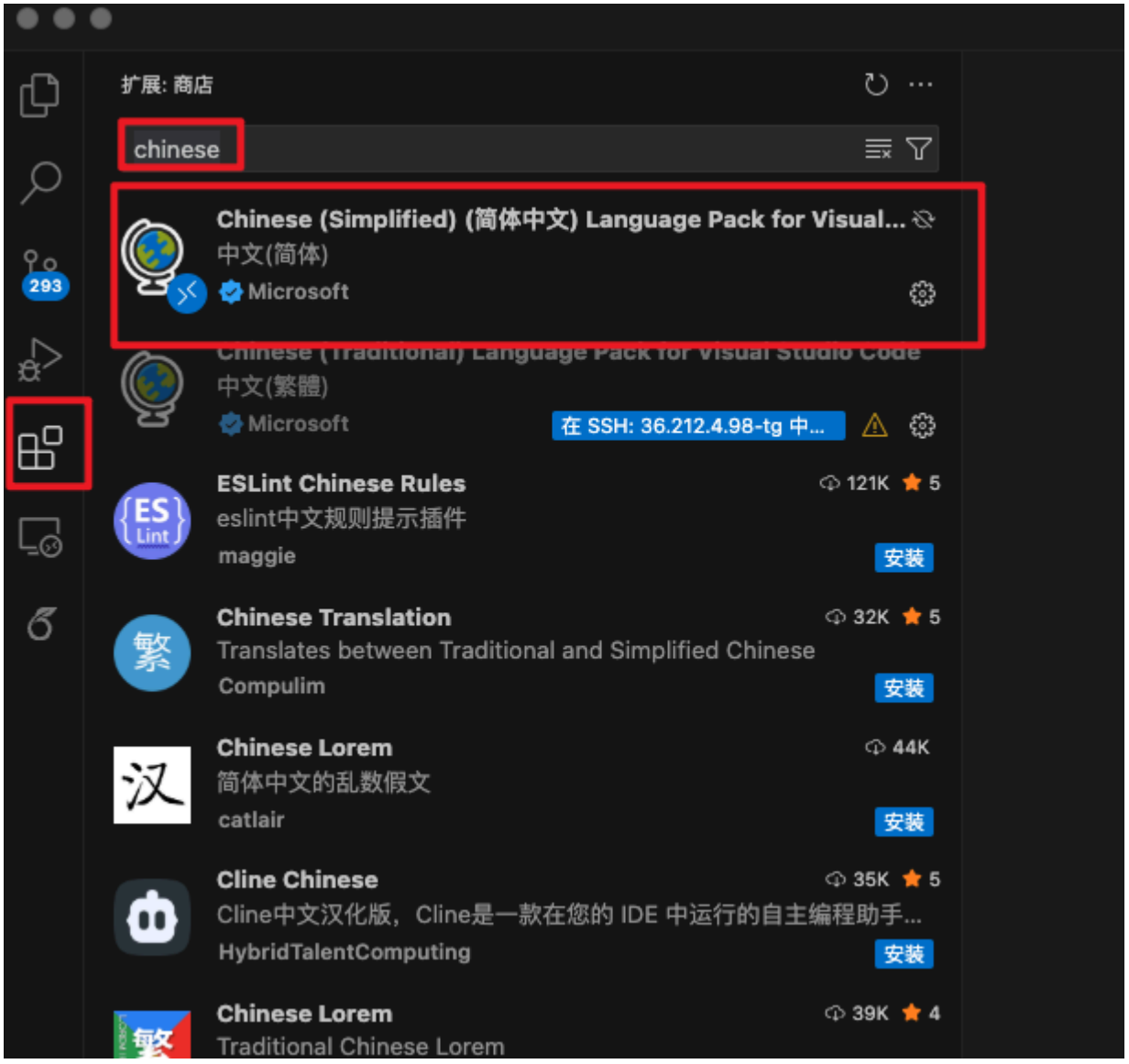
- 教程详细版
  - 服务器连接
  - 微调预备
  - 微调，这里用llamafactory提供的数据
  - 额外

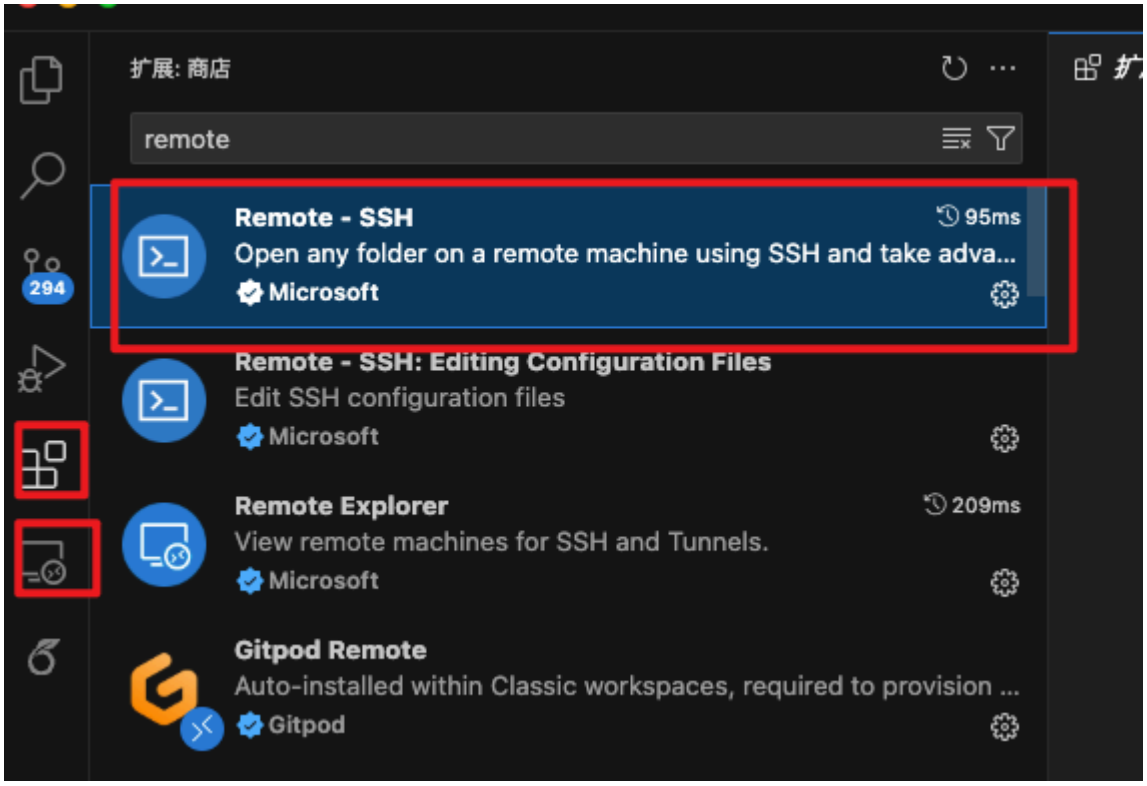
教程详细版

视频版地址： 链接: https://pan.baidu.com/s/1GTNBCrZ5hBw4w2CYj2jMeA?pwd=73c8 提取码: 73c8

vscode

vscode插件安装：chinese、remote、python、pylance、python debugger、Python Environment Manager

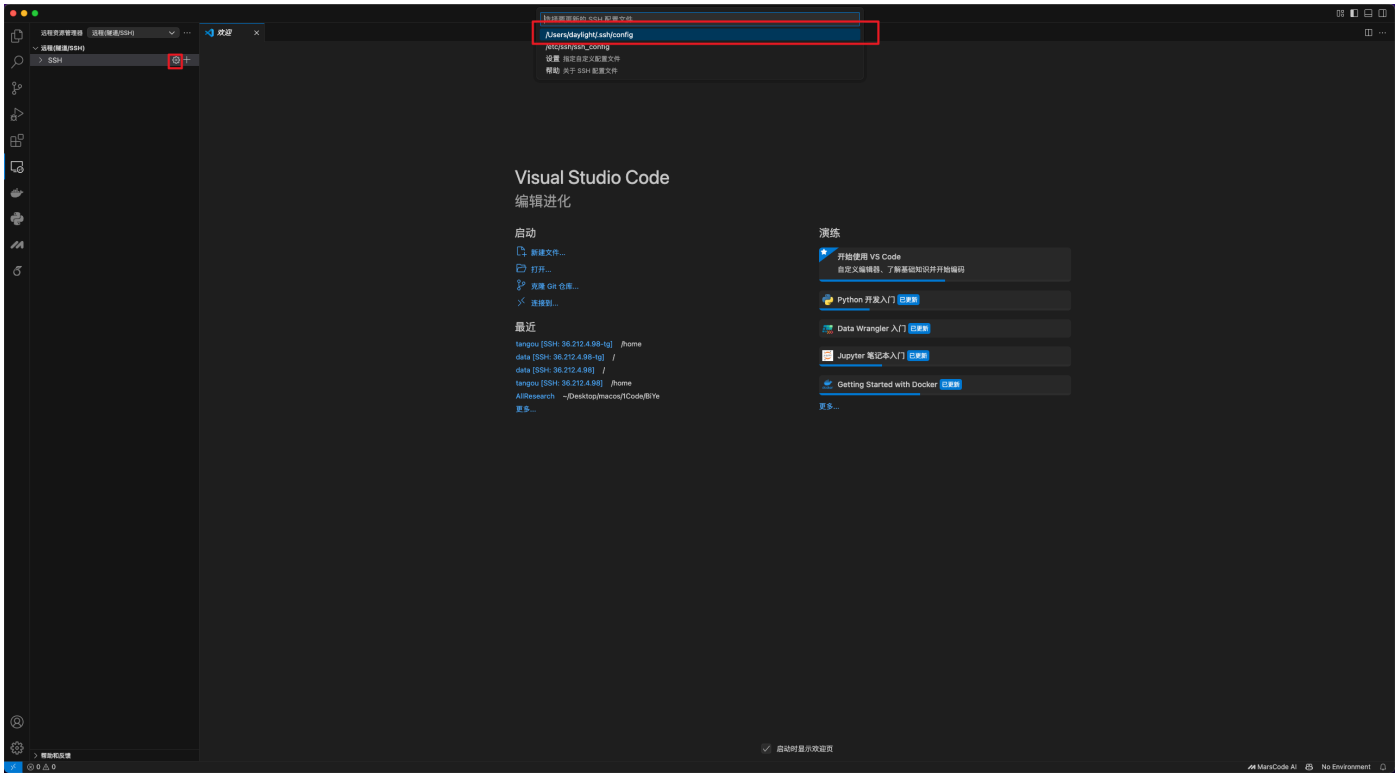




服务器连接

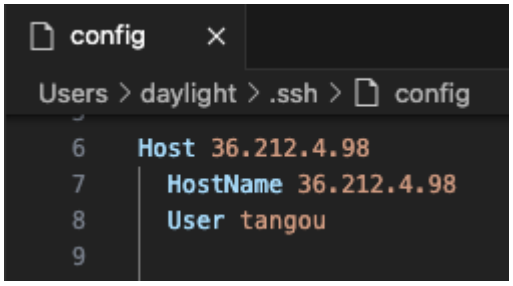
大家查看群文件自己的user和密码

vscode连接:

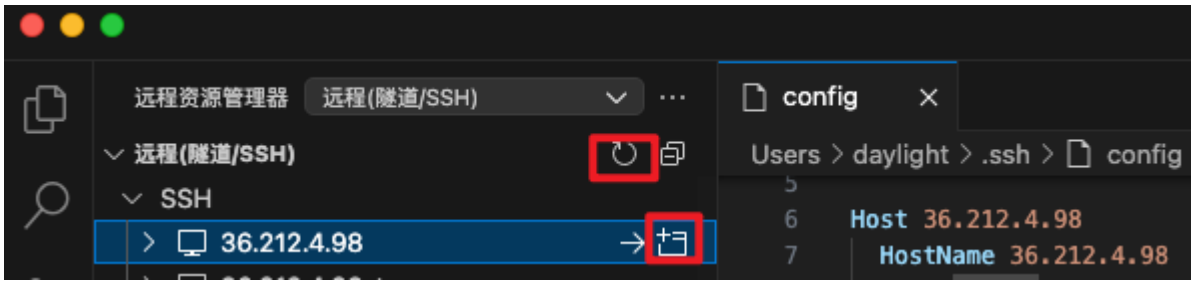


1. 复制到文件里面去

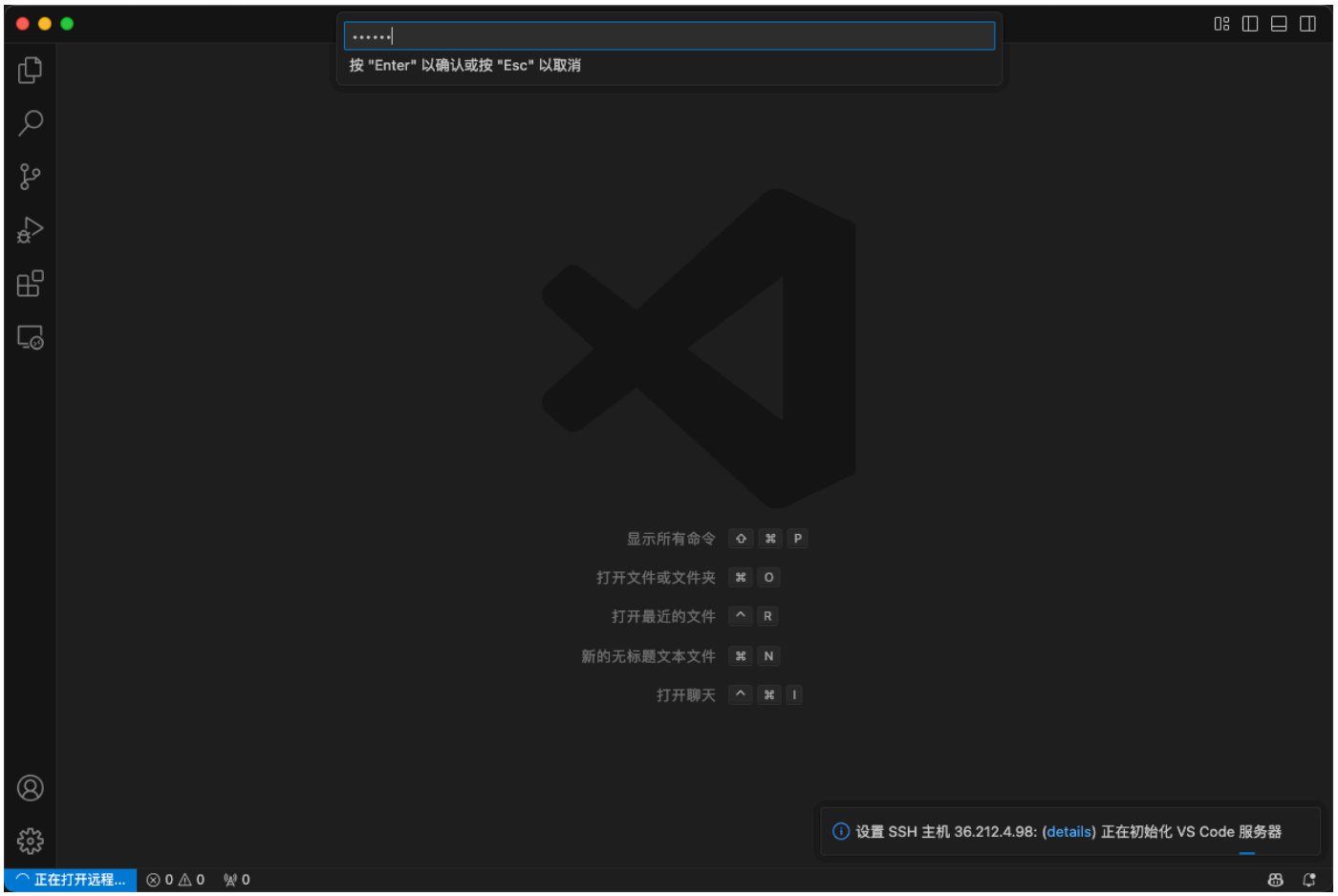
```
Host 36.212.4.98
  HostName 36.212.4.98
  User tangou
```



