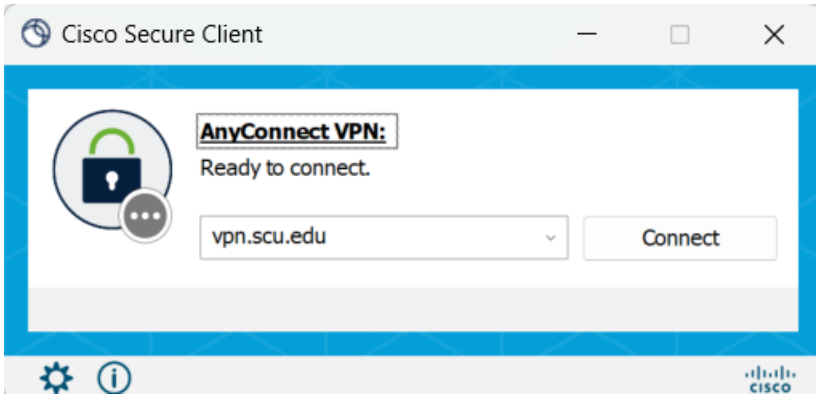
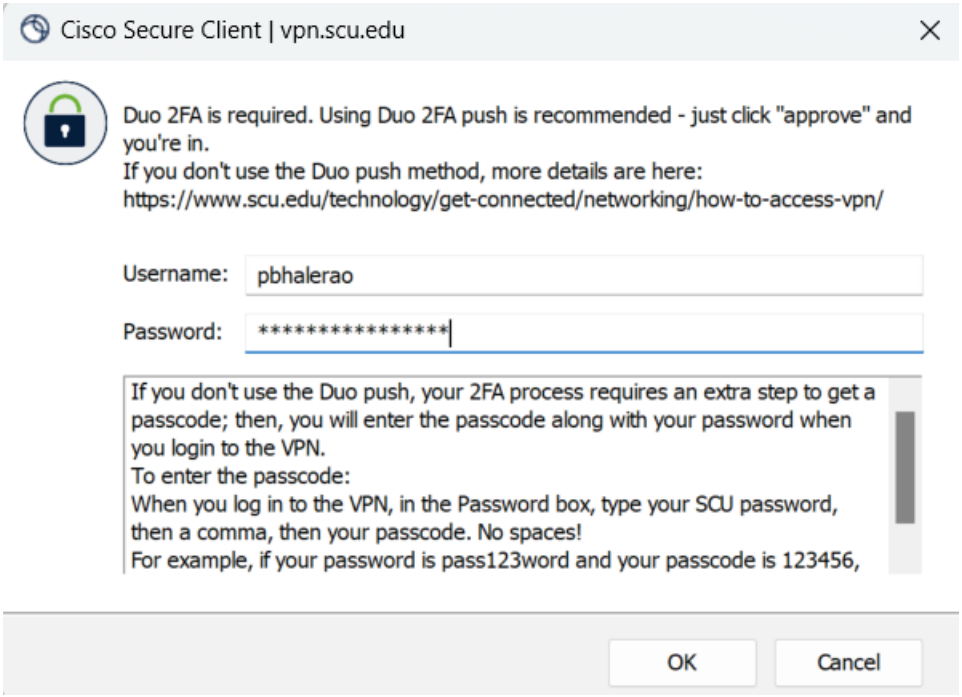
Instructions to Run the Alt-Diffusion-m18

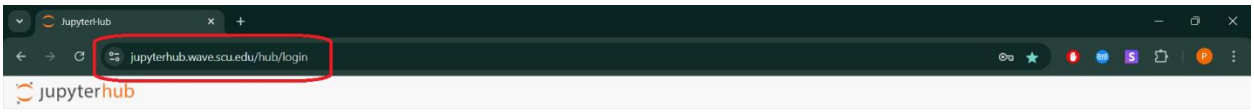
Step-1: Open Cisco Secure Client and Connect to SCU VPN



