How to run GUI applications using GPUs and VNC

If you are interested to start a remote visual session(VNC) on our GPU nodes(for example to launch VMD, Salome, or MOLDEN). Please, read the following instructions:

Steps to start a VNC Session:

As a prerequesite, **you need a Linux Pc and a VNC client**.

1.

    a. **If is your first time** starting a VNC server on CSUC HPC you need to set a vnc passowrd through the following the instructions**:**

        i. Start an interactive session on a GPU node:

> ⓘ **Start interactive job**
>
> salloc -n 24 -N 1 -p gpu --gres=gpu:1 -C vnc -t 2:00:00

        ii. **Run the** following **commands** and **follow the screen instructions**:

> ⓘ **Start vnc server**
>
> module load tools/turbovnc/2.1.1
>
> vncserver

        iii. When you complete de "wizard" **go to step 2**.

    b. **If is not your first time** starting a VNC server on CSUC HPC**: Copy the following script** into a slm file and **launch it**.

ⓘ

> ⓘ **Start VNC server**
>
> #!/bin/bash
> #SBATCH -p gpu
> #SBATCH -N 1
> #SBATCH -n 24
> #SBATCH --job-name="VNC_server"
> #SBATCH -o vnc_server.out
> #SBATCH -e vnc_server.err
> #SBATCH --gres=gpu:1#
>
> #SBATCH -C "vnc"
> #SBATCH -t 01:00:00 #1Hour time limit, you can change it as your convenience
>
>
> module load tools/turbovnc/2.1.1
>
> vncserver
>
> sleep 1000000 #Wait until time finishes

2. Download the ***vnc_tunnel.sh*** bash scrip and **wait until your batch job were on running state**.
3. **Run *vnc_tunnel.sh* on your local machine** and follow the instructions (It is possible that script ask for your CSUC HPC username and password several times during the execution).
4. After the script execution, a ssh tunnel should be created on a local port of your choice. **Start your VNC client targeting to "localhost:your_local_port" using the password that you typed the first time you started vncserver (step 1).**

NOTICE: Remember to kill your interactive job (scancel JOBID) when you finish the VNC session.

Run GUI apps with GPU acceleration

When you were on a VNC session, you shoud see a KDE Desktop environment. To launch a Xwindows application **you should launch a terminal**, **load the module "tools/virtualgl/2.5" and the module of your application**. After that type:

> ⓘ **Launch VirtualGL application**
>
> vglrun your_app