



NVIDIA cuDNN

Support Matrix | NVIDIA Docs

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Chapter 1. Hardware Requirements

The following sections highlight the compatibility of cuDNN versions with the various supported CUDA, CUDA driver, and NVIDIA™ hardware versions.

1.1. cuDNN 8.2.2

Supported NVIDIA hardware, CUDA, and CUDA driver versions for the cuDNN 8.2.2 release.

Table 1. Supported NVIDIA hardware, CUDA, and CUDA driver

Supported NVIDIA Hardware	CUDA Version	CUDA Compute Capability	CUDA Driver Version
▶ NVIDIA Ampere GPU architecture	11.4 ¹	SM 3.5 and later	r470
	11.3		r465
	11.2 update 1		r460, r455, r450
	11.1		r450, r455
	11.0		r450
▶ Turing	10.2	SM 3.0 and later	r440
▶ Volta			
▶ Xavier			
▶ Pascal			
▶ Maxwell			
▶ Kepler			

¹ The cuDNN build with CUDA 11.4 is compatible with CUDA 11.1 and 11.0. There is no separate build for CUDA 11.1 and 11.0 drivers.

1.2. cuDNN 8.2.0 - 8.2.1

Supported NVIDIA hardware, CUDA, and CUDA driver versions for the cuDNN 8.2.0 and 8.2.1 release.

Table 2. Supported NVIDIA hardware, CUDA, and CUDA driver

Supported NVIDIA Hardware	CUDA Version	CUDA Compute Capability	CUDA Driver Version
<ul style="list-style-type: none"> ▶ NVIDIA Ampere GPU architecture ▶ Turing ▶ Volta ▶ Pascal ▶ Maxwell ▶ Kepler 	11.3 ²	SM 3.5 and later	r465
	11.2 update 1		r460, r455, r450
	11.1		r450, r455
	11.0		r450
<ul style="list-style-type: none"> ▶ Turing ▶ Volta ▶ Xavier ▶ Pascal ▶ Maxwell ▶ Kepler 	10.2	SM 3.0 and later	r440

1.3. cuDNN 8.1.0 - 8.1.1

Supported NVIDIA hardware, CUDA, and CUDA driver versions for the cuDNN 8.1.0 - 8.1.1 release.

Table 3. Supported NVIDIA hardware, CUDA, and CUDA driver

Supported NVIDIA Hardware	CUDA Version	CUDA Compute Capability	CUDA Driver Version
<ul style="list-style-type: none"> ▶ NVIDIA Ampere GPU architecture 	11.2 ³	SM 3.5 and later	r460, r455, r450
	11.1		r450, r455

² The cuDNN build with CUDA 11.3 is compatible with CUDA 11.1 and 11.0. There is no separate build for CUDA 11.1 and 11.0 drivers.

³ The cuDNN build with CUDA 11.2 is compatible with CUDA 11.1 and 11.0. There is no separate build for CUDA 11.1 and 11.0 drivers.

Supported NVIDIA Hardware	CUDA Version	CUDA Compute Capability	CUDA Driver Version
<ul style="list-style-type: none"> ▶ Turing ▶ Volta ▶ Pascal ▶ Maxwell ▶ Kepler 	11.0		r450
<ul style="list-style-type: none"> ▶ Turing ▶ Volta ▶ Xavier ▶ Pascal ▶ Maxwell ▶ Kepler 	10.2	SM 3.0 and later	r440

1.4. cuDNN 8.0.5

Supported NVIDIA hardware, CUDA, and CUDA driver versions for the cuDNN 8.0.4 and 8.0.5 releases.

