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Article

Tour On Pi From Device To First Program

By [Abdul Rasheed Feroz Khan](#) on **May 02 2016**

This article is in reference to various people messaging me wanting a complete summary of where you can buy Pi device, Installation of OS, Connectivity and Programming for [Raspberry Pi](#).

Table of Contents:

- Where can we get Raspberry Pi
- Connectivity
- First Basic Program on IoT

Where can we get Raspberry Pi:

Raspberry Pi device is available at all top branded e-commerce stores like Flipkart, Amazon, etc., sensors are also available at the same point. Make sense about the Pi models before you buy the device. [Click here](#) to know about different Pi models.

Install Windows 10 IoT Core OS and Plug in with your Pi for usage:

Windows 10 IoT Core OS Installation:

Requirements:

Software needed:

1. Windows 10 IoT Core Dashboard setup – 500 MB (.iso file) Can be downloaded from this [URL](#).
2. Windows 10 Pro on your laptop or PC

H/W needed:

1. 8 GB Micro SD card with Class 4
2. SD Card reader

Step 1:

In your machine (laptop/PC) which is running with Windows 10 Pro OS download Windows 10 IoT Core dashboard and install it. Run your setup file, complete the installation.

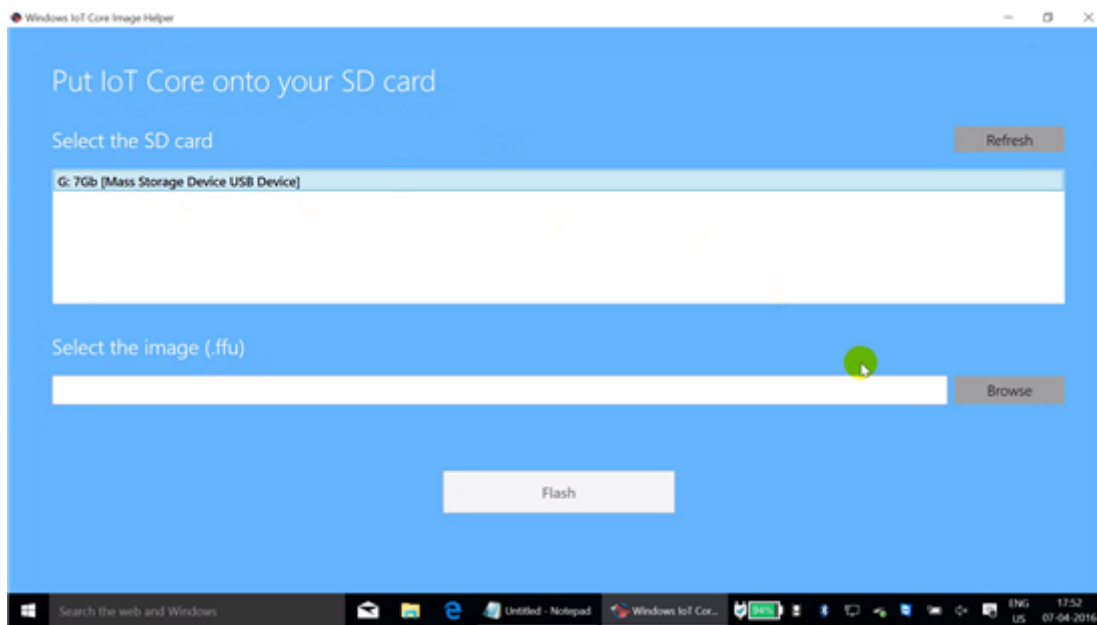
Now you will be getting the following things on your laptop:

- WindowsIoTCoreWatcher
- WindowsIoTImageHelper

Step 2:

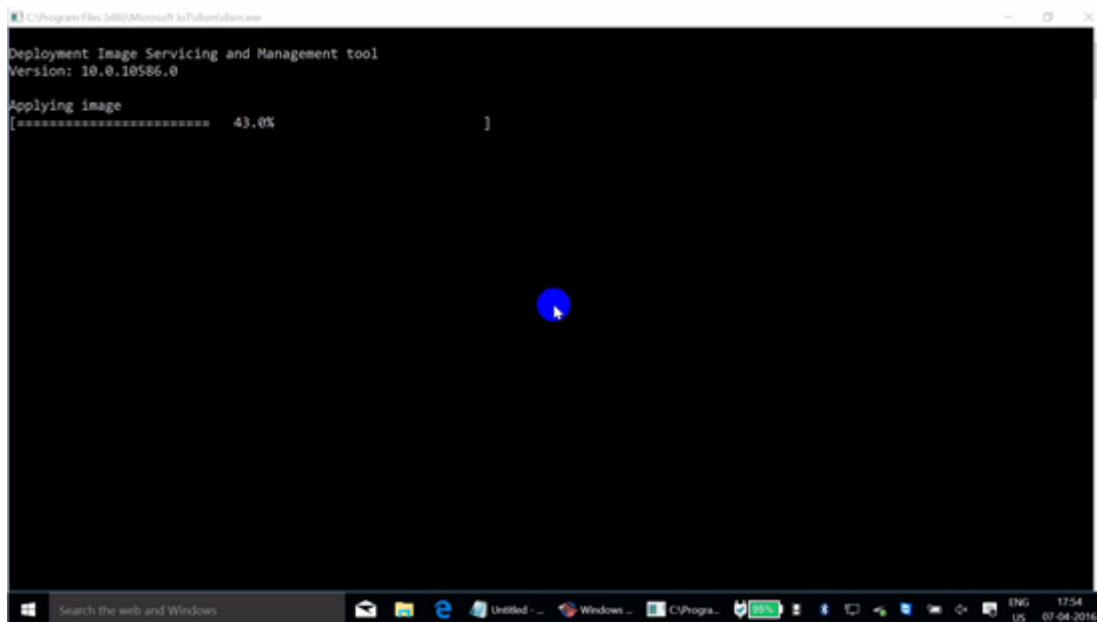
Insert your SD card on your card reader and plug in to your laptop or PC with the USB port, now run the

