

Using the Vulkan Configurator

For Daily Vulkan Development

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Presented at the Khronos Vulkanised 2023 Conference

<https://www.lunarg.com/news-insights/white-papers/using-the-vulkan-configurator-for-daily-vulkan-development-feb2023/>



Questions for the audience...

Please, raise your hand if

- You already used Vulkan Configurator?
- You are using Vulkan Configurator on a daily basis?

Vulkan Configurator in a nutshell

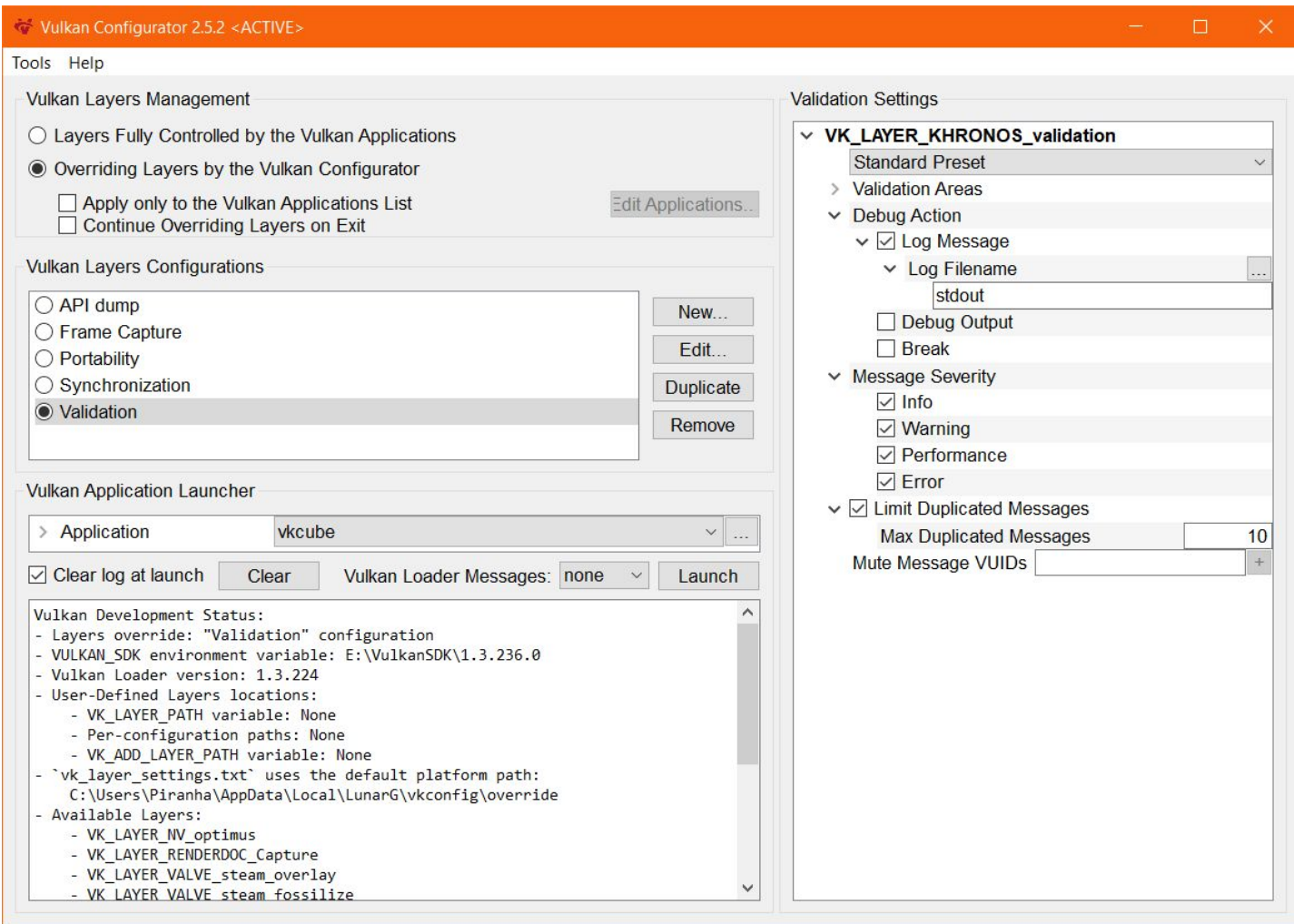
- It's an intuitive GUI application to discover and to configure Vulkan Layers and Vulkan Layer functionalities.
- A component of the Vulkan SDK.
- Vulkan Configurator 2 shipped in August 2020.

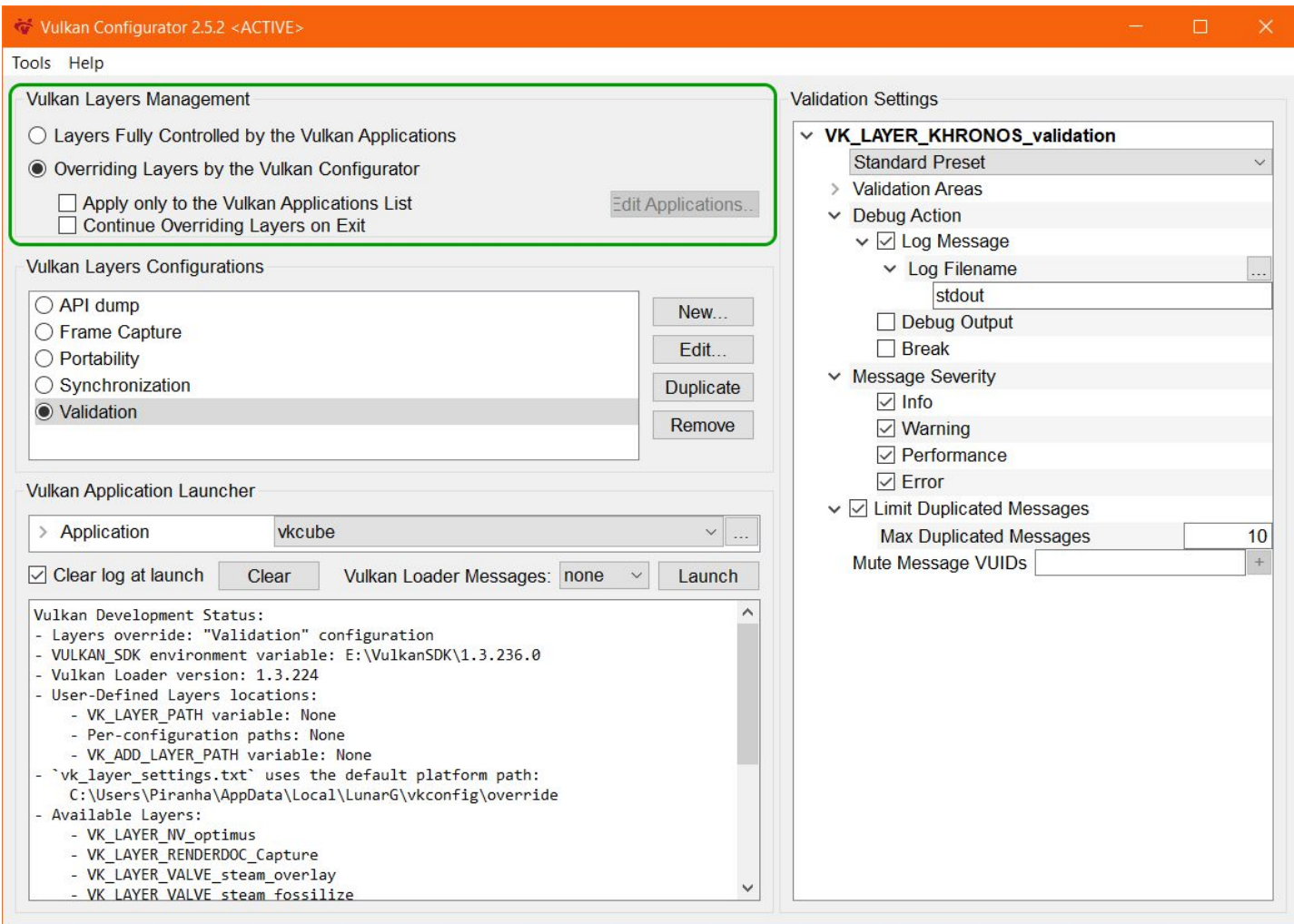
Agenda

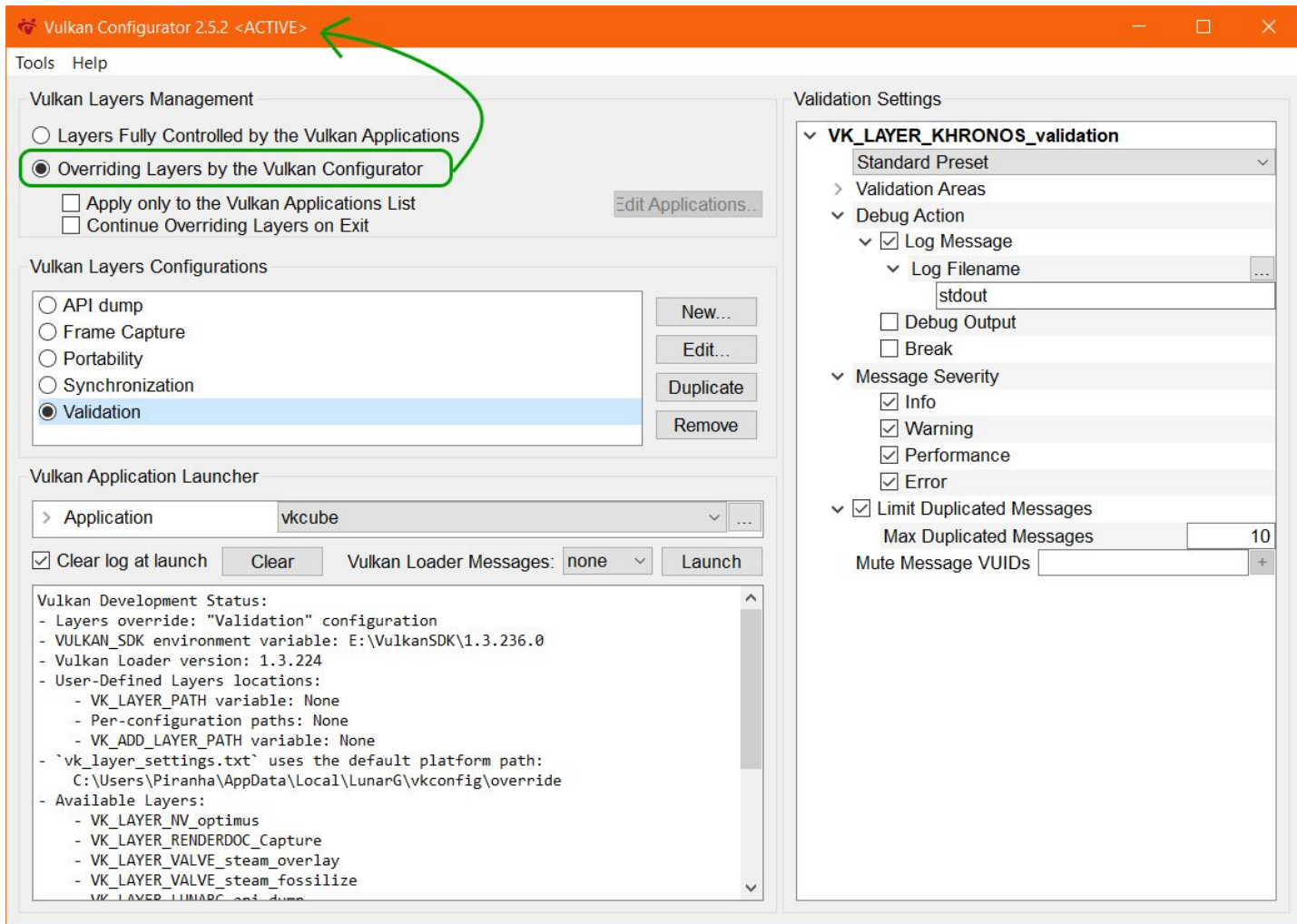
- Configuring Vulkan Layers with environment variables (skipped!)
- Configuring Vulkan Layers with Vulkan Configurator
- Understanding Vulkan Configurator and few tricks
- Vulkan Configurator 3 : Work in progress

