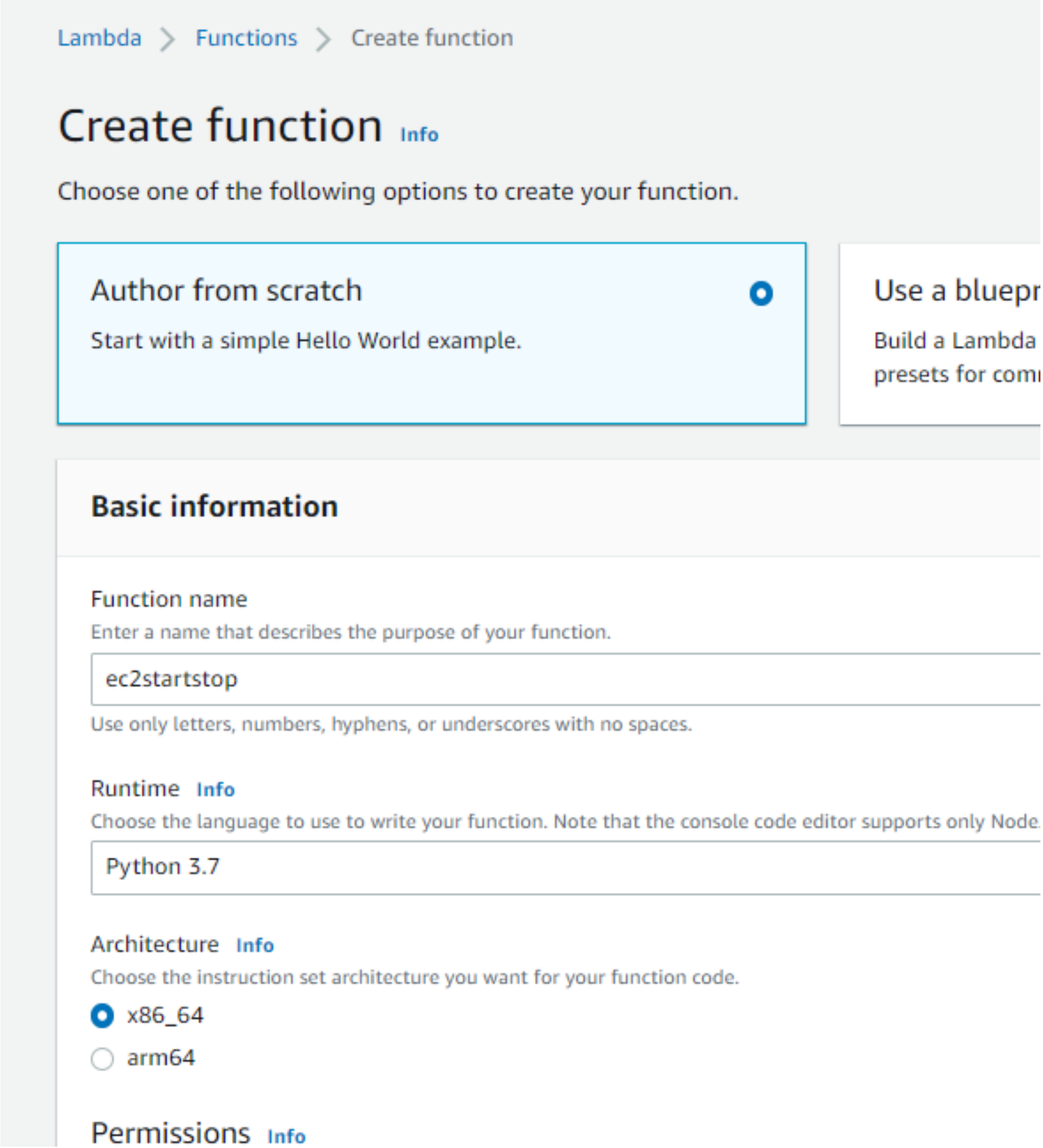
Forgetting to stop an on-demand EC2 instance, might be a costly mistake. Scheduling to stop or stop an EC2 is the first line of defence against this.

We can use a lambda function to start/stop an ec2-instance; and create a Amazon Event Bridge rule to schedule it



Lambda > Functions > Create function

Create function Info

Choose one of the following options to create your function.

● Author from scratch
Start with a simple Hello World example.

