Creating Microsoft Azure

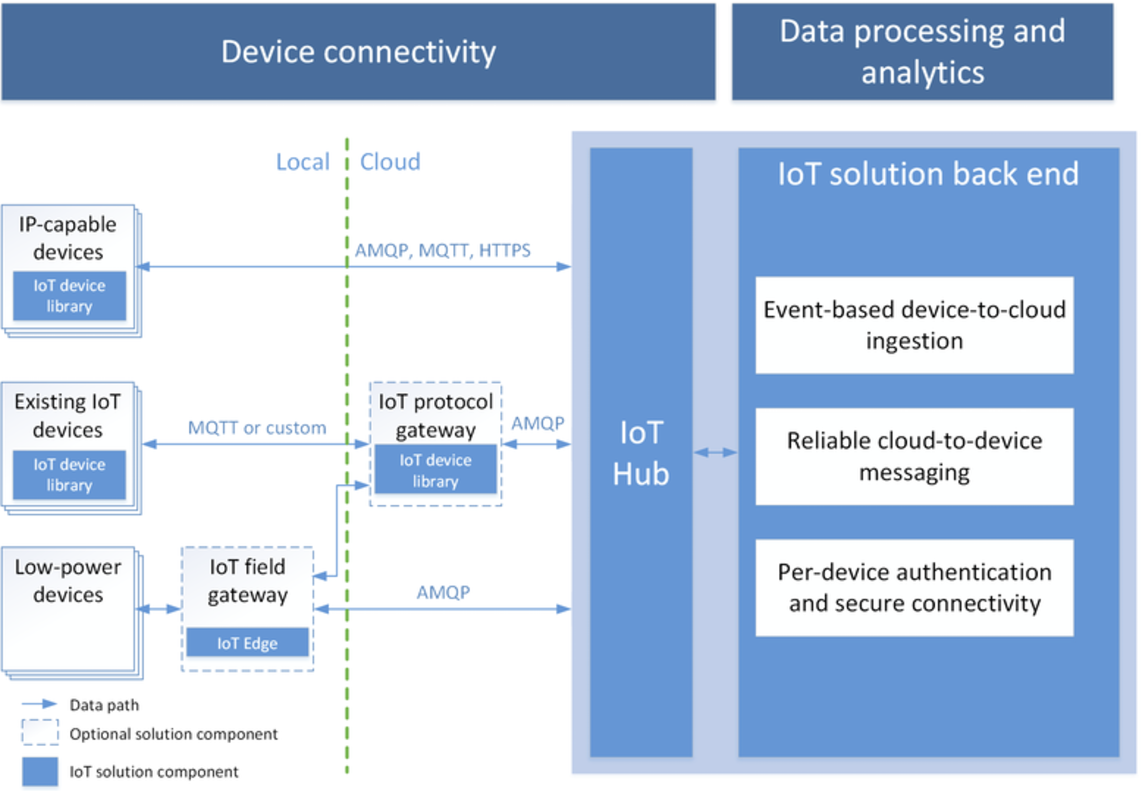
IoT hub

In this Session

* Use the Azure portal to create an IoT hub.
* Create a device identity in your IoT hub.
* Create a simulated device that sends telemetry to your cloud back end, and receives commands from your cloud back end.

