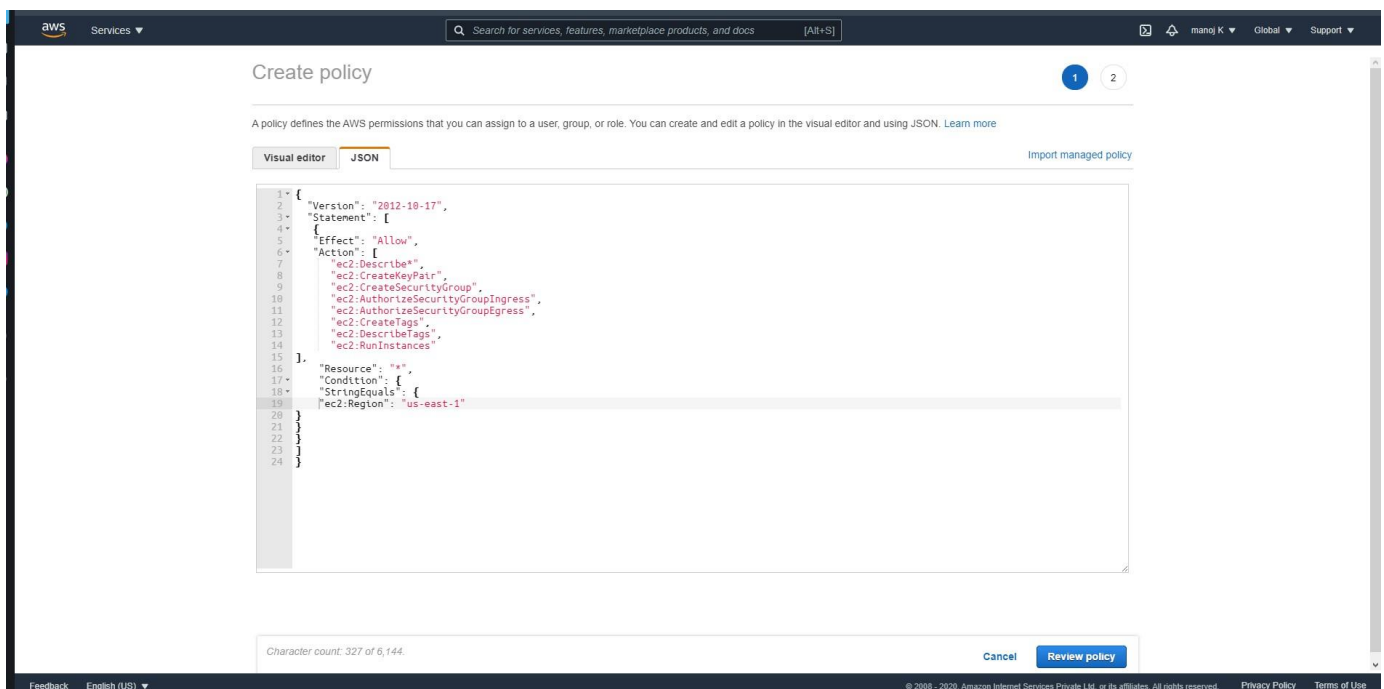


AWS Project 3

Provision EC2 instance with Lambda

Create an IAM Policy and an IAM Role.



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Identity and Access Management (IAM)

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Settings

Credential report

Organization activity

Service control policies (SCPs)

Search IAM

AWS account ID: 245024665952

Policies > mypolicy

Summary

Delete policy

Policy ARN: [arn:aws:iam::245024665952:policy/mypolicy](#)

Description

Permissions

Policy usage

Policy versions

Access Advisor

Policy summary

{ } JSON

Edit policy

```
1 {
2   "Version": "2012-10-17",
3   "Statement": [
4     {
5       "Effect": "Allow",
6       "Action": [
7         "ec2:Describe*",
8         "ec2:CreateKeyPair",
9         "ec2:CreateSecurityGroup",
10        "ec2:AuthorizeSecurityGroupIngress",
11        "ec2:AuthorizeSecurityGroupEgress",
12        "ec2:CreateTags",
13        "ec2:DescribeTags",
14        "ec2:RunInstances"
15      ],
16      "Resource": "*",
17      "Condition": {
18        "StringEquals": {
19          "ec2:Region": "us-east-1"
20        }
21      }
22    }
23  ]
24 }
```

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Service control policies (SCPs)

Search IAM

AWS account ID: 245024665952

Create policy

Policy actions

Filter policies

Search: mypoll

Showing 1 result

	Policy name	Type	Used as	Description
<input type="radio"/>	mypolicy	Customer managed	None	

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Create role


1


2


3


4

Select type of trusted entity

 **AWS service**
EC2, Lambda and others

 **Another AWS account**
Belonging to you or 3rd party

 **Web identity**
Cognito or any OpenID provider

 **SAML 2.0 federation**
Your corporate directory

Allows AWS services to perform actions on your behalf. [Learn more](#)

Choose a use case

Common use cases

EC2
Allows EC2 instances to call AWS services on your behalf.

