

The objective of this assignment is to automate the starting and stopping of EC2 instances based on tags using AWS Lambda and Boto3.

- Amazon EC2
- AWS Lambda
- AWS IAM
- Amazon CloudWatch Logs
- Boto3 (Python SDK)

Two EC2 instances were created using Amazon Linux 2 AMI.

One instance was tagged with Action = Auto-Stop and the other with Action = Auto-Start.

<input type="checkbox"/>	AutoStart-Instance	i-0e5156ed3fb463336	✔ Running	🔍	t3.micro	
<input type="checkbox"/>	Autostop	i-0cbf2fe51cfc3478c	⊖ Stopped	🔍	t2.micro	
<input checked="" type="checkbox"/>	AutoStop-Instance	i-021a6cf1eb540f90b	⊖ Stopped	🔍	t3.micro	
<input checked="" type="checkbox"/>	AutoStop-Instance	i-021a6cf1eb540f90b	⊖ Stopped	🔍	t3.micro	–
<input type="checkbox"/>	backendServer01	i-09b8dbac347b291d9	⊖ Stopped	🔍	t2.micro	–
<input type="checkbox"/>	cherry-ec2-mern-1	i-0d12554c69ffb90d0	⊖ Stopped	🔍	t2.micro	–

i-021a6cf1eb540f90b (AutoStop-Instance)

Details | Status and alarms | Monitoring | Security | Networking | Storage | **Tags**

Tags



Key ▾ | Value

Action Auto-Stop

Name AutoStop-Instance

<input checked="" type="checkbox"/>	AutoStart-Instance	i-0e5156ed3fb463336	✔ Running	🔍	t3.micro	✔ 3/3 c
<input type="checkbox"/>	Autostop	i-0cbf2fe51cfc3478c	⊖ Stopped	🔍	t2.micro	–
<input type="checkbox"/>	AutoStop-Instance	i-021a6cf1eb540f90b	⊖ Stopped	🔍	t3.micro	–
<input type="checkbox"/>	backendServer01	i-09b8dbac347b291d9	⊖ Stopped	🔍	t2.micro	–
<input type="checkbox"/>	cherry-ec2-mern-1	i-0d12554c69ffb90d0	⊖ Stopped	🔍	t2.micro	–

i-0e5156ed3fb463336 (AutoStart-Instance)

Details | Status and alarms | Monitoring | Security | Networking | Storage | **Tags**

Tags



Key ▾ | Value

Name AutoStart-Instance

Action Auto-Start

An IAM role was created for Lambda with the following permissions:

- AmazonEC2FullAccess
- AWSLambdaBasicExecutionRole

Lambda-EC2-AutoManage-Role [Info](#)

Allows Lambda functions to call AWS services on your behalf.

Summary

Creation date

January 01, 2026, 09:32 (UTC+05:30)

Last activity

✓ 14 minutes ago

Permissions

Trust relationships

Tags

Last Accessed

Revoke sessions

Permissions policies (2) [Info](#)

You can attach up to 10 managed policies.

			Filter
<input type="text" value="Search"/>			All
<input type="checkbox"/>	Policy name ↗	▲	Type
<input type="checkbox"/>	AmazonEC2FullAccess		AWS managed
<input type="checkbox"/>	AWSLambdaBasicExecutionRole		AWS managed

A Lambda function was created using Python runtime.

The IAM role created earlier was attached to the function.

EC2-Auto-Start-Stop

▼ Function overview [Info](#)

Diagram

Template



EC2-Auto-Start-Stop



Layers

(0)

+ Add trigger

+ Add destination

Description

-

Last modified

42 minutes ago

Function ARN

arn:aws:lambda:us-east-1:123456789012:function:EC2-Auto-Start-Stop

Function URL

-

Code

Test

Monitor

Configuration

Aliases

Versions

Code source [Info](#)

The Lambda function uses Boto3 to:

- Identify EC2 instances with Auto-Stop tag and stop them
- Identify EC2 instances with Auto-Start tag and start them



The image shows a code editor window with a file named `lambda_function.py`. The code defines a `lambda_handler` function that uses the `boto3` library to interact with the AWS EC2 service. The function calls `ec2.describe_instances` with filters to find running instances tagged with `Auto-Stop`. Below the code, the `OUTPUT` tab shows the execution status as `Succeeded` for a test event named `hello-world`. The response is a JSON object indicating a `statusCode` of `200` and a `body` message: `"EC2 Auto Start/Stop executed successfully"`.

```
3 def lambda_handler(event, context):
4     ec2 = boto3.client('ec2')
5
6     # ----- AUTO STOP INSTANCES -----
7     stop_response = ec2.describe_instances(
8         Filters=[
9             {
10                 'Name': 'tag:Action',
11                 'Values': ['Auto-Stop']
12             },
13             {
14                 'Name': 'instance-state-name',
15                 'Values': ['running']
16             }
17         ]
18     )
19
20     stop_instances = []
```

PROBLEMS OUTPUT CODE REFERENCE LOG TERMINAL

Status: Succeeded
Test Event Name: hello-world

Response:

```
{
  "statusCode": 200,
  "body": "EC2 Auto Start/Stop executed successfully"
}
```

GitHub Repository:

<https://github.com/Rushiargade/aws-lambda-ec2-auto-start-stop.git>