

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	Q Q	t3.micro
<input type="checkbox"/>	Autostop	i-0cbf2fe51fc3478c	Stopped	Q Q	t2.micro
<input checked="" type="checkbox"/>	AutoStop-Instance	i-021a6cf1eb540f90b	Stopped	Q Q	t3.micro
<input checked="" type="checkbox"/>	AutoStop-Instance	i-021a6cf1eb540f90b	Stopped	Q Q	t3.micro
<input type="checkbox"/>	backendServer01	i-09b8dbac347b291d9	Stopped	Q Q	t2.micro
<input type="checkbox"/>	cherry-ec2-mern-1	i-0d12554c69ffb90d0	Stopped	Q Q	t2.micro

-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	Q Q	t3.micro	3/3 c
<input type="checkbox"/>	Autostop	i-0cbf2fe51fc3478c	Stopped	Q Q	t2.micro	-
<input type="checkbox"/>	AutoStop-Instance	i-021a6cf1eb540f90b	Stopped	Q Q	t3.micro	-
<input type="checkbox"/>	backendServer01	i-09b8dbac347b291d9	Stopped	Q Q	t2.micro	-
<input type="checkbox"/>	cherry-ec2-mern-1	i-0d12554c69ffb90d0	Stopped	Q Q	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

Search

All

Policy name ↗

▲ Type

[AmazonEC2FullAccess](#)

AWS managed

[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](#)

Code | Test | Monitor | Configuration | Aliases | Versions

Code source [Info](#)

EXPLORERλ lambda_function.py

```
λ lambda_function.py
1 import boto3
2
3 def lambda_handler(event, context):
4     ec2 = boto3.client('ec2')
```

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 screenshot shows the AWS Lambda function editor interface. The top navigation bar has tabs for 'lambda_function.py' and 'lambda_function.py'. The main area displays the Python code for a Lambda function:

```
3 def lambda_handler(event, context):      Amazon Q Tip 1/3: Start typing to get suggestions ([ESC] to
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 = []

```

Below the code, there are tabs for 'PROBLEMS', 'OUTPUT', 'CODE REFERENCE LOG', and 'TERMINAL'. The 'OUTPUT' tab is selected, showing the execution results:

Status: Succeeded
Test Event Name: hello-world

Response:

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

GitHub Repository:

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