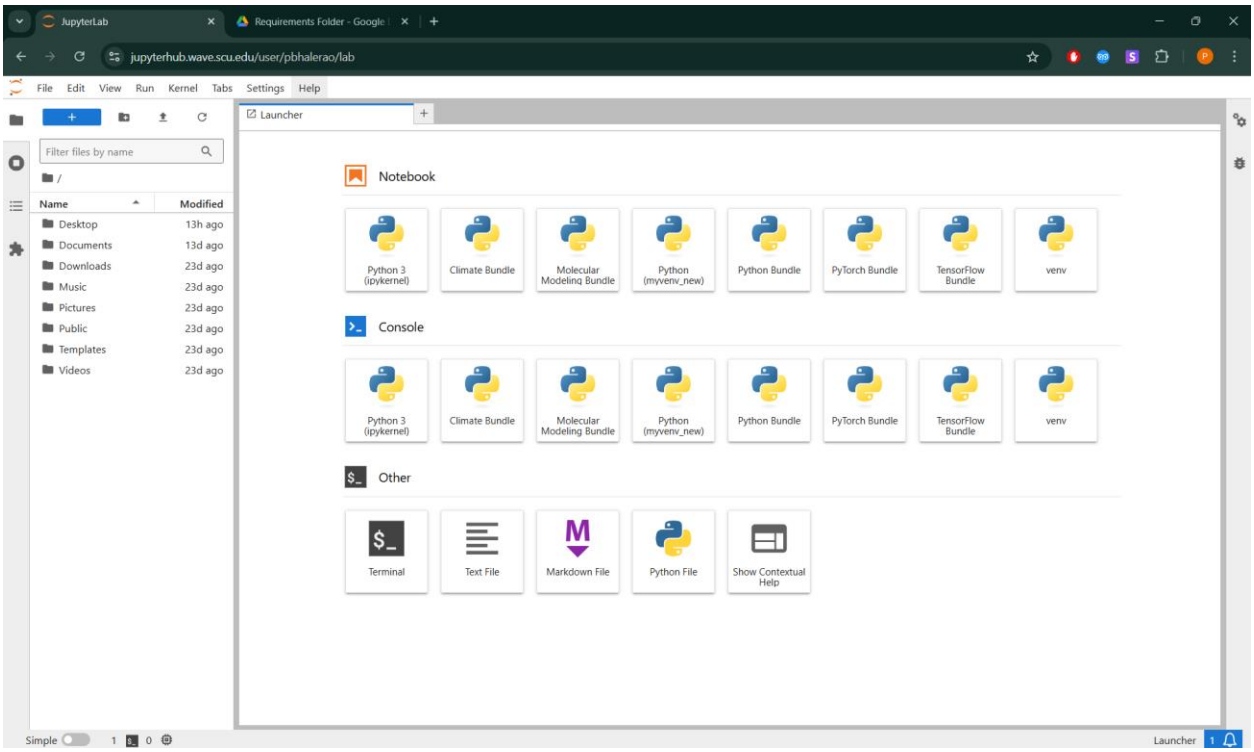


Don’t Forget to attend the DUO Push. (It is required)

Step-2: Login on the Jupyter-HUB on SCU WAVE



Choose any GPU System.

