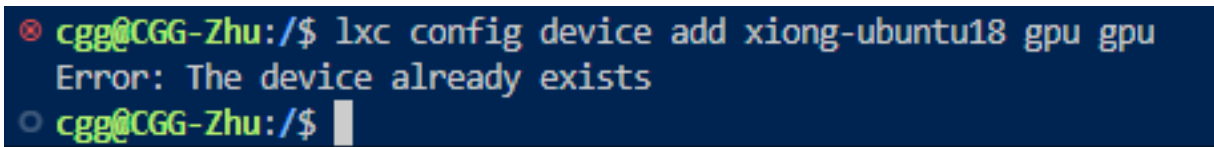


Enable your own LXD container to use the server's GPU

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1 Mounting the server's GPU into your own LXD container



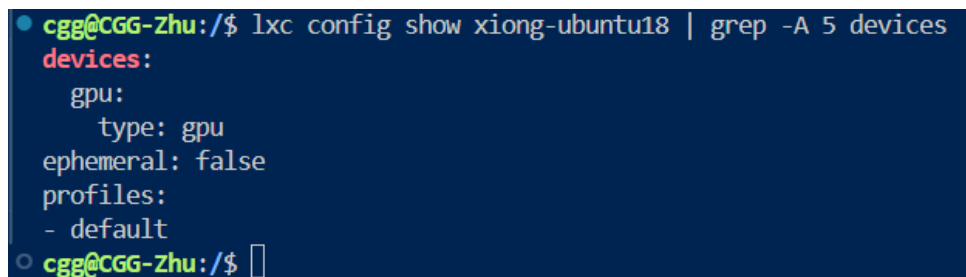
```
⊗ cgg@CGG-Zhu:/$ lxc config device add xiong-ubuntu18 gpu gpu
Error: The device already exists
○ cgg@CGG-Zhu:/$
```

Figure 1: 1. use the command as shown to mount the server's GPU into my own LXD container, i.e., xiong-ubuntu18

Note:

1. Because I already mounted the server's GPU, there is a error that the device already exists.
2. There are two ways to review whether you has mounted successfully the server's GPU into your own LXD container.

Approach 1 – review in the server



```
● cgg@CGG-Zhu:/$ lxc config show xiong-ubuntu18 | grep -A 5 devices
devices:
  gpu:
    type: gpu
    ephemeral: false
  profiles:
  - default
○ cgg@CGG-Zhu:/$
```

Figure 2: enter the above command in the server firstly, and it is successfully mounted as long as the type is gpu.

Approach 2 – review in the LXD container

```

cgg@CGG-Zhu:/$ lxc exec xiong-ubuntu18 -- bash
root@xiong-ubuntu18:~$ ls /dev | grep nvidia
nvidia-modeset
nvidia-uvm
nvidia-uvm-tools
nvidia0
nvidia1
nvidia2
nvidia3
nvidia4
nvidia5
nvidia6
nvidia7
nvidiactl
root@xiong-ubuntu18:~$

```

Figure 3: enter your own LXD container firstly, and then enter the above second line command, and it is successfully mounted as long as the output displays these GPU device like nvidia0, nvidia1 etc.

2 Configure the NVIDIA Driver in your own LXD container

```

cgg@CGG-Zhu:/$ lxc config set xiong-ubuntu18 nvidia.runtime true
cgg@CGG-Zhu:/$ lxc restart xiong-ubuntu18

```

Figure 4: 2. enter the first line command to let the LXD container use NVIDIA driver of the server. And then, use the second line command to restart the LXD container.

3 Check whether the server's GPU can work normally in the LXD container

```
cgg@CGG-Zhu:/ $ lxc exec xiong-ubuntu18 -- bash
root@xiong-ubuntu18:~$ nvidia-smi
Mon Feb 17 20:04:25 2025
```

NVIDIA-SMI 525.89.02				Driver Version: 525.89.02		CUDA Version: 12.0	
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 RTX A5000	Off	00000000:1B:00.0	Off		Off	
30%	17C	P8	6W / 230W	1MiB / 24564MiB	0%	Default	N/A
1	NVIDIA RTX A5000	Off	00000000:1C:00.0	Off		Off	
30%	16C	P8	9W / 230W	1MiB / 24564MiB	0%	Default	N/A
2	NVIDIA RTX A5000	Off	00000000:1D:00.0	Off		Off	
30%	16C	P8	12W / 230W	1MiB / 24564MiB	0%	Default	N/A
3	NVIDIA RTX A5000	Off	00000000:1E:00.0	Off		Off	
30%	16C	P8	9W / 230W	1MiB / 24564MiB	0%	Default	N/A
4	NVIDIA RTX A5000	Off	00000000:3D:00.0	Off		Off	
30%	15C	P8	9W / 230W	1MiB / 24564MiB	0%	Default	N/A
5	NVIDIA RTX A5000	Off	00000000:3F:00.0	Off		Off	
30%	15C	P8	12W / 230W	1MiB / 24564MiB	0%	Default	N/A
6	NVIDIA RTX A5000	Off	00000000:40:00.0	Off		Off	
30%	15C	P8	10W / 230W	1MiB / 24564MiB	0%	Default	N/A
7	NVIDIA RTX A5000	Off	00000000:41:00.0	Off		Off	
30%	15C	P8	8W / 230W	1MiB / 24564MiB	0%	Default	N/A
Processes:							
GPU	GI	CI	PID	Type	Process name	GPU Memory	
ID	ID	ID				Usage	
No running processes found							

Figure 5: 3. enter your own LXD container firstly, and then enter *nvidia-smi* command. The server's GPU can be used normally in the LXD container as long as the output is as shown.

Summary:

1. mount the GPU to the LXD container
2. configure NVIDIA driver in the LXD container
3. verify the work state