# Pre-requisites needed for Device to Cloud Labs

In order to be able to complete the Blinky and the Cloud lab you will need to make sure your machine has the following pre-requisites.

**1.1 Setup your device**

1. **Make sure you are running the public release of Windows 10 (version 10240) or better**. You can upgrade from [here](http://www.microsoft.com/en-us/software-download/windows10). If you are already running Windows 10, you can find your current build number by clicking the start button and typing “winver” and hitting enter.
2. **Install Visual Studio Community 2015** [here](http://go.microsoft.com/fwlink/?LinkID=534599). Visual Studio Professional 2015 and Visual Studio Enterprise 2015 can be downloaded from [here](https://www.visualstudio.com/vs-2015-product-editions).

**NOTE:** If you choose to install a different edition of VS 2015, make sure to do a **Custom** install and select the checkbox **Universal Windows App Development Tools** -> **Tools and Windows SDK**

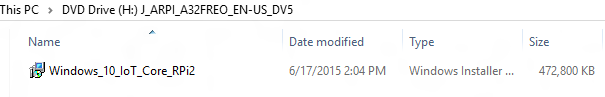
1. **Validate your Visual Studio installation** by selecting Help > About Microsoft Visual Studio. The required version of **Visual Studio** is 14.0.23107.0 D14Rel. The required version of **Visual Studio Tools for Universal Windows Apps** is 14.0.23121.00 D14OOB.
2. **Install Windows IoT Core Project Templates** from [here](https://visualstudiogallery.msdn.microsoft.com/06507e74-41cf-47b2-b7fe-8a2624202d36). Alternatively, the templates can be found by searching for Windows IoT Core Project Templates in the [Visual Studio Gallery](https://visualstudiogallery.msdn.microsoft.com/) or directly from Visual Studio in the Extension and Updates dialog (Tools > Extensions and Updates > Online).
3. Make sure you’ve **enabled developer mode** by following [these instructions](https://msdn.microsoft.com/library/windows/apps/xaml/dn706236.aspx).
   1. **Download IoT Watcher**

Install the Windows 10 IoT Core tools

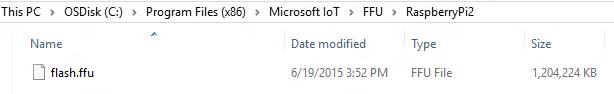
1. [Download](http://go.microsoft.com/fwlink/?LinkId=616847) the ISO for the Raspberry Pi 2 from the Microsoft Download Center.
2. **Save the ISO** to a local folder

http://ms-iot.github.io/content/images/SetupRPI/Iso.PNG

1. Double click on the ISO (IoT Core RPi.iso). It will automatically mount itself as a virtual drive so you can access the contents.



1. Install **Windows\_10\_IoT\_Core\_RPi2.msi**. When installation is complete, flash.ffu will be located at **C:\Program Files (x86)\Microsoft IoT\FFU\RaspberryPi2**

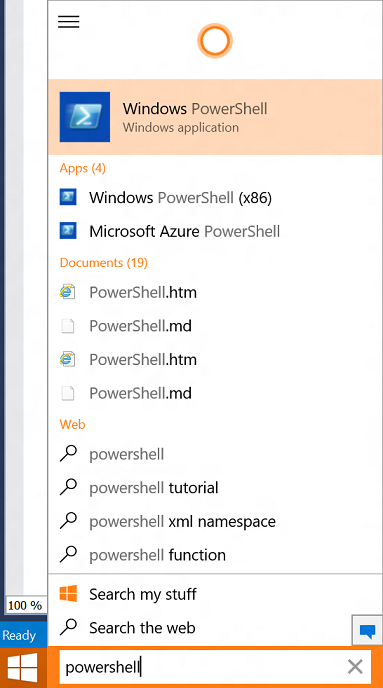


1. Eject the Virtual CD when done

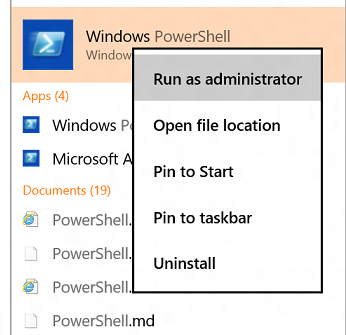
# Get a RPI2 IP address from the Host Name

As there may currently be issues with the Windows 10 IoT Core Watcher application, here is a workaround, using PowerShell, to get the IP Address of the RPI2. This is especially useful when the RPI2 is headless.