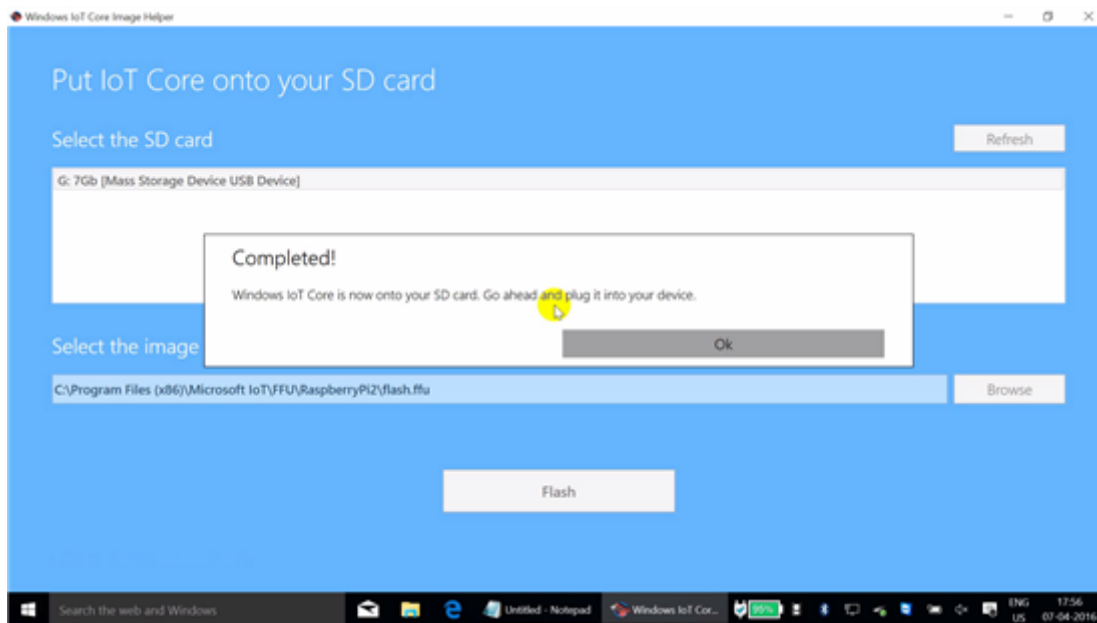
program called WindowsIoTImageHelper,



Here you can find your SD card which is connected to your device. Select the device and flash it (a format will be undergone at this process).

You will be getting this screen where your Windows 10 IoT core Operating System is written towards your SD card.





Now unplug your SD card reader, insert the SD card on the SD card slot available at your RP device. Further, move towards plugging in your RP device.

Find the [video documentary](#) for this article.

Connectivity:

Step 1: Start by adding your SD card on the SD card slot in the Raspberry Pi device.



Step 2: Now plug in with your USB mouse and Keyboard for the Raspberry Pi device with help of the USB slots available.

Step 3:

Plug in your HDMI cable from your Raspberry Pi device towards your monitor or TV, if you don't have HDMI option on your TV or monitor then use VGA to HDMI converter.

Step 4:

Connect your Raspberry Pi device with Internet with help of your Ethernet port or USB Wi-Fi modem.

