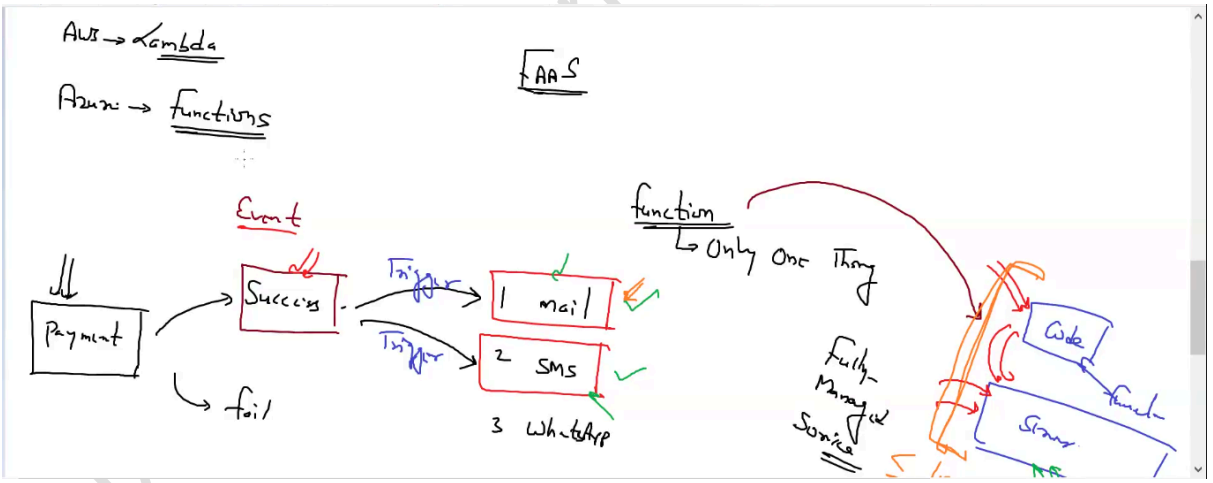
Azure Session 07

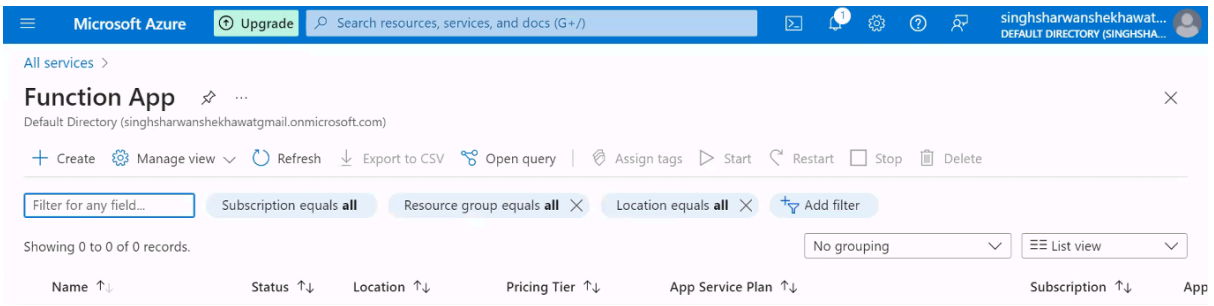
Summary 08-05-2024

- In the last class we saw how we can automate the azure cloud using the API(Code).
- Today we will learn about the Serverless concept in the world of cloud.
- Let's understand the serverless concept with an example:-
  - ➢ Whenever any company wants to do the business, they create an application for it, to run or deploy any website or application we need servers.
  - ➢ Now it is up to us from where we want to get the servers, either we can set up our own or we can go for the cloud services.
  - ➢ If we go for the Cloud option then we don't have to manage those servers and for that we can use the App service of Azure.
  - ➢ The problem in using the App service is that we have to pay for every second whether we are using it or not.
  - ➢ Netflix as a company needs to run its application whenever any clients access it.
  - ➢ Client or the customer is coming to the website, but we don't know at what point of time they are using it. In the ideal time(When no customer is accessing the netflix) also the apps need to be running.
  - ➢ For that the underlying hardware needs to run all the time whether a customer is coming or not.
  - ➢ For solving this problem we can use the serverless concept.
  - ➢ Serverless computing is a method of providing backend services on an as-used basis. Servers are still used, but a company that gets backend services from a serverless vendor is charged based on usage.
  - ➢ Another use case of Serverless computing is imagine you have a system composed of multiple microservices, each responsible for a specific function, like user authentication, data processing, Searching, chatting or sending emails.

