

# Power your Raspberry Shell on it's Core. Raspberry Pi + PowerShell Core

June 12th 2018

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# About me

What do I do when on duty:

- .NET Core + EF Core + SQL Server;

What do I do when off duty:

- PowerShell Core IoT explorer;
- Projects with Raspberry Pi;
- Gaming;

Where else can you talk to me:

- Slack:
  - sqlcommunity-danielssilva;
  - powershell/aspnetcore-danielsilva



# Agenda

- What's a Raspberry Pi (Rpi)?;
- Rpi 3b specifications;
- How is it possible?;
- How easy it is to setup PowerShell Core on it?;
- PowerShell Core IoT module;
- Example of a module developed with IoT one;
- Debug a script running on the Rpi;



# What's a Raspberry Pi (RPi)?

- Single Board Computer (SBC);
- Developed in the UK, by the Raspberry Pi Foundation;
- Designed to teach young people and help people to get access to digital content;
- By March 14<sup>th</sup>, 19 million units were sold (9 million of them were RPi 3b)<sup>1</sup>;



<sup>1</sup> <https://www.raspberrypi.org/blog/raspberry-pi-3-model-bplus-sale-now-35/>

# Rpi 3b specifications

- Quad Core 1.2GHz Broadcom BCM2837 64bit CPU
- 1GB RAM
- BCM43438 wireless LAN and Bluetooth Low Energy (BLE) on board
- Ethernet port
- 40-pin GPIO
- 4 USB 2 ports
- Full size HDMI
- Micro SD port

Adapted from: <https://www.raspberrypi.org/products/raspberry-pi-3-model-b/>



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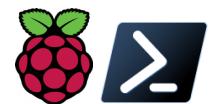
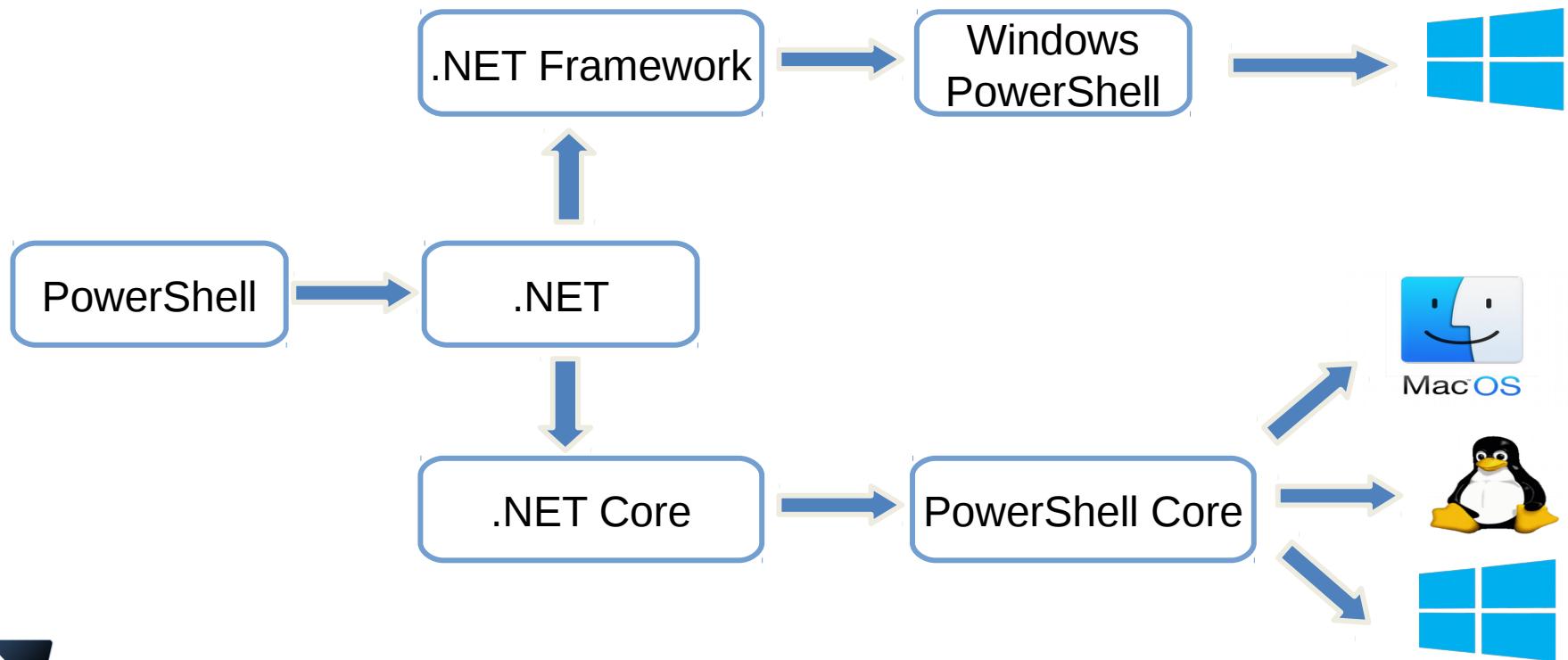


