

Project 3 – Publishing Amazon SNS Messages Privately

Project: Publishing Amazon SNS messages privately

Industry: Healthcare

Problem Statement: How to secure patient records online and send it privately to the intended party

Topics: In this project, you will be working on a hospital project to send reports online and develop a platform so the patients can access the reports via mobile and push notifications. You will publish the report to an Amazon SNS which keeping it secure and private. Your message will be hosted on an EC2 instance within your Amazon VPC. By publishing the messages privately, you can improve the message delivery and receipt through Amazon SNS.

Highlights:

- AWS CloudFormation to create a VPC
 - Connect VPC with AWS SNS
 - Publish message privately with SNS
-

S Start Course | Intellipaat x AWS-SNS-Solution (1).pdf x aws-sns-samples/SNS-VPCE-Tut... x Project-3-Amazon-SNS (1).pdf x Key pairs | EC2 Management Con... +

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#KeyPairs:

Gmail YouTube Maps Sample Avro File How to create a Da... google cloud stor... Read AVRO messag... Quickstart: stream... Handling Avro files... python - Adding a... Adding timestamp...

aws Services Search [Alt+S] N. Virginia ▾ Yaswanth Kumar Desineedi ▾

Images AMIs AMI Catalog

Elastic Block Store Volumes Snapshots Lifecycle Manager

Network & Security Security Groups Elastic IPs Placement Groups Key Pairs Network Interfaces

Load Balancing Load Balancers Target Groups

Auto Scaling Launch Configurations Auto Scaling Groups

CloudShell Feedback Language

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31°C Mostly cloudy ENG 1939 25-04-2023

Key pairs (2) Info

Search

<input type="checkbox"/>	Name	Type	Created	Fingerprint	ID
<input type="checkbox"/>	Key	rsa	2023/03/09 18:23 GMT+5:30	7e:e1:38:7f:66:6f:cc:5ab9:61:d4:04:aa:8...	key-0fe014524d5539d6d
<input type="checkbox"/>	Key1	rsa	2023/04/10 11:46 GMT+5:30	3c:1c:43:d7:82:64:de:1a:e5:c4:03:4cc9:...	key-029f98b00fc04b704

Screenshot of the AWS Management Console showing the creation of a new EC2 key pair.

The browser tab bar shows multiple open tabs, including "Start Course | Intellipaat", "AWS-SNS-Solution (1).pdf", "aws-sns-samples/SNS-VPCE-Tut...", "Project-3-Amazon-SNS (1).pdf", and "Key pairs | EC2 Management Con...".

The AWS Services navigation bar includes links for Gmail, YouTube, Maps, Sample Avro File, How to create a Da..., google cloud stor..., Read AVRO messag..., Quickstart: stream..., Handling Avro files..., python - Adding a..., Adding timestamp..., and a "More" link.

The user is in the EC2 service, specifically the Key pairs section. A success message "Successfully created key pair" is displayed above the table.

The table lists three key pairs:

Name	Type	Created	Fingerprint	ID
Key	rsa	2023/03/09 18:23 GMT+5:30	7:e:1:38:7f:66:6f:cc:5a:b9:61:d4:04:aa:8...	key-0fe014524d5539d6d
Key1	rsa	2023/04/10 11:46 GMT+5:30	3:c:1c:43:d7:82:64:de:1a:e5:c4:03:4cc9:...	key-029f98b0fc04b704
VPCE-Tutorial-KeyPair	rsa	2023/04/25 19:42 GMT+5:30	07:54:5f:26:3e:c3:bc:df:b8:d2:d9:61:1e:...	key-0220af302139264b2

The AWS footer includes links for CloudShell, Feedback, Language, Privacy, Terms, and Cookie preferences. It also displays the current time (19:44), date (25-04-2023), weather (31°C Mostly cloudy), and system status.

Screenshot of the AWS CloudFormation console homepage.

The page title is "AWS CloudFormation" and the subtitle is "Model and provision all your cloud infrastructure".

The left sidebar includes:

- CloudFormation (selected)
- Management & Governance
- Stacks
- StackSets
- Exports
- Designer
- Registry
 - Public extensions
 - Activated extensions
 - Publisher
- Spotlight New
- Feedback

The main content area features a section titled "How it works" with a screenshot showing the AWS CloudFormation logo and the text "Simplify Your Infrastructure Management Using AWS CloudFormation".

A callout box on the right says "Create a CloudFormation stack" with a "Create stack" button.

The footer contains links to "What is AWS CloudFormation", "Getting started with CloudFormation", "Learn template basics", and "Quick starts".

At the bottom, there's a search bar, a taskbar with various icons, and system status information including weather (31°C Mostly cloudy), battery level, network signal, language (ENG), and date/time (25-04-2023).

Screenshot of the AWS CloudFormation 'Create stack' wizard - Step 2: Specify stack details.

