DIPLOMA IN CLOUD SECURITY

Project Assignment 3: Windows Azure

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Background

SustainableTravel4U is an eco-aware travel agency promoting fair, responsible and sustainable travel that respects the local people and culture, is of benefit to the local community and doesn't damage the environment. The company has a management team of three (Managing Director, Sales & Marketing Director and Operations & Finance Director) and an operational workforce of 50 employees (including Accountants, Human Resource personnel and a small Sales Team).

SustainableTravel4U is based in the Central Business District. The Managing Director has just announced that as a result of rapid growth in the sustainable travel market and in order to deliver their 3-year business plan; the company will be expanding its operations and will be moving their office applications to the cloud.

The managing director has tasked you with creating a proposal on which cloud provider to develop the company's applications on.

This will include creating a test application on each of the three major platforms, outlining the process and then submitting your recommendation based on your findings.

Introduction to Microsoft Azure

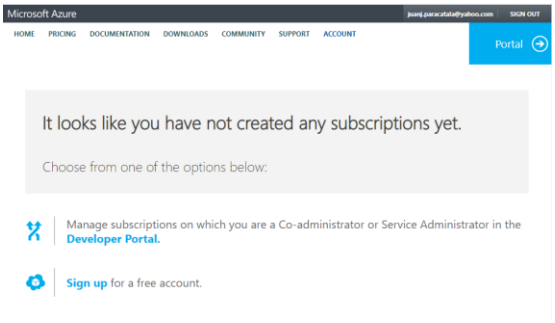
Microsoft Azure is an ever-expanding set of cloud services to help your organization meet your business challenges. It's the freedom to build, manage, and deploy applications on a massive, global network using your favorite tools and frameworks.
https://azure.microsoft.com/en-us/overview/what-is-azure/

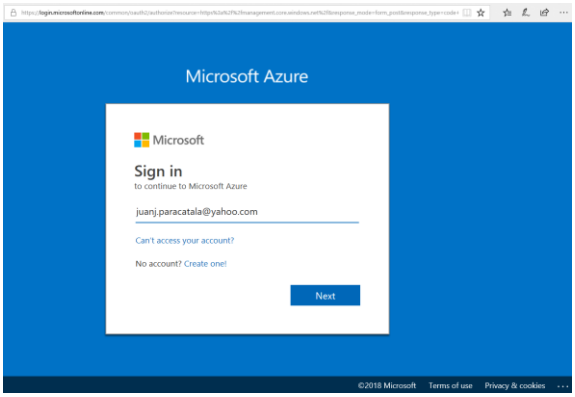
With Azure, you can deploy the infrastructure that you need, and adjust this up or down at any time. This leads to a focus on scaling out through the deployment of additional compute nodes to satisfy a performance need. Although this has consequences for the design of an appropriate software architecture, there is now ample proof that scaling out the commodity of cloud services is more cost-effective than scaling up through expensive hardware.
Azure allows for a low-cost entry point, with the ability to scale rapidly as demand for compute increases. This prevents a large up-front capital investment in infrastructure, and it provides the flexibility to architect and re-architect systems as needed. The use of cloud computing fits well with the scale-fast and fail-fast model of startup growth.

https://docsmsftpdfs.blob.core.windows.net/guides/azure/azure-ops-guide.pdf

- Set up a cloud environment in Azure.

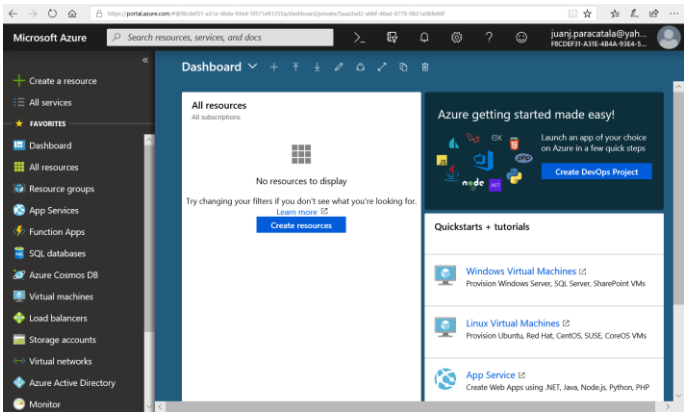
1- Create account.



