



# NVIDIA DOCA Arg Parser

## User Guide

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# Chapter 1. Introduction

The arg parser module makes it simple to create a user command-line interface to supply program arguments. The module supports both regular command-line arguments and flags from a JSON file.

It also creates help and usage messages for all possible flags when the user provides invalid inputs to the program.

# Chapter 2. JSON Content

## 2.1. DPDK Flags

The following table lists the supported DPDK flags:

Short Flag	Long Flag/ JSON Key	Flag Description	JSON Content	JSON Content Description
a	devices	Add a PCIe device to the list of devices to probe	<pre>"devices": [   {     "device":     "regex",     "id":     "0000: 03:     00.0"   },   {     "device":     "sf",     "id": "4",     "sft": true   },   {     "device":     "vf",     "id": "b1:     00.3"   },   {     "device":     "pf",     "id":     "0000: 03:     00.0",     "sft": true   }, ]</pre>	Passing configuration for four devices: <ol style="list-style-type: none"><li>1. RegEx device with PCIe address 0000:03:00.0.</li><li>2. SF device with number 4, SFT enable.</li><li>3. VF device with PCIe b1:00.3.</li><li>4. PF device with PCIe address 0000:03:00.0, SFT enable.</li></ol>
c	core-mask	Hexadecimal bitmask of cores to run on	<pre>"core-mask": 3</pre>	Set core mask with value 3

Short Flag	Long Flag/ JSON Key	Flag Description	JSON Content	JSON Content Description
l	core-list	List of cores to run on	"core-list": "0-4"	Limit program to use 5 cores (core-0 to core-4)



**Note:** Additional DPDK flags may be added in the "flags" JSON field.

## 2.2. DOCA General Flags

The following table lists the supported DOCA general flags:

Short Flag	Long Flag/ JSON Key	Flag Description	JSON Content	JSON Content Description
l	log-level	Sets the log level for the application: <ul style="list-style-type: none"> <li>▶ CRITICAL=0</li> <li>▶ ERROR=1</li> <li>▶ WARNING=2</li> <li>▶ INFO=3</li> <li>▶ DEBUG=4</li> </ul>	"log-level": 4	Set log level to DEBUG mode
h	help	Print a help synopsis	N/A	Supported only on CLI
N/A	grpc-address	Set the IP address for the gRPC server	"grpc-address": "10.10.10.10"	Set server IP address to 10.10.10.10
			"grpc-address": "10.10.10.10:1234"	Set server IP address to 10.10.10.10 and server port to 1234

## 2.3. DOCA Program Flags

The flags for each program can be found in the program's specific document, including instructions on how to run it, whether by providing a JSON file or using the command line.

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# Chapter 3. Arg Parser API

## 1. Arg parser initialization.

```
arg_parser_init();
```

- a). Initialize arg parser resources.
- b). Register DOCA general flags.

## 2. Register a program flag.

```
arg_parser_register_param();
```

- a). Register program flags.

## 3. Parsing program argument (cmd line\json).

```
arg_parser_start();
```

- a). Classification of command-line mode or JSON mode.
- b). Parsing DPDK flags if needed and calling `rte_eal_init()` function.
- c). Parsing app flags.

## 4. Arg parser destroy.

```
arg_parser_destroy();
```

- a). Calling `rte_eal_cleanup()` if needed.

## 5. Arg parser print usage.

```
arg_parser_usage();
```

- a). Print help instructions.

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## Chapter 4. Arg Parser Notes

- ▶ The module uses long flags as JSON keys
- ▶ The options `-j` and `--json` are reserved for arg parser JSON and cannot be used
- ▶ To support a flag on JSON, the mode must have the long flag name. Otherwise, the flag is used for CLI only.

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## Chapter 5. JSON File Example

An application JSON file can be found under `opt/mellanox/examples/[APP name]/bin/appname_params.json`.

```
{
  "doca_dpdk_flags": {
    // -a - Add a device to the allow list.
    "devices": [
      {
        "device": "sf",
        "id": "4",
        "sft": true
      },
      {
        "device": "sf",
        "id": "5",
        "sft": true
      },
      {
        "device": "regex",
        "id": "0000:03:00.0"
      }
    ],
    // -c - Hexadecimal bitmask of cores to run on
    "core-mask": 3,
    // Additional DPDK (EAL) flags (if needed)
    "flags": ""
  },
  // flags below are for URL Filter application.
  "doca_general_flags": {
    // -l - sets the log level for the application DEBUG=4, CRITICAL=0
    "log-level": 4
  },
  // flags below are for URL Filter application.
  "doca_program_flags": {
    // -p - prints FID when matched in DPI engine
    "print-match": true,
  }
}
```



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