The page shows the following steps:

- Step 1: Create stack
- Step 2: Specify stack details (current step)
- Step 3: Configure stack options
- Step 4: Review VPCE-Tutorial-Stack

Specify stack details

Stack name

Stack name: VPCE-Tutorial-Stack
Stack name can include letters (A-Z and a-z), numbers (0-9), and dashes (-).

Parameters

Parameters are defined in your template and allow you to input custom values when you create or update a stack.

KeyName
Name of an existing EC2 KeyPair to enable SSH access to the instance
Value: VPCE-Tutorial-KeyPair

SSHLlocation
The IP address range that can be used to SSH to the EC2 instance
Value: 0.0.0.0/0

Buttons at the bottom right: Cancel, Previous, Next



Screenshot of the AWS CloudFormation console showing the creation of a stack named "VPCE-Tutorial-Stack".

The left sidebar shows the navigation path: CloudFormation > Stacks > VPCE-Tutorial-Stack.

The main content area displays the "Events" tab for the stack, which shows one event:

Timestamp	Logical ID	Status	Status reason
2023-04-25 19:51:43 UTC+0530	VPCE-Tutorial-Stack	CREATE_IN_PROGRESS	User Initiated

The status bar at the bottom indicates the following information:

- CloudShell
- Feedback
- Language
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- Privacy
- Terms
- Cookie preferences
- 31°C Mostly cloudy
- 1951
- ENG
- 25-04-2023

Screenshot of the AWS CloudFormation console showing the Resources tab for the VPCE-Tutorial-Stack.

Stacks (1)

- Active
- View nested

Stacks

- VPCE-Tutorial-Stack
 - 2023-04-25 19:51:43 UTC+0530
 - CREATE_IN_PROGRESS

Resources (19)

Logical ID	Physical ID	Type	Status
EC2Instance	i-038a46ed6b4406313	AWS::EC2::Instance	CREATE_COMPLETE
EC2InstanceProfile	EC2InstanceProfile	AWS::IAM::InstanceProfile	CREATE_COMPLETE
EC2InstanceRole	VPCE-Tutorial-EC2InstanceRole	AWS::IAM::Role	CREATE_COMPLETE
InternetGateway	igw-041b9ed0a55734089	AWS::EC2::InternetGateway	CREATE_COMPLETE
InternetGatewayRoute	VPCE-Inter-DF8C5VWIIH6Q	AWS::EC2::Route	CREATE_COMPLETE
LambdaExecutionRole	VPCE-Tutorial-Stack-LambdaExecutionRole-OPKYDEBFED28	AWS::IAM::Role	CREATE_COMPLETE

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Screenshot of the AWS CloudWAN interface showing the Instances page.

The top navigation bar includes tabs for Start Course | Intellipaat, AWS-SNS-Solution (1).pdf, aws-sns-samples/SNS-VPC, Project-3-Amazon-SNS (1), Instances | EC2 Management, CloudFormation - Stack VP, and several other open tabs.

The main header shows "cloud WAN" and the user "Yaswanth Kumar Desineedi".

The left sidebar menu includes:

- New EC2 Experience (Learn more)
- EC2 Dashboard
- EC2 Global View
- Events
- Limits
- Instances
 - Instances (selected)
 - Instance Types
 - Launch Templates
 - Spot Requests
 - Savings Plans
 - Reserved Instances
 - Dedicated Hosts
 - Scheduled Instances
 - Capacity Reservations
- Images
 - AMIs
 - AMI Catalog
- Elastic Block Store

The main content area displays the "Instances (1/1) Info" section with a search bar and filter buttons (e.g., Instance state = running, Clear filters).

A table lists one instance:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
VPCE-Tutorial-EC2Instance	i-038a46ed6b4406313	Running	t2.micro	Initializing	No alarms	+ us-east-1

The "Instance: i-038a46ed6b4406313 (VPCE-Tutorial-EC2Instance)" details page is shown, with tabs for Details, Security, Networking, Storage, Status checks, Monitoring, and Tags.

Under "Instance summary", the following information is displayed:

Instance ID	Public IPv4 address	Private IPv4 addresses
i-038a46ed6b4406313 (VPCE-Tutorial-EC2Instance)	100.25.205.227 open address	10.0.0.6
IPv6 address	Instance state	Public IPv4 DNS
-	Running	ec2-100-25-205-227.compute-1.amazonaws.com open address

The bottom of the screen shows the Windows taskbar with various pinned icons and the system tray.

S | Start Course | IntelliJ IDEA | AWS-SNS-Solution | aws-sns-samples/SNS | Project-3-Amazon-SNS | Connect to instance | AWS CloudShell | CloudFormation - St... | + | - | X

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#ConnectToInstance:instanceId=i-038a46ed6b4406313

Gmail YouTube Maps Sample Avro File How to create a Da... google cloud stor... Read AVRO messag... Quickstart: stream... Handling Avro files... python - Adding a... Adding timestamp...

