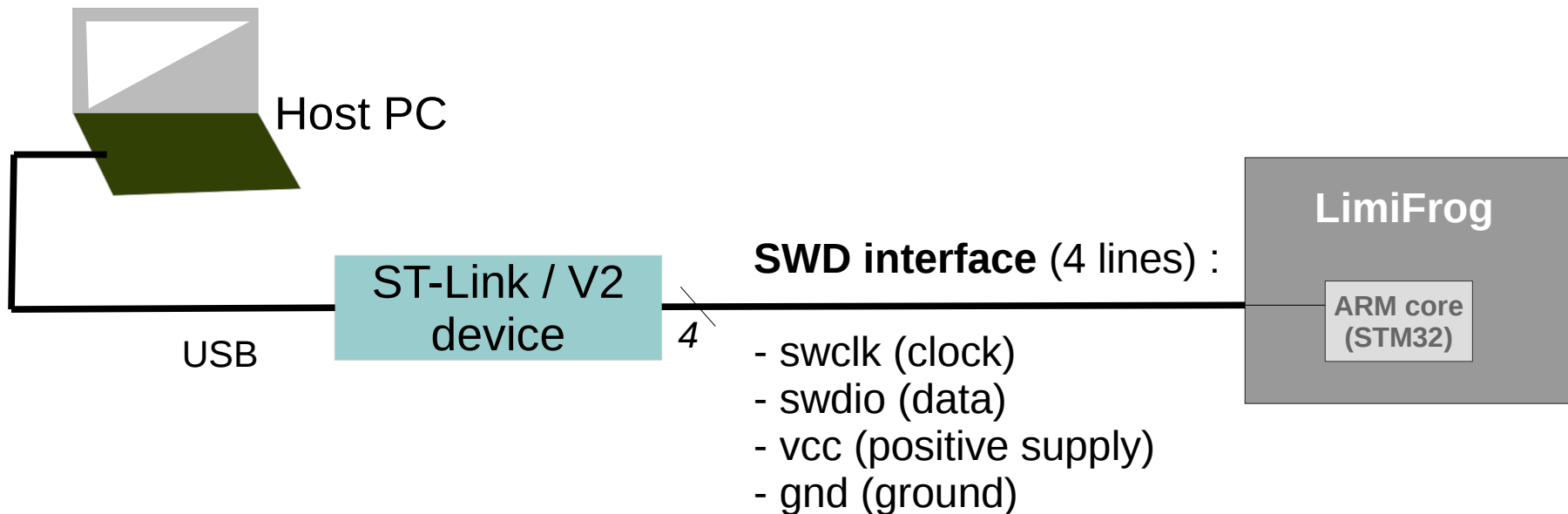# Connecting your ST-Link device to LimiFrog

> An ST-Link/V2 device acts as a 'bridge' between a host PC and LimiFrog.
  It enables downloading (and debuggging) code from the host PC into LimiFrog.

> It connects to the host PC via USB and
  to LimiFrog via a specialized 'SWD' interface (4 wires).

> The SWD port provides access to the STM32 micro-controller.

Host PC

LimiFrog

ARM core (STM32)

ST-Link / V2 device

SWD interface (4 lines) :

4

- swclk (clock)
- swdio (data)
- vcc (positive supply)
- gnd (ground)

USB

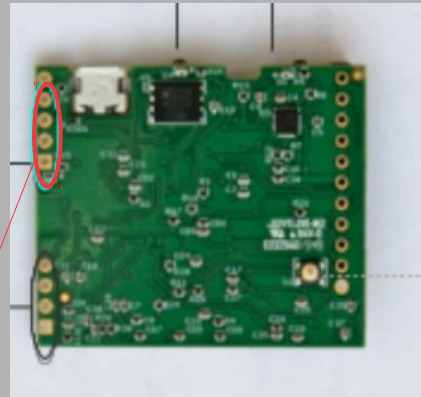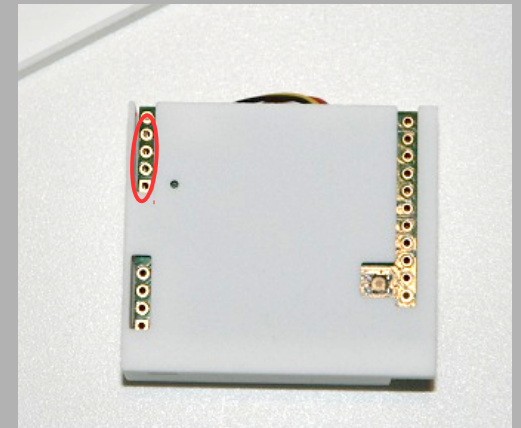# SWD port location on board

TOP VIEW

BOTTOM VIEW

CASED

STM32 SWD interface
(4 pins)

Header and wires for connecting to LimiFrog's SWD port

> LimiFrog comes with a removable 4-pin male header that can be plugged into the SWD port of LimiFrog.

> One end of this 4-pin header is slightly 'swollen' : this end goes into the holes of the SWD port. The swelling facilitates mechanical contact, hence good electrical connection.
The other end plugs into the wires of e.g. four "Dupont Line" wires (provided).