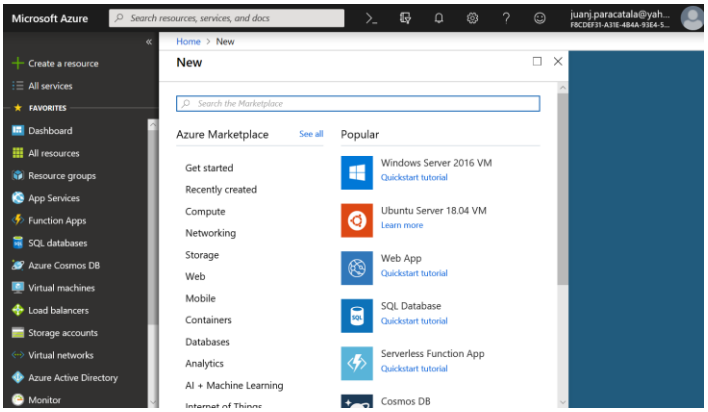


First to set up an account I browsed to portal.azure.com and I Sign up following all the steps required.

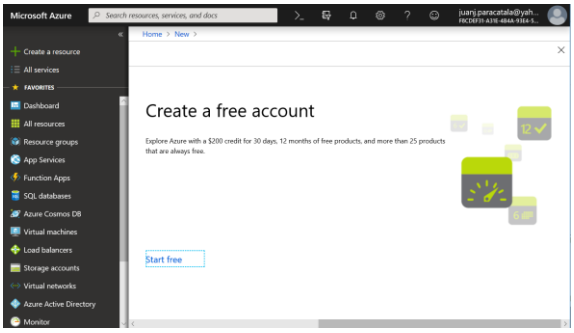
Then once I sign in the Azure portal, we start creating a Web App +Create a resource.

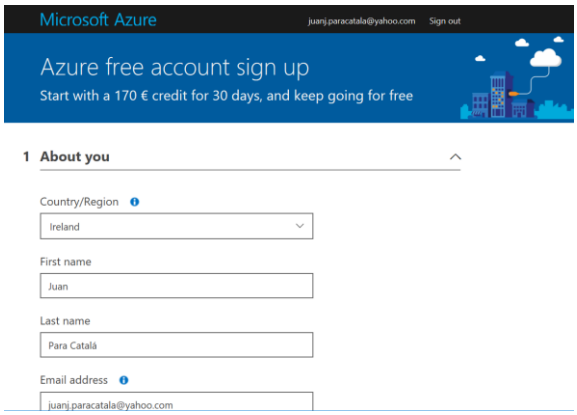


That will bring up the marketplace showing the resources available for our Web App.

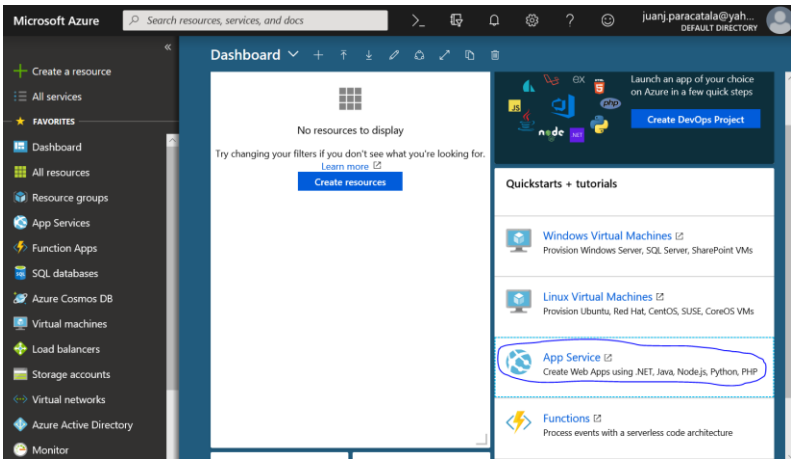


We selected Web App, then we need to enter a name for our Web App, we are trying to create a free account to try Azure so we can get a perspective of this environment.