AWS Services Q cloud WAN X N. Virginia ▾ Yaswanth Kumar Desineedi ▾

EC2 > Instances > i-038a46ed6b4406313 > Connect to instance

Connect to instance Info

Connect to your instance i-038a46ed6b4406313 (VPCE-Tutorial-EC2Instance) using any of these options

EC2 Instance Connect Session Manager **SSH client** EC2 serial console

Instance ID
[i-038a46ed6b4406313](#) (VPCE-Tutorial-EC2Instance)

1. Open an SSH client.
2. Locate your private key file. The key used to launch this instance is VPCE-Tutorial-KeyPair.pem
3. Run this command, if necessary, to ensure your key is not publicly viewable.
chmod 400 VPCE-Tutorial-KeyPair.pem
4. Connect to your instance using its Public DNS:
[ec2-100-25-205-227.compute-1.amazonaws.com](#)

Command copied

[ssh -i "VPCE-Tutorial-KeyPair.pem" ec2-user@ec2-100-25-205-227.compute-1.amazonaws.com](#)

Note: In most cases, the guessed user name is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI user name.

Cancel

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Type here to search

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[cloudshell-user@ip-10-2-50-133 ~]\$ ssh -i "VPCE-Tutorial-KeyPair.pem" ec2-user@ec2-100-25-205-227.compute-1.amazonaws.com

@@@@@@@@@@@
@ WARNING: UNPROTECTED PRIVATE KEY FILE! @
@
Permissions 0664 for 'VPCE-Tutorial-KeyPair.pem' are too open.
It is required that your private key files are NOT accessible by others.
This private key will be ignored.
Load key "VPCE-Tutorial-KeyPair.pem": bad permissions
Permission denied (publickey,gssapi-keyex,gssapi-with-mic).
[cloudshell-user@ip-10-2-50-133 ~]\$ chmod 400 VPCE-Tutorial-KeyPair.pem
[cloudshell-user@ip-10-2-50-133 ~]\$ ssh -i "VPCE-Tutorial-KeyPair.pem" ec2-user@ec2-100-25-205-227.compute-1.amazonaws.com

|/_/_)
_|(/ Amazon Linux 2 AMI ✓

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-10-0-0-6 ~]\$

Start Course | IntelliJ IDEA | AWS-SNS-Solution | aws-sns-samples/SNS | Project-3-Amazon-SNS | Connect to instance | AWS CloudShell | CloudFormation - St... | +

us-east-1.console.aws.amazon.com/cloudshell/home?region=us-east-1#b7e06095-c00e-4d7f-b634-f10183365fe0

Gmail YouTube Maps Sample Avro File How to create a Da... google cloud stor... Read AVRO messag... Quickstart: stream... Handling Avro files... python - Adding a... Adding timestamp...

aws Services Search [Alt+S] Actions ▾

AWS CloudShell

us-east-1

```
[cloudshell-user@ip-10-2-50-133 ~]$ ssh -i "VPCE-Tutorial-KeyPair.pem" ec2-user@ec2-100-25-205-227.compute-1.amazonaws.com
@@@@@@@@@@@192.168.1.11:22
@         WARNING: UNPROTECTED PRIVATE KEY FILE!
@Permissions 0664 for 'VPCE-Tutorial-KeyPair.pem' are too open.
It is required that your private key files are NOT accessible by others.
This private key will be ignored.
Load key "VPCE-Tutorial-KeyPair.pem": bad permissions
Permission denied (publickey,gssapi-keyex,gssapi-with-mic).
[cloudshell-user@ip-10-2-50-133 ~]$ chmod 400 VPCE-Tutorial-KeyPair.pem
[cloudshell-user@ip-10-2-50-133 ~]$ ssh -i "VPCE-Tutorial-KeyPair.pem" ec2-user@ec2-100-25-205-227.compute-1.amazonaws.com

 _|_(_|_) / Amazon Linux 2 AMI
 _|\_\_|_|
```

https://aws.amazon.com/amazon-linux-2/

```
[ec2-user@ip-10-0-0-6 ~]$ ping amazon.com ✓
PING amazon.com (54.239.28.85) 56(84) bytes of data.
^C
--- amazon.com ping statistics ---
11 packets transmitted, 0 received, 100% packet loss, time 10243ms
```

```
[ec2-user@ip-10-0-0-6 ~]$
```

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Windows Type here to search 🐧 31°C Mostly cloudy 20:05 25-04-2023 ENG

The screenshot shows the AWS SNS Topics page. The left sidebar includes links for Dashboard, Topics (which is selected), Subscriptions, Push notifications, Text messaging (SMS), and Origination numbers. The main content area displays a table titled 'Topics (1)'. The table has columns for Name, Type, and ARN. One topic, 'VPCE-Tutorial-Topic', is listed as Standard type with the ARN: arn:aws:sns:us-east-1:295543071324:VPCE-Tut... . Action buttons for Edit, Delete, Publish message, and Create topic are located at the top right of the table.

Name	Type	ARN
VPCE-Tutorial-Topic	Standard	arn:aws:sns:us-east-1:295543071324:VPCE-Tut...