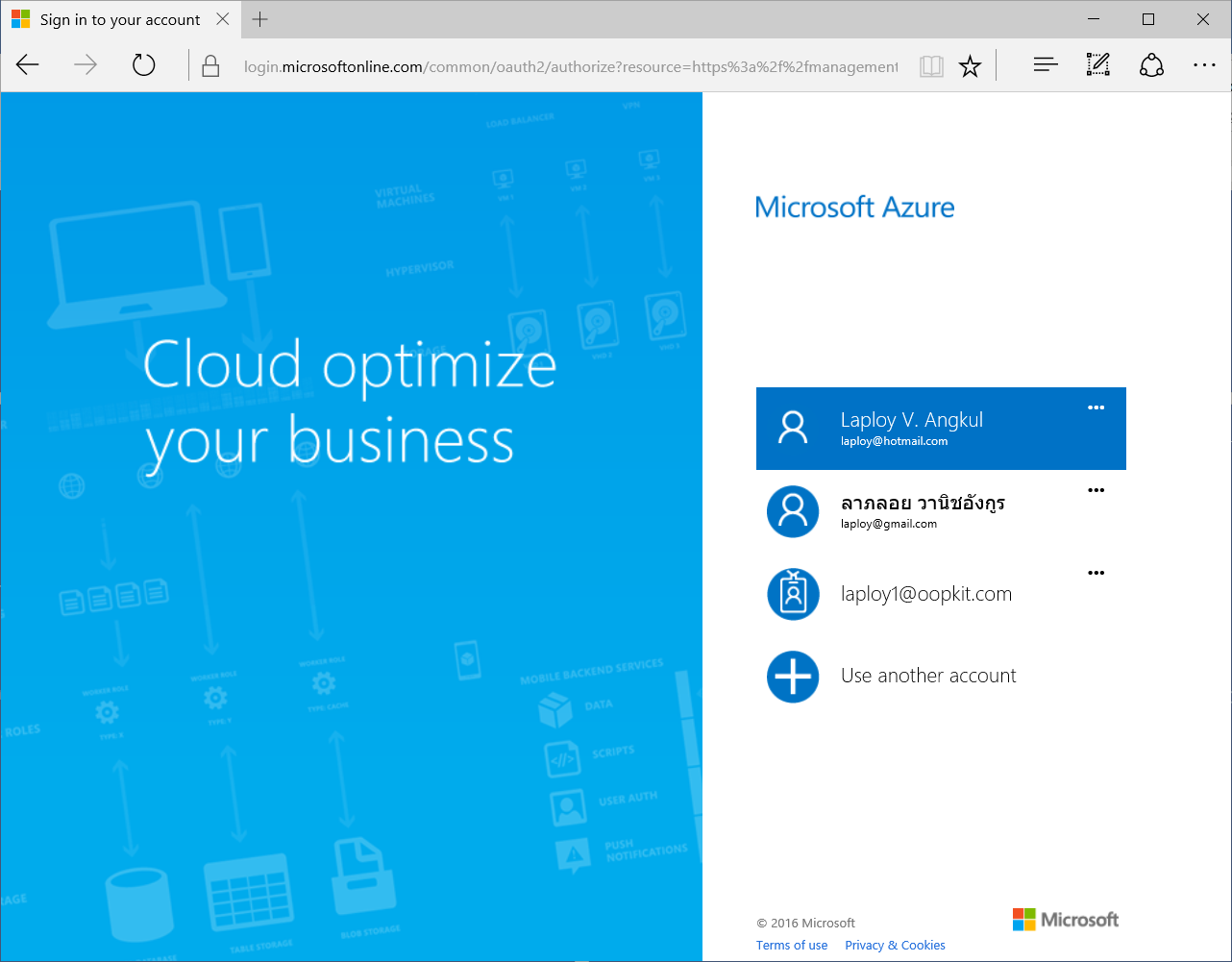
Azure IoT Hub

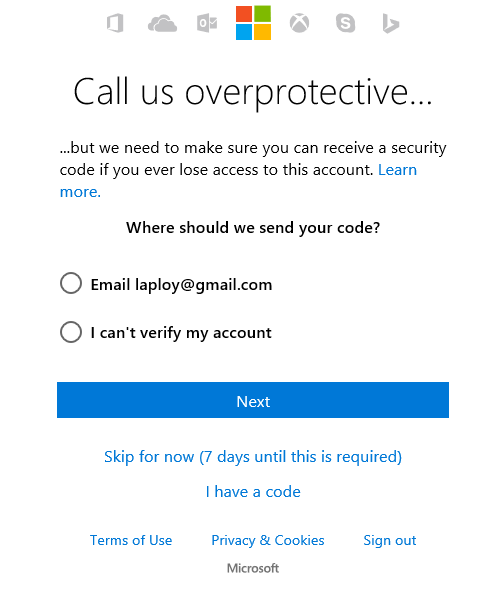
* is a fully managed service that enables reliable and secure bi-directional communications between millions of Internet of Things (IoT) devices and a solution back.
* Offers reliable device-to-cloud and cloud-to-device hyper-scale messaging.
* Enables secure communications using per-device security credentials and access control.
* Includes device libraries for the most popular languages and platforms.

