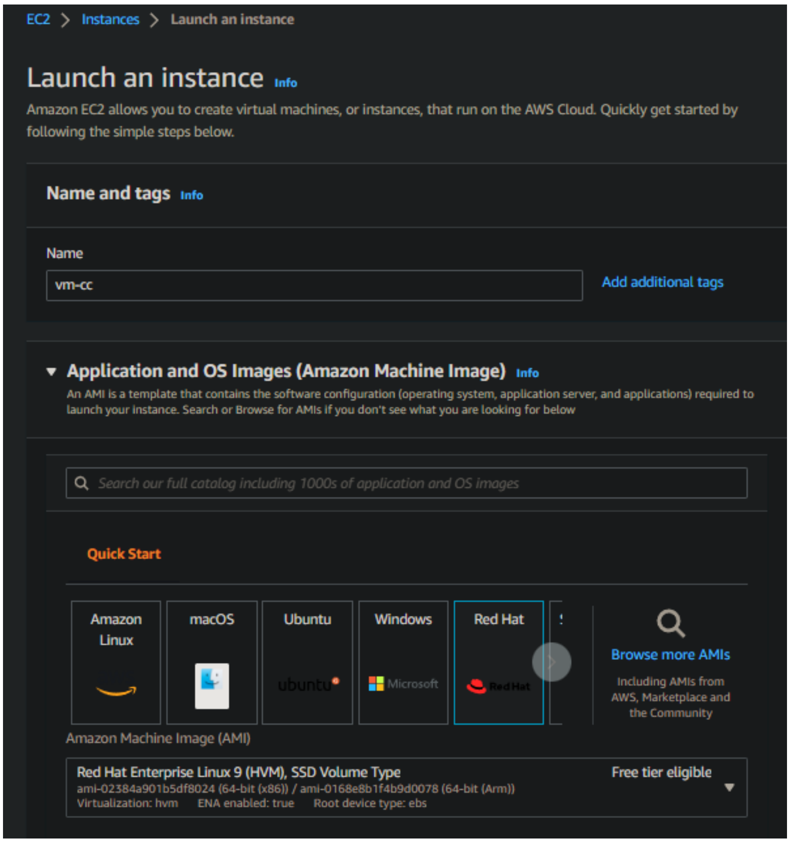
CC1 – Julien CANNOUX ING 3 FISA



EC2 > Instances > Launch an instance

Launch an instance Info

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags Info

Name: vm-cc

Add additional tags

Application and OS Images (Amazon Machine Image) Info

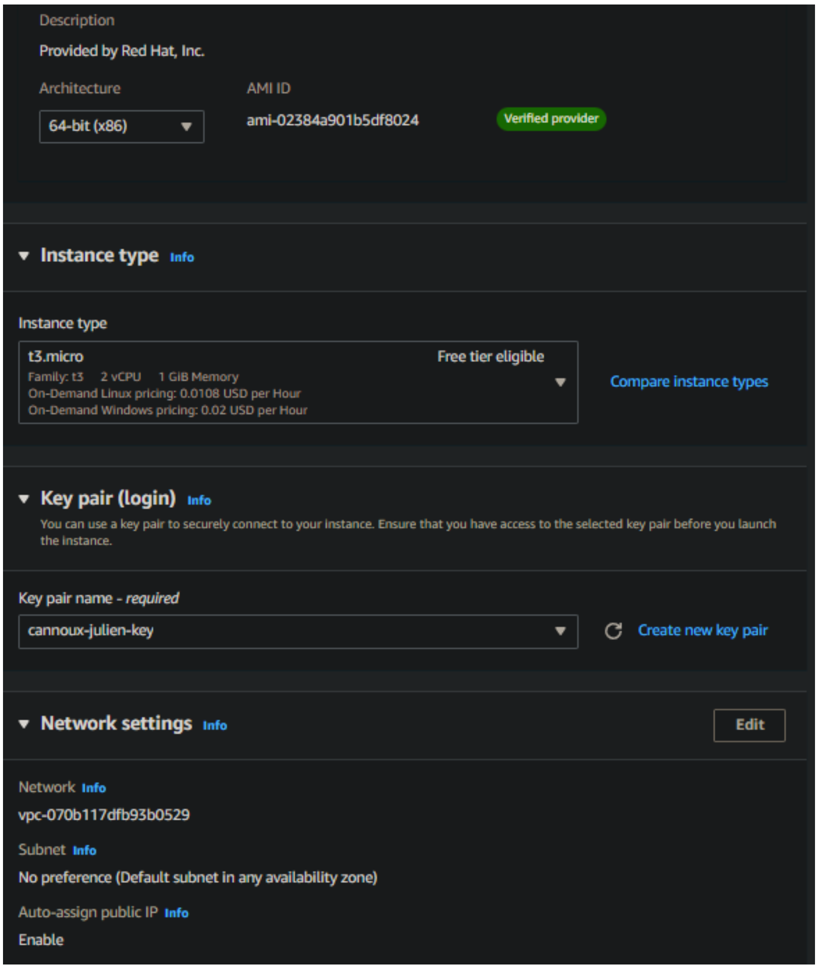
An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images