Step 5:

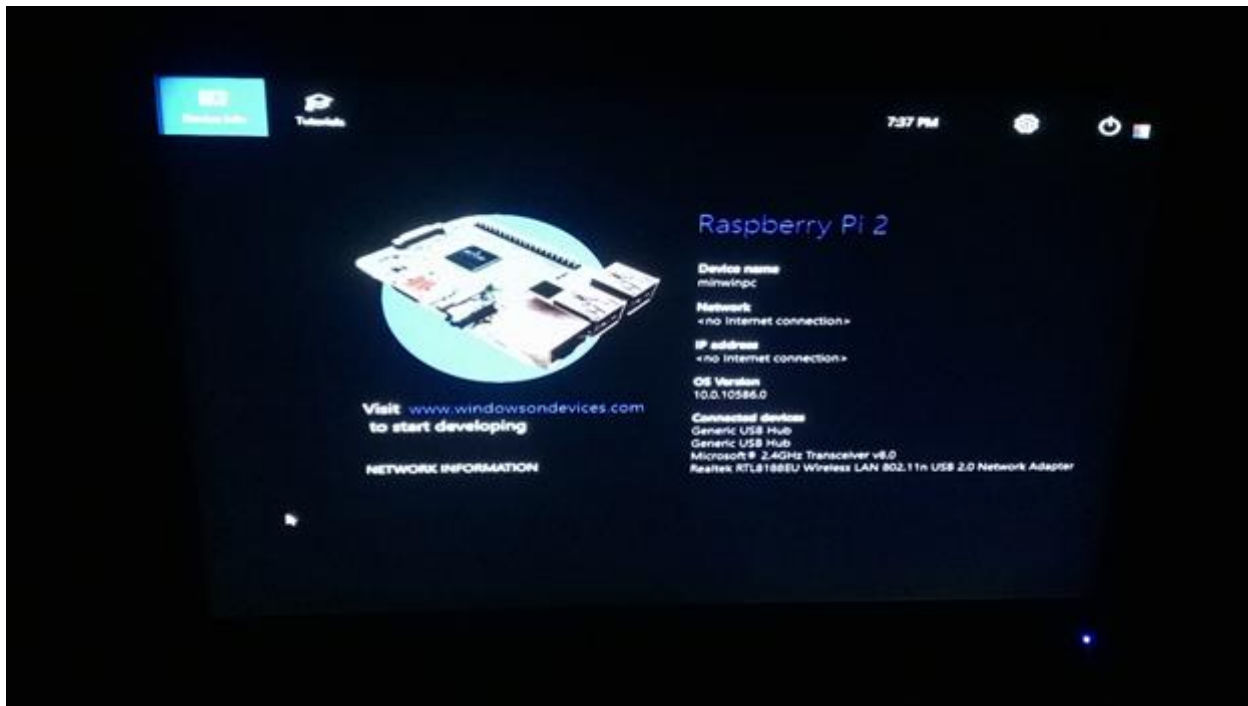
Now connect the power source towards your Raspberry Pi device either with help of 5V micro power adapter or with help of a USB data cable connected towards your laptop or PC.

Step 6: Now switch on the monitor.

You will be getting the following screens in which your Windows 10 IoT Core OS for Raspberry Pi gets loaded.

**Step 7:**

Select your language in which you need your OS to work with followed by that you will be getting the Device Info screen of Windows 10 IoT Core Raspberry Pi 2.



About Windows 10 IoT Core:

The Device Info screen of Windows 10 IoT Core holds the following menu items:

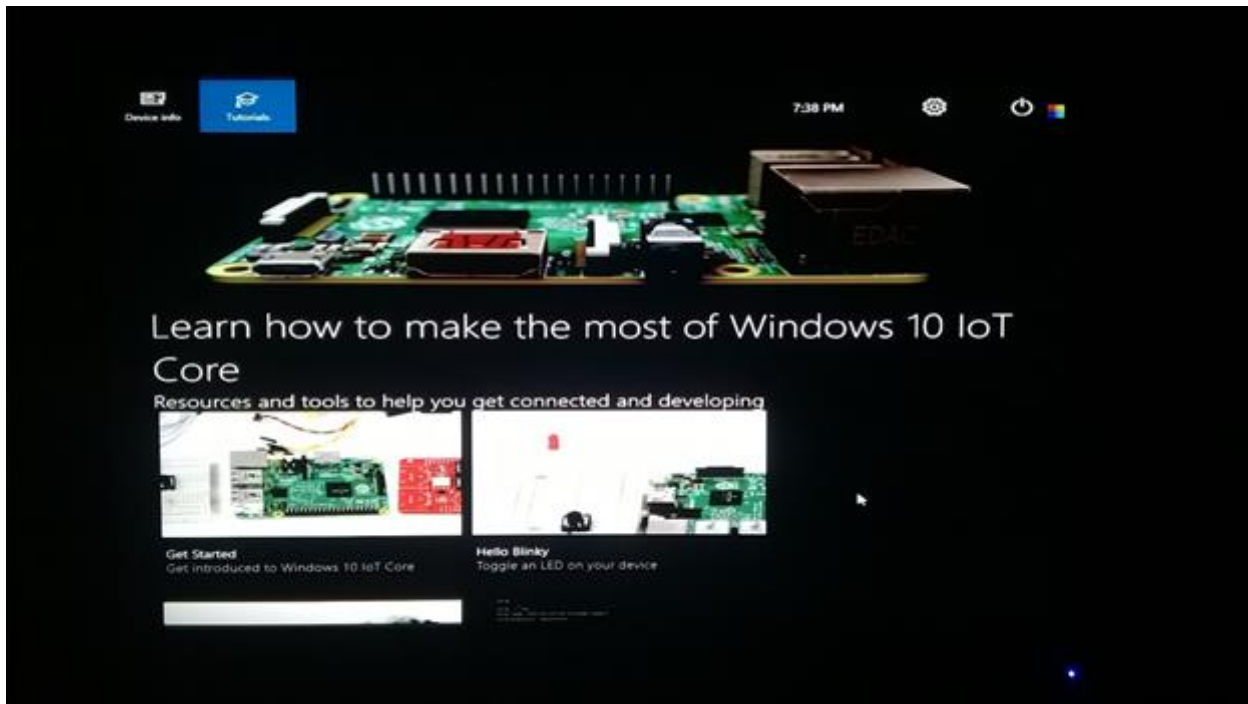
1. Device Info / Home Screen
2. Tutorials
3. Settings
4. Power