* 1. **Set your RPI2 as a trusted host**

Launch an administrator PS console on your local PC. The easiest way to do this is to type ‘powershell’ in the “Search the web and Windows” textbox near the Windows Start Menu: Windows will find PowerShell on your machine:

To start PS as an administrator, right click on the “Windows PowerShell” entry and select “Run as administrator”:



Now you should see the PS console:

**Note:** you may need to start the WinRM service on your desktop to enable remote connections. From the PS console type the following command:

net start WinRM

From the PS console, type the following, substituting <machine-name> with the appropriate value:

Set-Item WSMan:\localhost\Client\TrustedHosts -Value <machine-name>

Do enter **Y** to confirm the change.

* 1. **Log into a Remote PowerShell Session**

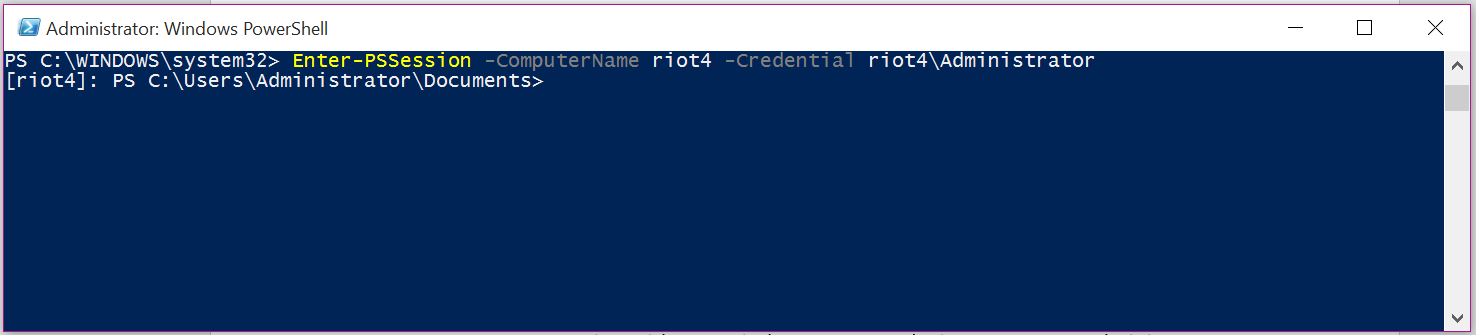
Now you can start a session with you Windows IoT Core device. From your administrator PS console, type:

Enter-PSSession -ComputerName <machine-name> -Credential <machine-name>\Administrator

In the credential dialog enter the following default password: p@ssw0rd

NOTE: The connection process is not immediate and can take up to 30 seconds.

If you successfully connected to the device, you should see the machine name of your device before the prompt.



