**AWS Lambda functions**

* Lambda function to stop ec2 instances

import json

import boto3

print('Loading function')

def lambda\_handler(event, context):

#print("Received event: " + json.dumps(event, indent=2))

print(type(context))

print(type(event))

name = event['Key']

value = event['Value']

instance\_ids = get\_ec2\_instance\_id(key=name, value=value)

stop\_ec2(instance\_ids)

return instance\_ids # Echo back the first key value

#raise Exception('Something went wrong')

def get\_ec2\_instance\_id(key='Name', value='Web1'):

ec2 = boto3.client('ec2')

response = ec2.describe\_instances(Filters = [

{

'Name': f'tag:{key}',

'Values': [

value,

]

}])

instance\_ids = []

for reservation in response['Reservations']:

instance\_ids.append(reservation['Instances'][0]['InstanceId'])

print(reservation['Instances'][0]['InstanceId'])

return instance\_ids

def stop\_ec2(instance\_ids=[]):

ec2 = boto3.client('ec2')

try:

if len(instance\_ids) > 0:

ec2.stop\_instances(InstanceIds=instance\_ids)

except Exception as e:

print(e)

* Lambda function which will be triggered has the following syntax is reffered as handler

def lambda\_handler(event, context):

pass

* The event is a dictionary which holds the values passed when triggering a lambda function
* context is a bootstrap.LambdaContext which has information about the current function and other details <https://docs.aws.amazon.com/lambda/latest/dg/python-context.html>

**Invoation Types**

* At a high level, lambda functions can be invoked using the following
  + A push: This is synchronous type of invocation where we make a request for the function to be invoked and wait for the function response.
  + An event: The asynchronous or event method for invoking functions is mainly used by other AWS services in the AWS ecosystem to prompt a lambda function as result of some action (example: when s3 object is uploaded invoke lambda function)
  + A Stream-based model

**Event Sources**

* The following are the ways in which we can invoke a lambda function
  + Via AWS Lambda Invoke API <https://docs.aws.amazon.com/lambda/latest/dg/API_Invoke.html>
  + By using SDK <https://boto3.amazonaws.com/v1/documentation/api/latest/reference/services/lambda.html#client> Refer invoke and invoke async methods in Client of lambda
  + Event Sources