"Dupont Line" type wires   4-pin male header
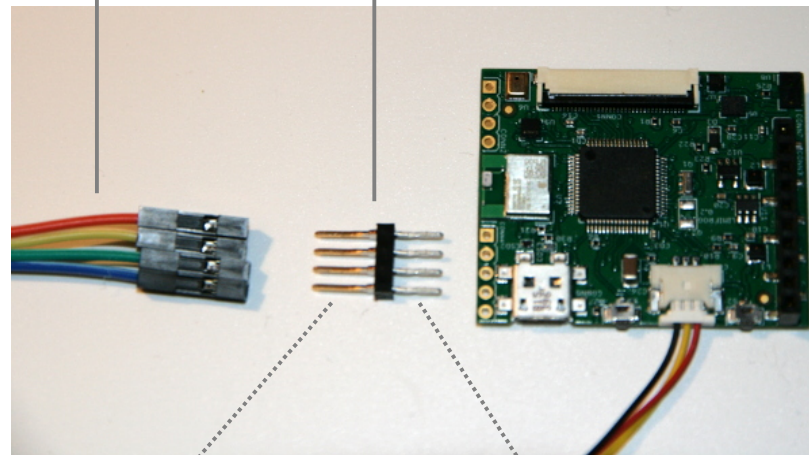
regular end   'swollen' end

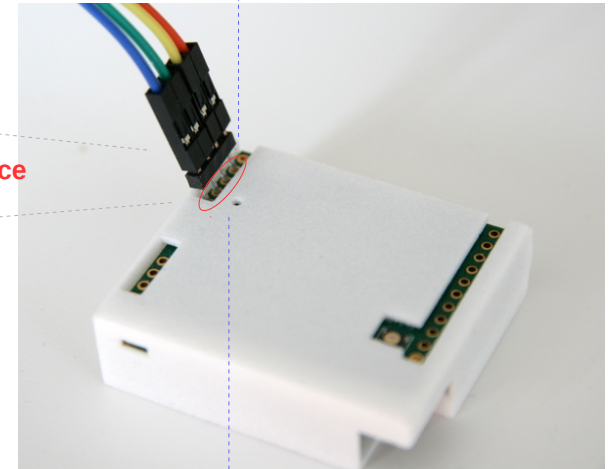# Connecting to LimiFrog

(Pin 5, not part of SDW interface)

Pin 4 = SWDIO (data)
Pin 3 = SWCLK (clock)
Pin 2 = GND (ground reference)
Pin 1 = VCC (positive supply, typ. 3V)

(#5)

#4
#3   SWD interface
#2
#1

Pin 1 indicator on plastic package

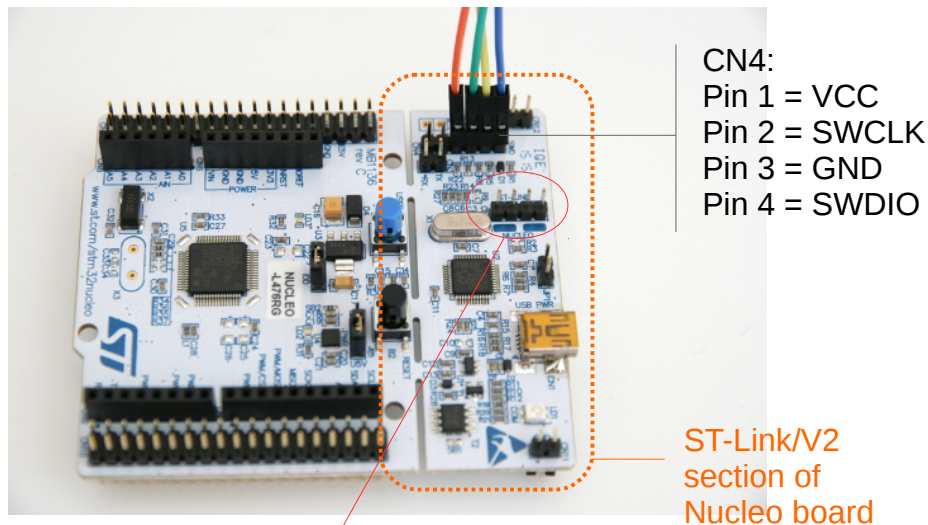- Recommended installation when programming the board :

  - The module weights on the 4-pin header
    so electrical contact is facilitated.

  - If proper contact is not established,
    press slightly downwards.

> Identify the following signals on your ST-Link/V2 device :
    SWIDIO, SWCLK, GND, VCC/VDD

> Connect them to the relevant wires

> *Next are a few examples :*

Low-cost ST-Link/V2 compatible dongle

Nucleo Board used as ST-Link/V2 device
(refer to STM32 Nucleo User Manual)

CN4:
Pin 1 = VCC
Pin 2 = SWCLK
Pin 3 = GND
Pin 4 = SWDIO

ST-Link/V2
section of
Nucleo board

- *Connector CONN2 must be removed*
  to use Nucleo as stand-alone ST-Link/V2

- *LimiFrog must be ON to provide 3V on*
  Nucleo ST-Link/V2 VCC pin

SWDIO   SWCLK   GND   VCC

SWDIO   GND   SWCLK   VCC