Screenshot of the AWS CloudWatch Metrics Insights interface showing a query for CloudWatch Metrics Insights metrics.

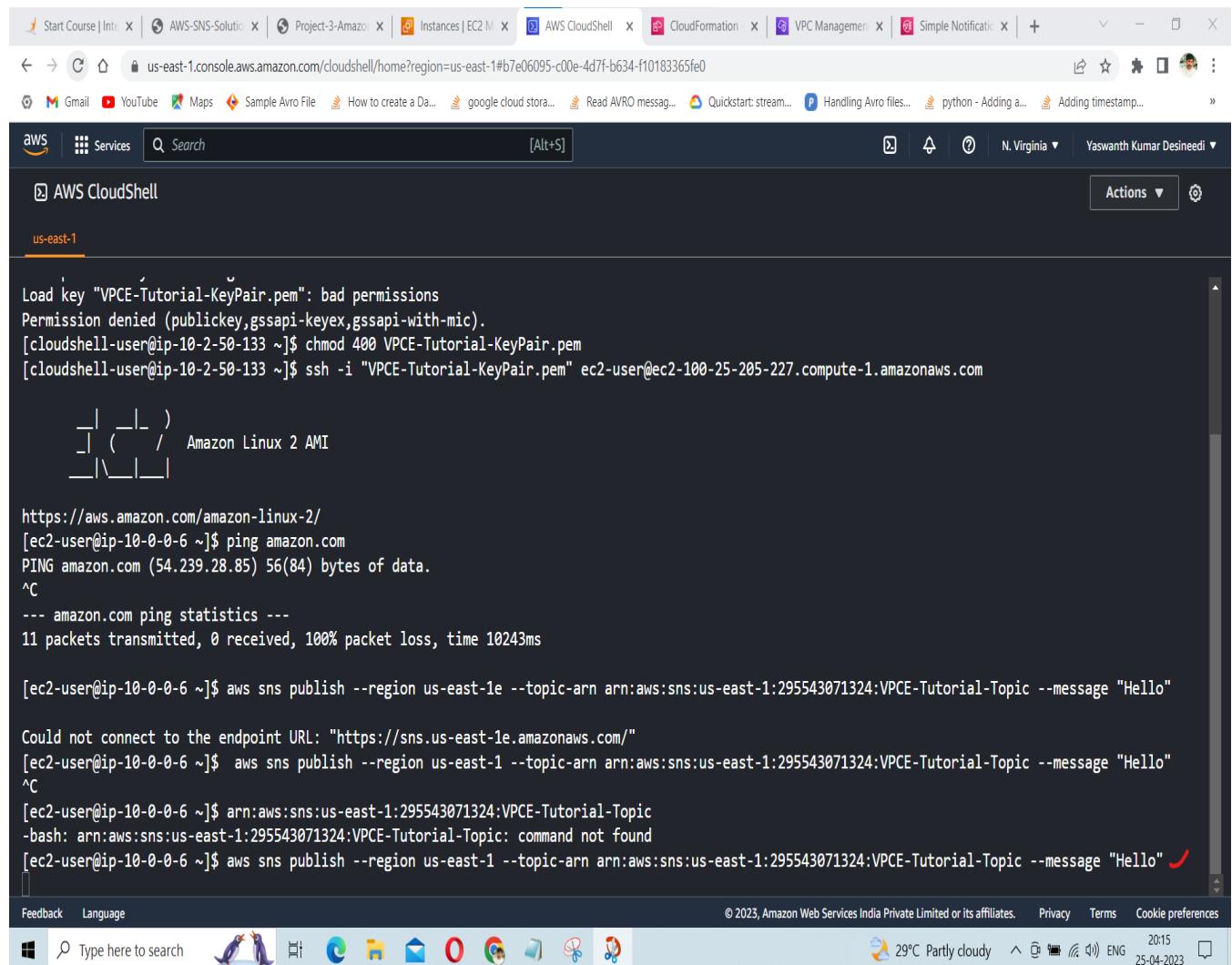
The query results are displayed in a table:

Series	Series ID	Series Type	Series Description
CloudWatch Metrics Insights Metrics			

Below the table, there is a section titled "Metrics Insights Metrics" with a table:

Series	Series ID	Series Type	Series Description
CloudWatch Metrics Insights Metrics			

At the bottom of the page, there is a navigation bar with links to "Metrics Insights Metrics", "Metrics Insights Metrics", "Metrics Insights Metrics", and "Metrics Insights Metrics".



Screenshot of the AWS CloudFront console showing the 'Endpoints' page.

The browser tab bar shows multiple open tabs, including 'Start Course | Inte...', 'AWS-SNS-Solutio...', 'Project-3-Amazo...', 'Instances | EC2 M...', 'AWS CloudShell', 'CloudFormation...', 'Endpoints | VPC |', 'Simple Notificatio...', and others.