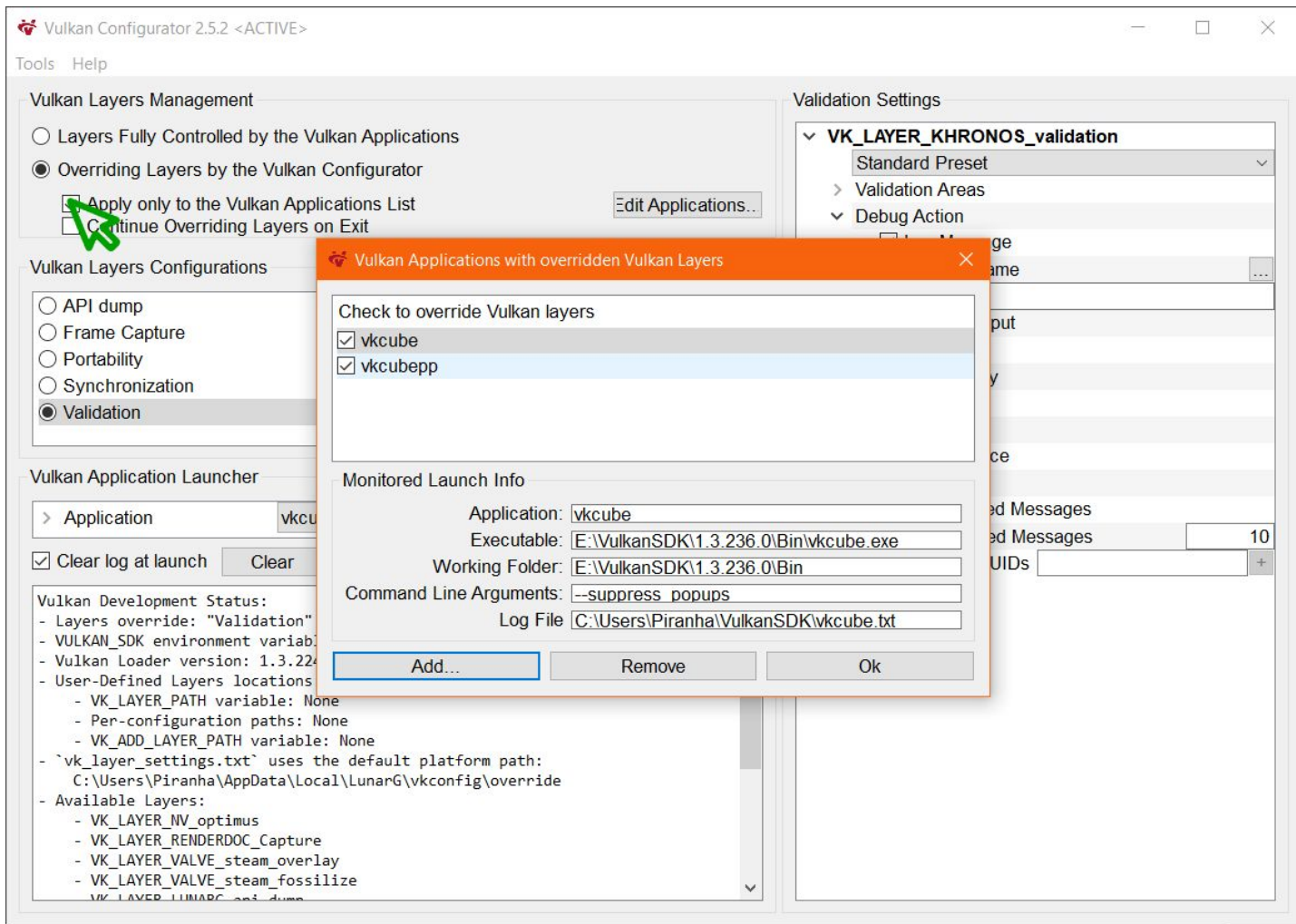
Configuring Vulkan Layers

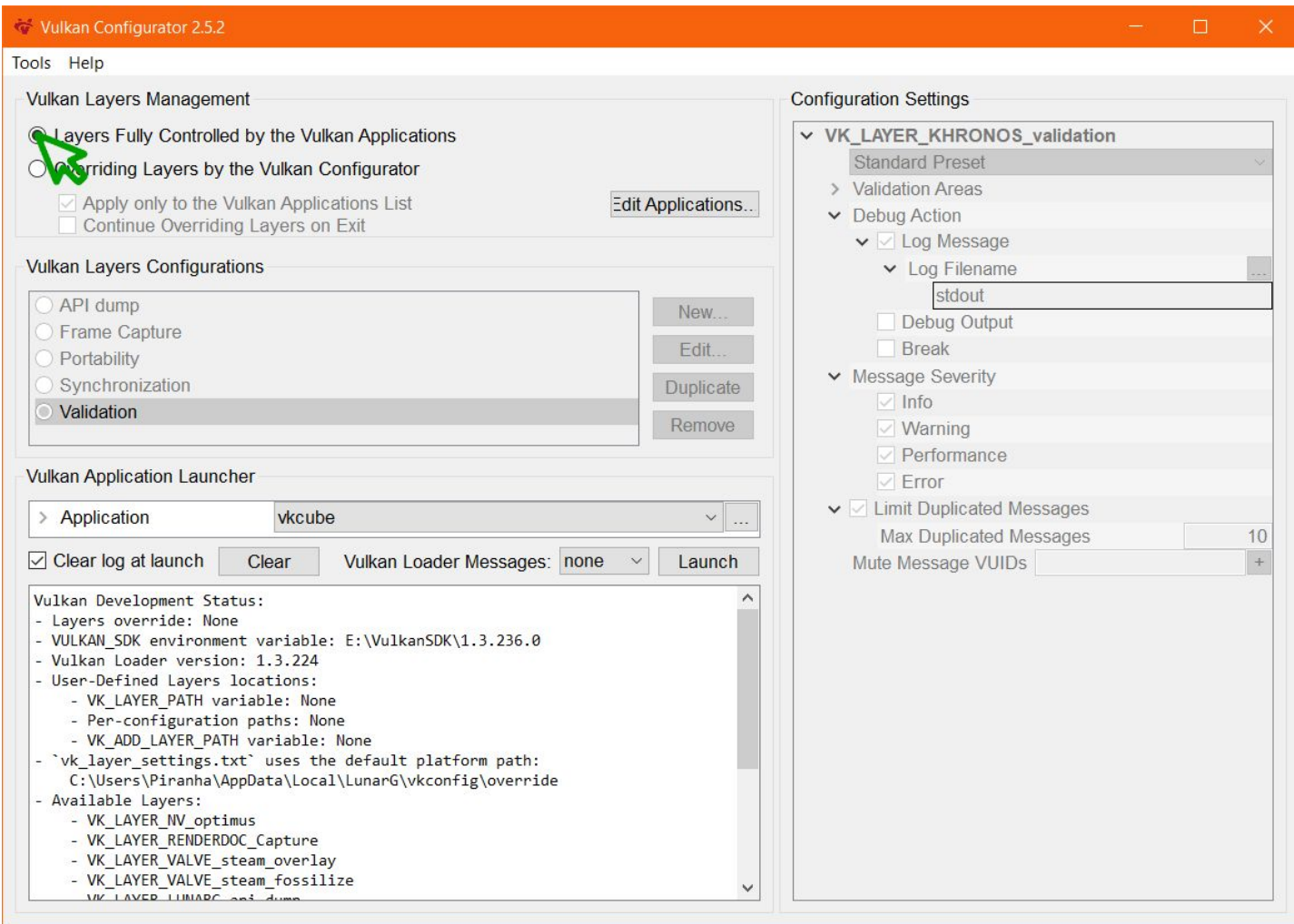
With Vulkan Configurator

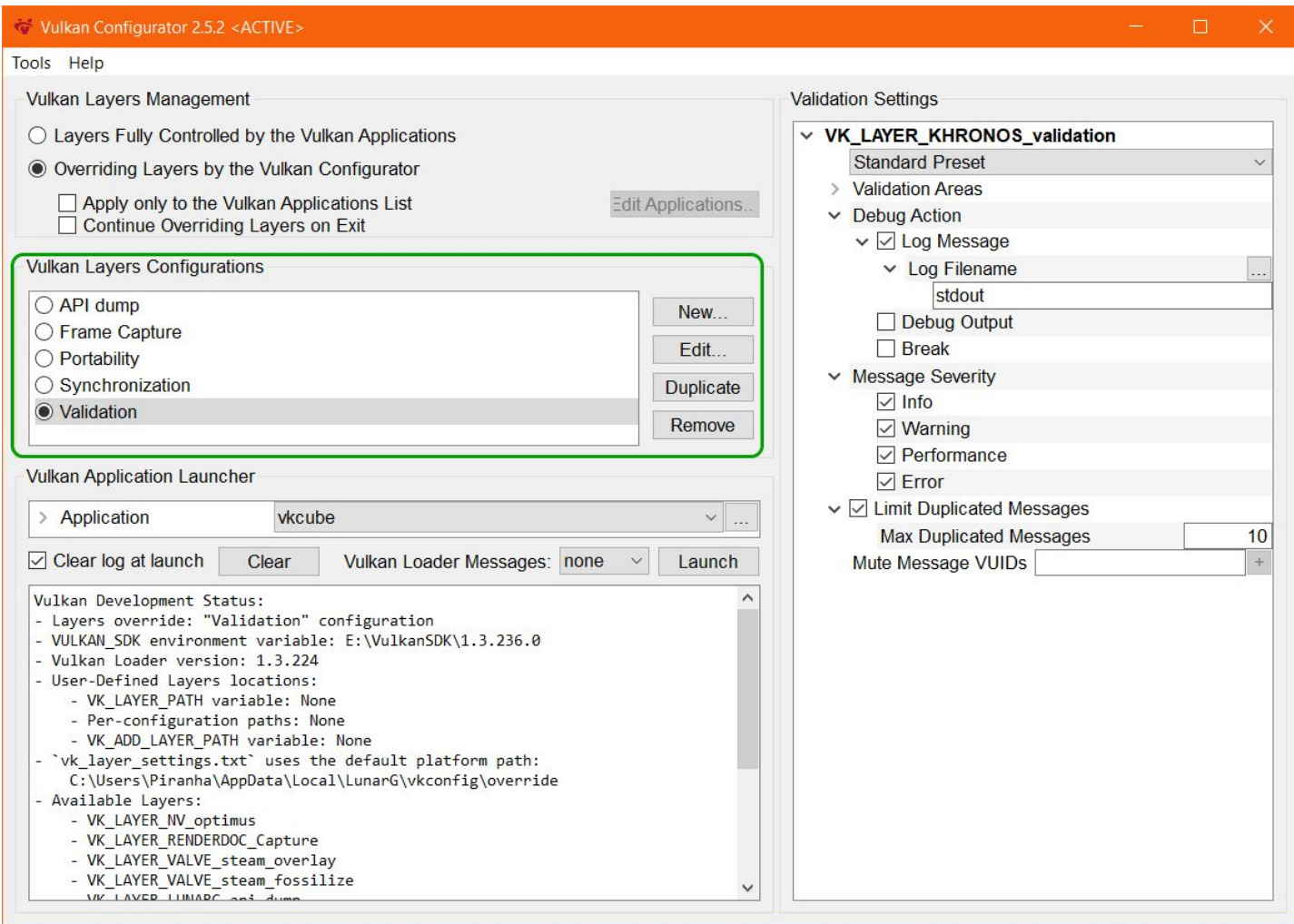


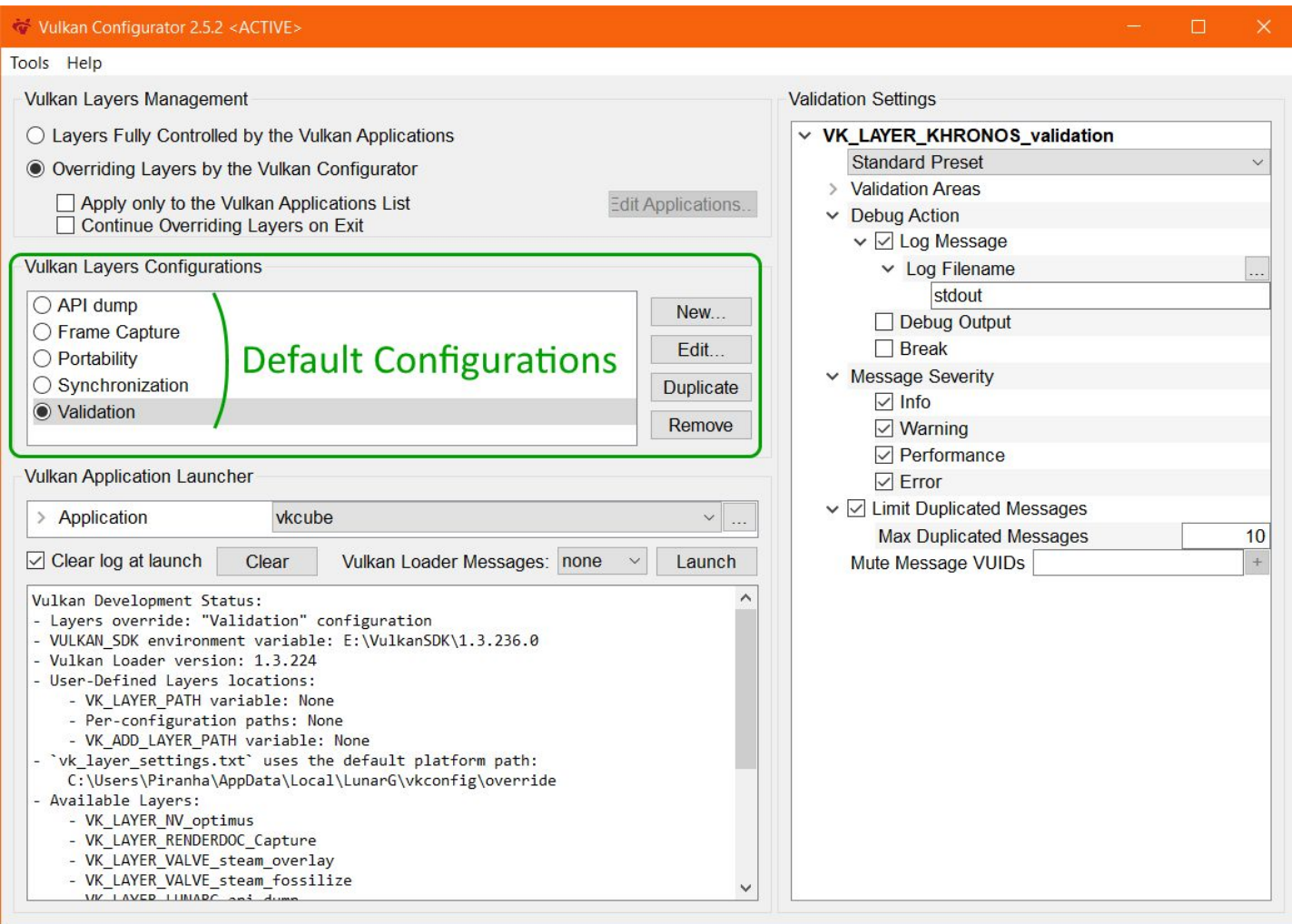


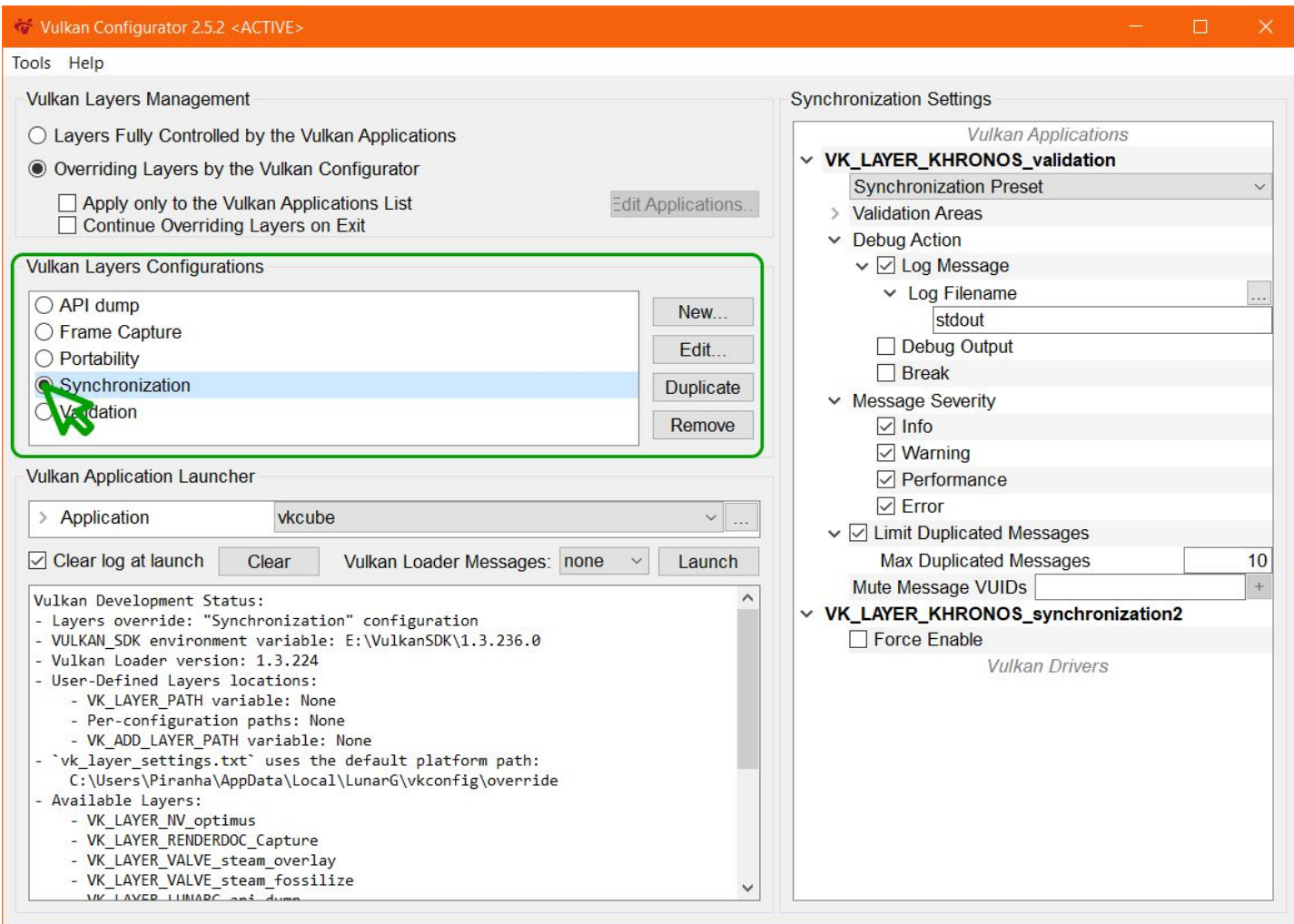


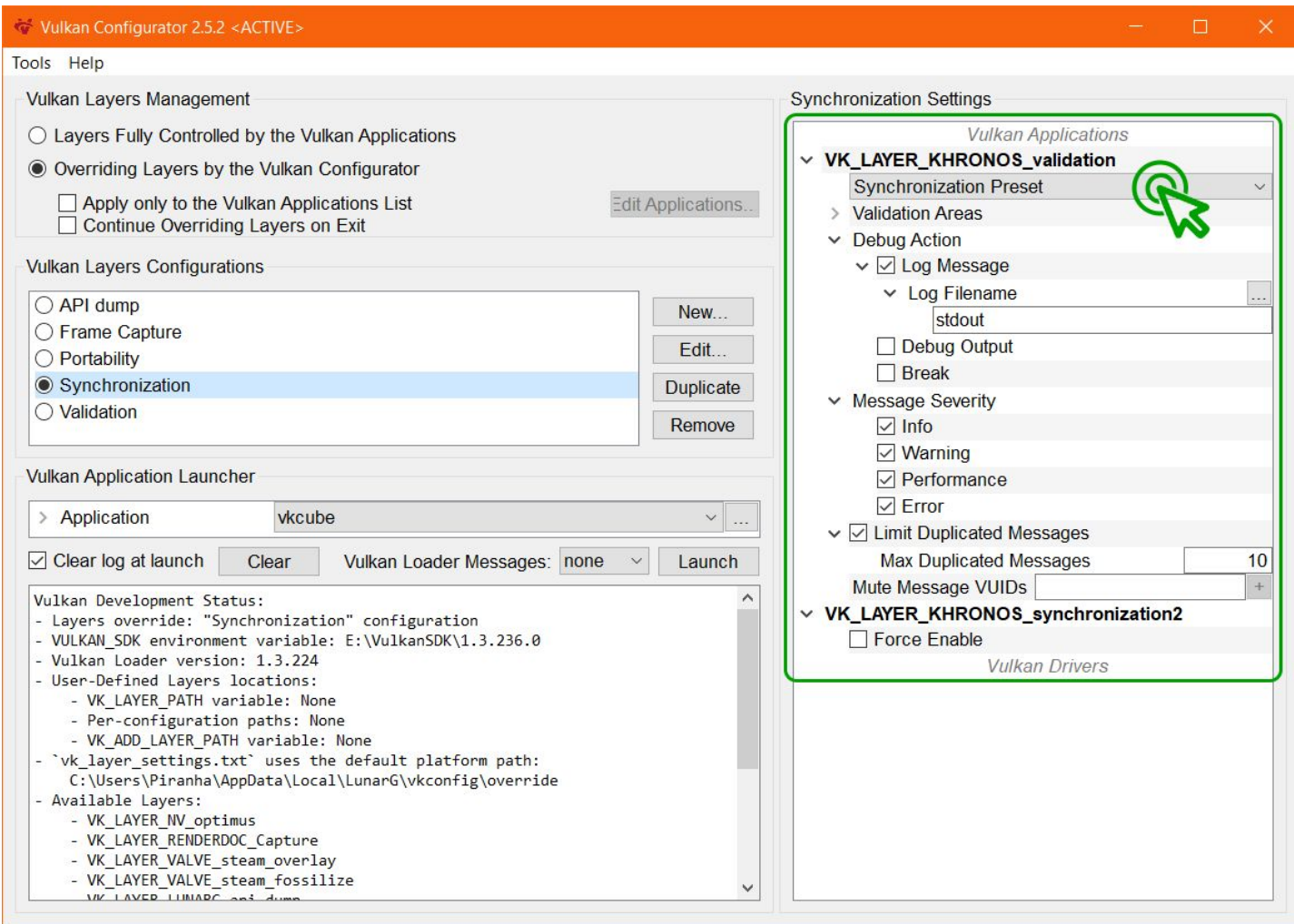


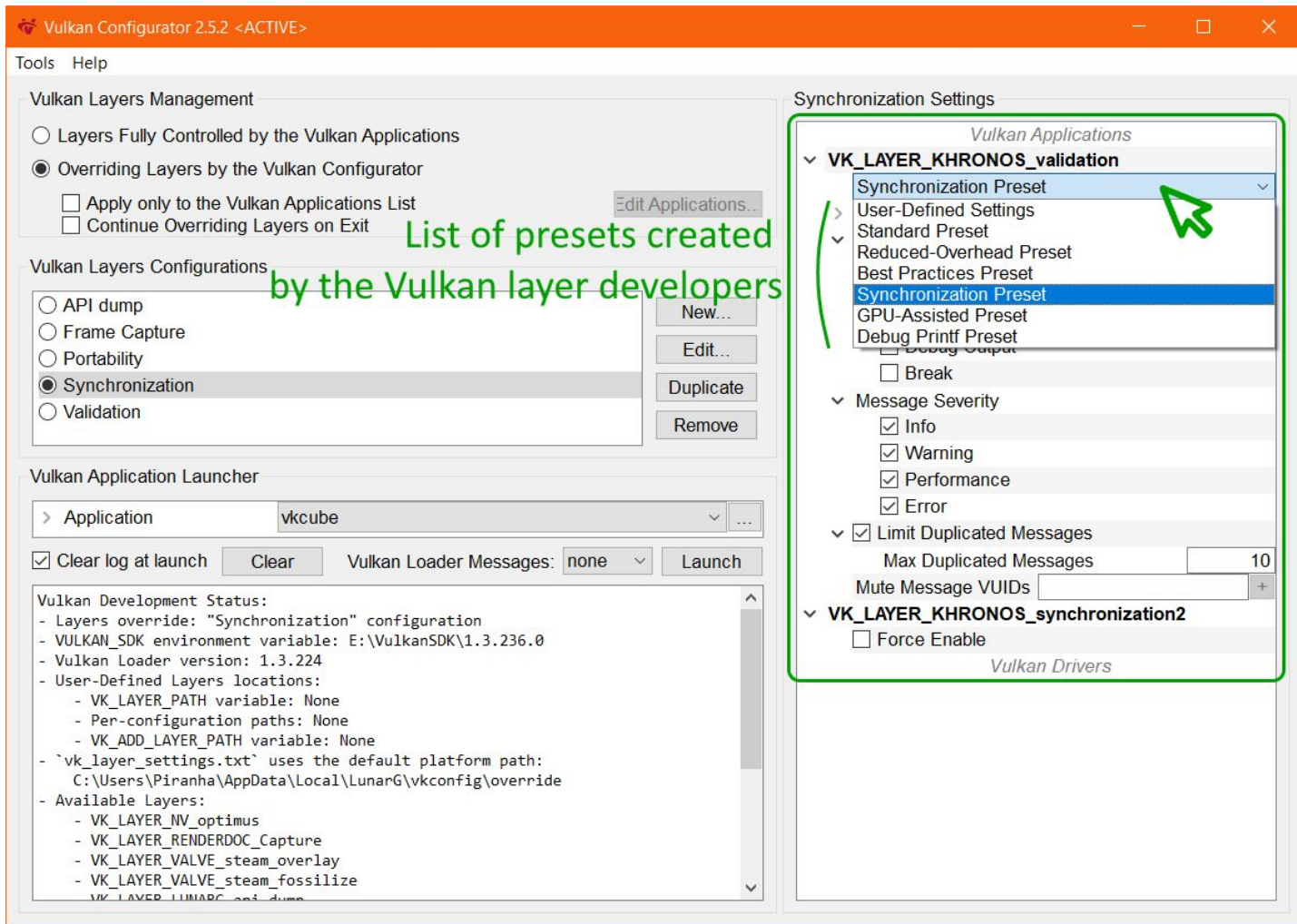


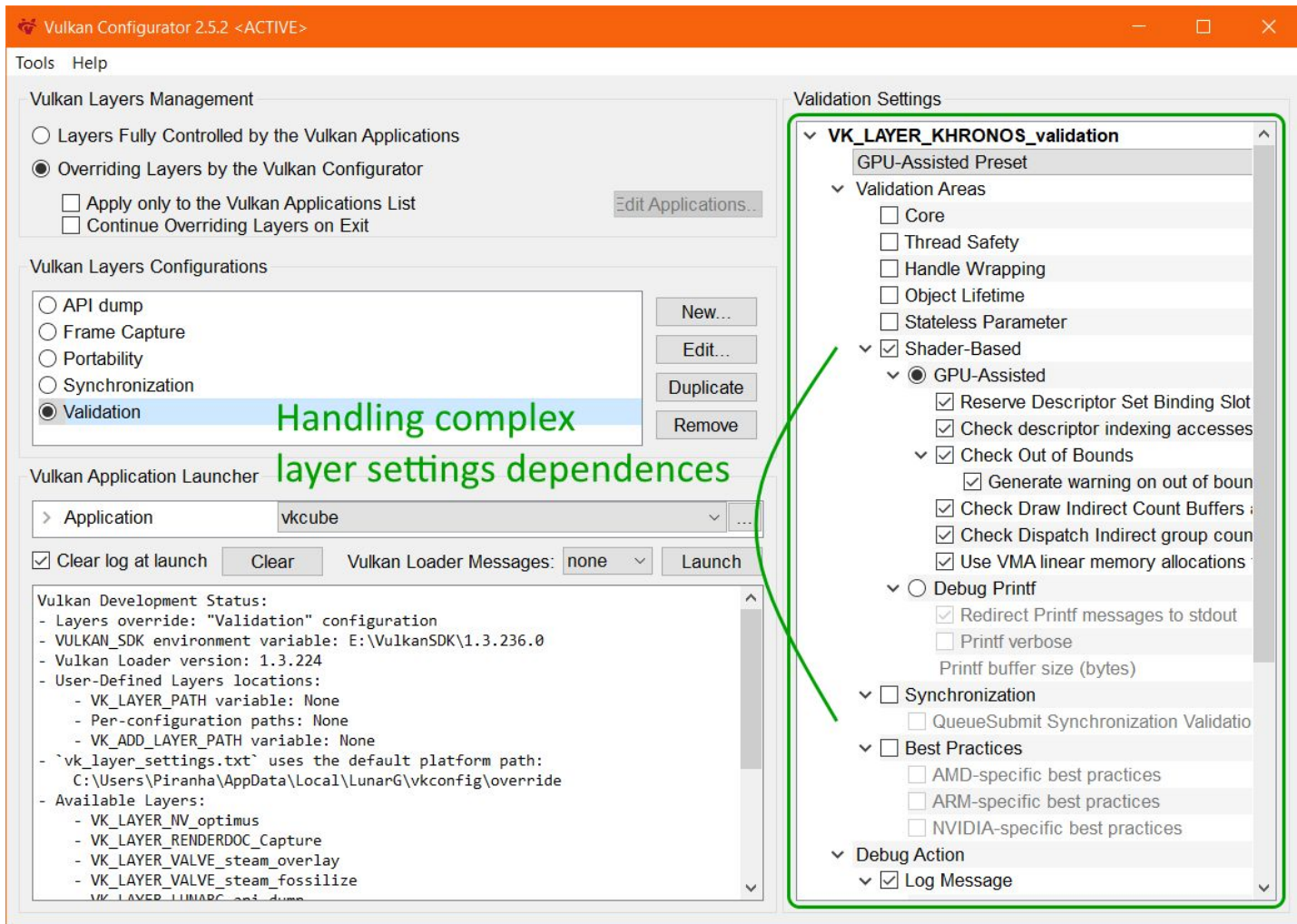


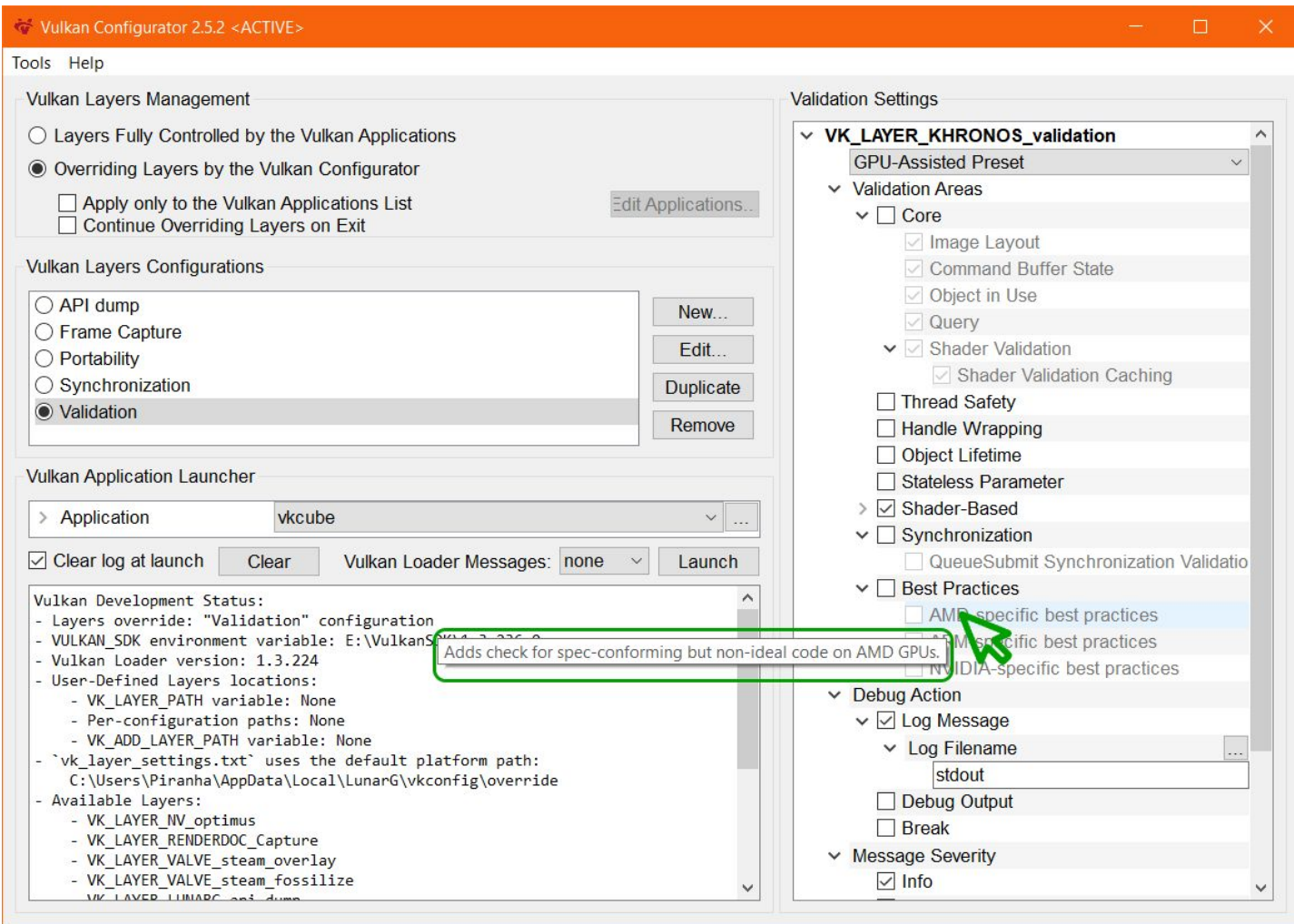


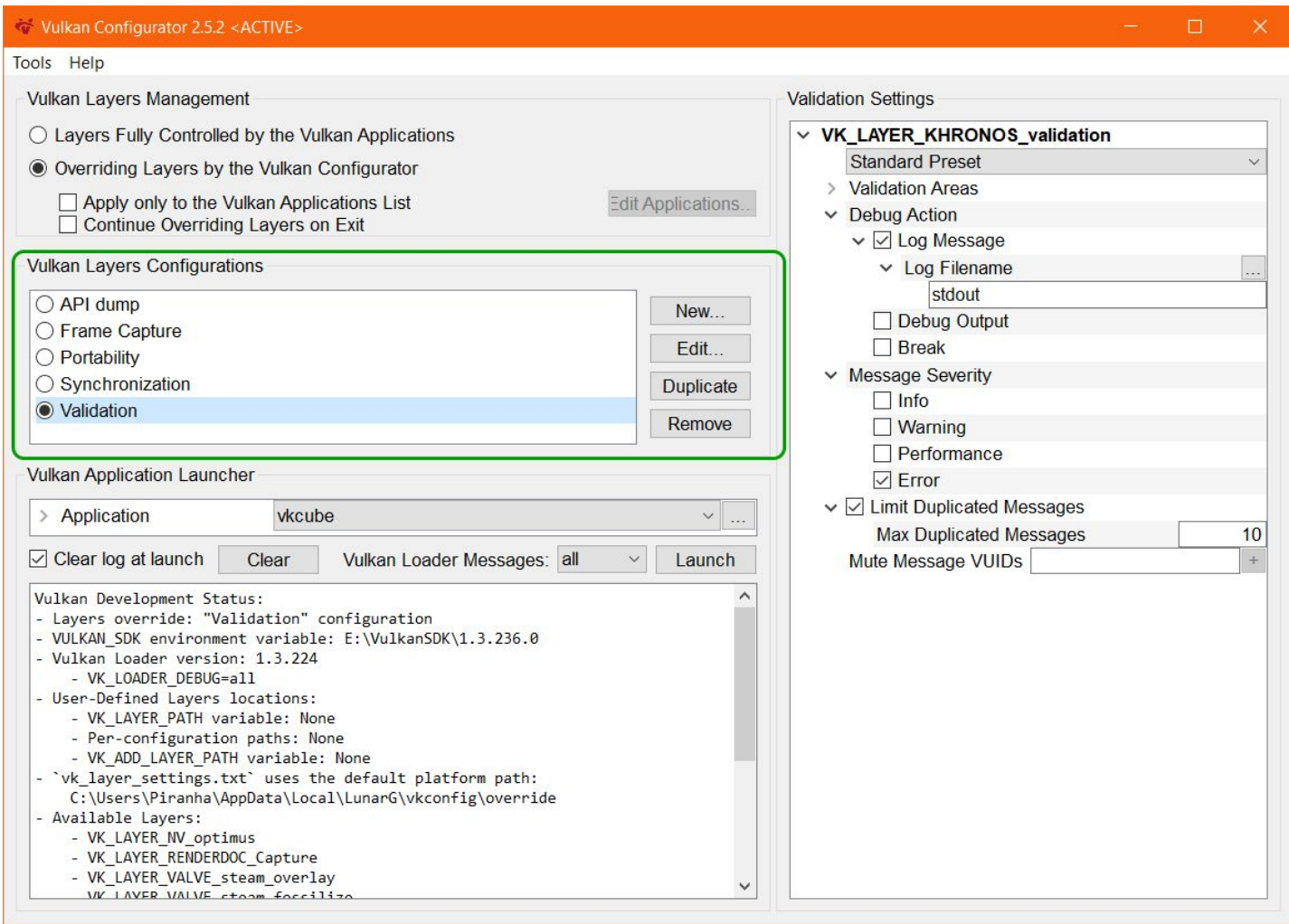


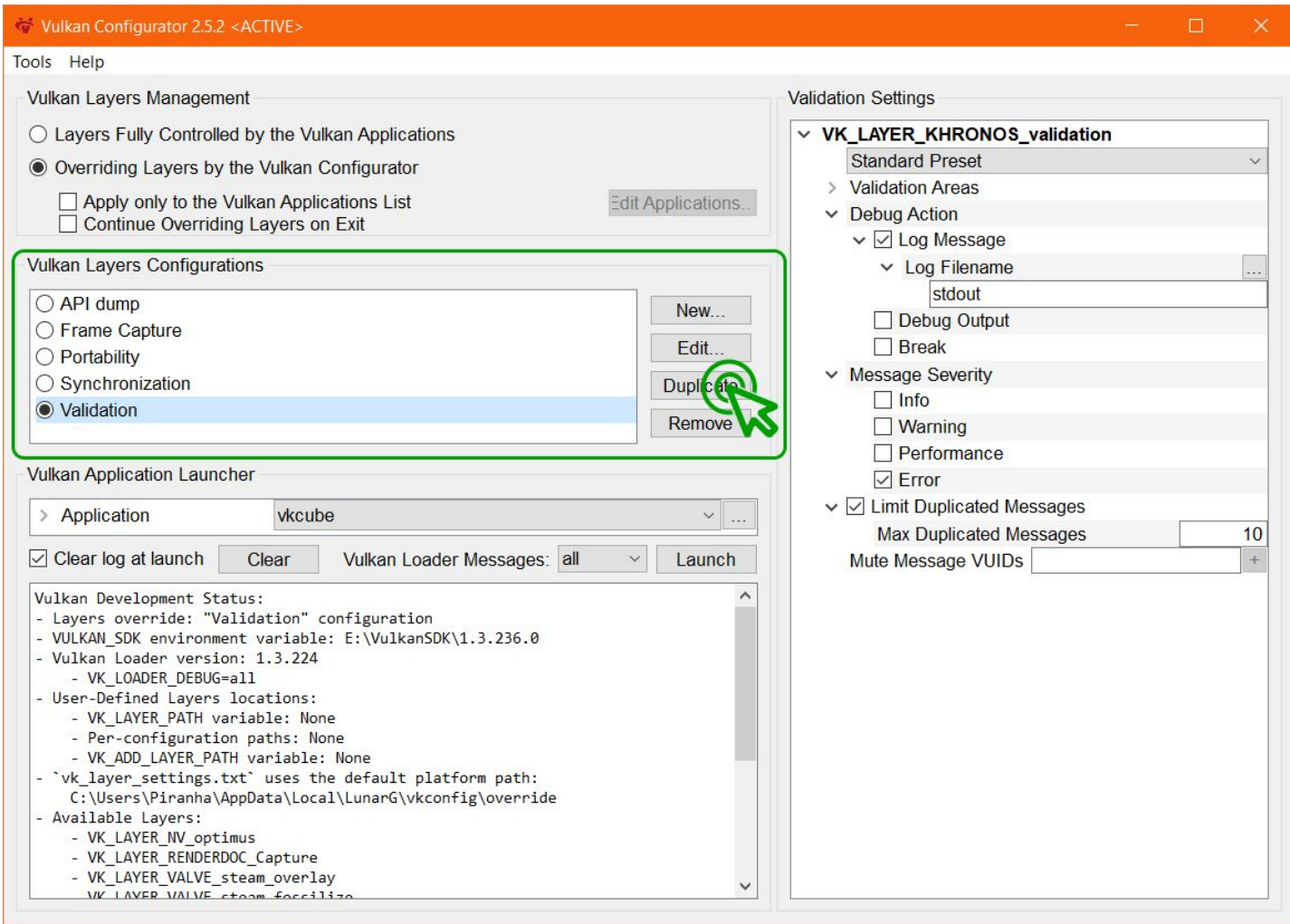


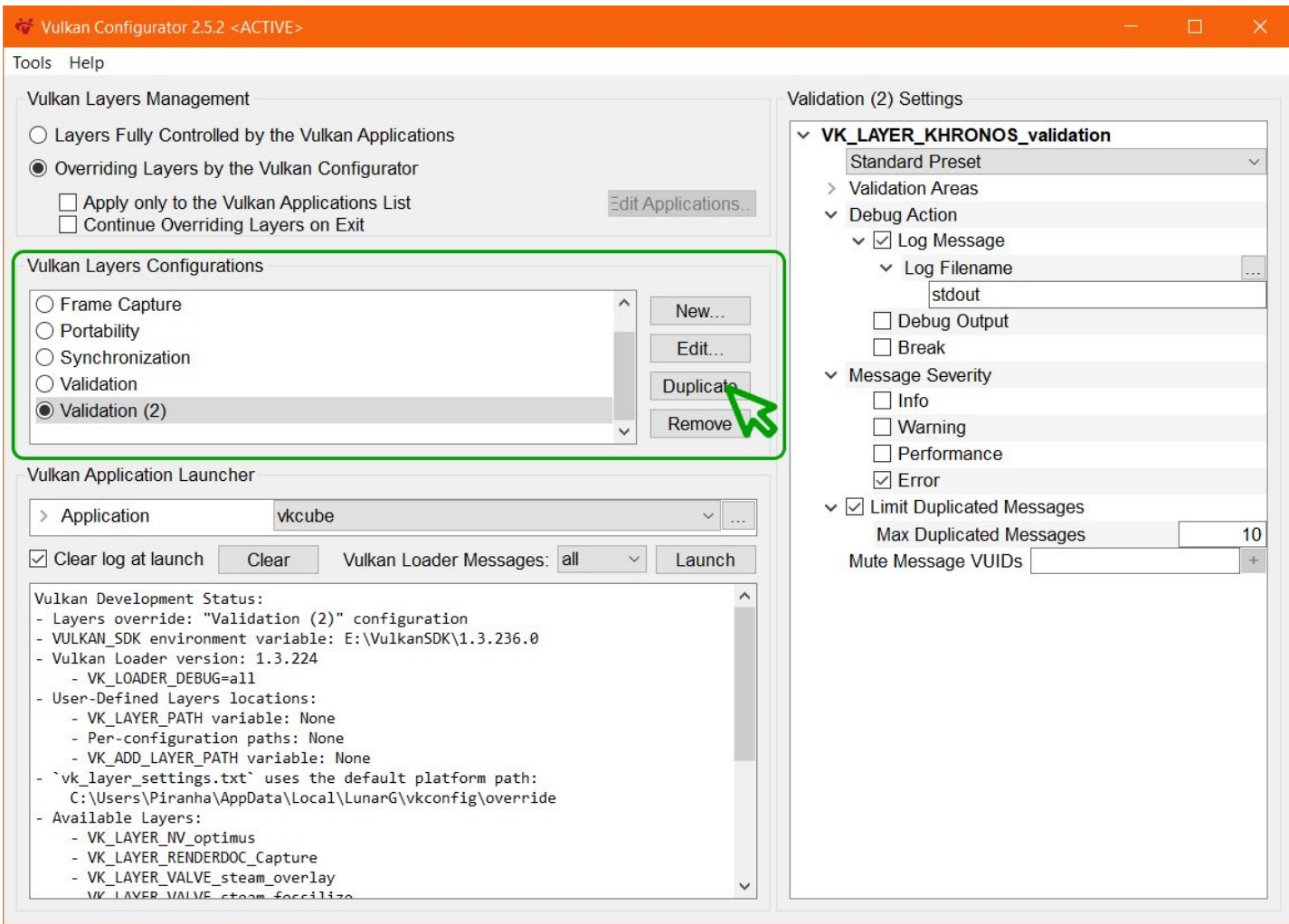












Vulkan Layers Management

- ☐ Layers Fully Controlled by the Vulkan Applications
- ☒ Overriding Layers by the Vulkan Configurator
- ☐ Apply only to the Vulkan Applications List
- ☐ Continue Overriding Layers on Exit

[Edit Applications...](#)

Vulkan Layers Configurations

- ☐ Frame Capture
- ☐ Portability
- ☐ Synchronization
- ☐ Validation
- ☒ Validation (2)

New...

Edit...

Duplicate...

Remove

Vulkan Application Launcher

> Application vkcube

☒ Clear log at launch

Clear

Vulkan Loader Messages: none

Launch

Vulkan Development Status:

- Layers override: "Validation (2)" configuration
- VULKAN_SDK environment variable: E:\VulkanSDK\1.3.236.0
- Vulkan Loader version: 1.3.224
- User-Defined Layers locations:
 - VK_LAYER_PATH variable: None
 - Per-configuration paths: None
 - VK_ADD_LAYER_PATH variable: None
- `vk_layer_settings.txt` uses the default platform path:
C:\Users\Piranha\AppData\Local\LunarG\vkconfig\override
- Available Layers:

Validation (2) Settings

VK_LAYER_KHRONOS_validation

Best Practices Preset

> Validation Areas

v Debug Action

v ☒ Log Message

v Log Filename

stdout

☐ Debug Output☐ Break

v Message Severity

☒ Info☒ Warning☒ Performance☒ Errorv ☒ Limit Duplicated Messages

Max Duplicated Messages 10

Mute Message VUIDs

Name:

Validation (2)

Description:

This configuration is a good default validation setting and should serve most needs most of the time.

Show Properties...

Show Documentation...

Visit Website...

Reset

VK_LAYER_NV_optimus - 1.3.205 - Implicit layer

Implicitly On

VK_LAYER_RENDERDOC_Capture - 1.3.131 - Implicit layer

Implicitly On

