

# Serial Terminal

**Got a problem with CubeIDE's terminal? Time to change.**

By P'Mill and P'Tontan 

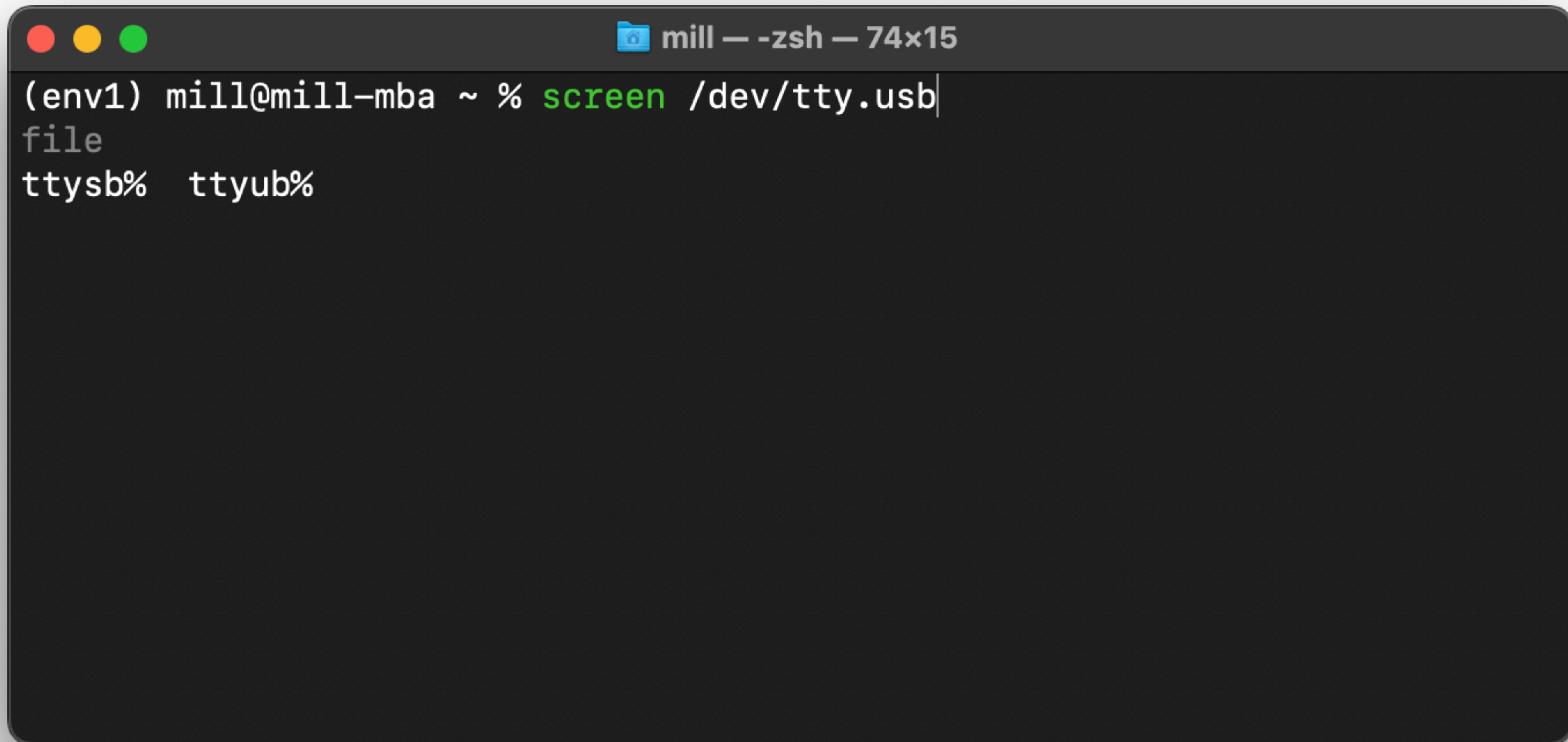


```
1 char buf[50];
2 sprintf(buf, "Hello \r\n");
3 /* USER CODE END 2 */
4
5 /* Infinite loop */
6 /* USER CODE BEGIN WHILE */
7 while (1) {
8     HAL_UART_Transmit(&huart2, buf, strlen(buf), 100);
9     HAL_Delay(200);
10    /* USER CODE END WHILE */
11
12    /* USER CODE BEGIN 3 */
13 }
```

## Sample Code

# MacOS

'screen' is your friend.

