

## 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
<ul> <li>✓ Session</li> <li>Logging</li> <li>✓ Terminal</li> <li>Keyboard</li> <li>Bell</li> </ul>	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	<b>_</b>	

#### 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