

# Task-1

## Assignment 1: Automated Instance Management Using AWS Lambda and Boto3

Objective: In this assignment, you will gain hands-on experience with AWS Lambda and Boto3, Amazon's SDK for Python. You will create a

Lambda function that will automatically manage EC2 instances based on their tags.

Task: You're tasked to automate the stopping and starting of EC2 instances based on tags. Specifically:

### 1. Setup:

- Create two EC2 instances.
- Tag one of them as `Auto-Stop` and the other as `Auto-Start`.

### 2. Lambda Function Creation:

- Set up an AWS Lambda function.
- Ensure that the Lambda function has the necessary IAM permissions to describe, stop, and start EC2 instances.

### 3. Coding:

- Using Boto3 in the Lambda function:
- Detect all EC2 instances with the `Auto-Stop` tag and stop them.
- Detect all EC2 instances with the `Auto-Start` tag and start them.

### 4. Testing:

- Manually invoke the Lambda function.
- Confirm that the instance tagged `Auto-Stop` stops and the one tagged `Auto-Start` starts.

Instructions:

### 1. EC2 Setup:

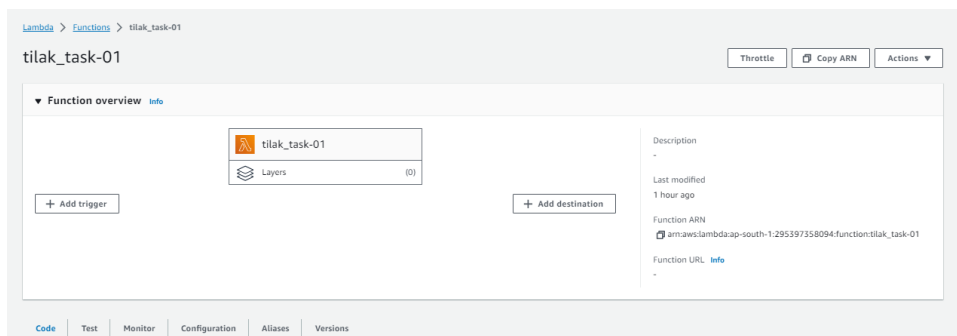
- Navigate to the EC2 dashboard and create two new t2.micro instances (or any other available free-tier type).

Content Index:

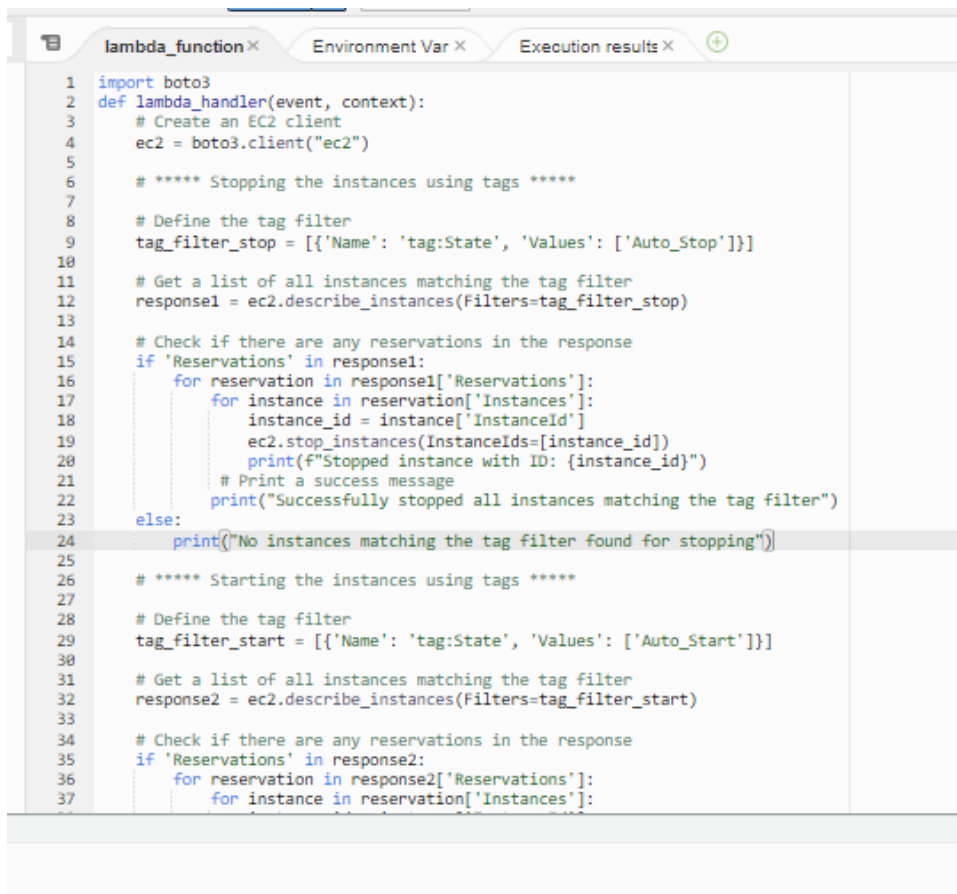
1. Create a Lambda Function to start and Stop the instance
2. Make sure you update the EC2-Instance with Tags
3. **a. Name: State**
4. **b. Value: Auto\_Start and Auto\_stop**
5. Check if the instances are auto starting and stopping as well.

