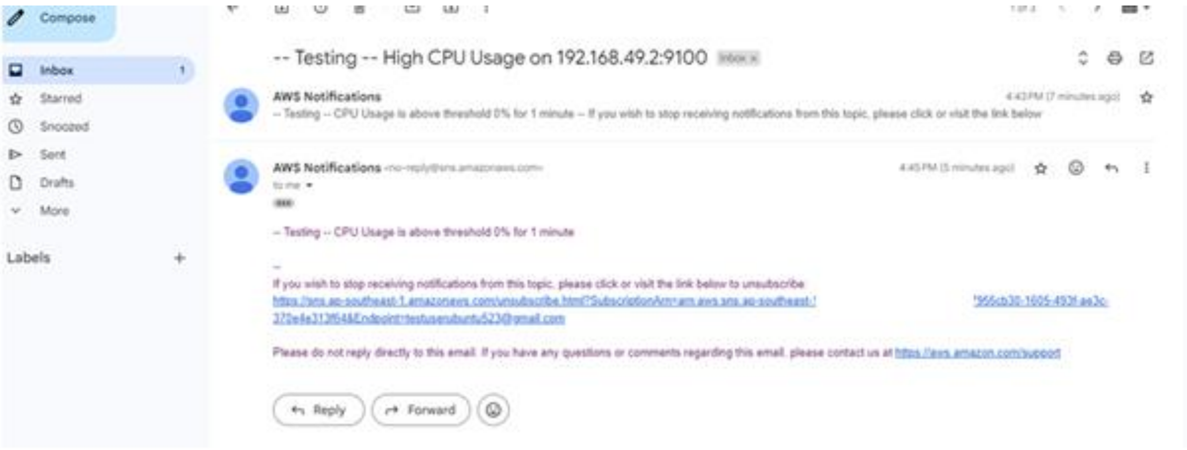
Steps to Create AWS Resources and Alert Rules

1. Run the following command to create an SNS topic and subscribe an email address:
   python3 create_sns_topic.py SNSByEMail <email address to receive the alert>
2. Deploy the Lambda function and API Gateway by running:
   python3 create_lambdafunc_apigateway.py SendSNSByEmail lambda-execute-role ap-southeast-1 <your account id>
3. Update the Alertmanager configuration with the newly created API Gateway invole URL e.g url: https://1i7d3juwf0.execute-api.ap-southeast-1.amazonaws.com/prod/invoke for details, please refer to the Prometheus documentation.
4. Apply the alert rule using kubectl:
   kubectl apply -f myflask-alertrule.yml
5. Verify that the PrometheusRule has been created:
   kubectl get prometheusrule -n monitoring
   ```
   NAME                                  AGE
   flask-app-rules                         5s
   ```
6. Once the alert condition is met, you should receive an alert email similar to the following:



-- Testing -- High CPU Usage on 192.168.49.2:9100

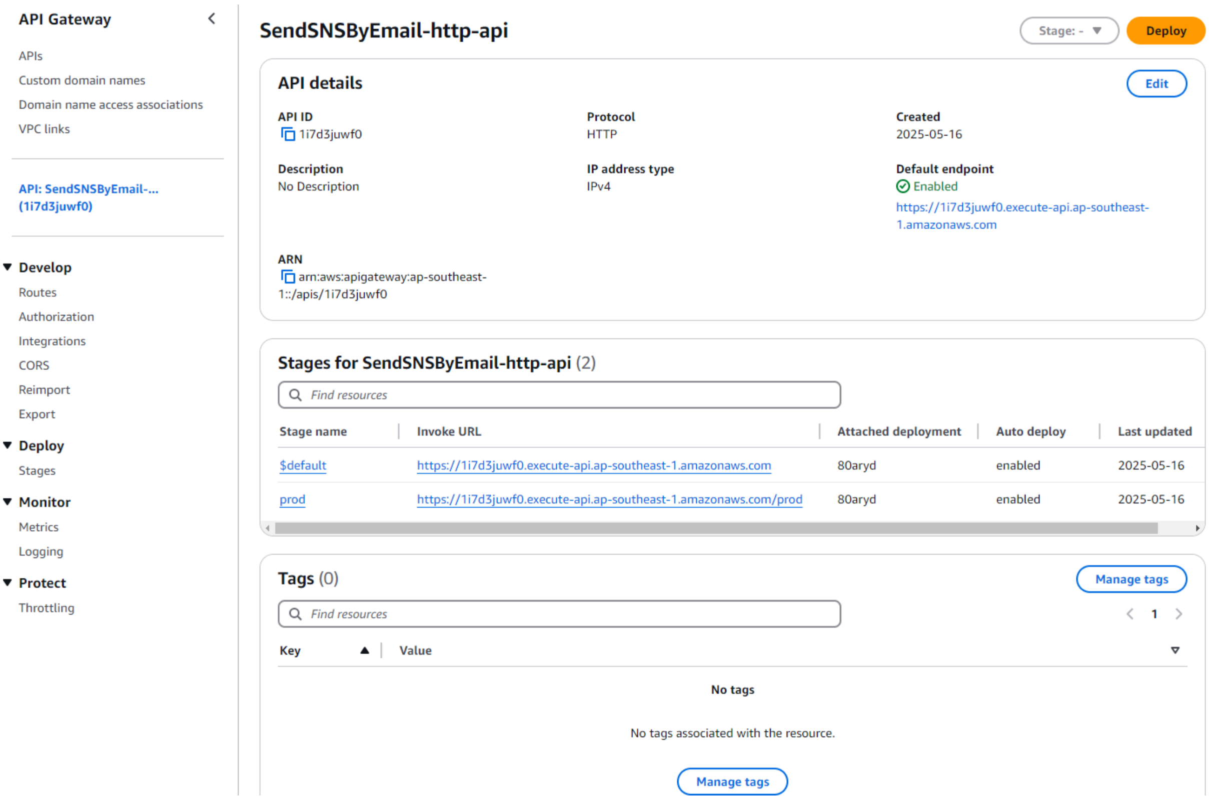
AWS Notifications 4:43 PM (7 minutes ago)
-- Testing -- CPU Usage is above threshold 0% for 1 minute -- If you wish to stop receiving notifications from this topic, please click or visit the link below

AWS Notifications <no-reply@sns.amazonaws.com> 4:45 PM (5 minutes ago)
to me

-- Testing -- CPU Usage is above threshold 0% for 1 minute

--
If you wish to stop receiving notifications from this topic, please click or visit the link below to unsubscribe
https://sns.ap-southeast-1.amazonaws.com/unsubscribe.html?SubscriptionArn=arn:aws:sns:ap-southeast-1: 966cb30-1605-493f-ae3c-370e4e313f64&Endpoint=testuserubuntu523@gmail.com

Please do not reply directly to this email. If you have any questions or comments regarding this email, please contact us at https://aws.amazon.com/support



SendSNSByEmail-http-api

API details

API ID
1i7d3juwf0

Protocol
HTTP

Created
2025-05-16

Description
No Description

IP address type
IPv4

Default endpoint
Enabled
https://1i7d3juwf0.execute-api.ap-southeast-1.amazonaws.com

ARN
arn:aws:apigateway:ap-southeast-1::/apis/1i7d3juwf0

Stages for SendSNSByEmail-http-api (2)

