



NVIDIA DOCA Samples

Overview

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Chapter 1. Introduction

The DOCA samples are simple code snippets meant to demonstrate the functionality of different DOCA lib programming on top of the DPU using the DOCA API.

Each sample demonstrates the use of only one DOCA library and focuses on a single component. The samples provide a reference for development and illustrate how to use the library API, but do not contain a main function or an executable to run. For a reference to a Meson build file, see the application's Meson file.

DOCA samples can be used either on the host or Arm, except for the App Shield samples which can only be used on the Arm side.

For instructions on the development environment and installation, refer to the [NVIDIA DOCA Developer Guide](#) and the [NVIDIA DOCA Installation Guide](#).

Chapter 2. App Shield Samples

[The App Shield samples](#) demonstrate how to monitor the host in several aspects.

The samples show how to properly initialize the DOCA App Shield lib and use its API to get information on the monitored system/process.

Chapter 3. Comm Channel Samples

[The Comm Channel samples](#) demonstrate how to create a classic client-server framework. The client is created on the host side and a server on the DPU.

Chapter 4. DMA Samples

[The DMA samples](#) demonstrate how to use the DMA library to copy memory from one buffer to another on the DPU. They also show how to copy memory from x86 host to the DPU.

Chapter 5. DPI Samples

[The DPI samples](#) demonstrate an end-to-end flow of a packet being inspected by the DOCA DPI library. The samples also show the use of gRPC over DPI library.

Chapter 6. Flow Samples

[The Flow samples](#) demonstrate how to create different types of pipes, add entries, and handle aged entries. The samples show the use of library structs (e.g., `doca_flow_match`, `doca_flow_actions`) for creating rules.

Chapter 7. RegEx Samples

[The RegEx samples](#) demonstrate how to use the DOCA RegEx API to configure, send and receive data buffers to and from the BlueField hardware regular expressions engine, and get the matches according to the loaded compiled regular expression.

Chapter 8. Telemetry Samples

[The Telemetry samples](#) demonstrate the use of the DOCA Telemetry and Telemetry NetFlow APIs. The samples show how to create a schema, start NetFlow, create source, and send records to a file or to IPC sockets.

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