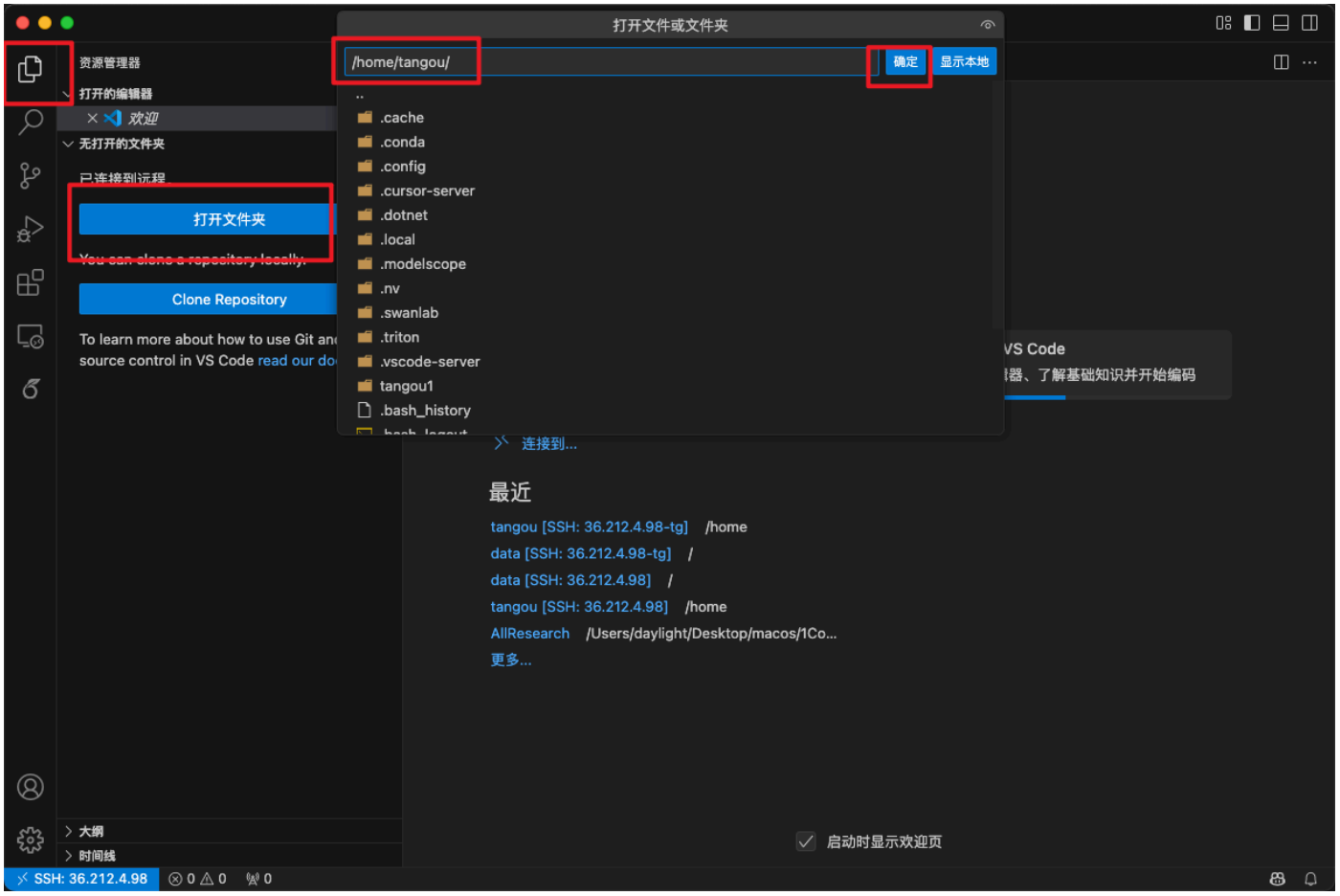
2. 点刷新，再打开文件



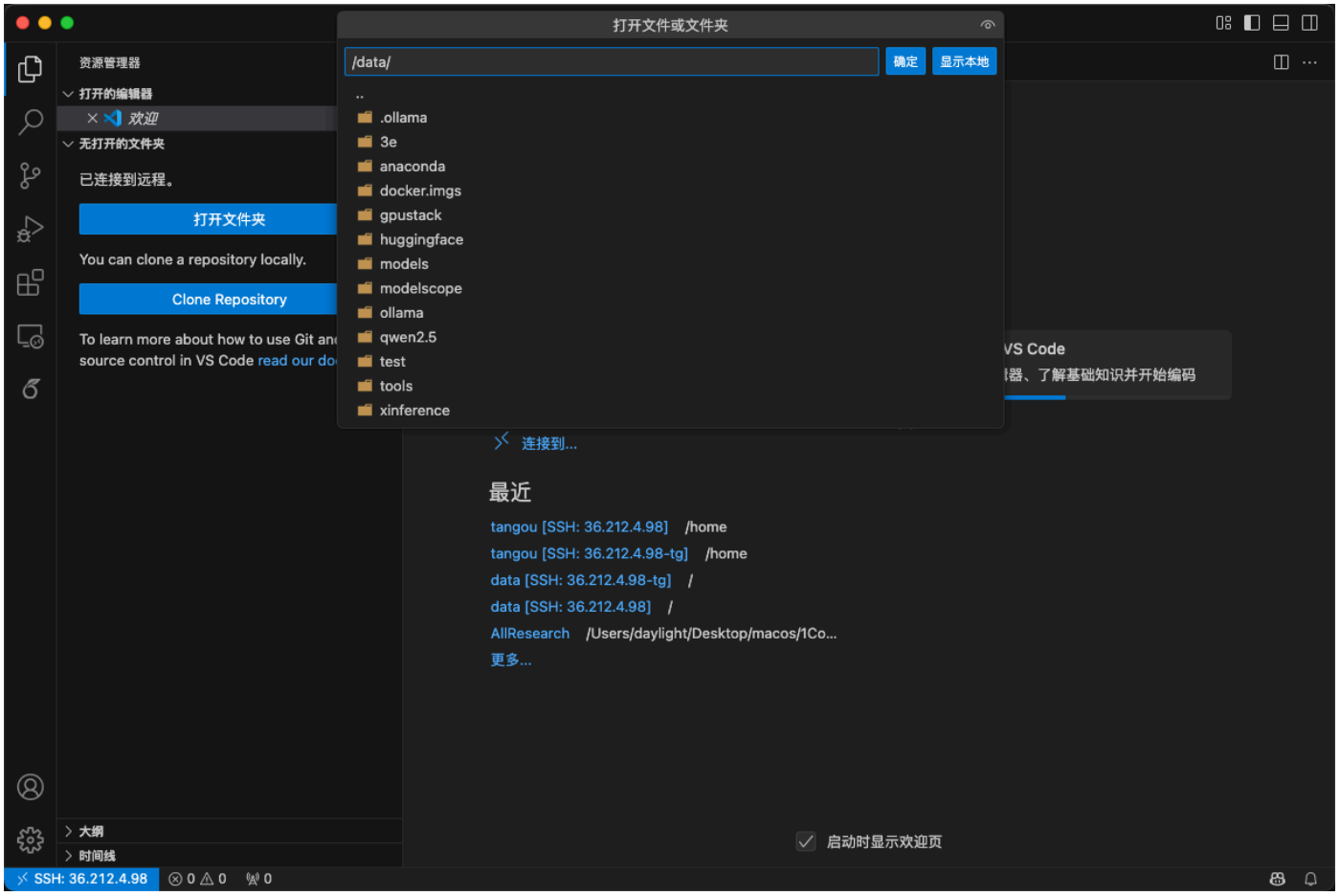
3. 输入密码123456，回车

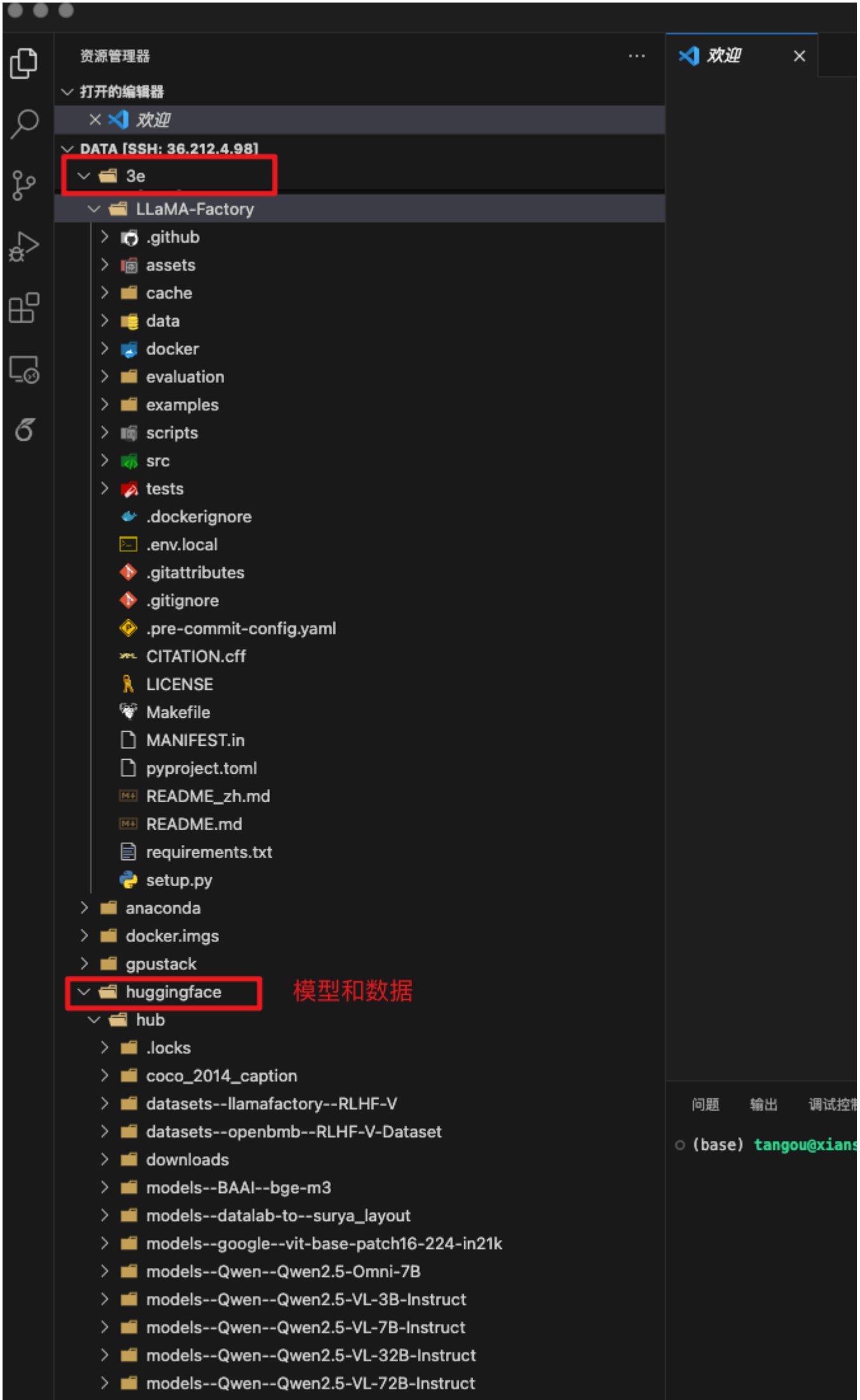


4. 进入



5. 回到第2步，再去开一个目录。这是共享模型数据的目录

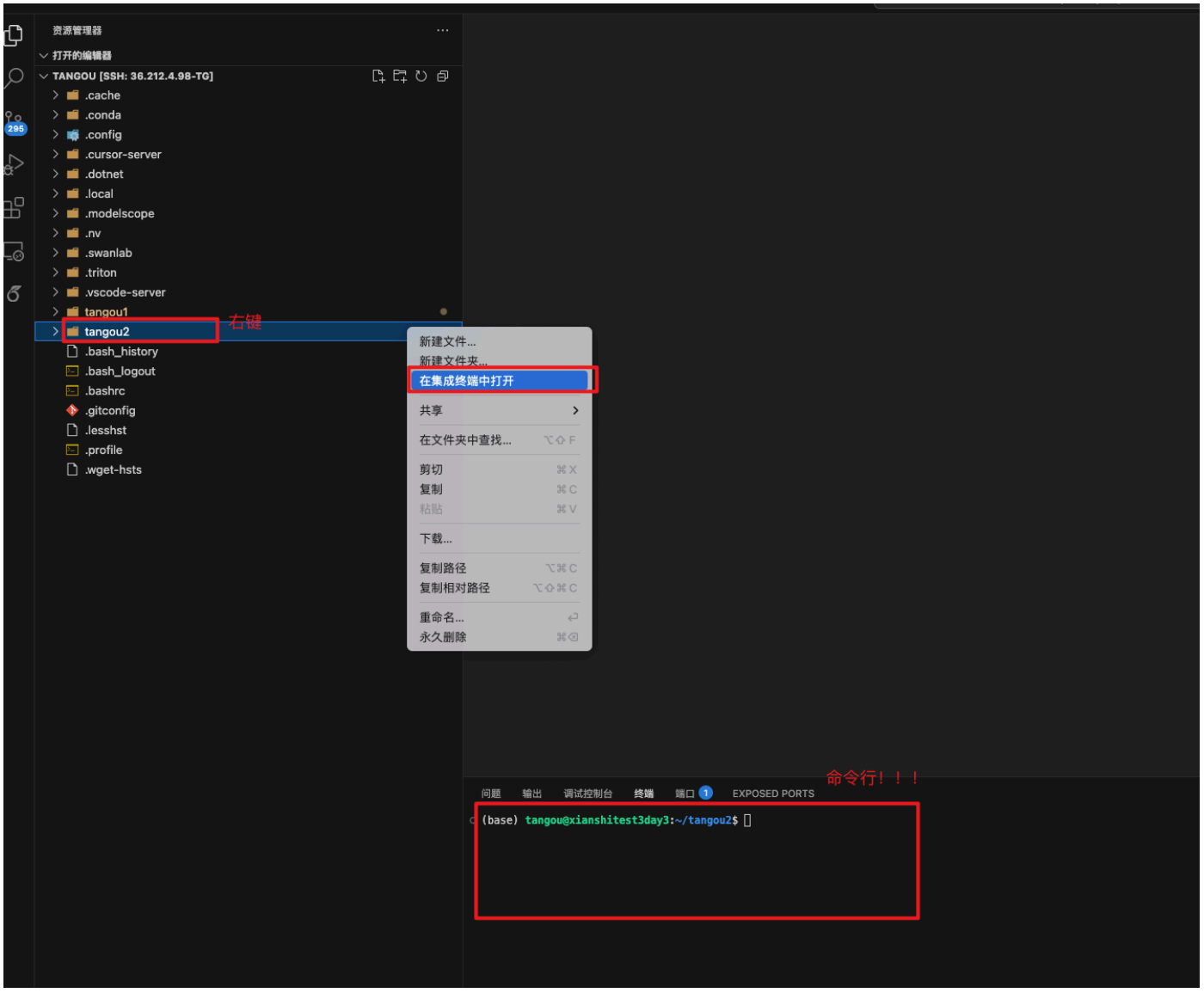

打开文件或文件夹
/data/
确定
显示本地
..
.ollama
3e
anaconda
docker.imgs
gpustack
huggingface
models
modelscope
ollama
qwen2.5
test
tools
xinference
资源管理器
打开的编辑器
欢迎
无打开的文件夹
已连接到远程。
打开文件夹
You can clone a repository locally.
Clone Repository
To learn more about how to use Git an
source control in VS Code read our do
VS Code
器、了解基础知识并开始编码
连接到...
最近
tangou [SSH: 36.212.4.98] /home
tangou [SSH: 36.212.4.98-tg] /home
data [SSH: 36.212.4.98-tg] /
data [SSH: 36.212.4.98] /
AllResearch /Users/daylight/Desktop/macos/1Co...
更多...
启动时显示欢迎页
大纲
时间线
SSH: 36.212.4.98
0 0
0


资源管理器
打开的编辑器
欢迎
DATA [SSH: 36.212.4.98]
3e
LLaMA-Factory
.github
assets
cache
data
docker
evaluation
examples
scripts
src
tests
.dockerignore
.env.local
.gitattributes
.gitignore
.pre-commit-config.yaml
CITATION.cff
LICENSE
Makefile
MANIFEST.in
pyproject.toml
README_zh.md
README.md
requirements.txt
setup.py
anaconda
docker.imgs
gpustack
huggingface
模型和数据
hub
.locks
coco_2014_caption
datasets--llamafactory--RLHF-V
datasets--openbmb--RLHF-V-Dataset
downloads
models--BAAI--bge-m3
models--datalab-to--surya_layout
models--google--vit-base-patch16-224-in21k
models--Qwen--Qwen2.5-Omni-7B
models--Qwen--Qwen2.5-VL-3B-Instruct
models--Qwen--Qwen2.5-VL-7B-Instruct
models--Qwen--Qwen2.5-VL-32B-Instruct
models--Qwen--Qwen2.5-VL-72B-Instruct
欢迎
问题
输出
(base) tangou@xian