The AWS navigation bar includes links for 'Gmail', 'YouTube', 'Maps', 'Sample Avro File', 'How to create a Da...', 'google cloud stora...', 'Read AVRO messag...', 'Quickstart: stream...', 'Handling Avro files...', 'python - Adding a...', and 'Adding timestamp...'. It also shows the region 'N. Virginia' and user 'Yaswanth Kumar Desineedvi'.

The main content area displays the 'Endpoints' list:

Name	VPC endpoint ID	VPC ID	Service name
No endpoint found			

A red box highlights the 'Create endpoint' button at the top right of the table header.

The left sidebar navigation includes:

- VPC dashboard
- EC2 Global View (New)
- Filter by VPC: Select a VPC
- Virtual private cloud
 - Your VPCs (New)
 - Subnets
 - Route tables
 - Internet gateways
 - Egress-only internet gateways
 - Carrier gateways
 - DHCP option sets
 - Elastic IPs
 - Managed prefix lists
- Endpoints
 - Endpoint services
 - NAT gateways
 - Peering connections
- Security

The bottom navigation bar includes links for 'CloudShell', 'Feedback', 'Language', and social media icons. It also shows the date '25-04-2023', time '20:16', weather '29°C Partly cloudy', and language 'ENG'.

Screenshot of the AWS VPC Endpoint creation process.

The URL in the browser is: us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#CreateVpcEndpoint:

The search bar shows: Service Name = com.amazonaws.us-east-1.sns

The Services section lists:

Service Name	Owner	Type
com.amazonaws.us-east-1.sns	amazon	Interface

The VPC section shows the selected VPC: vpc-09aa167814312aa58 (VPCE-Tutorial-VPC).

The Subnets section shows 6 subnets.

Bottom navigation bar includes CloudShell, Feedback, Language, and various icons for search, file, mail, etc. The status bar shows: © 2023, Amazon Web Services India Private Limited or its affiliates. Privacy Terms Cookie preferences 2020 25-04-2023.

Screenshot of the AWS VPC Endpoints console showing the creation of a new endpoint for Amazon SNS.

The browser tab bar shows multiple open tabs, including Start Course, AWS-SNS-Solutio, Project-3-Amazo, EC2 Management, AWS CloudShell, CloudFormation, Endpoints | VPC, Simple Notificatio, and several others related to Avro files and timestamping.

The AWS Services navigation bar includes links for VPC dashboard, EC2 Global View, Filter by VPC, Virtual private cloud (Your VPCs, Subnets, Route tables, Internet gateways, Egress-only internet gateways, Carrier gateways, DHCP option sets, Elastic IPs, Managed prefix lists), Endpoints (selected), Endpoint services, NAT gateways, Peering connections, and Security.

The main content area displays the "Endpoints (1/1)" list. A search bar at the top allows filtering by attribute or tag. A filter bar below it shows "VPC endpoint ID : vpce-0f32234ebb96c3078".

Service name	Endpoint type	Status	Creation time
com.amazonaws.us-east-1.sns	Interface	Pending	Tuesday, April 25, 2023 at 20:23:39

A message box indicates "Update in progress" and "Endpoint is in pending state, information might be out of date." Below this, the endpoint details are shown:

Endpoint ID	Status	Creation time	Endpoint type
vpce-0f32234ebb96c3078	Pending	Tuesday, April 25, 2023 at 20:23:39	Interface

The bottom of the screen shows the Windows taskbar with the Start button, a search bar, pinned icons for File Explorer, Mail, and Edge, and system status indicators for weather (29°C Partly cloudy), battery, and network.

Start Course | Info | AWS-SNS-Solutio... | Project-3-Amazon... | EC2 Management | AWS CloudShell | CloudFormation | Endpoints | VPC | Simple Notifications | +

us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#EndpointsvcEndpointId=vpce-0f32234ebb96c3078

Gmail YouTube Maps Sample Avro File How to create a Da... google cloud stor... Read AVRO messag... Quickstart: stream... Handling Avro files... python - Adding a... Adding timestamp...

AWS Services Search [Alt+S]

Endpoints (1/1) Info

VPC endpoint ID : vpce-0f32234ebb96c3078 X

Find resources by attribute or tag Clear filters

Service name Endpoint type Status Creation time

Service name	Endpoint type	Status	Creation time
com.amazonaws.us-east-1.sns	Interface	Available	Tuesday, April 25, 2023 at 20:23:39

