

100 Days of AWS — Day 16- Stop/Start EC2 instance on a scheduled basis to save cost

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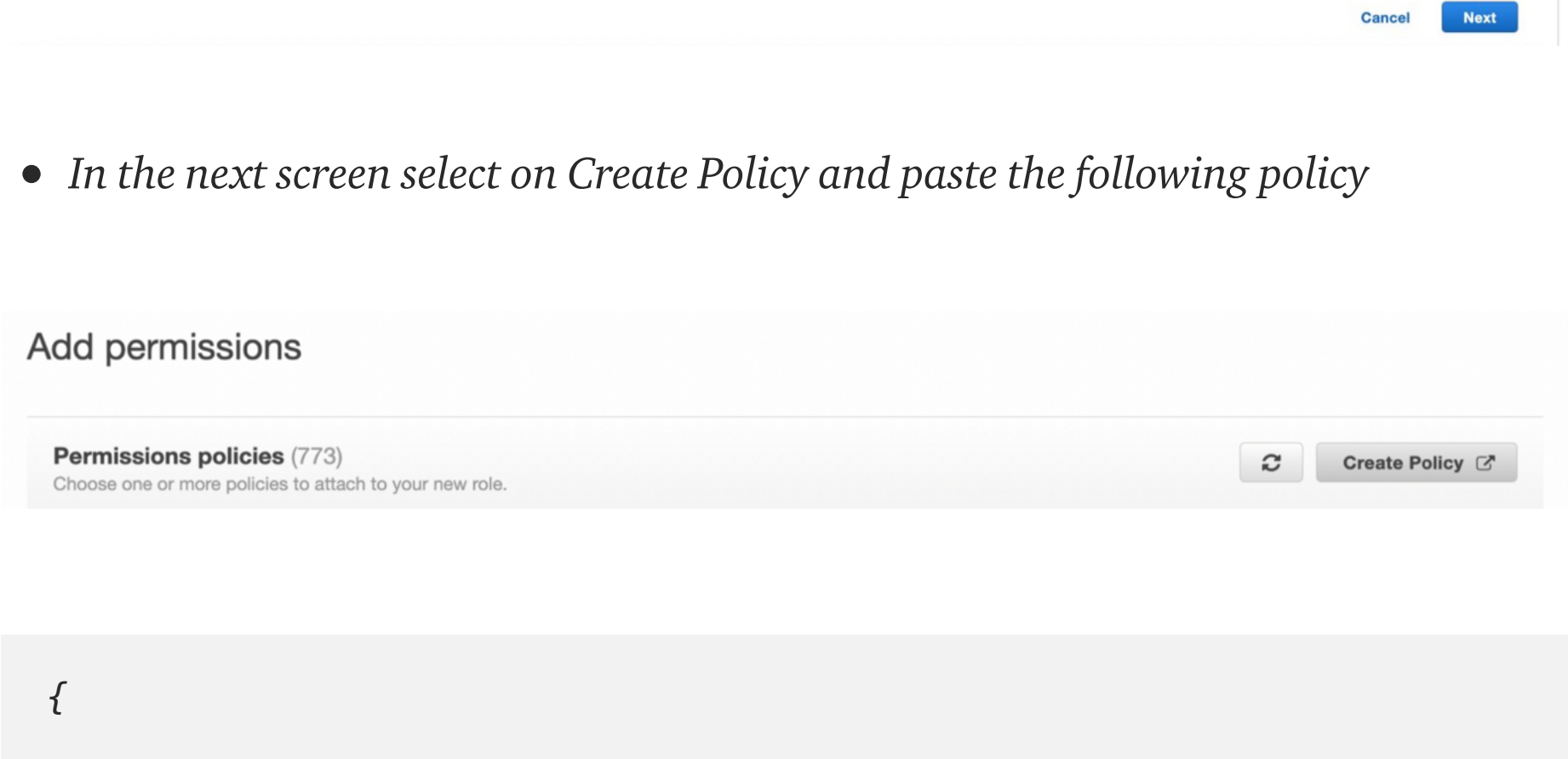
Welcome to Day 16 of 100 Days of AWS. The topic for today is Stop/Start EC2 instance on a scheduled basis to save cost.

This is one of the ask I came across in Dev env to save money where you need to shut down all the EC2 instance on a scheduled basis and bring it back the next day. To achieve that, we use Lambda in the combination of CloudWatch Events.