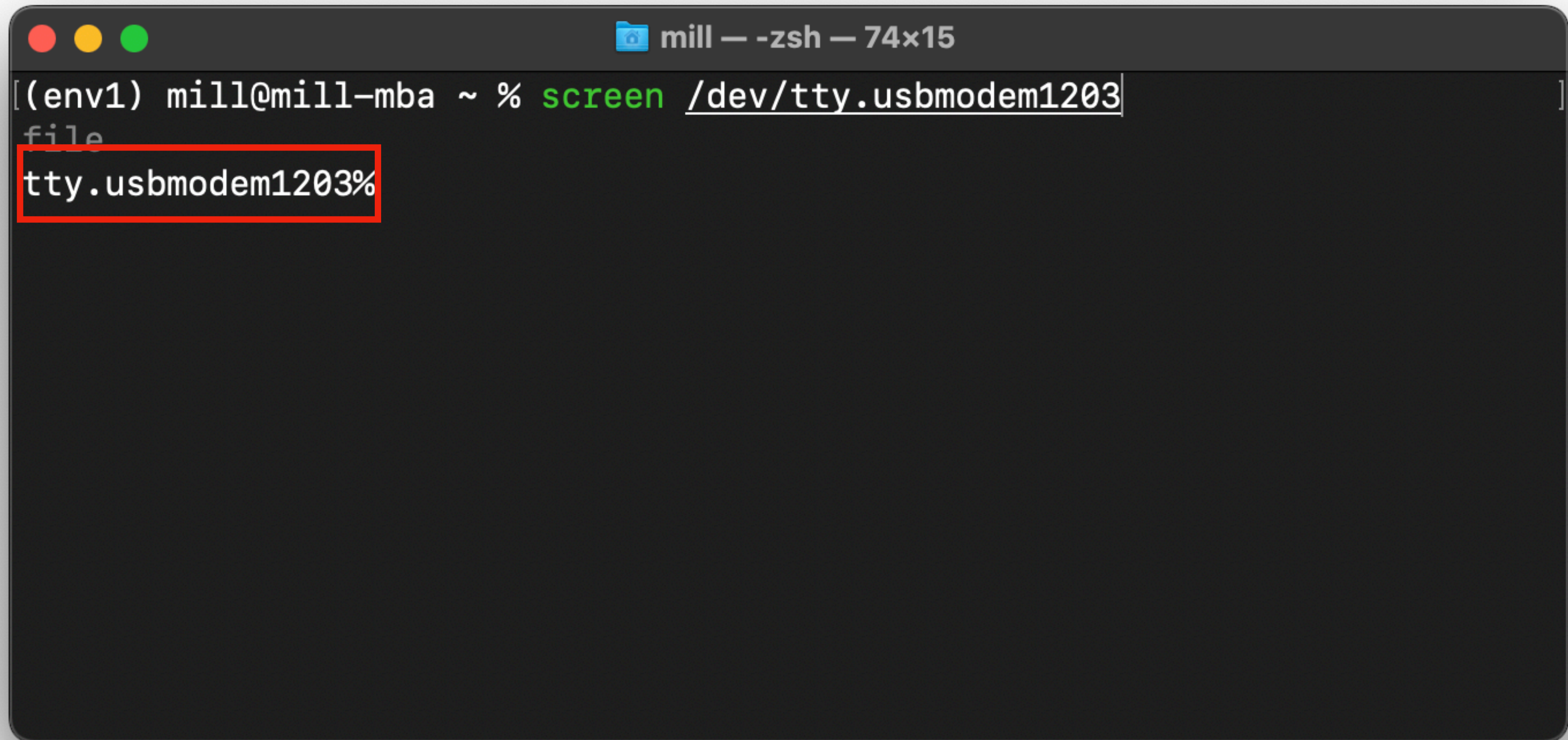


A terminal window titled "mill — -zsh — 74x15" with standard macOS window controls (red, yellow, green buttons). The terminal shows the following sequence of commands and output:

```
(env1) mill@mill-mba ~ % screen /dev/tty.usb|  
file  
ttysb% ttyub%
```

