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The Microsoft® Windows® installer is delivered as self-extracting executable files for 32- or 64-bit systems. The Linux installer is delivered as gzip-compressed tar archive for 32- or 64-bit systems.

## 1 Overview

The AMD APP SDK v2.9 is provided to the developer community to accelerate the programming in a heterogeneous environment. The package consists of samples that serve as examples for a wide class of developers on different facets of heterogeneous programming.

The AMD APP SDK package contains the runtime for CPU hardware only. The GPU runtime is included in the Catalyst driver.

For Microsoft® Windows® platforms, the AMD APP SDK installer installs the following packages on your system by default (unless you choose to customize the install):

1. AMD APP SDK CPU Runtime package.
2. AMD APP SDK Developer package. This includes:
  - the OpenCL™ compiler,
  - pointers to the latest versions of the developer documentation, including to the AMD Math Libraries.
3. AMD APP SDK Samples package. This includes:
  - sample applications,
  - sample documentation.

For Linux® platforms, the AMD APP SDK consists of one package. To ensure proper installation, see [Section 3.2, “On Linux Systems,” page 4](#).

The AMD APP SDK Developer installation includes the following folders:

- `bin` - This includes tools for compiling OpenCL applications, as well as the OpenCL dynamic library for running them.
- `lib` - This contains the base OpenCL CPU runtime library to which the applications link on Windows systems.
- `include` - This contains the header files for the OpenCL runtime.
- `docs` - This contains developer documentation for the AMD APP SDK. Additional developer documentation is available online at: <http://developer.amd.com/tools/heterogeneous-computing/amd-accelerated-parallel-processing-app-sdk/documentation/>

The AMD APP SDK CPU runtime installation for Windows adds the variable `AMDAPPSDKROOT` to your environment. This points to the location where you have installed the SDK development package. The Windows installer also adds the locations of the OpenCL dynamic libraries to your system `PATH` variable, so applications know where to find it.

The AMD APP SDK Samples installation includes the following folders:

- `bin` - This includes pre-built binaries and dynamic libraries for running AMD APP samples.
- `lib` - This contains AMD APP SDK utility libraries to which sample applications link.
- `include` - This contains the header files for utilities and tools used by the samples.
- `samples` - This contains sample applications for OpenCL, C++ AMP, Bolt, Aparapi, and OpenCV.

The AMD APP SDK Samples installer for Windows adds the variable `AMDAPPSDKROOT` to your environment. This points to the location where CPU run-time files are installed. The sample applications are installed to the path as specified during installation or to the default path "`C:\Users\<user-name>\AMD APP SDK\2.9`".

## 2 Prerequisites

To install and run the AMD APP SDK v2.9 requires that you have:

- administrative privileges on the system.
- one of the following:
  - Windows 8.1
  - Windows 8
  - Windows 7
    - ◇ For running the pre-built samples, the Microsoft Visual Studio 2012 redistributable must be installed.
    - ◇ Optionally (for building the Microsoft Visual Studio projects): Microsoft Visual Studio 2010 or Microsoft Visual Studio 2012.
    - ◇ Bolt samples require Microsoft Visual Studio 2010 or Microsoft Visual Studio 2012.
    - ◇ Bolt and OpenCV samples require precompiled binaries and require the Environment variable path to be set. For details about the setup for BOLT and OpenCV, see the AMD APP SDK Getting Started Guide.
    - ◇ DirectX samples require the installation of the Microsoft DirectX SDK (June 2010). The SDK can be downloaded from <http://www.microsoft.com/en-us/download/details.aspx?id=6812>
    - ◇ C++AMP samples require Microsoft Visual Studio 2012.
- installed the latest version of the AMD Catalyst™ driver on your system in order to take advantage of the AMD GPU's capabilities with OpenCL™. The samples can be run without the Catalyst driver, in which case they will rely on the CPU runtime.

To run pre-built Bolt and C++Amp samples, Microsoft Visual Studio 2012 must be installed on the host operating system.

C++ Amp samples can be built and executed only with Microsoft Visual Studio 2012.

Bolt samples can be built and executed with Microsoft Visual Studio 2012 and Visual Studio 2010.

### 3 Installing the SDK

Starting with APP SDK 2.9, multiple versions of APP SDK releases can co-exist. Installing a new version does not require uninstalling the previous version.

The only caveat, however, is that the `AMDAPPSDKROOT` environment variable will point to the OpenCL runtime binaries of the latest release installed. If samples from the previous releases are to be used, they must be compiled and validated to build correctly with the latest runtimes. If issues occur, developers can point `AMDAPPSDKROOT` to the earlier version of the OpenCL runtime in order to compile and run samples from previous releases.

#### 3.1 On Windows Systems

Step 1. Choose the AMD APP SDK executable appropriate for your system, and double-click it.

- For 32-bit Windows 8.1, Windows 8, and Windows 7 SP1 systems, choose `AMD-APP-SDK-v2.9.x.y-Windows-32.exe`.
- For 64-bit Windows 8.1, Windows 8, and Windows 7 SP1 systems, choose `AMD-APP-SDK-v2.9.x.y-Windows-64.exe`.