vpce-0f32234ebb96c3078 / endpoint-project

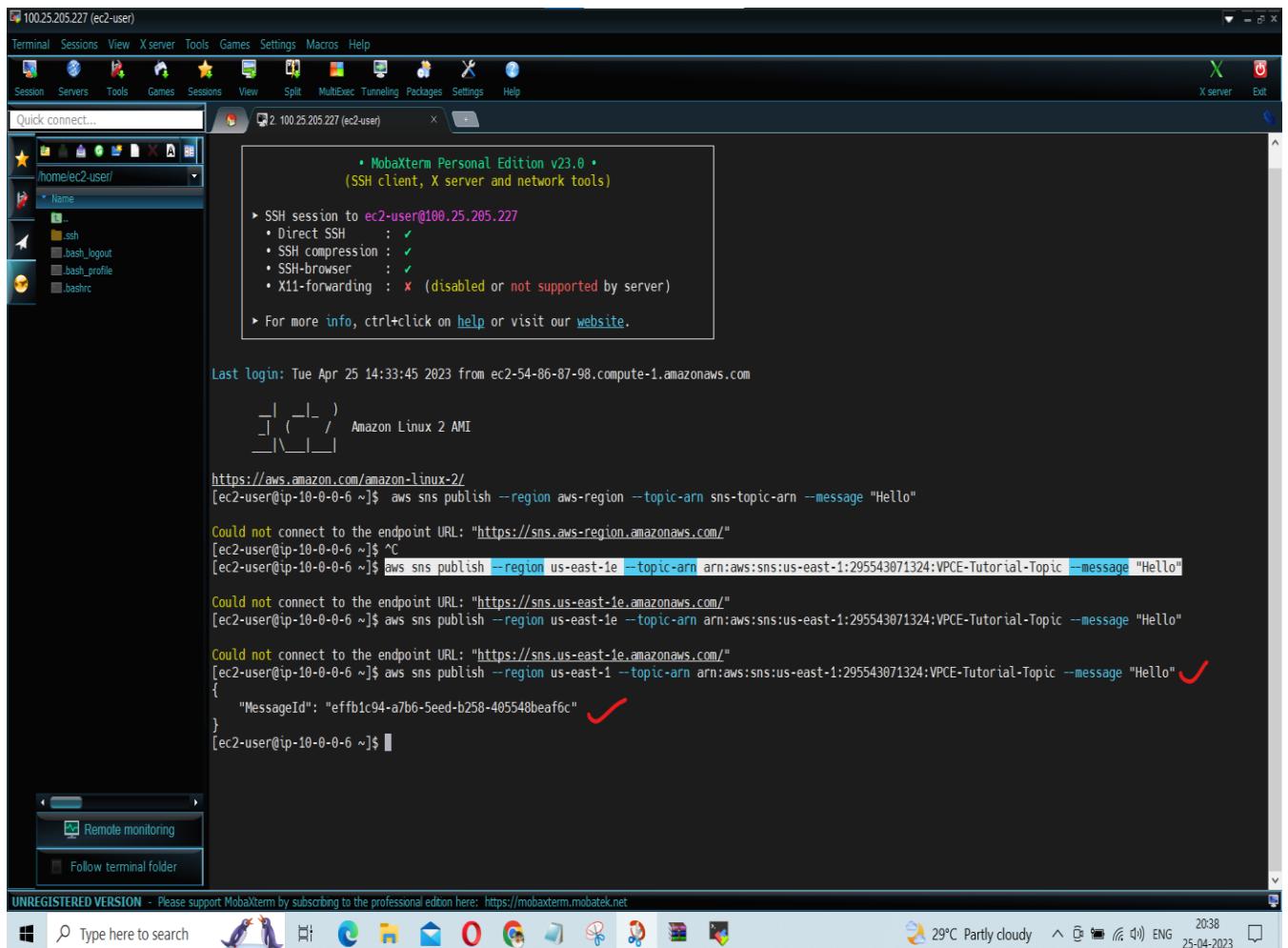
Details Subnets Security Groups Notification Policy Tags

Details

Endpoint ID	Status	Creation time	Endpoint type
vpce-0f32234ebb96c3078	Available	Tuesday, April 25, 2023 at 20:23:39 GMT+5:30	Interface
VPC ID	Status message	Service name	Private DNS names enabled
vpc-09aa167814512aa58 (VPCE-Tutorial-VPC)	-	com.amazonaws.us-east-1.sns	Yes

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Type here to search 29°C Partly cloudy 2025 25-04-2023 ENG



Screenshot of the AWS Lambda console showing two functions listed:

Functions (2)

Function name	Description	Package type	Runtime	Last modified
VPCE-Tutorial-Lambda-2	SNS VPC endpoint tutorial lambda function 2	Zip	Python 3.9	1 hour ago
VPCE-Tutorial-Lambda-1	SNS VPC endpoint tutorial lambda function 1	Zip	Python 3.9	1 hour ago

The function "VPCE-Tutorial-Lambda-1" is highlighted with a red underline.

AWS Lambda sidebar:

- Dashboard
- Applications
- Functions**
- ▼ Additional resources
 - Code signing configurations
 - Layers
 - Replicas
- ▼ Related AWS resources
 - Step Functions state machines

Bottom navigation bar:

- CloudShell
- Feedback
- Language
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- Privacy
- Terms
- Cookie preferences
- Type here to search
- 29°C Partly cloudy
- 20:39
- 25-04-2023

Screenshot of the AWS Lambda Monitor interface showing CloudWatch metrics for a function.