Type `screen /dev/tty.usb` then press TAB



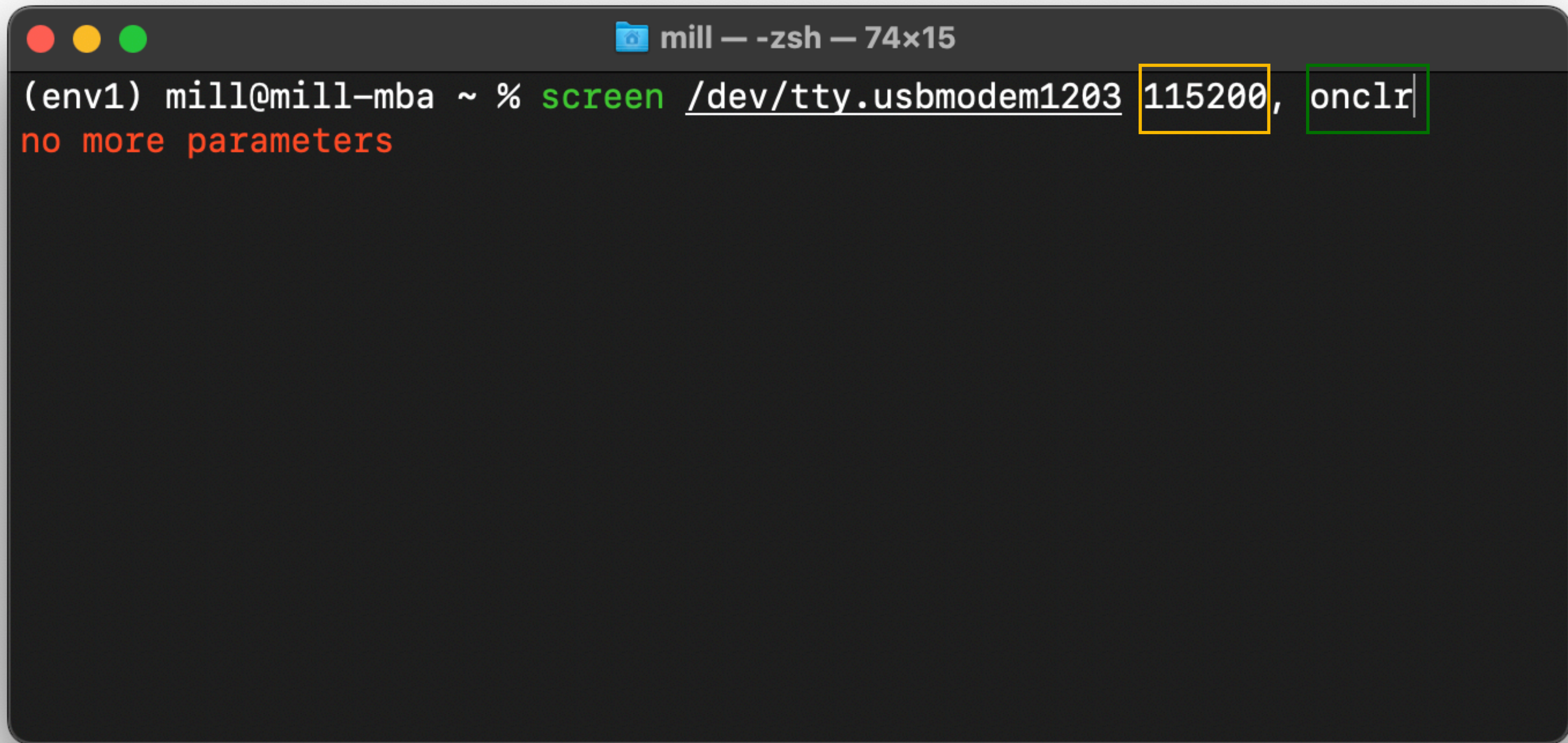


A terminal window titled "mill — -zsh — 74x15" with standard macOS window controls (red, yellow, green buttons). The prompt is `[(env1) mill@mill-mba ~ %]`. The command `screen /dev/tty.usbmodem1203` is entered. Below the command, the text `file` is partially visible. A red rectangular box highlights the text `tty.usbmodem1203%` on the line below.

```
[(env1) mill@mill-mba ~ % screen /dev/tty.usbmodem1203  
file  
tty.usbmodem1203%
```

Select the one in the red box, the number will vary. Don't panic!






A terminal window titled "mill — -zsh — 74x15" with three colored window control buttons (red, yellow, green) in the top-left corner. The terminal shows a command prompt "(env1) mill@mill-mba ~ %" followed by the command "screen /dev/tty.usbmodem1203 115200, onclr". The parameter "115200" is highlighted with a yellow box, and "onclr" is highlighted with a green box. Below the command, the text "no more parameters" is displayed in red.

```
(env1) mill@mill-mba ~ % screen /dev/tty.usbmodem1203 115200, onclr
no more parameters
```

Add **speed** (see .ioc settings)  
and **onclr** parameter to receive (\r\n) characters.





A terminal window with a dark gray background and a light gray title bar. The title bar contains three colored window control buttons (red, yellow, green) on the left, followed by a blue folder icon and the text "mill — screen /dev/tty.usbmodem1203 115200, onclr ▸ SCREEN — 74x15". The terminal area displays 14 lines of the word "Hello" in a white monospaced font, one per line. A white cursor is visible at the end of the 14th line.

```
mill — screen /dev/tty.usbmodem1203 115200, onclr ▸ SCREEN — 74x15
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
|
```

Done!

Pinout & Configuration

Categories A->Z

- System Core
- Analog
- Timers
- Connectivity
  - I2C1
  - I2C2
  - I2C3
  - SDIO
  - SPI1
  - SPI2
  - SPI3
  - SPI4
  - SPI5
  - USART1
  - USART2**
  - USART6
  - USB\_OTG\_FS
- Multimedia
- Computing
- Middleware

Clock Configuration

Software Packs

Pinout

USART2 Mode and Configuration

Mode

Mode Asynchronous

Hardware Flow Control (RS232) Disable

Configuration

Reset Configuration

DMA Settings

GPIO Settings

User Constants

NVIC Settings

Parameter Settings

Configure the below parameters :

Search (Ctrl+F)

Basic Parameters

Baud Rate 115200 Bits/s

Word Length 8 Bits (including Parity)

Parity None

Stop Bits 1

Advanced Parameters

Data Direction Receive and Transmit

Over Sampling 16 Samples

Pinout view

System view

STM32F411RETx LQFP64

Pinout diagram showing connections for USART2 (PA2, PA3) and other pins (VDD, VSS, PB9, PB8, BOO, PB7, PB6, PB5, PB4, PB3, PD2, PC12, PC11, PC10, PA15, PA14, TCK, TMS, PA13, PA12, PA11, PA10, PA9, PA8, PC9, PC8, PC7, PC6, PC5, PC4, PC3, PC2, PC1, PC0, NRST, PH0, PH1, RCC\_OSC32\_IN, RCC\_OSC32\_OUT, RCC\_OSC\_IN, RCC\_OSC\_OUT, VBAT, VSS, VDD, PA0, PA1, PA2, PA3, VSS, VDD, PA4, PA5, PA6, PA7, PC4, PC5, PB0, PB1, PB2, PB10, VCAP1, VSS, VDD, LD2 [Green Led], USART\_RX, USART\_TX).

See the settings for USART2 (UART2 is connected to USB)



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Search

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Configure the below parameters :

Search (Ctrl+F)

Basic Parameters

Baud Rate

Word Length

Parity

Stop Bits

Advanced Parameters

Data Direction

Over Sampling

115200 Bits/s

8 Bits (including Parity)

None

1

Receive and Transmit

16 Samples

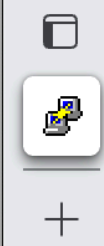
See the baud rate settings  
(default is at 115,200)

A red arrow originates from the text 'See the baud rate settings (default is at 115,200)' and points directly to the 'Baud Rate' field in the 'Basic Parameters' section of the USART2 configuration, which is set to '115200 Bits/s'.