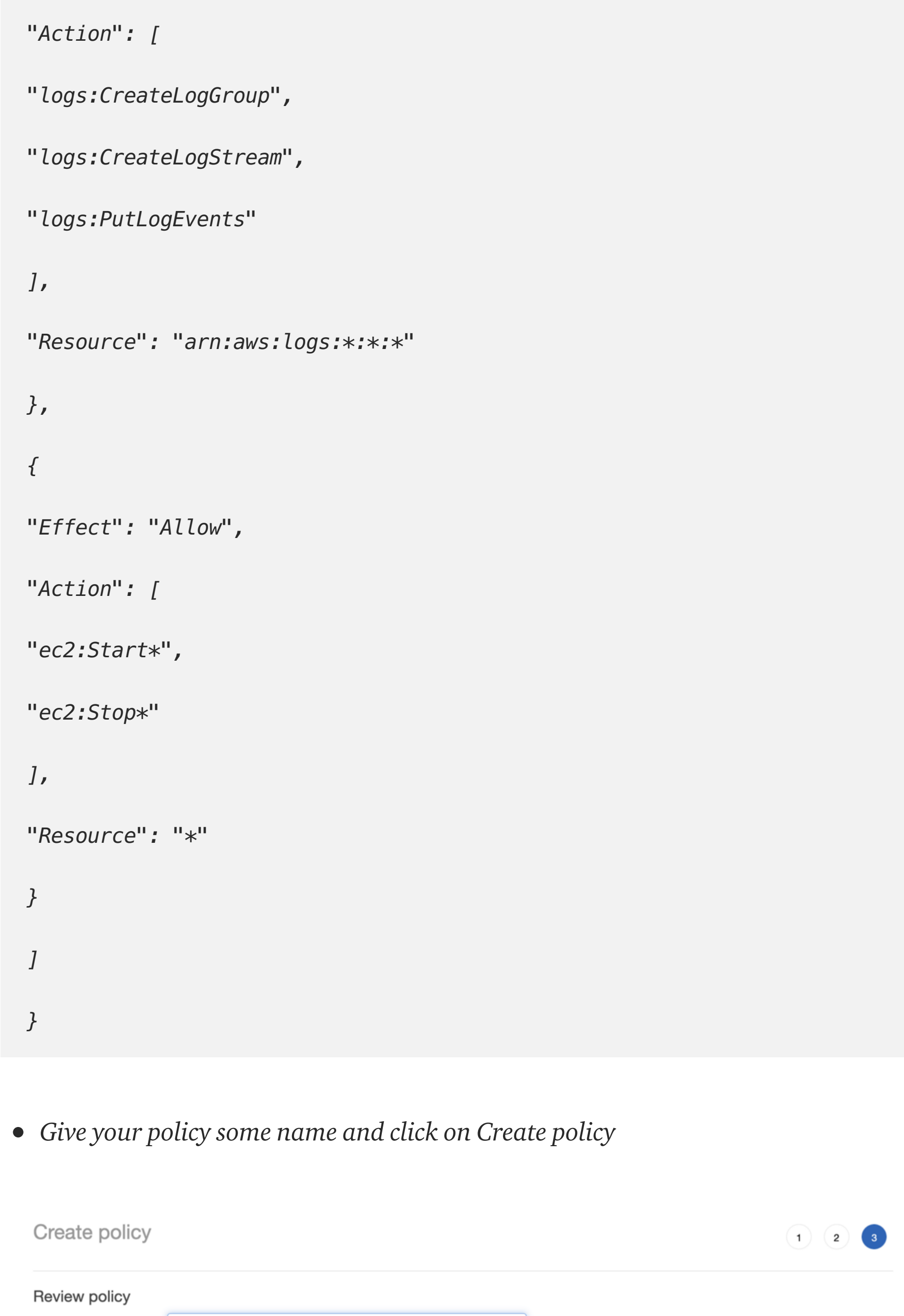
These are the steps we need to perform

Step1: Create IAM Role so that Lambda can interact with CloudWatch Events

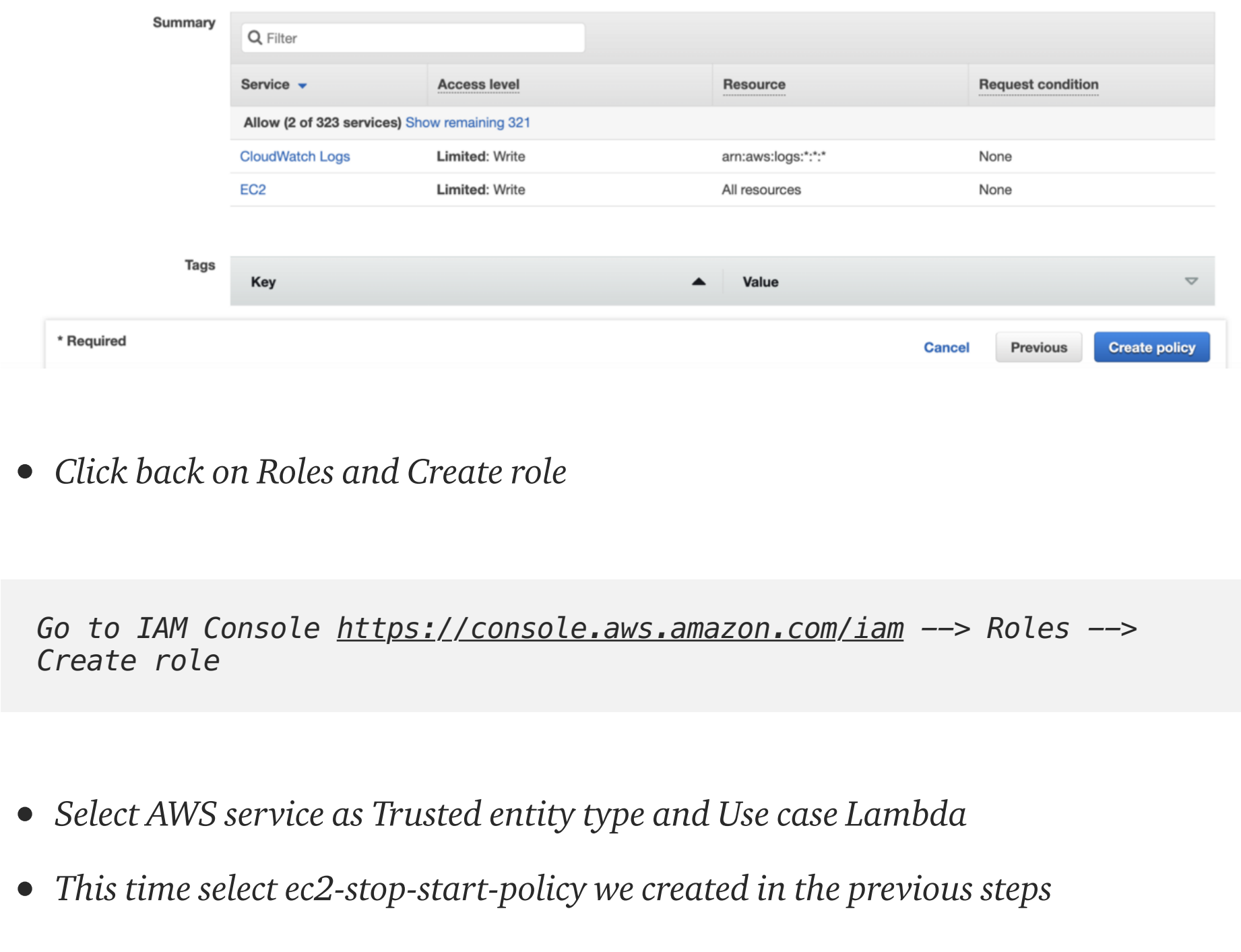
Go to IAM Console <https://console.aws.amazon.com/iam> --> Roles --> Create role



