

Tools at your end: how to connect and get started

Logging in

Logging in: ssh (linux, MacOS)

- ssh <u>"secure shell"</u> (ssh <u>home page</u>)
- terminal e.g.

[mylaptop@home]\$ ssh x_abcde@tetralith.nsc.liu.se
Password: ********
[x_abcde@tetralith]\$

ssh functionality

Logging in: PuTTY (Windows)

| - Session | Specify the destination you want to conne | |
|---|--|------------------------|
| Logging | Host Name (or IP address) | 22 |
| Keyboard Bell | Connection type: ○ Raw ○ <u>T</u> elnet ○ Rlogin ⊙ <u>S</u> S | H 🔿 Se <u>r</u> ial |
| Features | Load, save or delete a stored session Saved Sessions | _ |
| Appearance Behaviour Translation Selection Colours Fonts ▼ Connection | Default Settings | Load Save Delete |
| Data Proxy Telnet | Close window on e <u>x</u> it: ⊙ Always ○ Never ○ Only on o | lean exit |

Host name in "Session tab"

Logging in: PuTTY (Windows)

<u>further reading</u>

| Category: | | end to the server |
|--|---|---|
| ✓ Session Logging ✓ Terminal Keyboard Bell | Login details Auto-login username When username is not sp ⊙ Prompt ○ Use sys Terminal details | x_abcde pecified: stem username (torbenr) |
| Features | <u>T</u> erminal-type string Terminal <u>s</u> peeds | xterm 38400,38400 |
| Appearance Behaviour Translation Selection Colours Fonts ▼ Connection | Environment variables | Add Remove |
| Data Proxy Telnet Blogin | _ | |

User name in "Data tab"

Logging in: ssh keys

- An alternative to username + password is <u>ssh keys</u>
- When used correctly, ssh keys can:
 - Be a convenience tool
 - And make life even easier using an <u>ssh config</u> file
 - Improve your <u>account security</u>

Logging in: ssh keys

<u>Example</u>

a. Generate keys on local computerb. Copy the public key to HPC

- Be careful with file permissions
- Always use a key phrase when generating keys

Logging in: Remote desktop

 An alternative the the terminal login is Virtual Network Computing (<u>VNC</u>)
 e.g. <u>ThinLinc</u> Getting data to and from the cluster

- <u>scp</u>, <u>sftp</u>, <u>rsync</u> (Linux, MacOS)
- PuTTY, <u>Filezilla</u>, ... (Windows)

 <u>Tips</u> for transferring data across networks

Working on HPC: Getting started



Getting started: linux

- Learn to love the linux command line
 - Online resources (cheat sheet)
 - <u>man pages</u> and [command] --help,

e.g.

- \$ man df
- \$ df --help

Command line shortcuts

| Command | Explanation |
|-------------|---|
| ctrl-c | Interrupt (kill) the current foreground process |
| ctrl-d | Close the shell |
| ctrl-l | Clear the screen in the terminal |
| ctrl-a | Go to the beginning of the line |
| ctrl-e | Go to the end of the line |
| left arrow | Go left one character |
| right arrow | Go right one character |
| ctrl-k | Cut the part of the line after the cursor |
| ctrl-u | Cut the part of the line before the cursor |
| ctrl | Undo your last key press |
| up arrow | Go to the previous command in the history |
| down arrow | Go to the following command in the history |
| ctrl-r | Search command history |
| ctrl-j | Stop history search and allow to edit command |

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Getting started: linux

- <u>Tab completion</u>
- linux <u>history</u>

Getting started: linux

Some favorite linux commands



Getting started: Convenience tools

- Persistent sessions
 - <u>screen</u>
 - tmux
 - ThinLinc