Device Info / Home Screen:

The Home Screen of Windows 10 IoT Core OS holds the Device name, Network (which shows the internet network which is connected with the device), IP address (IP address of the network which is connected with), OS Version (OS version of the Raspberry Pi device) followed by Connected devices (shows the devices connected via USB ports).

Tutorials:

Tutorials briefs about what you can do with Raspberry Pi device, how to plug in your device, a basic LED program, Hello Blinky, etc.,



Settings:

Settings helps you to connect for network – Ethernet or Wi-Fi and languages.

Power:

Power allows you to either Shutdown the Raspberry Pi device or restart the device.
First Basic Program on IoT:

Requirements:

1. Raspberry Pi 2/ 3 installed with Windows 10 IoT Core OS
2. Laptop or PC with Windows 10 OS (installed with Visual Studio 2015)
3. Both devices should be connected with internet.

[Click here](#) for Windows 10 IoT Core OS installation on your Raspberry Pi device.

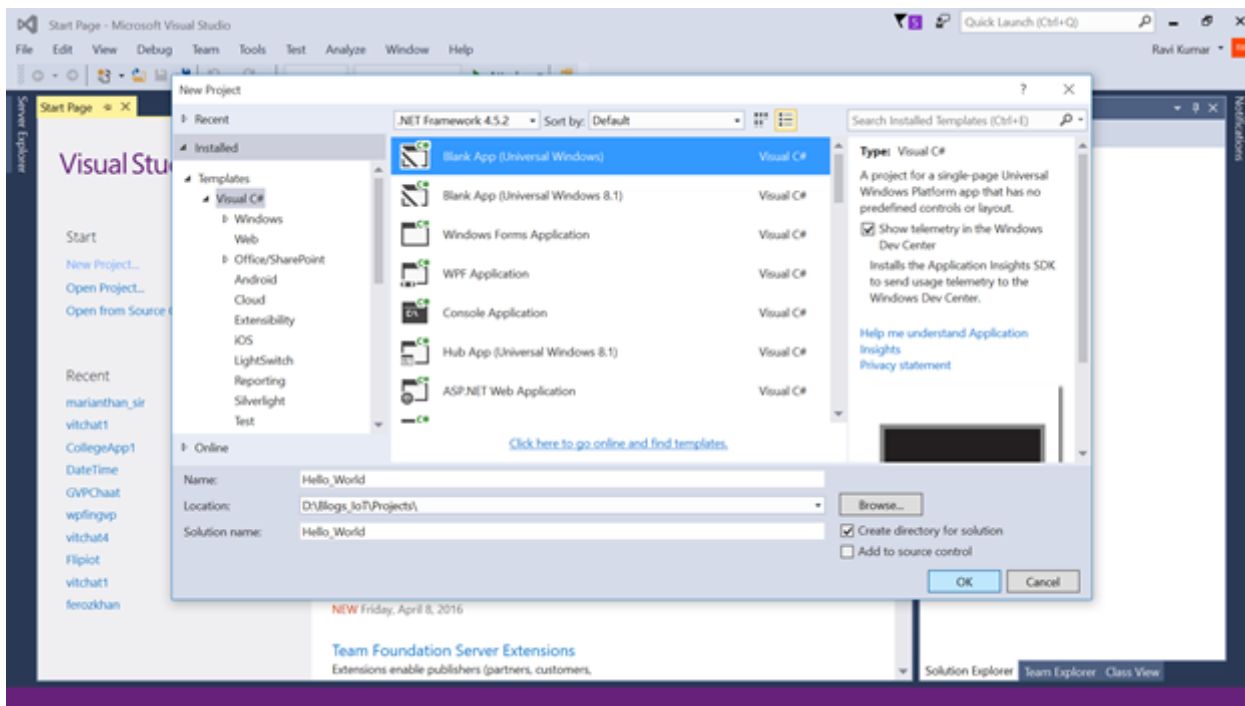
[Click here](#) to download Visual Studio 2015.

Follow the steps for Hello World program:

Step 1:Run Visual Studio 2015 on your laptop/computer.

