the bottom of the browser window, a taskbar shows 'putty (1).exe' running.

Download PuTTY: latest release (0.73)

[Home](#) | [FAQ](#) | [Feedback](#) | [Licence](#) | [Updates](#) | [Mirrors](#) | [Keys](#) | [Links](#) | [Team](#)
Download: [Stable](#) · [Snapshot](#) | [Docs](#) | [Changes](#) | [Wishlist](#)

This page contains download links for the latest released version of PuTTY. Currently this is 0.73, released on 2019-09-29.

When new releases come out, this page will update to contain the latest, so this is a good page to bookmark or link to. Alternatively, here is a [permanent link to the 0.73 release](#).

Release versions of PuTTY are versions we think are reasonably likely to work well. However, they are often not the most up-to-date version of the code available. If you have a problem with this release, then it might be worth trying out the [development snapshots](#), to see if the problem has already been fixed in those versions.

Package files

You probably want one of these. They include versions of all the PuTTY utilities.
(Not sure whether you want the 32-bit or the 64-bit version? Read the [FAQ entry](#).)

MSI ("Windows Installer")

32-bit:	putty-0.73-installer.msi	(or by FTP)	(signature)
64-bit:	putty-64bit-0.73-installer.msi	(or by FTP)	(signature)

Unix source archive

.tar.gz:	putty-0.73.tar.gz	(or by FTP)	(signature)
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Alternative binary files

The installer packages above will provide versions of all of these (except PuTTYtel), but you can download standalone binaries one by one if you prefer.
(Not sure whether you want the 32-bit or the 64-bit version? Read the [FAQ entry](#).)

putty.exe (the SSH and Telnet client itself)

32-bit:	putty.exe	(or by FTP)	(signature)
64-bit:	putty.exe	(or by FTP)	(signature)

pscp.exe (an SCP client, i.e. command-line secure file copy)

32-bit:	pscp.exe	(or by FTP)	(signature)
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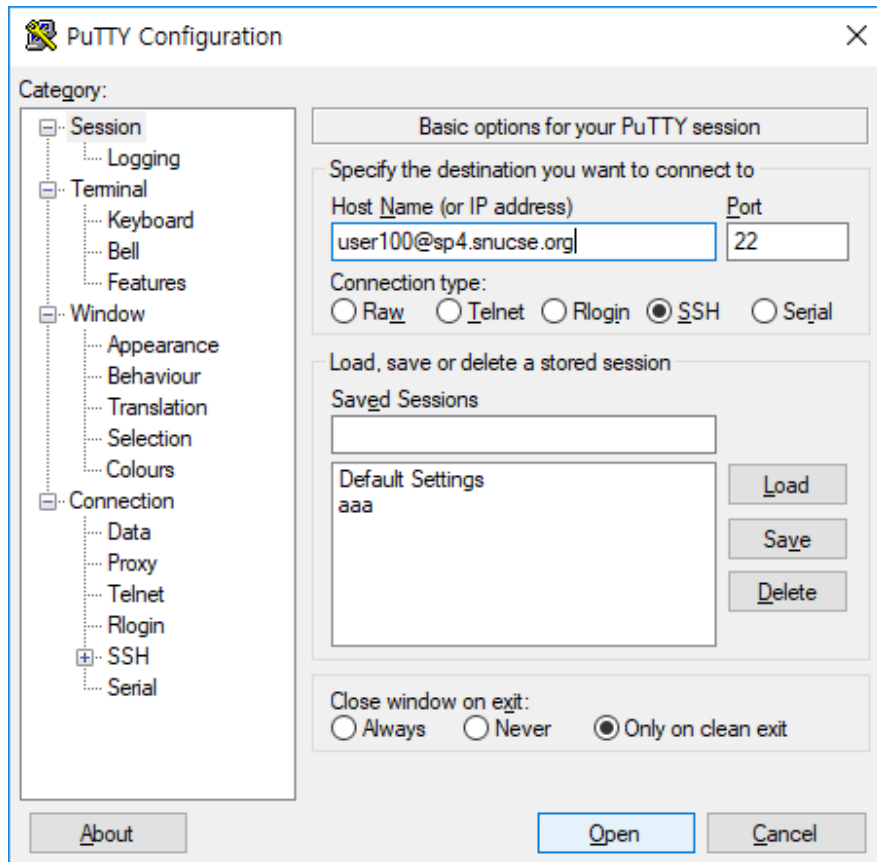
<https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html>

