

COMP3231 Computer Architecture

How to access HKU CS GPU Farm

Prerequisite:

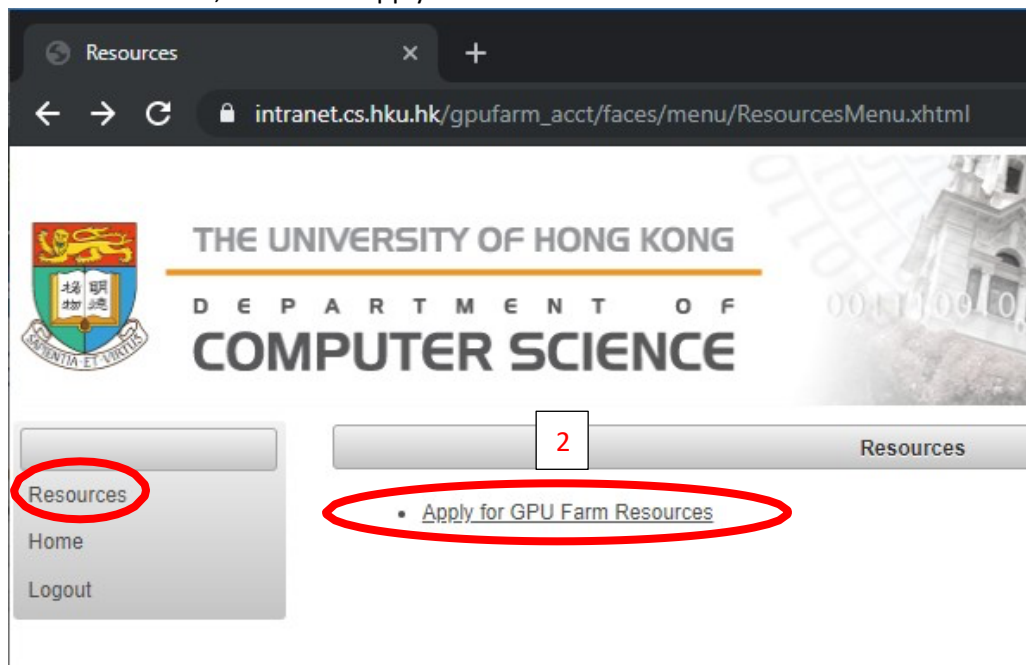
You should have an HKU CS computer account (NOT HKU portal account) in order to apply for the use of GPU Farm. If you do not have it, you may obtain it at <https://intranet.cs.hku.hk/account/>

1. Log in using your HKU portal account.
2. Follow the instruction on the webpage. (You may need to wait for up to 2 days for the account creation).

Apply for GPU Farm Account and Resources

The official webpage for CS GPU Farm is <https://www.cs.hku.hk/gpu-farm/home>

1. Click the link for "Applying for an Account and Using the HKU CS GPU Farm".
2. You can apply for either Phase 1 (https://intranet.cs.hku.hk/gpufarm_acct) or Phase 2 (https://intranet.cs.hku.hk/gpufarm_acct_cas, if you are from the Department of Computer Science). Log in using your CS computer account.
3. Click "Resources", then click "Apply for GPU Farm Resources"



4. Fill in the application form.
 - a. You can apply for additional Resources anytime.
5. You may need to wait for 1 day for approval.

Access the GPU Farm

Please also refer to <https://www.cs.hku.hk/gpu-farm/quickstart> for further information and the latest guide.

The GPU Farm only allow you to connect it if you are connected to the HKU network. You can use SSH or any file transfer software to connect one of the gateways (Phase 1: gpugate1.cs.hku.hk or gpugate2.cs.hku.hk; Phase 2: gpu2gate1.cs.hku.hk or gpu2gate2.cs.hku.hk) of the GPU farm and login with your CS computer account.