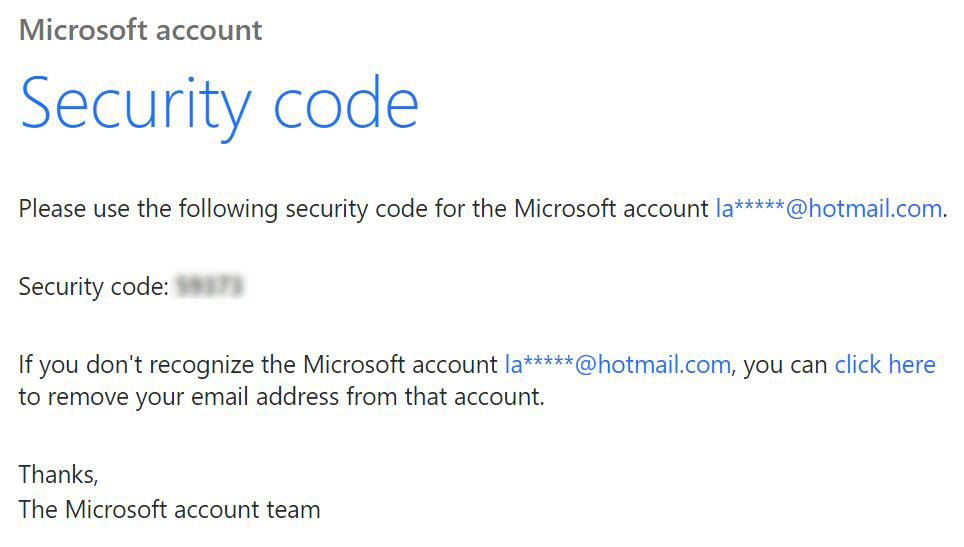


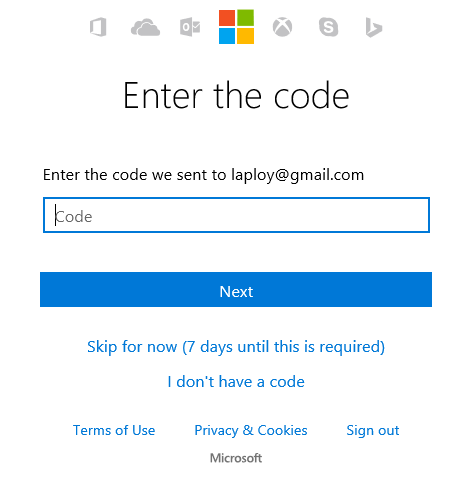
Create an IoT hub

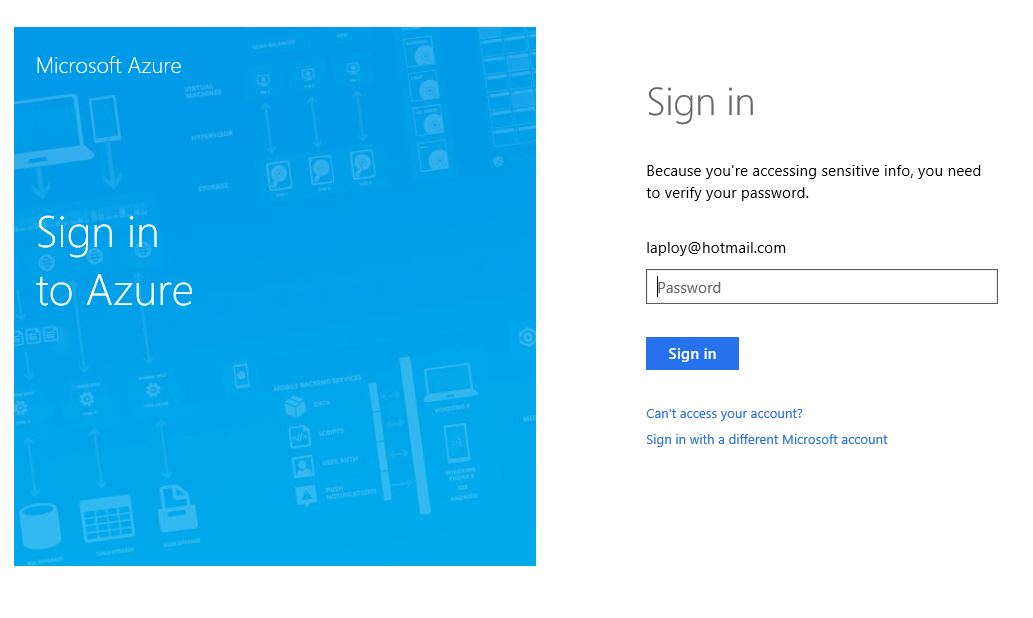
Go to the Azure portal. https://portal.azure.com