# Windows

**“PuTTY” is your helper.**





<https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html>

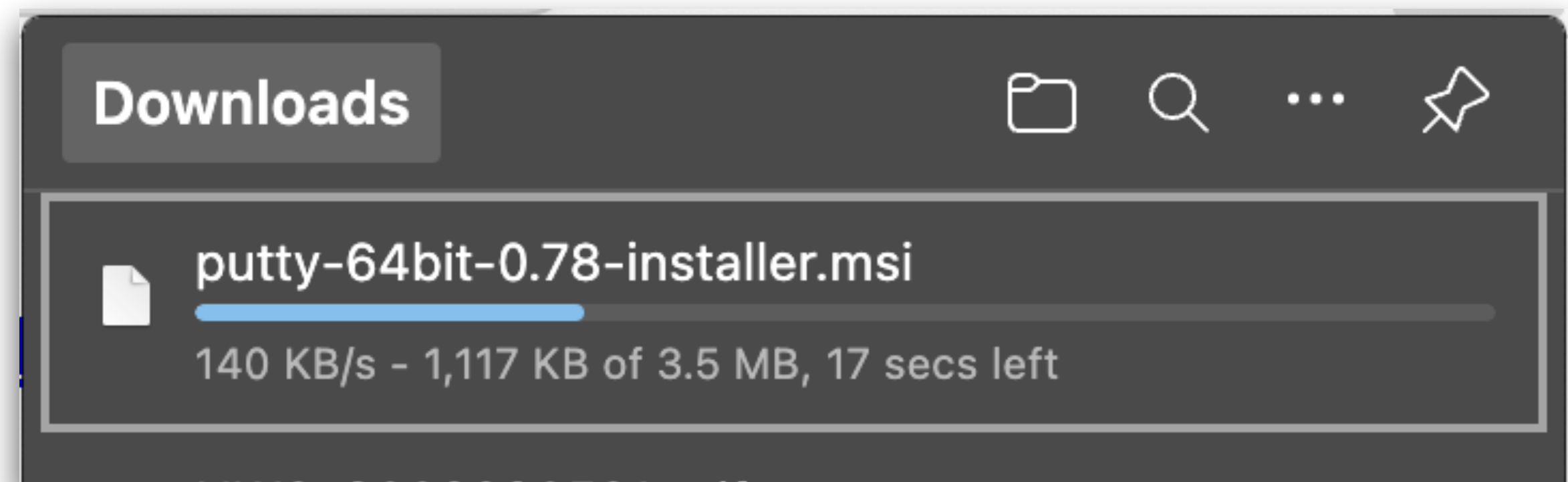
## MSI ('Windows Installer')

64-bit x86: [putty-64bit-0.78-installer.msi](#) [\(signature\)](#)

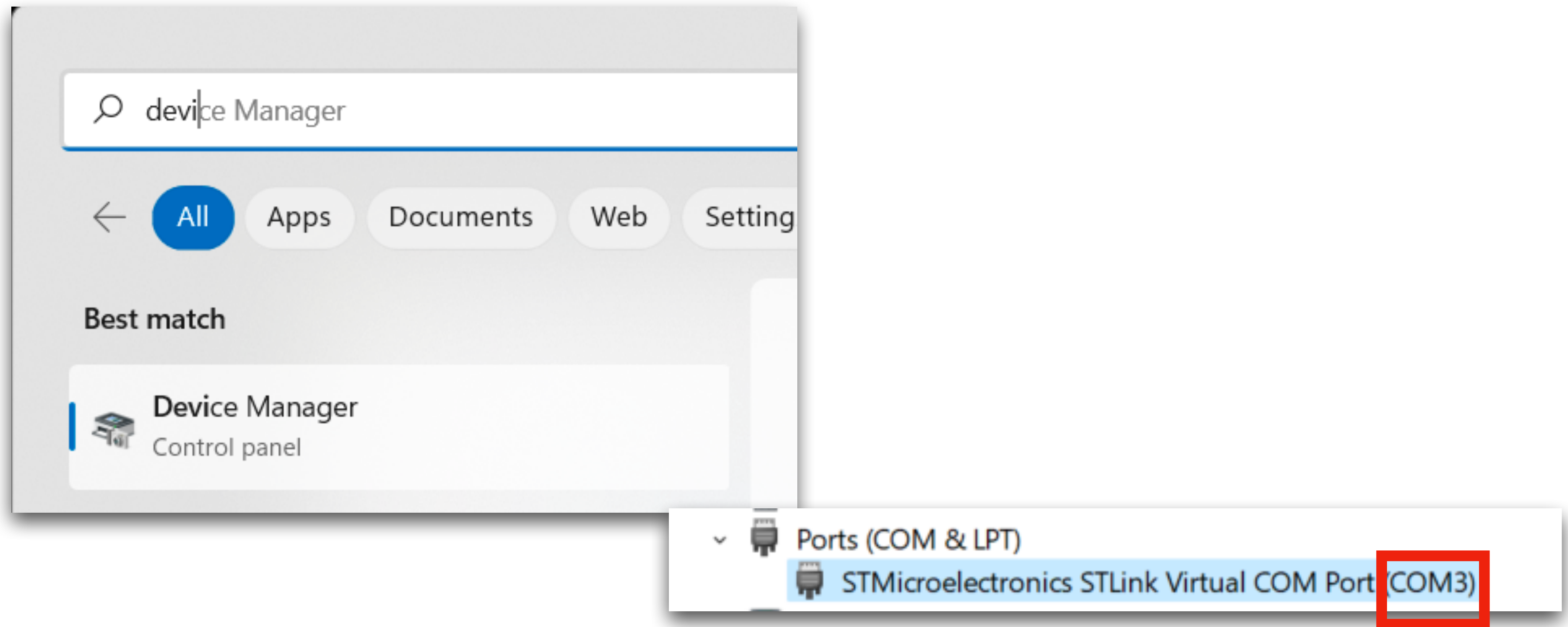
64-bit Arm: [putty-arm64-0.78-installer.msi](#) [\(signature\)](#)

32-bit x86: [putty-0.78-installer.msi](#) [\(signature\)](#)