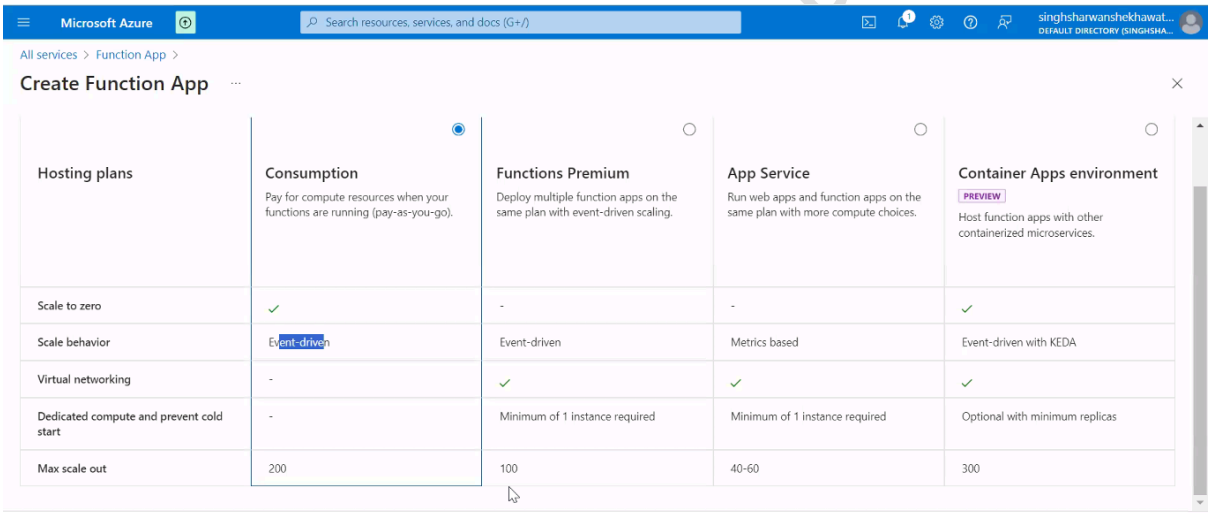
- ➢ With serverless architecture, instead of managing servers to host these microservices, you can deploy each microservice as a function, which runs only when triggered by events, like an HTTP request or a message from a queue.
- ➢ This allows for more efficient resource utilization, scalability, and reduced operational overhead, as the cloud provider manages the infrastructure, and you only pay for the compute time your functions actually use.
- ➢ In serverless computing we are only charged as per the usage basis, as any event occurs it will trigger the function and we will be charged for the time in which the function executes.
- ➢ This concept of using the Functions is also known as **Function as a service(FaaS)**,Functions as a Service (FaaS) is a cloud computing model where cloud providers manage the infrastructure required to execute code, allowing developers to focus solely on writing and deploying functions that respond to events or triggers.
- ➢ In Azure cloud, for using the Faas we have a service named **Azure Functions**.



