

A small horizontal bar with a teal segment on the left and an orange segment on the right.

AWS : Serverless BUILD SERVERLESS APPLICATION ON AWS CLOUD

Lambda Manual Execution

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S3 bucket

S3: public cloud storage service in amazon

An S3 customer first creates a bucket in the AWS region of his or her choice and gives it a globally unique name. AWS recommends that customers choose regions geographically close to them to reduce latency and costs.

Amazon S3 > Buckets > mydb-query

mydb-query [Info](#)

Objects

Properties

Permissions



Metrics

Management

Access Points


Objects (1)

Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)

  Copy S3 URI  Copy URL  Download  Open  Delete  Actions  Create folder  Upload

 Find objects by prefix

< 1 > 

<input type="checkbox"/>	Name	Type	Last modified	Size	Storage class
<input type="checkbox"/>	 test.csv	csv	April 23, 2022, 18:07:28 (UTC+08:00)	17.0 B	Standard

lambda

AWS Lambda is a serverless, event-driven compute service that lets you run code for virtually any type of application or backend service without provisioning or managing servers. You can trigger Lambda from over 200 AWS services and software as a service (SaaS) applications, and only pay for what you use.

The screenshot displays the AWS Lambda console interface. At the top, the 'query' function is selected, showing its overview with a diagram of its configuration: an S3 trigger, a 'query' function, and 'Layers' (0). The right sidebar provides details: Description is empty, Last modified 1 minute ago, Function ARN is `arn:aws:lambda:ap-south-1:875132019252:function:query`, and the Function URL is available with an 'Info' link. Below the overview, tabs for 'Code', 'Test', 'Monitor', 'Configuration', 'Aliases', and 'Versions' are visible, with 'Test' being the active tab.

The 'Execution result: succeeded (logs)' panel is open, showing details of a successful execution. The execution log is empty, indicating the last 4 KB of the execution log. The summary section provides the following information:

- Code SHA-256: `19r7u1R5O3BDba3ADUUpZyZ25GxLz2bJQ5iOjI0To2rY=`
- Init duration: 743.65 ms
- Billed duration: 26 ms
- Max memory used: 68 MB
- Request ID: 2242875b-a087-4a79-b93e-f077b987625a
- Duration: 25.58 ms
- Resources configured: 1024 MB

The log output section shows the following log entries:

```
START RequestId: 2242875b-a087-4a79-b93e-f077b987625a Version: $LATEST
1
manish
delete from app_user;
END RequestId: 2242875b-a087-4a79-b93e-f077b987625a
REPORT RequestId: 2242875b-a087-4a79-b93e-f077b987625a Duration: 25.58 ms Billed Duration: 26 ms Memory Size: 1024 MB Max Memory Used: 68 MB Init Duration: 743.65 ms
```

Lambda : components used

Zip : contains code for lambda

Link : <https://github.com/trainmefordevsecops/serverless-project/tree/master/serverless-application/lambda-db-query-src>

cmd : `zip -r lambda psycopg2 lambda.py db_util.py boto3 botocore urllib3`

Lambda : Environment variables

Environment variables (8)

The environment variables below are encrypted at rest with the default Lambda service key.

Key	Value
bucket	mydb-query
db_host	dev-my.c13jmuerptqv.ap-south-1.rds.amazonaws.com
db_name	myappdb
db_pass	Mypassword
db_port	5432
db_query	CREATE TABLE IF NOT EXISTS app_user (id integer NOT NULL DEFAULT '1',name varchar(40))
db_user	myuser
env	dev

Lambda : components used

Handler : `lambda.lambda_handler`

VPC, Subnet : Inputs from you infra created

Run Time : Python3.8

Security Group : allow outbound all

Policy and Role: ---->

```
{
  "Statement": [
    {
      "Action": [
        "ec2:DetachNetworkInterface",
        "ec2:DescribeNetworkInterfaces",
        "ec2>DeleteNetworkInterface",
        "ec2>CreateNetworkInterface"
      ],
      "Effect": "Allow",
      "Resource": "*",
      "Sid": ""
    },
    {
      "Action": [
        "logs:PutLogEvents",
        "logs:GetLogEvents",
        "logs:DescribeLogStreams",
        "logs>CreateLogStream",
        "logs>CreateLogGroup"
      ],
      "Effect": "Allow",
      "Resource": [
        "arn:aws:logs:ap-south-1:875132019252:log-group:/aws/lambda/query:*",
        "arn:aws:logs:ap-south-1:875132019252:log-group:/aws/lambda/query"
      ],
      "Sid": ""
    },
    {
      "Action": [
        "s3:ListBucket",
        "s3:GetObject",
        "rds:*",
        "ec2:DescribeVpcs",
        "ec2:DescribeVpcAttribute",
        "ec2:DescribeSubnets",
        "ec2:DescribeSecurityGroups",
        "ec2:DescribeInternetGateways",
        "ec2:DescribeAvailabilityZones",
        "ec2:DescribeAccountAttributes"
      ],
      "Effect": "Allow",
      "Resource": "*",
      "Sid": ""
    }
  ],
  "Version": "2012-10-17"
}
```