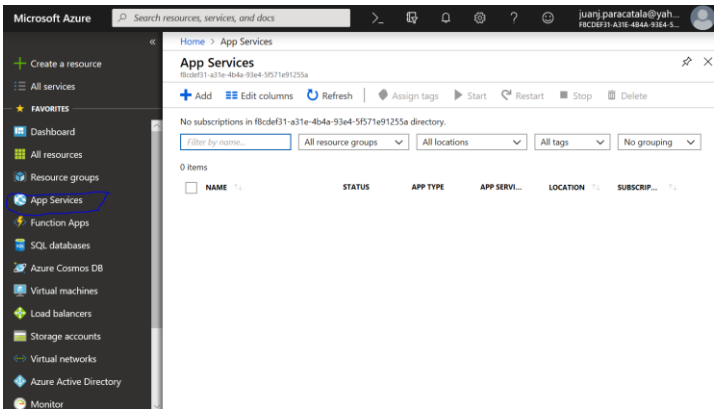


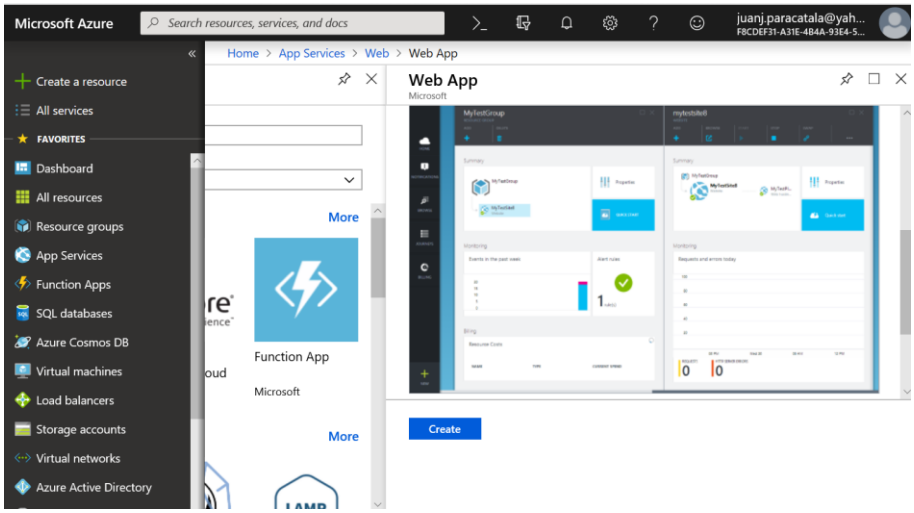


2- App Service.

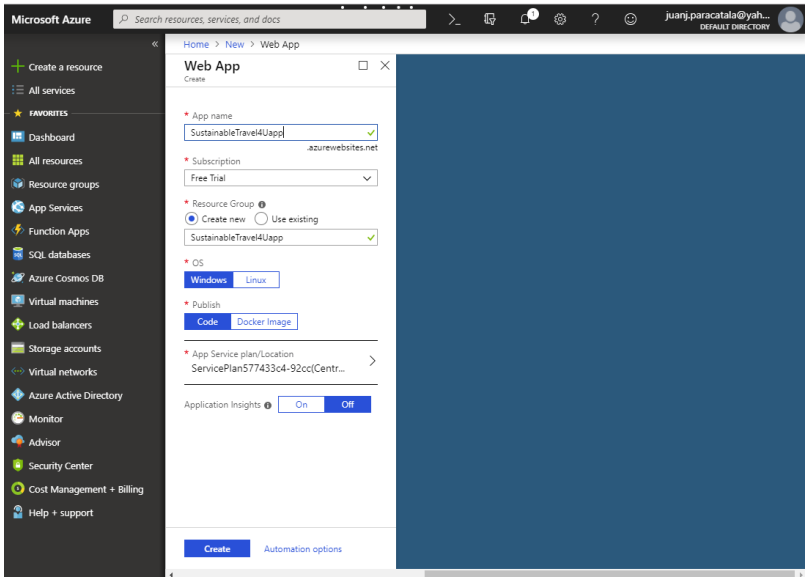


Selected App Service.





Create.