微调预备

- 环境变量：conda、ollama

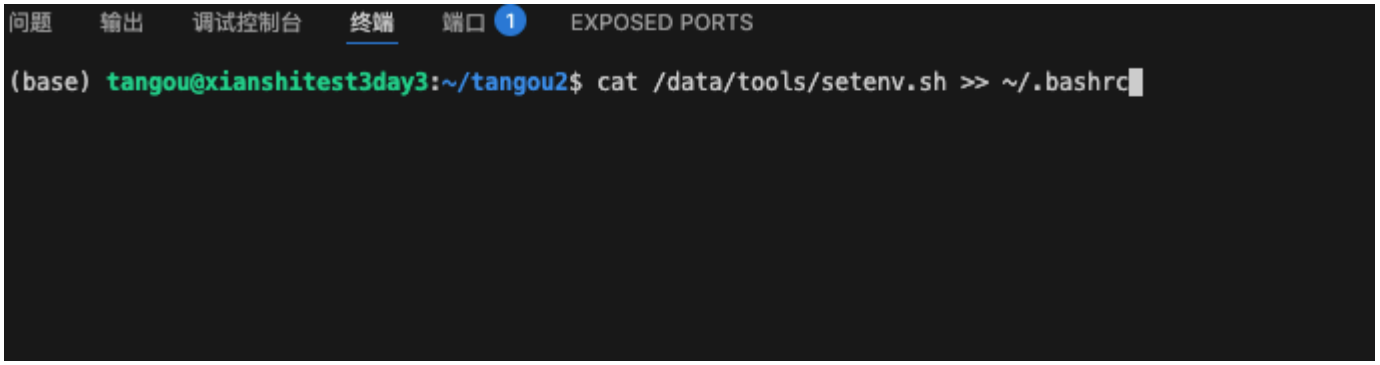
1. 打开终端

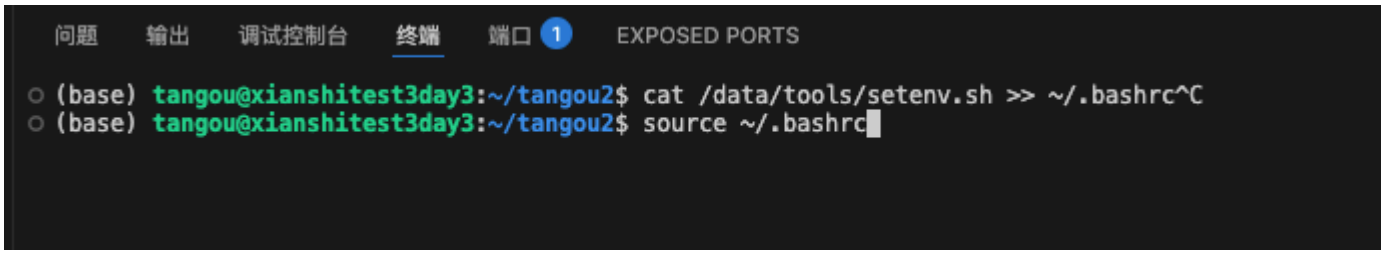


2. 命令行运行，复制命令过去回车，运行。下面截图我之前运行过了，没运行。

```
cat /data/tools/setenv.sh >> ~/.bashrc
```

```
source ~/.bashrc
```





检查是否运行成功

```
conda info --envs #查看conda环境
ollama list # 查看ollama有哪些模型
ollama run bsahane/Qwen2.5-VL-7B-Instruct:Q4_K_M_benxh # 运行ollama交互式，ctrl d 取消
```

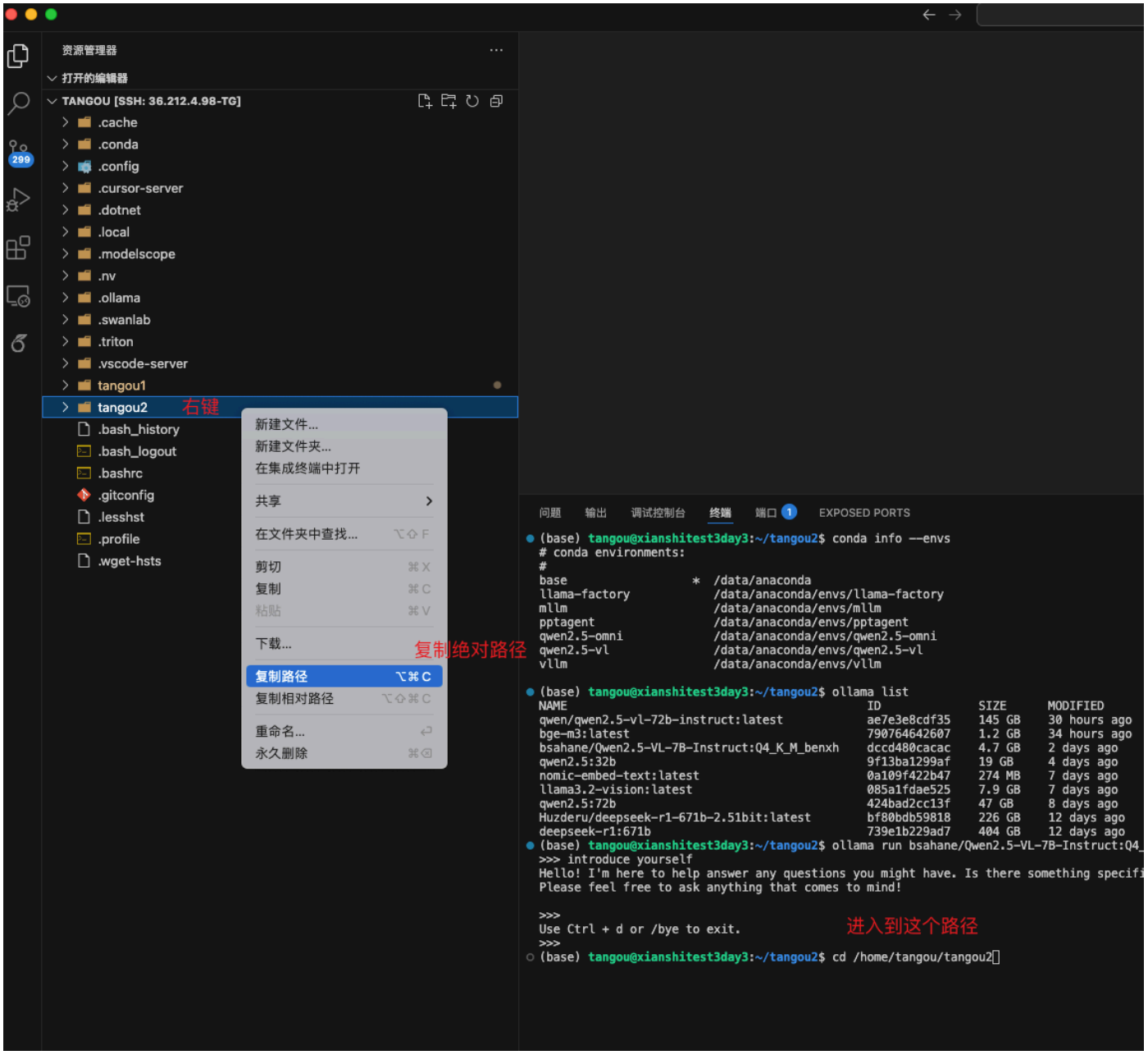
- vpn：先不用管，知道这个就行

```
# http://127.0.0.1:18099
source /data/tools/setproxy.sh  #启动vpn
source /data/tools/unsetproxy.sh  #关闭vpn
```

- python环境

1. 打开终端，进入文件夹

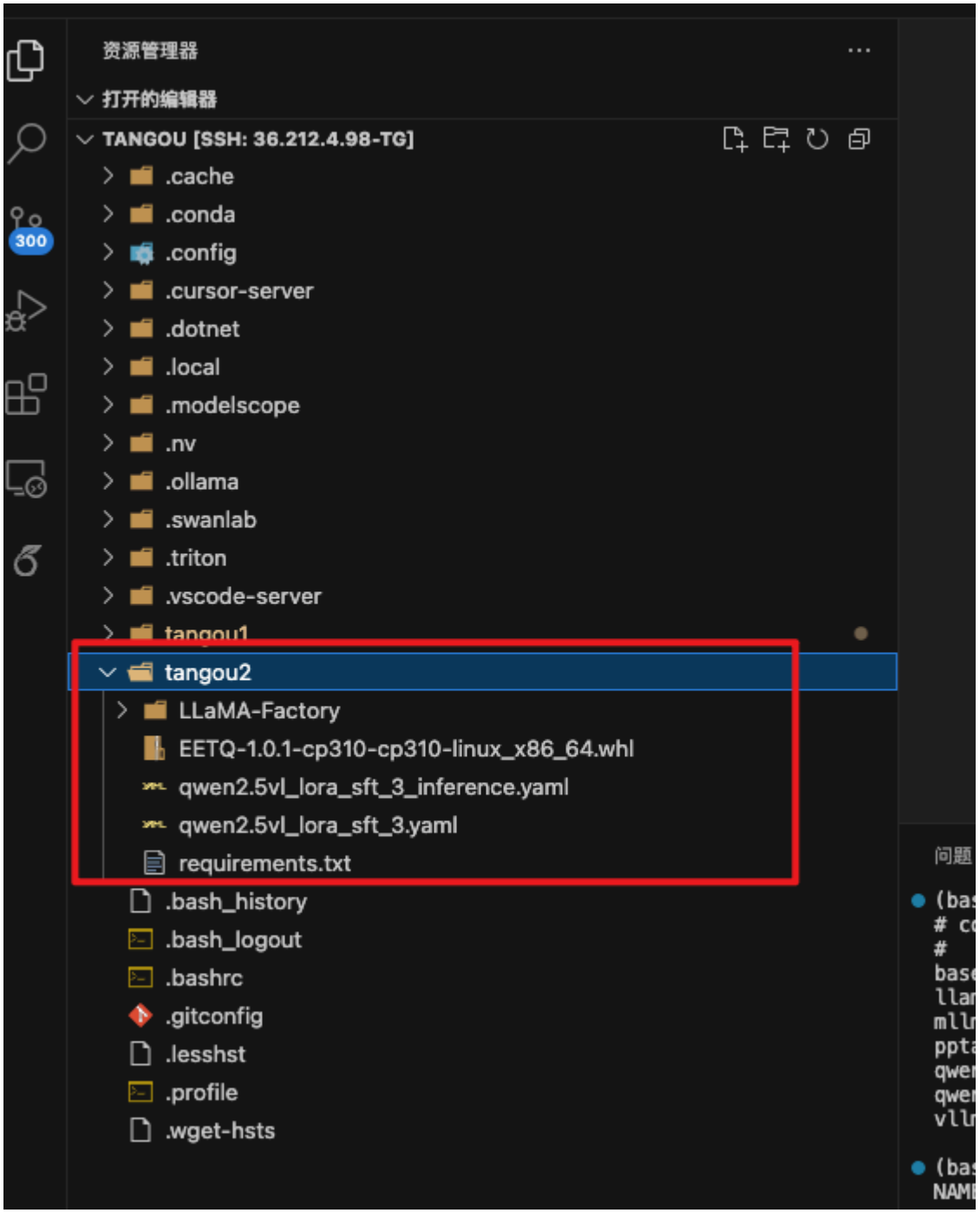
```
cd /home/tangou/tangou2 #你自己的路径
```



2. copy文件到目录

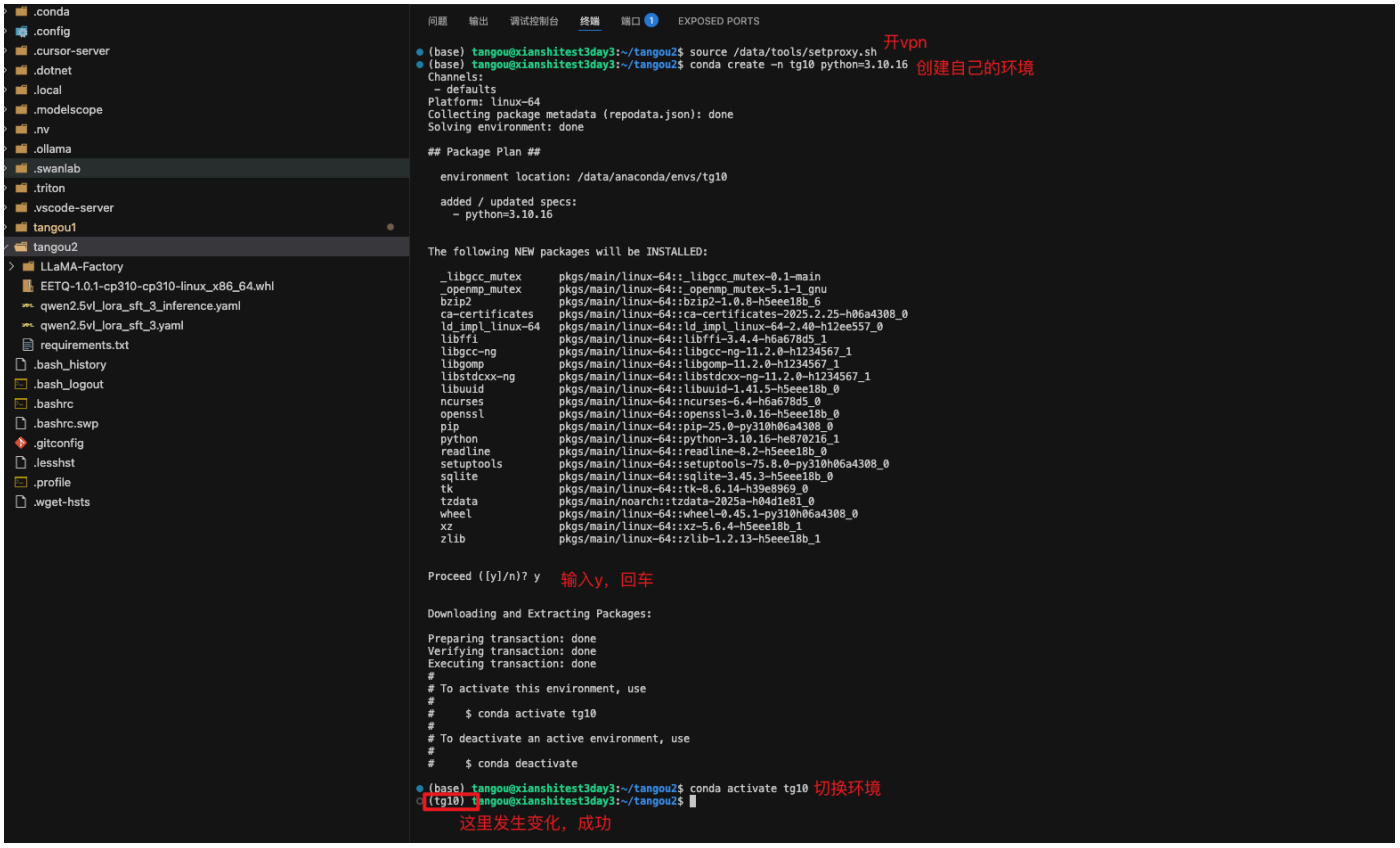
```
cp -r /data/3e/share/* /home/tangou/tangou2/
```