Alternative binary file – putty.exe



Windows – 서버 접속

- 서버 접속과 scp 과정만 다름

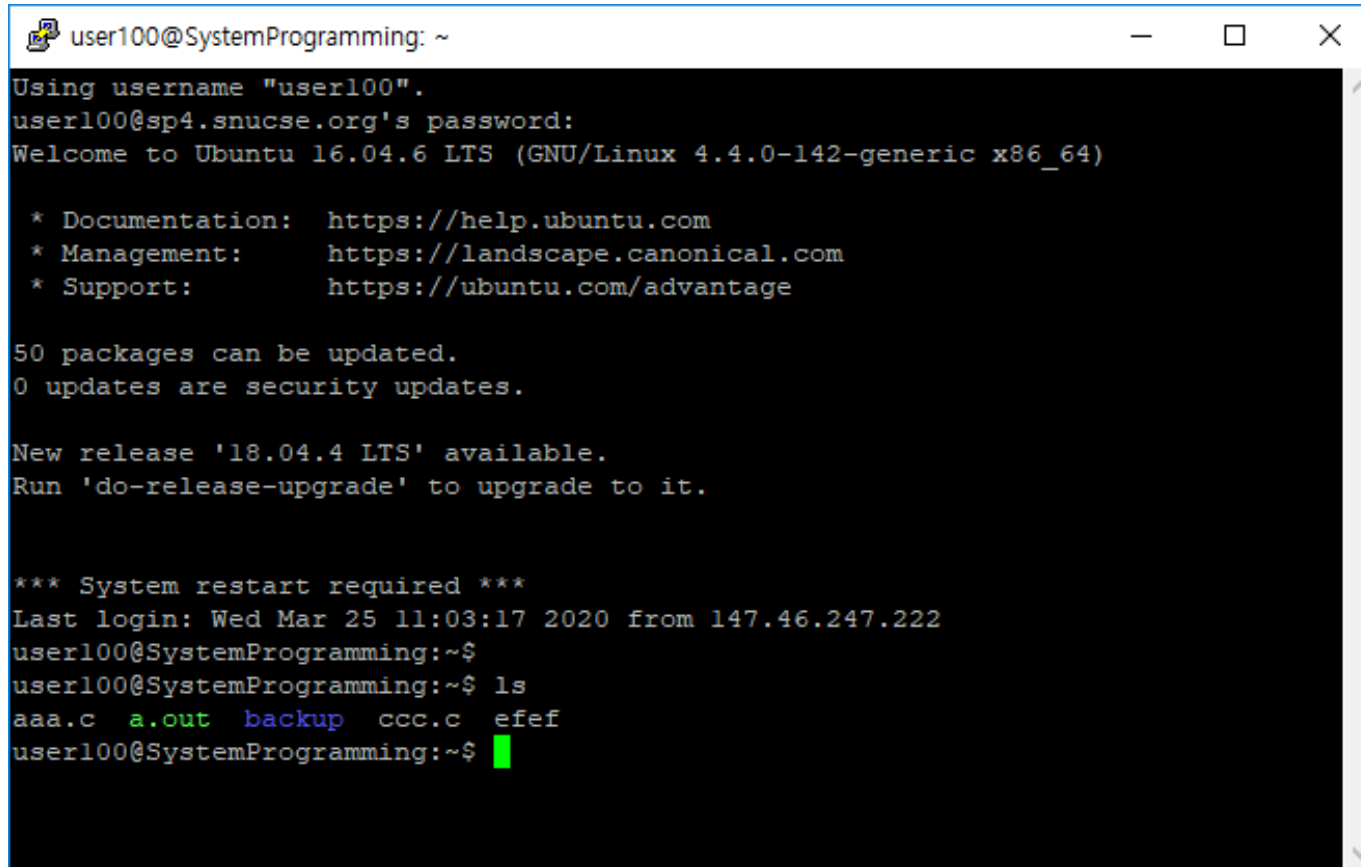


<https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html>

Alternative binary file – putty.exe

Windows – 서버 접속

- 서버 접속과 scp 과정만 다름



```
user100@SystemProgramming: ~  
Using username "user100".  
user100@sp4.snucse.org's password:  
Welcome to Ubuntu 16.04.6 LTS (GNU/Linux 4.4.0-142-generic x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:        https://ubuntu.com/advantage  
  
50 packages can be updated.  
0 updates are security updates.  
  
New release '18.04.4 LTS' available.  
Run 'do-release-upgrade' to upgrade to it.  
  
*** System restart required ***  
Last login: Wed Mar 25 11:03:17 2020 from 147.46.247.222  
user100@SystemProgramming:~$  
user100@SystemProgramming:~$ ls  
aaa.c  a.out  backup  ccc.c  efef  
user100@SystemProgramming:~$
```

<https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html>

Alternative binary file – putty.exe

Windows – scp

• 서버 접속과 scp 과정만 다름

The screenshot shows the WinSCP website with the following content:

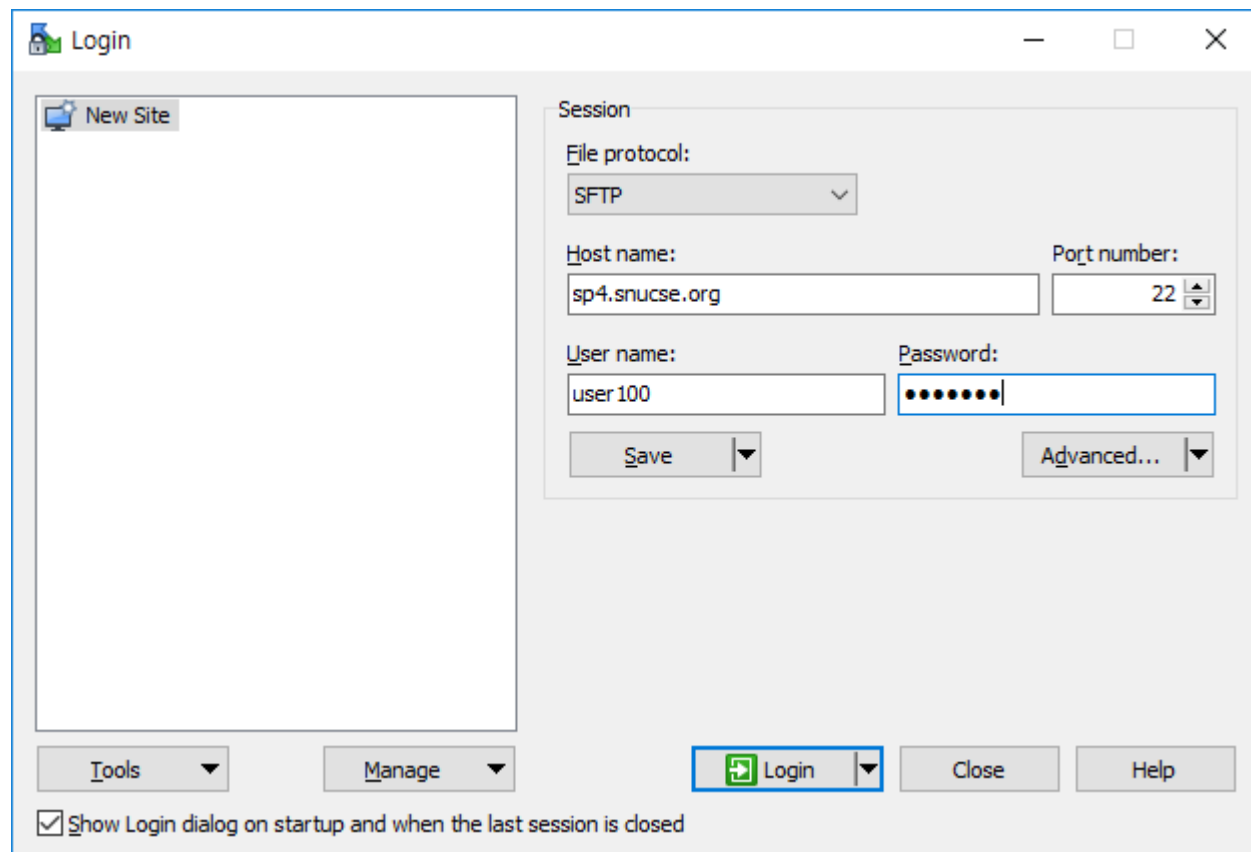
- Release notes:**
 - Improvements to sessions and workspace management, so that WinSCP can now easily restore tabs that were open when it was last closed.
 - Hardware-accelerated AES.
 - Extension *Archive* and Download to archive remote files and download the archive.
 - Improvements to Synchronization checklist window.
 - Allowed sorting of find results.
 - SSH core upgraded to PuTTY 0.73.
 - The binaries are signed with new EV certificate valid until February 2023.
- Download WinSCP 5.17.2 (18.6 MB)** (1,851,235 downloads since release)
- Get it from Microsoft** (What is this?)
- LIST OF CHANGES**
- Advertisement:** "의자를 왜바꿔? 커블하나면 되는데! 최대 65% 구매하기" (Why change the chair? You can just get a Kurbul! Up to 65% off purchase)
- Portable executables:** 8.7 MB, 17,714 downloads since release
- .NET assembly / COM library:** 8.7 MB, 1,416 downloads since release
- Source code:** 13.6 MB, 500 downloads since release
- Recommend:** Like 8.2%, Share, Tweet
- Most Read:**
 - Installing SFTP/SSH Server on Windows using OpenSSH
 - Automating File Transfers or Synchronization
 - Installing a Secure FTP Server on Windows using IIS
 - Connecting to FTP/SFTP server
 - Generate Session URL
 - Setting up SSH Public Key Authentication
 - Scheduling File Transfers or Synchronization
 - Downloading and installing WinSCP .NET Assembly