VK_LAYER_VALVE_steam_fossilize - 1.3.207 - Implicit layer

Implicitly On

VK_LAYER_VALVE_steam_overlay - 1.3.207 - Implicit layer

Implicitly On

VK_LAYER_KHRONOS_validation - 1.3.236

Overridden / Forced On

VK_LAYER_KHRONOS_profiles - 1.3.236

Application-Controlled

VK_LAYER_KHRONOS_synchronization2 - 1.3.236

Application-Controlled

VK_LAYER_KHRONOS_validation

Execute Closer to the Vulkan Applications

Execute Closer to the Vulkan Drivers

Add User-Defined Path...

Remove User-Defined Path

OK

Cancel

Name:

Validation SDK 1.2.198

Description:

This configuration is a good default validation setting and should serve most needs most of the time.

Show Properties...

Show Documentation...

Visit Website...

Reset

VK_LAYER_NV_optimus - 1.3.205 - Implicit layer

Implicitly On

VK_LAYER_RENDERDOC_Capture - 1.3.131 - Implicit layer

Implicitly On

VK_LAYER_VALVE_steam_fossilize - 1.3.207 - Implicit layer

Implicitly On

VK_LAYER_VALVE_steam_overlay - 1.3.207 - Implicit layer

Implicitly On

VK_LAYER_KHRONOS_validation - 1.3.236

Overridden / Forced On

VK_LAYER_KHRONOS_profiles - 1.3.236

Application-Controlled

VK_LAYER_KHRONOS_synchronization2 - 1.3.236

Application-Controlled

VK_LAYER_KHRONOS_validation

Execute Closer to the Vulkan Applications

Execute Closer to the Vulkan Drivers

Add User-Defined Path...

Remove User-Defined Path

OK

Cancel

Name: Validation SDK 1.2.198

Description: This configuration is a good default validation setting and should serve most needs most of the time.

Show Properties...

Show Documentation...

Visit Website...

Reset

VK_LAYER_NV_optimus - 1.3.205 - Implicit layer	Implicitly On	⌵	⬆
VK_LAYER_RENDERDOC_Capture - 1.3.131 - Implicit layer	Implicitly On	⌵	
VK_LAYER_VALVE_steam_fossilize - 1.3.207 - Implicit layer	Implicitly On	⌵	
VK_LAYER_VALVE_steam_overlay - 1.3.207 - Implicit layer	Implicitly On	⌵	
VK_LAYER_KHRONOS_validation - 1.3.236	Overridden / Forced On	⌵	
VK_LAYER_KHRONOS_profiles - 1.3.236	Application-Controlled	⌵	
VK_LAYER_KHRONOS_synchronization2 - 1.3.236	Application-Controlled	⌵	
VK_LAYER_LUNARG_standard_validation - 1.3.236	Application-Controlled	⌵	⬇

VK_LAYER_KHRONOS_validation

Execute Closer to the Vulkan Applications

