



Edge SDK - Install Guide

Release 1.2

ADLINK

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INSTALLATION GUIDE

This guide describes the procedure to install and configure the ADLINK Edge SDK on a development machine.

1.1 Introduction

The ADLINK Edge SDK is a set of libraries and tools to build IoT solutions.

The Edge SDK provides simple APIs for creating and maintaining Things on a data sharing framework, the ADLINK Data River.

Edge SDK APIs are provided for the following languages:

- C++
- Python

For more detailed instructions and a description of the key concepts, please refer to the language specific 'Edge SDK User Guide'. The user guides can be found in the 'docs' subdirectory in the installation directory.

An API reference manual is also provided for the C++ programming language. The PDF version can be found in the 'docs' subdirectory. The HTML version is located under the 'docs/cpp_api' directory.

1.2 System Requirements and Dependencies

Each Edge SDK API implementation has its own system requirements and dependencies.

1.2.1 Edge SDK C++ API

Linux

- 64-bit Linux machine
- GCC 4.8 or higher
- CMAKE 3.5 or higher
- OpenSSL 1.0.2 (only required when using the security composer tool)
- Vortex OpenSplice 6.10.1p2 or later (v6.10.3 included with Edge SDK installer)

Windows

- 64-bit Windows machine
- Microsoft Visual Studio version compatible with installer (e.g. VS2015)

- CMAKE 3.11.0 or higher
- OpenSSL 1.0.2 (only required when using the security composer tool)
- Vortex OpenSplice 6.10.1p2 or later (v6.10.3 included with Edge SDK installer)

1.2.2 Edge SDK Python API

Linux

- 64-bit Linux machine
- Python version 2.7 or later and pip
- OR Python3 version 3.5.0 or later and pip3
- Vortex OpenSplice 6.10.1p2 or later (v6.10.3 included with Edge SDK installer)

Windows

- 64-bit Windows machine
- Python version 3.5.0 or later
- pip (usually included in Python for Windows)
- Vortex OpenSplice 6.10.1p2 or later (v6.10.3 included with Edge SDK installer)

1.3 Installation

1.3.1 General Installation Steps

Steps:

1. Get the installer for your platform
2. Run the installer, e.g. for Linux:

```
./EdgeSDK-x86_64.linux-gcc5.4.0-glibc2.23-installer.run
```
3. Read and accept the license agreement
4. Enter installation directory or use default
 - Linux default: /home/[user]/ADLINK
 - Windows default: C:/Program Files/ADLINK
5. Choose whether to specify a license file (see the section *Licensing* below)
6. Start the installation
7. The Edge SDK is installed in the directory <installdir>/EdgeSDK/x.x/ under the provided installation directory.
8. Once the installation is completed, run a setup script to set the environment variables OSPL_HOME and EDGE_SDK_HOME. (see the section *Configuring environment variables* below)

- Linux: source config_env_variables.com:

```
source <installdir>/EdgeSDK/x.x/config_env_variables.com
```

- Windows: run the batch file config_env_variables.bat:

```
<installdir>/EdgeSDK/x.x/config_env_variables.bat
```

9. The file <installdir>/EdgeSDK/x.x/README includes instructions on: system requirements and dependencies, setup and directory structure.

1.3.2 Python - Additional Installation Steps

When using the Edge SDK Python API, Python specific additional steps are required, once the steps in *General Installation Steps* are completed.

The Python api is bundled as Python wheel files in the <installdir>/EdgeSDK/x.x/python directory. This avoids requiring a native compiler.

Multiple wheels are provided, to accomodate different python versions. A user can install a wheel that matches their chosen python version.

Steps:

1. Navigate to the location of Python API wheel files: <installdir>/EdgeSDK/x.x/python
2. Select wheel file for desired Python version and install it using pip

```
pip install adlinktech_datariver-1.1.0-cp35-cp35m-linux_x86_64.whl
```

1.4 Licensing

To use the Edge SDK you need to provide a valid license file. This can be a paid license or an evaluation license that was provided when downloading the SDK. The license file should be copied in the *etc* directory in the Edge SDK root, e.g.

```
<installdir>/EdgeSDK/x.x/etc/license.lic
```

The license file will be automatically detected by the Edge SDK during runtime.

In case you need any assistance with licensing or if you would like to upgrade your evaluation license to a paid license, please contact ADLINK technical support at technical-support@adlinktech.com.

1.5 Configuring Environment Variables

A setup script, called **config_env_variables**, is provided by EdgeSDK to setup the required environment variables. In most cases, no update to this script is required

When running the config_env_variables script, a message will appear indicating that config_env_variables file must be updated IF a variable named release_file is invalid. The release_file variable should point to an OSPL release script that sets the required OSPL environment variables. On installation, the EdgeSDK installer was unable to set this variable.

This message appears when : On EdgeSDK installation, 1 or more existing valid OSPL installations(s) are found, AND the OSPL_HOME environment variable is not set.

- Linux: Update config_env_variables.com
Invalid release_file variable:

```
release_file=@@OSPLHOME@@/release.com
```

Set release_file variable to valid OSPL installation:

```
release_file=/home/adlink/ADLINK/Vortex_v2/Device/VortexOpenSplice/6.10.X/HDE/x86_
↪64.linux/release.com
```

- Windows: Update config_env_variables.bat

Invalid release_file variable:

```
set release_file="@@OSPLHOME@@\release.bat"
```

Set release_file variable to valid OSPL installation:

```
set release_file="C:\Program Files\ADLINK\Vortex_v2\Device\VortexOpenSplice\6.10.
↪X\HDE\x86_64.win64\release.bat"
```

1.6 Building Examples

The Edge SDK comes with a number of examples which can be found in the directory \$EDGE_SDK_HOME/examples.

Examples are provided for each of the Edge SDK APIs :

- C++ (\$EDGE_SDK_HOME/examples/cpp)
- Python (\$EDGE_SDK_HOME/examples/python)

A README.txt is provided in both the examples/cpp and examples/python directories. The README file explains how to build and run the examples.

For a more detailed description of the examples and of the key concepts in the Edge SDK, please refer to the Edge SDK User Guides that are in the \$EDGE_SDK_HOME/docs directory.