Lambda
Allows Lambda functions to call AWS services on your behalf.

Or select a service to view its use cases

API Gateway	CloudWatch Events	EKS	IoT Things Graph	Redshift
AWS Backup	CodeBuild	EMR	KMS	Rekognition
AWS Chatbot	CodeDeploy	ElastiCache	Kinesis	RoboMaker
AWS Marketplace	CodeGuru	Elastic Beanstalk	Lake Formation	S3
AWS Support	CodeStar Notifications	Elastic Container Registry	Lambda	SMS
Amplify	Comprehend	Elastic Container Service	Lex	SNS
AppStream 2.0	Config	Elastic Transcoder	License Manager	SWF
AppSync	Connect	ElasticLoadBalancing	MQ	SageMaker
Application Auto Scaling	DMS	Forecast	Machine Learning	Security Hub
Application Discovery Service	Data Lifecycle Manager	GameLift	Macie	Service Catalog
Service	Data Pipeline	Global Accelerator	Managed Blockchain	Step Functions

* Required

Cancel

Next: Permissions

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Create role

1

2


3

4

Attach permissions policies

Choose one or more policies to attach to your new role.

Create policy



Filter policies

Q my

Showing 1 result

	Policy name	Used as
<input checked="" type="checkbox"/>	mypolicy	None

Set permissions boundary

* Required

Cancel

Previous

Next: Tags

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Create role

1

2

3

4

Review

Provide the required information below and review this role before you create it.

Role name*

myrole

Use alphanumeric and "+=, @ _ ." characters. Maximum 64 characters.

Role description

Allows Lambda functions to call AWS services on your behalf.

Maximum 1000 characters. Use alphanumeric and "+=, @ _ ." characters.

Trusted entities

AWS service: lambda.amazonaws.com

Policies

mypolicy

Permissions boundary

Permissions boundary is not set

The new role will receive the following tag

Key	Value
Name	myrole

* Required

Cancel

Previous

Create role

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Identity and Access Management (IAM)

Create role

Delete role

Q myl

Showing 1 result

Role name	Trusted entities	Last activity
<input type="checkbox"/> myrole	AWS service: lambda	None

Q Search IAM

AWS account ID:
245024665952

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Creation of a Lambda Function

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Choose one of the following options to create your function.

Author from scratch

Start with a simple Hello World example.

Use a blueprint

Build a Lambda application from sample code and configuration presets for common use cases.

Container image

Select a container image to deploy for your function.

Browse serverless app repository

Deploy a sample Lambda application from the AWS Serverless Application Repository.

Basic information

Function name

Enter a name that describes the purpose of your function.

myfunction

Use only letters, numbers, hyphens, or underscores with no spaces.

Runtime Info

Choose the language to use to write your function.

Python 3.8

Permissions Info

By default, Lambda will create an execution role with permissions to upload logs to Amazon CloudWatch Logs. You can customize this default role later when adding triggers.

▼ Change default execution role

Execution role

Choose a role that defines the permissions of your function. To create a custom role, go to the [IAM console](#).

☐ Create a new role with basic Lambda permissions

☒ Use an existing role

☐ Create a new role from AWS policy templates

Existing role

Choose an existing role that you've created to be used with this Lambda function. The role must have permission to upload logs to Amazon CloudWatch Logs.

myrole

[View the myrole role](#) in the IAM console.

myfunction

Function code [Info](#)

Throttle Qualifiers Actions ec2 Test

Actions Deploy

File Edit Find View Go Tools Window Test Deploy

Environment

- myfunction /
 - lambda_function.py

```

1 import json
2 import boto3
3 import time
4 from botocore.exceptions import ClientError
5
6 def lambda_handler(event, context):
7     # Provision and launch the EC2 instance
8     ec2_client = boto3.client('ec2')
9
10    response = ec2_client.run_instances(ImageId='ami-0ba9eae6ff739e8b',
11                                       InstanceType='t2.micro',
12                                       MinCount=1,
13                                       MaxCount=1)
14    print(response['Instances'][0], "EC2 Instance Created")
15    return {
16        'statusCode': 200,
17        'body': json.dumps("success")}
18    except ClientError as e:
19        print("detailed error: {}".format(e))
20