Table 4. Supported NVIDIA hardware, CUDA, and CUDA driver

Supported NVIDIA Hardware	CUDA Version	CUDA Compute Capability	CUDA Driver Version
<ul style="list-style-type: none"> ▶ NVIDIA Ampere GPU architecture ▶ Turing ▶ Volta ▶ Pascal ▶ Maxwell ▶ Kepler 	CUDA 11.1	SM 3.5 and later	r450, r455
<ul style="list-style-type: none"> ▶ NVIDIA Ampere GPU architecture ▶ Turing ▶ Volta ▶ Pascal ▶ Maxwell 	CUDA 11.0	SM 3.5 and later	r450

Supported NVIDIA Hardware	CUDA Version	CUDA Compute Capability	CUDA Driver Version
▶ Kepler			
▶ Turing ▶ Volta ▶ Xavier ▶ Pascal ▶ Maxwell ▶ Kepler	CUDA 10.2	SM 3.0 and later	r440
▶ Turing ▶ Volta ▶ Pascal ▶ Maxwell ▶ Kepler	CUDA 10.1 Update 2	SM 3.0 and later	r418.39

1.5. cuDNN 8.0.2 - 8.0.3

Supported NVIDIA hardware, CUDA, and CUDA driver versions for the cuDNN version 8.0.2 and 8.0.3 releases.

Table 5. Supported NVIDIA hardware, CUDA, and CUDA driver

Supported NVIDIA Hardware	CUDA Version	CUDA Compute Capability	CUDA Driver Version
▶ NVIDIA Ampere architecture-based A100/GA100 GPU ▶ Turing ▶ Volta ▶ Pascal ▶ Maxwell ▶ Kepler	CUDA 11.0	SM 3.5 and later	r450
▶ Turing ▶ Volta ▶ Xavier ▶ Pascal	CUDA 10.2	SM 3.0 and later	r440

Supported NVIDIA Hardware	CUDA Version	CUDA Compute Capability	CUDA Driver Version
<ul style="list-style-type: none"> ▶ Maxwell ▶ Kepler 			
<ul style="list-style-type: none"> ▶ Turing ▶ Volta ▶ Pascal ▶ Maxwell ▶ Kepler 	CUDA 10.1 Update 2	SM 3.0 and later	r418.39

1.6. cuDNN 8.0.0 - 8.0.1 Preview

Supported NVIDIA hardware, CUDA, and CUDA driver versions for cuDNN versions 8.0.0 and 8.0.1 Preview releases.

Table 6. Supported NVIDIA hardware, CUDA, and CUDA driver

Supported NVIDIA Hardware	CUDA Version	CUDA Compute Capability	CUDA Driver Version
<ul style="list-style-type: none"> ▶ NVIDIA Ampere architecture-based A100/GA100 GPU ▶ Turing ▶ Volta ▶ Pascal ▶ Maxwell ▶ Kepler 	CUDA 11.0	SM 3.5 and later	r450
<ul style="list-style-type: none"> ▶ Turing ▶ Volta ▶ Xavier ▶ Pascal ▶ Maxwell ▶ Kepler 	CUDA 10.2	SM 3.0 and later	r440

1.7. cuDNN 7.6.4 - 7.6.5

Refer to the following table to view the list of supported NVIDIA hardware, CUDA, and CUDA driver versions for cuDNN versions 7.6.4 and v7.6.5.

Table 7. Supported NVIDIA hardware, CUDA, and CUDA driver versions for cuDNN versions 7.6.4 and 7.6.5

Supported NVIDIA Hardware (Compute Capability)	CUDA Version	CUDA Driver Version
<ul style="list-style-type: none"> ▶ Turing (7.5) ▶ Volta (7.x) ▶ Xavier (7.2) ▶ Pascal (6.x) ▶ Maxwell (5.x) ▶ Kepler (3.x) 	CUDA 10.2	r440
<ul style="list-style-type: none"> ▶ Turing (7.5) ▶ Volta (7.x) ▶ Xavier (7.2) ▶ Pascal (6.x) ▶ Maxwell (5.x) ▶ Kepler (3.x) 	CUDA 10.1.243	r418.39
<ul style="list-style-type: none"> ▶ Turing (7.5) ▶ Volta (7.x) ▶ Xavier (7.2) ▶ Pascal (6.x) ▶ Maxwell (5.x) ▶ Kepler (3.x) 	CUDA 10.0.x	r410.48
<ul style="list-style-type: none"> ▶ Volta (7.x) ▶ Xavier (7.2) ▶ Pascal (6.x) ▶ Maxwell (5.x) ▶ Kepler (3.x) 	CUDA 9.2.148	r396.26
	CUDA 9.1.85 (Not Supported)	

Supported NVIDIA Hardware (Compute Capability)	CUDA Version	CUDA Driver Version
<ul style="list-style-type: none"> ▶ Volta (7.x) ▶ Xavier (7.2) ▶ Pascal (6.x) ▶ Maxwell (5.x) ▶ Kepler (3.x) 	CUDA 9.0.176	r384.111
	CUDA 8.0.61 (Not Supported)	

1.8. cuDNN 7.6.3

Refer to the following table to view the list of supported NVIDIA hardware, CUDA, and CUDA driver versions for cuDNN version 7.6.3.