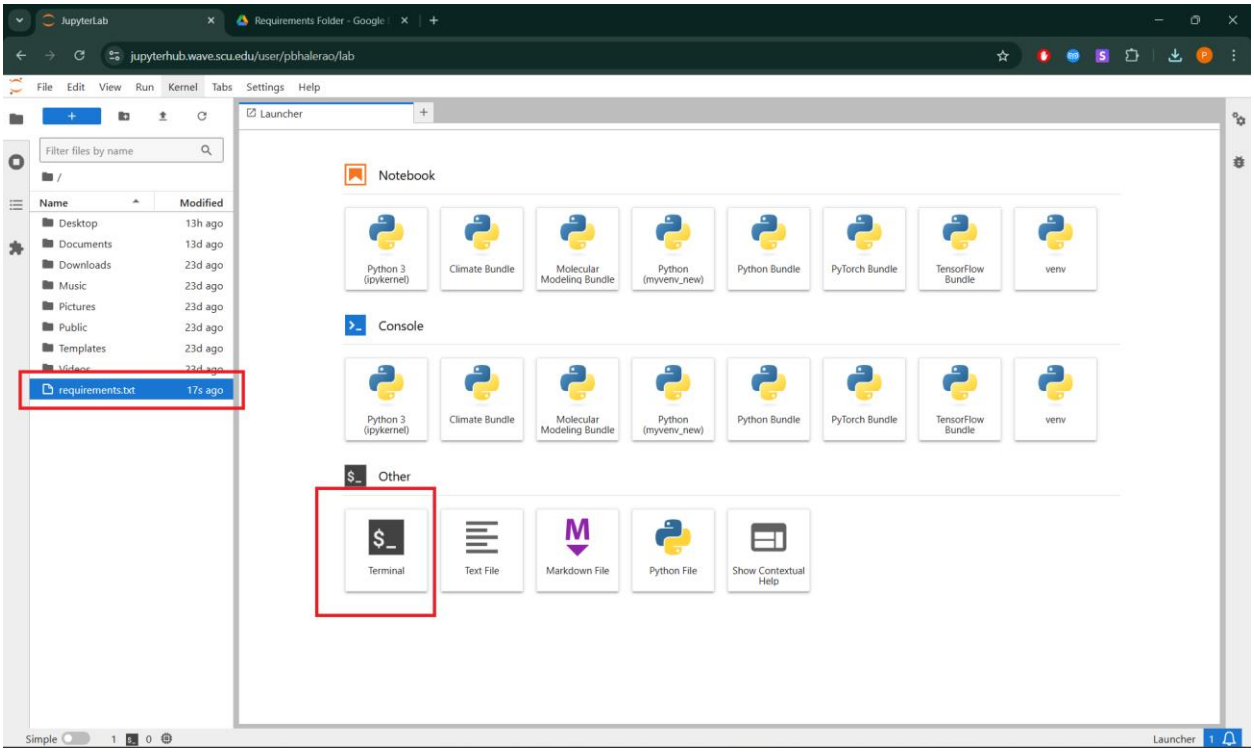


Step-3: Get Requirements.txt file and Load it to Jupyter.

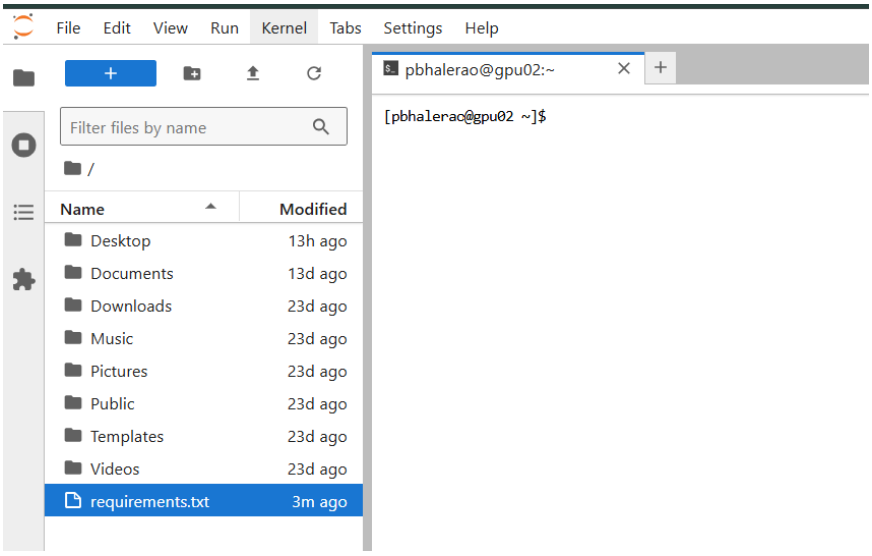
Link to Requirements file: Click Here

This has the exact required library configs required by model

Just drag and drop the requirements file into the Left Panel.

