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Batch:119(7am)

Create a IAM:

- create a IAM role for lambda with a specific name and attach policies for vpcfullaccess and RDSdatafullaccess.

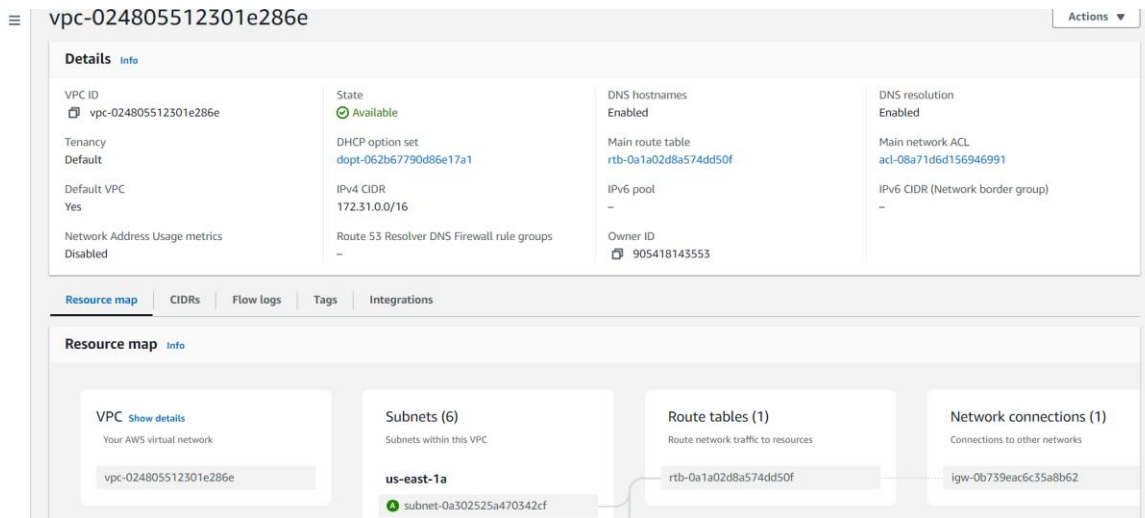
The screenshot displays the AWS IAM console interface. On the left, the 'Identity and Access Management (IAM)' sidebar is visible, showing navigation options like Dashboard, Access management, User groups, Users, Roles, Policies, Identity providers, and Account settings. The main content area shows the details for a role named 'harirule'. The role's summary includes its creation date (April 01, 2024, 19:58 UTC+05:30), last activity, and ARN (arn:aws:iam::905418143553:role/harirule). The 'Permissions' tab is selected, showing two attached policies: 'AmazonRDSDataFullAccess' and 'AmazonVPCFullAccess', both of which are AWS managed. The 'Permissions boundary' is currently not set.

Policy name	Type	Attached entities
AmazonRDSDataFullAccess	AWS managed	1
AmazonVPCFullAccess	AWS managed	1

create a vpc:

- Internet access to lambda function attached to a vpc in aws.
- Navigating to the vpc console then click on vpc and give your vpc a name select a cidr block then choose default for tenancy.
- I am going to select one for availability zone one for public subnet one for private subnet and one nat gateway hit create.

- VPC then give it few minutes for the vpc workflow to complete you should now see two subnets and two route tables the private route table should have a route to the Nat gateway.
- The public routetable should have a route to the internet gateway you should also see one active internet gateway one elastic IP and one active nat gateway.



- Next click on security groups then click create security group give your security group a name a description then select the my-vpc in the inbound rules section.
- I am going to create two rules one for HTTP to anywhere and the second for HTTPS to anywhere then hit create.

sg-01ab9de05ef2e6188 - default

Actions

Details

Security group name

default

Security group ID

sg-01ab9de05ef2e6188

Description

default VPC security group

VPC ID

vpc-024805512301e286e

Owner

905418143553

Inbound rules count

3 Permission entries

Outbound rules count

1 Permission entry

Inbound rules

Outbound rules

Tags

Inbound rules (3)

Manage tags

Edit inbound rules

Search

< 1 >

	Name	Security group rule...	IP version	Type	Protocol	Port range
<input type="checkbox"/>	-	sgr-087d80e9b50542...	IPv4	HTTP	TCP	80
<input type="checkbox"/>	-	sgr-064c3eee2edec3021	-	All traffic	All	All
<input type="checkbox"/>	-	sgr-0b8ca8d726b0823...	IPv4	HTTPS	TCP	443

create a RDS database:

- In rds console we create a subnetgroup and create a database and dataproxy.

Amazon RDS

Dashboard

Databases

Query Editor

Performance insights

Snapshots

Exports in Amazon S3

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Custom engine versions

Zero-ETL integrations

Events

Event subscriptions

mysubgrp

Subnet group details

VPC ID

vpc-024805512301e286e

ARN

arn:aws:rds:us-east-1:905418143553:subnetgroup:mysubgrp

Supported network types

IPv4

Description

allow

Subnets (3)

Availability zone	Subnet ID	CIDR block
us-east-1a	subnet-0a302525a470342cf	172.31.80.0/20
us-east-1c	subnet-05528aab5f704b2f2	172.31.32.0/20
us-east-1b	subnet-06010778a1c6a3772	172.31.16.0/20

Amazon RDS

check the proxy's details page.