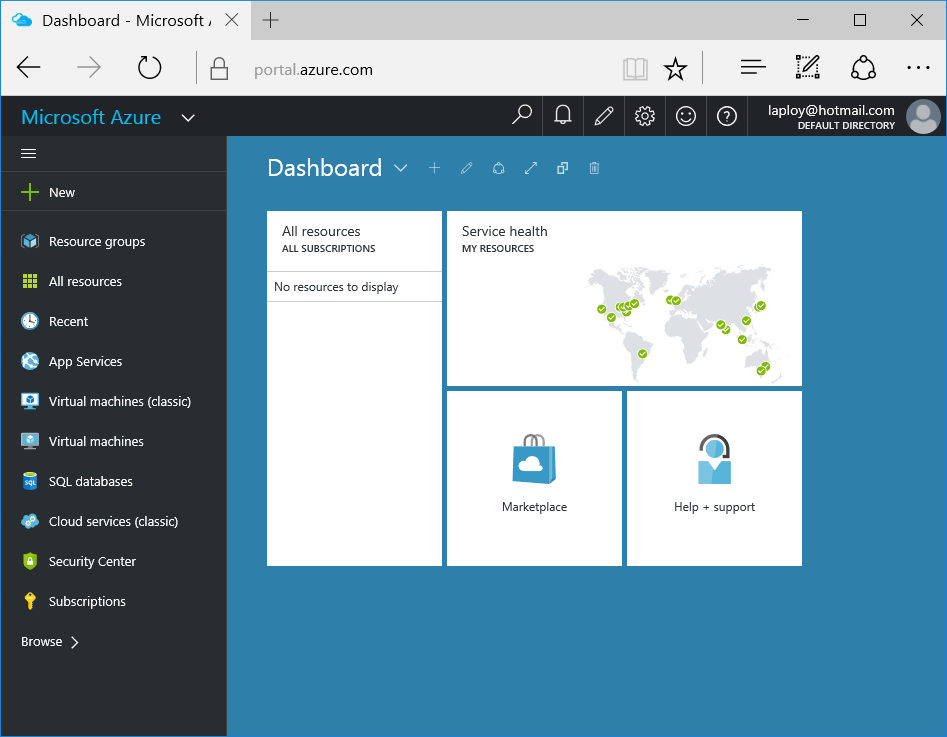






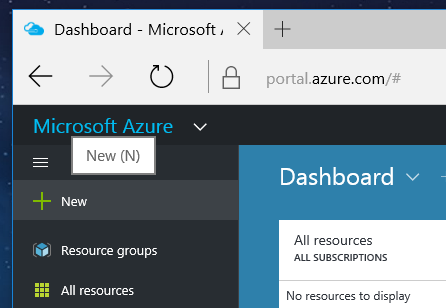


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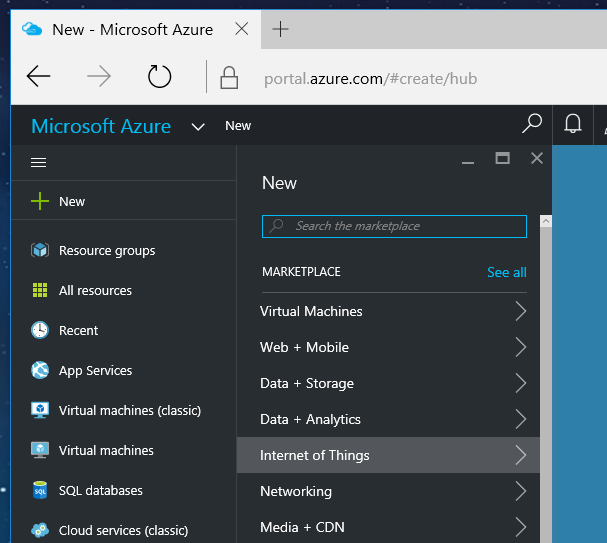


Aaaa

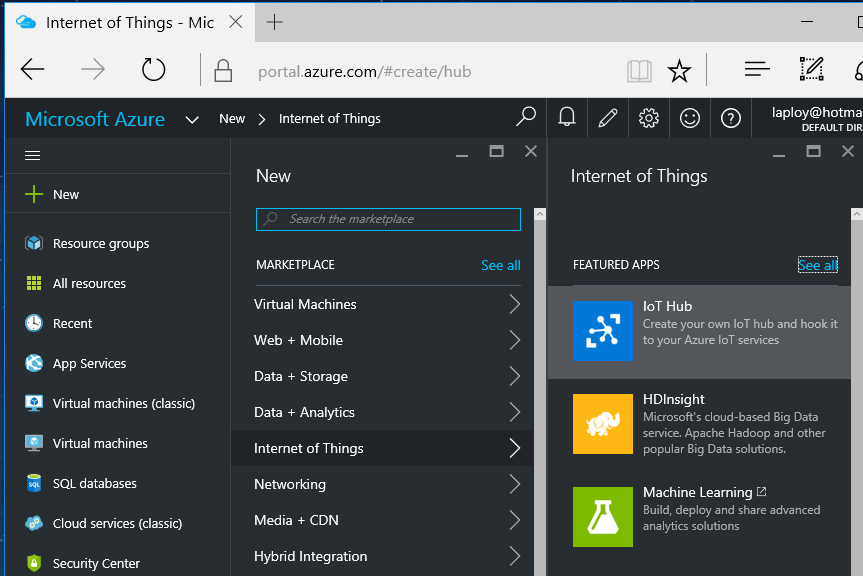
In the Jumpbar, click >New

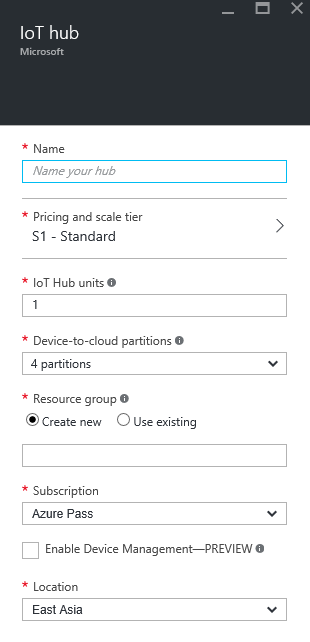


>Internet of Things



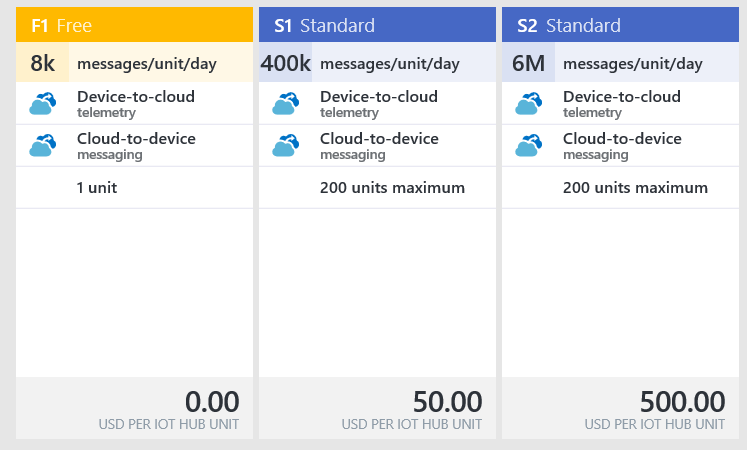
>Azure IoT Hub.



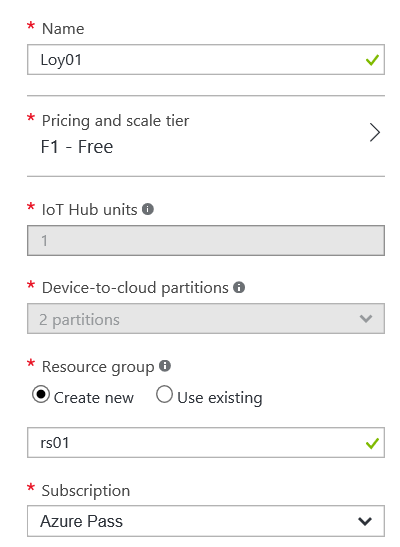
In the IoT hub blade, choose the configuration for your IoT hub

In the **Name box**, enter a name for your IoT hub. If the Name is valid and available, a green check mark appears in the Name box.