Table 8. Supported NVIDIA hardware, CUDA, and CUDA driver versions for cuDNN version 7.6.3

Supported NVIDIA Hardware (Compute Capability)	CUDA Version	CUDA Driver Version
<ul style="list-style-type: none"> ▶ Turing (7.5) ▶ Volta (7.x) ▶ Xavier (7.2) ▶ Pascal (6.x) ▶ Maxwell (5.x) ▶ Kepler (3.x) 	CUDA 10.1.243	r418.39
<ul style="list-style-type: none"> ▶ Turing (7.5) ▶ Volta (7.x) ▶ Xavier (7.2) ▶ Pascal (6.x) ▶ Maxwell (5.x) ▶ Kepler (3.x) 	CUDA 10.0.x	r410.48
<ul style="list-style-type: none"> ▶ Volta (7.x) ▶ Xavier (7.2) ▶ Pascal (6.x) ▶ Maxwell (5.x) 	CUDA 9.2.148	r396.26

Supported NVIDIA Hardware (Compute Capability)	CUDA Version	CUDA Driver Version
▶ Kepler (3.x)		
	CUDA 9.1.85 (Not Supported)	
▶ Volta (7.x) ▶ Xavier (7.2) ▶ Pascal (6.x) ▶ Maxwell (5.x) ▶ Kepler (3.x)	CUDA 9.0.176	r384.111
	CUDA 8.0.61 (Not Supported)	

1.9. cuDNN 7.5.1 - 7.6.2

Refer to the following table to view the list of supported NVIDIA hardware, CUDA, and CUDA driver versions for cuDNN versions 7.5.1 - 7.6.2.

Table 9. Supported NVIDIA hardware, CUDA, and CUDA driver versions for cuDNN versions 7.5.1 - 7.6.2

Supported NVIDIA Hardware (Compute Capability)	CUDA Version	CUDA Driver Version
▶ Turing (7.5) ▶ Volta (7.x) ▶ Xavier (7.2) ▶ Pascal (6.x) ▶ Maxwell (5.x) ▶ Kepler (3.x)	CUDA 10.1.105	r418.39
▶ Turing (7.5) ▶ Volta (7.x) ▶ Xavier (7.2) ▶ Pascal (6.x) ▶ Maxwell (5.x) ▶ Kepler (3.x)	CUDA 10.0.x	r410.48
▶ Volta (7.x) ▶ Xavier (7.2)	CUDA 9.2.88	r396.26

Supported NVIDIA Hardware (Compute Capability)	CUDA Version	CUDA Driver Version
<ul style="list-style-type: none"> ▶ Pascal (6.x) ▶ Maxwell (5.x) ▶ Kepler (3.x) 		
	CUDA 9.1.85 (Not Supported)	
<ul style="list-style-type: none"> ▶ Volta (7.x) ▶ Xavier (7.2) ▶ Pascal (6.x) ▶ Maxwell (5.x) ▶ Kepler (3.x) 	CUDA 9.0.176	r384.111
	CUDA 8.0.61 (Not Supported)	

1.10. cuDNN 7.3.1 - 7.5.0

Refer to the following table to view the list of supported NVIDIA hardware, CUDA, and CUDA driver versions for cuDNN versions 7.3.1 - 7.5.0.