copy之后



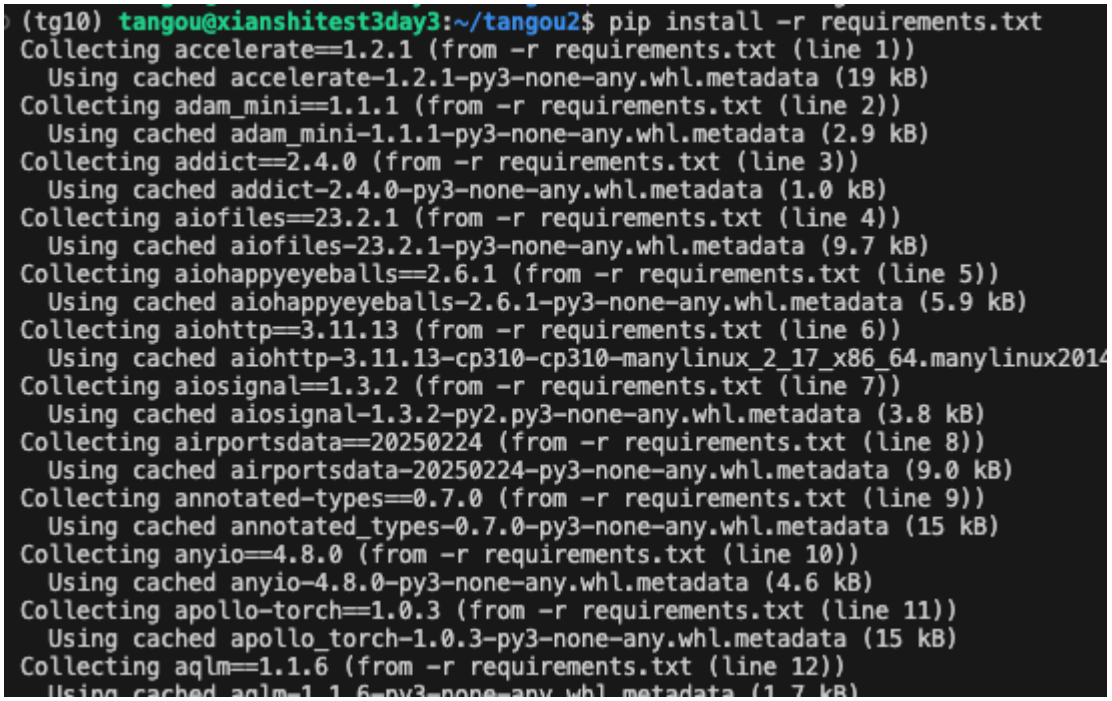
3. 创建环境并安装包

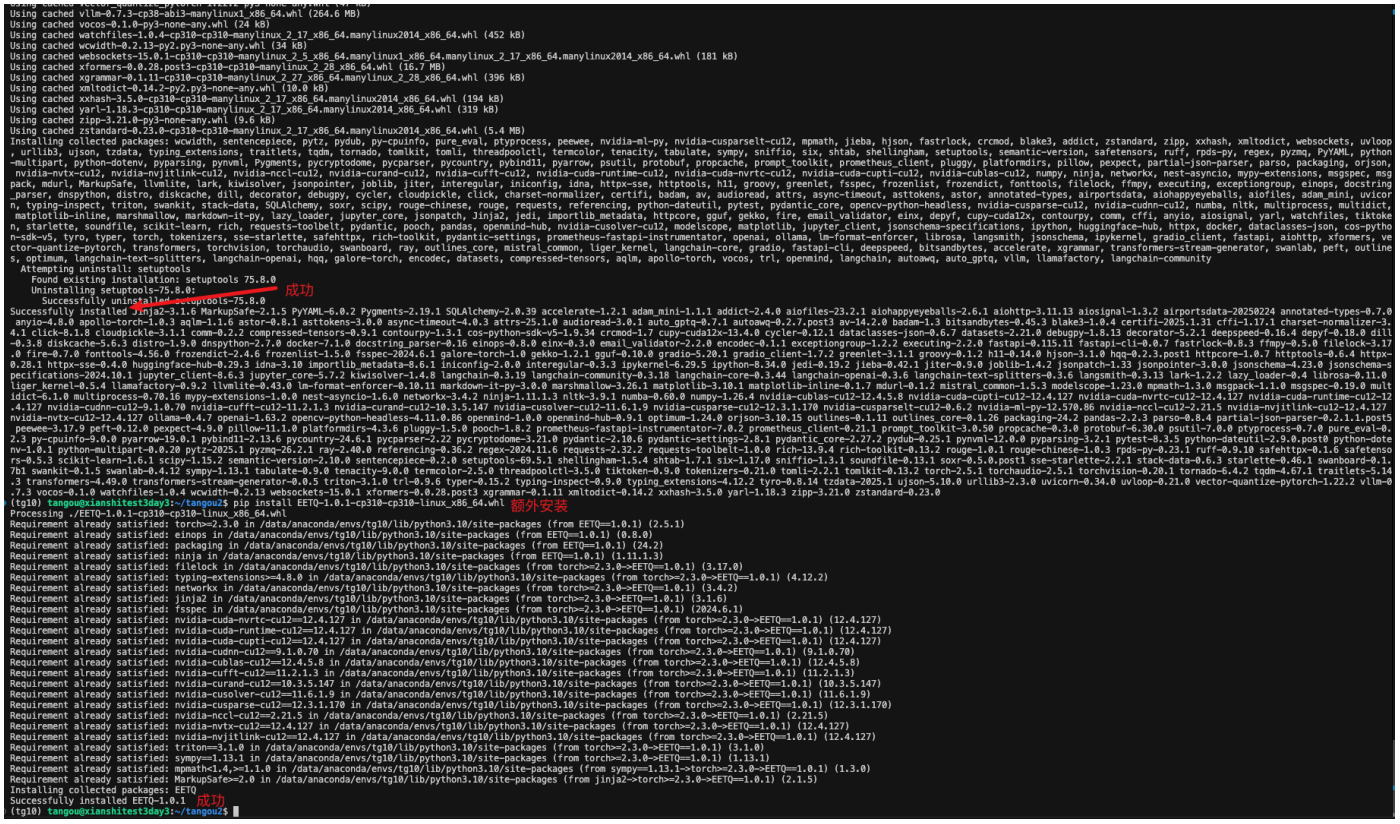
```
# 开vpn
source /data/tools/setproxy.sh
# tg10 换成自己的名字
conda create -n tg10 python=3.10.16
# 切换环境
conda activate tg10
```



4. pip安装包

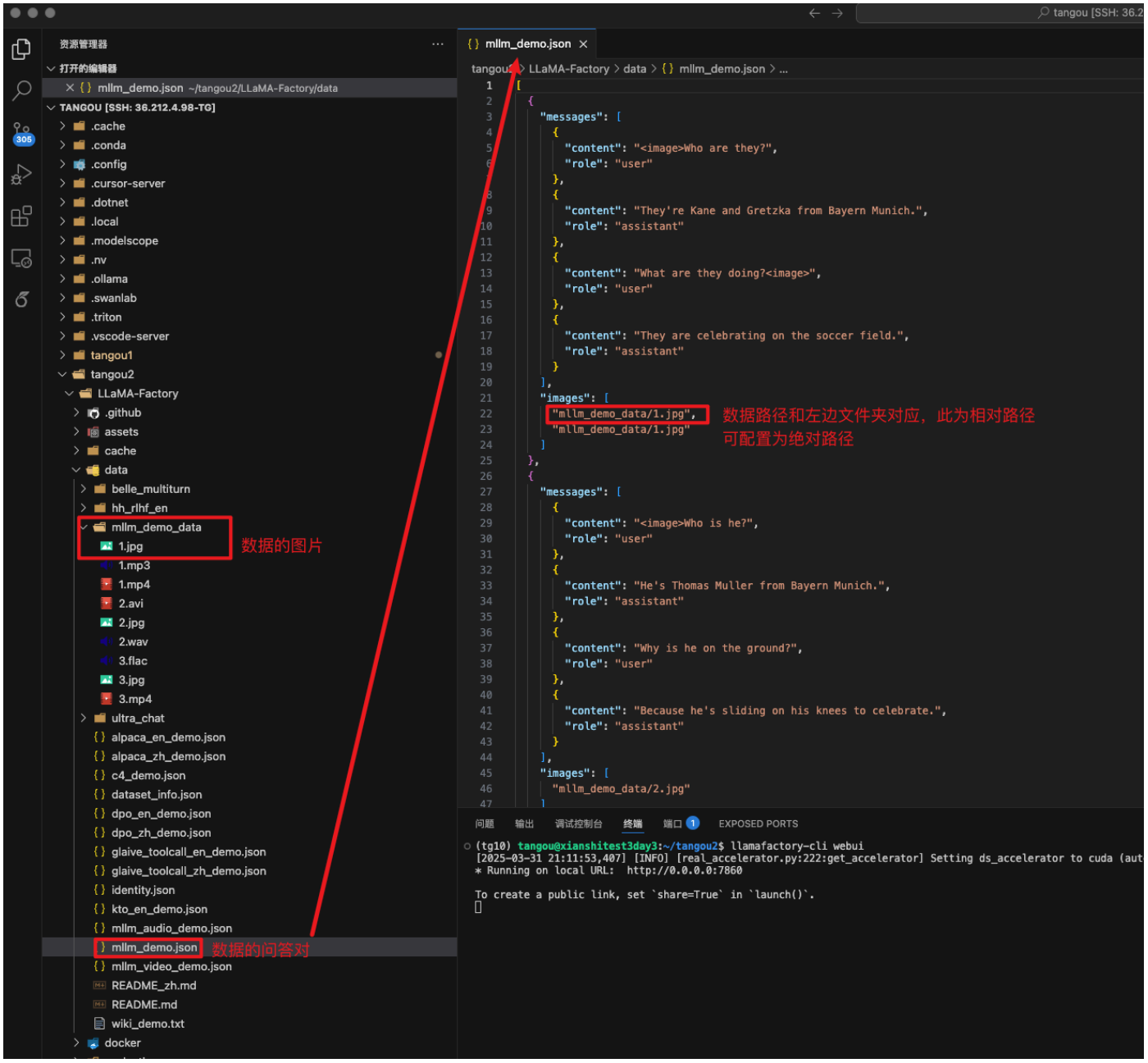
```
# 如果重新打开终端，没启动。请启动下，开vpn。
source /data/tools/setproxy.sh
# 安装包，第一次跑没缓存，运行时间会很久，在下数据包
pip install -r requirements.txt
# 额外安装这个包，pip源没有
pip install EETQ-1.0.1-cp310-cp310-linux_x86_64.whl
```