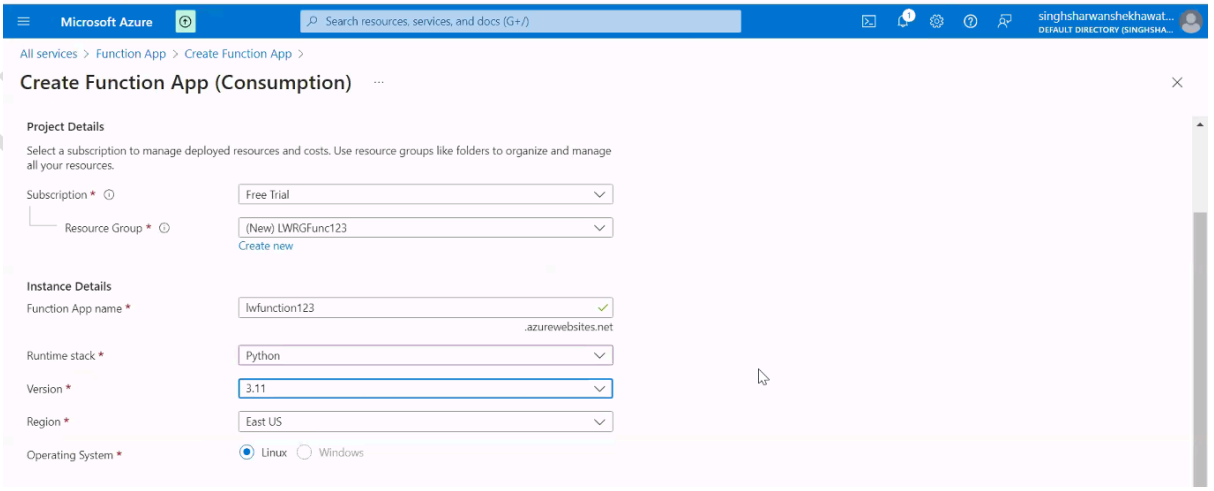
- Setting Up Azure Functions service:-
  - ➢ This service is mainly used for the purpose of event-driven architecture.
  - ➢ Go to the Azure Functions service in the Azure.



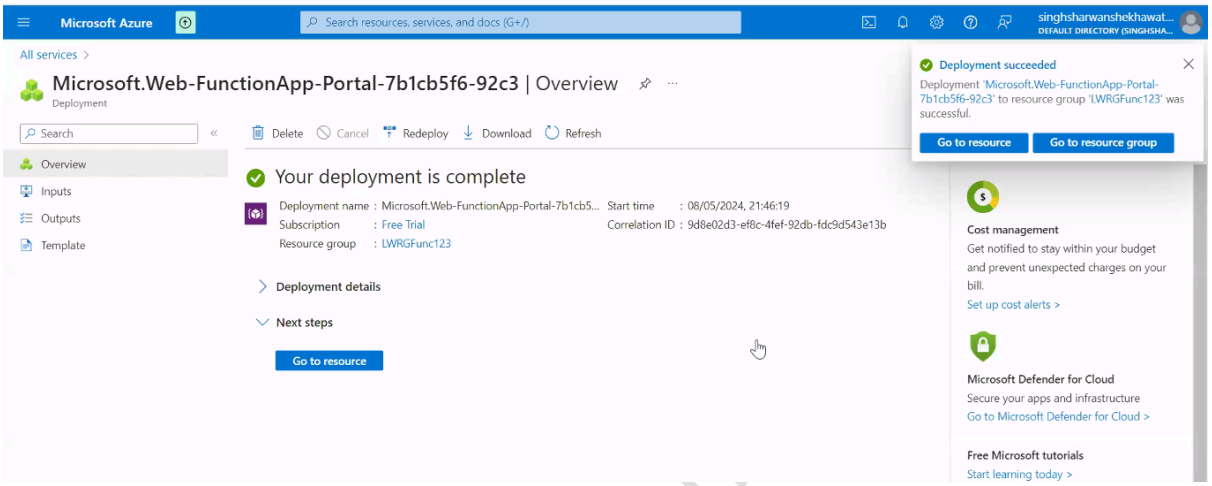
➢ Click on the create button to create the resource.
➢ We have to select the hosting option first, we will go with the consumption type for now because we want to be charged as per the usage only.