- In the next screen select on Create Policy and paste the following policy



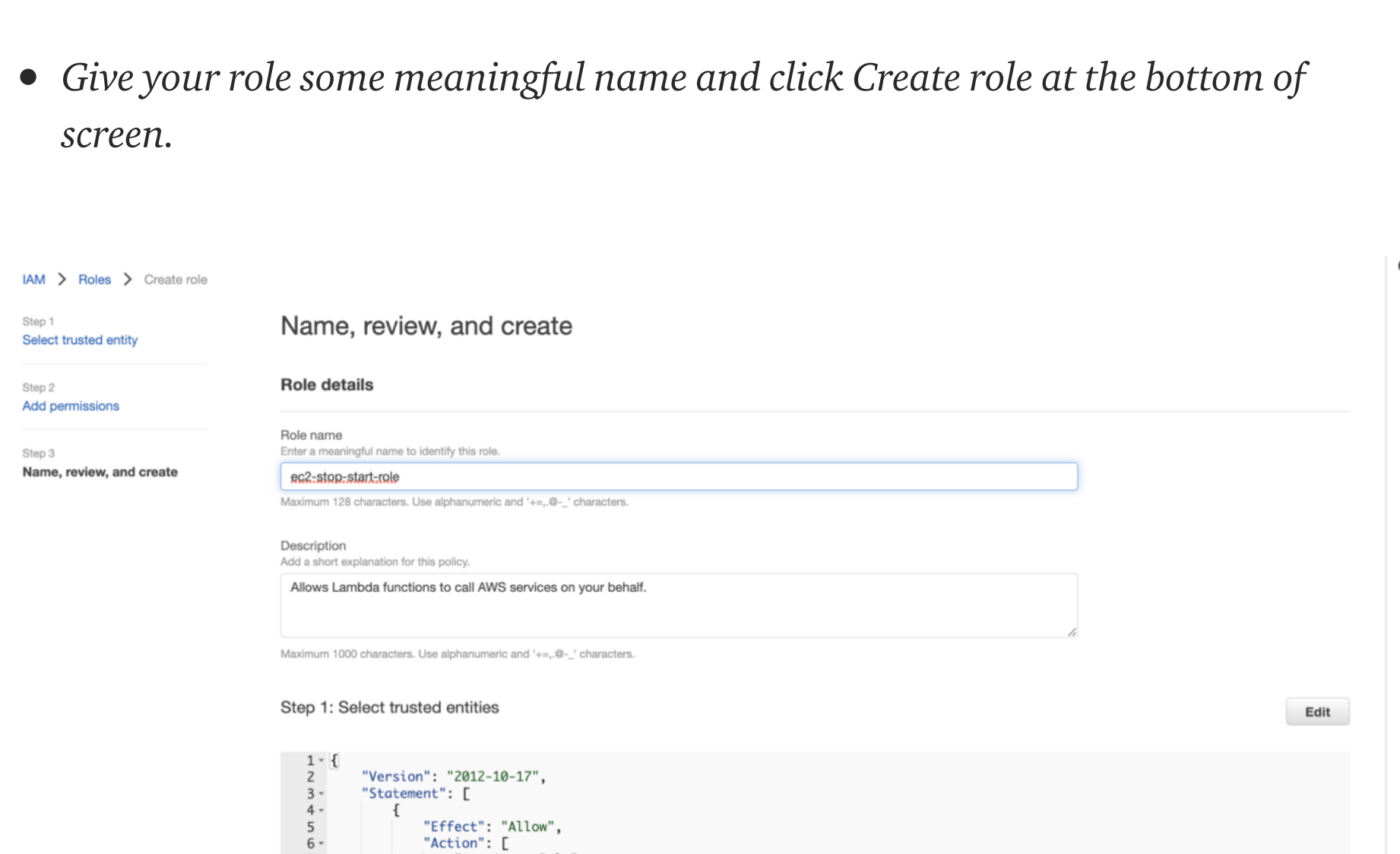
- Give your policy some name and click on Create policy