The interface includes:

- A top navigation bar with tabs: Start Course | Intel, AWS-SNS-Solutio, Project-3-Amazo, Instances | EC2 M, CloudFormation, Endpoints | VPC, Simple Notificatio, VPCE-Tutorial-Lambda, and a search bar.
- An AWS services navigation bar with links to Gmail, YouTube, Maps, Sample Avro File, How to create a Da..., google cloud stora..., Read AVRO messag..., Quickstart: stream..., Handling Avro files..., python - Adding a..., Adding timestamp..., and a search bar.
- A user profile for N. Virginia and Yaswanth Kumar Desineedi.
- A main dashboard with tabs: Code, Test, **Monitor**, Configuration, Aliases, and Versions.
- Sub-tabs under Monitor: Metrics (selected), Logs, and Traces, along with buttons for View CloudWatch logs, View X-Ray traces, View Lambda Insights, and View CodeGuru profiles.
- A section titled "CloudWatch metrics" with a "Info" link.
- A note: "Lambda sends runtime metrics for your functions to Amazon CloudWatch. The metrics shown are an aggregate view of all function runtime activity. To view metrics for the unqualified or \$LATEST resource, choose Filter by. To view metrics for a specific function version or alias, choose Aliases or Versions, select the alias or version, and then choose Monitor."
- Three line charts:
 - Invocations**: Shows the count of invocations over time. A red circle highlights a data point at approximately 14:00.
 - Duration**: Shows the duration of invocations in milliseconds. A red circle highlights a data point at approximately 14:00.
 - Error count and success rate (%)**: Shows the error count and success rate percentage. A red circle highlights a data point at approximately 14:00.
- Time range selector: 1h, 3h, 12h, 1d, 3d, 1w, Custom, and a date picker.
- Bottom navigation bar with CloudShell, Feedback, Language, and other AWS services.
- System tray icons for search, file, browser, mail, and others.
- Weather and system status: 29°C Partly cloudy, ENG, 25-04-2023, 20:44.

Screenshot of the AWS CloudWatch Log Groups interface.

The left sidebar shows the CloudWatch navigation menu with the "Log groups" option selected. The main content area displays a list of log groups:

Log group	Data protection	Sensitive dat...	Retention	Metric filters	Contributor
/aws/fsx/lustre	Inactive	-	Never expire	-	-
/aws/lambda/VPCE-Tutorial-Lambda-1	Inactive	-	1 week	-	-
/aws/lambda/VPCE-Tutorial-Lambda-2	Inactive	-	1 week	-	-
/aws/redshift/default/connectionlog	Inactive	-	Never expire	-	-
/aws/redshift/default/useractivitylog	Inactive	-	Never expire	-	-
/aws/redshift/default/userlog	Inactive	-	Never expire	-	-

The log group "/aws/lambda/VPCE-Tutorial-Lambda-1" is highlighted with a red underline.

At the bottom of the screen, the Windows taskbar is visible, showing various pinned icons and the system tray.

Screenshot of the AWS CloudWatch console showing Log group details and Log streams.

Log group details:

ARN	Metric filters	Data protection - new
arn:aws:logs:us-east-1:295543071324:log-group:/aws/lambda/VPCE-Tutorial-Lambda-1:*	0	Inactive
Creation time	Subscription filters	Sensitive data found - new
56 minutes ago	0	-
Retention	Contributor Insights rules	KMS key ID
1 week	-	-
Stored bytes	-	-

Log streams:

Log streams (1)	Action	Create log stream	Search all log streams
<input type="checkbox"/> 2023/04/25/[LATEST]4f00061d698a4f1698e4e9ef125cc2df	Last event time	<input type="checkbox"/> Exact match <input type="checkbox"/> Show expired Info	

CloudWatch Services:

- Favorites and recents
- Dashboards
- Alarms (0)
- Logs (Log groups, Logs Insights)
- Metrics (All metrics, Explorer, Streams)
- X-Ray traces
- Events (Rules)

Bottom Navigation:

- CloudShell
- Feedback
- Language
- Type here to search
- Earnings upcoming
- 2048
- 25-04-2023

Screenshot of the AWS CloudWatch Log Groups interface for the VPCE-Tutorial Lambda function.

The URL is [https://us-east-1.console.aws.amazon.com/cloudwatch/home?region=us-east-1#logsV2:log-groups/log-group/\\$252Faws\\$252Flambda\\$252FVPCE-Tutorial-Lambda-1/log-events/2023\\$252F04\\$252F25\\$252F00061d698a4f1698e4e9ef125cc2df](https://us-east-1.console.aws.amazon.com/cloudwatch/home?region=us-east-1#logsV2:log-groups/log-group/$252Faws$252Flambda$252FVPCE-Tutorial-Lambda-1/log-events/2023$252F04$252F25$252F00061d698a4f1698e4e9ef125cc2df)

The sidebar navigation includes:

- CloudWatch
- Favorites and recent
- Dashboards
- Alarms (0)
- In alarm
- All alarms
- Billing
- Logs (selected)
- Log groups (selected)
- Logs Insights
- Metrics
- All metrics
- Explorer
- Streams
- X-Ray traces
- Events
- Rules