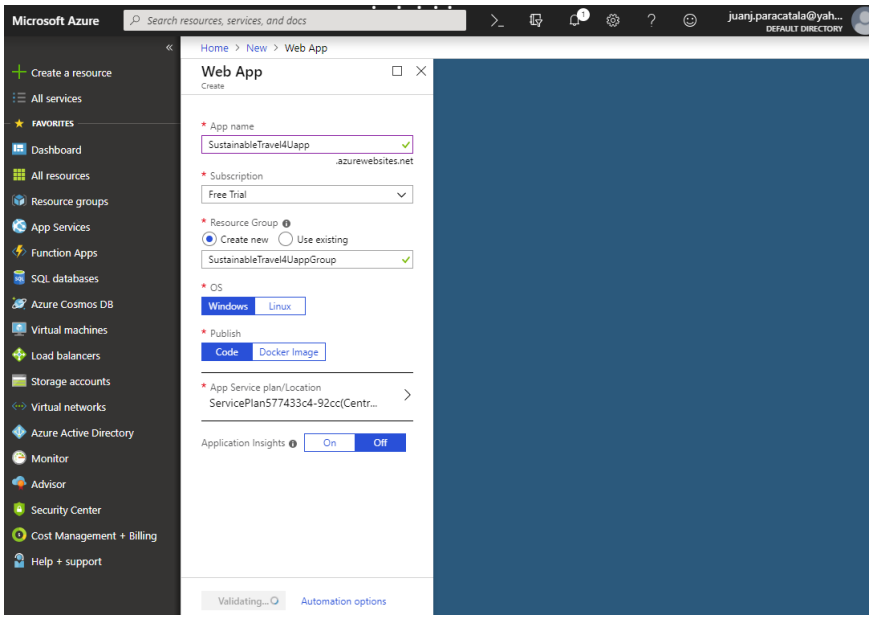
3- Resource group.

Then I gave the App a name “SustainableTravel4Uapp.azurewebsites.net”, azurewebsites.net is the default domain name that will be assigned to our Web App. We need to set the **Resource Group** that is where we want to put this Web App into.

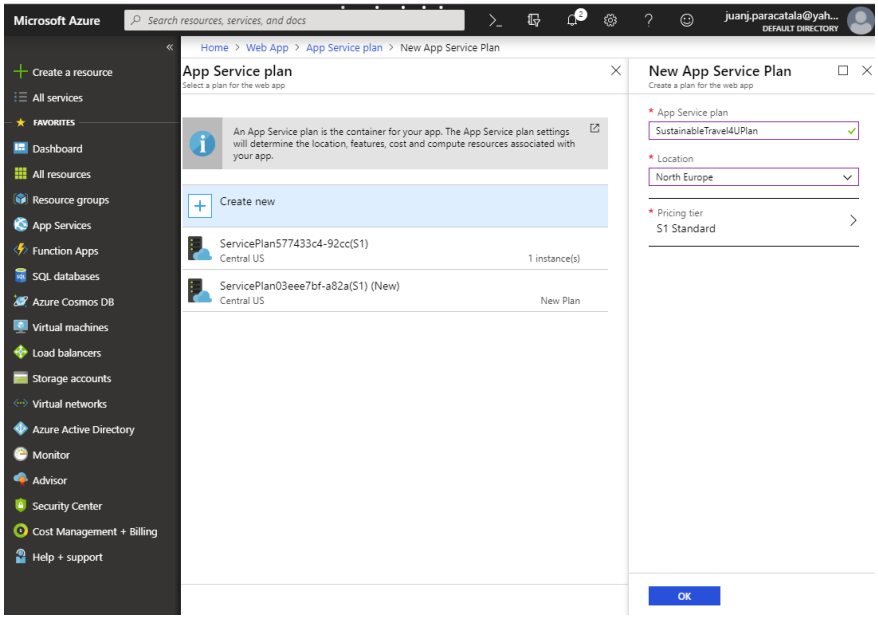
The Resource Group is kind of a logical container that could house many resources in our subscription and helps organize things, manage and secure them.

In this case we have created a new one called “SustainableTravel4Uapp”.

Then we pressed to App Service **Plan/Location.**



Then we Create new, and give a name to our App Service Plan, provided also the Location that is where we want to host our App, and the Pricing tier.