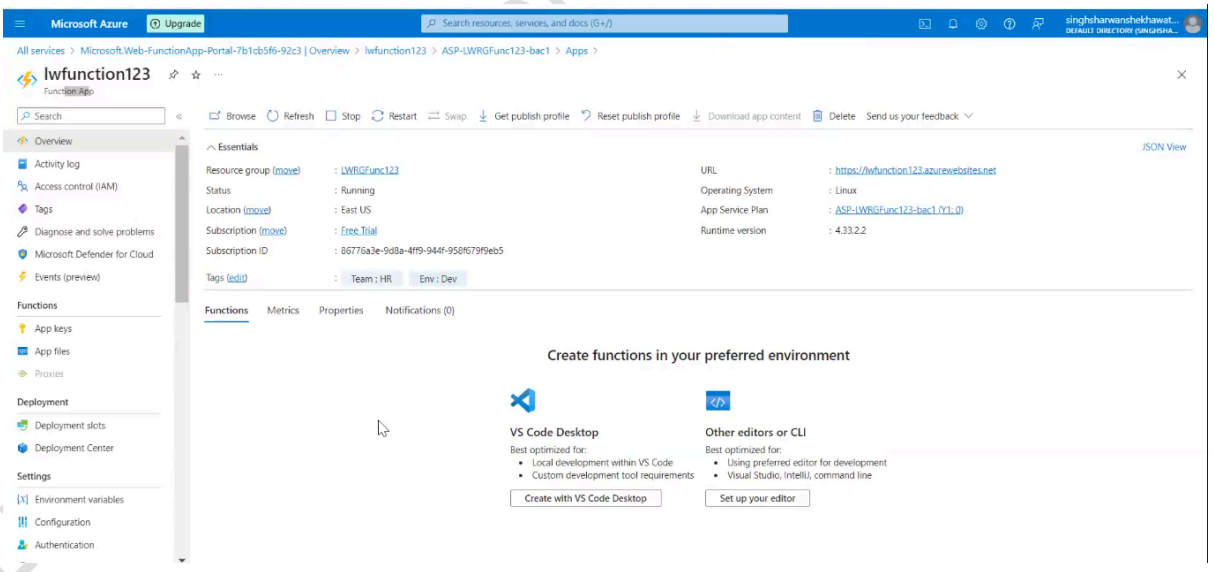
➢ Select the subscription, Resource group, give the app a name, Runtime etc.



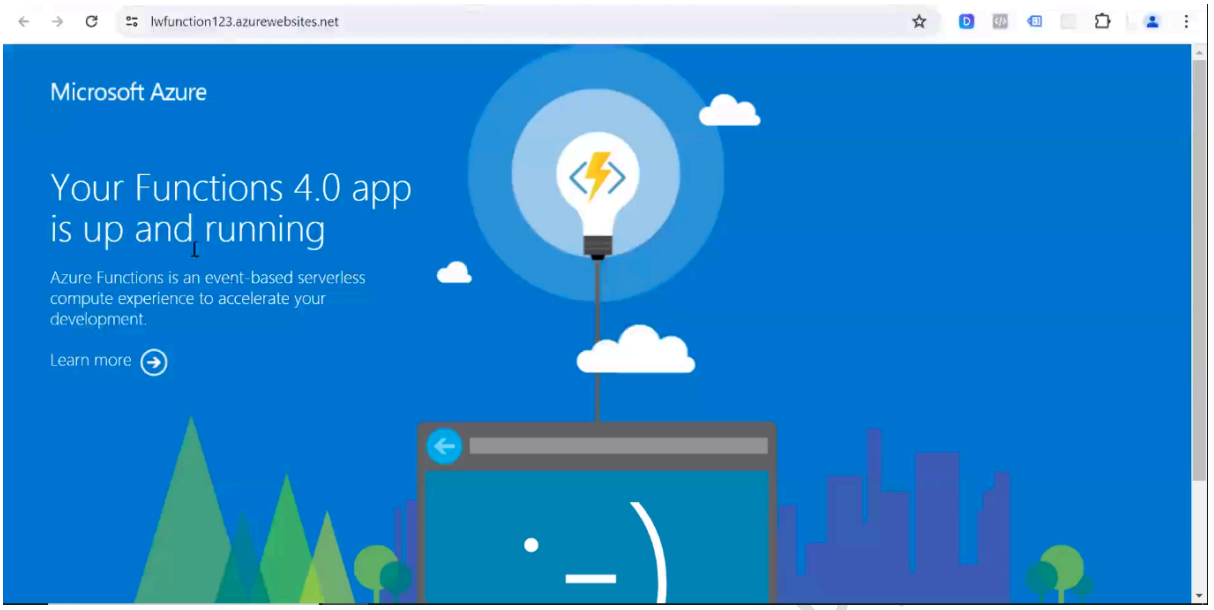
- ➢ Runtime is selected as per the language our code is written in.
- ➢ All the remaining settings we will keep the same for now.
- ➢ Once the function app is created we will go inside it and create the function.