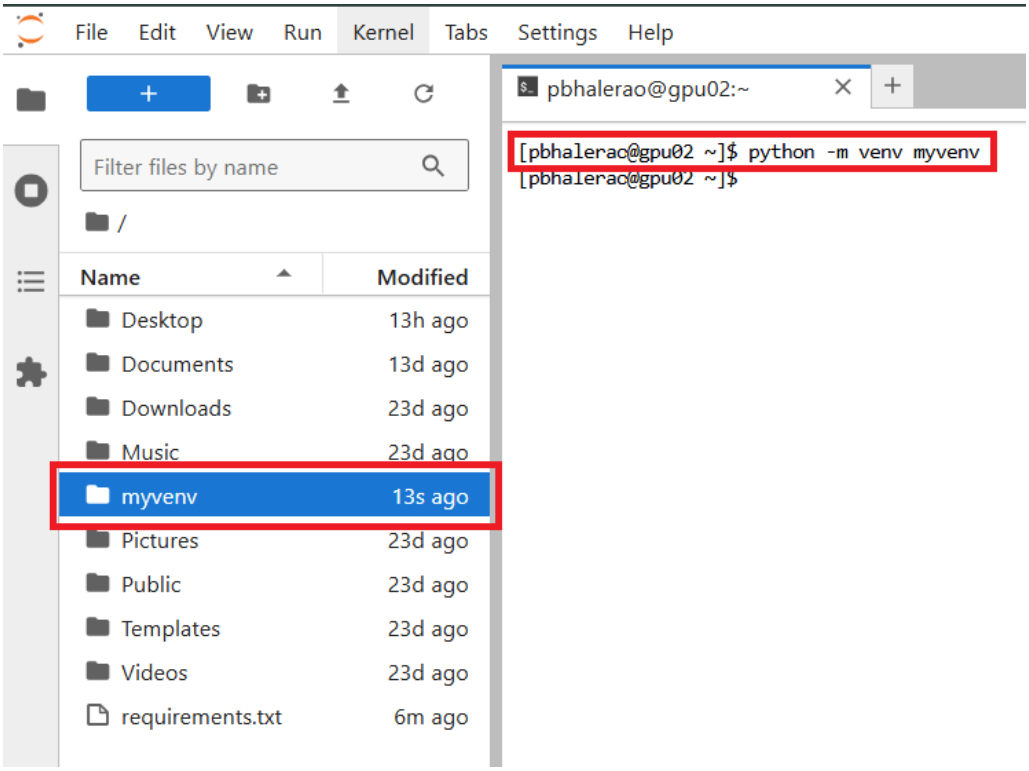


Once this is done, open the terminal.



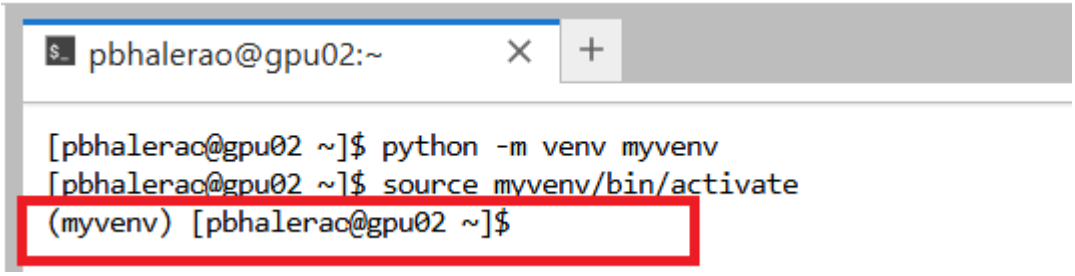
Step-4: Create a virtual Environment “myvenv”

Command: python -m venv myvenv



Activate virtual Environment.

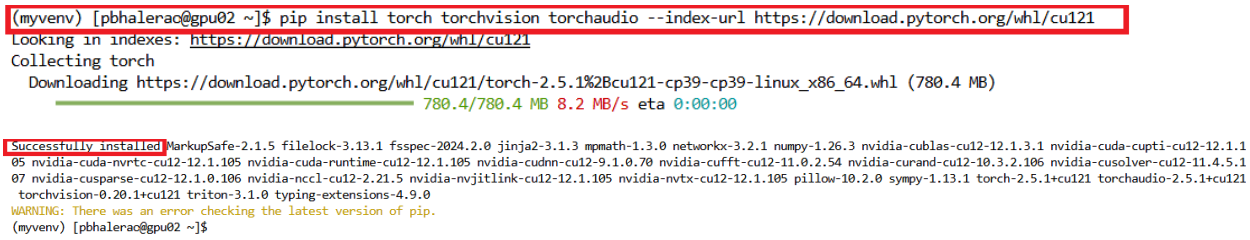
Command: source myvenv/bin/activate



Step-4: Run Command to install PyTorch but with CUDA-12.1 Specifically.