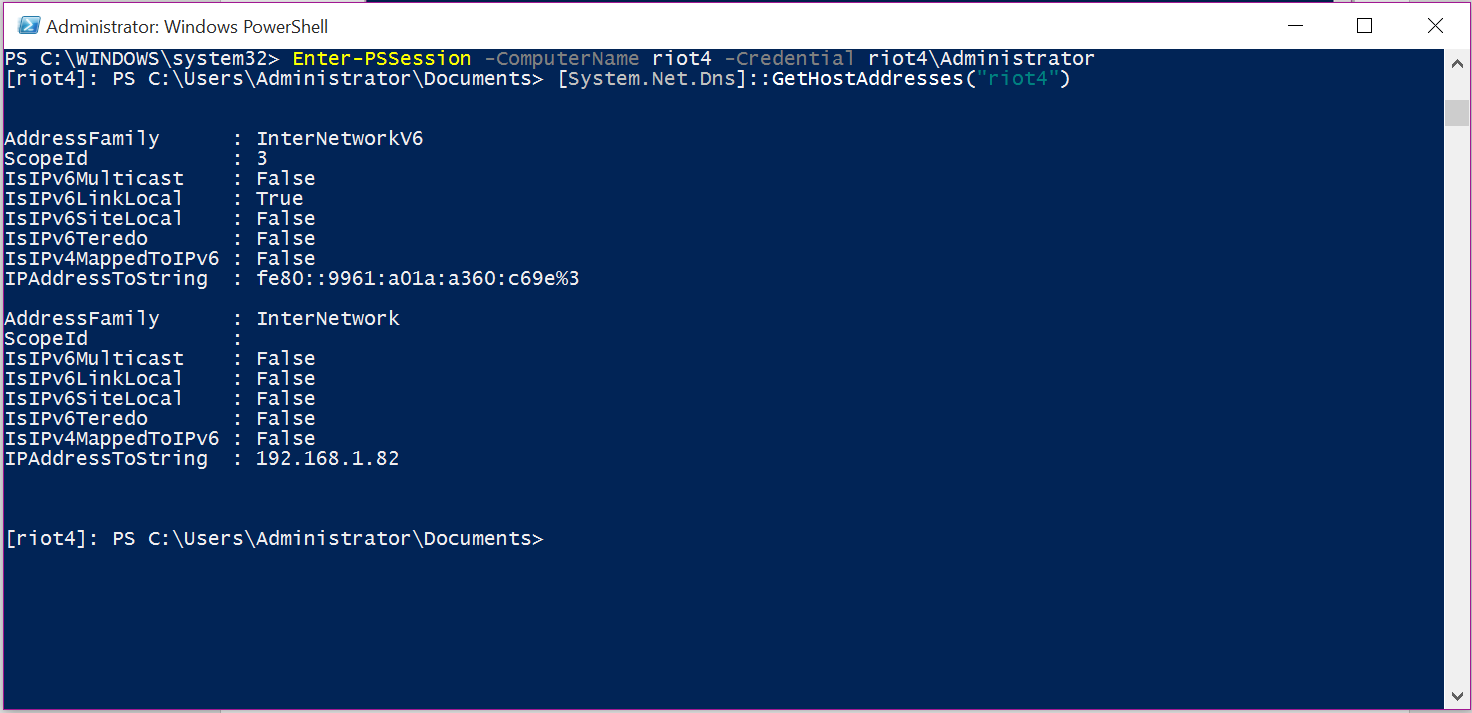
* 1. **Find IP Address of Device from the Host Name**

Now you have successfully connected to your RPI2 remote session using PowerShell you can run a command to get the device IP address from the host name

[System.Net.Dns]::GetHostAddresses("devicenamehere")

Wait for this command to execute and you should be provided with your devices IP address as shown in the format below.