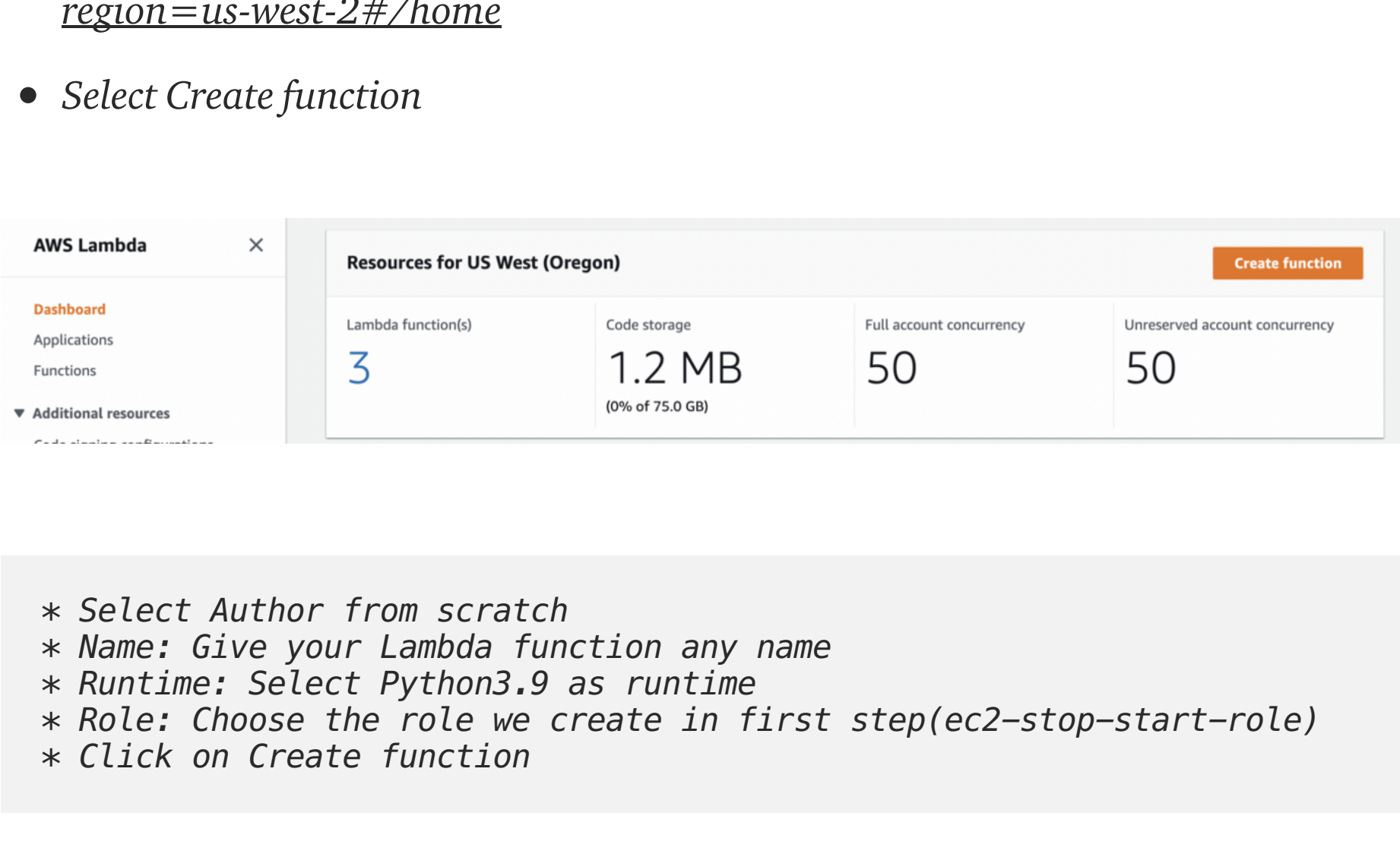
- Click back on Roles and Create role

Go to IAM Console <https://console.aws.amazon.com/iam> --> Roles --> Create role

- Select AWS service as Trusted entity type and Use case Lambda
- This time select ec2-stop-start-policy we created in the previous steps