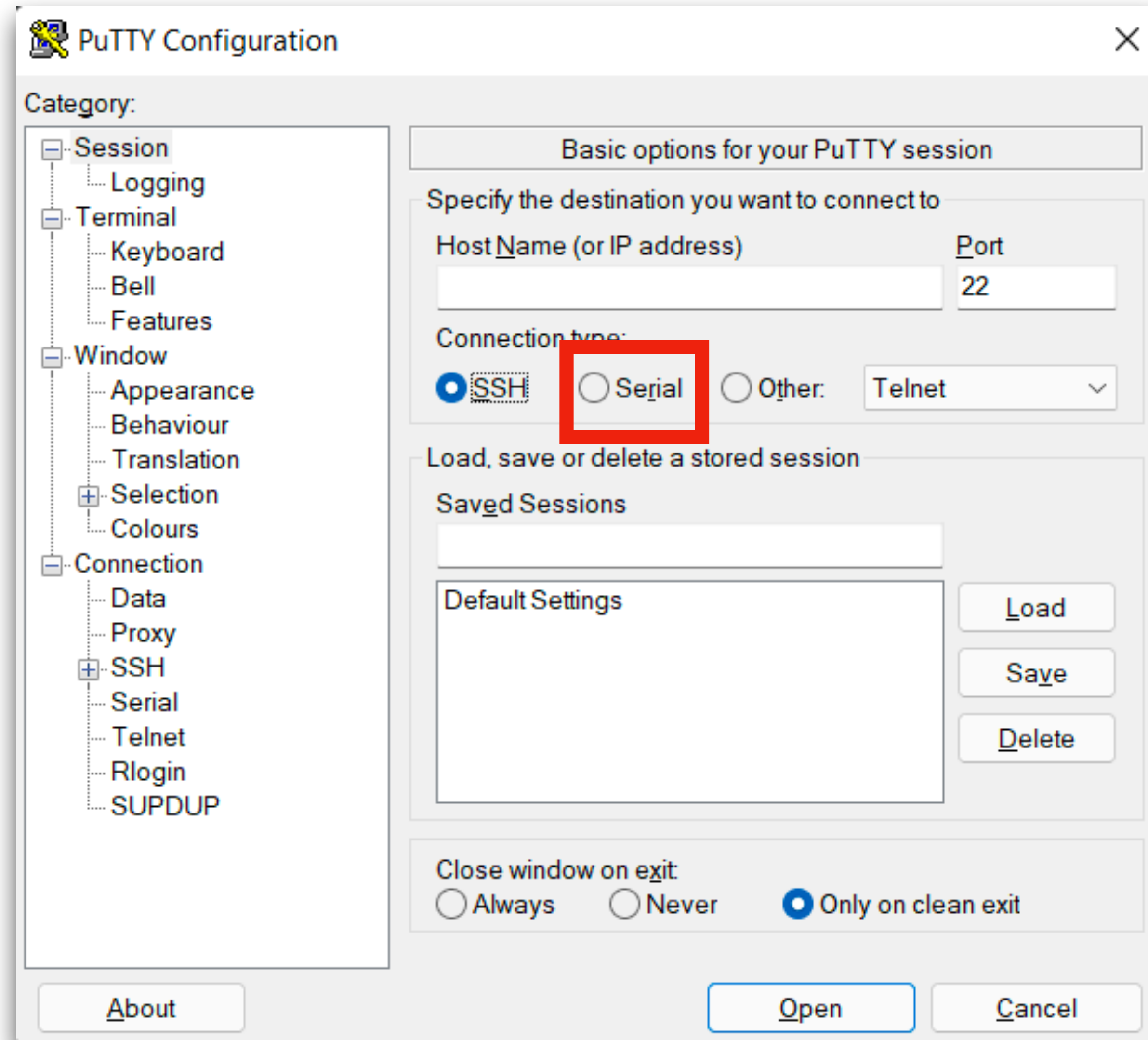
## Unix source archive