Table 10. Supported NVIDIA hardware, CUDA, and CUDA driver versions for cuDNN versions 7.3.1 - 7.5.0

Supported NVIDIA Hardware (Compute Capability)	CUDA Version	CUDA Driver Version
<ul style="list-style-type: none"> ▶ Turing (7.5) ▶ Volta (7.x) ▶ Xavier (7.2) ▶ Pascal (6.x) ▶ Maxwell (5.x) ▶ Kepler (3.x) 	CUDA 10.0.x	r410.48
<ul style="list-style-type: none"> ▶ Volta (7.x) ▶ Xavier (7.2) ▶ Pascal (6.x) ▶ Maxwell (5.x) ▶ Kepler (3.x) 	CUDA 9.2.88	r396.26
	CUDA 9.1.85 (Not Supported)	
<ul style="list-style-type: none"> ▶ Volta (7.x) 	CUDA 9.0.176	r384.111

Supported NVIDIA Hardware (Compute Capability)	CUDA Version	CUDA Driver Version
<ul style="list-style-type: none"> ▶ Xavier (7.2) ▶ Pascal (6.x) ▶ Maxwell (5.x) ▶ Kepler (3.x) 		
	CUDA 8.0.61 (Not Supported)	

1.11. cuDNN 7.1.4 - 7.2.1

Refer to the following table to view the list of supported NVIDIA hardware, CUDA, and CUDA driver versions for cuDNN versions 7.1.4 - 7.2.1.

Table 11. Supported NVIDIA hardware, CUDA, and CUDA driver versions for cuDNN versions 7.1.4 - 7.2.1

Supported NVIDIA Hardware (Compute Capability)	CUDA Version	CUDA Driver Version
	CUDA 10.0.x (Not Supported)	
<ul style="list-style-type: none"> ▶ Volta (7.x) ▶ Xavier (7.2) ▶ Pascal (6.x) ▶ Maxwell (5.x) ▶ Kepler (3.x) 	CUDA 9.2.88	r396.26
	CUDA 9.1.85 (Not Supported)	
<ul style="list-style-type: none"> ▶ Volta (7.x) ▶ Xavier (7.2) ▶ Pascal (6.x) ▶ Maxwell (5.x) ▶ Kepler (3.x) 	CUDA 9.0.176	r384.111
<ul style="list-style-type: none"> ▶ Xavier (7.2) ▶ Pascal (6.x) ▶ Maxwell (5.x) ▶ Kepler (3.x) 	CUDA 8.0.61	r375.88

Chapter 2. Software Requirements

The following tables highlight the compatibility of cuDNN versions with the various supported OS versions.

2.1. Linux

Refer to the following table to view the list of supported Linux versions for cuDNN.

2.1.1. cuDNN 8.1.0 - 8.2.2 For Linux

Linux versions for cuDNN 8.1.0 - 8.2.2 release

Architecture	OS Name	OS Version	Distro Information		
			Kernel	GCC	Glibc
x86_64	RHEL	7.8	3.10.0	4.8.5 ⁴	2.19
		8.2	4.18	8.3.1	2.28
	Ubuntu	20.04	5.4.0	9.3.0	2.31
		18.04.5 LTS	4.15.0	8.2.0	2.27
		16.04.6 LTS ⁵	4.4.0	5.4.0	2.23
ppc64le	RHEL	8.2	4.18	8.3.1	2.28
		7.8 ⁶	3.10.0	4.8.5	2.19
AArch64 SBSA	RHEL	8.2	4.18	8.3.1	2.28
	Ubuntu	20.04	5.4.0	9.3.0	2.27
AArch64	Ubuntu	18.04	4.15	7.3.1	2.31

2.1.2. cuDNN 8.0.5 For Linux

⁴ For platforms that ship a compiler version older than GCC 6 by default, linking to static cuDNN using the default compiler is not supported.

⁵ Starting in cuDNN 8.2.2, CUDA 11.4, Ubuntu 16.04 will be deprecated. We will continue to support CUDA 10.2 Toolkit.

⁶ Starting in cuDNN 8.2.2, CUDA 11.4, RHEL7 for ppc64le will be deprecated.