Select a **pricing and scale tier.** This tutorial does not require a specific tier. For this tutorial, use the free F1 tier.

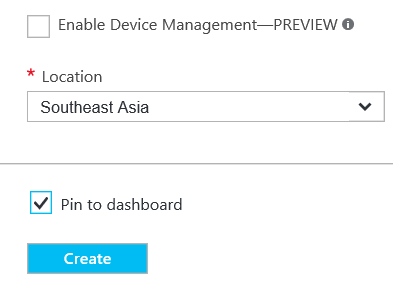


In **Resource group**, create a new resource group

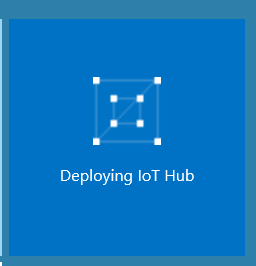


Resource group name = rs01

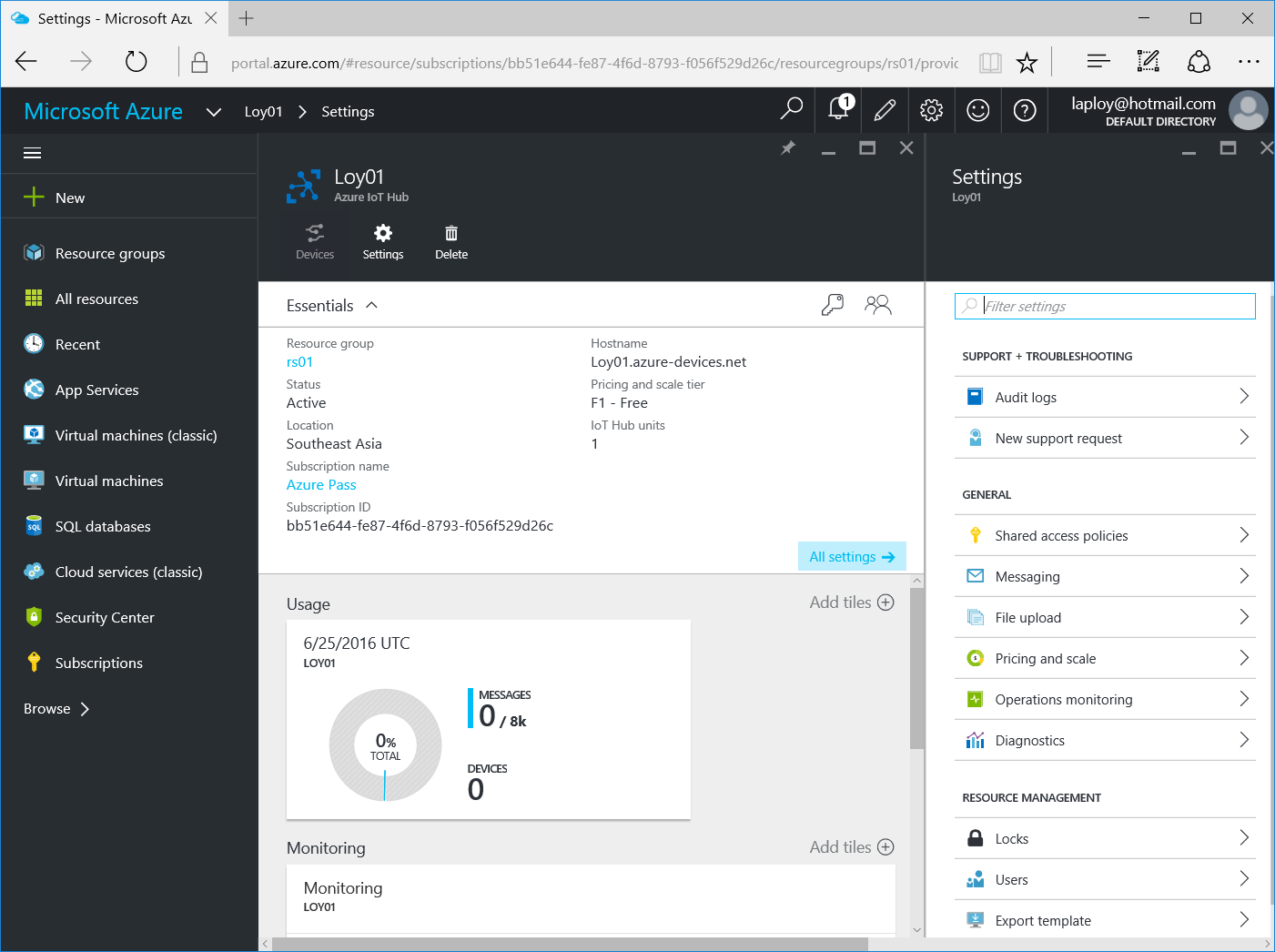
In Location, select the location to host your IoT hub. For this tutorial, choose **Southeast Asia**



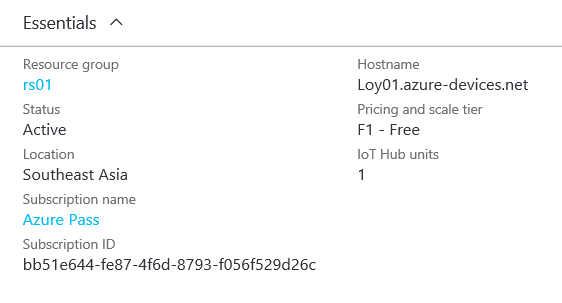
Click **Create** and wait for deployment