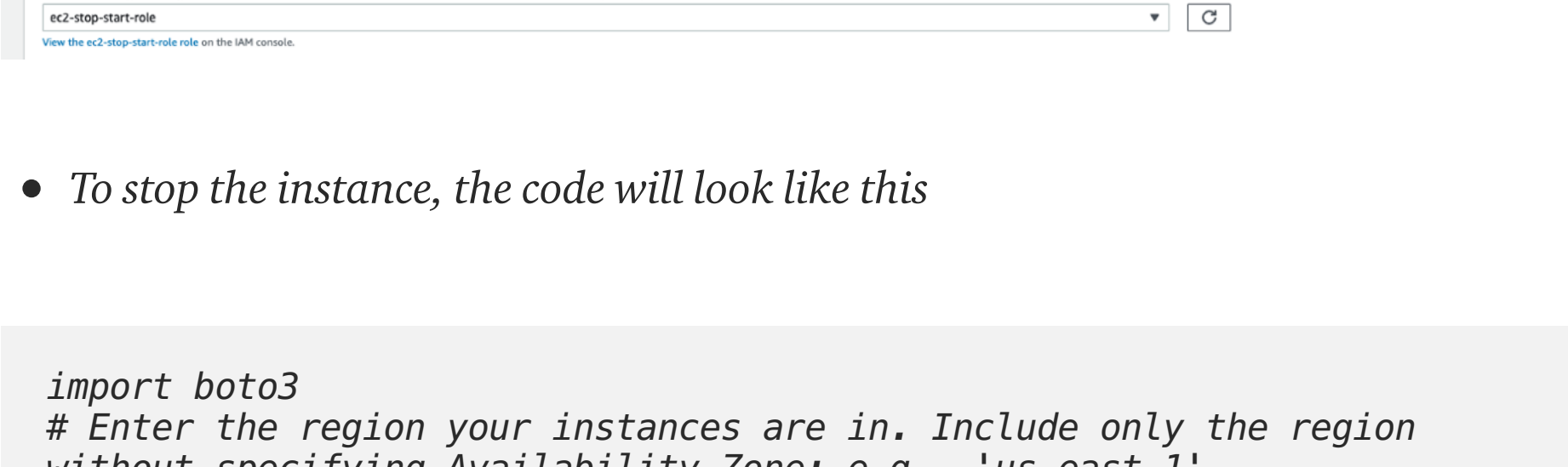


- Give your role some meaningful name and click Create role at the bottom of screen.

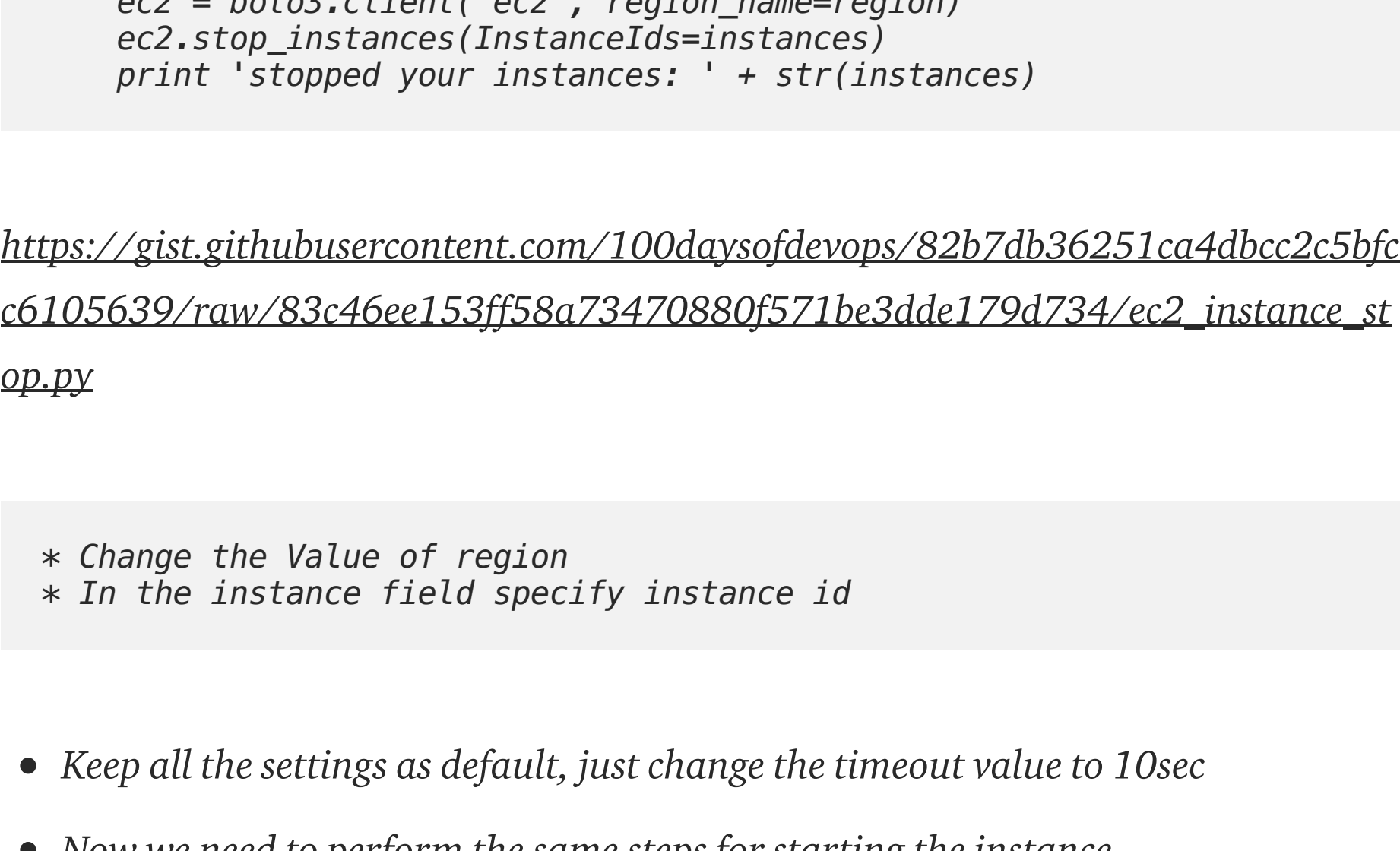


Step2: Create Lambda function

- Go to Lambda <https://us-west-2.console.aws.amazon.com/lambda/home?region=us-west-2#/home>
- Select Create function