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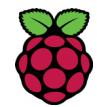
# Why RaspberryPi?



# How is it possible?



# How easy it is to setup PowerShell Core on it? (Demo)

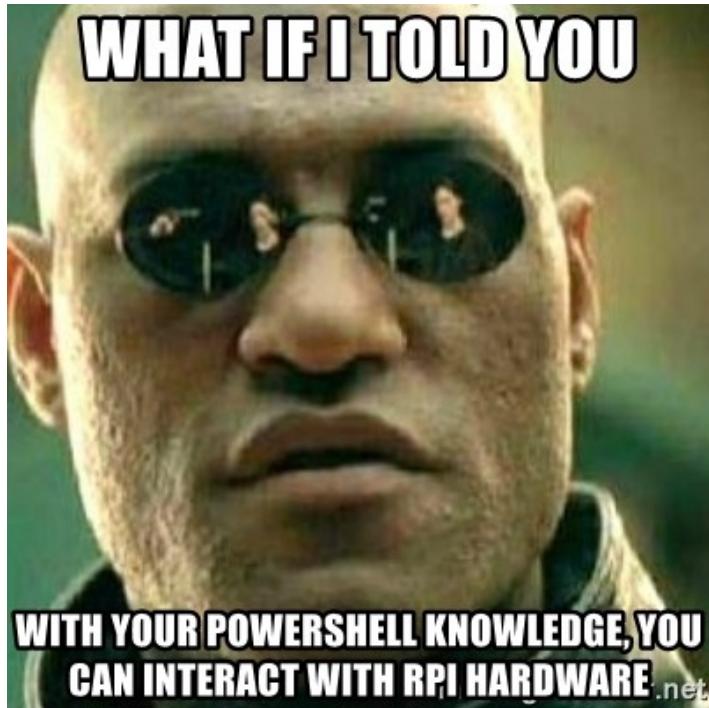


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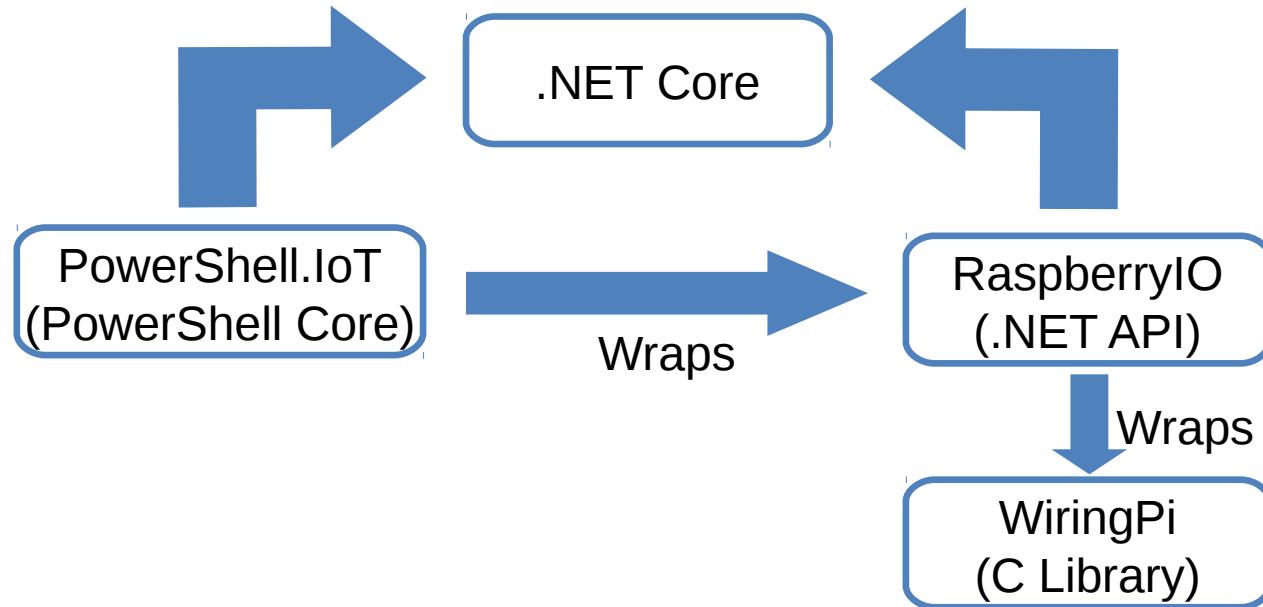