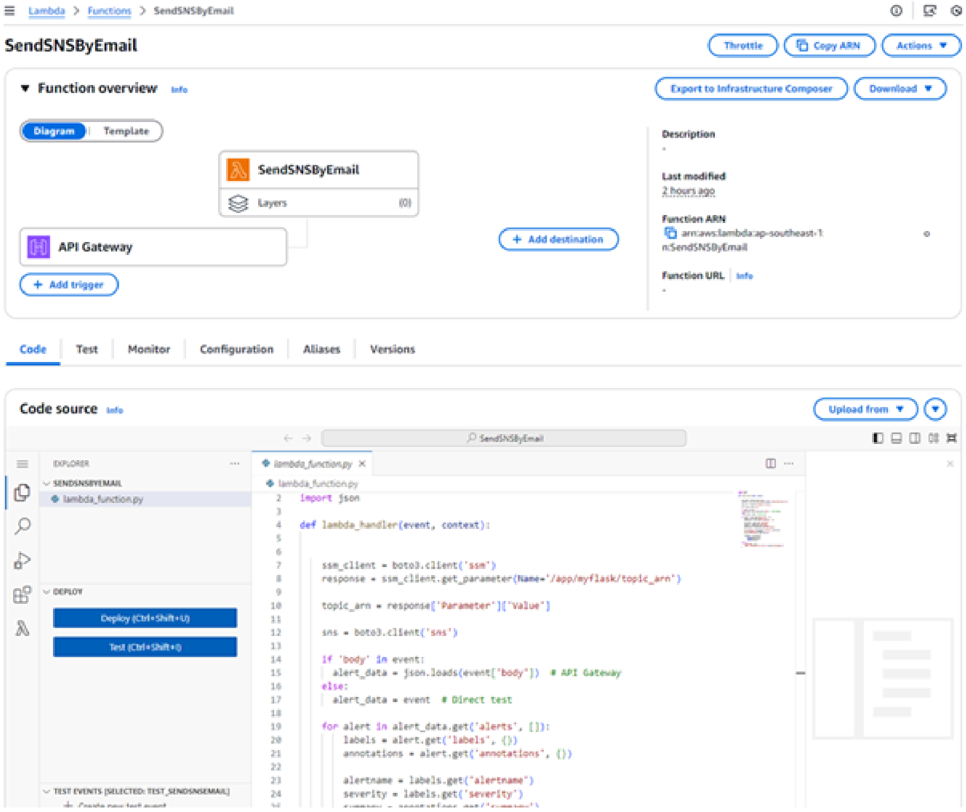
Stage name	Invoke URL	Attached deployment	Auto deploy	Last updated
$default	https://1i7d3juwf0.execute-api.ap-southeast-1.amazonaws.com	80aryd	enabled	2025-05-16
prod	https://1i7d3juwf0.execute-api.ap-southeast-1.amazonaws.com/prod	80aryd	enabled	2025-05-16

Tags (0)

Key	Value

No tags

No tags associated with the resource.



SendSNSByEmail

Function overview

Description
-

Last modified
2 hours ago

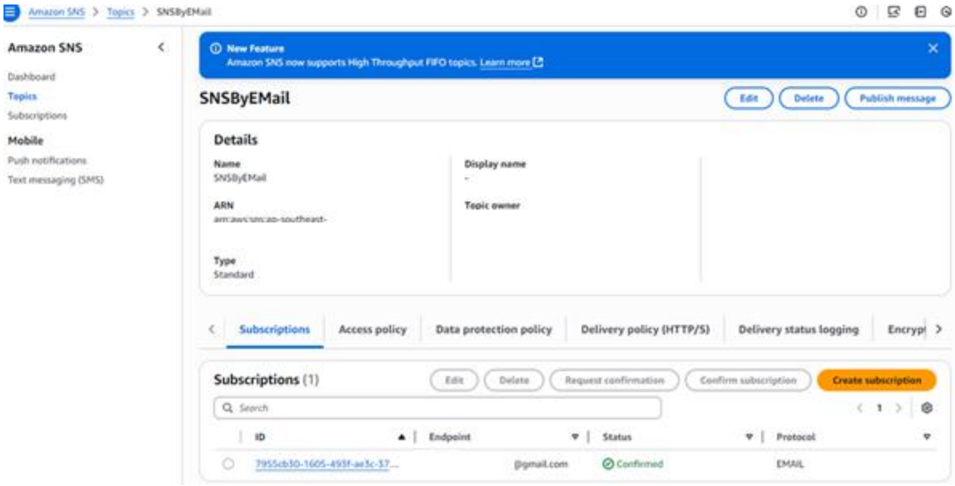
Function ARN
arn:aws:lambda:ap-southeast-1
n:SendSNSByEmail

Function URL
-

Code source

lambda_function.py

```python
import json

def lambda_handler(event, context):


    ssm_client = boto3.client('ssm')
    response = ssm_client.get_parameter(Name='/app/myflask/topic_arn')

    topic_arn = response['Parameter']['Value']

    sns = boto3.client('sns')

    if 'body' in event:
      alert_data = json.loads(event['body'])  # API Gateway
    else:
      alert_data = event  # Direct test

    for alert in alert_data.get('alerts', []):
        labels = alert.get('labels', {})
        annotations = alert.get('annotations', {})

        alertname = labels.get('alertname')
        severity = labels.get('severity')
        summary = annotations.get('summary')
```



New Feature
Amazon SNS now supports High Throughput FIFO topics. Learn more

SNSByEMail

Details

Name
SNSByEMail

ARN
arn:aws:sns:ap-southeast-

Type
Standard

Display name
-

Topic owner

Subscriptions (1)

ID	Endpoint	Status	Protocol
7955cb30-1605-493f-ae3c-37...	@gmail.com	✓ Confirmed	EMAIL