Step1:

Create a New lambda Function as shown in the below screenshot



Below is the code updated in the Lambda function



Now we will update the Tags for EC2 instance to Auto\_start and Auto\_Start the instances

Instances (1/3) Info

Find instance by attribute or tag (case-sensitive)

tilak

Clear filters

Connect

Instance state

Actions

Launch instances

	Name	Instance ID	Instance state	Key name	Image ID	AMI launch index	Launch time
<input type="checkbox"/>	tilak_19	i-0635c371d626497df	Running	tilak-keypair	ami-099b3d23e336c2e83	0	2023/10/20 19:02 GMT+5:30
<input checked="" type="checkbox"/>	tilak-task01-start	i-06862e838a9afca71	Running	tilak-keypair	ami-05356a1399151a273	0	2023/10/20 22:46 GMT+5:30
<input type="checkbox"/>	tilak-task-01-stop	i-061f80d5af0ea4343	Stopped	tilak-keypair	ami-069dff289d3f85dd9	0	2023/10/20 22:36 GMT+5:30

Instance: i-06862e838a9afca71 (tilak-task01-start)

Details | Security | Networking | Storage | Status checks | Monitoring | Tags

Tags

Manage tags

Key	Value
Name	tilak-task01-start
State	Auto_Start

Instances (1/3) Info

Find instance by attribute or tag (case-sensitive)

tilak

Clear filters

Connect

Instance state

Actions

Launch instances

	Name	Instance ID	Instance state	Key name	Image ID	AMI launch index	Launch time
<input type="checkbox"/>	tilak_19	i-0635c371d626497df	Running	tilak-keypair	ami-099b3d23e336c2e83	0	2023/10/20 19:02 GMT+5:30
<input type="checkbox"/>	tilak-task01-start	i-06862e838a9afca71	Running	tilak-keypair	ami-05356a1399151a273	0	2023/10/20 22:46 GMT+5:30
<input checked="" type="checkbox"/>	tilak-task-01-stop	i-061f80d5af0ea4343	Stopped	tilak-keypair	ami-069dff289d3f85dd9	0	2023/10/20 22:36 GMT+5:30

Instance: i-061f80d5af0ea4343 (tilak-task-01-stop)

Details | Security | Networking | Storage | Status checks | Monitoring | Tags

Tags

Manage tags

Key	Value
State	Auto_Stop
Name	tilak-task-01-stop

Run the Code Manually to test the instances are starting and stopping.

Instances (3) Info

Find instance by attribute or tag (case-sensitive)

tilak

Clear filters

Connect

Instance state

Actions

Launch instances

	Name	Instance ID	Instance state	Key name	Image ID	AMI launch index	Launch time
<input type="checkbox"/>	tilak_19	i-0635c371d626497df	Running	tilak-keypair	ami-099b3d23e336c2e83	0	2023/10/20 19:02 GMT+5:30
<input type="checkbox"/>	tilak-task01-start	i-06862e838a9afca71	Running	tilak-keypair	ami-05356a1399151a273	0	2023/10/20 22:46 GMT+5:30
<input type="checkbox"/>	tilak-task-01-stop	i-061f80d5af0ea4343	Stopped	tilak-keypair	ami-069dff289d3f85dd9	0	2023/10/20 22:36 GMT+5:30

Done