```

Execution Result

Status: Succeeded Max Memory Used: 83 MB Time: 3294.32 ms Execution results

Response:

```
{
  "statusCode": 200,
  "body": "\n success!"
}
```

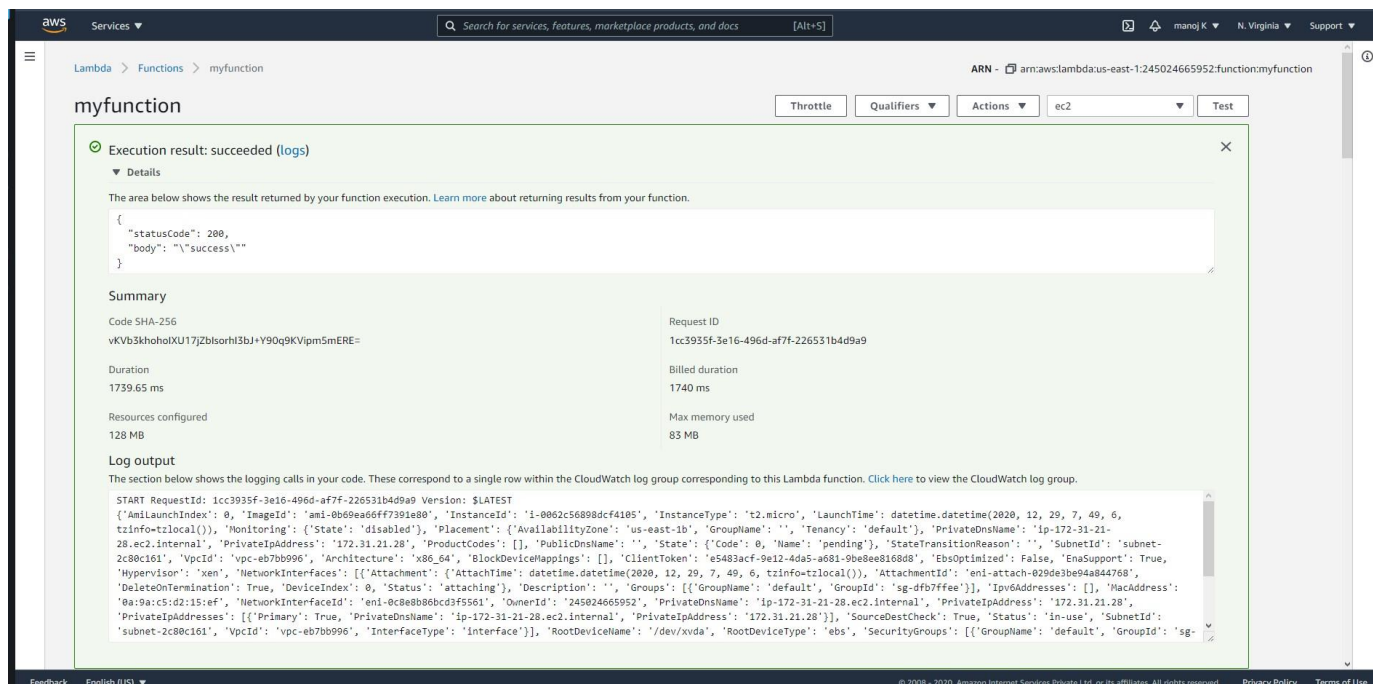
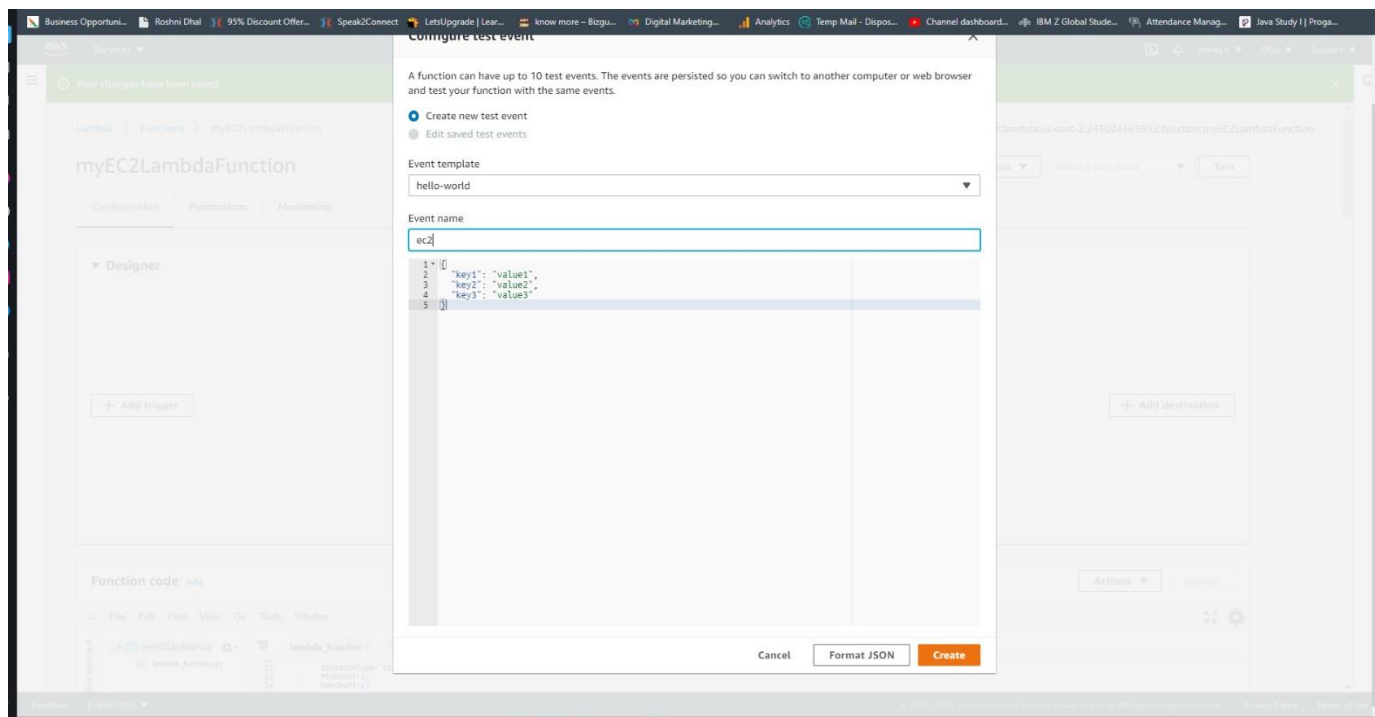
Request ID:
"19f68f40-e891-4570-a2fa-bf9dc96fef9d"