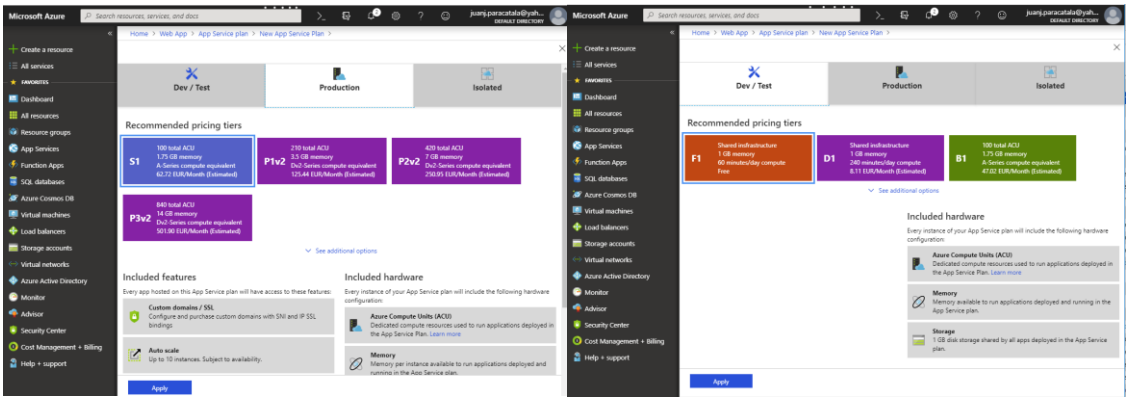
Here we will be able to see different Plans options, for this project we are selecting. We selected F1 because is free.

However every Plan has different features.

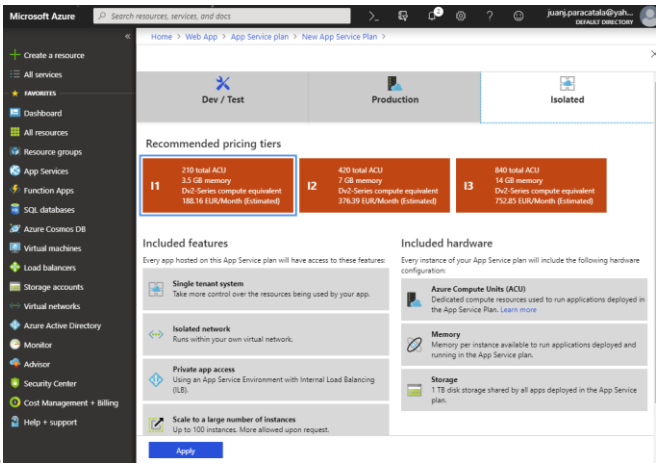
The Free and Share tier do operate on share, CPU, memory, so similar to any hosting environment, and then it gets a 1GB storage available.

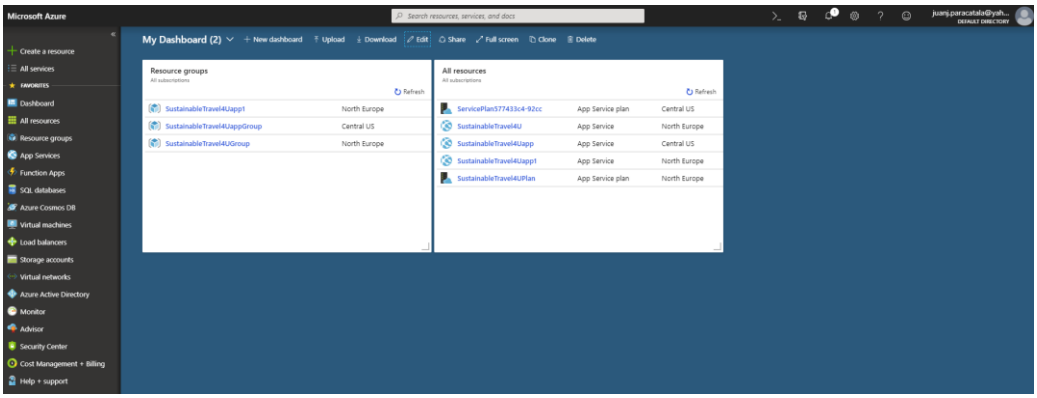
Share offers the additional of having custom domains support, where in the free tier you don't get custom domains, you only get the default domain as created for the App.