Use a bluepr
Build a Lambda
presets for comi

Basic information

Function name
Enter a name that describes the purpose of your function.
ec2startstop
Use only letters, numbers, hyphens, or underscores with no spaces.

Runtime Info
Choose the language to use to write your function. Note that the console code editor supports only Node
Python 3.7

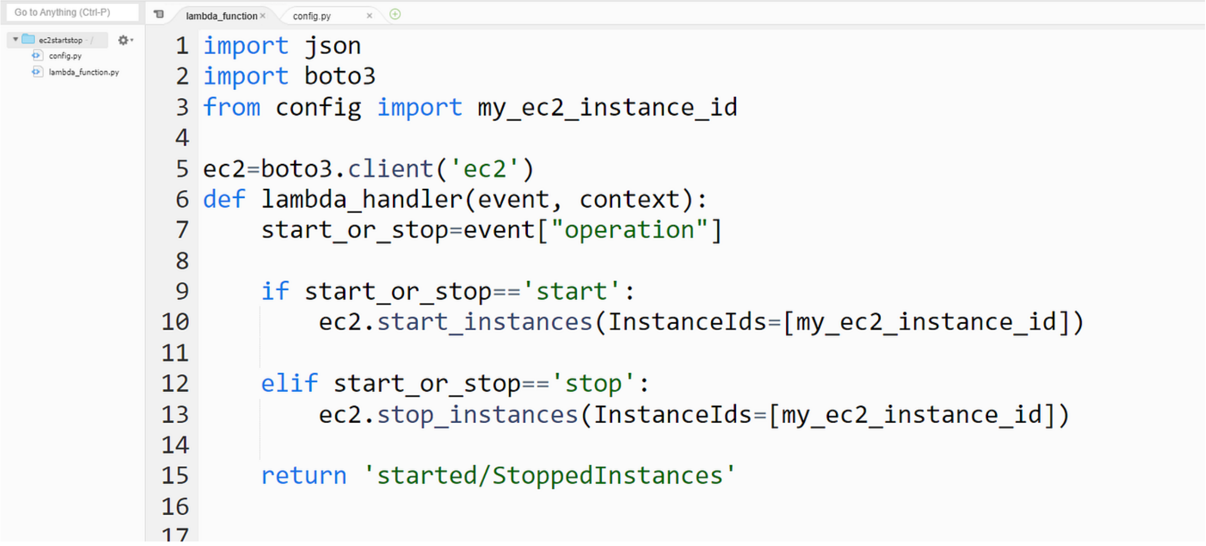
Architecture Info
Choose the instruction set architecture you want for your function code.
● x86_64
○ arm64

Permissions Info

Create a Lambda Function

Using boto3 library we can write a function to start or stop the instance. the payload to the function would be {“operation”:”start”} or {“operation”:”stop”}

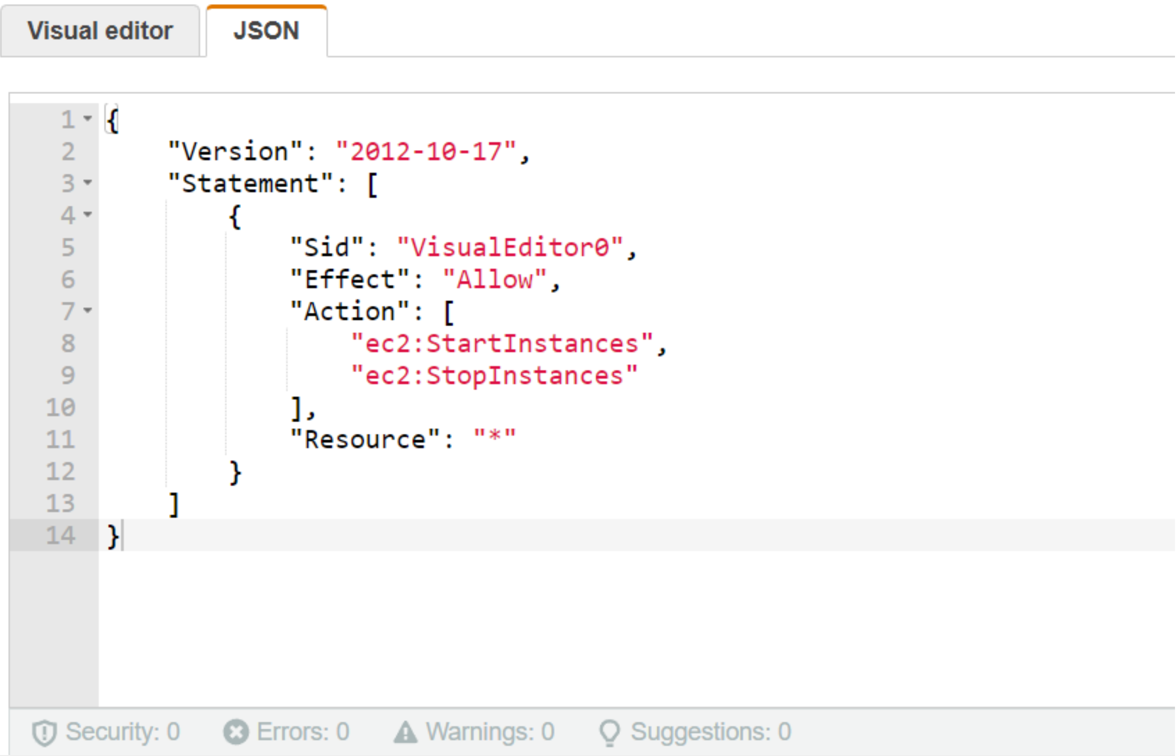
(in the config file I have put my_ec2_instance_id = i-07be6847****)



