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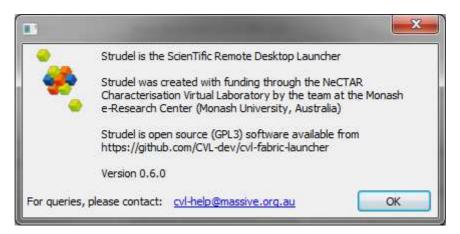




Introduction

Connecting to *Fawkes* using a Graphical Interface is easy using "ScienTific Remote User DEsktop Launcher", or Strudel for short.

The Strudel software is an open source package developed by the Monash eResearch Team. Strudel makes it simple to connect to HPC facilities, by simplifying the VNC Server process for the end users.



Some of the functionality Strudel provide includes:

- Automatically detecting the VNC Display Number users no longer need to worry about this if the display number ever changes especially after the host computer is rebooted.
- Configures and implements an SSH tunnel, making it highly secure, without the need for a separate ssh or putty session running in the background.
- Configures the "X Windows" manager to default to using Gnome.
- No need to remember the "VNC Password", as it automatically generates one for you. Therefore, you only need to worry about your USQ username and password.

Installation of Software

The following instructions are specific to installing Strudel on a Mac, whether a desktop or laptop. To get Strudel to work, three software packages are required to be installed and in the following order because of software dependencies:

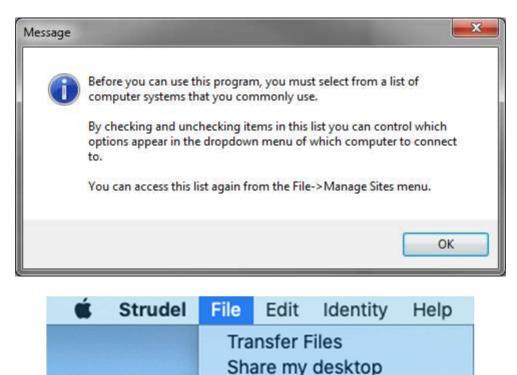
0	OpenJDK-JRE	(jre-8u251-macosx-x64.dmf)
0	TurboVNC	(TurboVNC-2.2.5-dmg)
0	Strudel	(Strudel_0.6.0_20200616-signed.dmg)

If you are installing Strudel on a USQ computer, the software above might be available from MAC Extra.



Running the Strudel Software

• Start the Strudel software.

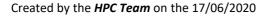


Connect to a collaborator

Load defaults

Manage sites

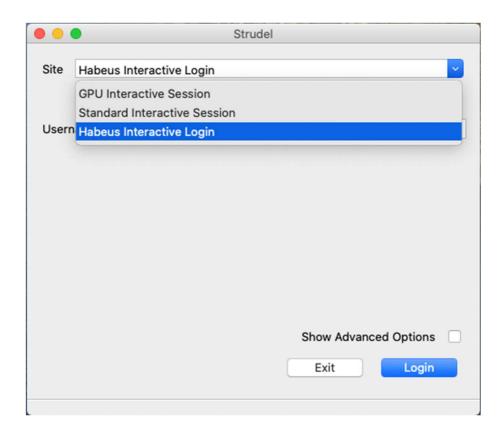
To access the resources available on *Fawkes*, you will need to enter the details of the configuration server, which has an URL of <u>https://habeus.usq.edu.au/strudel.json</u>, as below:



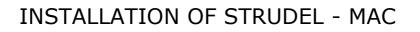


• • •			
Available Sites			
Name	URL	Active	
MASSIVE @ Australian Synchrotron	https://cvl.massive.org.au/massive_as_flavours_20150417.json		
CQUniversity - HPC Systems	http://hpc-stats.cqu.edu.au/cqu-v2.json	Ċ,	
Juelich Supercomputing Centre - J	https://gitlab.version.fz-juelich.de/vis/strudel/raw/master/conf/jsc_jureca_flavour		
DesignHouse	https://swift.rc.nectar.org.au/v1/AUTH_810/StrudelWebConfig/m3_designhouse		
CVL@UWA	https://swift.rc.nectar.org.au/v1/AUTH_810/StrudelWebConfig/m3_cvluwa_200		
Swinburne OzStar	https://swift.rc.nectar.org.au/v1/AUTH_810/StrudelWebConfig/swin.json		
CVL@UQ (BETA)	https://cvl.qriscloud.org.au/configuration.json		
Fawkes	https://habeus.usq.edu.au/strudel.json		
	New Delete Cancel	ок	

- Ensure all other options are deselected, as can been seen in the image above.
- Within Strudel, you can select the type of job you would like to run. The options are:
 - GPU Interactive Session in which you can enter your own values for Memory and PPN (Processors per node or simply CPU's).
 - Standard Interactive Session which is similar to the GPU session, without the need to request a GPU node, so these jobs can start on any compute node.
 - Habeus Interactive Login creates an interactive session on Habeus, but unlike the other two options, no resources need to be selected.







