

Install nvidia driver on CentOS 9

Prepare

Download the nvidia driver : NVIDIA-Linux-x86_64-515.57.run

Check your nvidia gpu

```
$lspci | grep -E "VGA|3D"
```

Disable secure boot in the bios menu

Installation

Make sure use the latest kernel

```
$sudo dnf update
```

```
$sudo reboot
```

Enable epel repository

```
$dnf install \
```

```
https://dl.fedoraproject.org/pub/epel/9/Everything/x86_64/Packages/e/epel-next-release-9-2.el9.  
next.noarch.rpm \
```

```
https://dl.fedoraproject.org/pub/epel/9/Everything/x86_64/Packages/e/epel-release-9-2.el9.next.  
noarch.rpm
```

Other packages

```
$sudo dnf install kernel-devel kernel-headers gcc make dkms acpid libglvnd-glx libglvnd-opengl  
libglvnd-devel pkgconfig
```

Disable opensource driver

Add the following line in `/etc/modprobe.d/blacklist.conf` file

```
blacklist nouveau
```

Edit grub file

Append `'rd.driver.blacklist=nouveau'` to the end of the line `"GRUB_CMDLINE_LINUX=..."`

Update grub2 conf

For bios

```
$sudo grub2-mkconfig -o /boot/grub2/grub.cfg
```

For uefi centos 9

```
$sudo grub2-mkconfig -o /boot/efi/EFI/centos/grub.cfg
```

Generate a new root file system, initramfs

```
$sudo mv /boot/initramfs-$(uname -r).img /boot/initramfs-$(uname -r)-nouveau.img
```

```
$sudo dracut /boot/initramfs-$(uname -r).img $(uname -r)
```

Set runlevel 3

```
$sudo systemctl set-default multi-user.target
```

```
$sudo reboot
```

Make the driver executable and install the driver

```
$chmod +x NVIDIA-Linux-x86_64-515.57.run
```

```
$sudo bash ./NVIDIA-Linux-x86_64-515.57.run
```

Check your driver and gpu info

```
$nvidia-smi
```

```
NVIDIA-SMI 515.57      Driver Version: 515.57      CUDA Version: 11.7
```

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	00000000:65:00.0	Off			N/A
30%	27C	P0	33W / 220W	0MiB / 8192MiB	0%	Default	N/A

Bring back the runlevel 5

```
$systemctl set-default graphical.target
```

```
$reboot
```

Issues

Black screen for login after grub menu

My current computer has integrated graphics on the CPU and currently the monitor is connected to the motherboard VGA slot.

The solution is to unplug the cable and connect it to the slot on the discrete gpu.

Convenient Commands

Check the default runlevel (multiuser is 3, graphical is 5)
\$systemctl get-default

References

[1] <https://www.if-not-true-then-false.com/2021/install-nvidia-drivers-on-centos-rhel-rocky-linux/>