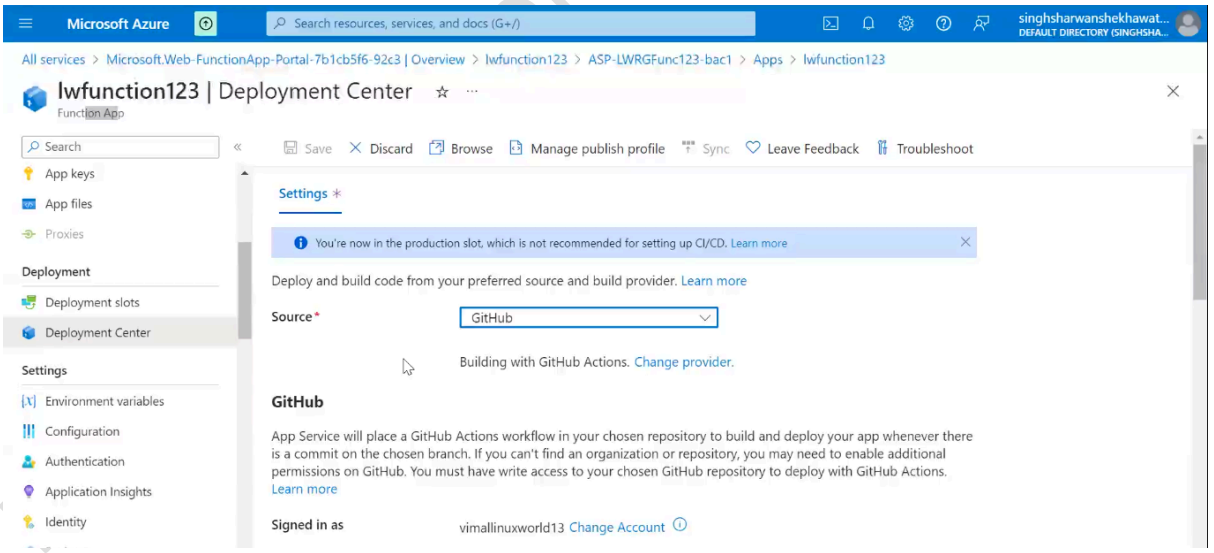
- ➢ To write the code into the Function App either we can use the VS Code desktop or we can use other editors or CLI.



- ➢ Function app doesn't provide any way to do the SSH to the server.
- ➢ To trigger the function app we can use the URL given on the page above.
- ➢ Whenever we are hitting this URL,azure is launching the server, putting and running the code inside it and giving the reply.



- ➢ This page actually shows the output of the code that we put in the Function app.
- ➢ To change or deploy the code we can use the deployment centre and the source would be the github.



- ➢ Put the code into the github repository that you want to be deployed.
- ➢ Usually the code we put here are the API codes that we write using some framework like django or flask.
- ➢ For the Event-Driven approach we can use the Event option in the function app.