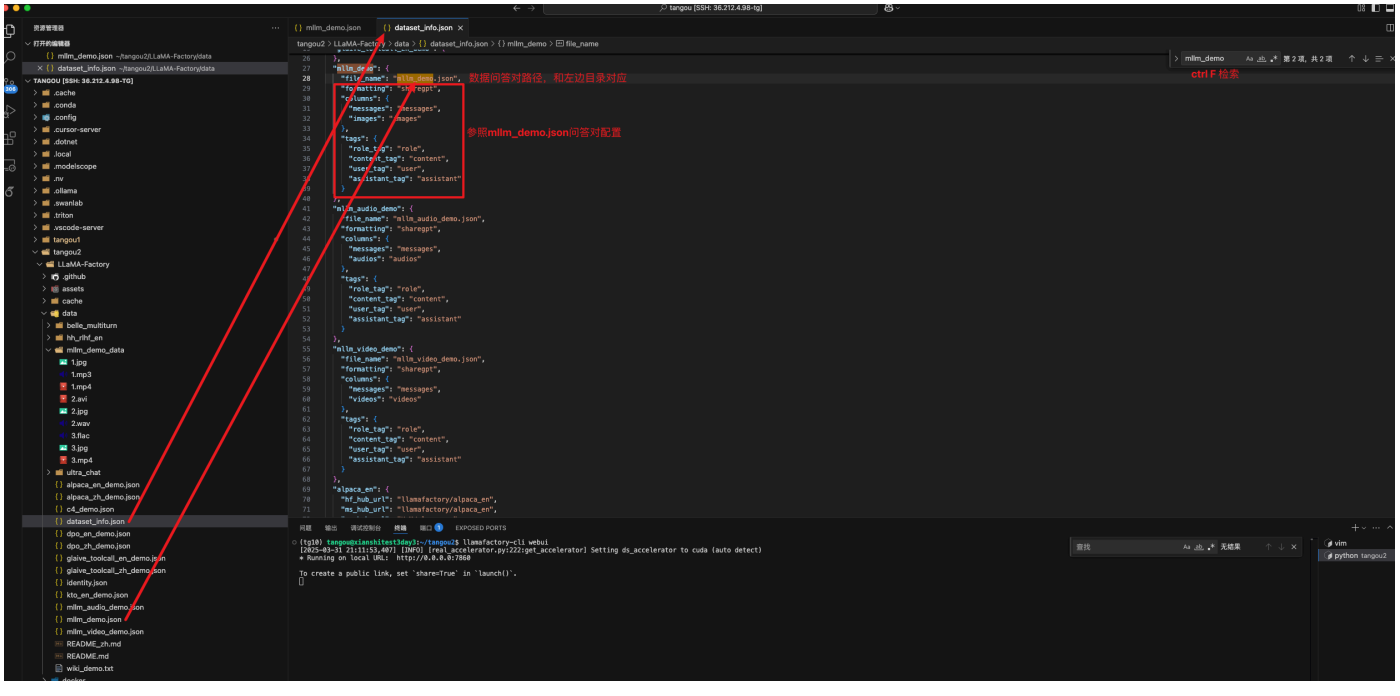


微调，这里用llamafactory提供的数据

1. 数据解读

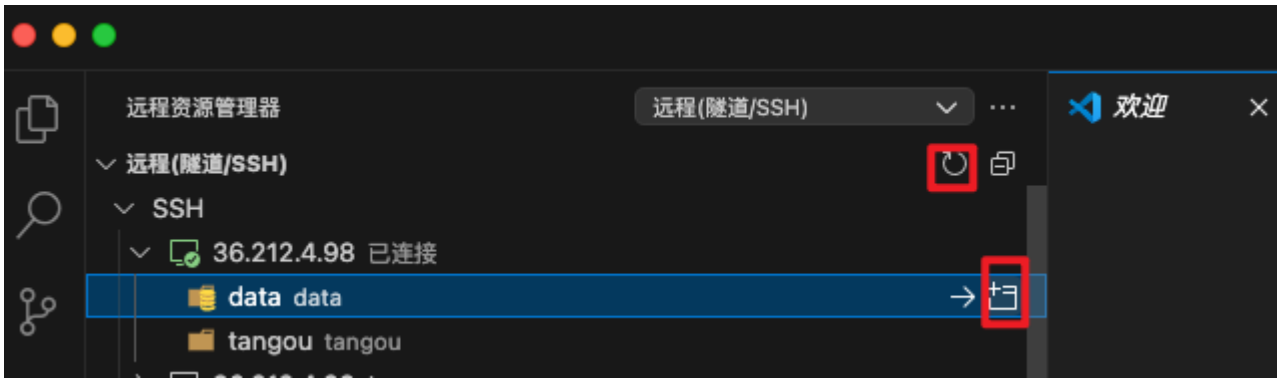


2. 微调加载数据，首先将自定义数据配置到dataset_info.json

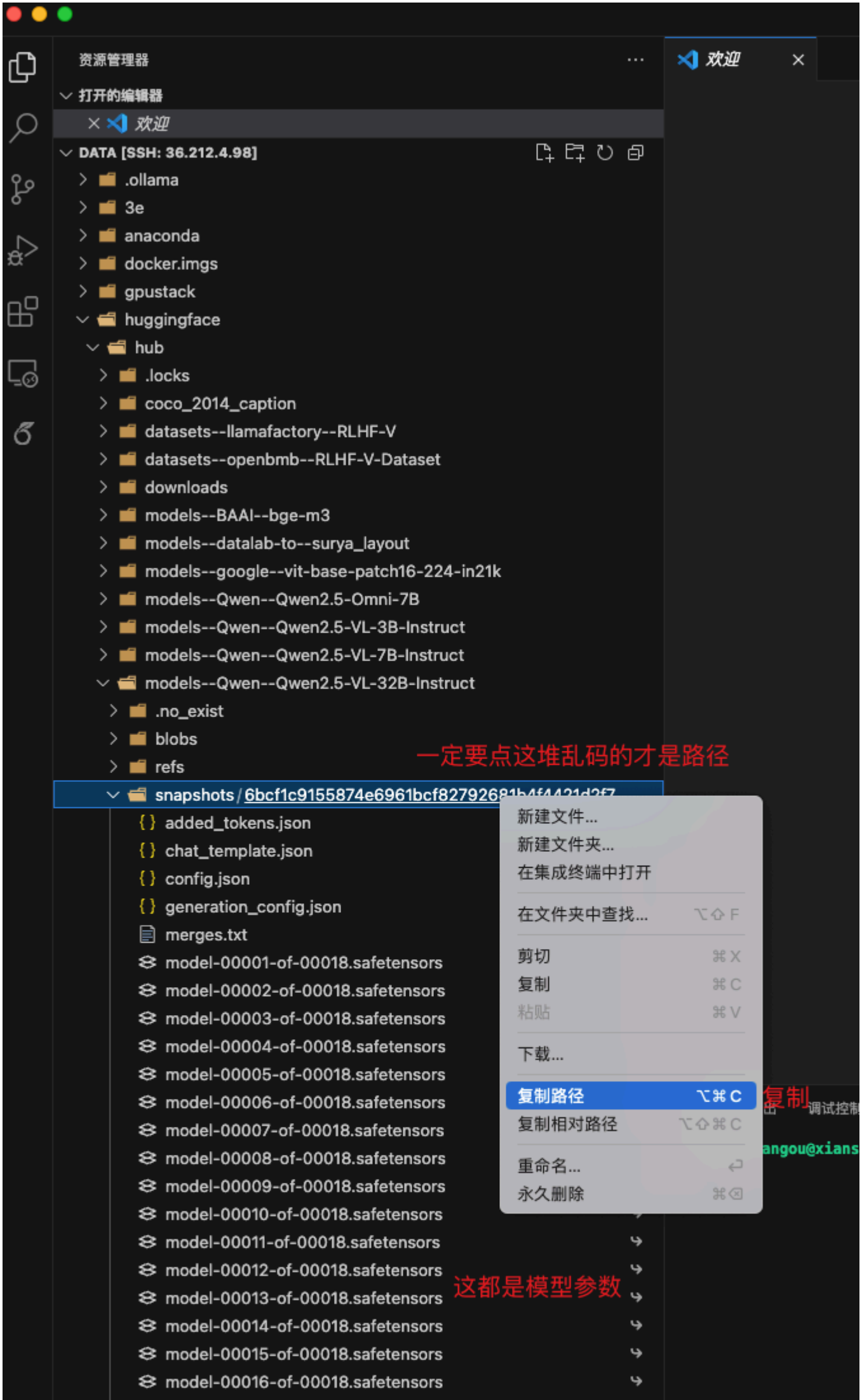


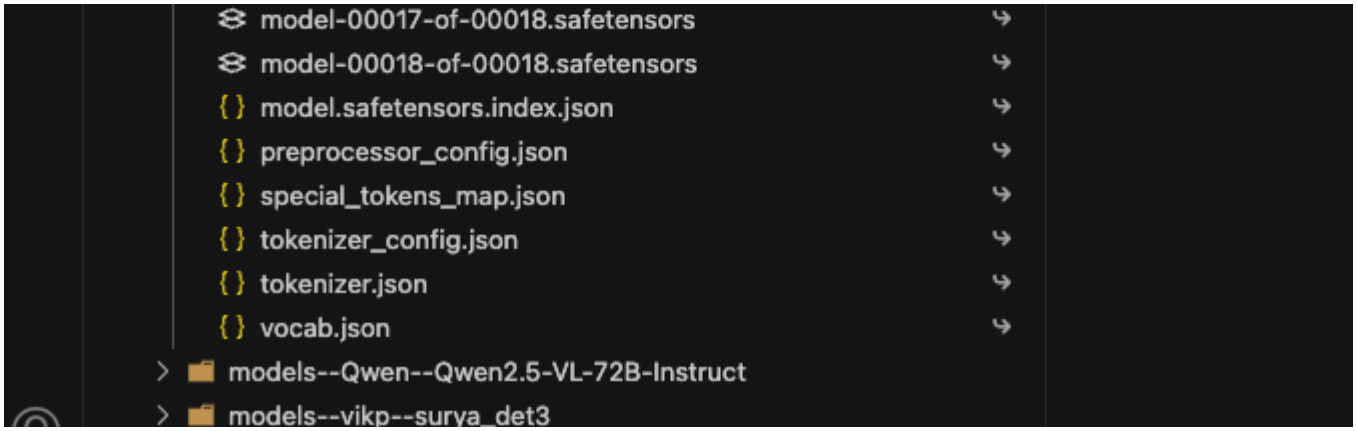
3. 配置模型路径

首先回到连接data共享目录，连vscode



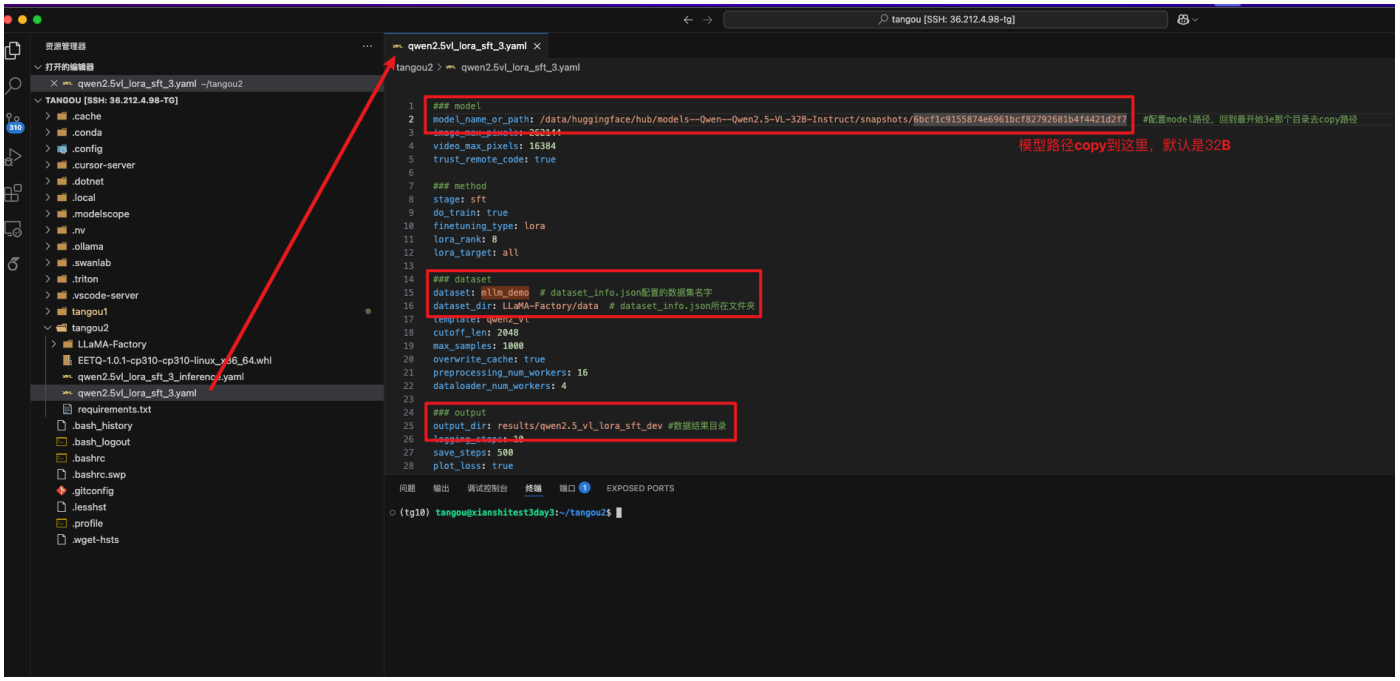
复制路径，我们这里微调32B


资源管理器
打开的编辑器
欢迎
DATA [SSH: 36.212.4.98]
.ollama
3e
anaconda
docker.imgs
gpustack
huggingface
hub
.locks
coco_2014_caption
datasets--llamafactory--RLHF-V
datasets--openbmb--RLHF-V-Dataset
downloads
models--BAAI--bge-m3
models--datalab-to--surya_layout
models--google--vit-base-patch16-224-in21k
models--Qwen--Qwen2.5-Omni-7B
models--Qwen--Qwen2.5-VL-3B-Instruct
models--Qwen--Qwen2.5-VL-7B-Instruct
models--Qwen--Qwen2.5-VL-32B-Instruct
.no_exist
blobs
refs
一定要点这堆乱码的才是路径
snapshots / 6bcf1c9155874e6961bcf8279268
added_tokens.json
chat_template.json
config.json
generation_config.json
merges.txt
model-00001-of-00018.safetensors
model-00002-of-00018.safetensors
model-00003-of-00018.safetensors
model-00004-of-00018.safetensors
model-00005-of-00018.safetensors
model-00006-of-00018.safetensors
model-00007-of-00018.safetensors
model-00008-of-00018.safetensors
model-00009-of-00018.safetensors
model-00010-of-00018.safetensors
model-00011-of-00018.safetensors
model-00012-of-00018.safetensors
model-00013-of-00018.safetensors
model-00014-of-00018.safetensors
model-00015-of-00018.safetensors
model-00016-of-00018.safetensors
这都是模型参数
新建文件...
新建文件夹...
在集成终端中打开
在文件夹中查找... ⌥⇧F
剪切 ⌘X
复制 ⌘C
粘贴 ⌘V
下载...
复制路径 ⌥⌘C
复制相对路径 ⌥⇧⌘C
重命名...
永久删除 ⌘⌫
复制
调试控制
angou@xians