4- Pricing tier

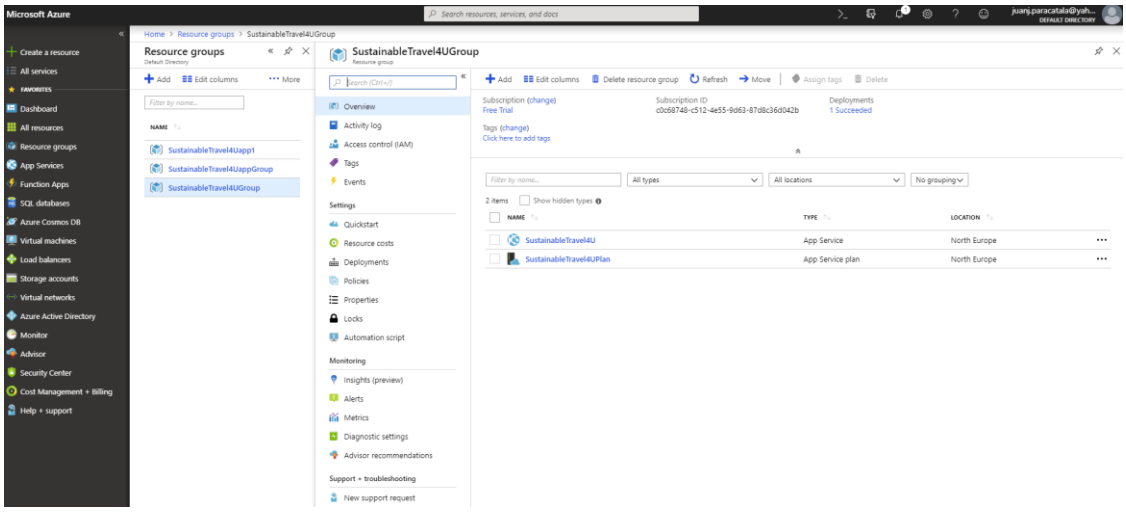


We selected F1 and Apply.





We can create our own Dashboard, we can then click on Resource Groups and go to any of the Resources created, we see our Web App group, the Resources in there, and the Web App Plan where specify the price. You can hold multiple Apps within the same Web App Plan offering the ability to share those resources having a dedicated VM behind the scenes and you can share multiple Apps on your own within that scene dedicated VM. We have the Web App service then we select the Plan and take us to more in detail where we will be able to select directly to our website.



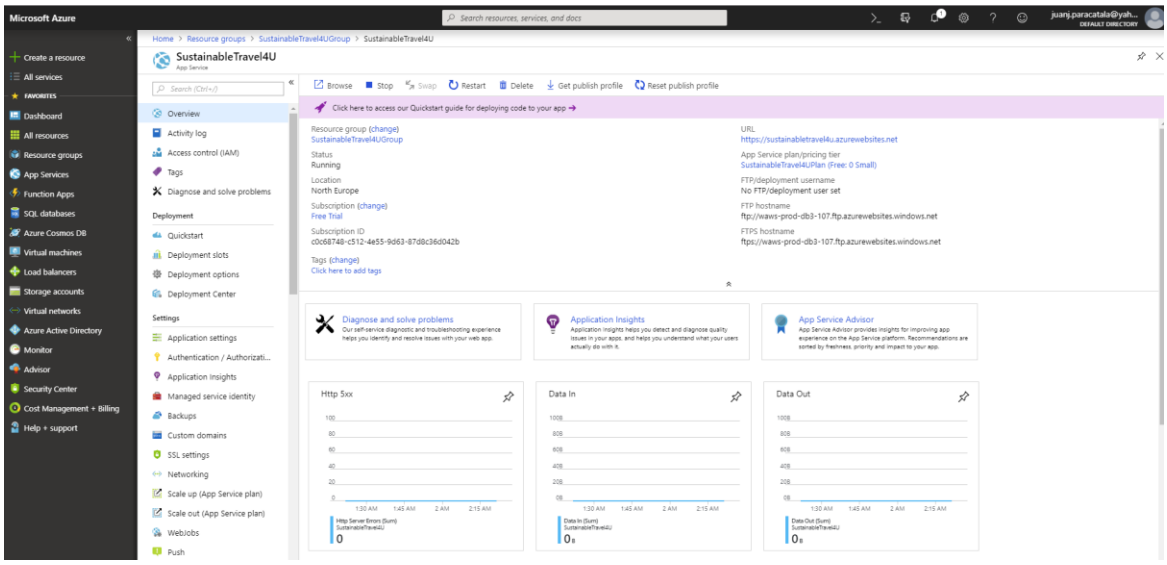
In the below figure we can see a general view, we can see the URL to access the Web App with the default domain automatically provisioned given to our Web App at the time of creation.