The main content area shows the log events for the specified log group and timestamp range:

Timestamp	Message
2023-04-25T20:37:52.876+05:30	INIT_START Runtime Version: python:3.9.v19 Runtime Version ARN: arn:aws:lambda:us-east-1::runtime:e73d5f60c4282fb09ce24a6d3fe...
2023-04-25T20:37:52.987+05:30	Loading function
2023-04-25T20:37:52.989+05:30	START RequestId: 7abbeca4-52d5-4ea9-83cb-4d6d98988926 Version: \$LATEST
2023-04-25T20:37:52.990+05:30	From SNS: Hello
2023-04-25T20:37:52.991+05:30	END RequestId: 7abbeca4-52d5-4ea9-83cb-4d6d98988926
2023-04-25T20:37:52.991+05:30	REPORT RequestId: 7abbeca4-52d5-4ea9-83cb-4d6d98988926 Duration: 1.22 ms Billed Duration: 2 ms Memory Size: 128 MB Max Memory...

Filter bar: Filter events (with a red arrow pointing to it), Clear, 1m, 30m, 1h, 12h, Custom, Display (with a red arrow pointing to it).

Bottom navigation bar: CloudShell, Feedback, Language, © 2023, Amazon Web Services India Private Limited or its affiliates., Privacy, Terms, Cookie preferences, Earnings upcoming, ENG, 2049, 25-04-2023.

Screenshot of the AWS CloudWatch Log Groups interface.

The left sidebar shows navigation links for CloudWatch services like Alarms, Logs, Metrics, X-Ray traces, Events, and Rules.

The main content area displays the "Log groups" list:

Log group	Data protection	Sensitive dat...	Retention	Metric filters	Contributor
/aws/fsx/lustre	Inactive	-	Never expire	-	-
/aws/lambda/VPCE-Tutorial-Lambda-1	Inactive	-	1 week	-	-
<u>/aws/lambda/VPCE-Tutorial-Lambda-2</u>	Inactive	-	1 week	-	-
/aws/redshift/default/connectionlog	Inactive	-	Never expire	-	-
/aws/redshift/default/useractivitylog	Inactive	-	Never expire	-	-
/aws/redshift/default/userlog	Inactive	-	Never expire	-	-

Actions buttons include Create log group, Actions, View in Logs Insights, and a search bar at the top.

Screenshot of the AWS CloudWatch Log Group Details page.

Log group details

ARN	Metric filters	Data protection - new
arn:aws:logs:us-east-1:295543071324:log-group:/aws/lambda/VPCE-Tutorial-Lambda-2:*	0	Inactive
Subscription filters	Sensitive data found - new	
Creation time	Contributor Insights rules	
58 minutes ago	-	
Retention	KMS key ID	
1 week	-	
Stored bytes	-	

Log streams (1)

Log stream	Last event time
2023/04/25/[LATEST]8eb180da45b94c5a84250d814597c2d9	2023-04-25 20:37:52 (UTC+05:30)

Log streams (1)

Filter log streams or try prefix search Exact match Show expired Info

CloudShell Feedback Language © 2023, Amazon Web Services India Private Limited or its affiliates. Privacy Terms Cookie preferences 27°C Mostly cloudy 20:50 25-04-2023

Screenshot of the AWS CloudWatch Log Groups interface for a Lambda function.

The URL in the browser bar is: us-east-1.console.aws.amazon.com/cloudwatch/home?region=us-east-1#logsV2:log-groups/log-group/\$252Faws\$252Flambda\$252FVPCE-Tutorial-Lambda-2/log-events/2023\$252F04\$...

The sidebar navigation includes:

- Favorites and recent dashboards
- Alarms (0)
- Logs
 - Log groups** (selected)
 - Logs Insights
- Metrics (All metrics, Explorer, Streams)
- X-Ray traces
- Events (Rules)

The main content area shows log events for the specified log group and timestamp range:

Timestamp	Message
2023-04-25T20:37:52.817+05:30	INIT_START Runtime Version: python:3.9.v19 Runtime Version ARN: arn:aws:lambda:us-east-1::runtime:e73d5f60c4282fb09ce24a6d3fe..
2023-04-25T20:37:52.921+05:30	Loading function
2023-04-25T20:37:52.923+05:30	START RequestId: 68cc653b-9a58-45fe-b847-426092d40a92 Version: \$LATEST
2023-04-25T20:37:52.924+05:30	From SNS: Hello
2023-04-25T20:37:52.925+05:30	END RequestId: 68cc653b-9a58-45fe-b847-426092d40a92
2023-04-25T20:37:52.925+05:30	REPORT RequestId: 68cc653b-9a58-45fe-b847-426092d40a92 Duration: 1.32 ms Billed Duration: 2 ms Memory Size: 128 MB Max Memory..

Filtering and display options are available at the top of the log list.