- Select Author from scratch
- Name: Give your Lambda function any name
- Runtime: Select Python3.9 as runtime
- Role: Choose the role we create in first step(ec2-stop-start-role)
- Click on Create function



- To stop the instance, the code will look like this

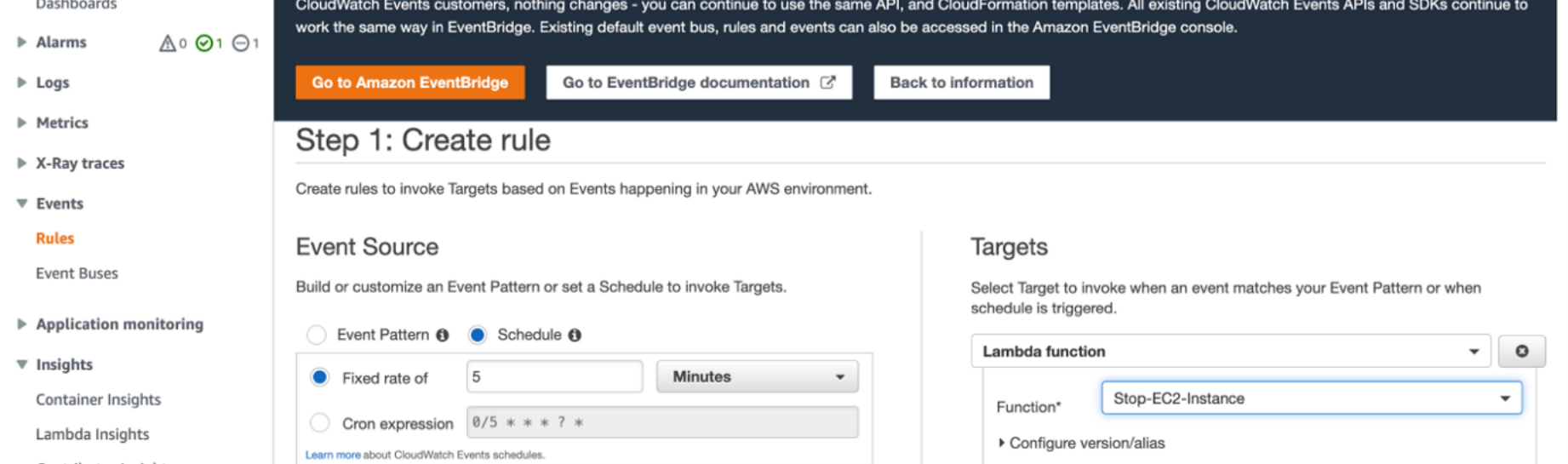
```
import boto3
# Enter the region your instances are in. Include only the region
without specifying Availability Zone; e.g., 'us-east-1'
region = 'us-east-1'
# Enter your instances here: ex. ['X-XXXXXXX', 'X-XXXXXXX']
instances = ['X-XXXXXXX']

def lambda_handler(event, context):
    ec2 = boto3.client('ec2', region_name=region)
    ec2.stop_instances(InstanceIds=instances)
    print 'stopped your instances: ' + str(instances)
```

https://gist.githubusercontent.com/100daysofdevops/82b7db36251c44dbcc2c5bfc6105639/raw/83c46ee153ff58a73470880f571be3dde179d734/ec2_instance_stop.py

- Change the Value of region
- In the instance field specify instance id

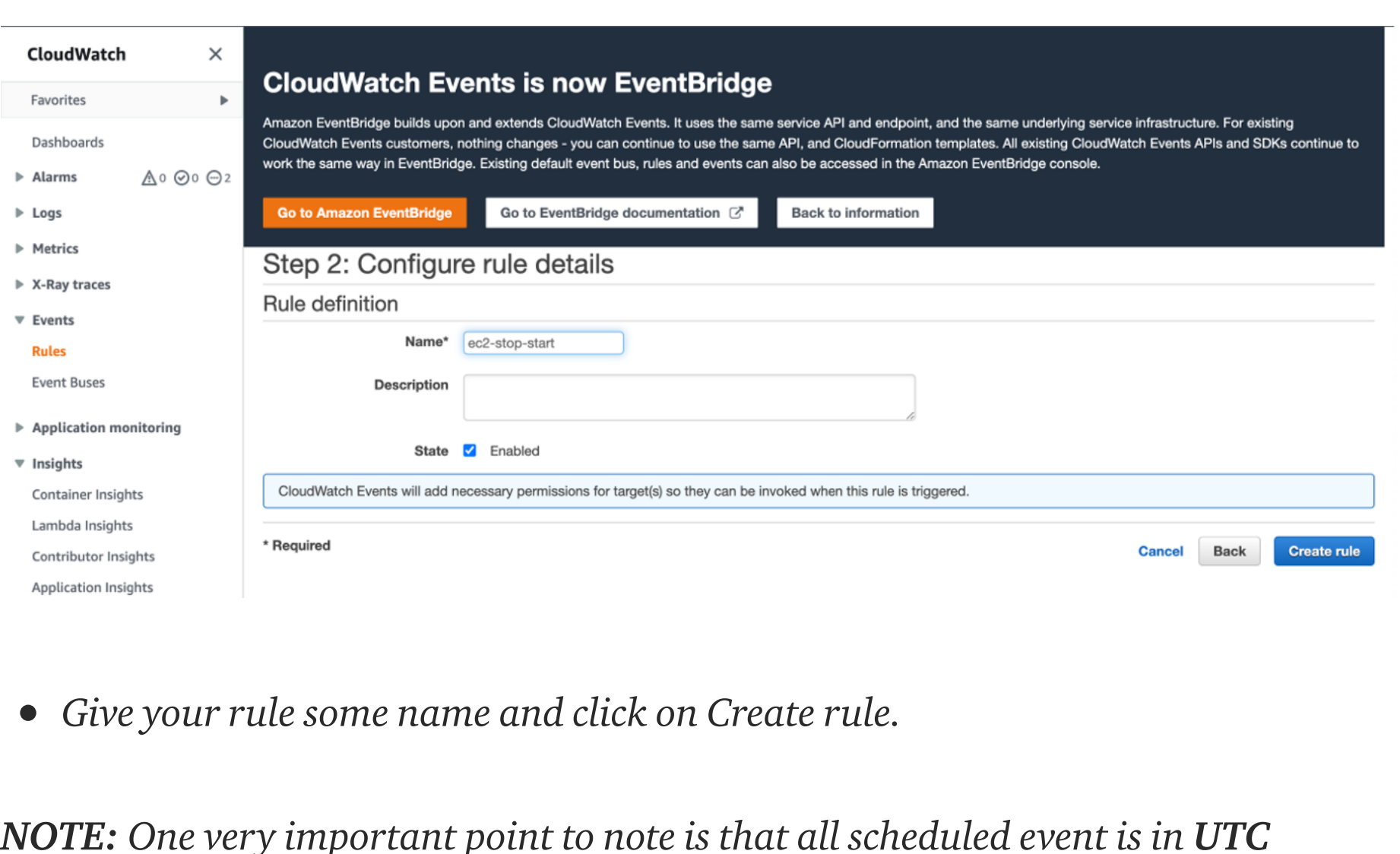
- Keep all the settings as default, just change the timeout value to 10sec
- Now we need to perform the same steps for starting the instance