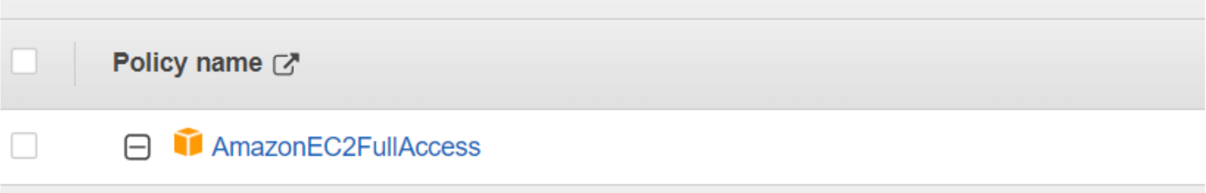
```python
import json
import boto3
from config import my_ec2_instance_id

ec2=boto3.client('ec2')
def lambda_handler(event, context):
    start_or_stop=event["operation"]

    if start_or_stop=='start':
        ec2.start_instances(InstanceIds=[my_ec2_instance_id])

    elif start_or_stop=='stop':
        ec2.stop_instances(InstanceIds=[my_ec2_instance_id])

    return 'started/StoppedInstances'
```

Lambda Function

The Lambda function needs permission to be able to start or stop the ec2 instance, use the below policy statement to create a policy or use AmzonEC2FullAccess policy from the list of policies and add attach the policy to the Lambda role.

