Differences between Lisa and Snellius & other information

1. ### How to connect
   The IP is now snellius.surf.nl rather than lisa.surfsara.nl.
   So, connect using `ssh <user>@snellius.surf.nl`.

   Additionally, Snellius only allows traffic from UvA IPs by default. As a result, you need to either access it from the UvA/eduroam/Amsterdam Science Park WiFi, or use the UvA VPN. If you are having issues with that, you can try connecting to the "doornode" login node, by using `ssh <user>@doornode.surfsara.nl`. If that also doesn't work, and you have a static IP, we can ask the SURF team to whitelist it, but we should only resort to this as a very last option.

2. ### Modules
   Although `module load 2021` / `module load Anaconda3/2021.05` might work, it is recommended to use the 2022 modules instead as they are now fully supported. Thus, use `module load 2022` and `module load Anaconda3/2022.05` in your SLURM scripts.

3. ### SLURM GPU partition
   Snellius has a single partition with GPU access, which is "gpu". Additionally, you can only request increments of 1/4 of a node, and not just any arbitrary choice of CPU cores / RAM / GPUs. Since a full node has 72 CPU cores, 480GB RAM, and 4 NVIDIA A100 GPUs (40GB VRAM), the minimum allocation is 18 CPU cores, 120GB RAM, and 1 GPU. This should be sufficient for your projects, so avoid requesting more to keep your budget consumption low. An example job script would be:

   #!/bin/bash
   #SBATCH --job-name=ATCSJob
   #SBATCH --partition=gpu
   #SBATCH --gres=gpu:1
   #SBATCH --cpus-per-task=18
   #SBATCH --mem=120gb
   #SBATCH --time=01:00:00
   #SBATCH --output=slurm_output_%A.out

   module purge
   module load 2022
   module load Anaconda3/2022.05
   source activate <your environment name>

   cd $HOME/<your project directory>
   python -u <your python file>

4. ### No GPU login node
   As opposed to Lisa, Snellius does not have a GPU login node. Consequently, all operations that require a GPU must be done through the SLURM scheduler, either by srun or sbatch. (So the steps described at the end of the "Verifying the installation" section won't work, unless it is within a job.)

5. Tutorial on working with Lisa/Snellius
   Feel free to refer to Phillip Lippe's guide on working with the Lisa cluster from Deep Learning 1. Most of the instructions transfer to Snellius, except for the cases highlighted in points 1 - 4.

6. SURF Wiki on Snellius
   For more detailed documentation, refer to SURF's wiki entries about Snellius:
   - Hardware and file systems
   - Usage and accounting