



# 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 8.1.0 - 8.1.1

Supported NVIDIA hardware, CUDA, and CUDA driver versions for the cuDNN 8.1.0 - 8.1.1 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 ▶ Turing ▶ Volta ▶ Pascal ▶ Maxwell ▶ Kepler	<a href="#">11.2</a> <sup>1</sup>	SM 3.5 and later	r460, r455, r450	
	<a href="#">11.1</a>		r450, r455	
	<a href="#">11.0</a>		r450	
	▶ Turing ▶ Volta ▶ Xavier ▶ Pascal ▶ Maxwell ▶ Kepler	<a href="#">10.2</a>	SM 3.0 and later	r440

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<sup>1</sup> 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.

## 1.2. cuDNN 8.0.5

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

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"> <li>▶ NVIDIA Ampere GPU architecture</li> <li>▶ Turing</li> <li>▶ Volta</li> <li>▶ Pascal</li> <li>▶ Maxwell</li> <li>▶ Kepler</li> </ul>	CUDA 11.1	SM 3.5 and later	r450, r455
<ul style="list-style-type: none"> <li>▶ NVIDIA Ampere GPU architecture</li> <li>▶ Turing</li> <li>▶ Volta</li> <li>▶ Pascal</li> <li>▶ Maxwell</li> <li>▶ Kepler</li> </ul>	CUDA 11.0	SM 3.5 and later	r450
<ul style="list-style-type: none"> <li>▶ Turing</li> <li>▶ Volta</li> <li>▶ Xavier</li> <li>▶ Pascal</li> <li>▶ Maxwell</li> <li>▶ Kepler</li> </ul>	CUDA 10.2	SM 3.0 and later	r440
<ul style="list-style-type: none"> <li>▶ Turing</li> <li>▶ Volta</li> <li>▶ Pascal</li> <li>▶ Maxwell</li> <li>▶ Kepler</li> </ul>	CUDA 10.1 Update 2	SM 3.0 and later	r418.39

## 1.3. 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 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"> <li>▶ NVIDIA Ampere architecture-based A100/GA100 GPU</li> <li>▶ Turing</li> <li>▶ Volta</li> <li>▶ Pascal</li> <li>▶ Maxwell</li> <li>▶ Kepler</li> </ul>	CUDA 11.0	SM 3.5 and later	r450
<ul style="list-style-type: none"> <li>▶ Turing</li> <li>▶ Volta</li> <li>▶ Xavier</li> <li>▶ Pascal</li> <li>▶ Maxwell</li> <li>▶ Kepler</li> </ul>	CUDA 10.2	SM 3.0 and later	r440
<ul style="list-style-type: none"> <li>▶ Turing</li> <li>▶ Volta</li> <li>▶ Pascal</li> <li>▶ Maxwell</li> <li>▶ Kepler</li> </ul>	CUDA 10.1 Update 2	SM 3.0 and later	r418.39

## 1.4. 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 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"> <li>▶ NVIDIA Ampere architecture-based A100/GA100 GPU</li> <li>▶ Turing</li> <li>▶ Volta</li> <li>▶ Pascal</li> <li>▶ Maxwell</li> <li>▶ Kepler</li> </ul>	CUDA 11.0	SM 3.5 and later	r450
<ul style="list-style-type: none"> <li>▶ Turing</li> <li>▶ Volta</li> <li>▶ Xavier</li> <li>▶ Pascal</li> <li>▶ Maxwell</li> <li>▶ Kepler</li> </ul>	CUDA 10.2	SM 3.0 and later	r440

## 1.5. 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 5. 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"> <li>▶ Turing (7.5)</li> <li>▶ Volta (7.x)</li> <li>▶ Xavier (7.2)</li> <li>▶ Pascal (6.x)</li> <li>▶ Maxwell (5.x)</li> <li>▶ Kepler (3.x)</li> </ul>	CUDA 10.2	r440
<ul style="list-style-type: none"> <li>▶ Turing (7.5)</li> <li>▶ Volta (7.x)</li> </ul>	CUDA 10.1.243	r418.39

Supported NVIDIA Hardware (Compute Capability)	CUDA Version	CUDA Driver Version
<ul style="list-style-type: none"> <li>▶ Xavier (7.2)</li> <li>▶ Pascal (6.x)</li> <li>▶ Maxwell (5.x)</li> <li>▶ Kepler (3.x)</li> </ul>		
<ul style="list-style-type: none"> <li>▶ Turing (7.5)</li> <li>▶ Volta (7.x)</li> <li>▶ Xavier (7.2)</li> <li>▶ Pascal (6.x)</li> <li>▶ Maxwell (5.x)</li> <li>▶ Kepler (3.x)</li> </ul>	CUDA 10.0.x	r410.48
<ul style="list-style-type: none"> <li>▶ Volta (7.x)</li> <li>▶ Xavier (7.2)</li> <li>▶ Pascal (6.x)</li> <li>▶ Maxwell (5.x)</li> <li>▶ Kepler (3.x)</li> </ul>	CUDA 9.2.148	r396.26
	CUDA 9.1.85 (Not Supported)	
<ul style="list-style-type: none"> <li>▶ Volta (7.x)</li> <li>▶ Xavier (7.2)</li> <li>▶ Pascal (6.x)</li> <li>▶ Maxwell (5.x)</li> <li>▶ Kepler (3.x)</li> </ul>	CUDA 9.0.176	r384.111
	CUDA 8.0.61 (Not Supported)	