Step 2:

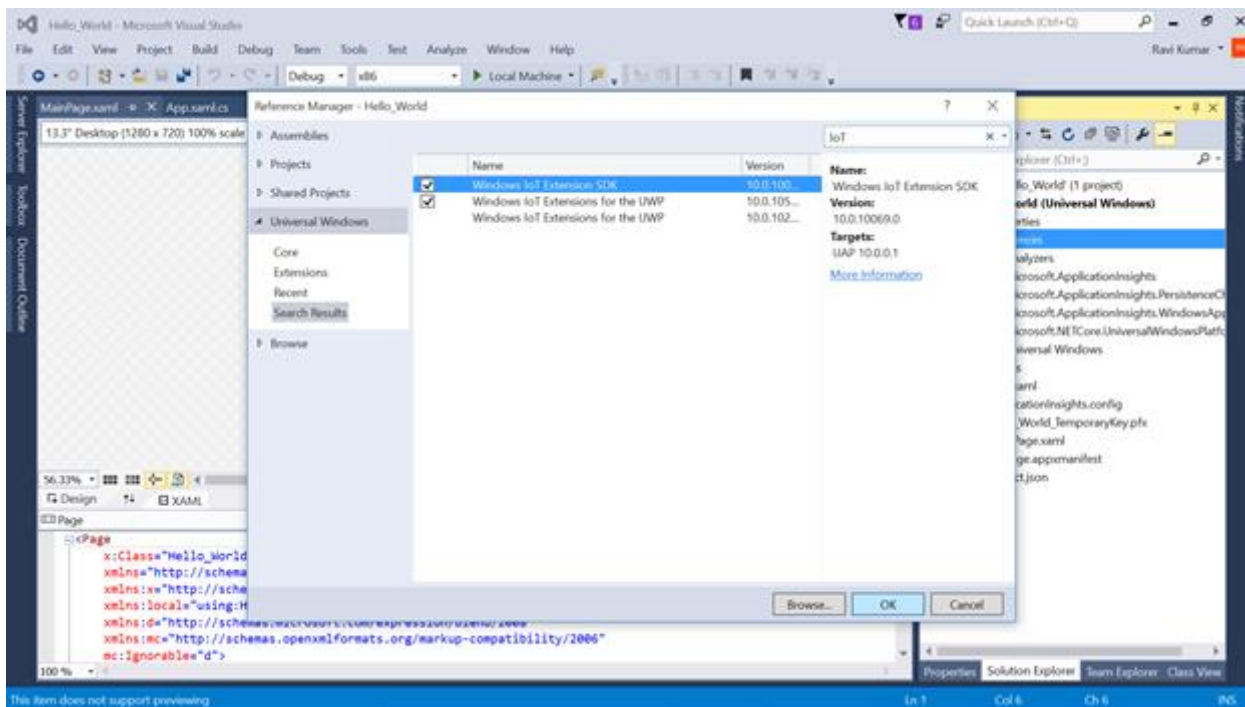
Click on File -> New -> Project -> Select Visual C# -> Windows -> Blank App (Universal Windows).
Name your project with the solution name that you need and select the location where you want to save your project file.



Step 3:

Right Click on Reference under Solution Explorer and Add Reference, Click on Universal Windows in Reference Manager Window – goto extensions – search for IoT. Add the following references.

