Setup LAmbda Function to Monitor the ElasticSearch Backup
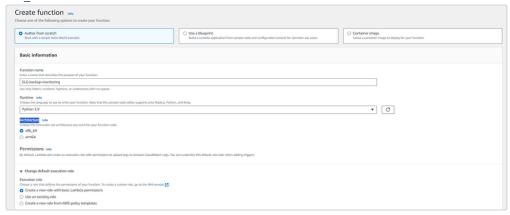
⏳ Prerequisites

- Elasticsearch configured.
- Prometheus service.
- PushGateway.
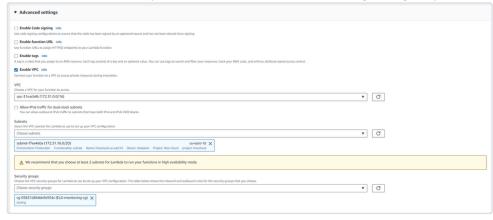- Elasticsearch repository.

📘 Instructions

To Monitor the Elasticsearch Snapshot using lambda function follow below steps.
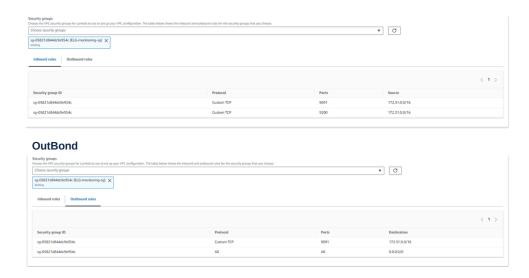
1. Create the Lambda function, Provide the relevant name to the function and select the runtime as python 3.9 and the Architecture x86_64.

2. In **Advanced settings** select the enable VPC.
   a. Select the same VPC as elasticsearch server is running.
   b. Select the same Subnets elasticsearch server.
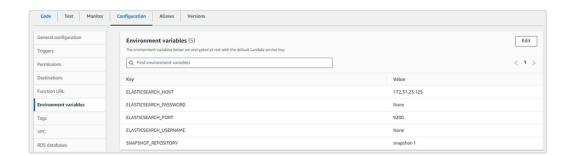   c. Create the new subnet where post 9200, 9091 are allowed with in the VPC[inbound], and port 9091 in outbond.

   Inbound

OutBond

3. Create the Lambda function.

4. Once the lambda function is created setup the environment variables.

	Environment Variables	Values
1	ELASTICSEARCH_HOST	172.31.23.125
2	ELASTICSEARCH_PASSWORD	None
3	ELASTICSEARCH_USERNAME	None
4	ELASTICSEARCH_PORT	9200
5	SNAPSHOT_REPOSITORY	snapshot-1
6	PUSH_Gateway	172.31.23.125

Once the **Environment Variables** now upload the py code which will monitor the status of backup. using below URL: 🔗 Link

Once you upload the code then on line no 72 update the IP of the server where you push gateway is configured.

```
1  push_to_gateway(os.environ['PUSH_Gateway'] + ':9091', job='elasticsearch_snapshots', registry=registry)
```

Now it's time to test the Lambda function.

Test Event Name
test

Response
{
  "statusCode": 200,
  "body": "\"Metrics pushed successfully!\""
}

Function Logs
START RequestId: c81c8857-212f-4bd0-bb59-2bf88c51a7b1 Version: $LATEST
END RequestId: c81c8857-212f-4bd0-bb59-2bf88c51a7b1
REPORT RequestId: c81c8857-212f-4bd0-bb59-2bf88c51a7b1 Duration: 347.12 ms Billed Duration: 348 ms Memory Size: 128 MB Max Memory Used: 59 MB Init Duration: 452.70 ms

Request ID
c81c8857-212f-4bd0-bb59-2bf88c51a7b1

Troubleshoot

If you encounter the below error.

Test Event Name
test

Response
{
  "errorMessage": "name 'requests' is not defined",
  "errorType": "NameError",
  "requestId": "e3929393-8f74-4b50-8957-fde758e272b4",
  "stackTrace": [
    " File \"/var/task/lambda_function.py\", line 77, in lambda_handler\n   new_snapshots = query_snapshot_api()\n",
    " File \"/var/task/lambda_function.py\", line 34, in query_snapshot_api\n   response = requests.get(url, auth=(ELASTICSEARCH_USERNAME, ELASTICSEARCH_PASSWORD))\n"
  ]
}

Function Logs
START RequestId: e3929393-8f74-4b50-8957-fde758e272b4 Version: $LATEST
LAMBDA_WARNING: Unhandled exception. The most likely cause is an issue in the function code. However, in rare cases, a Lambda runtime update can cause unexpected function behavior. For functions using mana
[ERROR] NameError: name 'requests' is not defined
Traceback (most recent call last):
  File "/var/task/lambda_function.py", line 77, in lambda_handler
    new_snapshots = query_snapshot_api()
  File "/var/task/lambda_function.py", line 34, in query_snapshot_api
    response = requests.get(url, auth=(ELASTICSEARCH_USERNAME, ELASTICSEARCH_PASSWORD))END RequestId: e3929393-8f74-4b50-8957-fde758e272b4
REPORT RequestId: e3929393-8f74-4b50-8957-fde758e272b4 Duration: 4.36 ms Billed Duration: 5 ms Memory Size: 128 MB Max Memory Used: 57 MB Init Duration: 370.27 ms

Request ID
e3929393-8f74-4b50-8957-fde758e272b4

Then add below code into lambda function.

```
1  import requests
```

📋 Related articles

- 📄 Setup LAmbda Function to Monitor the ElasticSearch Backup
- 📄 Observability Setup Documentation for Billeasy
- 📄 Client onboarding Guide
- 📄 ELG Stack for Log monitoring
- 📄 ELK Stack for Log monitoring