## 1.6. 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 6. 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"> <li>▶ Turing (7.5)</li> <li>▶ Volta (7.x)</li> <li>▶ Xavier (7.2)</li> <li>▶ Pascal (6.x)</li> <li>▶ Maxwell (5.x)</li> <li>▶ Kepler (3.x)</li> </ul>	CUDA 10.1.243	r418.39
<ul style="list-style-type: none"> <li>▶ Turing (7.5)</li> <li>▶ Volta (7.x)</li> <li>▶ Xavier (7.2)</li> <li>▶ Pascal (6.x)</li> <li>▶ Maxwell (5.x)</li> <li>▶ Kepler (3.x)</li> </ul>	CUDA 10.0.x	r410.48
<ul style="list-style-type: none"> <li>▶ Volta (7.x)</li> <li>▶ Xavier (7.2)</li> <li>▶ Pascal (6.x)</li> <li>▶ Maxwell (5.x)</li> <li>▶ Kepler (3.x)</li> </ul>	CUDA 9.2.148	r396.26
	CUDA 9.1.85 (Not Supported)	
<ul style="list-style-type: none"> <li>▶ Volta (7.x)</li> <li>▶ Xavier (7.2)</li> <li>▶ Pascal (6.x)</li> <li>▶ Maxwell (5.x)</li> <li>▶ Kepler (3.x)</li> </ul>	CUDA 9.0.176	r384.111
	CUDA 8.0.61 (Not Supported)	

## 1.7. 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 7. 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
<ul style="list-style-type: none"> <li>▶ Turing (7.5)</li> <li>▶ Volta (7.x)</li> <li>▶ Xavier (7.2)</li> <li>▶ Pascal (6.x)</li> <li>▶ Maxwell (5.x)</li> <li>▶ Kepler (3.x)</li> </ul>	CUDA 10.1.105	r418.39
<ul style="list-style-type: none"> <li>▶ Turing (7.5)</li> <li>▶ Volta (7.x)</li> <li>▶ Xavier (7.2)</li> <li>▶ Pascal (6.x)</li> <li>▶ Maxwell (5.x)</li> <li>▶ Kepler (3.x)</li> </ul>	CUDA 10.0.x	r410.48
<ul style="list-style-type: none"> <li>▶ Volta (7.x)</li> <li>▶ Xavier (7.2)</li> <li>▶ Pascal (6.x)</li> <li>▶ Maxwell (5.x)</li> <li>▶ Kepler (3.x)</li> </ul>	CUDA 9.2.88	r396.26
	CUDA 9.1.85 (Not Supported)	
<ul style="list-style-type: none"> <li>▶ Volta (7.x)</li> <li>▶ Xavier (7.2)</li> <li>▶ Pascal (6.x)</li> <li>▶ Maxwell (5.x)</li> <li>▶ Kepler (3.x)</li> </ul>	CUDA 9.0.176	r384.111
	CUDA 8.0.61 (Not Supported)	

## 1.8. 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 8. 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"> <li>▶ Turing (7.5)</li> <li>▶ Volta (7.x)</li> <li>▶ Xavier (7.2)</li> <li>▶ Pascal (6.x)</li> <li>▶ Maxwell (5.x)</li> <li>▶ Kepler (3.x)</li> </ul>	CUDA 10.0.x	r410.48
<ul style="list-style-type: none"> <li>▶ Volta (7.x)</li> <li>▶ Xavier (7.2)</li> <li>▶ Pascal (6.x)</li> <li>▶ Maxwell (5.x)</li> <li>▶ Kepler (3.x)</li> </ul>	CUDA 9.2.88	r396.26
	CUDA 9.1.85 (Not Supported)	
<ul style="list-style-type: none"> <li>▶ Volta (7.x)</li> <li>▶ Xavier (7.2)</li> <li>▶ Pascal (6.x)</li> <li>▶ Maxwell (5.x)</li> <li>▶ Kepler (3.x)</li> </ul>	CUDA 9.0.176	r384.111
	CUDA 8.0.61 (Not Supported)	

## 1.9. 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 9. 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"> <li>▶ Volta (7.x)</li> </ul>	CUDA 9.2.88	r396.26

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

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# 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 - 8.1.1 For Linux

Linux versions for cuDNN 8.1.0 - 8.1.1 release

Architecture	OS Name	OS Version	Distro Information		
			Kernel	GCC	Glibc
x86_64	RHEL	7.8	3.10.0	4.8.5	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	4.4.0	5.4.0	2.23
ppc64le	RHEL	8.2	4.18	8.3.1	2.28
		7.8	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

## 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 <sup>2</sup>	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 <sup>3</sup>	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 <sup>4</sup>	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 <sup>2</sup>	Ubuntu	18.04			

## 2.1.4. cuDNN 8.0.2 - 8.0.3 For Linux

<sup>2</sup> Not supported in CUDA 10.1 Update 2.

<sup>3</sup> Supported in CUDA 11.0 Toolkit only.

<sup>4</sup> Not supported in CUDA 10.1 Update 2.

## 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 <sup>2</sup>	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 <sup>5</sup>	Ubuntu18_04				

## 2.1.6. cuDNN 7.6.4 - 7.6.5 For Linux

<sup>5</sup> Supported in CUDA 10.2 Toolkit only.

## 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
	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 <sup>2</sup>	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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