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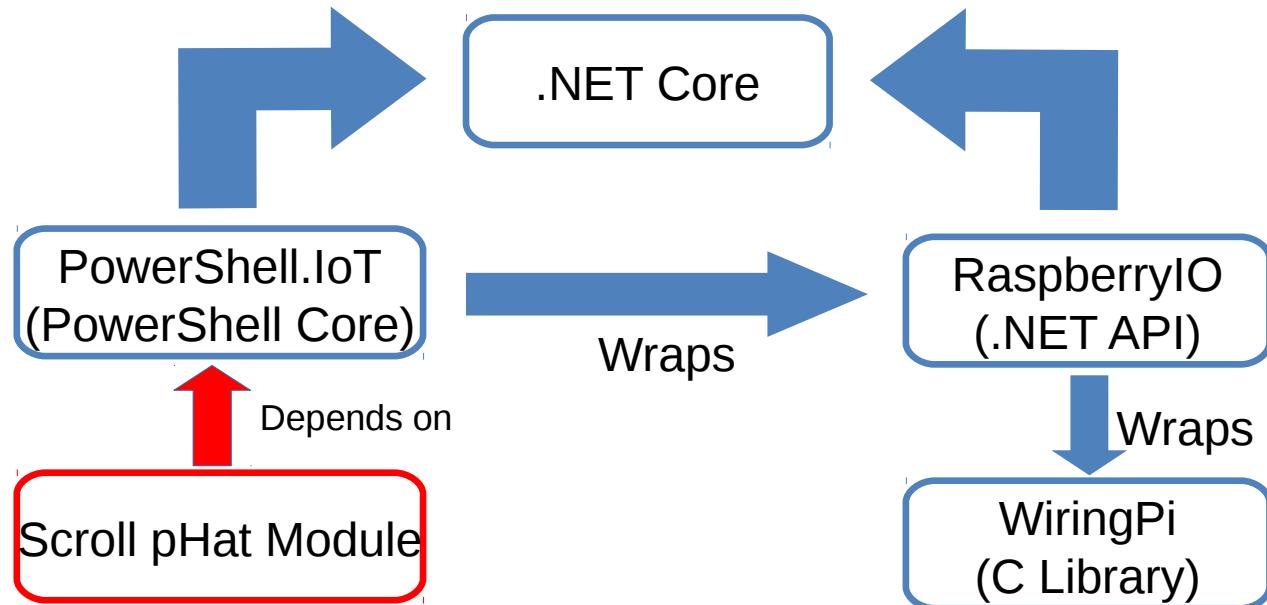
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# PowerShell Core IoT module

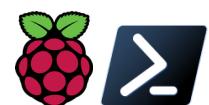
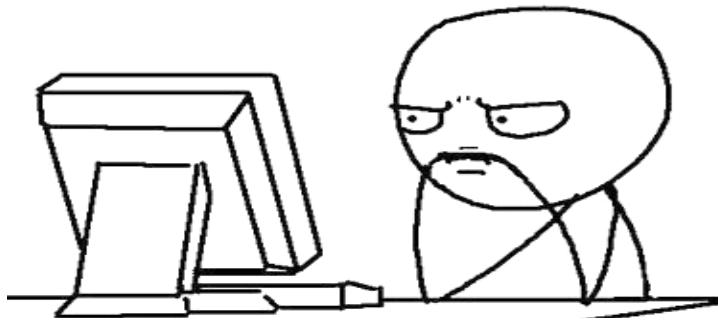
## How does it work