Execute Closer to the Vulkan Drivers

Add User-Defined Path...

Remove User-Defined Path

OK

Cancel

Name: Validation SDK 1.2.198

Description: This configuration is a good default validation setting and should serve most needs most of the time.

Show Properties...

Show Documentation...

Visit Website...

Reset

VK_LAYER_NV_optimus - 1.3.205 - Implicit layer

Implicitly On

VK_LAYER_RENDERDOC_Capture - 1.3.131 - Implicit layer

Implicitly On

VK_LAYER_VALVE_steam_fossilize - 1.3.207 - Implicit layer

Implicitly On

VK_LAYER_VALVE_steam_overlay - 1.3.207 - Implicit layer

Implicitly On

VK_LAYER_KHRONOS_validation - 1.3.236

Overridden / Forced On

VK_LAYER_KHRONOS_profiles - 1.3.236

Application-Controlled

VK_LAYER_KHRONOS_synchronization2 - 1.3.236

Application-Controlled

VK_LAYER_KHRONOS_validation

Execute Closer to the Vulkan Applications

Execute Closer to the Vulkan Drivers

Add User-Defined Path...

Remove User-Defined Path

OK

Cancel

Name: Validation SDK 1.2.198

Description: This

Show Properties.

VK_LAYER_N

VK_LAYER_R

VK_LAYER_V

VK_LAYER_V

VK_LAYER_K

VK_LAYER_K

VK_LAYER_K

VK_LAYER_L

VK_LAYER_K

Exec

Add User-Defined Layers Folder...

?

X

Look in:

E:\VulkanSDK\1.2.198.1\Bin



My Computer



Piranha

Name



VkLayer_khronos_profiles.dll

Size

8,000,000 B

Type

File



VkLayer_khronos_profiles.json

18,000,000 B

js...

le

1



VkLayer_khronos_profiles.pdb

12,000,000 B

pd...

le

1



VkLayer_khronos_synchronization2.dll

1,000,000 B

dll

File

0



VkLayer_khronos_synchronization2.json

1,000,000 B

js...

le

0



VkLayer_khronos_synchronization2.pdb

7,000,000 B

pd...

le

0



VkLayer_khronos_validation.dll

26,000,000 B

dll

File

0



VkLayer_khronos_validation.json

30,000,000 B

js...

le

0



VkLayer_khronos_validation.pdb

73,000,000 B

pd...

le

0



VkLayer_monitor.dll

2,000,000 B

dll

File

0

Directory:

Choose

Files of type:

All Files (*.*)

Cancel

Add User-Defined Path...

Remove User-Defined Path

OK

Cancel

Name: Validation SDK 1.2.198

Description: This configuration is a good default validation setting and should serve most needs most of the time.

Show Properties...

Show Documentation...

Visit Website...

