

The background of the image is a grayscale illustration of a circuit board. It features various traces, pads, and circular components. A prominent dark horizontal band runs across the middle of the image, serving as a background for the text.

Flash nRF5340 Firmware Using pyOCD and I-SYST® IDAP-Link

Revision History

Rev.	Date	Prepared	Description
1.0	21 Feb 2024	Thinh Tran	1 st draft

1) Prerequisite

- Python 3.7 or later was installed on the user's PC
 - In this tutorial, Python 3.11 was installed in
 - `C:\Program Files\Python311`
 - This path is referred to as `<PythonLocation>`
- Windows Command Prompt or Windows PowerShell terminal

2) Install pyOCD

- Open a Command Prompt, enter the following command for installing pyOCD supporting nRF53

```
python -mpip install --pre -U git+https://github.com/maxd-nordic/pyOCD@nrf53
```

- After successful installation, pyocd.exe can be found at
 - <PythonLocation>\Scripts
 - Typically C:\Program Files\Python311\Scripts in this tutorial

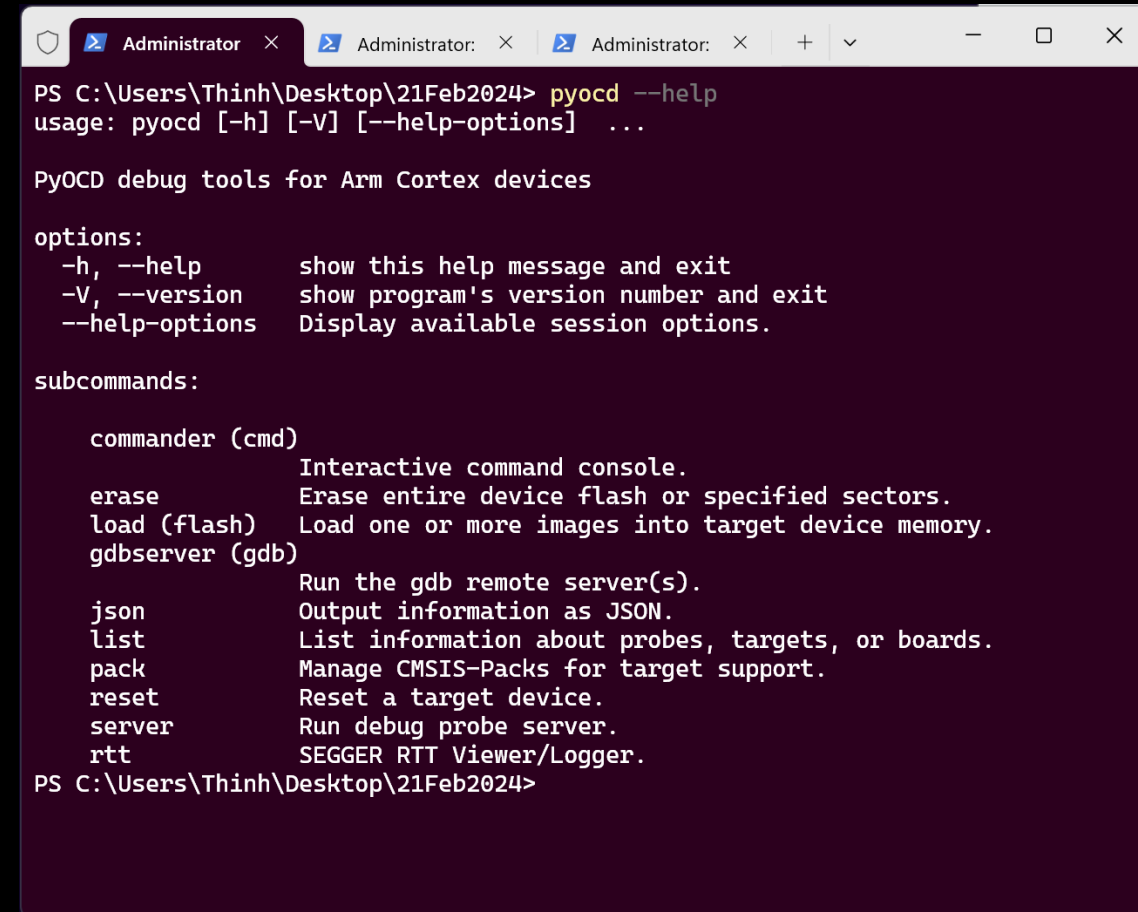
3) Add pyocd.exe to Windows System Path

- Follow this instruction to add the path above to Windows System Path
 - [How to Set the Path and Environment Variables in Windows \(computerhope.com\)](https://www.computerhope.com)