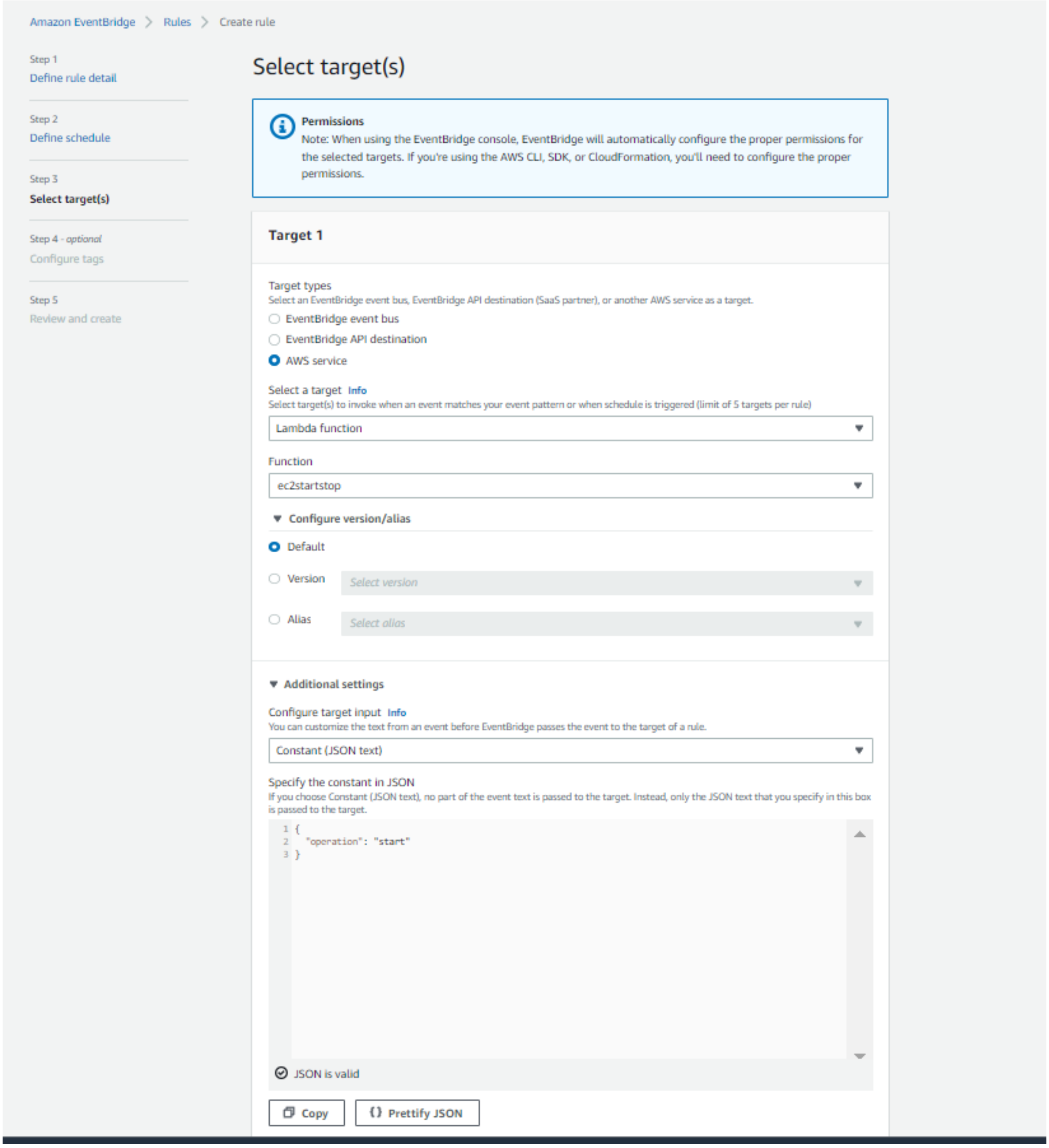


```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Sid": "VisualEditor0",
            "Effect": "Allow",
            "Action": [
                "ec2:StartInstances",
                "ec2:StopInstances"
            ],
            "Resource": "*"
        }
    ]
}
```



□	Policy name
□	⊟ AmazonEC2FullAccess

Now you can trigger the lambda to start or stop the instance, since I use it for stock market related functions I created two rules (one to start in the morning before market and one to stop after market) in Amazon Event Bridge



Amazon EventBridge > Rules > Create rule

Step 1
Define rule detail

Step 2
Define schedule

Step 3
Select target(s)

Step 4 - *optional*
Configure tags

Step 5
Review and create

Select target(s)

Permissions
Note: When using the EventBridge console, EventBridge will automatically configure the proper permissions for the selected targets. If you're using the AWS CLI, SDK, or CloudFormation, you'll need to configure the proper permissions.

Target 1

Target types
Select an EventBridge event bus, EventBridge API destination (SaaS partner), or another AWS service as a target.

○ EventBridge event bus
○ EventBridge API destination
● AWS service

Select a target Info
Select target(s) to invoke when an event matches your event pattern or when schedule is triggered (limit of 5 targets per rule)

Lambda function ▼

Function

ec2startstop ▼

▼ **Configure version/alias**

● Default

○ Version *Select version* ▼

○ Alias *Select alias* ▼

▼ **Additional settings**

Configure target input Info
You can customize the text from an event before EventBridge passes the event to the target of a rule.