**Keep a note of this IP address for the Labs.**



Finally exit the PowerShell Session

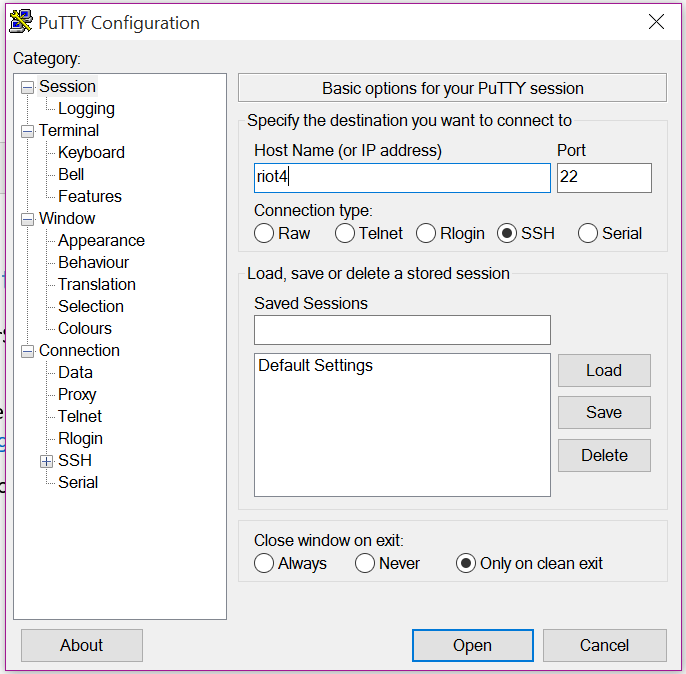
Exit-PSSession

* 1. **Use PuTTY to SSH into the device and find out IP Address**

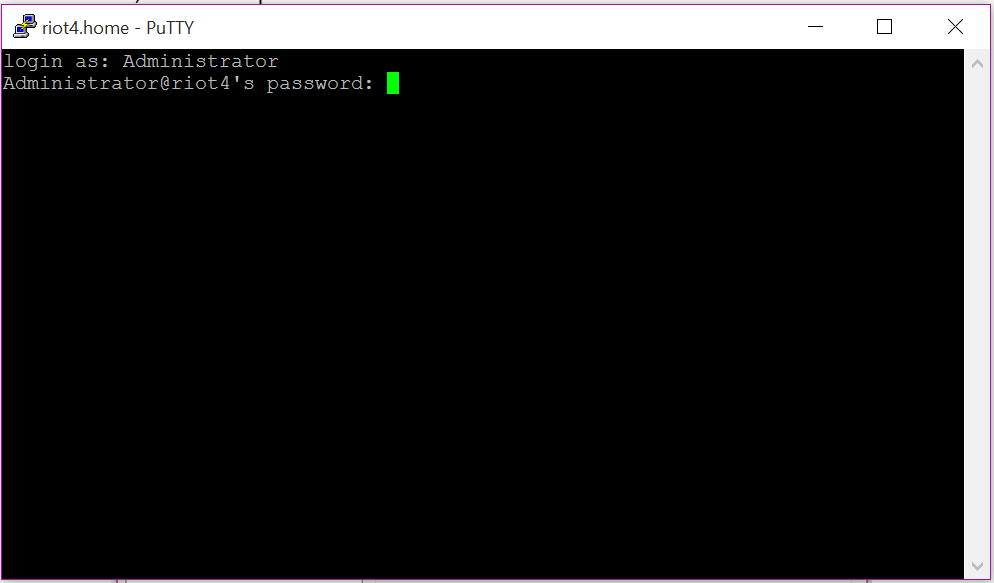
If you do not have Windows PowerShell download you can use PuTTY to SSH into the Raspberry Pi2.

You can get the PuTTY.exe file here: <http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>

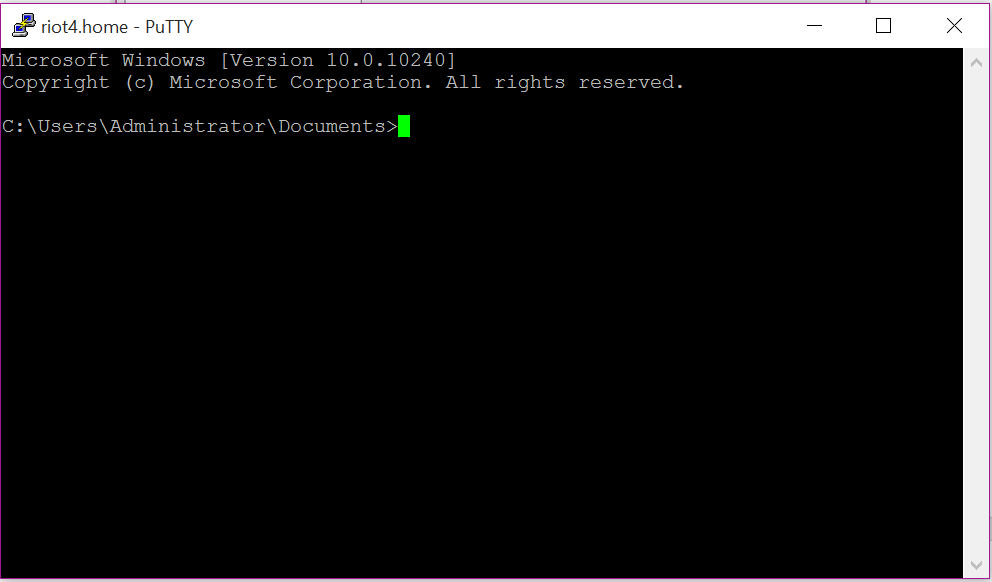
Run the .exe file and the PuTTY UI opens. Enter your device name and leave the SSH port as 22, then click open



Set login to “Administrator” then enter the default password: p@ssw0rd



This should then log you into the remote session on the RPI2



Enter the command “netstat” and hit Enter, this should provide you with the IP address of your device