- We can check by running the following command in Command prompt

```
pyocd --help
```

- If pyocd is working well, we will see the same result as in the next figure



```
Administrator x Administrator: x Administrator: x + v - □ x
PS C:\Users\Thinh\Desktop\21Feb2024> pyocd --help
usage: pyocd [-h] [-V] [--help-options] ...

PyOCD debug tools for Arm Cortex devices

options:
  -h, --help            show this help message and exit
  -V, --version         show program's version number and exit
  --help-options       Display available session options.

subcommands:

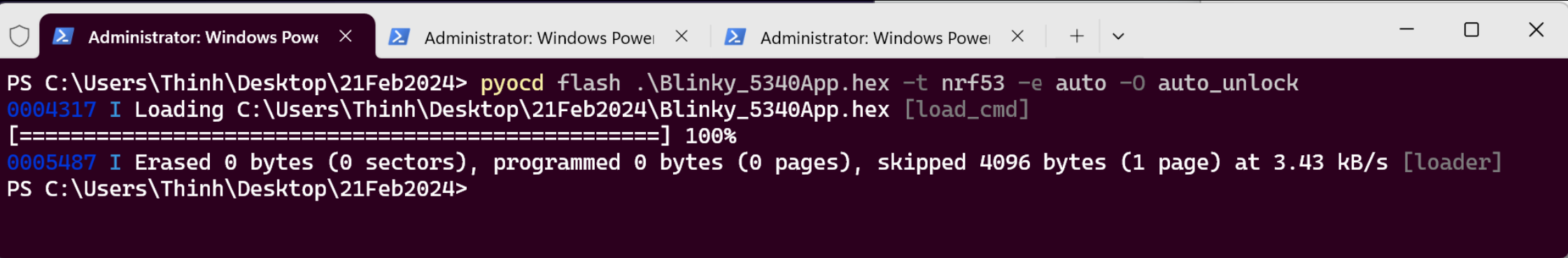
  commander (cmd)      Interactive command console.
  erase                Erase entire device flash or specified sectors.
  load (flash)         Load one or more images into target device memory.
  gdbserver (gdb)     Run the gdb remote server(s).
  json                 Output information as JSON.
  list                 List information about probes, targets, or boards.
  pack                 Manage CMSIS-Packs for target support.
  reset                Reset a target device.
  server               Run debug probe server.
  rtt                  SEGGER RTT Viewer/Logger.
PS C:\Users\Thinh\Desktop\21Feb2024>
```

4) Flash Firmware to nRF5340 MCU

- Connect IDAP-Link to the nRF5340 MCU via JTag
- Open a Command prompt at the folder location of the firmware
- Use the following command

```
pyocd flash .\Blinky_5340App.hex -t nrf53 -e auto -O auto_unlock
```

- Here, Blinky_5340App.hex is the name of the firmware to be flashed
- If successful, the result is as shown below



```
Administrator: Windows Powe  x  Administrator: Windows Powe  x  Administrator: Windows Powe  x  +  v  -  □  X
PS C:\Users\Thinh\Desktop\21Feb2024> pyocd flash .\Blinky_5340App.hex -t nrf53 -e auto -O auto_unlock
0004317 I Loading C:\Users\Thinh\Desktop\21Feb2024\Blinky_5340App.hex [load_cmd]
[=====] 100%
0005487 I Erased 0 bytes (0 sectors), programmed 0 bytes (0 pages), skipped 4096 bytes (1 page) at 3.43 kB/s [loader]
PS C:\Users\Thinh\Desktop\21Feb2024>
```

5) Notes

- The syntax is the same for flashing a firmware to the nRF5340 Network core.
- If the flash command above is not successful, the MCU may be write protected, the user should erase the whole chip by using the following command

```
pyocd erase --mass -t nrf53
```