Reset

VK_LAYER_NV_optimus - 1.3.205 - Implicit layer

Implicitly On

VK_LAYER_RENDERDOC_Capture - 1.3.131 - Implicit layer

Implicitly On

VK_LAYER_VALVE_steam_fossilize - 1.3.207 - Implicit layer

Implicitly On

VK_LAYER_VALVE_steam_overlay - 1.3.207 - Implicit layer

Implicitly On

VK_LAYER_KHRONOS_validation - 1.2.198

Overridden / Forced On

VK_LAYER_KHRONOS_profiles (ALPHA) - 1.2.203

Application-Controlled

VK_LAYER_KHRONOS_synchronization2 - 1.2.198

Application-Controlled

VK_LAYER_KHRONOS_validation

Execute Closer to the Vulkan Applications

Execute Closer to the Vulkan Drivers

▼ E:\VulkanSDK\1.2.198.1\Bin

VK_LAYER_LUNARG_api_dump - 1.2.198

VK_LAYER_LUNARG_api_dump2 - 1.3.225

VK_LAYER_LUNARG_device_simulation - 1.2.198

Add User-Defined Path...

Remove User-Defined Path

OK

Cancel

Vulkan Layers Management

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- ☐ Apply only to the Vulkan Applications List
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Edit Applications...

Vulkan Layers Configurations

- ☐ API dump
- ☐ Frame Capture
- ☐ Portability
- ☐ Synchronization
- ☒ Validation SDK 1.2.198
- ☐ Validation

New...

Edit...

Duplicate

Remove

Vulkan Application Launcher

> Application vkcube

☒ Clear log at launch

Clear

Vulkan Loader Messages: none

Launch

Vulkan Development Status:

- Layers override: "Validation SDK 1.2.198" configuration
- VULKAN_SDK environment variable: E:\VulkanSDK\1.3.236.0
- Vulkan Loader version: 1.3.224
- User-Defined Layers locations:
 - VK_LAYER_PATH variable: None
 - Per-configuration paths:
 - E:\VulkanSDK\1.2.198.1\Bin
 - VK_ADD_LAYER_PATH variable: None
- 'vk_layer_settings.txt' uses the default platform path:
C:\Users\Piranha\AppData\Local\LunarG\vkconfig\override

Validation SDK 1.2.198 Settings

VK_LAYER_KHRONOS_validation

Best Practices Preset

> Validation Areas

v Debug Action

v ☒ Log Message

v Log Filename

stdout

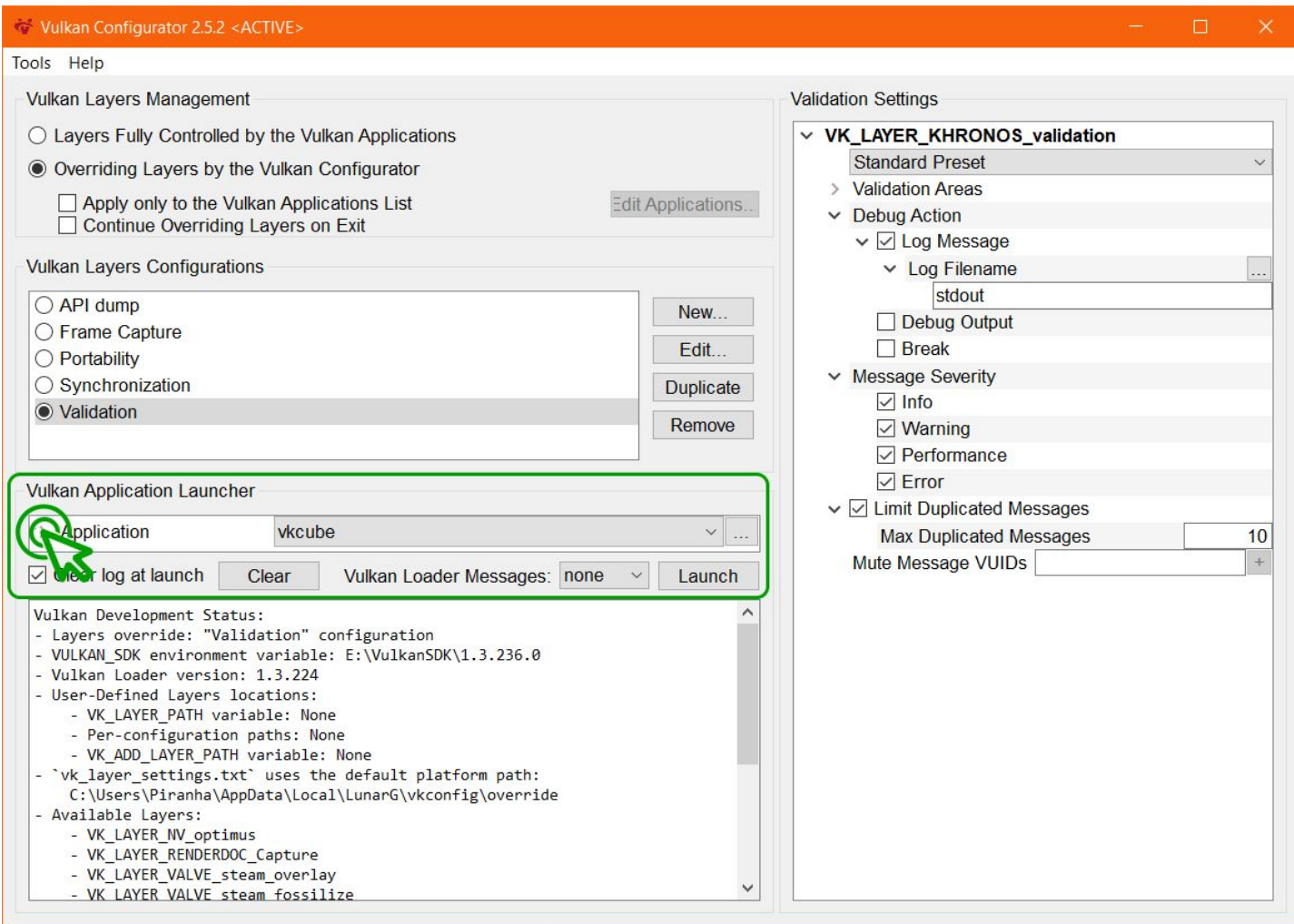
☐ Debug Output☐ Break

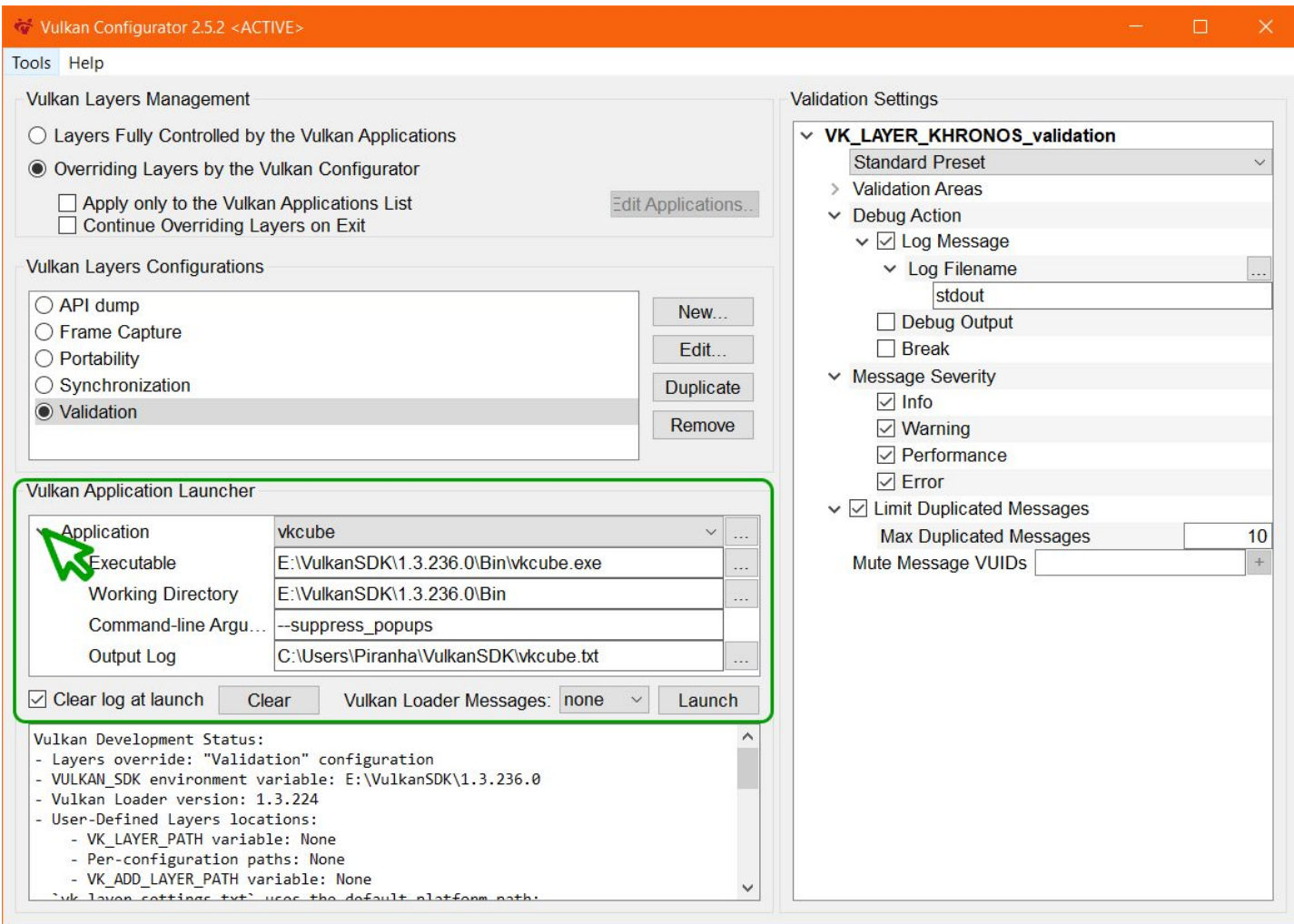
v Message Severity

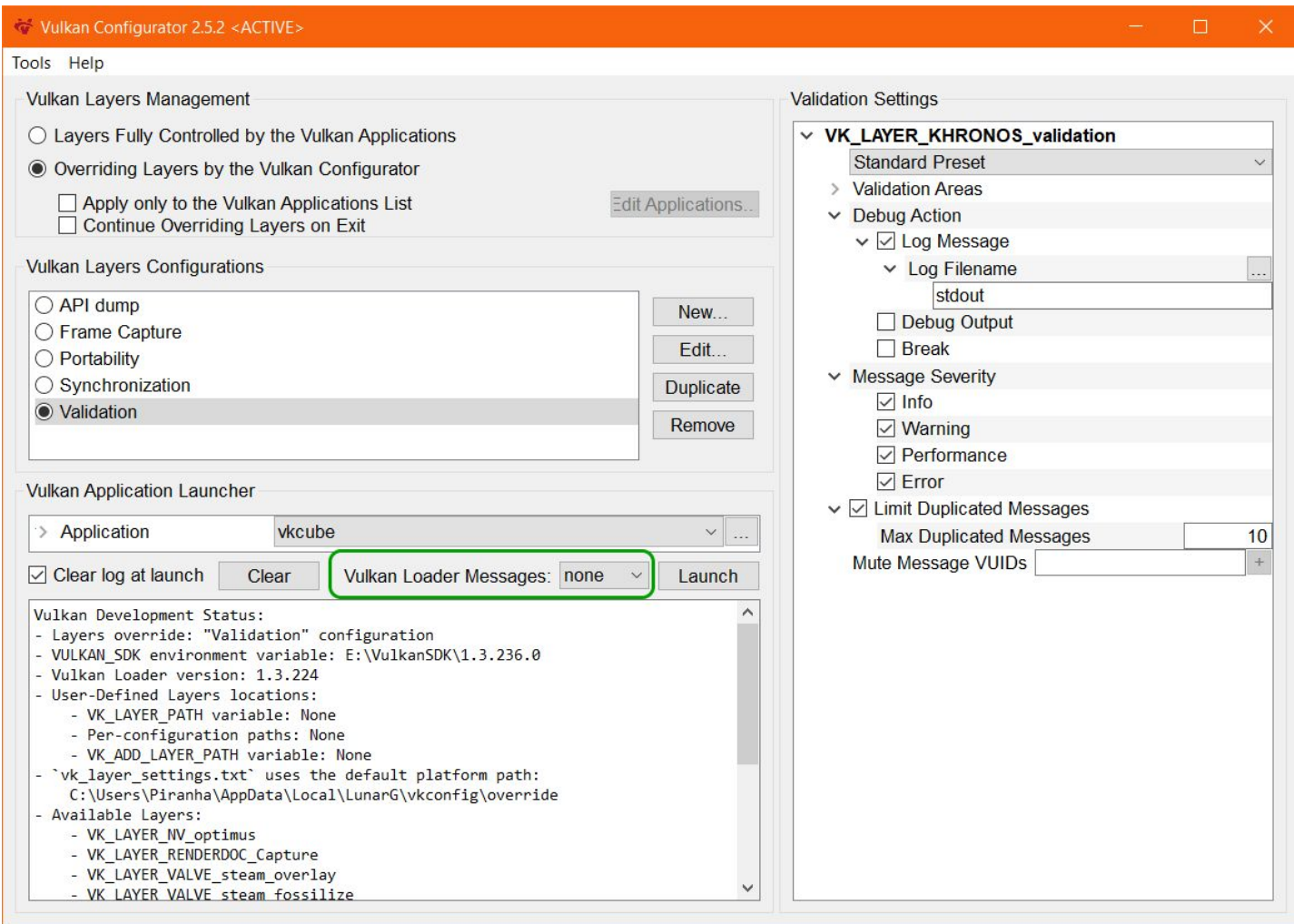
☒ Info☒ Warning☒ Performance☒ Errorv ☒ Limit Duplicated Messages

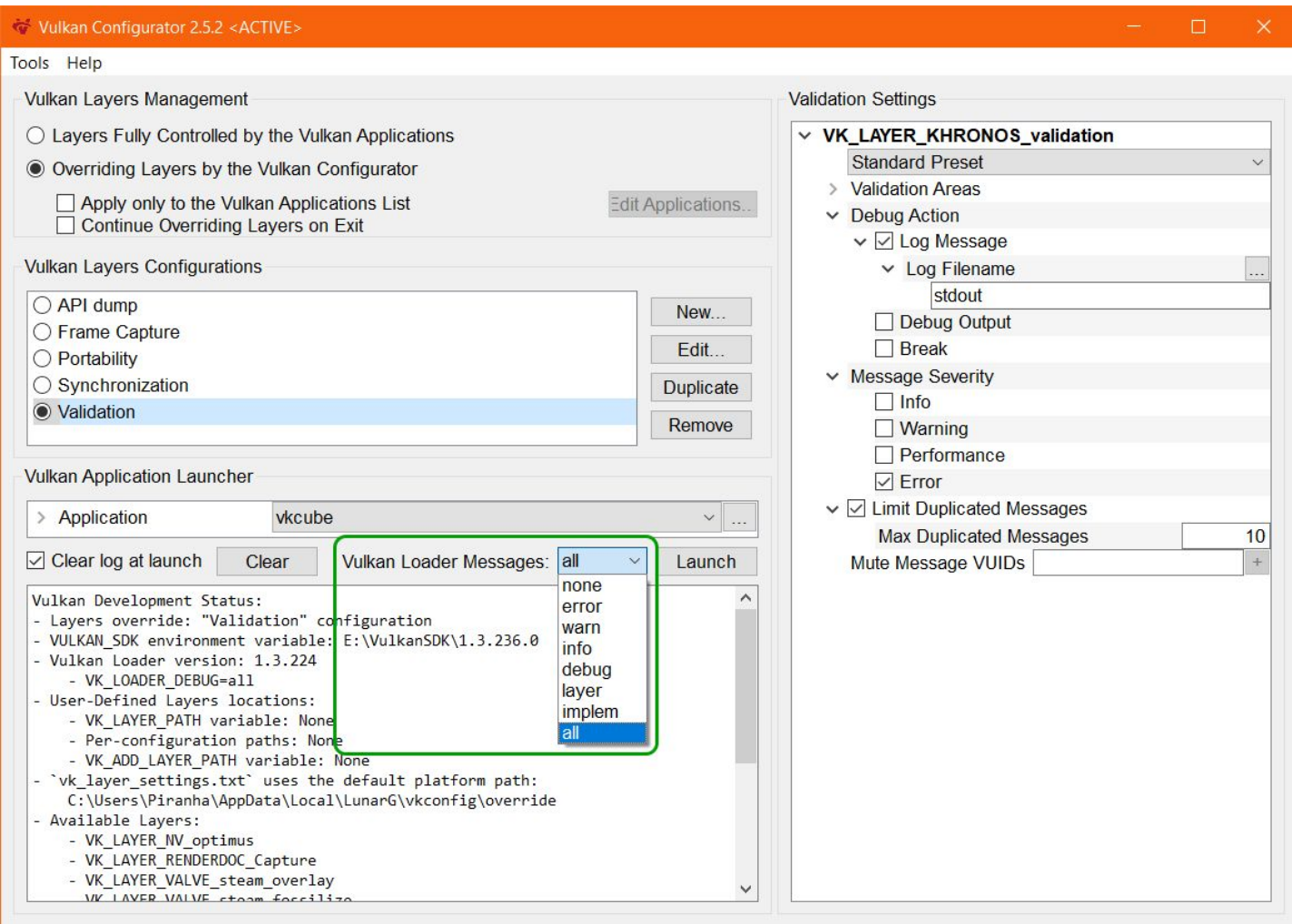
Max Duplicated Me 10

Mute Message VUIDs









Vulkan Layers Management

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Edit Applications...