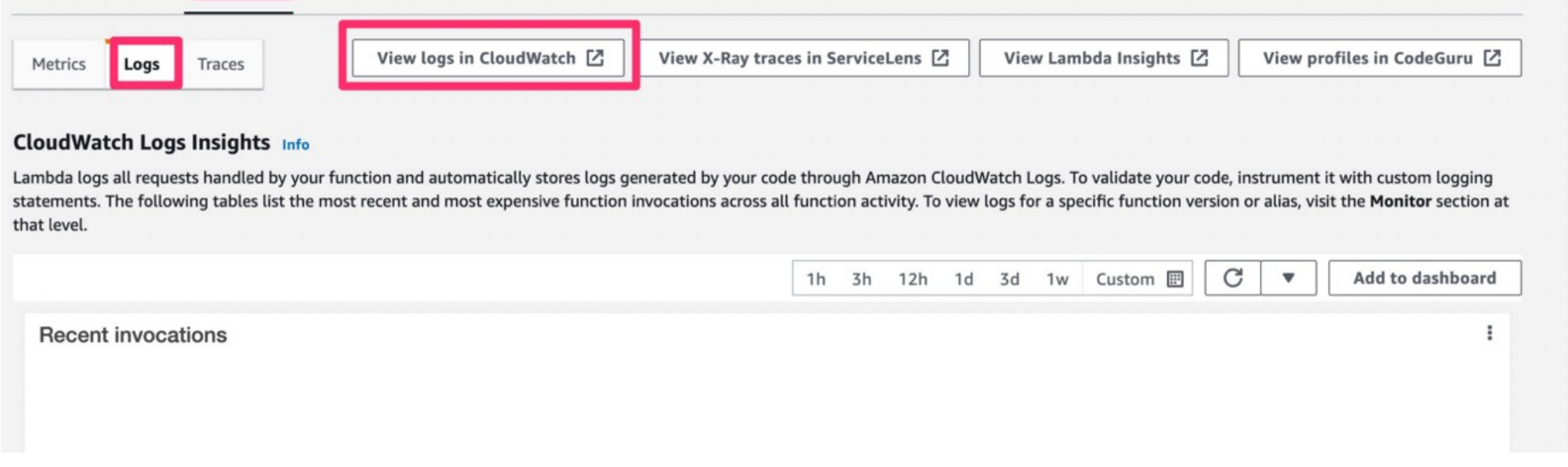
- Click on Deploy

Step3: Create the CloudWatch event to trigger this Lambda function

- Open the Amazon CloudWatch console.
- Choose Events, and then choose Create rule.
- Choose Schedule under Event Source.



