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## NVIDIA CUDA Toolkit

### Description

The NVIDIA CUDA Toolkit provides command-line and graphical tools for building, debugging and optimizing the performance of applications accelerated by NVIDIA GPUs, runtime and math libraries, and documentation including programming guides, user manuals, and API references. The NVIDIA CUDA Toolkit License Agreement is available in [Chapter 1](#).

### Default Install Location of CUDA Toolkit

Windows platform:

```
%ProgramFiles%\NVIDIA GPU Computing Toolkit\CUDA\v#.#
```

Linux platform:

```
/usr/local/cuda-#.#
```

Mac platform:

```
/Developer/NVIDIA/CUDA-#.#
```

## NVIDIA CUDA Samples

### Description

This package includes over 100+ CUDA examples that demonstrate various CUDA programming principles, and efficient CUDA implementation of algorithms in specific application domains. The NVIDIA CUDA Samples License Agreement is available in [Chapter 2](#).

## Default Install Location of CUDA Samples

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```
%ProgramData%\NVIDIA Corporation\CUDA Samples\v#.#
```

Linux platform:

```
/usr/local/cuda-#.#/samples
```

and

```
$HOME/NVIDIA_CUDA-#.#_Samples
```

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```
/Developer/NVIDIA/CUDA-#.#/samples
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## NVIDIA Driver

### Description

This package contains the operating system driver and fundamental system software components for NVIDIA GPUs. The NVIDIA Driver License is available in [Chapter 3](#).

## NVIDIA Nsight Visual Studio Edition (Windows only)

### Description

NVIDIA Nsight Development Platform, Visual Studio Edition is a development environment integrated into Microsoft Visual Studio that provides tools for debugging, profiling, analyzing and optimizing your GPU computing and graphics applications. The NVIDIA Nsight Visual Studio Edition License Agreement is available in [Chapter 4](#).

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```
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# Chapter 1.

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```

Component : CUDA Runtime
  Windows : cudart.dll, cudart_static.lib
  MacOS   : libcudart.dylib, libcudart_static.a
  Linux   : libcudart.so, libcudart_static.a

Component : CUDA FFT Library
  Windows : cufft.dll
  MacOS   : libcufft.dylib
  Linux   : libcufft.so

Component : CUDA BLAS Library
  Windows : cublas.dll
  MacOS   : libcublas.dylib
  Linux   : libcublas.so

Component : CUDA Sparse Matrix Library
  Windows : cusparse.dll
  MacOS   : libcusparse.dylib
  Linux   : libcusparse.so

Component : CUDA Random Number Generation Library
  Windows : curand.dll
  MacOS   : libcurand.dylib
  Linux   : libcurand.so

Component : NVIDIA Performance Primitives Library
  Windows : nppc.dll, nppi.dll, npps.dll
  MacOS   : libnppc.dylib, libnppi.dylib, libnpps.dylib
  Linux   : libnppc.so, libnppi.so, libnpps.so

Component : NVIDIA Optimizing Compiler Library
  Windows : nvvm.dll
  MacOS   : libnvvm.so
  Linux   : libnvvm.dylib

Component : NVIDIA Common Device Math Functions Library
  Windows : libdevice.compute_20.bc, libdevice.compute_30.bc,
libdevice.compute_35.bc
  MacOS   : libdevice.compute_20.bc, libdevice.compute_30.bc,
libdevice.compute_35.bc
  Linux   : libdevice.compute_20.bc, libdevice.compute_30.bc,
libdevice.compute_35.bc

Component : NVIDIA Internal Library
  MacOS   : libtlshook.dylib

```

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