<https://winscp.net/eng/downloads.php#additional>

Portable executables – 압축 해제

Windows – scp

- 서버 접속과 scp 과정만 다름

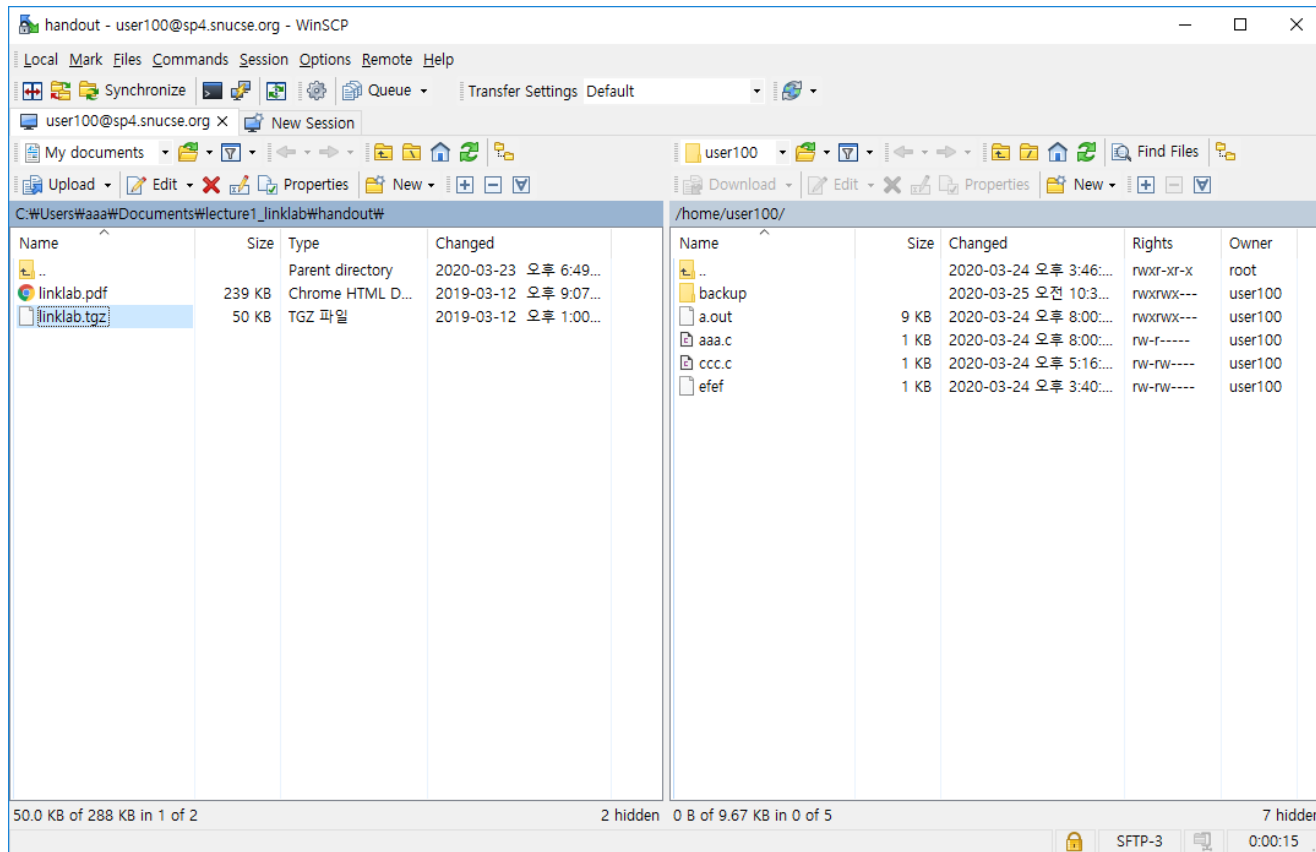


<https://winscp.net/eng/downloads.php#additional>

Portable executables – 압축 해제

Windows – scp

- 서버 접속과 scp 과정만 다름



<https://winscp.net/eng/downloads.php#additional>

Portable executables – 압축 해제

마지막

- 1. 개인 컴퓨터에서 과제 진행 가능
 - 환경이 달라 문제 발생 가능
 - 채점은 실습 서버 환경에서 진행됨
- 2. 실습 서버를 사용하지 않을 사람도 passwd 변경 필수

- 다음 시간에
 - Lecture1 - linklab
- 질문
 - eTL Q&A 게시판
 - ta_sp20@dcslab.snu.ac.kr

실습 서버에 문제가 발생하면 알려주세요