# USING SSH KEYS WITH PUTTY, WINSCP AND FILEZILLA ON WINDOWS

# 1. INSTALL PUTTY AND PUTTYGEN

The applications PuTTY and PuTTYgen have to be installed in order to ssh to Linux servers with private key on Windows. The installer can be found from <a href="https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html">https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html</a>

After installation, the two applications can be found as shown:



# 2. CONVERSION OF EXISTING PRIVATE KEYS

- 1. Save your id\_rsa key to the Windows desktop.
- 2. Launch **PuTTYgen** and click "conversions" > "import key" to open your id\_rsa key



3. After opening the key, click "Save private key"

Key comment:	imported-openssh-ke	/	
Key passphrase:			
Confirm passphrase:			
Actions			
Generate a public/priv	ate key pair		Generate
Load an existing privat	e key file		Load
Save the generated ke	ey	Save public key	Save private key

4. Click yes to save the key without passphrase as "id\_rsa.ppk" on the desktop

PuTTYgen Warning X							
Are you sure you want to save this key without a passphrase to protect it?							
Yes No							

## 3. CONNECT TO LINUX SERVER WITH PRIVATE KEY

#### 1. Launch **PuTTY** as shown

🕵 PuTTY Configuration		?	×
Category:			
Session Logging Terminal Logging Terminal Keyboard Bela Gel	Basic options for your 1         Specify the destination you want         Host Name (or IP address)         Cannection type:         Raw O Teinet O Rlogin         Load, save or delete a stored set         Saved Sessions         Default Settings         Close window on exjt:         Always O Never	PuTTY session to connect to Port 22 Description Port 22 Description Port 22 Description Segar Delete Doly on clean exit	
<u>A</u> bout <u>H</u> elp	Ope	n <u>C</u> ancel	

- 2. Fill in the "Hostname(or IP address)" textbox with target host's information
- 3. On the left-handed side navigation tree, click "connection">"SSH">"Auth"



4. Click Browse to select the converted private key "id\_rsa.ppk" and click open.



5. Navigate back to "Session" in the navigation tree. Save your settings as a named session as shown:



6. Click open to log into the remote Linux server with the key.



### 4. SECURELY TRANSFER FILES BETWEEN SERVER AND WINDOWS USING WINSCP

#### 1. Install WinSCP

The application WinSCP has to be installed in order to copy files between Linux Server and Windows with private key. The installer can be found from <a href="https://winscp.net/eng/download.php">https://winscp.net/eng/download.php</a>

2. Launch WinSCP and edit the details of the sessions

🌆 Login			- 🗆 X
Vew Site		Session File protocol: SFTP Host name: 202.88.99.86 User name: Pa sword: r2_xxxl Save	Port number: 22 💌 Advanced 💌
Tools	Managa		Help

3. Click "Advanced", a new prompt window will popup. Select "SSH">"Authentication" on the lefthanded side. Click "..." on the right to choose your converted private key on the desktop. Finally click OK.

Advanced Site Settings		?	$\times$
Environment Directories Recycle bin Encryption SFTP Shell Connection Proxy Tunnel SSH Key exchance	Bypass authentication entirely Authentication options Attempt authentication using Pageant Attempt 'keyboard-interactive' authentication Respond with password to the first prompt Attempt TIS or CryptoCard authentication (SSH-1) Authentication parameters Allow agent forwarding		
Authentication bogs Note	Allow GSSAPI  Allow GSSAPI credential delegation		
Color 🔻	OK Cancel	He	elp

### 4. Click "login" to log into the server

, 🛃 Login		- 🗆 X
New Site	Session File protocol: SFTP   Host name: 202.88.99.86 User name: r2_xxxl Save	Port number:
Tools  Manage Manage Manage	Session is doseu	e Help

5. Finally, the server side directories are shown on the right pane as shown:

🂑 r2 - r2@202.88.99.86 - WinSCP										-		×
Local Mark Files Commands Session	Options	Remote Help										
🕀 🔁 😓 Synchronize 🛛 🐙 💽	🎛 🔀 🤤 Synchronize 🔄 🐙 👔 🛞 👔 Queue 🔹 🛛 Transfer Settings Default 🔹 🛛  🖉 🔹											
📮 r2@202.88.99.86 🗙 🚅 New Session												
🔮 My documents 🔹 🚰 🔹 🕎 🔹			🗈 🗈 🏠 🎜 🗞		r2	• 🚰 •	😨 • 🔷 • ⇒	- 🗈 🕯	2 🏠 💈		Find Files	۲.
🕼 Upload 👻 📝 Edit 👻 🛃 🕞 Pi	roperties	🚰 New 🗸	+ - V		Download 👻	📝 Edit	- 🗙 🛃 🕞 Pro	perties (	😚 New 🗸	Ð	- 🛛	
C:\Users\kwchui.AD\Documents\				/r	2/							
Name Apowersoft Custom Office Templates MobaXterm Visit Zoom	Size	Type Parent dire File folder File folder File folder File folder File folder	Changed 7/7/2020 10:46 20/5/2020 2:14 25/3/2020 5:35 4/12/2020 5:05 7/7/2020 10:46 25/5/2020 3:25		lame anaconda3 home lib_src local local_mpich3 model sample_prog temp tutorial wrf	Size	Changed 11/11/2202 0343 5/12/2020 12:10 4/12/2020 3:41 27/11/2020 4:54 29/11/2020 11:8 30/11/2020 11:8 2/12/2020 12:17 7/12/2020 12:17 7/12/2020 12:56	Rights r-xr-x rwxr rwxr rwxr rwxr rwxr rwxr rwxr	Ow root r2 root r2 r2 r2 r2 r2 r2 r2 r2 r2 r2 r2 r2			
0 B of 0 B in 0 of 5			5 hidden	08	B of 0 B in 0 of 10						1 h	idden
ь ла Пара				_					SFTP-3	Ę	0:00:	44