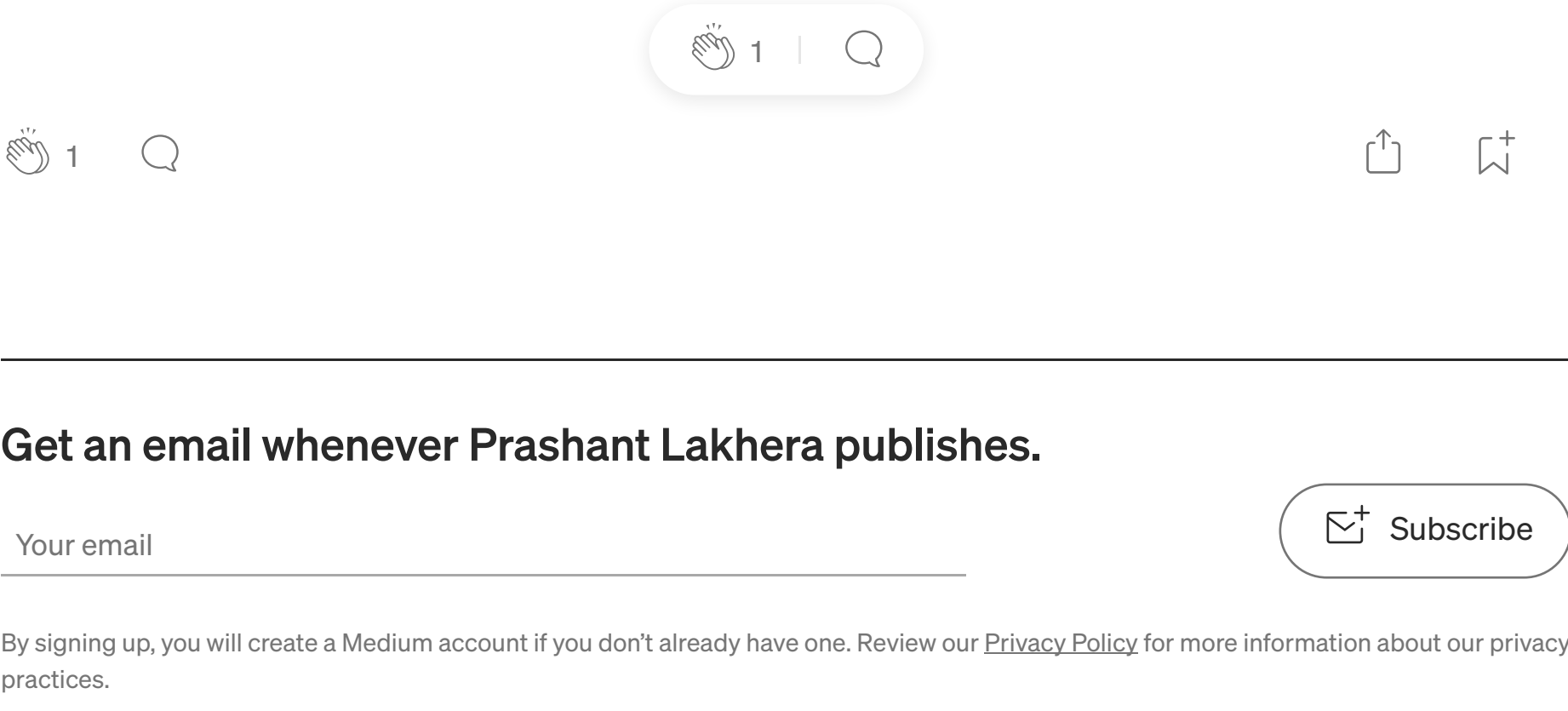
- Under Cron expression choose * 18 * * * * (If you want to shutdown your instance at 6pm everyday)
- Choose Add target, and then choose Lambda function that you created earlier to stop the instance
- Click on Configure details



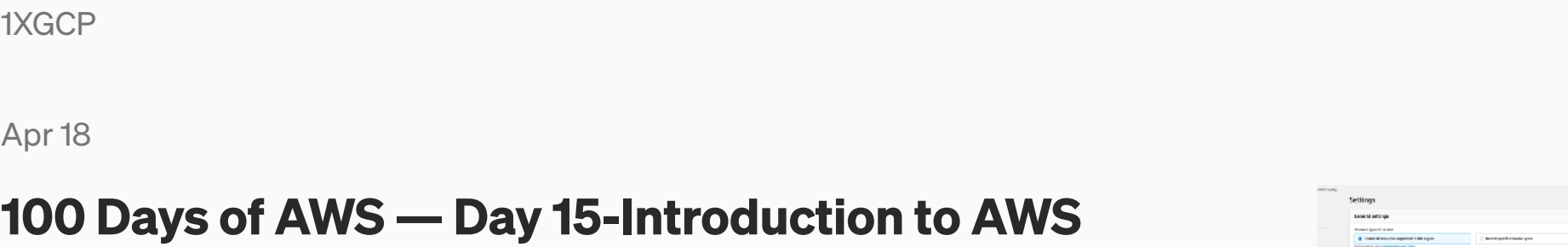
- Give your rule some name and click on Create rule.

NOTE: One very important point to note is that all scheduled event is in UTC timezone, so you need to customize it based on your timezone.

- Go back to your Lambda and click on View logs in CloudWatch



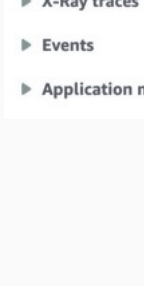
- The simple automation system is ready in stopping/starting the instance and to save some company money.



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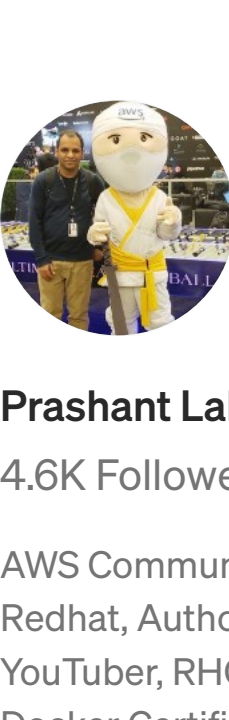
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