- Some things to be aware of:
 - You can only have a maximum of one GPU or Standard Session or Habeus running at once. This is actually a feature as it is preferred that users only have running one interactive session running at a time. If you want to run lots of HPC jobs, submit non-interactive batch jobs the via the command-line.
 - For security, the SSH ciphers available to connect to Fawkes are limited. To connect to *Fawkes* the cipher needs to be changed to "aes128-ctr". To do this select "Show Advanced Options -> SSH tunnel cipher -> aes128-ctr", see image below:

🗧 😑 Stru		Strudel
Site	Habeus Interactive Login	
Userr	name	
resolu	ution	Default resolution
SSH t	unnel cipher	aes128-ctr
Show	debug window 🗌	Show Advanced Options < Exit Login

Once selected, the cipher will be saved and won't have to be selected in the future.

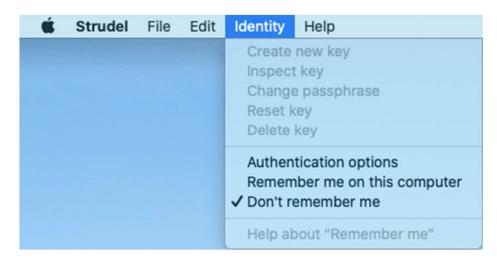
- Depending on the option that is selected, you will enter Username (your USQ username) and other options such as Memory and CPUs. Then click on the login button.
- The first time you use the software, you will be required to select the authentication method.





M	
•	This program logs you into other computers. As such it deals with such scary issues as Authentication. The default behaviour may not be suitable if your laptop or workstation is shared by multiple people. You can read more by selecting "Identity->Authentication options" from the menu. I'll now show you what happens when you select "Identity->Authentication options" so you can confirm your choices.
For queries, please contact: help@massive.org.au	ОК

- Click on the "OK" button to continue.
- There are two authentication options:
 - Strudel generated SSH keys, this is the default. To use this method select the "*Identity* -> *Remember me on this computer*" option. With this method you are only required to enter a SSH pass-phrase.
 - Use of your login password, to use this method select the "*Identity -> Don't remember me*" option.





- Note: you can also change the setting through Strudel's menu by selecting "Edit -> Preferences -> Authentication Tab" or "Identity -> Authentication Options" and then select the required option.
- If you select the "*Remember me on this computer*" option, Strudel will generate and use SSH keys to connect to *Fawkes*, removing having to enter your USQ password whenever you run an interactive job.
- If you selected "*Don't remember option*" option, Strudel you will be asked to then enter your USQ password.

ease enter th	e password f	or your USC	account.

• If you already have a "Virtual Desktop (VNC) session running, you will be asked to "Reconnect" if you would like to connect to an existing session, or "New Desktop" if you would like to kill the previous session and start a new session.



- When you are finished with the session (don't log out), simply close the Strudel application. The software will then ask if you would like to leave the session running or not. Depending on the session running, it is recommended to:
 - GPU Interaction Session once your program has completed its execution, it is recommended to "Stop the desktop"
 - Standard Interaction Session once your program has completed its execution, it is recommended to "Stop the desktop".
 - Habeus Interactive Session once your program has completed its execution, it is recommended to "Stop the desktop".





Stop the Desktop?		×
Would you like to leave your current session running so that you can reconnect later?		
	Leave it running	Stop the desktop

References

Graphical Connection to the HPC System, (n.d.), viewed 16 Nov 2016, <u>https://www.cqu.edu.au/eresearch/high-performance-computing/hpc-user-guides-and-faqs/graphical-connection-to-the-hpc-system</u>

Connecting to a CVL@M3 desktop using the Strudel Desktop application, (n.d.), viewed 17 June 2020, <u>https://www.cvl.org.au/cvl-desktop/getting-started-with-the-cvl/strudel-cvl-desktop-application</u>