Vulkan Layers Configurations

- ☐ API dump
- ☐ Frame Capture
- ☐ Portability
- ☐ Synchronization
- ☒ Validation

New...

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Duplicate

Remove

Vulkan Application Launcher

> Application vkcube

☒ Clear log at launch

Clear

Vulkan Loader Messages:

none

Launch

Vulkan Development Status:

- Layers override: "Validation" configuration
- VULKAN_SDK environment variable: E:\VulkanSDK\1.3.236.0
- Vulkan Loader version: 1.3.224
- User-Defined Layers locations:
 - VK_LAYER_PATH variable: None
 - Per-configuration paths: None
 - VK_ADD_LAYER_PATH variable: None
- `vk_layer_settings.txt` uses the default platform path:
C:\Users\Piranha\AppData\Local\LunarG\vkconfig\override
- Available Layers:

Validation Settings

VK_LAYER_KHRONOS_validation

- Standard Preset
- > User-Defined Settings
- > Standard Preset
- > Reduced-Overhead Preset
- Best Practices Preset
- Synchronization Preset
- GPU-Assisted Preset
- Debug Printf Preset

- ☐ Debug Output
- ☐ Break

> Message Severity

- ☒ Info
- ☒ Warning
- ☒ Performance
- ☒ Error

> ☒ Limit Duplicated Messages

Max Duplicated Messages 10

Mute Message VUIDs

Vulkan Layers Management

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Edit Applications...

Vulkan Layers Configurations

- ☐ API dump
- ☐ Frame Capture
- ☐ Portability
- ☐ Synchronization
- ☒ Validation

New...

Edit...

Duplicate

Remove

Vulkan Application Launcher

> Application vkcube

☒ Clear log at launch

Clear

Vulkan Loader Messages: none

Launch

Vulkan Development Status:

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- VULKAN_SDK environment variable: E:\VulkanSDK\1.3.236.0
- Vulkan Loader version: 1.3.224
- User-Defined Layers locations:
 - VK_LAYER_PATH variable: None
 - Per-configuration paths: None
 - VK_ADD_LAYER_PATH variable: None
- `vk_layer_settings.txt` uses the default platform path:
C:\Users\Piranha\AppData\Local\LunarG\vkconfig\override
- Available Layers:

Validation Settings

VK_LAYER_KHRONOS_validation

Best Practices Preset

> Validation Areas

v Debug Action

v ☒ Log Message

v Log Filename

stdout

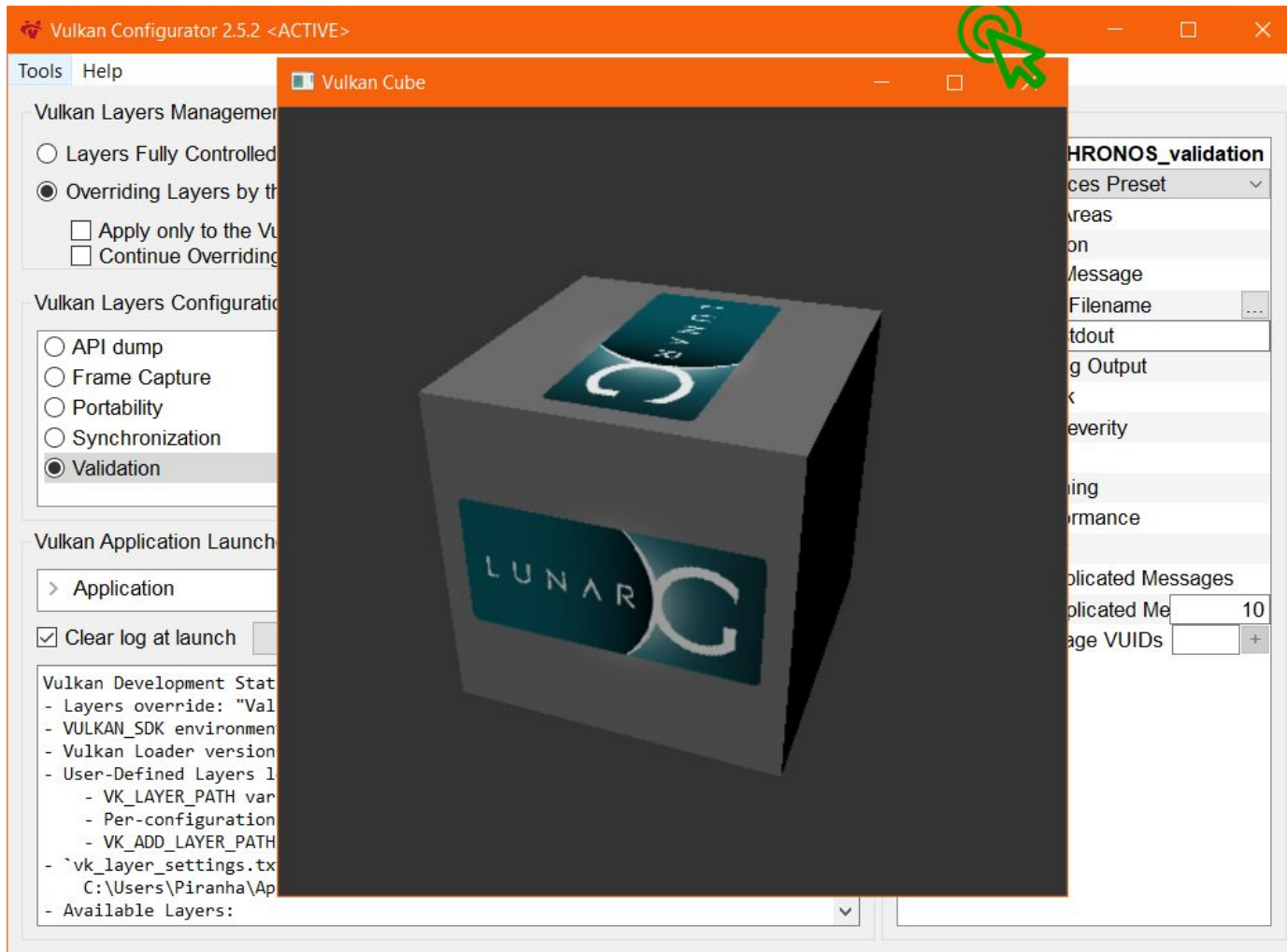
☐ Debug Output☐ Break

v Message Severity

☒ Info☒ Warning☒ Performance☒ Errorv ☒ Limit Duplicated Messages

Max Duplicated Me 10

Mute Message VUIDs



Vulkan Layers Management

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Edit Applications...

Vulkan Layers Configurations

- ☐ API dump
- ☐ Frame Capture
- ☐ Portability
- ☐ Synchronization
- ☒ Validation

New...

Edit...

Duplicate

Remove

Vulkan Application Launcher

> Application vkcube

☒ Clear log at launch Clear Vulkan Loader Messages: none Terminate

Launching Vulkan Application:

- Layers overridden by "Validation" configuration.
- Application: vkcube
- Executable: E:\VulkanSDK\1.3.236.0\Bin\vkcube.exe
- Working Directory: E:\VulkanSDK\1.3.236.0\Bin
- Command-line Arguments: --suppress_popups
- Log file: C:\Users\Piranha\VulkanSDK\vkcube.txt

UNASSIGNED-khronos-validation-createinstance-status-message(INFO / SPEC):
msgNum: -671457468 - Validation Information: [UNASSIGNED-khronos-validation

Validation Settings

VK_LAYER_KHRONOS_validation

Best Practices Preset

> Validation Areas

v Debug Action

v ☒ Log Message

v Log Filename

stdout

☐ Debug Output☐ Break

v Message Severity

☒ Info☒ Warning☒ Performance☒ Errorv ☒ Limit Duplicated Messages

Max Duplicated Me 10

Mute Message VUIDs +

Vulkan Layers Management

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Edit Applications...

Vulkan Layers Configurations

- ☐ API dump
- ☐ Frame Capture
- ☐ Portability
- ☐ Synchronization
- ☒ Validation

New...

Edit...

Duplicate

Remove

Vulkan Application Launcher

> Application vkcube

☒ Clear log at launch Clear Vulkan Loader Messages: none Terminate

```
UNASSIGNED-BestPractices-vkBindMemory-small-dedicated-allocation(WARN /
PERF): msgNum: -1277938581 - Validation Performance Warning: [ UNASSIGNED-
BestPractices-vkBindMemory-small-dedicated-allocation ] Object 0: handle =
0x2f16708a740, type = VK_OBJECT_TYPE_DEVICE; | MessageID = 0xb3d4346b |
vkBindImageMemory(): Trying to bind VkImage 0x2f16cc1aa90[] to a memory block
which is fully consumed by the image. The required size of the allocation is
524288, but smaller images like this should be sub-allocated from larger
memory blocks. (Current threshold is 1048576 bytes.)
```