- Windows IoT Extensions SDK
- Windows IoT Extensions for the UWP

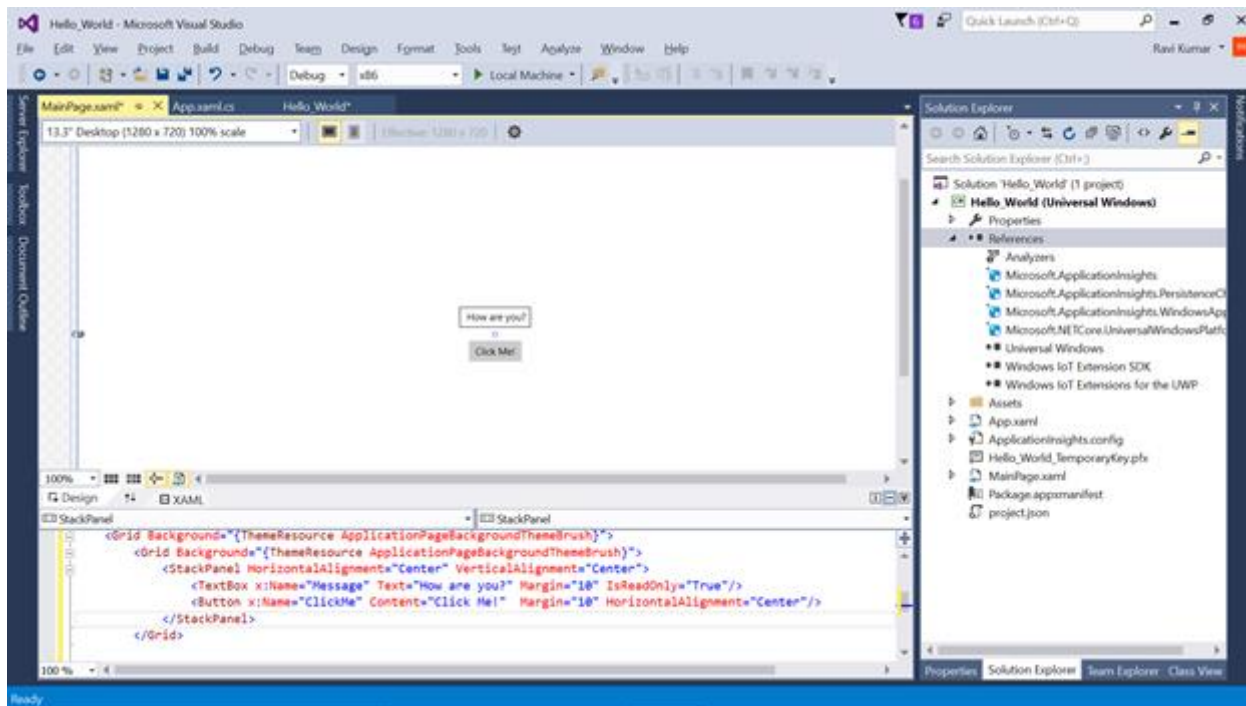


Step 4: Under MainPage.xaml write code for TextBox and Button:

1. `<Grid Background="{ThemeResource ApplicationPageBackgroundThemeBrush}">`
2. `<StackPanel HorizontalAlignment="Center" VerticalAlignment="Center">`
3. `<TextBox x:Name="Message" Text="How are you?" Margin="10" IsReadOnly="True"/>`
4. `<Button x:Name="ClickMe" Content="Click Me!" Margin="10" HorizontalAlignment="Center"/>`

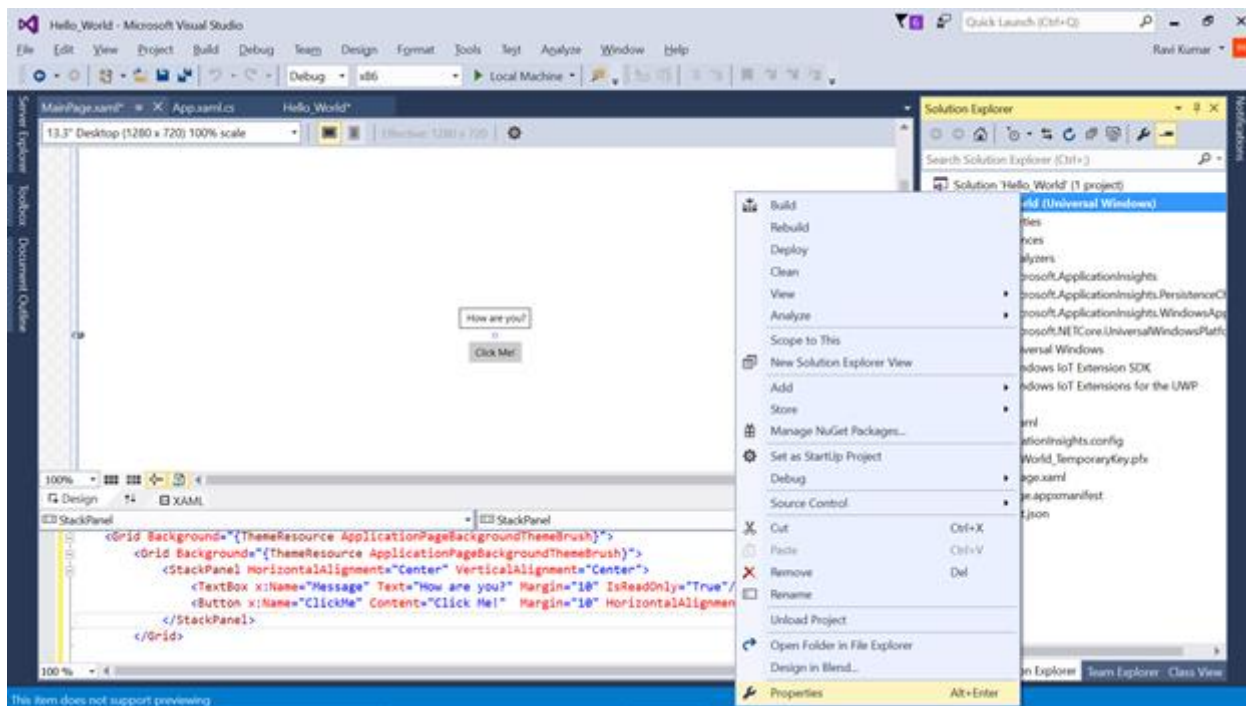
5. </StackPanel>
6. </Grid>

You should be getting the following screen on Designer pane of Visual Studio 2015