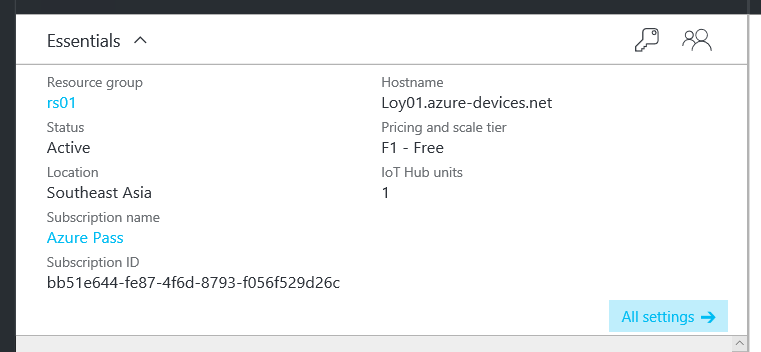
Deployment Complete



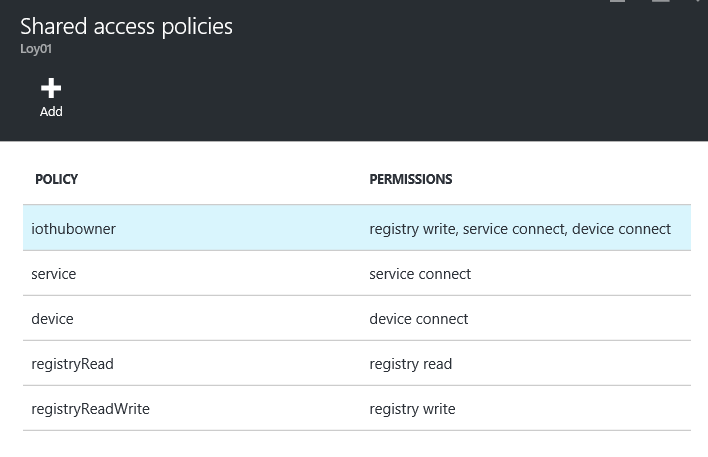
Make note of the **Hostname**

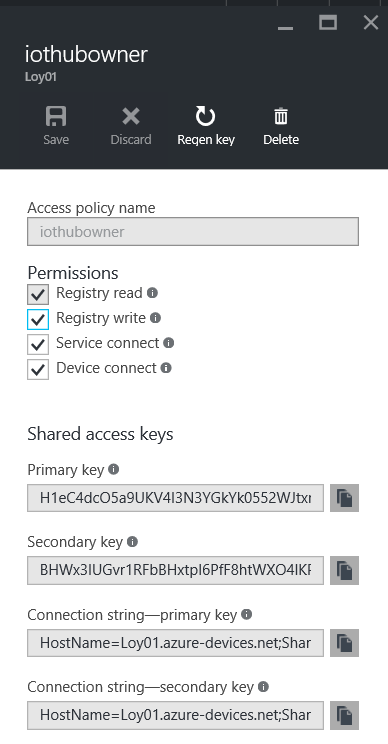


click the Keys icon



In the Shared access policies blade, click the iothubowner policy



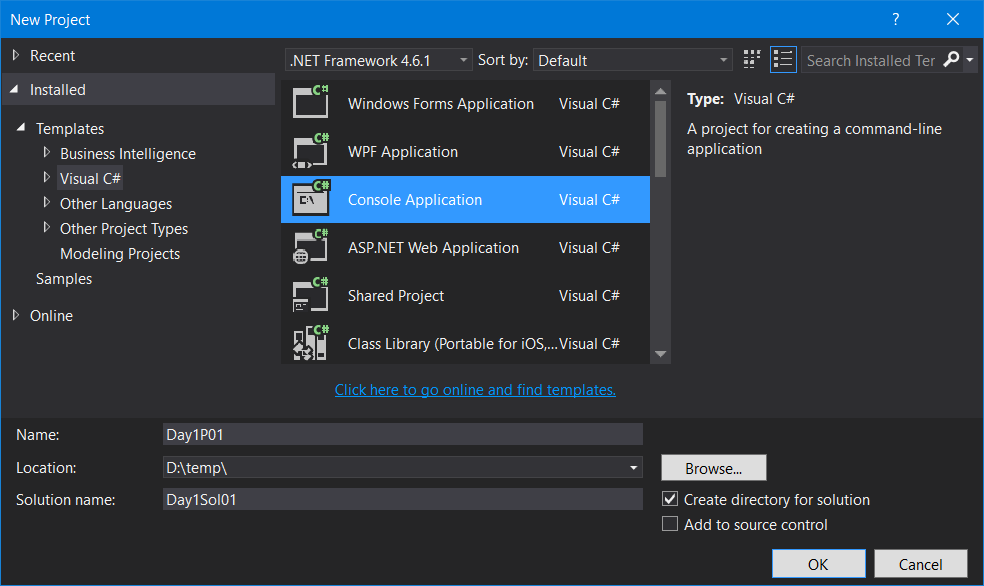
copy and make note of the connection string in the iothubowner blade