The InstallShield Wizard screen appears. Click "Next". The End User License Agreement appears. Click Accept and Click "Next".

Step 2. The screen lets you choose the type of installation. Complete installation installs the following packages:

- AMD APP SDK 2.9 CPU Runtime
- AMD APP SDK 2.9 Developer packages
- AMD APP SDK 2.9 Samples

CPU Runtime and Developer packages are installed to the default location (`AMDAPPSDKROOT`) and Samples are installed to the default ("`C:\Users\<user-name>\AMD APP SDK\2.9`") location.

Custom installation installs the CPU Runtime and Developer packages and lets you select the type of samples to install.

If you select Custom, continue with Step 3. If you select Complete, skip to Step 4.

Step 3. In the Custom installation wizard, developers can either select all the samples or pick and select a specific category of samples such as OpenCL, Bolt, C++AMP, APARAPI and/or OpenCV-CL samples. Select the component(s) you want to install, and click Next.

Step 4. Click "install" and a progress bar appears, followed by a confirmation screen that the installation is complete. Click Finish to complete the installation.

With SDK 2.9 or later, `clinfo.exe` is copied under `C:\windows\system32\`.

#### Manually Setting Environment Variables

If your environment variables become corrupted, ensure the proper settings for the following.

The AMDAPPSDKROOT variable must be set to:

```
C:\Program Files\AMD APP SDK\2.9 (for 32-bit systems)
C:\Program Files (x86)\AMD APP SDK\2.9(for 64-bit systems)
```

If the default configuration was not used, modify the value to the location specified during the installation.

The path variable must include:

```
$(AMDAPPSDKROOT)\bin\x86 (for 32-bit systems)
```

```
$(AMDAPPSDKROOT)\bin\x86_64 (for 64-bit systems)
```

## 3.2 On Linux Systems

Note that the Linux OpenCL runtime is integrated with the Catalyst Linux driver 13.11 beta V1 or later.

You must have root permissions to install this SDK. Also note that the latest version of the Catalyst driver must be installed separately.

1. Untar the SDK to a location of your choice.

For 32-bit systems, unzip the .tgz file by entering  
`tar -xvzf AMD-APP-SDK-v2.9.x.y-lnx32.tgz.`

For 64-bit systems, unzip the .tgz file by entering  
`tar -xvzf AMD-APP-SDK-v2.9.x.y-lnx64.tgz.`

2. Run `sudo ./Install-AMD-APP.sh.`

Note that this automatically completes the following:

- a. Registers the ICD.
- b. Globally sets the environmental variables. They are reflected to all users.  
It is not necessary to set the library path.  
It is not necessary to export AMDAPPSDKROOT.  
It is not necessary to export the LD\_LIBRARY\_PATH.
- c. Installs the Linux APP SDK developer and sample files /binaries under `/opt/AMDAPP/`.
- d. Installs the Linux APP SDK CPU runtime files under `/opt/AMDAPP/lib.`

Notes:

- a. If the error "path not found" while clearing the cache is generated on OpenSUSE/Ubuntu, ignore it.
- b. If you want to install under a different path than `/opt/AMDAPP`, update the `default-install_lnx_32.pl` or `default-install_lnx_64.pl` file, as appropriate, with the path to the new location.
- c. To change or update the environment variables:
  - i. Open `etc/profile`; then check the `AMDAPPSDKROOT` and `LD_LIBRARY_PATH` settings.
  - ii. Check `/etc/ld.so.conf.d/amdapp_x86.conf` and `/etc/ld.so.conf.d/amdapp_x86_64.conf`.

## 4 Modifying and Uninstalling APP SDK Components

### 4.1 On Windows Systems

Starting with APP SDK 2.9, the installer allows you to modify or repair an already-installed APP SDK samples package.

#### 4.1.1 Modify or Repair APP SDK samples

- Step 1. On the Windows Start menu, go to "Control Panel" ->"Programs and Features".
- Step 2. Select "AMD APP SDK 2.9", and click Uninstall.
- Step 3. Select the Modify option and click Next.
- Step 4. Add and/or remove components as needed.
- Step 5. Click Next and complete the installation.

The steps for repairing samples are similar to the steps mentioned above. In Step 3, select the Repair option instead of the Modify option.

#### 4.1.2 Uninstall APP SDK samples

This action will remove the CPU Runtime, Developer packages, and Sample packages.

- Step 1. On the Windows Start menu, go to "Control Panel" ->"Programs and Features".
- Step 2. Select "AMD APP SDK 2.9" and click Uninstall.
- Step 3. Select the Uninstall option and click Next.
- Step 4. Complete the uninstall steps.

**Note:** To uninstall any previous AMD APP SDK version, follow the steps outlined in the AMD APP SDK Installation Notes guide corresponding to that AMD APP SDK version.

### 4.2 On Linux Systems

1. Delete the directory pointed to the AMDAPPSDKROOT environment variable.
2. Remove the AMDAPPSDKROOT and LD\_LIBRARY\_PATH environment variables.
3. Delete the `amdocl[32][64].so` from `/etc/OpenCL/vendors`.
4. Manually remove temporary and new files created with OpenCL.

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