We can see the host names for FTP/FTPS, and on the left panel there are different features for navigation, as for example the Scale up that will allow us to change the Pricing tier immediately without any downtime on our Application.

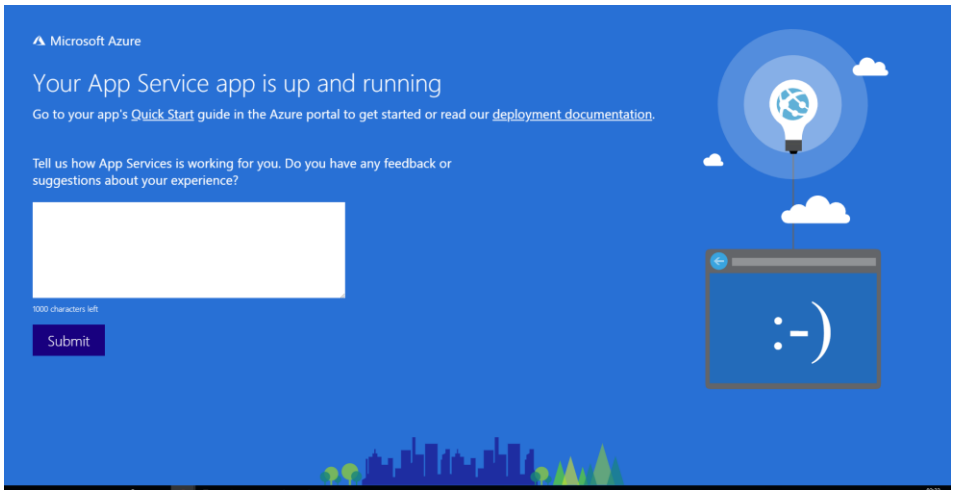
This is very useful if you need to Scale up or down.

We go to the URL “sustainableTravel4Uapp.azurewebsites.net”

5- General view.

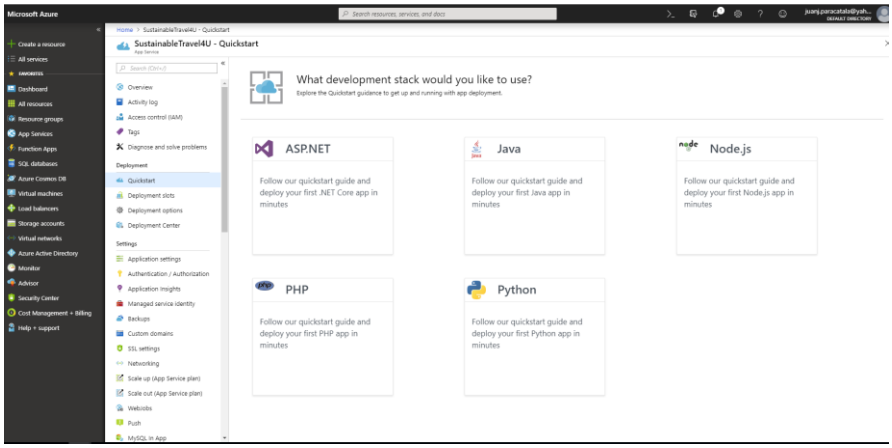


Then we can select Quick Start to start designing or deploying our Web App.