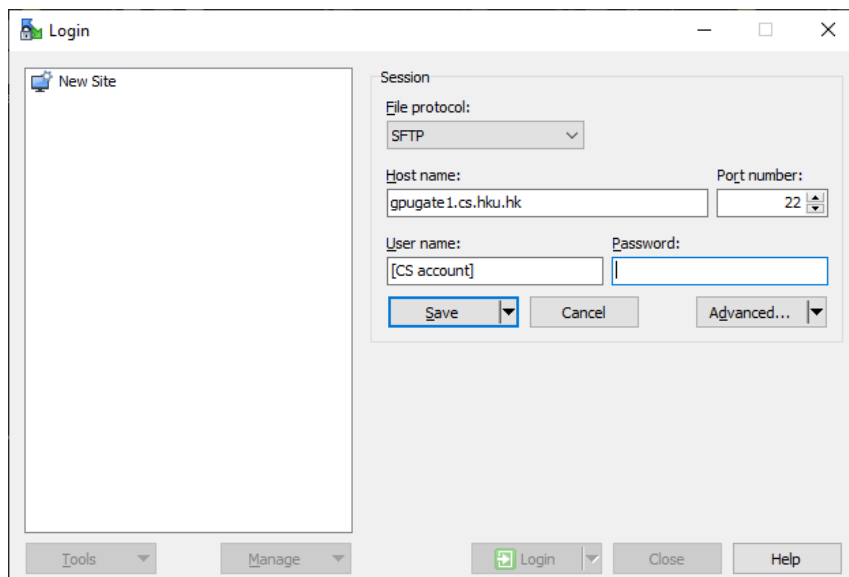
If you are not connected to the HKU network, e.g., you want to connect it at home, you need to set up an SSH tunnel to gatekeeper.cs.hku.hk or connect to CS VPN first before connecting to the GPU Farm.

Here is some recommended software to access the GPU Farm.

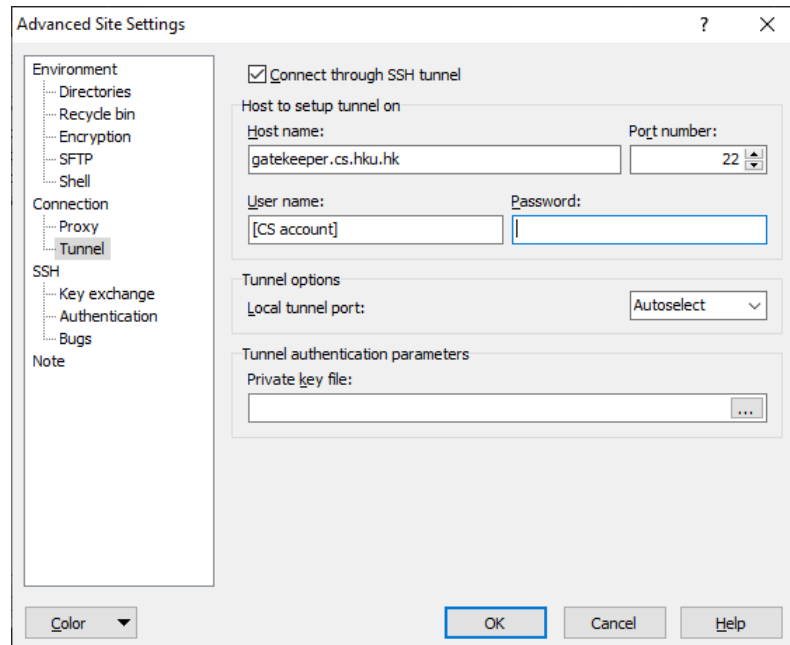
- **Windows:**
 - **SSH: Putty** (<https://www.putty.org/>)
 - **File transfer: WinSCP** (<https://winscp.net>)
- **macOS:**
 - **SSH: Terminal**
 - **File transfer: FileZilla (Require CS VPN:**
<https://intranet.cs.hku.hk/csintranet/contents/technical/howto/csvpn/index.jsp>)

Setup Guide for WinSCP (Windows only)

1. Open WinSCP, select “New Site”, and enter
 - File Protocol: SFTP
 - Host name: gpugate1.cs.hku.hk or gpugate2.cs.hku.hk
 - Username: [your cs account]
 - Password: [your cs account password]



2. [Tunneling] Click “Advance..” > Open tap “Tunnel”, then configure as follow and click “ok”
 - Check “Connect through SSH tunnel”
 - Host name: gatekeeper.cs.hku.hk
 - Username: [your cs account]
 - Password: [your cs account password]



3. Click "Save" and then click "Login"

Compile and Run CUDA .cu program

1. Enter interactive mode by
\$ gpu-interactive
2. Compile and execute a .cu file by
\$ nvcc -o demo demo.cu
./demo

If nvcc were not found in your environment, be sure to add the line

```
export PATH="$PATH:/usr/local/cuda/bin"
```

to your ~/.profile file (and then exit and SSH back in to restart your shell)