pip install torch torchvision torchaudio --index-url https://download.pytorch.org/whl/cu121

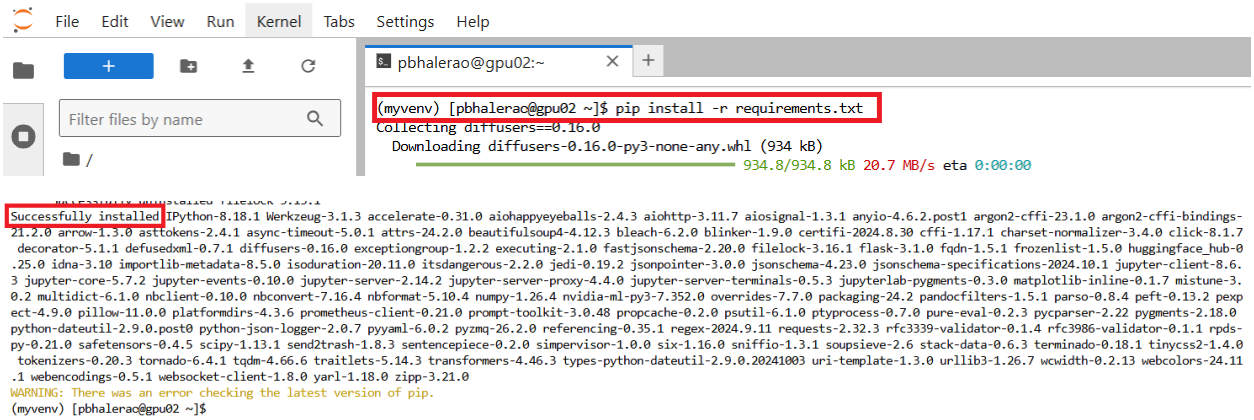
(Remember this is inside your virtual environment)



Ignore Warnings.

Step-5: Install from Requirements.txt

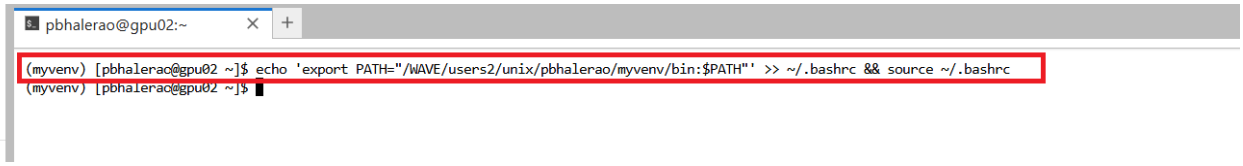
Command: pip install -r requirements.txt



Ignore Warnings.

Step-6: Set path to environment.

echo 'export PATH="/WAVE/users2/unix/pbhalerao/myvenv/bin:$PATH"' >> ~/.bashrc && source ~/.bashrc



The above export path will change as per your system.

Run the above command to set path permanently to your virtual environment. This is necessary, to solve the conflict of similar libraries from the parent environment.

Once, Done, please verify the version of urllib3 and it should say 1.26.7 specifically.

Command: pip show urllib3

```
(myvenv) [pbhalerao@gpu02 ~]$ pip show urllib3
Name: urllib3
Version: 1.26.7
Summary: HTTP library with thread-safe connection pooling, file post, and more.
Home-page: https://urllib3.readthedocs.io/
Author: Andrey Petrov
Author-email: andrey.petrov@shazow.net
License: MIT
Location: /WAVE/users2/unix/pbhalerao/myvenv/lib/python3.9/site-packages
Requires:
Required-by: requests
(myvenv) [pbhalerao@gpu02 ~]$
```

The setup is complete and this is just one time process. From Next time onwards, just activate your myvenv and run the code. So, from next time, we can jump directly to Step-7.