Successfully created database database-1. You can use settings from database-1 to simplify configuration of suggested database add-ons while we finish creating your DB for you.

Consider creating a Blue/Green Deployment to minimize downtime during upgrades. You may want to consider using Amazon RDS Blue/Green Deployments and minimize your downtime during upgrades. A Blue/Green Deployment provides a staging environment for changes to production databases. [RDS User Guide](#) [Aurora User Guide](#)

Databases (4) Group resources Modify Actions Restore from S3 Create database

Filter by databases

DB identifier	Status	Role	Engine	Region & AZ	Size	Recommendations
database-1	Backing-up	Multi-AZ DB cluster	MySQL Community	us-east-1	3 instances	
database-1-instance-1	Available	Writer instance	MySQL Community	us-east-1a	db.m5d.large	
database-1-instance-2	Available	Reader instance	MySQL Community	us-east-1c	db.m5d.large	
database-1-instance-3	Available	Reader instance	MySQL Community	us-east-1b	db.m5d.large	

Amazon RDS

proxy-1711982371636-database-1

proxy-1711982371636-database-1 Actions

Proxy configurations

Proxy identifier proxy-1711982371636-database-1	Engine family MariaDB and MySQL (supports Aurora MySQL, RDS for MariaDB, and RDS for MySQL)
Status Available	Transport Layer Security Not enabled
Identity and access management (IAM) role arn:aws:iam::905418143553:role/service-role/rds-proxy-role-1711982371044	Idle client connection timeout 30 minutes
VPC security groups sg-01ab9de05ef2e6188	Proxy Amazon Resource Name (ARN) arn:aws:rds:us-east-1:905418143553:db-proxy:prx-02bc1e15258ea94ec
Enhanced logging Not enabled	Subnets subnet-0a302525a470342cf subnet-05528aab5f704b2f2 subnet-06010778a1c6a3772

create a lambda function to attatch VPC and RDS

- Navigate to the Lambda console the click on create function then give your function a name.
- I am going to select python for runtime then expand the advanced settings section and check enable vpc here choose my-vpc then select the private subnet this will allow the private IP of your lambda function to be translated into a public ip using the NAT Gateway so it can connect to the internet for security group choose the security group then hit create give it a few minutes then the code source section here change the body.

Lambda > Functions > lambda-function

lambda-function

Throttle Copy ARN Actions

Function overview Info

Export to Application Composer Download

Diagram Template

Diagram showing lambda-function connected to API Gateway.

Layers (0)

+ Add destination

+ Add trigger

Description

Last modified 15 minutes ago

Function ARN
arn:aws:lambda:us-east-1:905418143553:function:lambda-function

Function URL Info

Code Test Monitor Configuration Aliases Versions

General configuration

Triggers

Permissions

Destinations

Function URL

Environment variables

Tags

VPC

RDS databases

Monitoring and operations tools

Concurrency

Asynchronous invocation

VPC Info

Edit

VPC
vpc-024805512301e286e
(172.31.0.0/16) | Default

Subnets

- Allow IPv6 traffic = false
- subnet-0a302525a470342cf (172.31.80.0/20) | us-east-1a
- subnet-05528aab5f704b2f2 (172.31.32.0/20) | us-east-1c
- subnet-06010778a1c6a3772 (172.31.16.0/20) | us-east-1b

Security groups

- sg-01ab9de05ef2e6188 (default)


Inbound rules Outbound rules


Security group ID	Protocol	Ports	Source
sg-01ab9de05ef2e6188	All	All	sg-01ab9de05ef2e6188
sg-01ab9de05ef2e6188	Custom TCP	22	0.0.0.0/0


- Code source section then hit the test button give your test event a name then click save then git test again to execute your Lambda function looks like the function worked as expected.

Diagram

Template

 **lambda-function**

 Layers (0)

 **API Gateway**

+ Add trigger

+ Add destination


Description

-

Last modified

29 minutes ago

Function ARN

 `arn:aws:lambda:us-east-1:905418143553:fu`
`nction:lambda-function`

Function URL [Info](#)

-

Code

Test

Monitor

Configuration

Aliases

Versions

General configuration

Triggers

Permissions

Destinations




Function URL

Environment variables

RDS database connections (3) [Info](#)

Connect to RDS database

The following table shows databases that match this function's VPC and security group. Review the details to confirm a connection.

DB identifier	Proxy identifier	Endpoint	Lambda security g...	DB security group
database-1-instanc... 	proxy-1711982371...	database-1-instanc...	default (sg-01ab9d...	default (sg-01ab9d...
database-1-instanc... 	proxy-1711982371...	database-1-instanc...	default (sg-01ab9d...	default (sg-01ab9d...
database-1-instanc... 	proxy-1711982371...	database-1-instanc...	default (sg-01ab9d...	default (sg-01ab9d...