Objects: 1

[0] 0x2f16708a740, type: 3, name: NULL

Validation Settings

VK_LAYER_KHRONOS_validation

Best Practices Preset

> Validation Areas

v Debug Action

v ☒ Log Message

v Log Filename

stdout

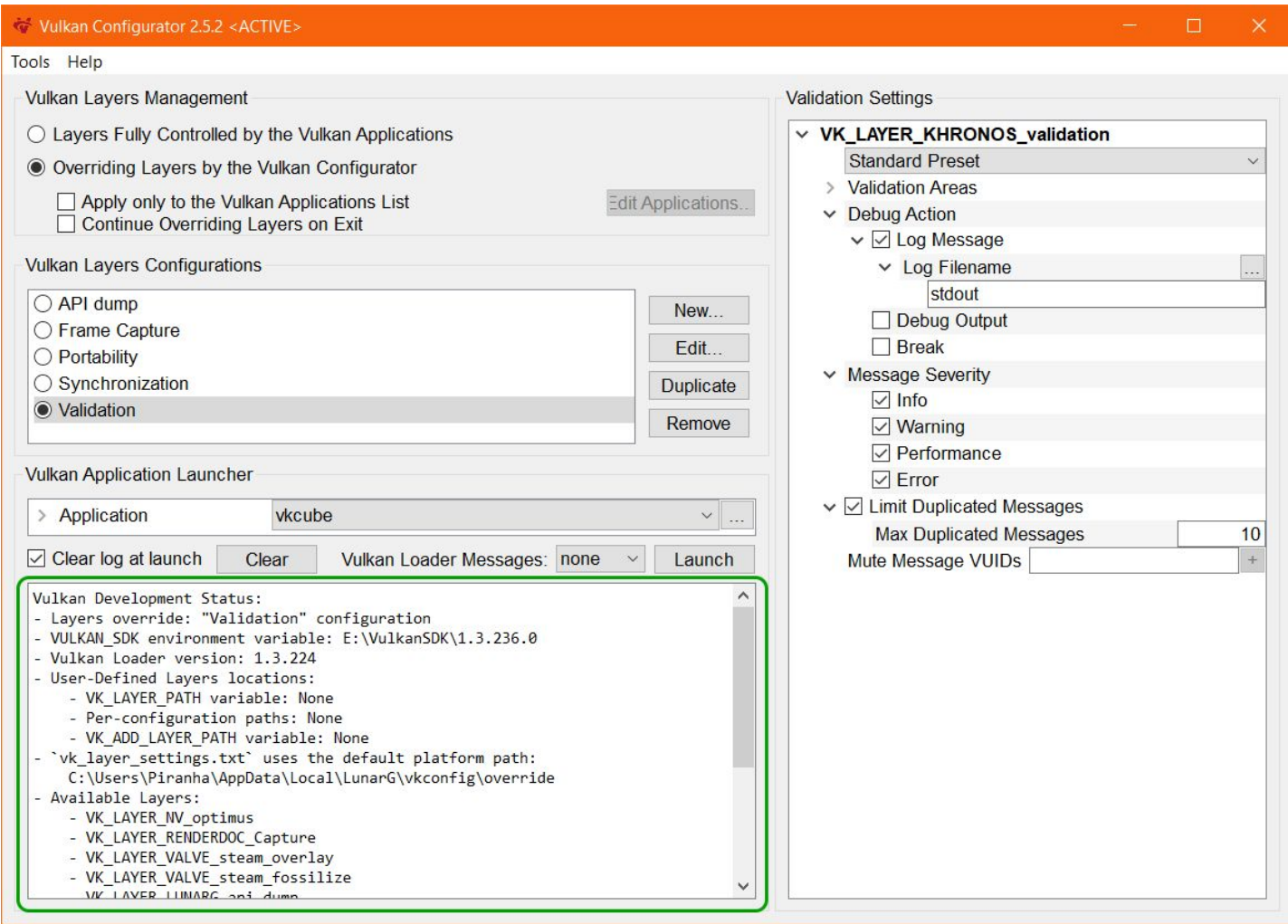
☐ Debug Output☐ Break

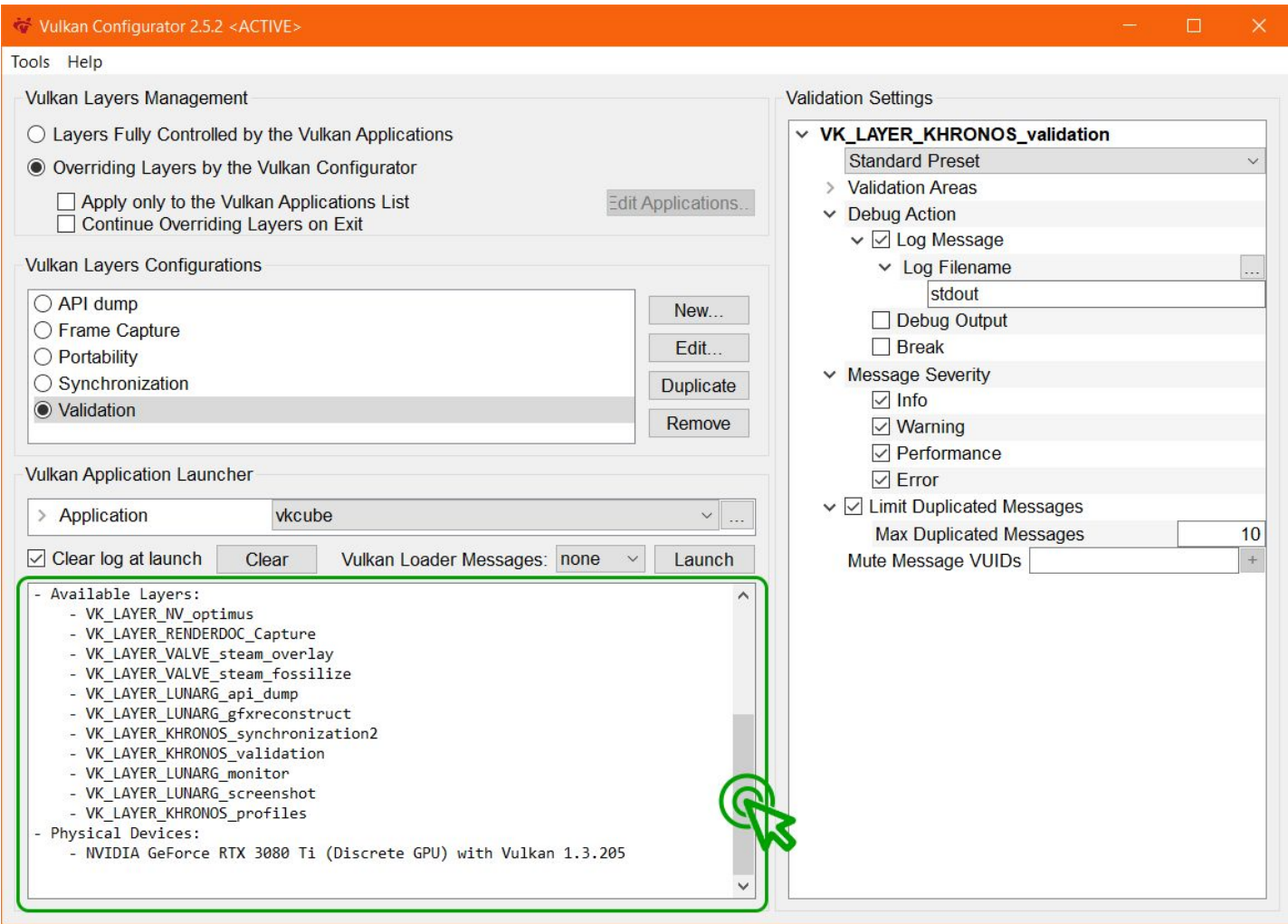
v Message Severity

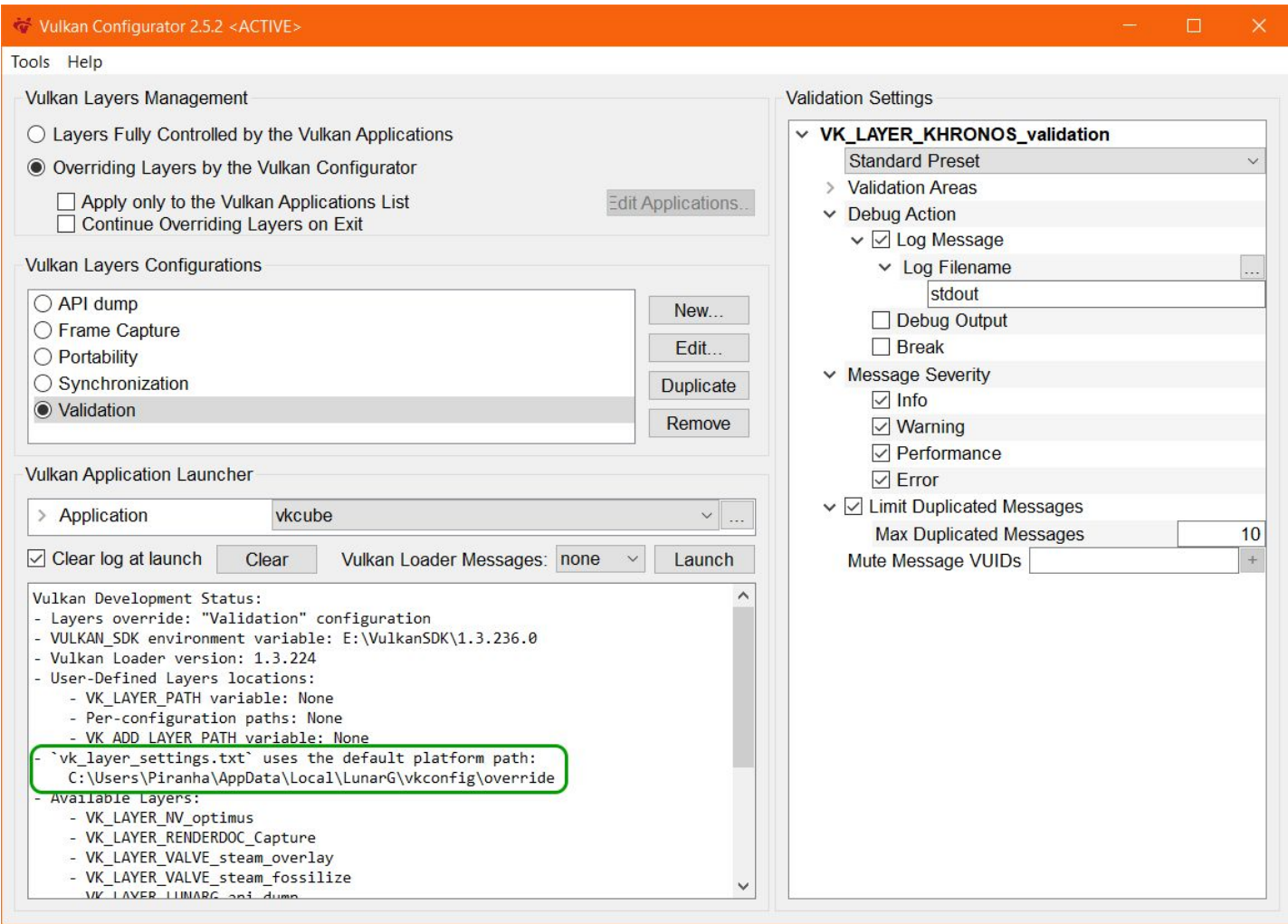
☒ Info☒ Warning☒ Performance☒ Errorv ☒ Limit Duplicated Messages

Max Duplicated Me 10

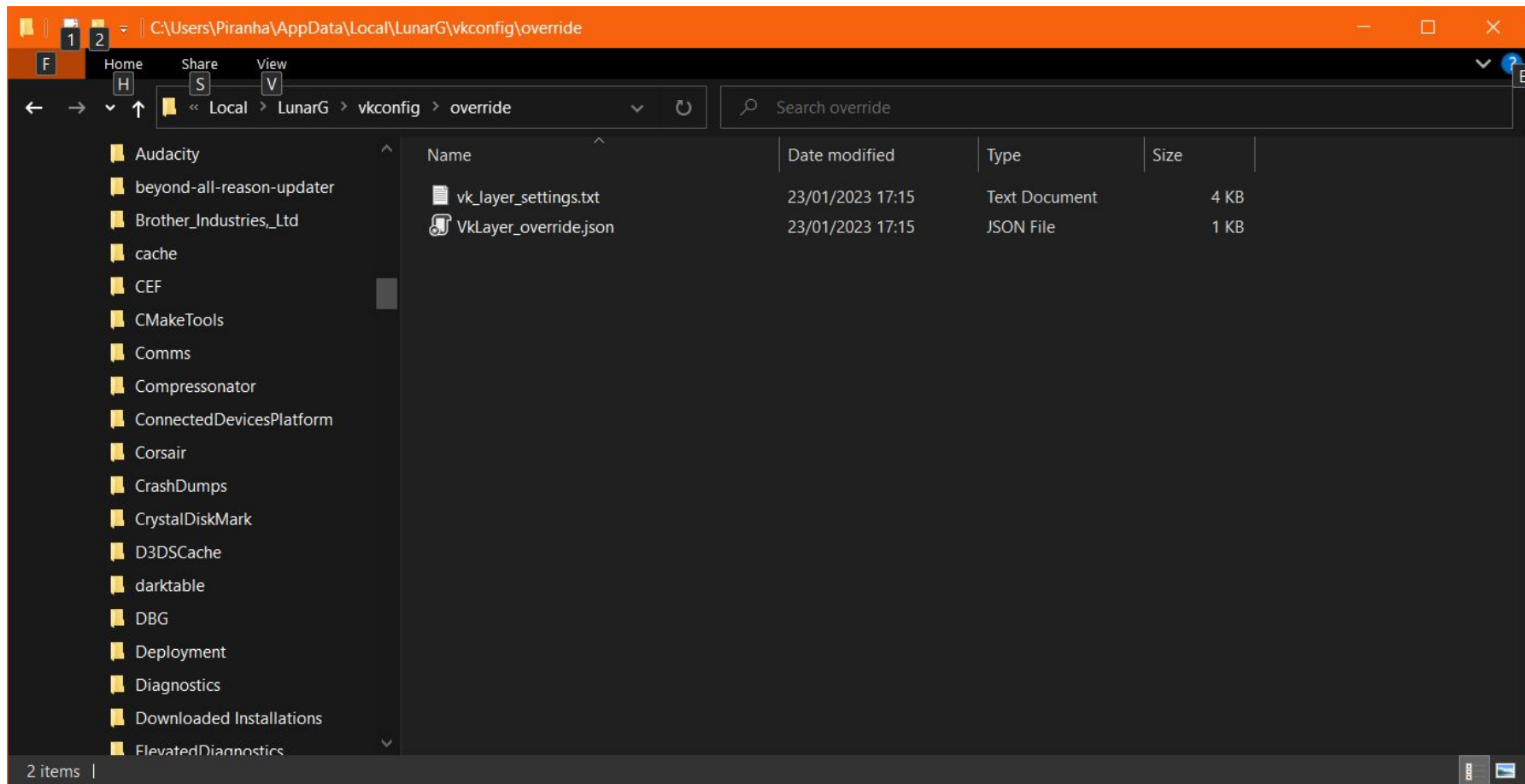
Mute Message VUIDs +







Understanding Vulkan Configurator and few tricks



```
1  {
2    "file_format_version": "1.1.2",
3    "layer": {
4      "api_version": "1.3.236",
5      "blacklisted_layers": [
6      ],
7      "component_layers": [
8        "VK_LAYER_KHRONOS_validation"
9      ],
10     "description": "LunarG Override Layer",
11     "disable_environment": {
12       "DISABLE_VK_LAYER_LUNARG_override": "1"
13     },
14     "implementation_version": "1",
15     "name": "VK_LAYER_LUNARG_override",
16     "override_paths": [
17       "E:/VulkanSDK/1.3.236.0/Bin"
18     ],
19     "type": "GLOBAL"
20   }
21 }
```

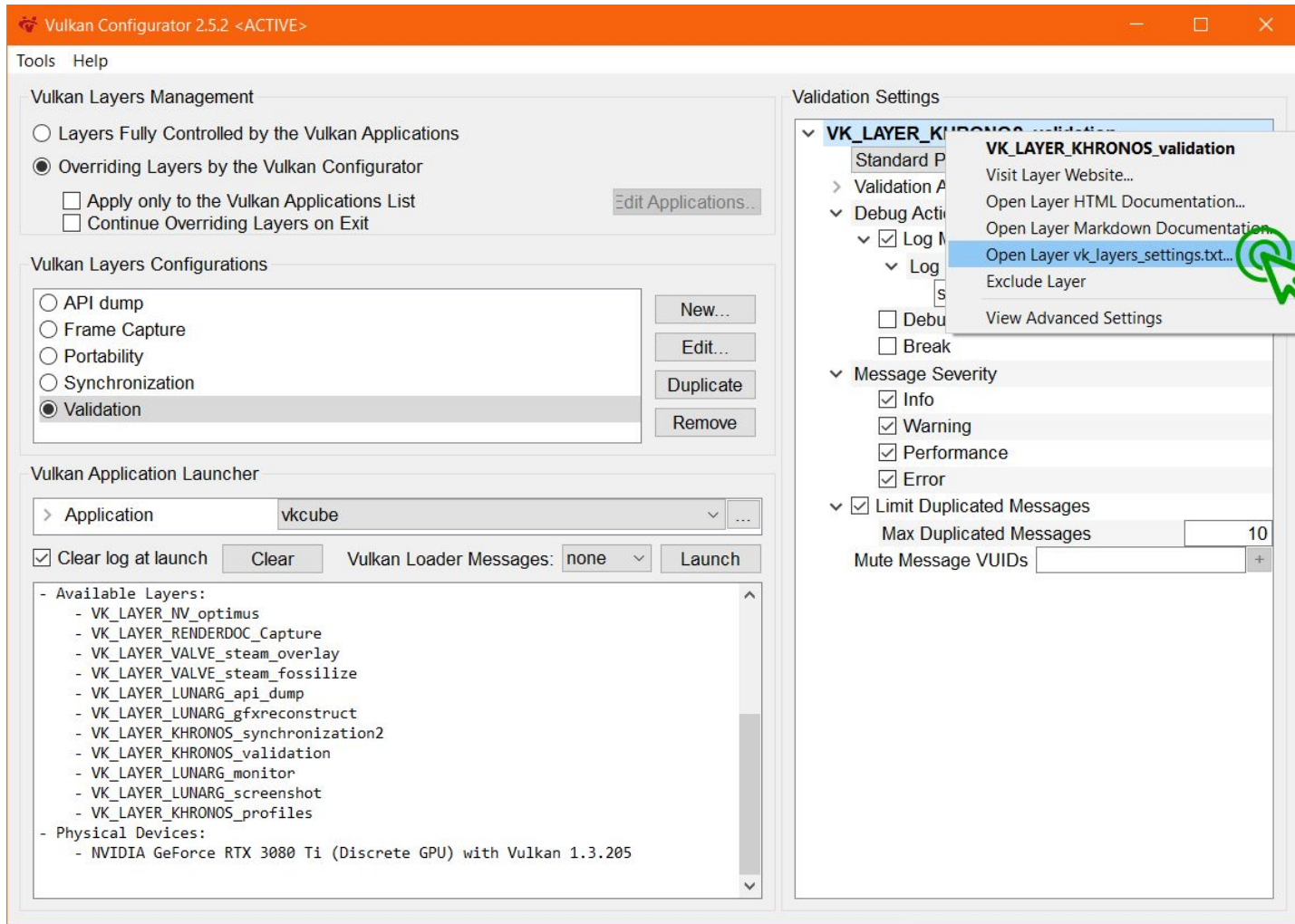
Can be created by another
application than
Vulkan Configurator

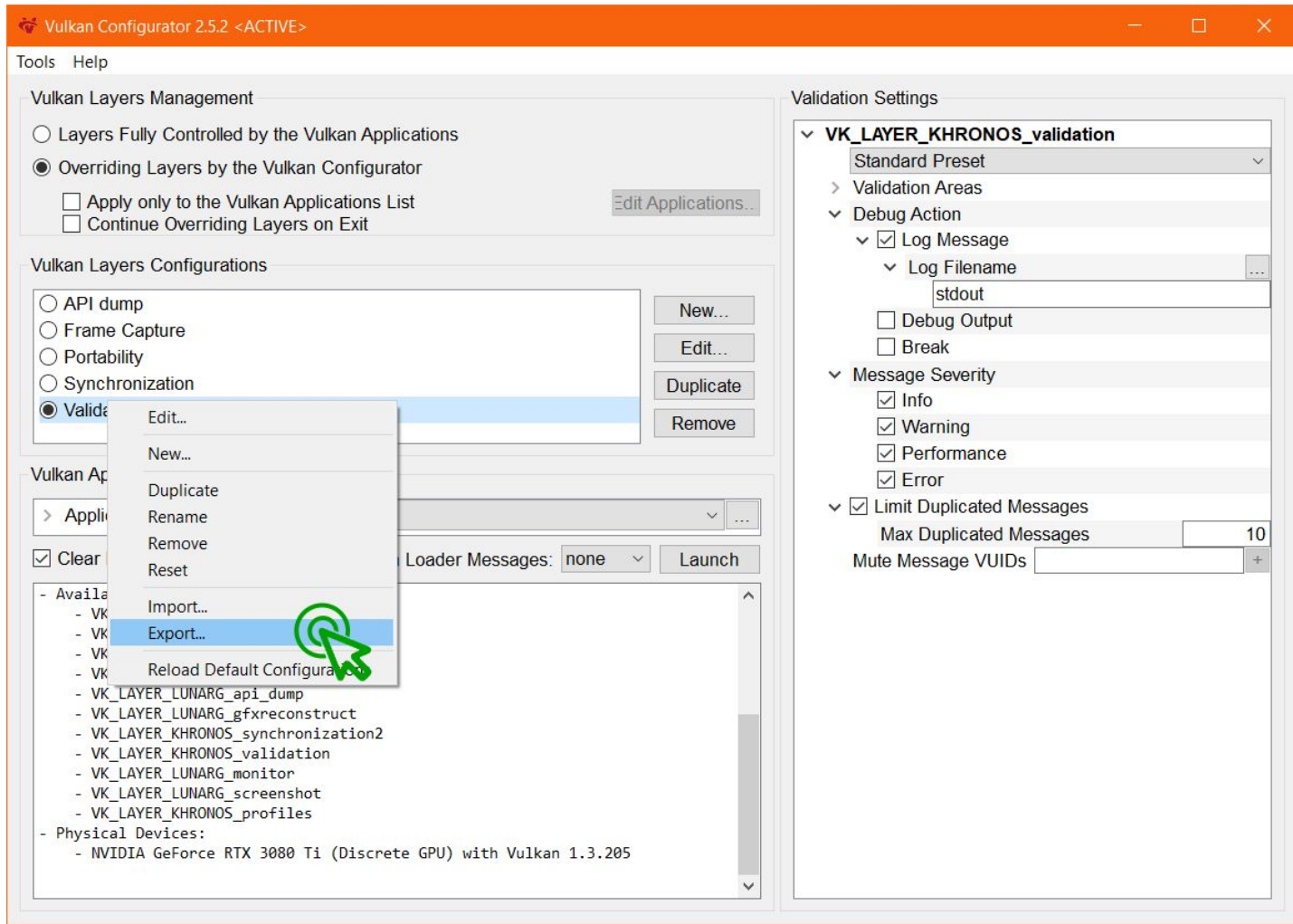
```
1 {
2   "file_format_version": "1.1.2",
3   "layer": {
4     "api_version": "1.3.236",
5     "blacklisted_layers": [
6     ],
7     "component_layers": [
8       "VK_LAYER_KHRONOS_validation"
9     ],
10    "description": "LunarG Override Layer",
11    "disable_environment": {
12      "DISABLE_VK_LAYER_LUNARG_override": "1"
13    },
14    "implementation_version": "1",
15    "name": "VK_LAYER_LUNARG_override",
16    "override_paths": [
17      "E:/VulkanSDK/1.3.236.0/Bin"
18    ],
19    "type": "GLOBAL"
20  }
21 }
```