Quick Start

Amazon Machine Image (AMI)

Red Hat Enterprise Linux 9 (HVM), SSD Volume Type — Free tier eligible
ami-02384a901b5df8024 (64-bit (x86)) / ami-0168e8b1f4b9d0078 (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs



Description

Provided by Red Hat, Inc.

Architecture: 64-bit (x86)

AMI ID: ami-02384a901b5df8024 Verified provider

Instance type Info

Instance type

t3.micro — Free tier eligible
Family: t3 2 vCPU 1 GiB Memory
On-Demand Linux pricing: 0.0108 USD per Hour
On-Demand Windows pricing: 0.02 USD per Hour

Compare instance types

Key pair (login) Info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - *required*

cannoux-julien-key

Create new key pair

Network settings Info

Edit

Network Info

vpc-070b117dfb93b0529

Subnet Info

No preference (Default subnet in any availability zone)

Auto-assign public IP Info

Enable

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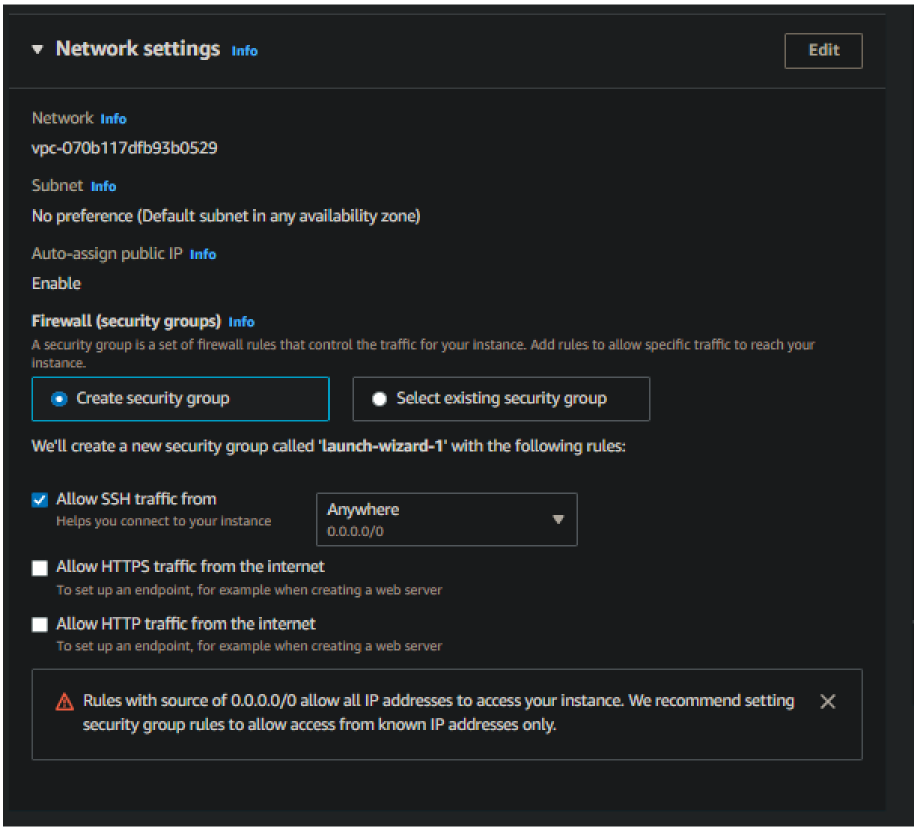


