Adv.DevOps Exp 11

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Adv. DevOps

Experiment No. 11

* Aim - To understand AWS Lambda, its work flow, various functions and create your own lambda functions using python / Java / Node JS.

* Theory -

- What is AWS Lambda?

AWS Lambda is a serverless computing service provided by Amazon web services. Users of AWS Lambda create functions, self-contained applications written in one of the supported languages and upload them to AWS lambda, which executes those functions in an efficient and flexible manner.

The Lambda function can perform any kind of computing task, from serving web pages and processing streams of data to calling API's and integrating with other AWS service

The concept of "serverless" computing refers to not needing to maintain your own servers to run these functions. AWS lambda is fully managed service that takes care of all infrastructure for you.

- What are components of AWS Lambda function?

The 3 components of AWS lambda are -

a) function - This is the actual code that performs a task.

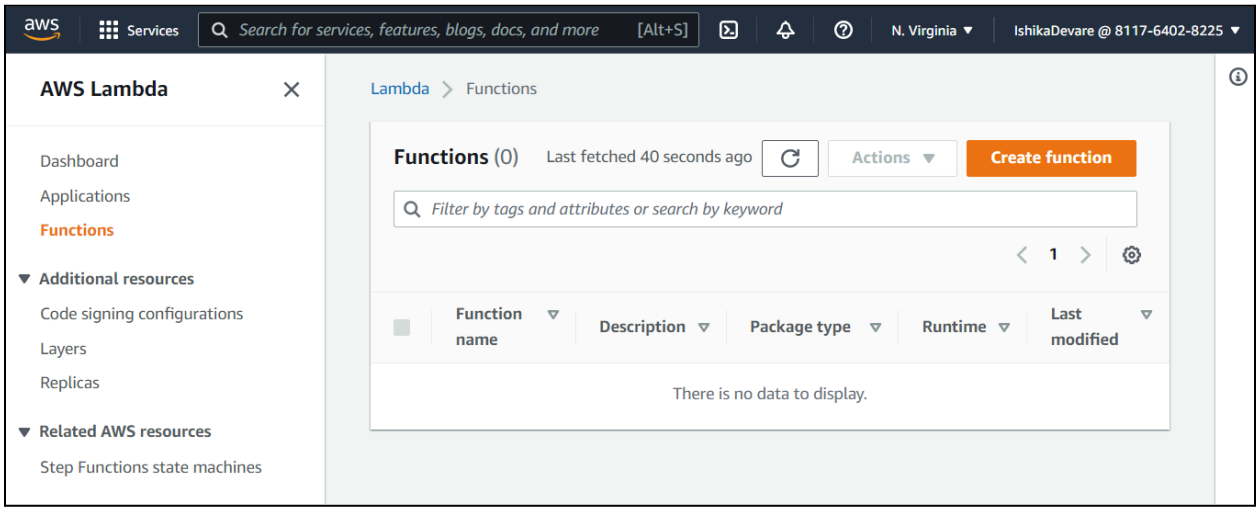
b) A configuration - This specifies how your function is executed.

c) An event source - This is the event that triggers the function. one can trigger with several AWS services or a third party service.

Implementation:

Prerequisites:
1. An AWS Account

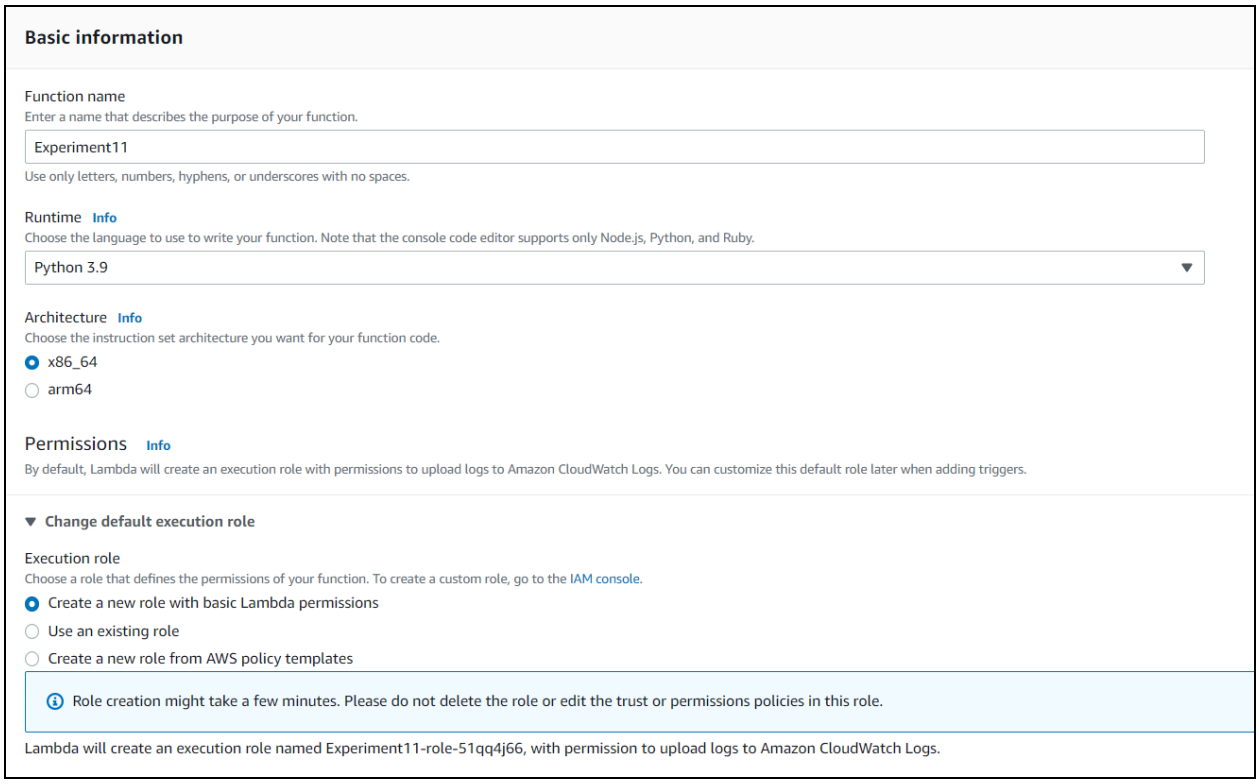
Step 1: Open up the Lambda Console and click on the Create button. Be mindful of where you create your functions since Lambda is region-dependent.



Step 2: Choose to create a function from scratch or use a blueprint, i.e templates defined by AWS for you with all configuration presets required for the most common use cases.

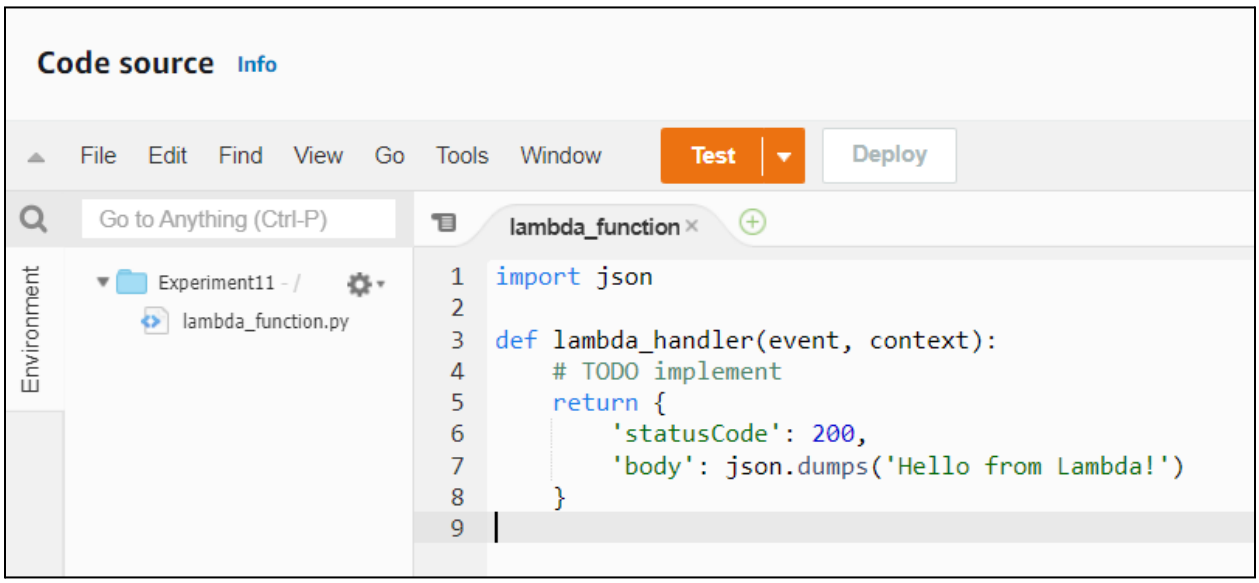
Then, choose a runtime env for your function, under the dropdown, you can see all the options AWS supports, Python, Nodejs, .NET and Java being the most popular ones.