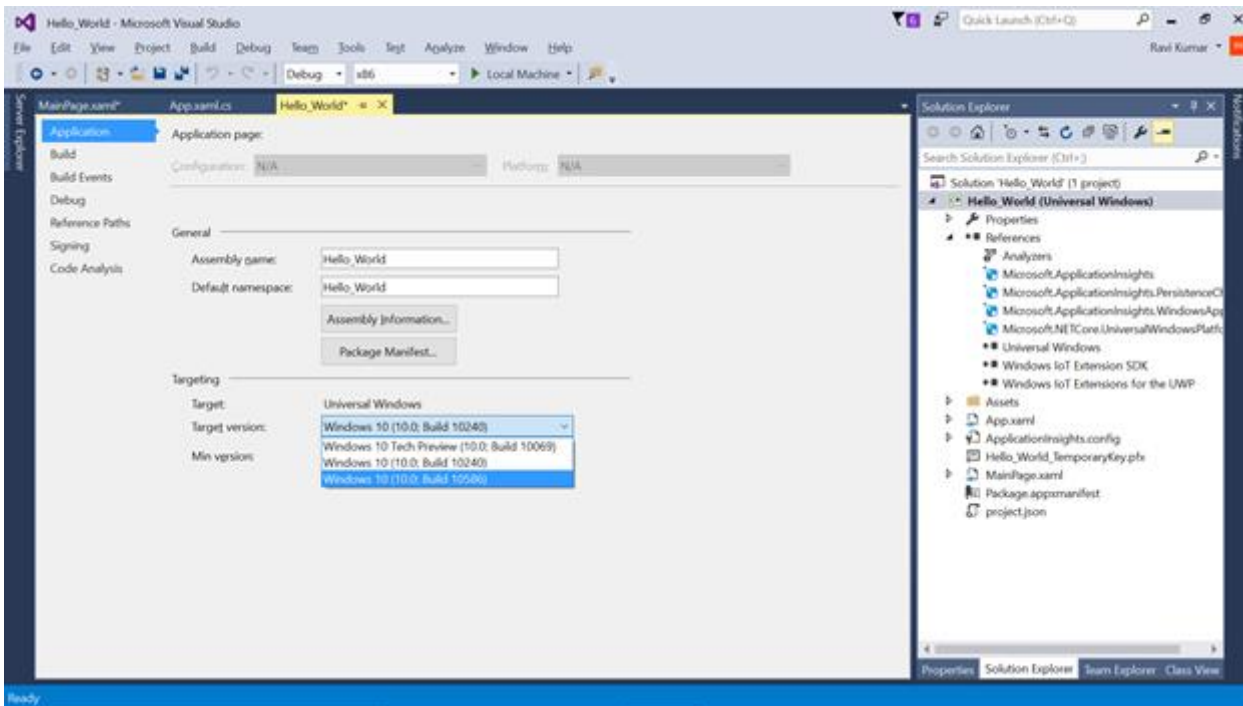


Step 5:

Now click on the Solution Name – in this project the solution name is Hello_World (Universal Windows), right click on the solution name and goto properties.