#### 5. SECURELY TRANSFER FILES BETWEEN SERVER AND WINDOWS USING FILEZILLA

# 1. Install FileZilla Client

Another FileZilla Client application may be used to transfer files between Linux Server and Windows with private key. The installer can be found from <a href="https://filezilla-project.org/">https://filezilla-project.org/</a>

2. Launch FileZilla Client and click the "site manager" button on the menu bar. A new site manager window will popup. Click "New site" button to edit a new session.

	- 🗆 × 🔤
File Edit View Transfer Server Bookmarks Help	
Host: Site Manager	×
Status: Select entry:	General Advanced Transfer Settings Charset
Status: My Sites	Protocol: FTP - File Transfer Protocol ~
	Host: Port:
	Enaryption:
	Logon Type: Ask for password
5	User
	Password:
Filenar	
	Background color: None
	Comments:
App New site New folder	^
App New Bookmark Rename	
Coo Delete Duplicate	~
8 files a	
Server/	Connect OK Cancel
Queued files Failed transfers Successful transfers	
	Queue: empty

3. Give a name to the session. Then select "SFTP" in the Protocol pull down menu. Fill in the IP of the host and finally select "Key file" in the Logon Type pull down menu as shown:

F File	Zilla					_	$\times$	
File Ed	it View Transfer Server Bookmark	s Help 🗙 🎝 ד 🍳 🖉	٨					
Host:	Site Manager							$\times$
Status: Status: Status: Local si	Select entry:		Ge Pr He	eneral Adva rotocol: ost:	nced Transfer Settings SFTP - SSH File Transfe 202.88.99.86	Charset er Protocol	ort:	~
Filenam			Lo Us Pa	ogon Type: ser: assword:	Ask for password Anonymous Normal Ask for password Interactive Key file			~
 .vsco ⊒3D (			Ba	ackground c omments:	olor: None V			_
📕 anad	New site	New folder					 	^
App	New Bookmark	Rename						
Coo 8 files a	Delete	Duplicate						~

4. Browse and select your saved converted key file from Desktop. Fill in the username and finally click connect to login to the cluster.

Site Manager							×
Select entry:		General Adv	anced Tr	ansfer Settings	Charset		
Here My Sites		Protocol:	SFTP - S	SSH File Transfer	Protocol		$\sim$
		Host:	202.88	.99.86		Port:	
		Logon Type:	Key file				$\sim$
		User:	r2_xxxx				
		Key file:	C:\User	s\kwchui\Deskto	op\id_rsa.ppk	Br	owse
		Background Comments:	color: N	one ~			
New site	New folder						^
New Bookm	ark Rename						
Delete	Duplicate						~
				Connect	ОК		Cancel

5. Click Yes about the security warning. Then the Linux server side will be shown in the right pane as shown:

loggles processing of	the transfer queue	Cive Drive Chakter				🕑 Queue: e	mpty		.13
Queued files Failed	d transfers Successfu	transfers			0	2			
Server/Local file	Dire Remote file	Size Pri	o Sta	itus					
o mes anu 28 director	ies. iotal size: 5,464,17	bytes		12 mes and 12 din	ectories, iotal size: 2	to,790 bytes			_
COOKIES 9 files and 20 director	rile rolder	11/29/2020	*	12 files and 12 div	actorias. Total cize: 3	0 700 bytes		,	
	File folder	11/22/2020		, ркі	File tol	11/25/20	urwxr	r2 vnpc.	~
Application Data	File folder	12/8/2020		nanorc	File fol	12/1/202	Irwxrw	r2 vhpc.	
AppData	File folder	11/22/2020		.mozilla	File fol	12/15/20	drwxr	r2 vhpc.	
anaconda3	File folder	11/22/2020		.config	File fol	12/5/202	drwxr	r2 vhpc.	
3D Objects	File folder	11/22/2020		.conda	File fol	11/29/20	drwxr	r2 vhpc.	
.vscode	File folder	11/22/2020		.cache	File fol	12/5/202	drwxr	r2 vhpc.	
				<b>.</b> .					
Filename	Filesize Filetype	Last modified	^	Filename	Filesize Filetype	Last mod	Permis	Owner/.	^
⊞	(A)		~						_
⊞- <mark>I</mark> Win	dows			····· [2	Lin	ux Serve	er side		
	ublic			home					
₽- <mark>2</mark> k	(wchui		^						
Local site: C:\Users\k	(wchui)		~	Remote site: /ho	me/r2				~
									ř
Status: Directory	listing of "/home/r2" su	ccessful							
Status: Retrieving Status: Listing dir	g directory listing								^
Host:	Username:	Password:		Port:	Quickconne	ct 💌			
₩ - 8 - 1		🗴 🏷 🗏 🔍 🔗	<b>6</b>						
File Edit View Tran	sfer Server Bookmark	s Help							
Cluster_session -	snp://rz@z0z.88.99.86	- Fliezilia					- L		
E cluster session -	cftp://r2@202.00.00.06	- FiloZilla					— Г	7 V	

THE END