Linux versions for cuDNN 8.0.5 release

Architecture	OS Name	OS Version	Distro Information		
			Kernel	GCC	Glibc
x86_64	RHEL	7.8	3.10.0	4.8.5	2.17
		8.2 ⁷	4.18	8.3.1	2.28
	Ubuntu	20.04	5.4.0	9.3.0	2.32
		18.04.5 LTS	4.15.0	8.2.0	2.27
		16.04.6 LTS	4.5.0	5.4.0	2.23
ppc64le	RHEL	8.2	4.18	8.3.1	2.28
AArch64 SBSA	RHEL	8	4.18	8.3.0	2.28
	Ubuntu	18.04	4.15	8.3.0	2.27
AArch64 ⁸	Ubuntu	18.04	4.15	7.3.1	2.27

2.1.3. cuDNN 8.0.4 For Linux

Linux versions for cuDNN 8.0.4 release

Architecture	OS Name	OS Version	Distro Information		
			Kernel	GCC	Glibc
x86_64	RHEL	7.8	3.10.0	4.8.5	2.17
		8.2	4.18	8.3.1	2.28
	Ubuntu	18.04.4 LTS	4.15.0	8.2.0	2.27
		16.04.6 LTS	4.5.0	5.4.0	2.23
ppc64le	RHEL	8.2	4.18	8.3.1	2.28
	Ubuntu	18.04.4 LTS	4.4.0	5.4.0	2.27
AArch64 SBSA	RHEL	8	4.18	8.3.0	2.28
	Ubuntu	18.04	4.15	8.3.0	2.27
AArch64	Ubuntu	18.04			

2.1.4. cuDNN 8.0.2 - 8.0.3 For Linux

⁷ Not supported in CUDA 10.1 Update 2.

⁸ Supported in CUDA 11.0 Toolkit only.

Linux versions for cuDNN 8.0.2 - 8.0.3 releases

Architecture	OS Name	OS Version	Distro Information		
			Kernel	GCC	Glibc
x86_64	RHEL	7.6	3.10.0	4.8.5	2.17
		8.1	4.18	8.3.1	2.28
	Ubuntu	18.04.4 LTS	4.15.0	8.2.0	2.27
		16.04.6 LTS	4.5.0	5.4.0	2.23
ppc64le	Ubuntu	18.04.4 LTS	4.4.0	5.4.0	2.27
	RHEL	7.6			
		8.1			
AArch64	Ubuntu18_04				

2.1.5. cuDNN 8.0.0 - 8.0.1 Preview For Linux

Linux versions for cuDNN 8.0.0 - 8.0.1 Preview releases

Architecture	OS Name	OS Version	Distro Information		
			Kernel	GCC	Glibc
x86_64	RHEL	7.6	3.10.0	4.8.5	2.17
		8.1	4.18	8.3.1	2.28
	Ubuntu	18.04.3 LTS	4.15.0	8.2.0	2.27
		16.04.6 LTS	4.5.0	5.4.0	2.23
ppc64le	Ubuntu	18.04.3 LTS	4.4.0	5.4.0	2.27
	RHEL7	7.6			
		8.1			
AArch64 ⁹	Ubuntu18_04				

2.1.6. cuDNN 7.6.4 - 7.6.5 For Linux

Linux versions for cuDNN 7.6.4 - 7.6.5 releases

Architecture	OS Name	OS Version	Distro Information		
			Kernel	GCC	Glibc
x86_64	RHEL	7.6	3.10.0	4.8.5	2.17

⁹ Supported in CUDA 10.2 Toolkit only.

Architecture	OS Name	OS Version	Distro Information		
			Kernel	GCC	Glibc
	Ubuntu	18.04.3 LTS	4.15.0	8.2.0	2.27
		16.04.6 LTS	4.5.0	5.4.0	2.23
ppc64le	Ubuntu	18.04.3 LTS	4.4.0	5.4.0	2.27
	RHEL	7.6			
AArch64	Ubuntu18_04				

2.2. Windows

Refer to the following tables to view the list of supported Windows versions for cuDNN.

2.2.1. cuDNN 8.x.x For Windows

Windows 10 and Windows Server 2019 and 2016 are supported.

Visual Studio versions based on your version of CUDA

	CUDA 11.0	CUDA 10.2
Visual Studio	2015	2012

2.2.2. cuDNN 7.6.4 - 7.6.5 For Windows

Windows 10 and Windows Server 2016 are supported.

Visual Studio versions based on your version of CUDA

	CUDA 10.2	CUDA 10.1 Update 2
Visual Studio	2012	

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