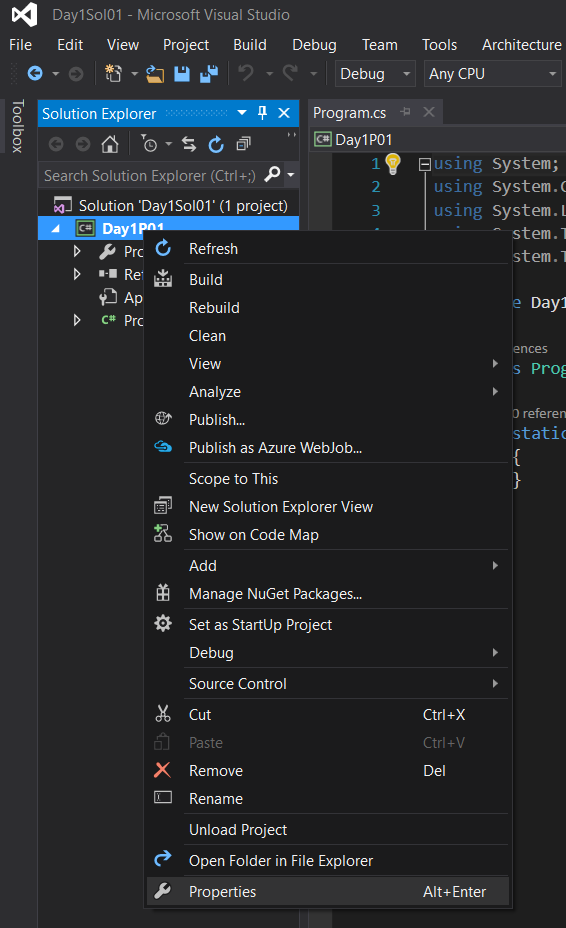
HostName=Loy01.azure-devices.net; SharedAccessKeyName=iothubowner; SharedAccessKey=H1eC4dcO5a9UKV4I3N3YGkYk0552WJtxmSpGeqKYtGA=

Create a device identity

* A device cannot connect to IoT hub unless it has an entry in the device identity registry.
* Create a Windows console app that creates a new device identity in the identity registry in your IoT hub
* This console app generates a **unique device ID** and **key** that your device can use to identify itself when it sends device-to-cloud messages to IoT Hub.

Create New a new Visual C# Console Application

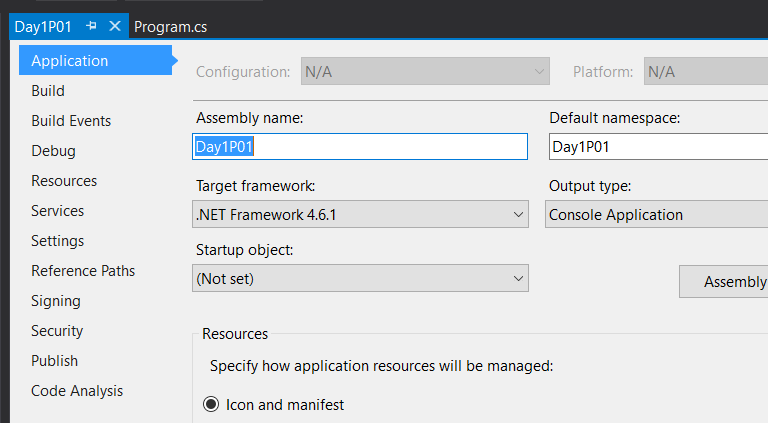




Right Click at the Project name

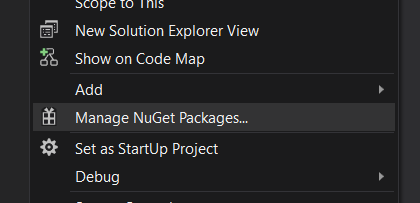
Select Properties

Make sure the .NET Framework version is 4.5.1 or later.

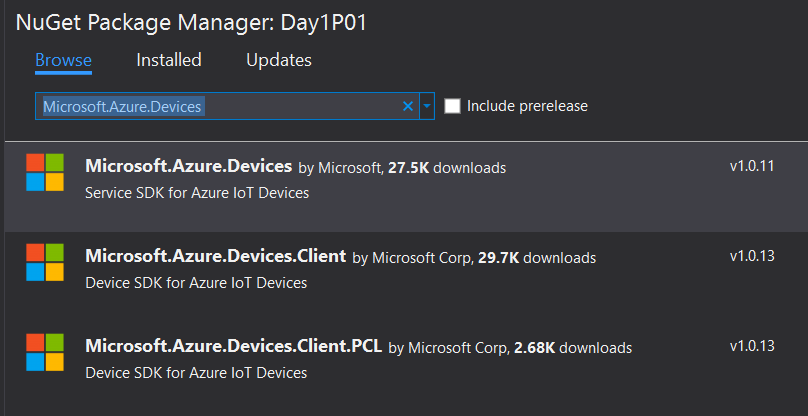


In Solution Explorer, right-click the project,

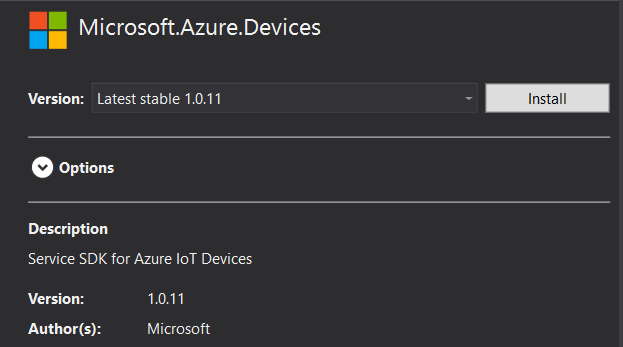
and then click Manage NuGet Packages.