After that, choose to create a new role with basic Lambda permissions if you don't have an existing one.

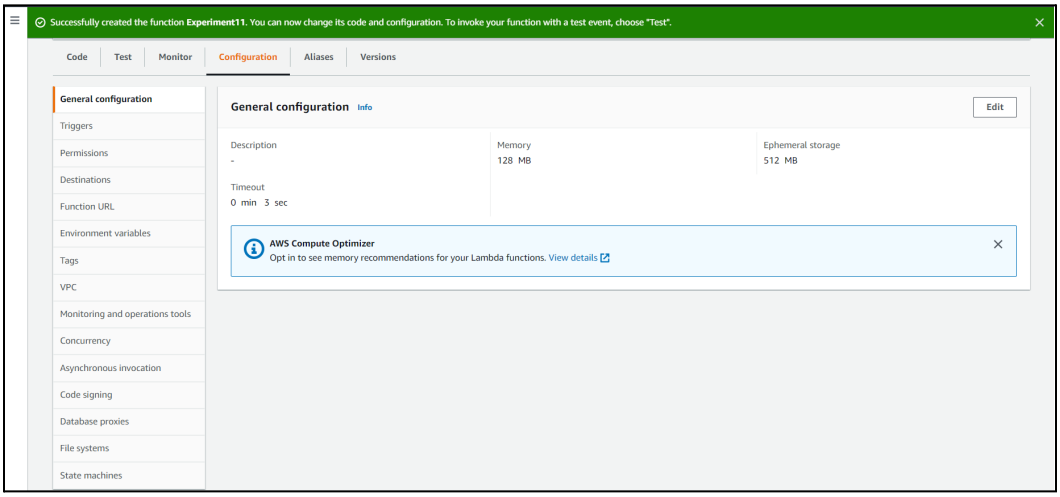


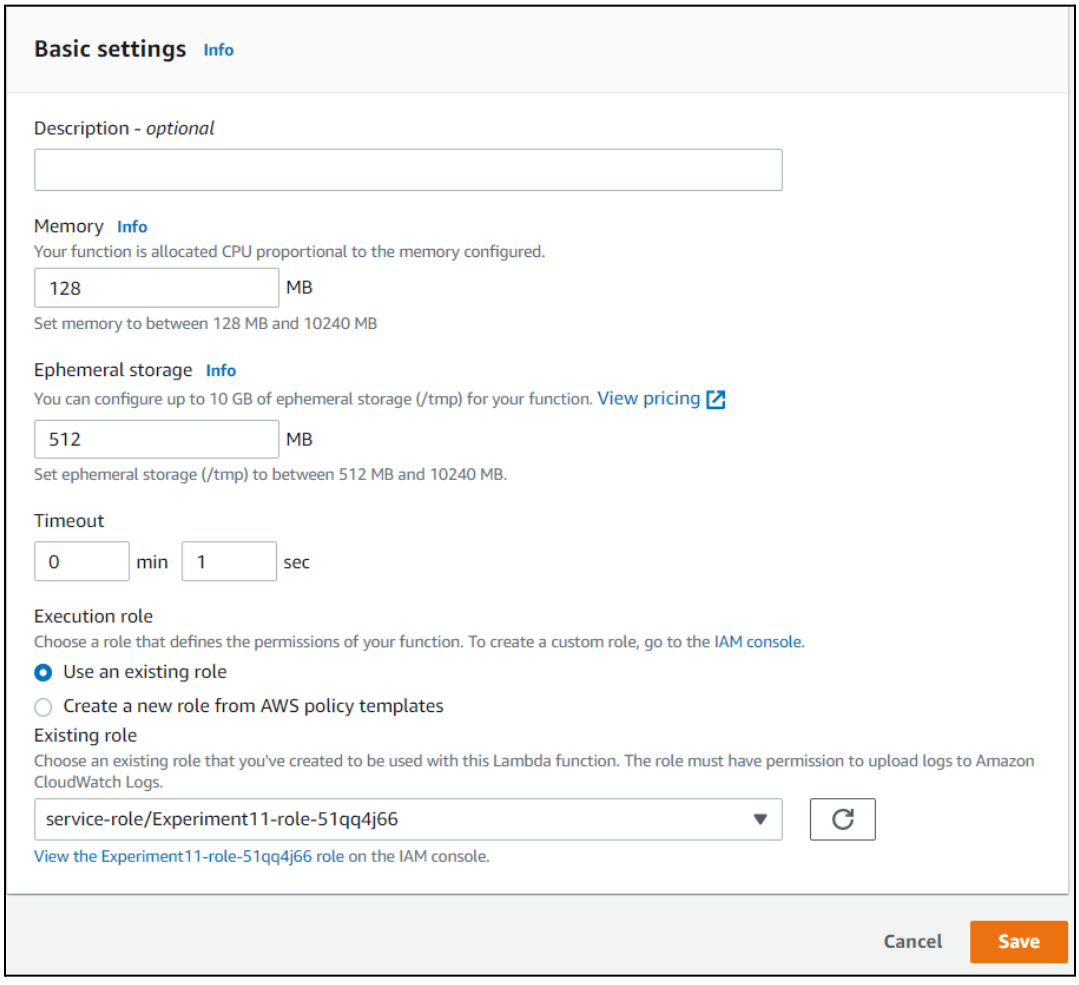
Click on the Create button.