Reminder to activate myvenv: source myvenv/bin/activate

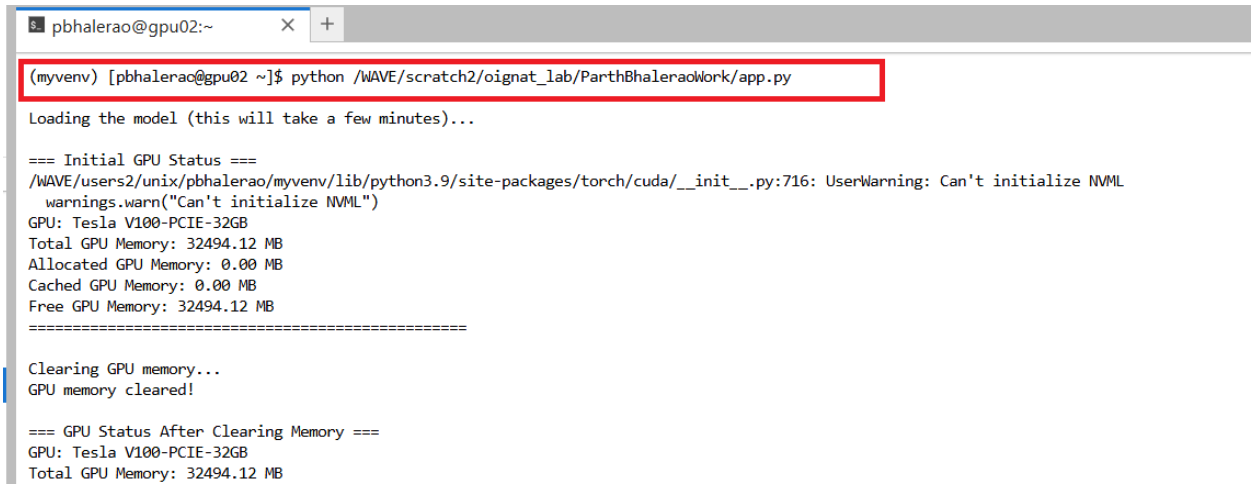
To come out of virtual environment: deactivate

Step-7: Run the Code Directly.

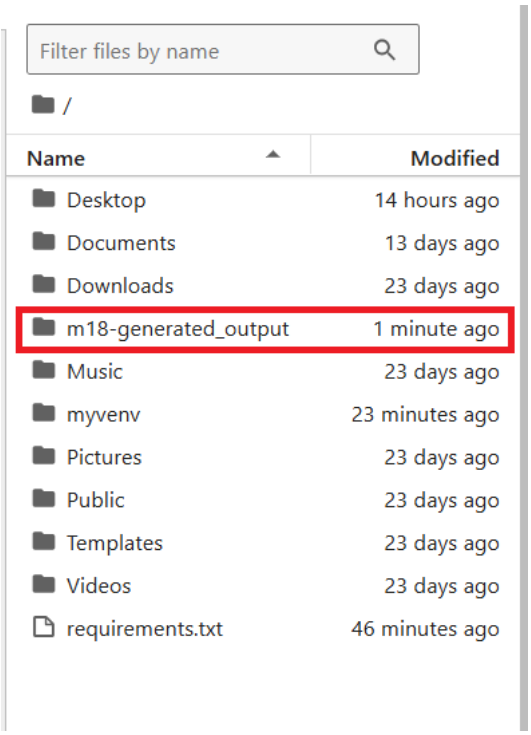
The model has been setup already and we just need to run the following python command.

Command: python /WAVE/scratch2/oignat_lab/ParthBhaleraoWork/app.py

The above command remains same for all users.



The code will start running perfectly and images will be stored in the following output directory.



How to Generate Images ? and what are the next steps ?

The next important task, which we all need to figure out collectively as a team is, we need to find out best parameter settings which will generate a good quality image.