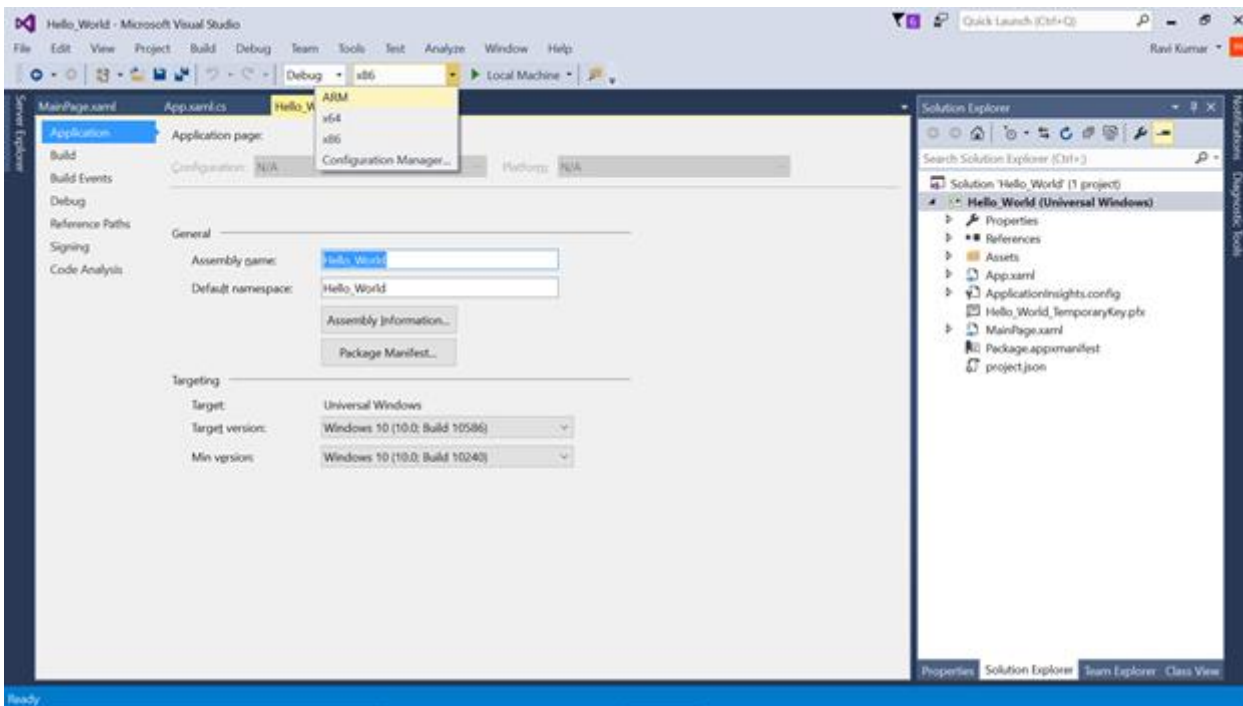


Under Application Page go for Target Version -> Change it for Windows 10 (10.0; Build 10586) – which is the version of Windows 10 IoT Core OS installed on the Raspberry Pi kit.



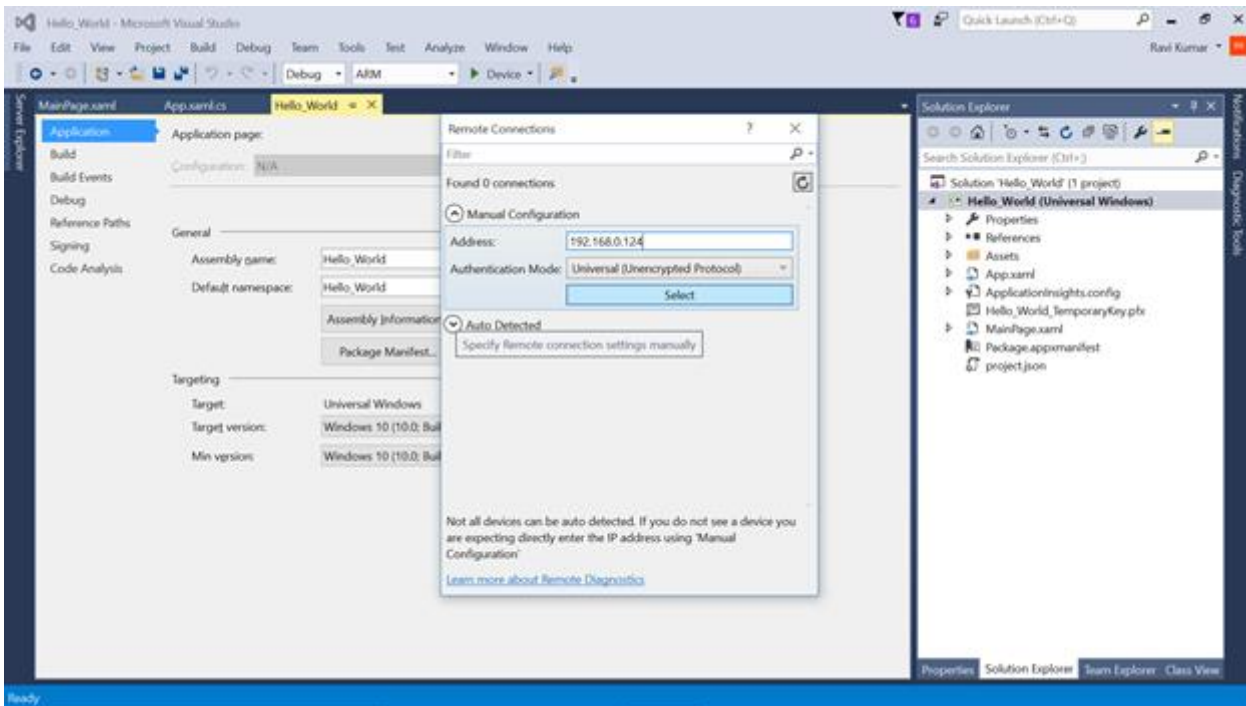
Note: Now goto MainPage.xaml you cannot find the Designer pane as the Target version is changed for Windows 10 (10.0; Build 10586)

Step 6: Goto Solution Platforms in Visual Studio and Select ARM processor



Step 7:

On the next column change the deployment source for Remote Machine. Here mention the address of the internet connectivity given on the Device Info screen of your Raspberry Pi device (under IP address), now click on select.



Step 8: Find the output on the Monitor or TV connected towards your Raspberry Pi device.



How are you?

Click Me!

Read more articles on **Internet of Things:**

- [Setup Raspberry Pi 2/3 With Windows 10 IOT Core OS For First Usage](#)
- [Ultrasonic Proximity Sensors In IoT Context \(Raspberry Pi + Windows 10 IoT Core\)](#)

Thank you for using C# Corner