Step 3: This process will take a while to finish and after that, you'll get a message that your function was successfully created.

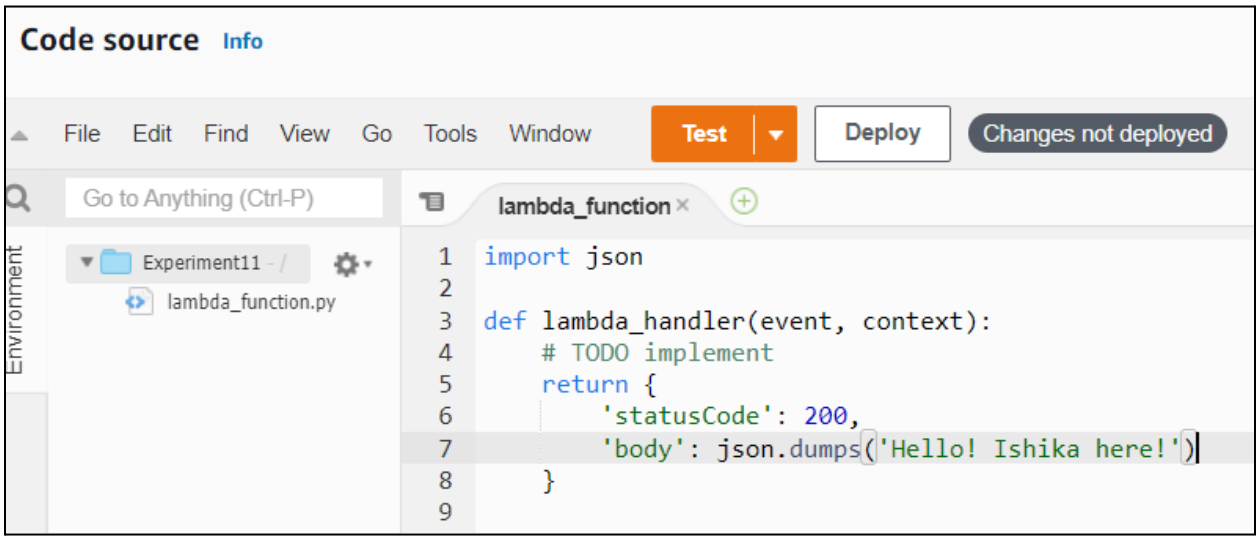


Step 4: To change the configuration, open up the Configuration Tab and under General Configuration, choose Edit.
Here, you can enter a description and change Memory and Timeout. I've changed the Timeout period to 1 sec since that is sufficient for now