Function logs:

```
START RequestId: 19f68f40-e891-4570-a2fa-bf9dc96fef9d Version: $LATEST
{"awsLaunchTime": 5, "imageId": "ami-0ba9eae6ff739e8b", "instanceId": "i-07fa7ac98539a0ee84", "instanceType": "t2.micro", "launchTime": datetime.datetime(2020, 12, 29, 7, 46, 5, tzinfo=tzlocal()), "monitoring": {"State": "dis"}, "requestId": "19f68f40-e891-4570-a2fa-bf9dc96fef9d"}
END RequestId: 19f68f40-e891-4570-a2fa-bf9dc96fef9d
REPORT RequestId: 19f68f40-e891-4570-a2fa-bf9dc96fef9d Duration: 3294.32 ms Billed Duration: 3295 ms Memory Size: 128 MB Max Memory used: 83 MB Init Duration: 344.37 ms
```

Runtime settings [Info](#)

Runtime Handler Info



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Scheduled Instances

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AMIs

Elastic Block Store

Volumes

Snapshots

Lifecycle Manager

Network & Security

Security Groups New

Elastic IPs New

Placement Groups

Key Pairs

Instances (1/1) Info

Filter instances

<input checked="" type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP
<input checked="" type="checkbox"/>	-	i-07fa74c98539a0e86	Running	t2.micro	-	No alarms +	us-east-1b	ec2-54-85-172-181.co...	54.85.172.181	-

Instance: i-07fa74c98539a0e86

Details Security Networking Storage Status Checks Monitoring Tags

Instance summary Info

Instance ID	Public IPv4 address	Private IPv4 addresses
i-07fa74c98539a0e86	54.85.172.181 open address	172.31.25.63
Instance state	Public IPv4 DNS	Private IPv4 DNS
Running	ec2-54-85-172-181.compute-1.amazonaws.com open address	ip-172-31-25-63.ec2.internal
Instance type	Elastic IP addresses	VPC ID
t2.micro	-	vpc-eb7bb996
AWS Compute Optimizer finding	IAM Role	Subnet ID
Opt-in to AWS Compute Optimizer for recommendations. Learn more	-	subnet-2c80c161

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Details of instance that is created while testing Lamda function