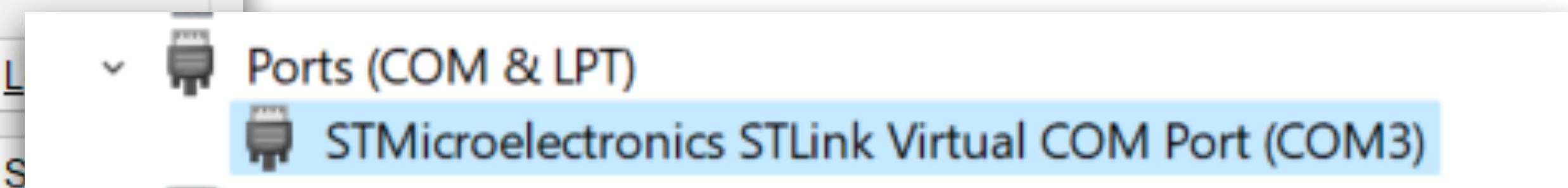
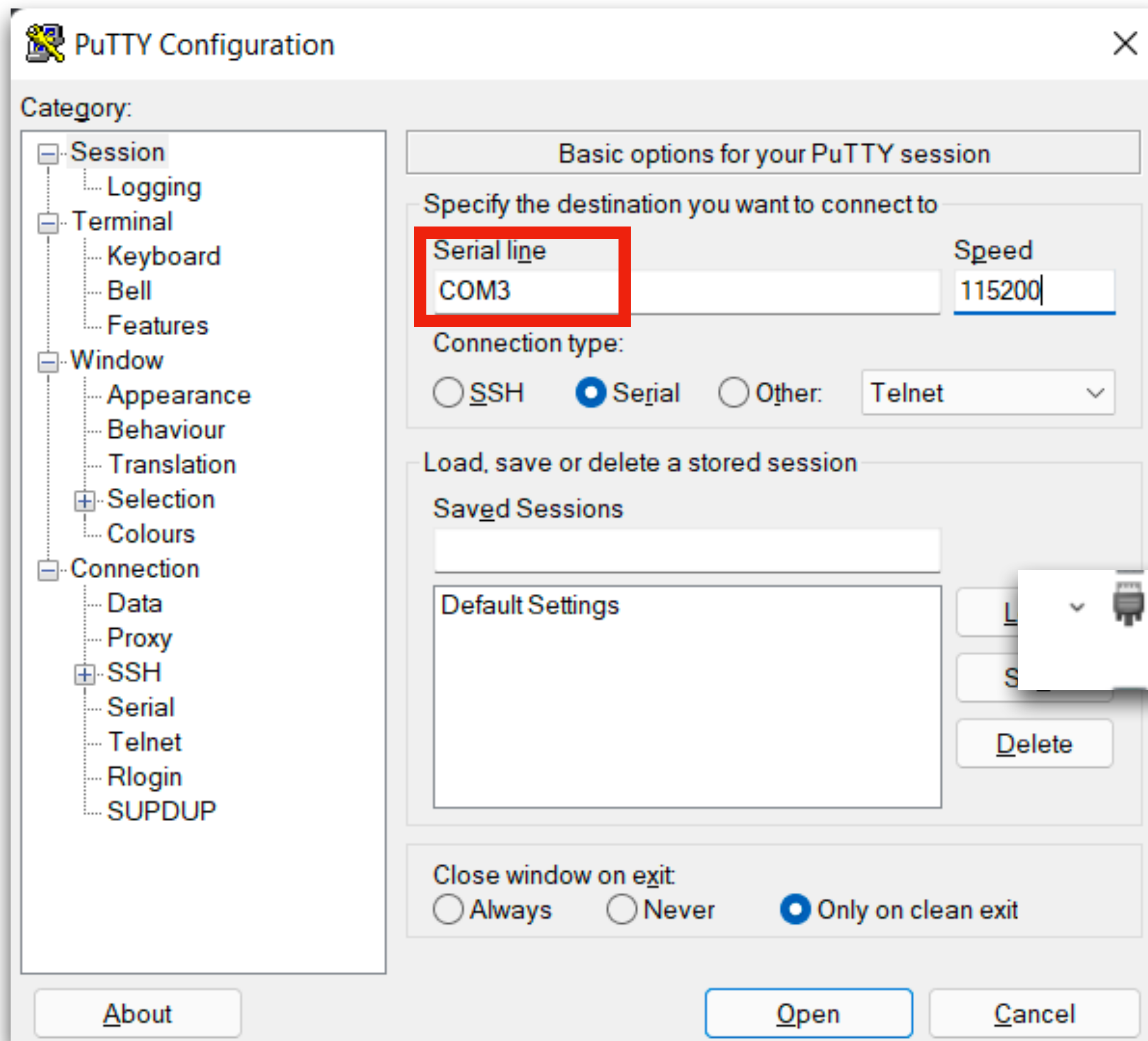