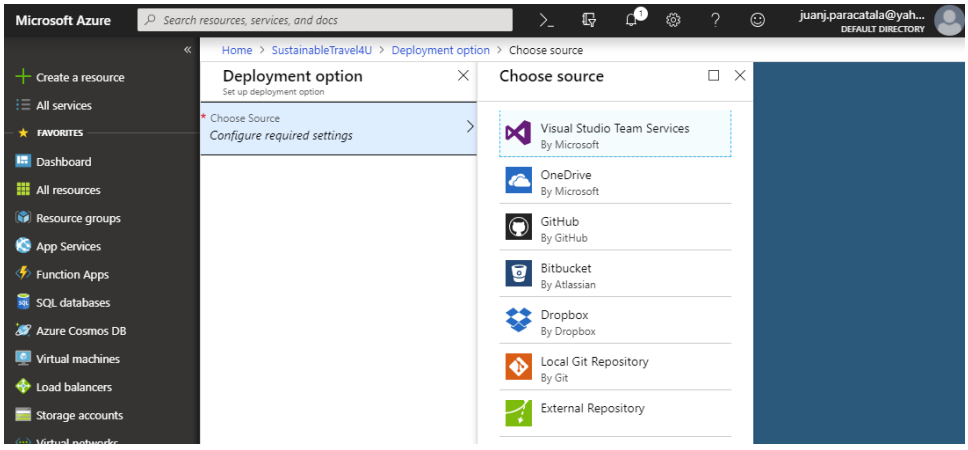


We selecting the language used in our Web App.

6- Deployment methods



Then it shows us different ways to Deploy the App as for example GitHub, Bitbucket, etc…



Once we get deploy our App, we can also configure other settings…

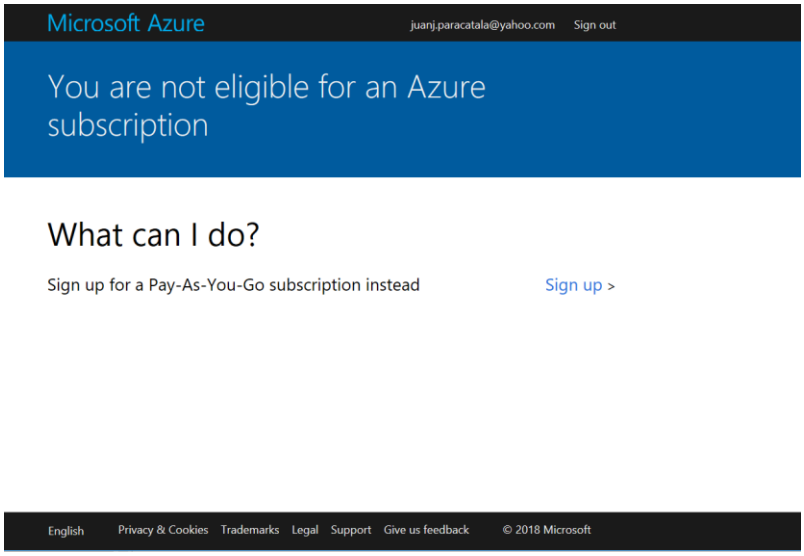
So now we have started hosting an Application on Azure using Platform as a Service (PaaS).

Conclusion:

In conclusion I obtained numerous problems trying to get the free account; credit card information was required and even after providing all the information they requested I was receiving the following message “You are not eligible for an Azure subscription”. Therefore as a result of this I started investigating more about this issue and I found several forums full of people experiencing about the same issues and moving towards another cloud solutions.

They do have an alternative; to get a free account: it´s that you have to be a fulltime student within a 4-year degree.

After a while of trying to access my free account, from different browsers, and contacting Microsoft technical support. I was able to create my project.



Microsoft Azure Reviews

Scalability is definitely in need of improvement. Azure is a very good solution but it still lacks the performance of other cloud platforms.

Azure ARM console can be a bit overwhelming at the beginning.

If you are not aware of costs, pricing, etc., you can end up with a hefty bill. However, I found that the Azure price calculator is a valuable tool to use before starting to deploy VMs in Azure. This tool will give you an overview of the costs you should expect on a monthly, quarterly or yearly basis.

https://www.itcentralstation.com/products/microsoft-azure-reviews

Feasibility report

Windows Azure is Microsoft's application platform for the public cloud. The SustainableTravel4U applications can use this platform in many different ways. For instance, you can use Windows Azure to build a web application that runs and stores its data in Microsoft datacenters. You can use Windows Azure only to store data, with the applications that use that data running on-premises (that is, outside the public cloud). You can use Windows Azure to help on-premises applications connect with each other or to map between different sets of identity information or in other ways. Because the platform offers a wide range of services, all of these things are possible.

http://www.ijana.in/Special%20Issue/22.pdf