

Kali Linux 安装英伟达显卡驱动和CUDA套件 // Debian // Ubuntu

1. 检查仓库源

确保仓库包含 `contrib` 和 `non-free` 部分。Kali默认就有此部分。Debian 可能需要自己手动添加，建议检查下为好。

- 检查是否包括 `contrib` 和 `non-free`

```
grep "contrib non-free" /etc/apt/sources.list
```

- 如果没有的话，需要手动添加。源文件在 `/etc/apt/sources.list`

```
apt edit-sources  
或  
vim /etc/apt/sources.list
```

- 更新软件包

```
apt update && apt full-upgrade -y
```

2. 检查显卡

查看显卡信息和驱动信息。

```
(root@kali)-[~]
└─# lspci | grep -i vga
09:00.0 VGA compatible controller: NVIDIA Corporation GP106 [GeForce GTX 1060
6GB] (rev a1)
```

```
(root@kali)-[~]
└─# lspci -s 09:00.0 -v
09:00.0 VGA compatible controller: NVIDIA Corporation GP106 [GeForce GTX 1060
6GB] (rev a1) (prog-if 00 [VGA controller])
    Subsystem: ZOTAC International (MCO) Ltd. GP106 [GeForce GTX 1060 6GB]
    Flags: bus master, fast devsel, latency 0, IRQ 80, IOMMU group 15
    Memory at f6000000 (32-bit, non-prefetchable) [size=16M]
    Memory at e0000000 (64-bit, prefetchable) [size=256M]
    Memory at f0000000 (64-bit, prefetchable) [size=32M]
    I/O ports at e000 [size=128]
    Expansion ROM at 000c0000 [disabled] [size=128K]
    Capabilities: [60] Power Management version 3
    Capabilities: [68] MSI: Enable+ Count=1/1 Maskable- 64bit+
    Capabilities: [78] Express Legacy Endpoint, MSI 00
    Capabilities: [100] Virtual Channel
    Capabilities: [250] Latency Tolerance Reporting
    Capabilities: [128] Power Budgeting <?>
    Capabilities: [420] Advanced Error Reporting
    Capabilities: [600] Vendor Specific Information: ID=0001 Rev=1 Len=024
<?>

    Capabilities: [900] Secondary PCI Express
    Kernel driver in use: nouveau
    Kernel modules: nouveau
```

```
(root@kali)-[~]
└─#
```

- 对于笔记本电脑或者迷你主机等有集成显卡的设备。主显示卡或许使用的是集成显卡，那么在 `lspci | grep -i vga` 这一步就不会显示 `nvidia` 独显。下面命令可以查看主显示卡是哪一个。

```
kali@kali:~$ lspci | grep -i vga
00:02.0 VGA compatible controller: Intel Corporation HD Graphics 620
(rev 02)
```

- 为了查看 `nvidia` 显卡，可以安装 `nvidia-detect`，并运行此软件。

```
(root@kali)-[~]
└─# apt install nvidia-detect

(root@kali)-[~]
└─# nvidia-detect
Detected NVIDIA GPUs:
09:00.0 VGA compatible controller [0300]: NVIDIA Corporation GP106
[GeForce GTX 1060 6GB] [10de:1c03] (rev a1)

Checking card:  NVIDIA Corporation GP106 [GeForce GTX 1060 6GB] (rev
a1)
Uh oh. Failed to identify your Debian suite.
```

3. 安装

- 上一步检查出来的信息中，`Kernel driver in use` 和 `Kernel modules` 显示的是 `nouveau`。说明现在使用的是开源通用驱动，而我们现在要安装 `nvidia` 闭源驱动和 `CUDA` 套件。

```
apt install -y nvidia-driver nvidia-cuda-toolkit
```

- 安装过程中会提示以下信息

```
Configuring xserver-xorg-video-nvidia

Conflicting nouveau kernel module loaded

The free nouveau kernel module is currently loaded and conflicts with the
non-free nvidia kernel module.

The easiest way to fix this is to reboot the machine once the
installation has finished.

<Ok>
```

- 重启电脑

reboot

4. 确认

检查 `nvidia` 驱动和 `CUDA` 套件是否安装成功。

```
(root@kali)-[~]
```

```
# nvidia-smi
```

```
Thu Aug 4 23:29:36 2022
```

+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+									
NVIDIA-SMI		470.129.06		Driver Version: 470.129.06			CUDA Version: 11.4		
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+									
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 GeForce ...		Off	00000000:09:00.0	On				N/A
0%	55C	P0	33W / 190W		396MiB / 6075MiB		1%	Default	
									N/A
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+									
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+									
Processes:									
GPU	GI	CI	PID	Type	Process name			GPU Memory	
	ID	ID						Usage	
=====+=====+=====+=====+=====+=====+=====+=====+=====+=====									
0	N/A	N/A	1078	G	/usr/lib/xorg/Xorg			191MiB	
0	N/A	N/A	1474	G	xfwm4			2MiB	
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+									

```
(root@kali)-[~]
```

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```

```
09:00.0 VGA compatible controller: NVIDIA Corporation GP106 [GeForce GTX 1060 6GB] (rev a1)
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    Memory at f0000000 (64-bit, prefetchable) [size=32M]
    I/O ports at e000 [size=128]
    Expansion ROM at 000c0000 [virtual] [disabled] [size=128K]
    Capabilities: [60] Power Management version 3
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    Capabilities: [100] Virtual Channel
    Capabilities: [128] Power Budgeting <?>
    Capabilities: [420] Advanced Error Reporting
```

```
<?> Capabilities: [600] Vendor Specific Information: ID=0001 Rev=1 Len=024  
Capabilities: [900] Secondary PCI Express  
Kernel driver in use: nvidia  
Kernel modules: nvidia
```

查看显卡详细信息，例如温度、转速、内存占用等。

```
nvidia-smi -i 0 -q
```