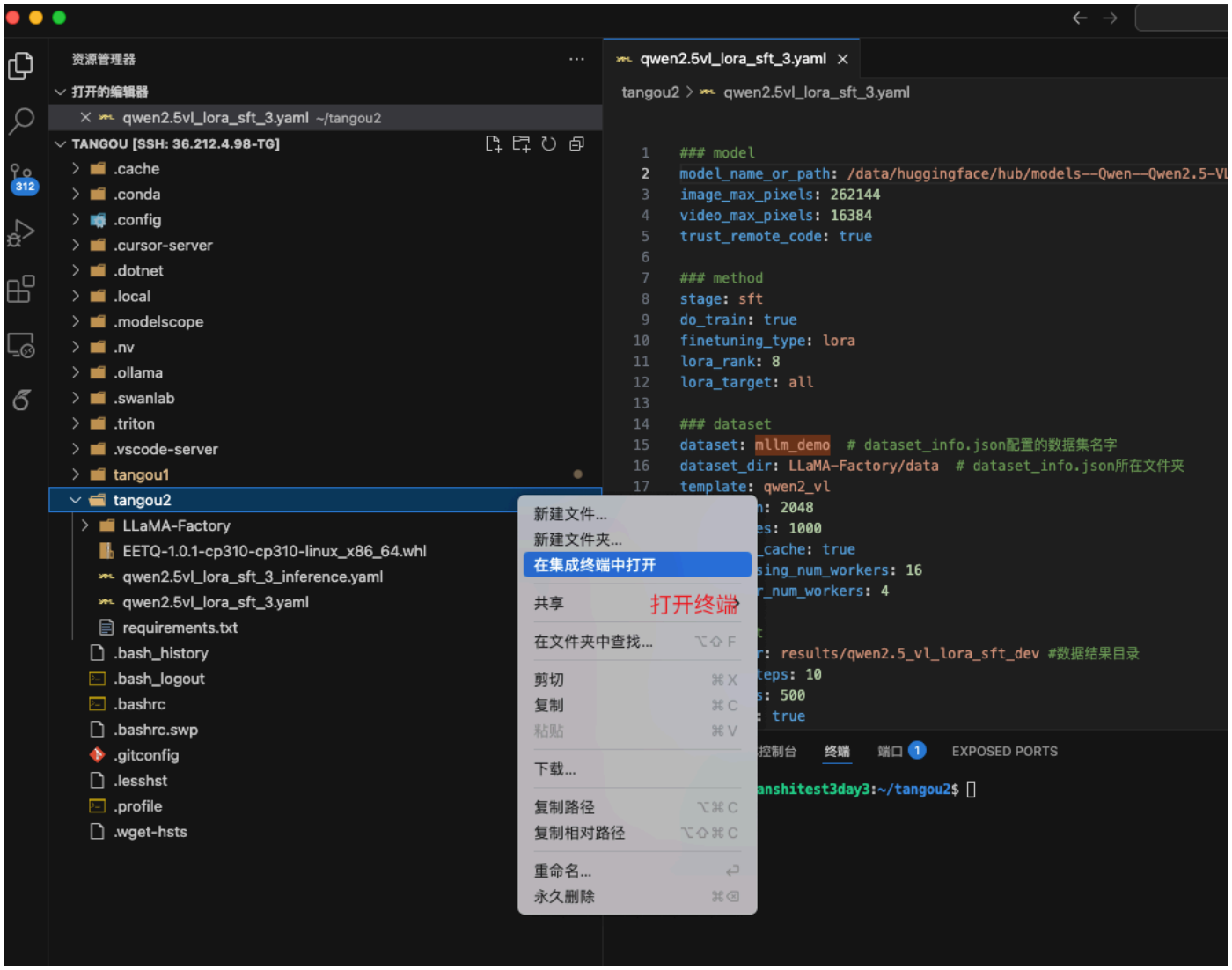
3. 配置微调的配置文件qwen2.5vl_lora_sft_3.yaml

回到原来的vscode，将上面复制的model路径放进来

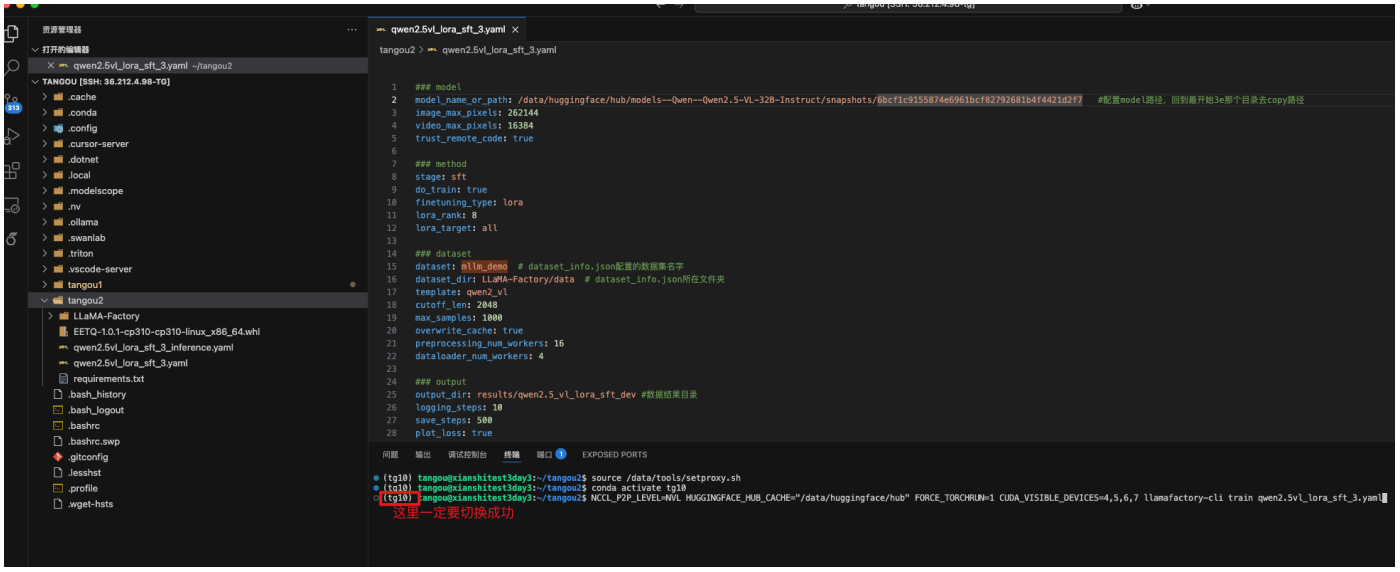


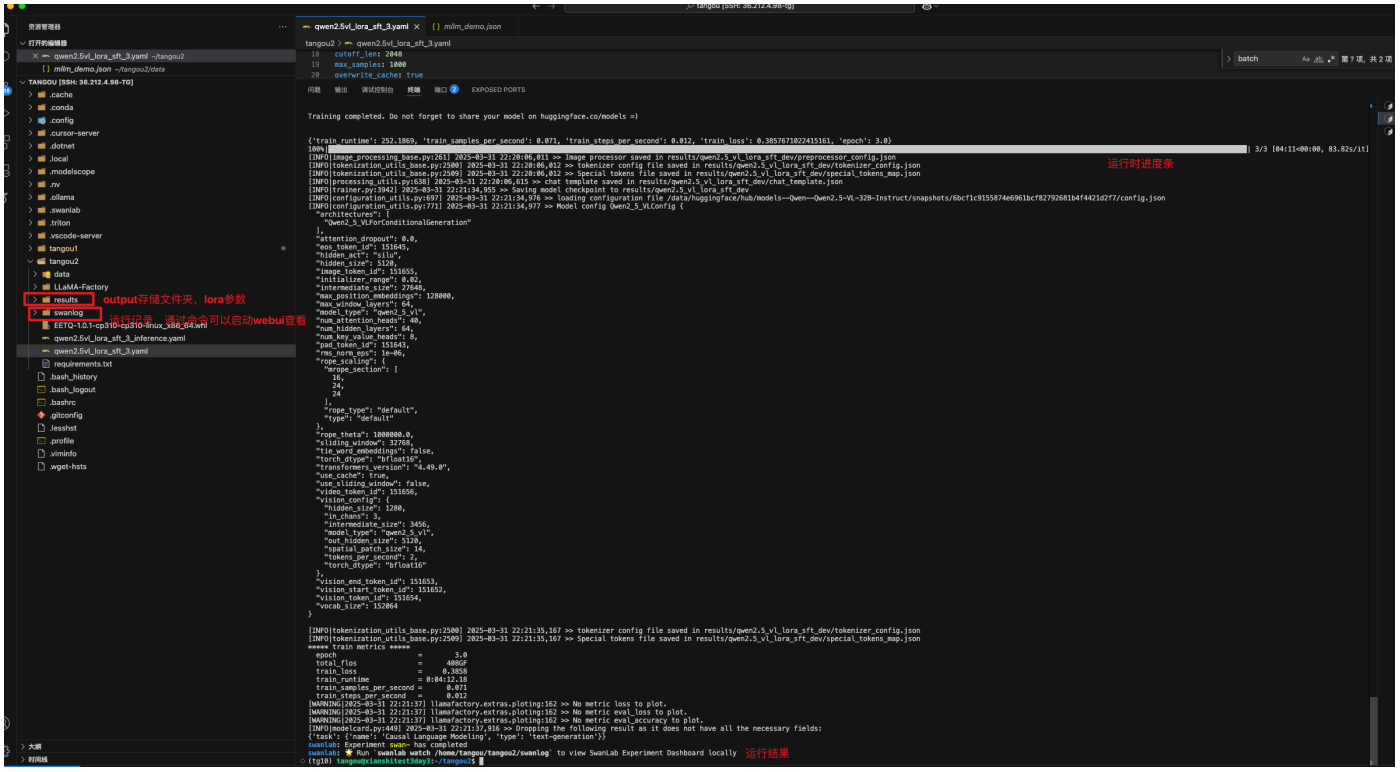
4. 运行微调

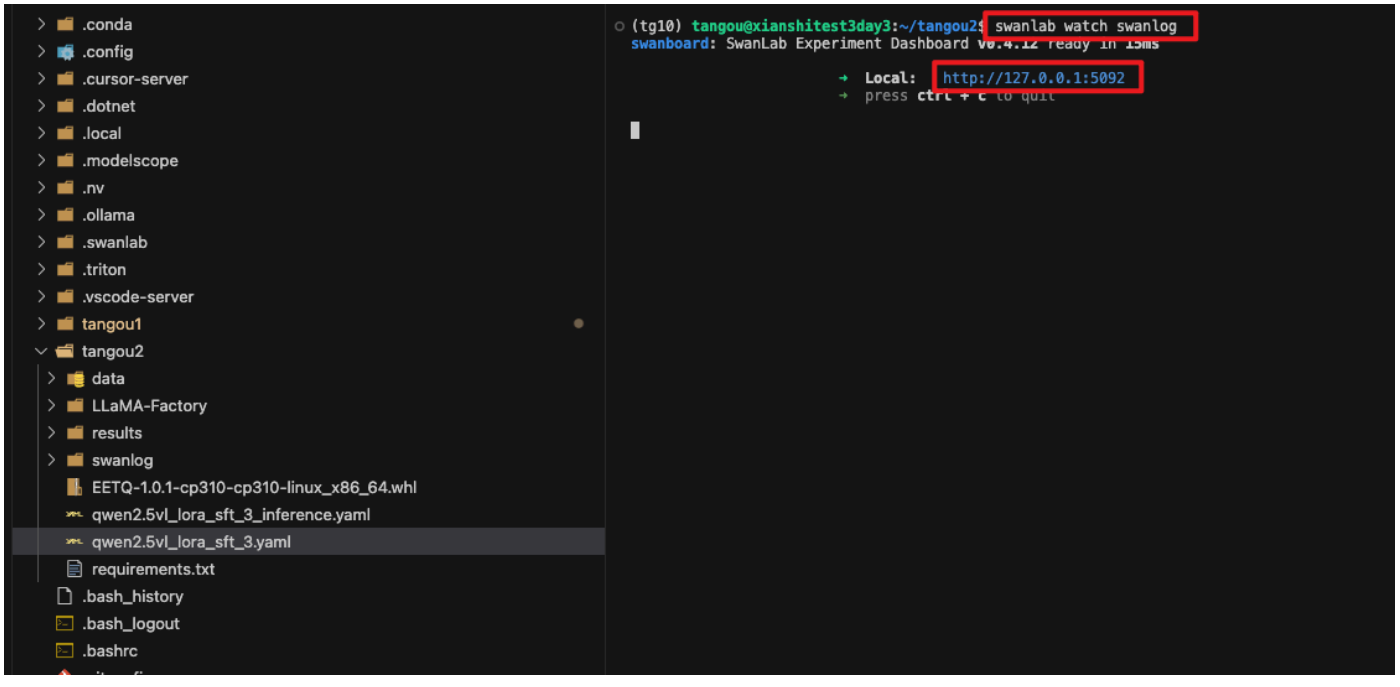
打开终端



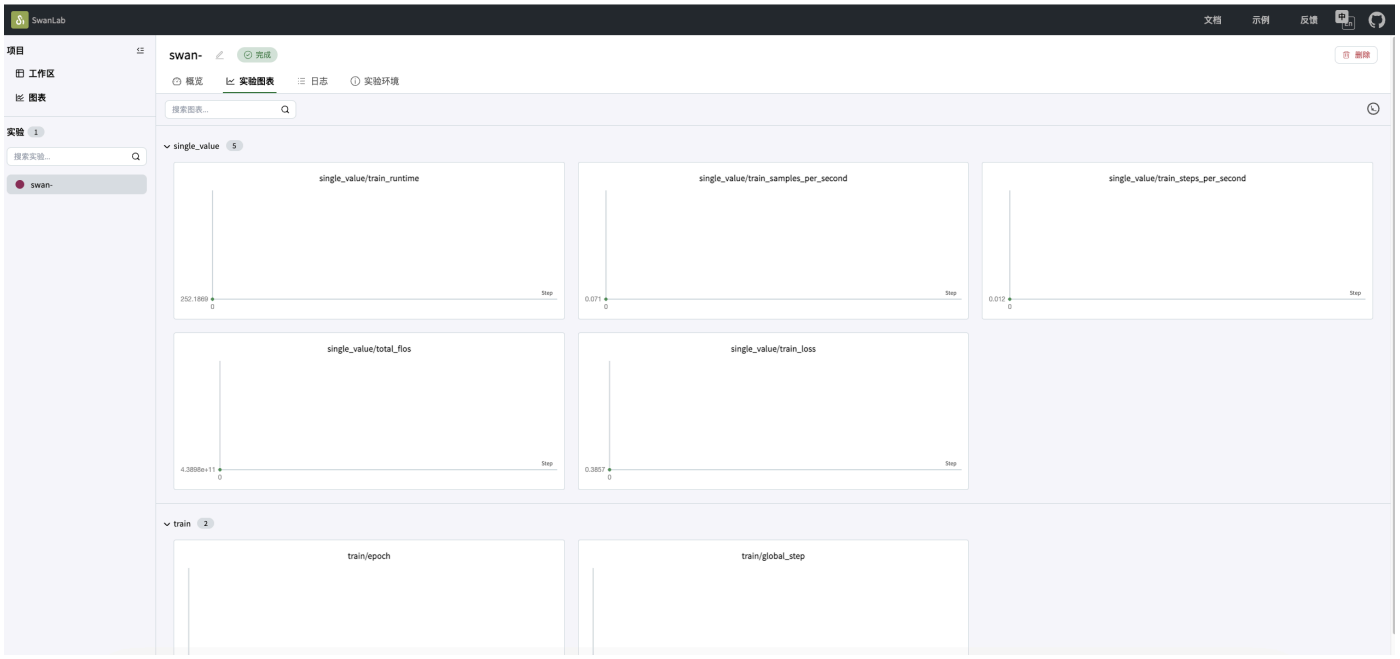

```
# 如果重新打开终端，没启动。请启动下，开vpn。
source /data/tools/setproxy.sh
# 切换你的python环境
conda activate tg10
# 训练
NCCL_P2P_LEVEL=NVL HUGGINGFACE_HUB_CACHE="/data/huggingface/hub"
FORCE_TORCHRUN=1 CUDA_VISIBLE_DEVICES=0,1,2,3,4,5,6,7 llamafactory-cli train
qwen2.5vl_lora_sft_3.yaml



# 查看运行记录，swanlog是相对路径，如果端口被占用，则--port xxx
conda activate tg10
swanlab watch swanlog --port 5092
```


qwen2.5vl_lora_sft_3.yaml
tangou2 > qwen2.5vl_lora_sft_3.yaml
model
model_name_or_path: /data/huggingface/hub/models--Qwen--Qwen2.5-VL-32B-Instruct/snapshots/6bcf1c9155874e6961bcf82792681b4f4421d2f7 #配置model路径，回到最开始ls那个目录去copy路径
image_max_pixels: 262144
video_max_pixels: 16384
trust_remote_code: true
method
stage: sft
do_train: true
finetuning_type: lora
lora_rank: 8
lora_target: all
dataset
dataset: mllm_demo # dataset_info.json配置的数据集名字
dataset_dir: LLaMA-Factory/data # dataset_info.json所在文件夹
template: qwen2_vl
cutoff_len: 2048
max_samples: 1000
overwrite_cache: true
preprocessing_num_workers: 16
dataloader_num_workers: 4
output
output_dir: results/qwen2.5_vl_lora_sft_dev #数据结果目录
logging_steps: 10
save_steps: 500
plot_loss: true
(tg10) tangou@xianshitest3day3:~/tangou2$ source /data/tools/setproxy.sh
(tg10) tangou@xianshitest3day3:~/tangou2$ conda activate tg10
(tg10) tangou@xianshitest3day3:~/tangou2$ NCCL_P2P_LEVEL=NVL HUGGINGFACE_HUB_CACHE="/data/huggingface/hub" FORCE_TORCHRUN=1 CUDA_VISIBLE_DEVICES=4,5,6,7 llamafactory-cli train qwen2.5vl_lora_sft_3.yaml
这里一定要切换成功


output存储文件夹，lora参数
运行记录，通过命令可以启动webui查看
运行时进度条
运行结果

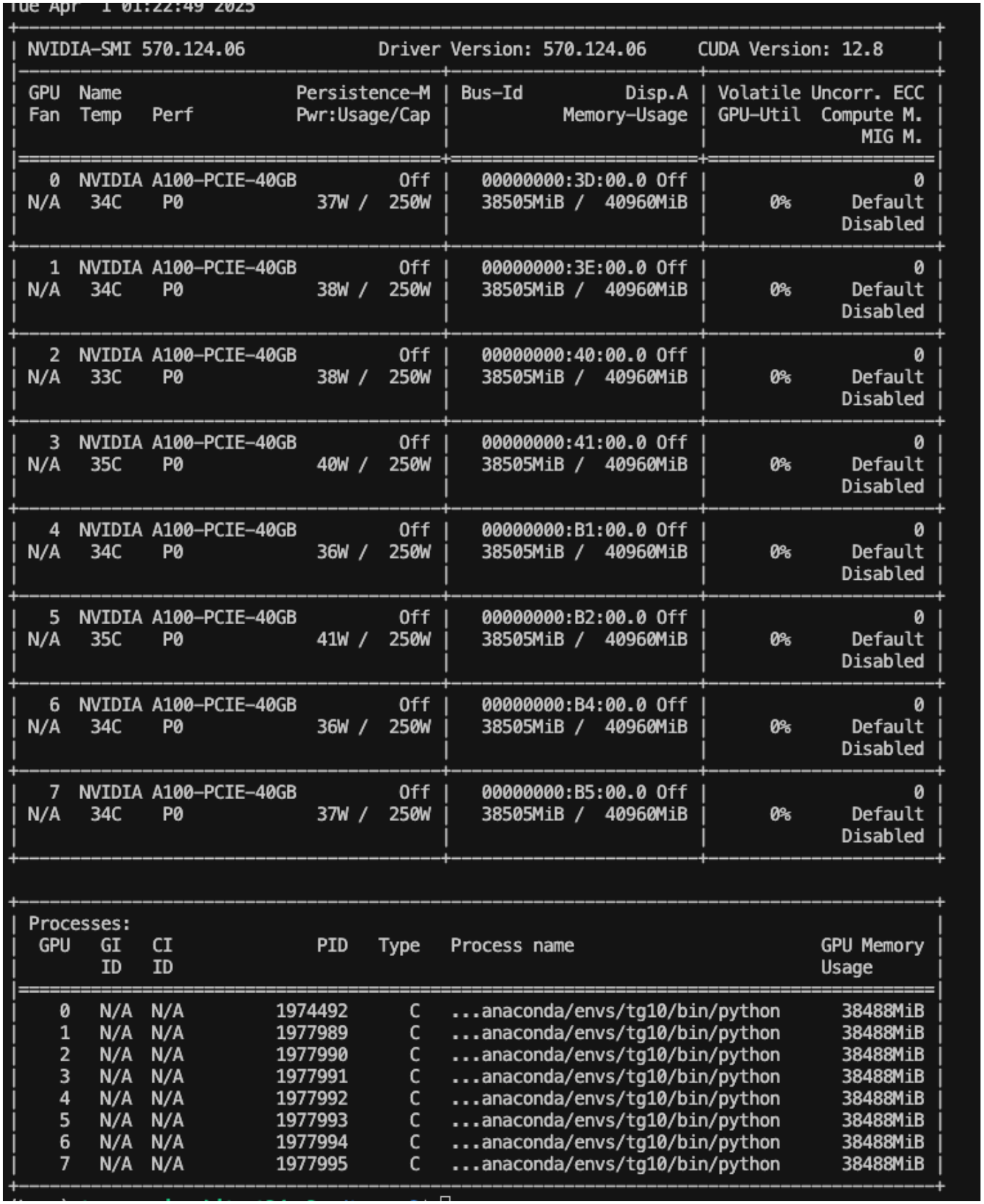

(tg10) tangou@xianshitest3day3:~/tangou2$ swanlab watch swanlog
swanboard: SwanLab Experiment Dashboard v0.4.12 ready in 15ms
Local: http://127.0.0.1:5092
press ctrl + c to quit

本地浏览器访问：http://127.0.0.1:5092



- 实测：32B
- 训练：在per_device_train_batch_size=1的情况下，32B显存空余如下，如果调72B需要乘2，72B勉强够用。根据显存空余，可调大per_device_train_batch_size=2, 4, 6, 8不等。
- 训练：6组数据（每组2-3轮对话），一个epoch需要：50s-80s。
- 推理：差点爆显存
- 评估：直接爆显存

```
Mon Mar 31 22:18:35 2025
+-----------------------------------------------------------------------------------------+
| NVIDIA-SMI 570.124.06             Driver Version: 570.124.06     CUDA Version: 12.8     |
|-----------------------------------------+------------------------+----------------------+
| GPU  Name                 Persistence-M | Bus-Id          Disp.A | Volatile Uncorr. ECC |
| Fan  Temp   Perf          Pwr:Usage/Cap |           Memory-Usage | GPU-Util  Compute M. |
|                                         |                        |               MIG M. |
|=========================================+========================+======================|
|   0  NVIDIA A100-PCIE-40GB          Off |   00000000:3D:00.0 Off |                    0 |
| N/A   38C    P0             70W /  250W |   17887MiB /  40960MiB |    100%      Default |
|                                         |                        |             Disabled |
+-----------------------------------------+------------------------+----------------------+
|   1  NVIDIA A100-PCIE-40GB          Off |   00000000:3E:00.0 Off |                    0 |
| N/A   38C    P0             74W /  250W |   17883MiB /  40960MiB |    100%      Default |
|                                         |                        |             Disabled |
+-----------------------------------------+------------------------+----------------------+
|   2  NVIDIA A100-PCIE-40GB          Off |   00000000:40:00.0 Off |                    0 |
| N/A   37C    P0             70W /  250W |   18033MiB /  40960MiB |    100%      Default |
|                                         |                        |             Disabled |
+-----------------------------------------+------------------------+----------------------+
|   3  NVIDIA A100-PCIE-40GB          Off |   00000000:41:00.0 Off |                    0 |
| N/A   39C    P0             88W /  250W |   17947MiB /  40960MiB |    100%      Default |
|                                         |                        |             Disabled |
+-----------------------------------------+------------------------+----------------------+
|   4  NVIDIA A100-PCIE-40GB          Off |   00000000:B1:00.0 Off |                    0 |
| N/A   37C    P0             68W /  250W |   17933MiB /  40960MiB |    100%      Default |
|                                         |                        |             Disabled |
+-----------------------------------------+------------------------+----------------------+
|   5  NVIDIA A100-PCIE-40GB          Off |   00000000:B2:00.0 Off |                    0 |
| N/A   39C    P0             99W /  250W |   16801MiB /  40960MiB |    100%      Default |
|                                         |                        |             Disabled |
+-----------------------------------------+------------------------+----------------------+
|   6  NVIDIA A100-PCIE-40GB          Off |   00000000:B4:00.0 Off |                    0 |
| N/A   38C    P0             75W /  250W |   17887MiB /  40960MiB |    100%      Default |
|                                         |                        |             Disabled |
+-----------------------------------------+------------------------+----------------------+
|   7  NVIDIA A100-PCIE-40GB          Off |   00000000:B5:00.0 Off |                    0 |
| N/A   38C    P0             70W /  250W |   17885MiB /  40960MiB |    100%      Default |
|                                         |                        |             Disabled |
+-----------------------------------------+------------------------+----------------------+

+-----------------------------------------------------------------------------------------+
| Processes:                                                                              |
|  GPU   GI   CI              PID   Type   Process name                        GPU Memory |
|        ID   ID                                                               Usage      |
|=========================================================================================|
|    0   N/A  N/A          382847      C   ...anaconda/envs/tg10/bin/python      17878MiB |
|    1   N/A  N/A          382848      C   ...anaconda/envs/tg10/bin/python      17874MiB |
|    2   N/A  N/A          382849      C   ...anaconda/envs/tg10/bin/python      18024MiB |
|    3   N/A  N/A          382850      C   ...anaconda/envs/tg10/bin/python      17938MiB |
|    4   N/A  N/A          382851      C   ...anaconda/envs/tg10/bin/python      17924MiB |
|    5   N/A  N/A          382852      C   ...anaconda/envs/tg10/bin/python      16792MiB |
|    6   N/A  N/A          382853      C   ...anaconda/envs/tg10/bin/python      17878MiB |
|    7   N/A  N/A          382854      C   ...anaconda/envs/tg10/bin/python      17876MiB |
+-----------------------------------------------------------------------------------------+
```