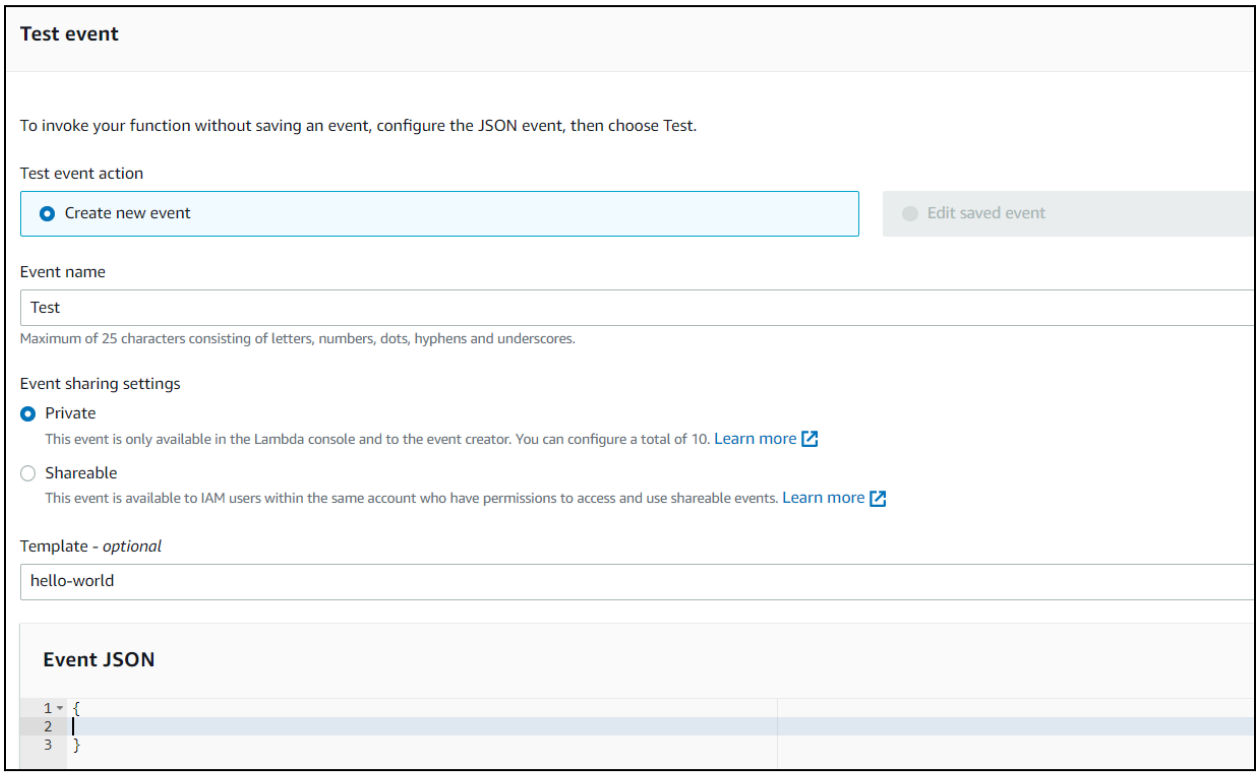


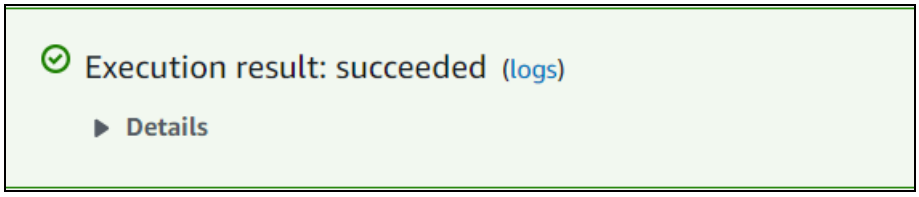


Step 5: You can make changes to your function inside the code editor. You can also upload a zip file of your function or upload one from an S3 bucket if needed. Press Ctrl + S to save the file and click Deploy to deploy the changes.

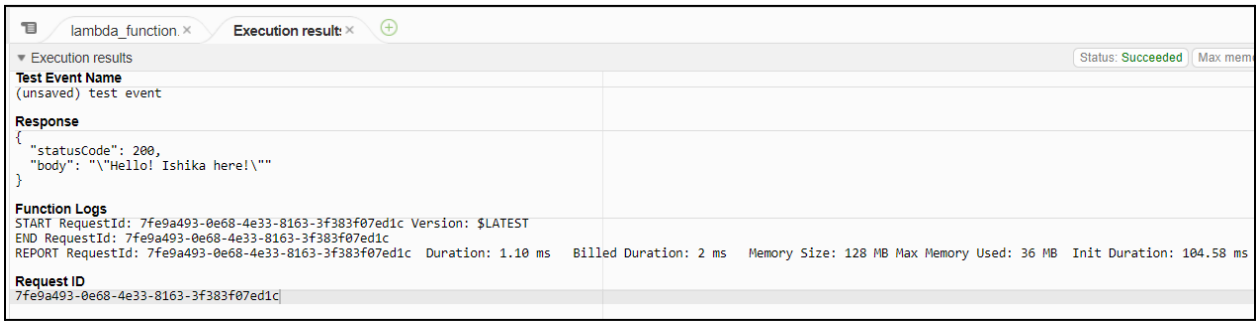


Step 6: Click on Test and you can change the configuration, like so. If you do not have anything in the request body, it is important to specify two curly braces as valid JSON, so make sure they are there





Step 7: Now click on Test and you should be able to see the results



* Conclusion - In this experiment, we learnt about AWS lambda function, its features and how serverless system can be designed and how its functions. Also, we use it to create, deploy and test serverless functions in cloud.