Open Device Manager and check the COM port



Open PuTTY and select Serial





From Device Manager

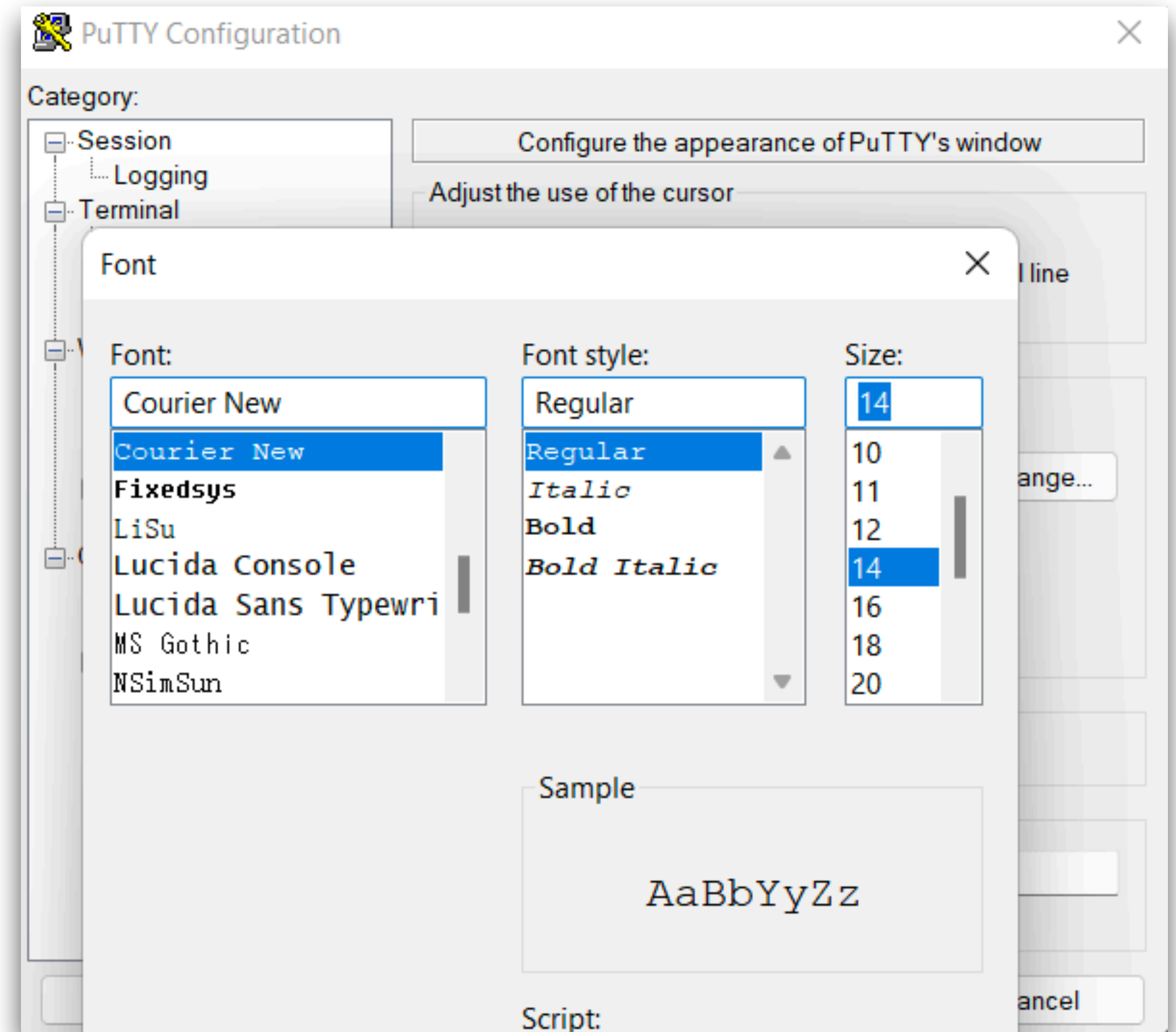
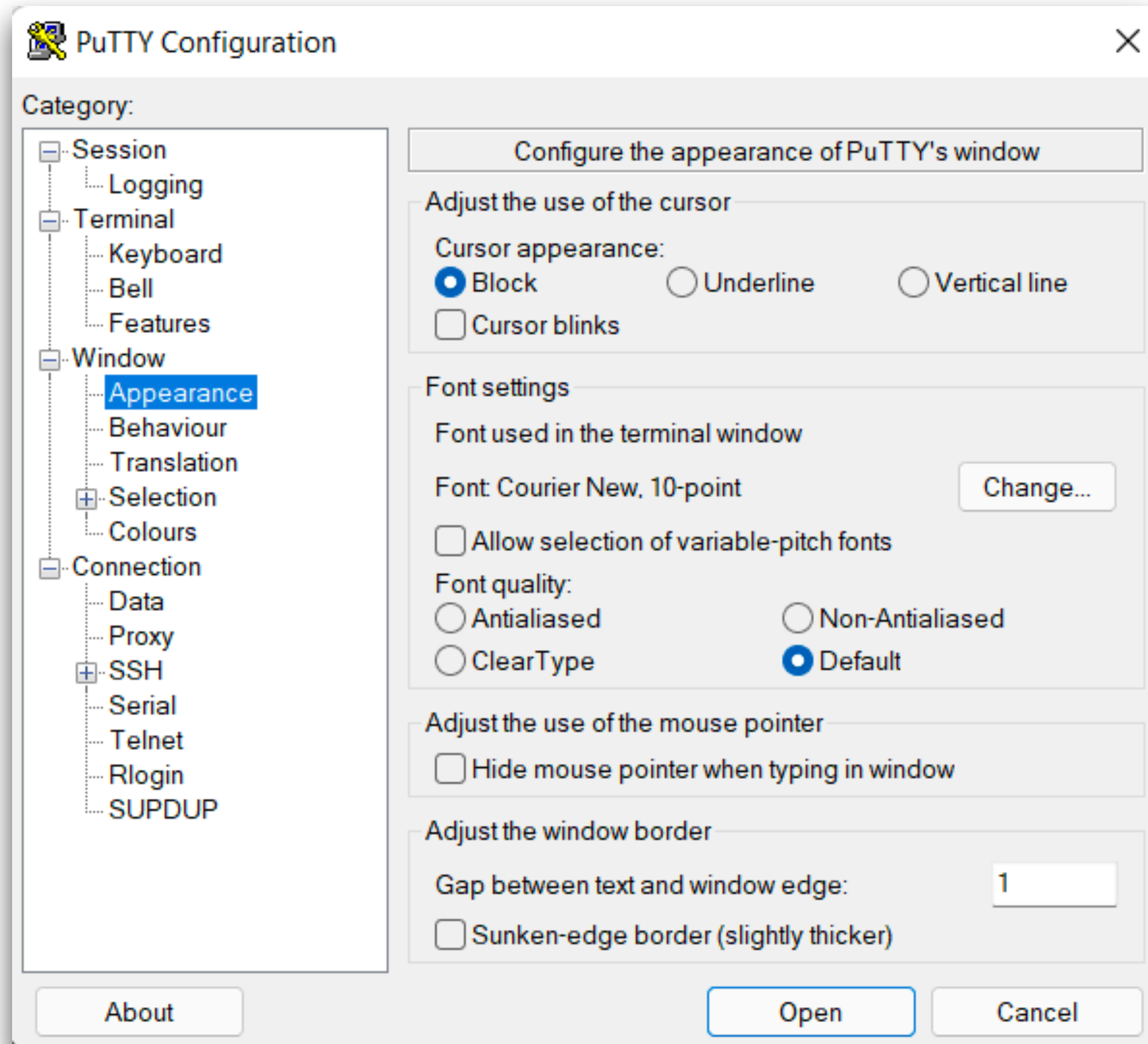
Type in the COM Port (COM3) and Speed (115200)