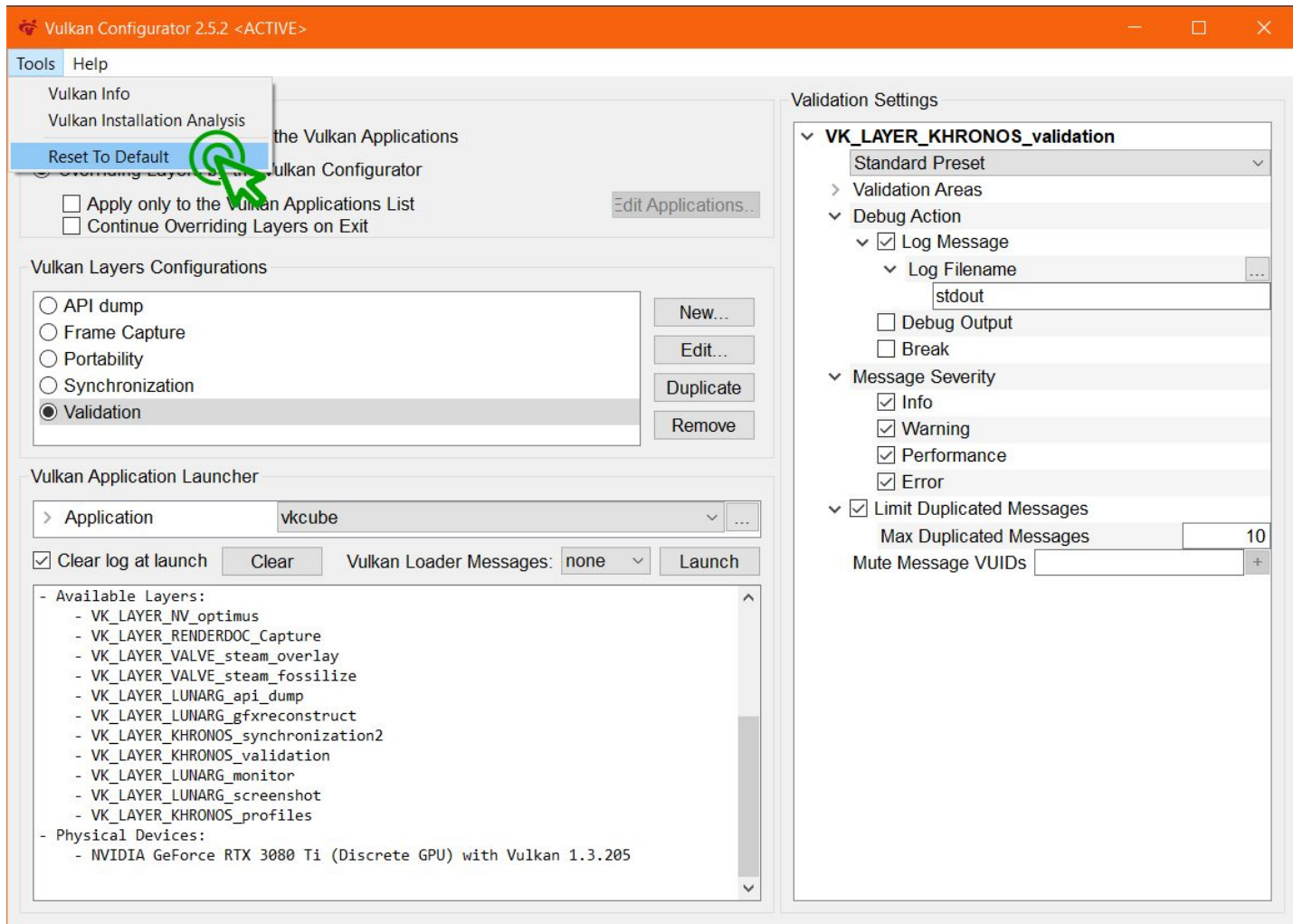


```
1  {
2      "file_format_version": "1.1.2",
3      "layer": {
4          "api_version": "1.3.236",
5          "blacklisted_layers": [
6          ],
7          "component_layers": [
8              "VK_LAYER_KHRONOS_validation"
9          ],
10         "description": "LunarG Override Layer",
11         "disable_environment": {
12             "DISABLE_VK_LAYER_LUNARG_override": "1"
13         },
14         "implementation_version": "1",
15         "name": "VK_LAYER_LUNARG_override",
16         "override_paths": [
17             "E:/VulkanSDK/1.3.236.0/Bin"
18         ],
19         "type": "GLOBAL"
20     }
21 }
```

```
1
2 # VK_LAYER_KHRONOS_validation
3
4 # Debug Action
5 # =====
6 # <LayerIdentifier>.debug_action
7 # Specifies what action is to be taken when a layer reports information
8 khronos_validation.debug_action = VK_DBG_LAYER_ACTION_LOG_MSG
9
10 # Log Filename
11 # =====
12 # <LayerIdentifier>.log_filename
13 # Specifies the output filename
14 khronos_validation.log_filename = stdout
15
16 # Message Severity
17 # =====
18 # <LayerIdentifier>.report_flags
19 # Comma-delineated list of options specifying the types of messages to be
20 # reported
21 khronos_validation.report_flags = error,perf,info,warn
```







Piranha@Piranha MINGW64 /e/VulkanSDK/1.3.236.0/Bin

\$ vkconfig --help

Usage

vkconfig [[help] | [version] | [gui] | [layers <args>]]

Command:

help	= Display usage and documentation.
version	= Display Vulkan Configurator version.
gui	= Launch the Vulkan Configurator GUI.
layers	= Manage system Vulkan Layers.
doc	= Create doc files for layer.
reset	= Reset layers configurations.

(Use 'vkconfig help <command>' for detailed usage of Vulkan Configurator commands.)

Piranha@Piranha MINGW64 /e/VulkanSDK/1.3.236.0/Bin

\$

Piranha@Piranha MINGW64 /e/VulkanSDK/1.3.236.0/Bin

\$ vkconfig --help

Usage

vkconfig [[help] | [version] | [gui] | [layers <args>]]

Command:

help	= Display usage and documentation.
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layers	= Manage system Vulkan Layers.
doc	= Create doc files for layer.
reset	= Reset layers configurations.

(Use 'vkconfig help <command>' for detailed usage of Vulkan Configurator commands.)

Piranha@Piranha MINGW64 /e/VulkanSDK/1.3.236.0/Bin

\$

Piranha@Piranha MINGW64 /e/VulkanSDK/1.3.236.0/Bin

\$ vkconfig layers

Missing 'layers' command argument...

Name

'layers' - Command to manage system Vulkan Layers

Synopsis

vkconfig layers (--override | -o) <layers_configuration_file>

vkconfig layers (--surrender | -s)

vkconfig layers (--list | -l)

vkconfig layers (--list-verbose | -lv)

Description

vkconfig layers (--override | -o) <layers_configuration_file>

Override the Vulkan layers using <layers_configuration_file> generated by Vulkan Configurator.

vkconfig layers (--surrender | -s)

Surrender the Vulkan layers control to Vulkan applications.

vkconfig layers (--list | -l)

List the Vulkan layers found by Vulkan Configurator on the system.

vkconfig layers (--list-version | -lv)

List the Vulkan layers found by Vulkan Configurator on the system with locations and versions.

```
Piranha@Piranha MINGW64 /e/VulkanSDK/1.3.236.0/Bin
$ vkconfig layers --list-verbose
VK_LAYER_LUNARG_api_dump (Explicit) 1.3.236-2
- LunarG API dump layer
- E:/VulkanSDK/1.3.236.0/Bin/VkLayer_api_dump.json
- .\VkLayer_api_dump.dll
VK_LAYER_LUNARG_gfxreconstruct (Explicit) 1.3.236-36880
- GFXReconstruct Capture Layer Version 0.9.16
- E:/VulkanSDK/1.3.236.0/Bin/VkLayer_gfxreconstruct.json
- .\VkLayer_gfxreconstruct.dll
VK_LAYER_KHRONOS_profiles (Explicit) 1.3.236-1.0.2
- Khronos Profiles layer
- E:/VulkanSDK/1.3.236.0/Bin/VkLayer_khronos_profiles.json
- .\VkLayer_khronos_profiles.dll
VK_LAYER_KHRONOS_synchronization2 (Explicit) 1.3.236-1
- Khronos Synchronization2 layer
- E:/VulkanSDK/1.3.236.0/Bin/VkLayer_khronos_synchronization2.json
- .\VkLayer_khronos_synchronization2.dll
VK_LAYER_KHRONOS_validation (Explicit) 1.3.236-1
- Khronos Validation Layer
- E:/VulkanSDK/1.3.236.0/Bin/VkLayer_khronos_validation.json
- .\VkLayer_khronos_validation.dll
VK_LAYER_LUNARG_monitor (Explicit) 1.3.236-1
- Execution Monitoring Layer
- E:/VulkanSDK/1.3.236.0/Bin/VkLayer_monitor.json
```



```

92 void LayerManager::LoadAllInstalledLayers() {
93     available_layers.clear();
94
95     // FIRST: If VK_LAYER_PATH is set it has precedence over other layers.
96     const std::vector<std::string> &env_user_defined_layers_paths_set =
97         environment.GetUserDefinedLayersPaths(USER_DEFINED_LAYERS_PATHS_ENV_SET);
98     for (std::size_t i = 0, n = env_user_defined_layers_paths_set.size(); i < n; ++i) {
99         LoadLayersFromPath(env_user_defined_layers_paths_set[i]);
100     }
101
102     // SECOND: Any per layers configuration user-defined path from Vulkan Configurator? Search for those too
103     const std::vector<std::string> &gui_config_user_defined_layers_paths =
104         environment.GetUserDefinedLayersPaths(USER_DEFINED_LAYERS_PATHS_GUI);
105     for (std::size_t i = 0, n = gui_config_user_defined_layers_paths.size(); i < n; ++i) {
106         LoadLayersFromPath(gui_config_user_defined_layers_paths[i]);
107     }
108
109     // THIRD: Add VK_ADD_LAYER_PATH layers
110     const std::vector<std::string> &env_user_defined_layers_paths_add =
111         environment.GetUserDefinedLayersPaths(USER_DEFINED_LAYERS_PATHS_ENV_ADD);
112     for (std::size_t i = 0, n = env_user_defined_layers_paths_add.size(); i < n; ++i) {
113         LoadLayersFromPath(env_user_defined_layers_paths_add[i]);
114     }
115
116     // FOURTH: Standard layer paths, in standard locations. The above has always taken precedence
117     for (std::size_t i = 0, n = countof(SEARCH_PATHS); i < n; i++) {
118         LoadLayersFromPath(SEARCH_PATHS[i]);
119     }
120
121     // FIFTH: See if there is anything in the VULKAN_SDK path that wasn't already found elsewhere
122     if (!qgetenv("VULKAN_SDK").isEmpty()) {
123         LoadLayersFromPath(GetPath(BUILTIN_PATH_EXPLICIT_LAYERS));
124     }
125 }

```


Vulkan Configurator 3

Work in Progress

Vulkan Configurator 3 work in progress

- Better control of the layers
 - Transparent layers loading
 - Support of multiple versions of a layer.
 - Full ordering of the layers
 - Including implicit layers and layers enabled in a Vulkan application.
- Tab based redesign ([PR](#)):
 - Per use-case tabs.
 - Replacing vkvia by a diagnostic tab based on the Vulkan Loader information.
- A Vulkan API extension for generic layer settings
 - With a library to make it easier to add settings to a layer.

Diagnostic Layers Launcher Help

☐ Layers controlled by Vulkan Applications☒ Layers controlled by Vulkan Configurator While Running ▾☐ Disable all Vulkan Layers☐ Apply only to the Vulkan Applications List ...

Validation ▾ New... Duplicate... Reload... Remove

Execute Closer to the Vulkan Application ^

VK_LAYER_NV_optimus	1.3.205 ▾	Implicitly On ▾
VK_LAYER_RENDERDOC_Capture	1.3.131 ▾	Implicitly On ▾
VK_LAYER_VALVE_steam_fossilize	1.3.207 ▾	Implicitly On ▾
VK_LAYER_VALVE_steam_overlay	1.3.207 ▾	Implicitly On ▾
VK_LAYER_KHRONOS_validation	1.3.236 ▾	Forced On ▾
VK_LAYER_KHRONOS_profiles	1.3.236 ▾	Application-Controlled ▾
VK_LAYER_KHRONOS_synchronization2	1.3.236 ▾	Application-Controlled ▾
VK_LAYER_LUNARG_api_dump	1.3.236 ▾	Application-Controlled ▾
VK_LAYER_LUNARG_gfxreconstruct	1.3.236 ▾	Application-Controlled ▾
VK_LAYER_LUNARG_monitor	1.3.236 ▾	Application-Controlled ▾
VK_LAYER_LUNARG_screenshot	1.3.236 ▾	Application-Controlled ▾

Execute Closer to the Vulkan Driver ▾

HKEY_LOCAL_MACHINE\Software\Khronos\Vulkan\ImplicitLayers
HKEY_CURRENT_USER\Software\Khronos\Vulkan\ExplicitLayers
HKEY_CURRENT_USER\Software\Khronos\Vulkan\ImplicitLayers
HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\Class\...\VulkanExplicitLe
HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\Class\...\VulkanImplicitLe
E:\VulkanSDK\1.3.236.0\Bin

VK_LAYER_KHRONOS_validation

Standard Preset ▾

> Validation Areas

v Debug Action

☒ Log Message

v Log Filename

stdout

☐ Debug Output☐ Break

v Message Severity

☒ Info☒ Warning☒ Performance☒ Error☒ Limit Duplicated Messages

Max Duplicated Messages 10

Mute Message VUIDs +

Diagnostic Layers Launcher Help

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Execute Closer to the Vulkan Application

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VK_LAYER_LUNARG_screenshot	1.3.236	Application-Controlled

Execute Closer to the Vulkan Driver

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Duplicate...

Reload...

Remove

Execute Closer to the Vulkan Application

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Full Ordering using
drag and drop

Diagnostic Layers Launcher Help

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Max Duplicated Messages 10

Mute Message VUIDs +

Any suggestion for Vulkan Configurator 3?

Are you interested in better integrating Vulkan Configurator to your layer?

Questions?

Feedback welcome!

christophe@lunarg.com

<https://github.com/LunarG/VulkanTools/issues>

<https://www.lunarg.com/news-insights/white-papers/using-the-vulkan-configurator-for-daily-vulkan-development-feb2023/>





Help Us Improve the
Vulkan SDK and Ecosystem

Share Your Feedback

Take the LunarG annual developer's survey

- Survey results are tabulated
- Shared with the Vulkan Working Group
- Actions are assigned
- Results are reported

Survey closes February 27, 2023



<https://www.surveymonkey.com/r/PVM92RH>

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