# Scroll pHat module



# Debug a script running on the RPi (Demo)



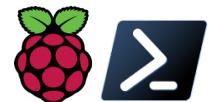
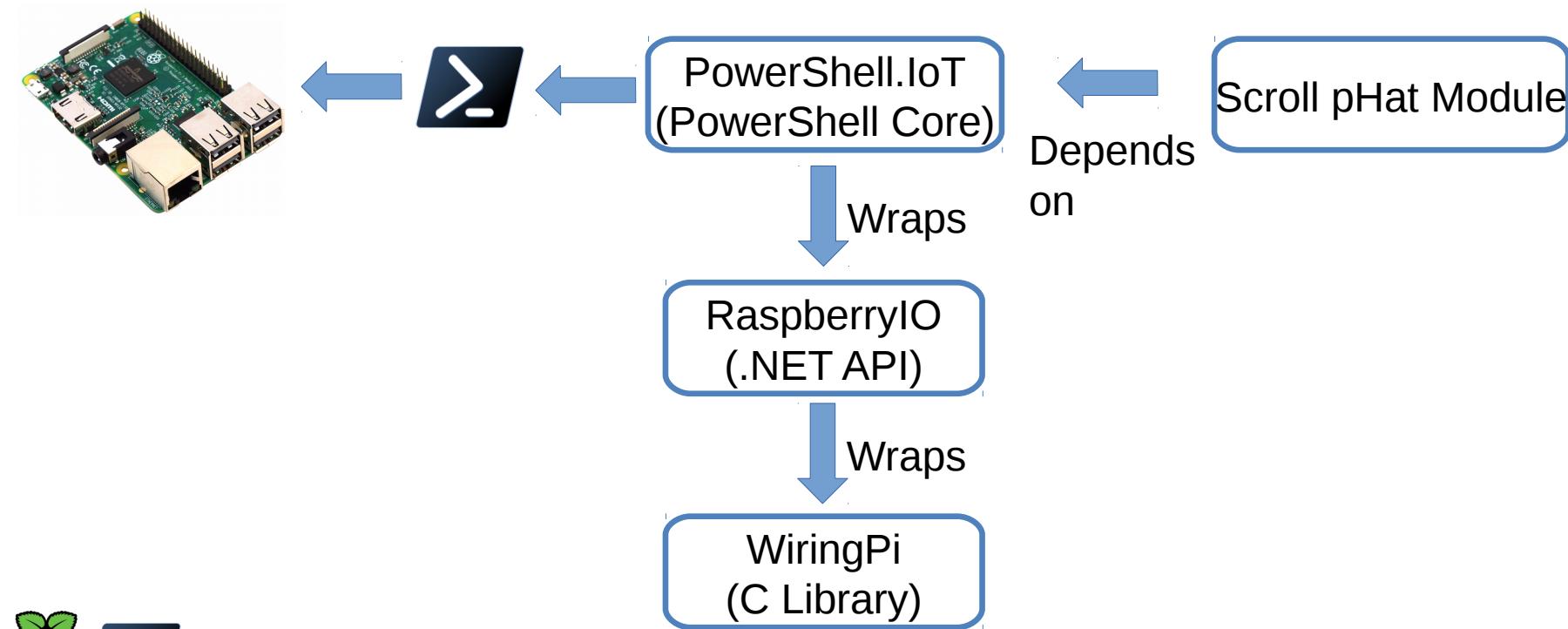
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# Wrapping it up!



# Bonus!

## Breathing Effect



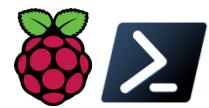
Set-BreathingLed

# Bonus!



```
$explosionSettings = [PSCustomObject]@{  
    NumberOfLeds = 21  
    Brightness = 5  
    LeftSideColor = [System.Drawing.Color]::Blue  
    RightSideColor = [System.Drawing.Color]::Green  
    Speed = "Slow"  
}  
$explosionSettings | Set-Explosion
```

# Bonus!

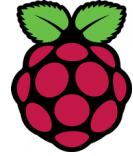


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# Thank You!



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# References

PowerShell Core : <https://github.com/PowerShell/PowerShell>

Remoting: <https://github.com/PowerShell/PowerShell-IoT/blob/master/docs/remoting.md>

Modules:

- PowerShell IoT : <https://github.com/PowerShell/PowerShell-IoT>
- Scroll-pHat: <https://github.com/DanielSSilva/PowerShell-IoT---IS31FL3730-Driver>
- LedStrip : <https://github.com/rpi-ws281x/rpi-ws281x-powershell>



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