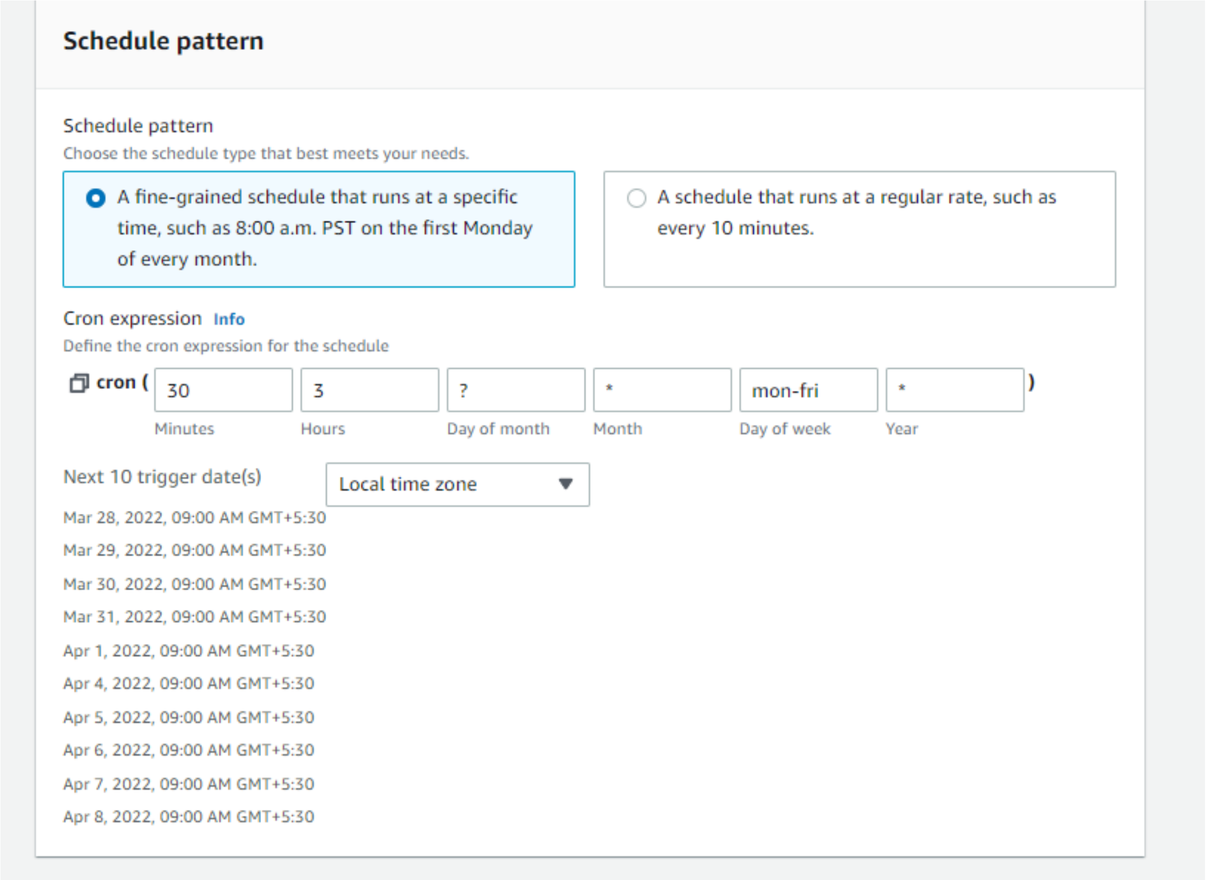
Constant (JSON text) ▼

Specify the constant in JSON
If you choose Constant (JSON text), no part of the event text is passed to the target. Instead, only the JSON text that you specify in this box is passed to the target.

```
{
  "operation": "start"
}
```

JSON is valid

Event Rule



Schedule pattern

Schedule pattern

Choose the schedule type that best meets your needs.

● A fine-grained schedule that runs at a specific time, such as 8:00 a.m. PST on the first Monday of every month.

○ A schedule that runs at a regular rate, such as every 10 minutes.

Cron expression Info

Define the cron expression for the schedule

cron (30 3 ? * mon-fri *)

Minutes	Hours	Day of month	Month	Day of week	Year
30	3	?	*	mon-fri	*

Next 10 trigger date(s) Local time zone ▼

Mar 28, 2022, 09:00 AM GMT+5:30
Mar 29, 2022, 09:00 AM GMT+5:30
Mar 30, 2022, 09:00 AM GMT+5:30
Mar 31, 2022, 09:00 AM GMT+5:30
Apr 1, 2022, 09:00 AM GMT+5:30
Apr 4, 2022, 09:00 AM GMT+5:30
Apr 5, 2022, 09:00 AM GMT+5:30
Apr 6, 2022, 09:00 AM GMT+5:30
Apr 7, 2022, 09:00 AM GMT+5:30
Apr 8, 2022, 09:00 AM GMT+5:30

cron job for the rule

We can also create an API gateway trigger and Attach it to a Telegram bot, to stop or start our EC2 from Telegram