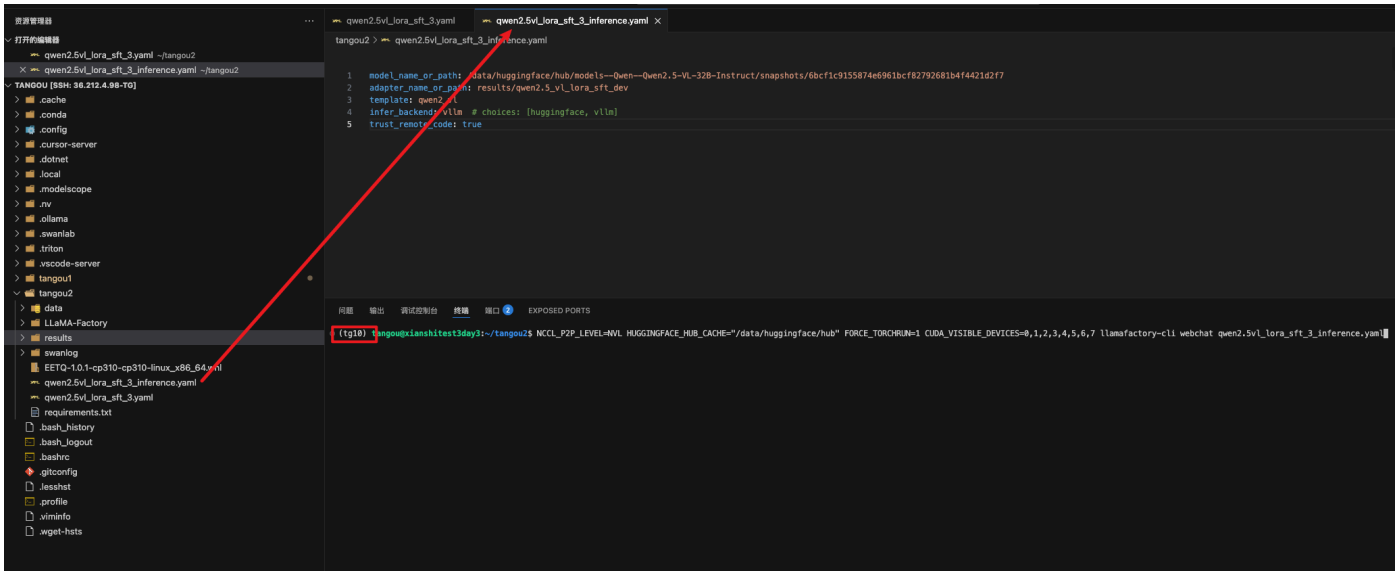


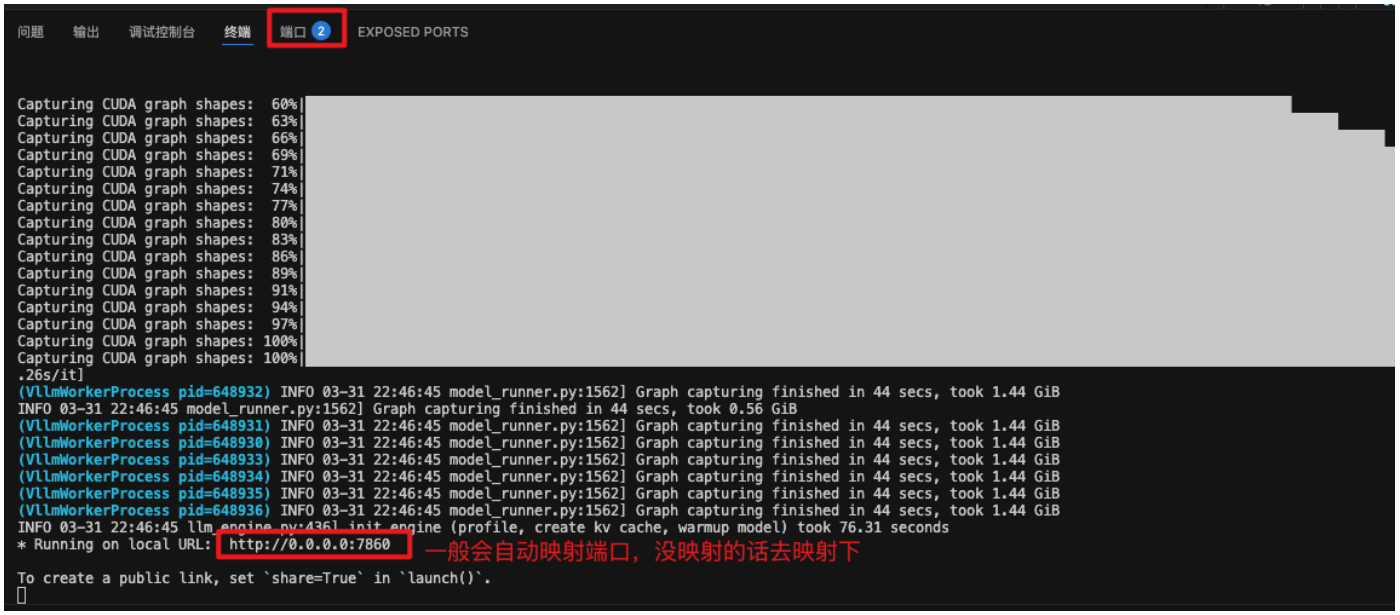
```
Tue Apr  1 01:22:49 2025
+-----------------------------------------------------------------------------------------+
| NVIDIA-SMI 570.124.06             Driver Version: 570.124.06     CUDA Version: 12.8     |
|-----------------------------------------+------------------------+----------------------+
| GPU  Name                 Persistence-M | Bus-Id          Disp.A | Volatile Uncorr. ECC |
| Fan  Temp   Perf          Pwr:Usage/Cap |           Memory-Usage | GPU-Util  Compute M. |
|                                         |                        |               MIG M. |
|=========================================+========================+======================|
|   0  NVIDIA A100-PCIE-40GB          Off |   00000000:3D:00.0 Off |                    0 |
| N/A   34C    P0             37W /  250W |   38505MiB /  40960MiB |      0%      Default |
|                                         |                        |             Disabled |
+-----------------------------------------+------------------------+----------------------+
|   1  NVIDIA A100-PCIE-40GB          Off |   00000000:3E:00.0 Off |                    0 |
| N/A   34C    P0             38W /  250W |   38505MiB /  40960MiB |      0%      Default |
|                                         |                        |             Disabled |
+-----------------------------------------+------------------------+----------------------+
|   2  NVIDIA A100-PCIE-40GB          Off |   00000000:40:00.0 Off |                    0 |
| N/A   33C    P0             38W /  250W |   38505MiB /  40960MiB |      0%      Default |
|                                         |                        |             Disabled |
+-----------------------------------------+------------------------+----------------------+
|   3  NVIDIA A100-PCIE-40GB          Off |   00000000:41:00.0 Off |                    0 |
| N/A   35C    P0             40W /  250W |   38505MiB /  40960MiB |      0%      Default |
|                                         |                        |             Disabled |
+-----------------------------------------+------------------------+----------------------+
|   4  NVIDIA A100-PCIE-40GB          Off |   00000000:B1:00.0 Off |                    0 |
| N/A   34C    P0             36W /  250W |   38505MiB /  40960MiB |      0%      Default |
|                                         |                        |             Disabled |
+-----------------------------------------+------------------------+----------------------+
|   5  NVIDIA A100-PCIE-40GB          Off |   00000000:B2:00.0 Off |                    0 |
| N/A   35C    P0             41W /  250W |   38505MiB /  40960MiB |      0%      Default |
|                                         |                        |             Disabled |
+-----------------------------------------+------------------------+----------------------+
|   6  NVIDIA A100-PCIE-40GB          Off |   00000000:B4:00.0 Off |                    0 |
| N/A   34C    P0             36W /  250W |   38505MiB /  40960MiB |      0%      Default |
|                                         |                        |             Disabled |
+-----------------------------------------+------------------------+----------------------+
|   7  NVIDIA A100-PCIE-40GB          Off |   00000000:B5:00.0 Off |                    0 |
| N/A   34C    P0             37W /  250W |   38505MiB /  40960MiB |      0%      Default |
|                                         |                        |             Disabled |
+-----------------------------------------+------------------------+----------------------+

+-----------------------------------------------------------------------------------------+
| Processes:                                                                              |
|  GPU   GI   CI              PID   Type   Process name                        GPU Memory |
|        ID   ID                                                               Usage      |
|=========================================================================================|
|    0   N/A  N/A         1974492      C   ...anaconda/envs/tg10/bin/python      38488MiB |
|    1   N/A  N/A         1977989      C   ...anaconda/envs/tg10/bin/python      38488MiB |
|    2   N/A  N/A         1977990      C   ...anaconda/envs/tg10/bin/python      38488MiB |
|    3   N/A  N/A         1977991      C   ...anaconda/envs/tg10/bin/python      38488MiB |
|    4   N/A  N/A         1977992      C   ...anaconda/envs/tg10/bin/python      38488MiB |
|    5   N/A  N/A         1977993      C   ...anaconda/envs/tg10/bin/python      38488MiB |
|    6   N/A  N/A         1977994      C   ...anaconda/envs/tg10/bin/python      38488MiB |
|    7   N/A  N/A         1977995      C   ...anaconda/envs/tg10/bin/python      38488MiB |
+-----------------------------------------------------------------------------------------+
```

5. 推理

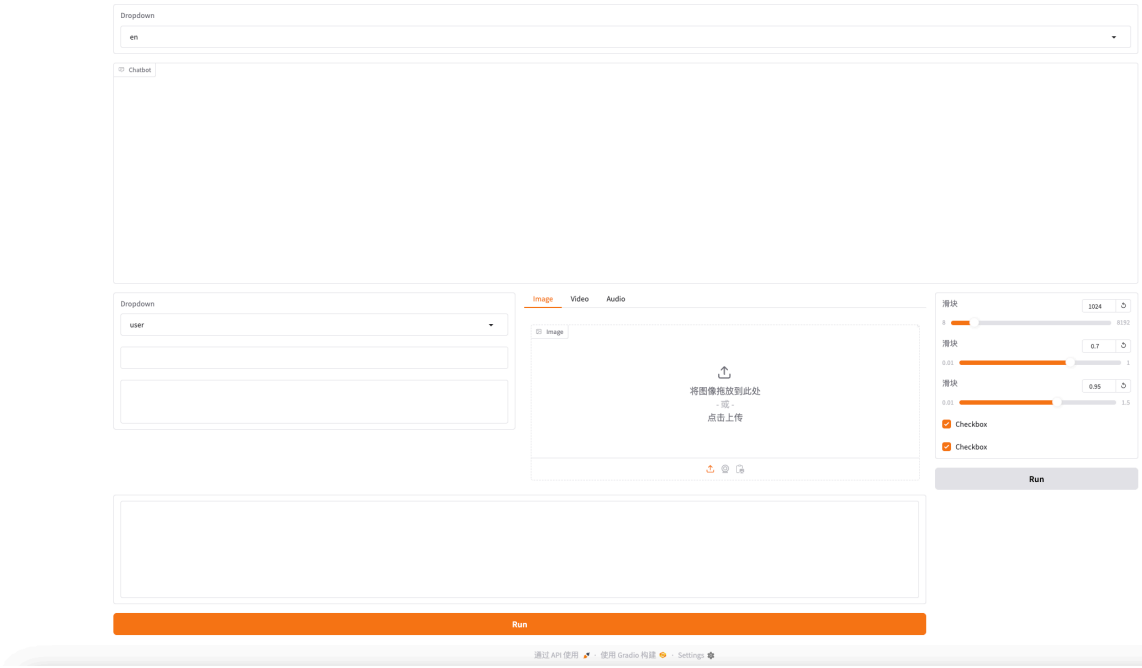
```
source /data/tools/setproxy.sh
conda activate tg10
# 如果端口占用，请换个端口
export GRADIO_SERVER_PORT=7860
NCCL_P2P_LEVEL=NVL HUGGINGFACE_HUB_CACHE="/data/huggingface/hub"
```

```
FORCE_TORCHRUN=1 CUDA_VISIBLE_DEVICES=0,1,2,3,4,5,6,7 llamafactory-cli
webchat qwen2.5vl_lora_sft_3_inference.yaml
```