Following are the parameters for now:

- **Width:** I kept it to 768 (but we can vary from 512 to 1024)
- **Height:** I kept it to 768 (but we can vary from 512 to 1024)

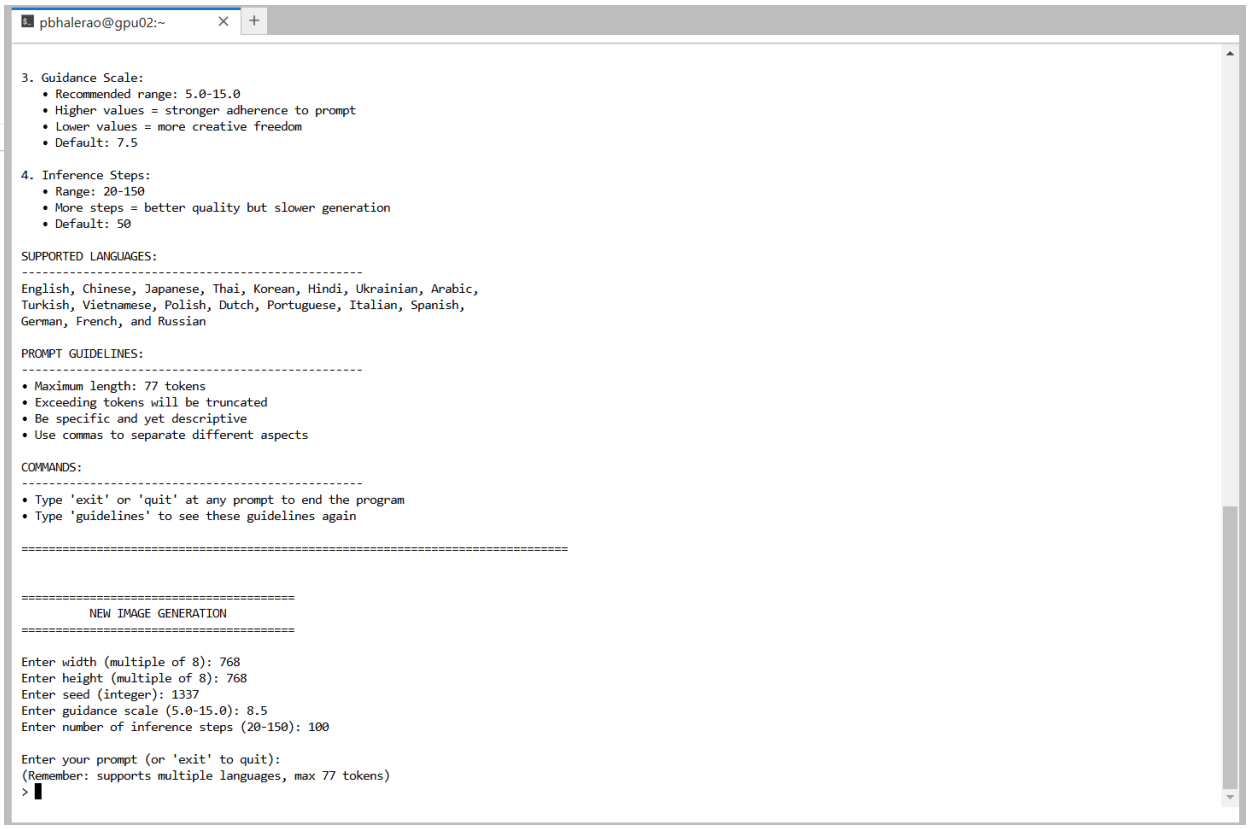
- **Seed:** any value between 0 to 2^{32}-1 (Right now 1337 is giving somewhat good results, but please try other values, we need to figure out best settings.)

- **Guidance Scale:** Any value between 5.0 to 15.0 (Read instructions printed on terminal for more information)

- **Inference Steps:** Any value between 20 to 150. (Higher value leads to better quality of images, and do not worry about the speed, we have the best hardware with us, so you can try maxxing out the settings, if required to test)

- **Prompt:** 18 Languages Supported. (Read more info on terminal, about the supported languages)

- Generated images can be downloaded from the output folder.



We need to figure out which setting of parameters gives the best quality of image. It can be the same or different for different languages as well, so happy to receive output from everyone.

Please convey your best results, so that we can integrate those model settings in the further Multi-AI part on the backend side.

Please let me know if anyone is stuck, and happy playing around with model settings !!

THANK YOU !!