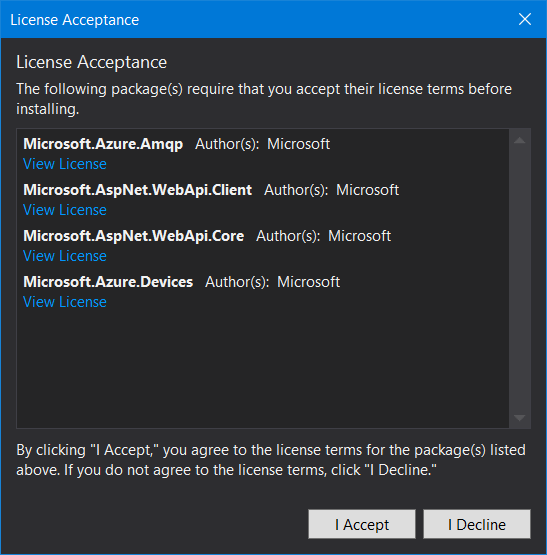


In the NuGet Package Manager window, select Browse, search for microsoft.azure.devices

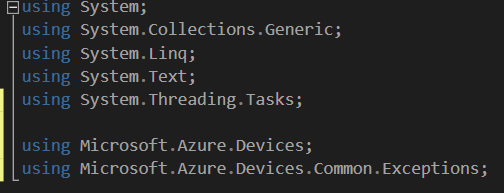


* Select Install to install the Microsoft.Azure.Devices package,

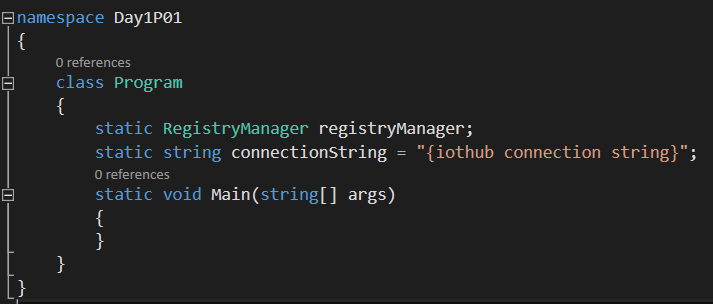


* and accept the terms of use.
* This downloads, installs, and adds a reference to the Microsoft Azure IoT Service SDK NuGet package and its dependencies.

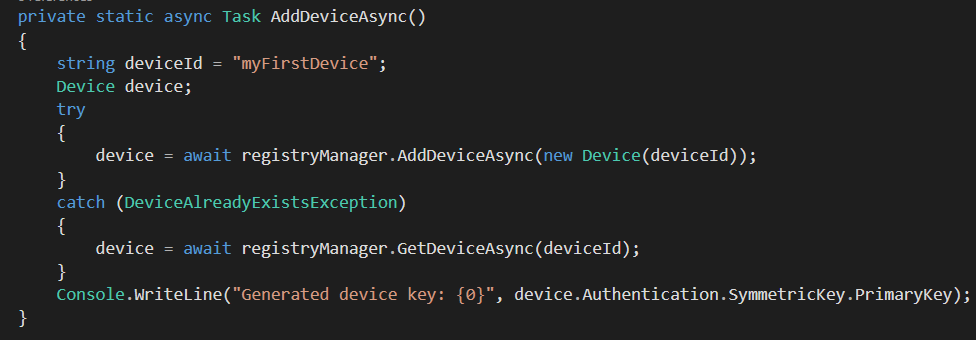
Add the following using statements at the top of the Program.cs file



Add the following fields to the Program class. Replace the placeholder value with the connection string for the IoT hub that you created in the previous section.

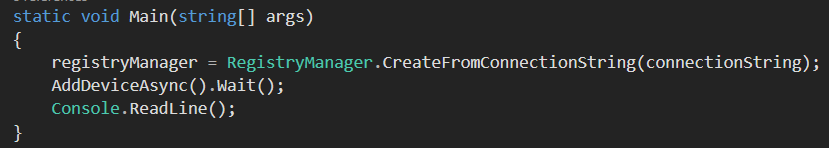


Add the following method to the Program class

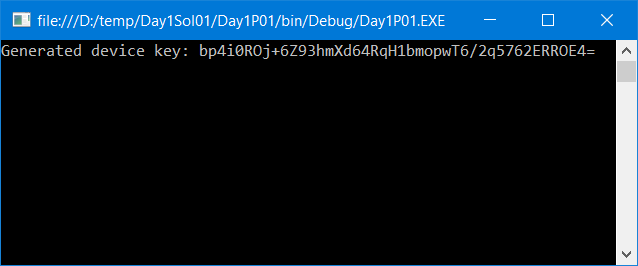


* This method creates a new device myFirstDevice.
* If that device ID already exists in the registry, the code simply retrieves the existing device information.
* The app then displays the primary key for that identity.
* You will use this key in the simulated device to connect to your IoT hub.

Finally, add the following lines to the Main method:



Run this application, and make a note of the device key.



More information on Creating device

Connect your device to Azure IoT Hub

https://azure.microsoft.com/en-us/develop/iot/get-started/