

Installing CUDA and cuDNN on windows 10



akshay sinha

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This is an how-to guide for someone who is trying to figure out, how to install CUDA and cuDNN on windows to be used with tensorflow.

It should be noted that at the time of writing this, tensor flow is supporting only upto CUDA version 9.0 and corresponding cuDNN libraries so please don't download CUDA 9.2.

Installing CUDA 9.0 on windows.

Pre requisites :

- NVIDIA GPU with compute capability of > 2.0 . Check your GPU [here](#)
- Download [CUDA version 9.0](#)

Please note if your connection permits, please download the `local` version. That saves you from sitting around waiting for download to finish at the installation time.

CUDA Toolkit 9.0 Downloads

Select Target Platform ⓘ

Click on the green buttons that describe your target platform. Only supported platforms will be shown.

Operating System	Architecture ⓘ	Version	Installer Type ⓘ
Windows	x86_64	10.0	exe (network)
Linux	x86_32	8.1	exe (local)
Mac OSX	7	Server 2016	
		Server 2012 R2	

Related Links

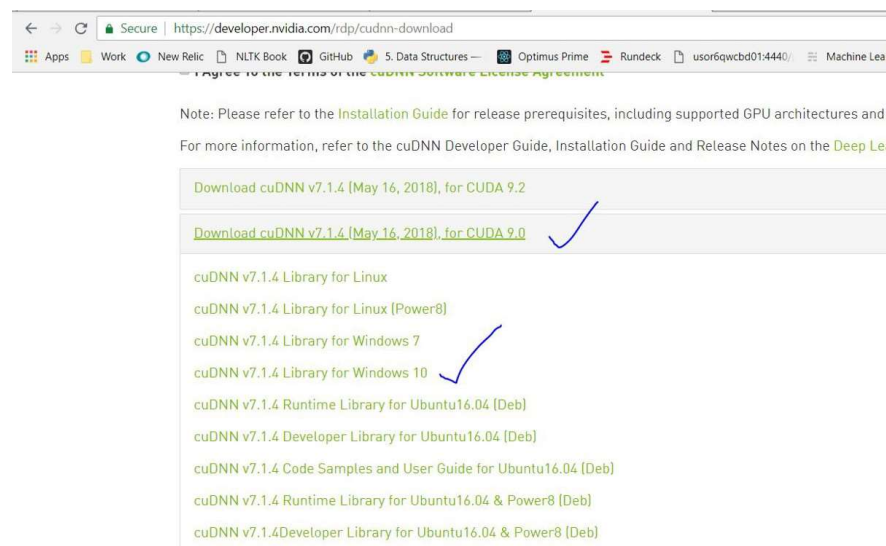
- CUDA Quick Start Guide
- Release Notes
- EULA
- CUDA Toolkit Overview
- Installer Checksums
- Open Source Packages
- Legacy CUDA Toolkits

The download should be ~ 1.4 G. Once the download finishes, launch the installer and follow the defaults. It takes around 10–15 mins for installation to finish. Please verify the files at the default install location after the installation finishes:

`C:\Program Files\NVIDIA GPU Computing Toolkit\CUDA\v9.0`

Installing cuDNN from NVIDIA

First of all, register yourself at [NVIDIA Developer site](https://developer.nvidia.com). Its an free registration and takes only a couple of mins. From there, the installation is a breeze Once registered, goto the [download](#) page and accept the terms and conditions. Post this download **cuDNN v7.1.4 for CUDA 9.0**



Once the files are downloaded locally, unzip them. Installing cuDNN is pretty straight forward. You just have to copy three files from the unzipped directory to CUDA 9.0 install location. For reference, NVIDIA team has put them in their own directory. So all you have to do is to copy file from :

- `{unzipped dir}/bin/ --> C:\Program Files\NVIDIA GPU Computing Toolkit\CUDA\v9.0\bin`
- `{unzipped dir}/include/ --> C:\Program Files\NVIDIA GPU Computing Toolkit\CUDA\v9.0\include`
- `{unzipped dir}/lib/ --> C:\Program Files\NVIDIA GPU Computing Toolkit\CUDA\v9.0\lib`

That's it.

Testing it with tensor flow

Install `tensorflow-gpu` using `pip3 install tensorflow-gpu` . Once that is done, fire up a python console do a `from tensorflow import *` . If you don't see any errors, we are good.

Another way you know that your GPU is being used by executing a keras model and having it use tensorflow as its backend. So at the runtime, you should see a message like this :

Happy coding

. . .

I am a Devops Expert and Machine Learning enthusiast. Please find my original blog post at [An Average Joe](#)

Akshay