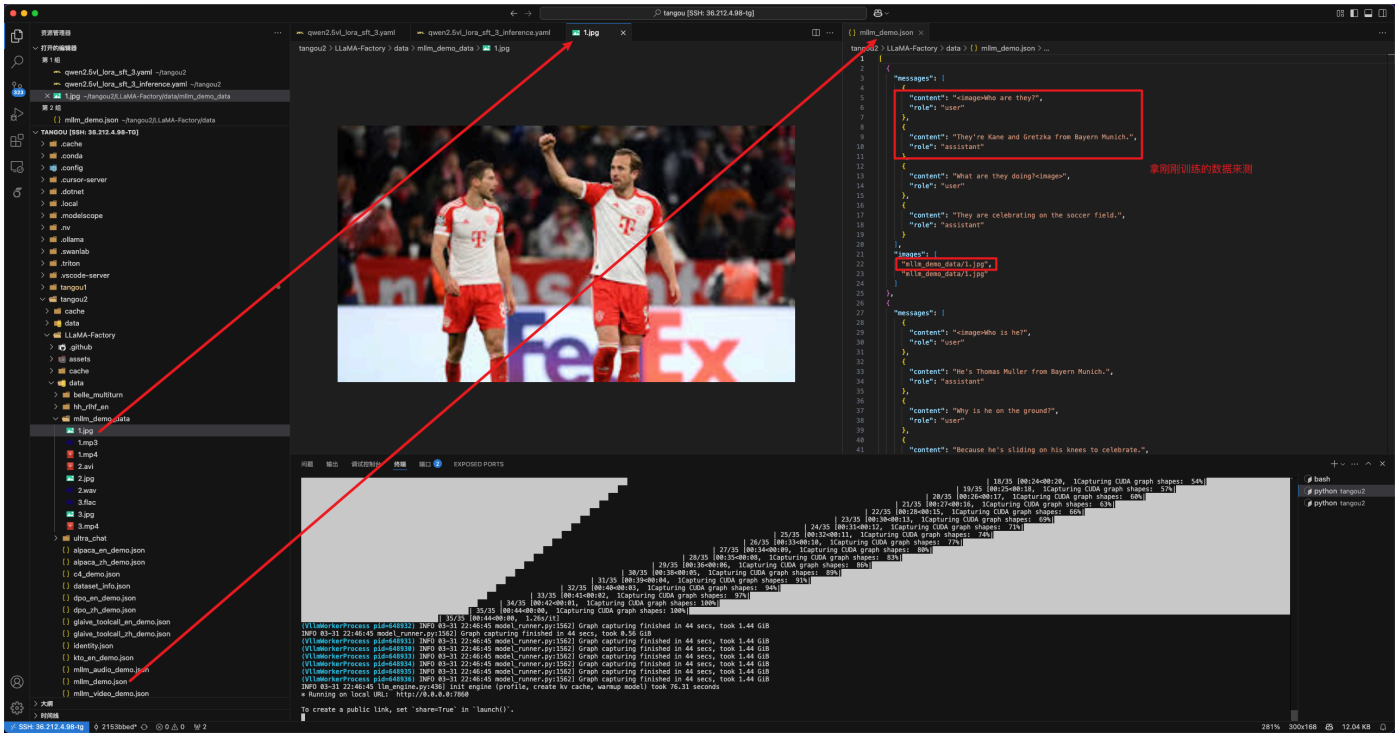




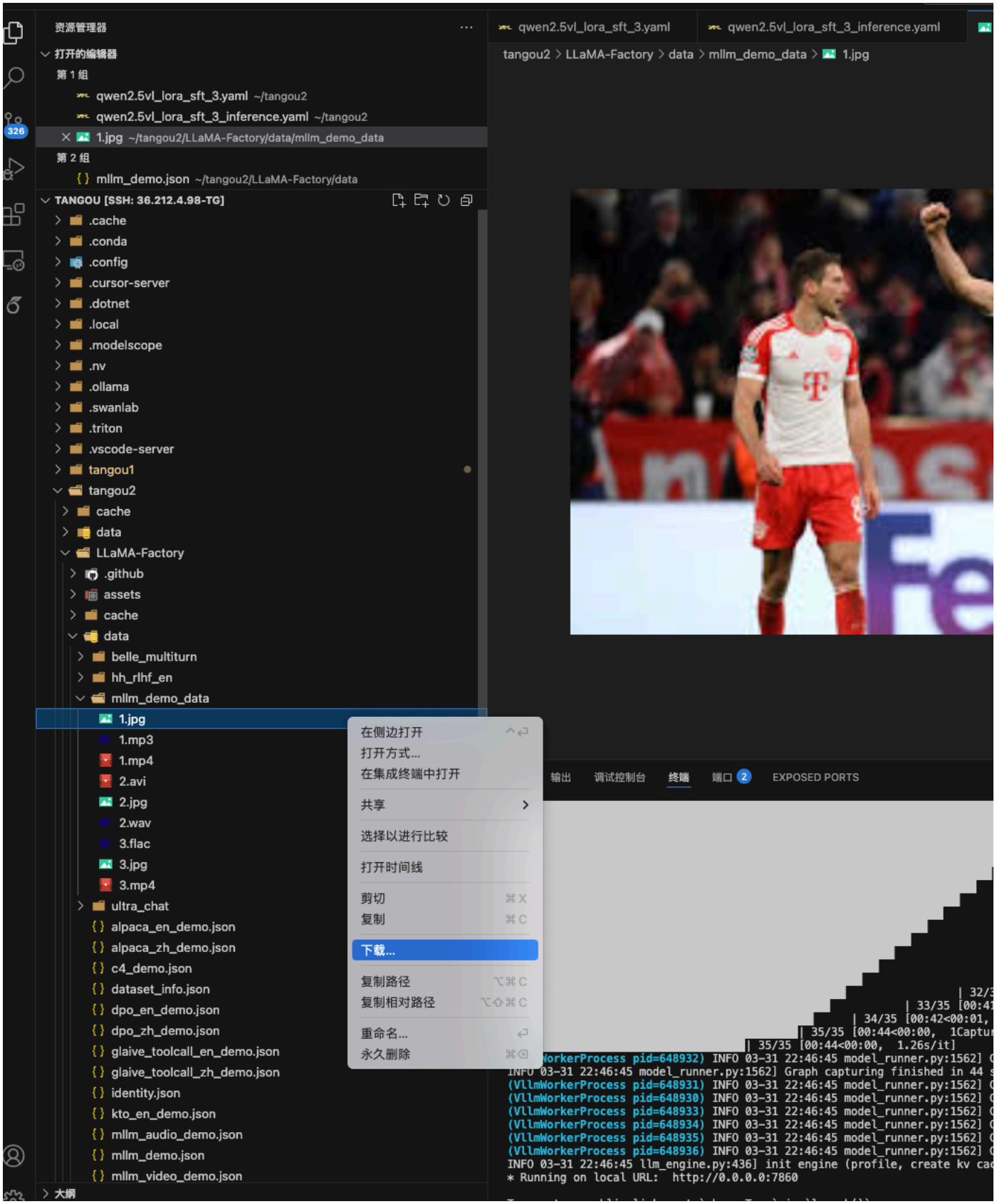
本地浏览器访问：http://0.0.0.0:7860



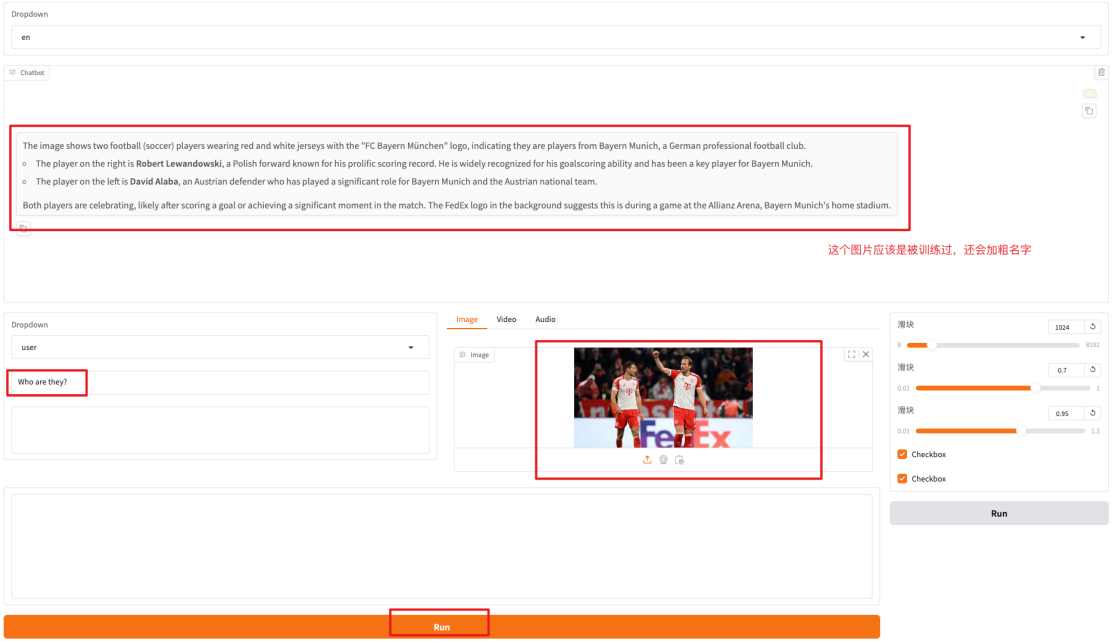
拿刚刚训练的数据来测



下载到本地

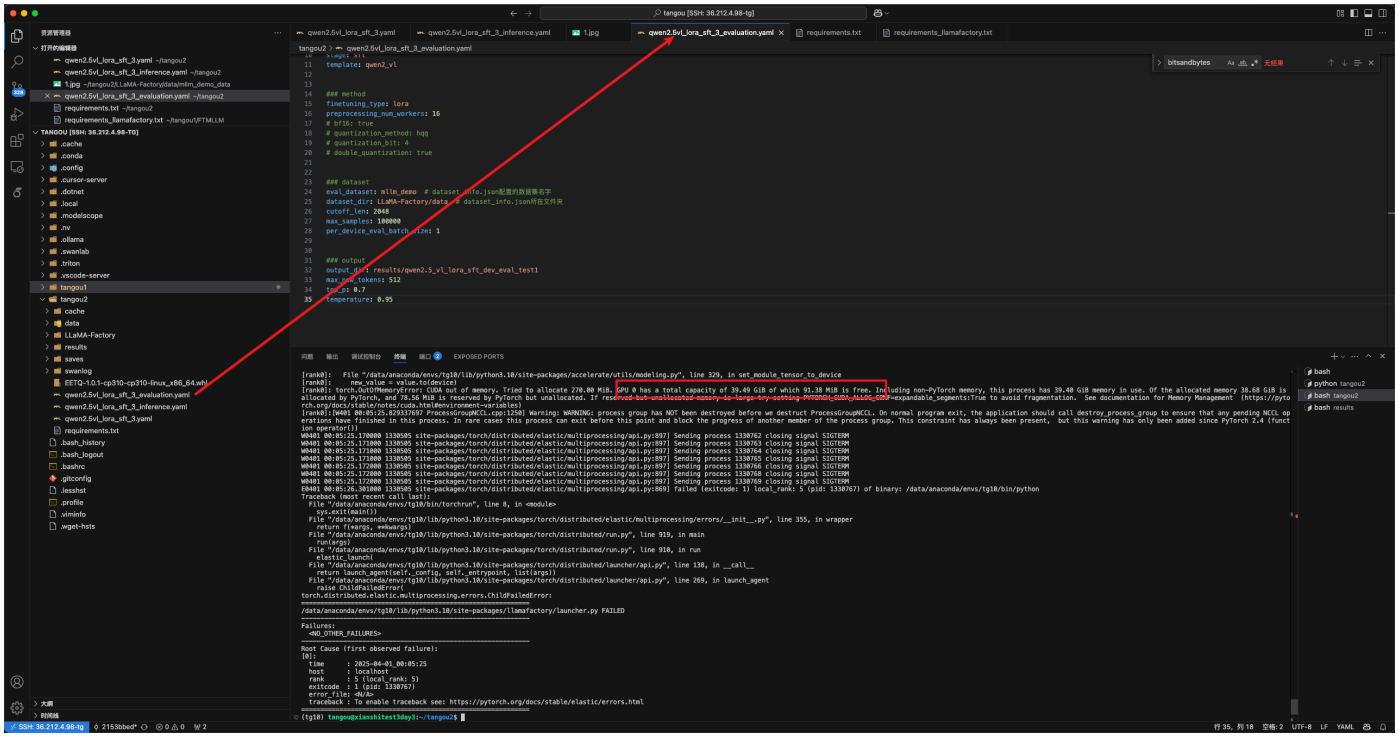


推理（这个图片在原本的模型上就一个训练过）



6. 评估（实测：32B评估时会爆显存）

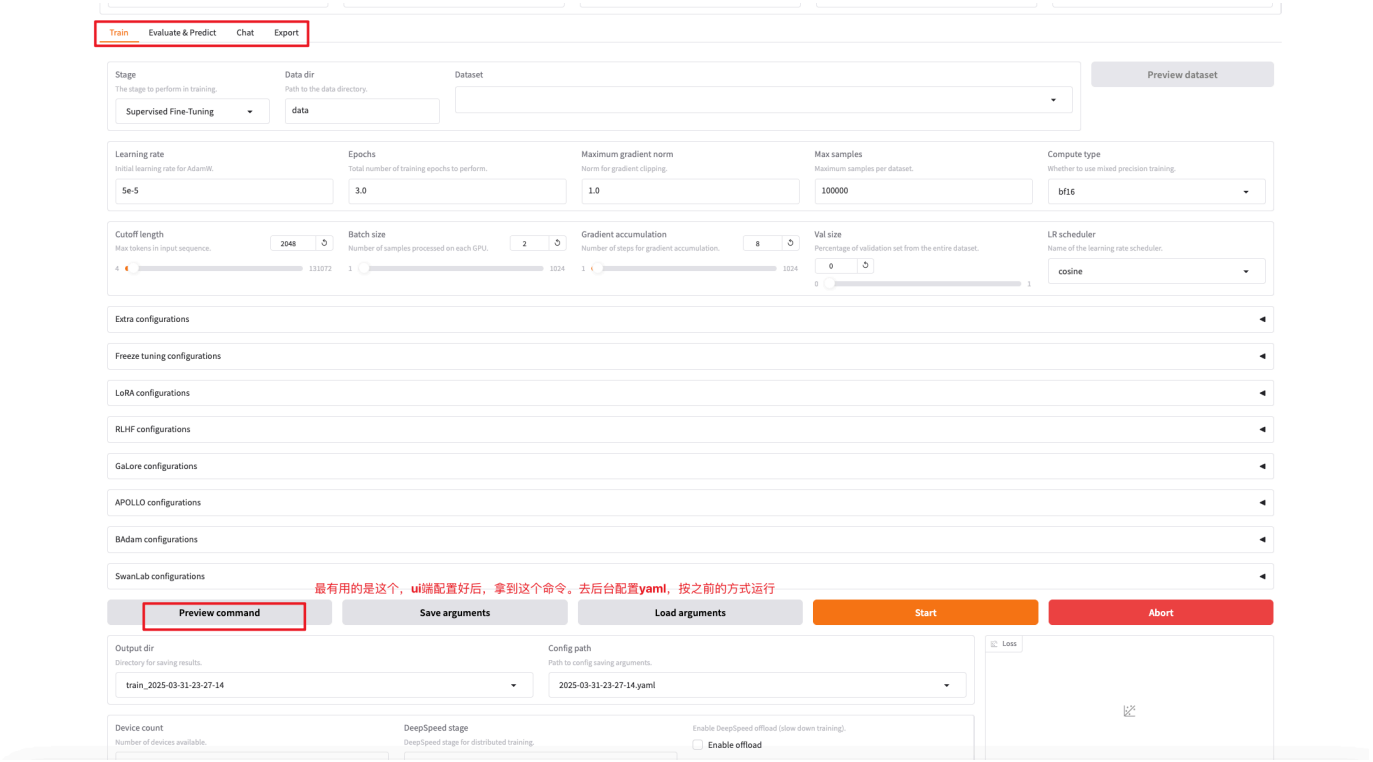
```
source /data/tools/setproxy.sh
conda activate tg10
NCCL_P2P_LEVEL=NVL HUGGINGFACE_HUB_CACHE="/data/huggingface/hub"
FORCE_TORCHRUN=1 CUDA_VISIBLE_DEVICES=0,1,2,3,4,5,6,7 llamafactory-cli train
qwen2.5vl_lora_sft_3_evaluation.yaml
```



额外

webui运行

```
source /data/tools/setproxy.sh
conda activate tg10
# 如果端口占用请换个端口
export GRADIO_SERVER_PORT=7860
llamafactory-cli webui
```



下载模型、数据集

```
source /data/tools/setproxy.sh
conda activate tg10
huggingface-cli login # token教程:
https://blog.csdn.net/m0_52625549/article/details/134255660
----
export HUGGINGFACE_HUB_CACHE="/data/huggingface/hub"  #设置缓存路径，就是之前的
共享目录
# 数据集
huggingface-cli download --resume-download --repo-type dataset
llamafactory/RLHF-V --local-dir-use-symlinks False
# 模型
huggingface-cli download --resume-download Qwen/Qwen2.5-VL-7B-Instruct --
local-dir-use-symlinks False
```

Qwen / **Qwen2.5-VL-7B-Instruct** like 766 Follow Qwen 23.4k

Image-Text-to-Text | Transformers | Safetensors | English | qwen2_5_vl | multimodal | conversational | text-generation-inference | arxiv:2309.00071 | arxiv:2409.12191 | arxiv:2308.12966

License: apache-2.0

Model card | Files and versions | Community 38 | Train | Deploy | Use this model

Edit model card

Qwen2.5-VL-7B-Instruct

Qwen Chat

Introduction

In the past five months since Qwen2-VL's release, numerous developers have built new models on the Qwen2-VL vision-language models, providing us with valuable feedback. During this period, we focused on building more useful vision-language models. Today, we are excited to introduce the latest addition to the Qwen family: Qwen2.5-VL.

Key Enhancements:

- **Understand things visually**: Qwen2.5-VL is not only proficient in recognizing common objects such as flowers, birds, fish, and insects, but it is highly capable of analyzing texts, charts, icons, graphics, and layouts within images.
- **Being agentic**: Qwen2.5-VL directly plays as a visual agent that can reason and dynamically direct tools, which is capable of computer use and phone use.

Downloads last month
3,320,442

Safetensors
Model size 8.29B params | Tensor type BF16

Inference Providers NEW
Hyperbolic
Image-Text-to-Text
Examples

Input a message to start chatting with Qwen/Qwen2.5-VL-7B-Instruct.

Your sentence here...
Send

View Code
Maximize