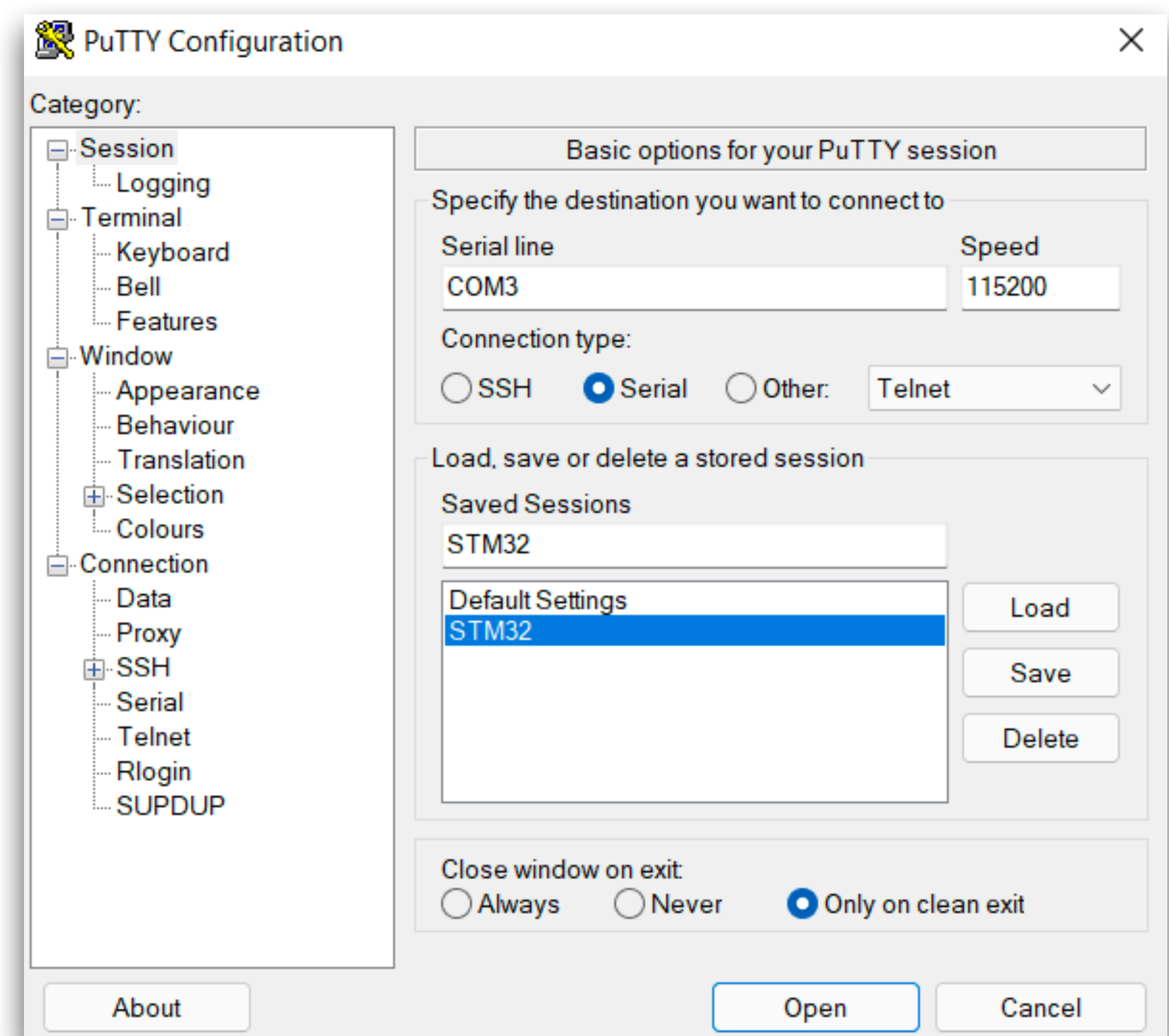
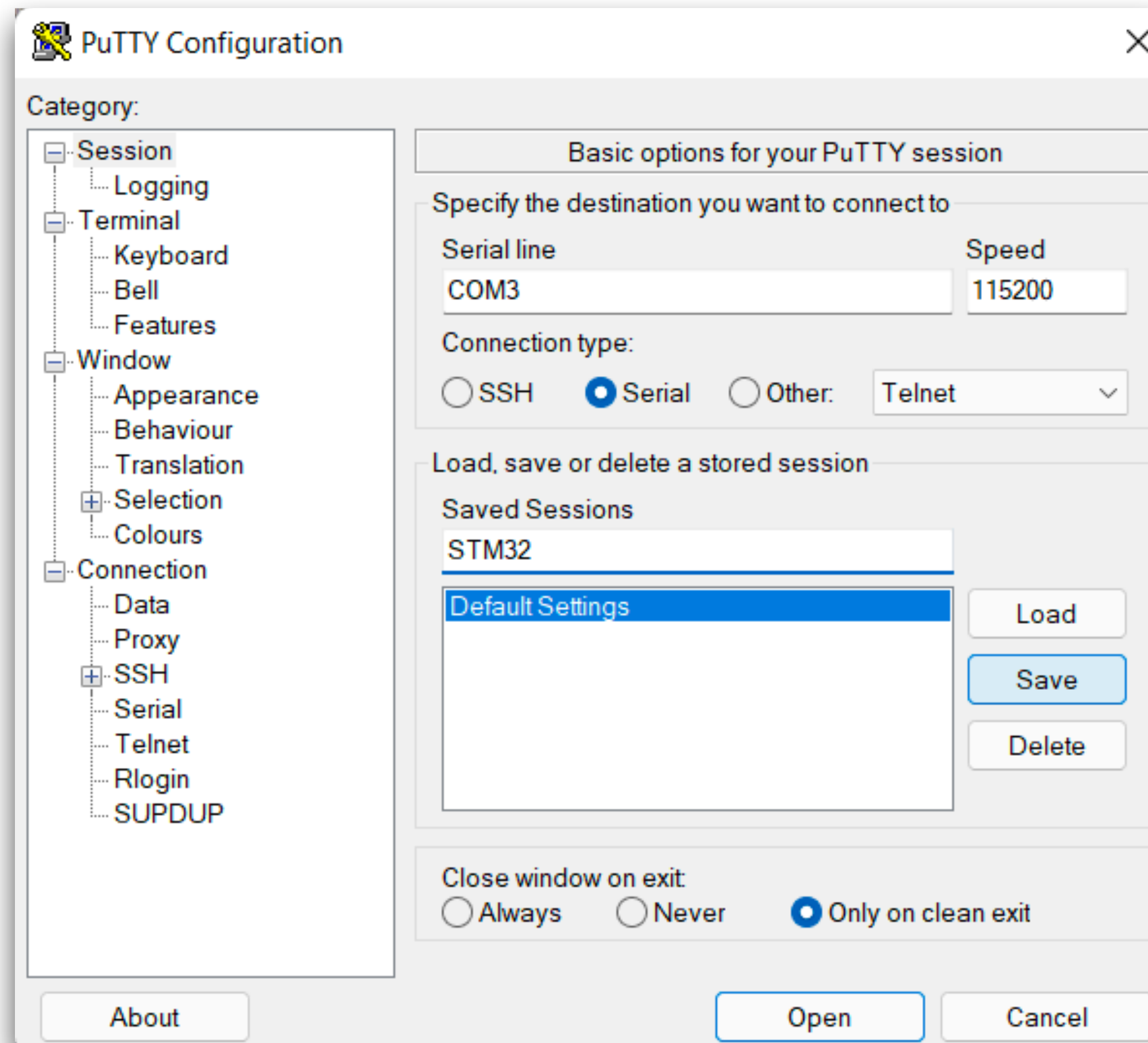
Done!



# Fonts too small?



# Too lazy to type every time?



Config your settings (Port, Speed, Font) then save the profile.

# The End.

Good luck !