Network Info
vpc-070b117dfb93b0529

Subnet Info
No preference (Default subnet in any availability zone)

Auto-assign public IP Info
Enable

Firewall (security groups) Info
A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

● Create security group ○ Select existing security group

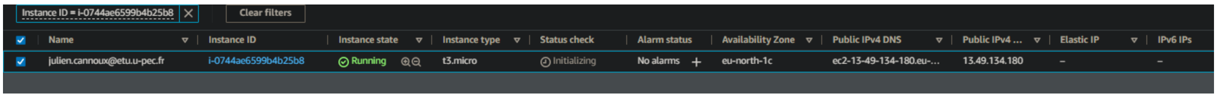
We'll create a new security group called '**launch-wizard-1**' with the following rules:

☑ Allow SSH traffic from — Anywhere 0.0.0.0/0
Helps you connect to your instance

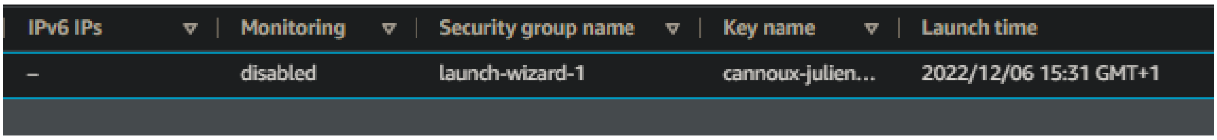
□ Allow HTTPS traffic from the internet
To set up an endpoint, for example when creating a web server

□ Allow HTTP traffic from the internet
To set up an endpoint, for example when creating a web server

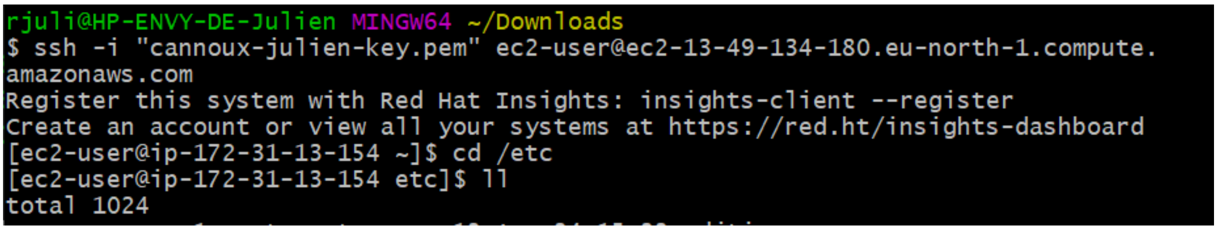
⚠ Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.



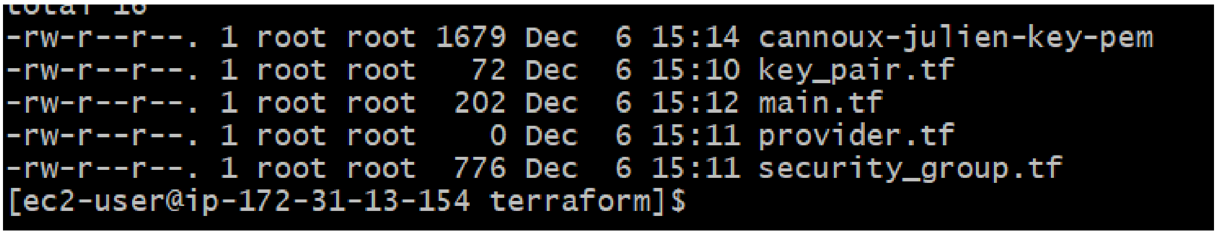
☑	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP	IPv6 IPs
☑	julien.cannoux@etu.u-pec.fr	i-0744ae6599b4b25b8	Running	t3.micro	Initializing	No alarms	eu-north-1c	ec2-13-49-134-180.eu-...	13.49.134.180	–	–



IPv6 IPs	Monitoring	Security group name	Key name	Launch time
–	disabled	launch-wizard-1	cannoux-julien...	2022/12/06 15:31 GMT+1



```
rjuli@HP-ENVY-DE-Julien MINGW64 ~/Downloads
$ ssh -i "cannoux-julien-key.pem" ec2-user@ec2-13-49-134-180.eu-north-1.compute.
amazonaws.com
Register this system with Red Hat Insights: insights-client --register
Create an account or view all your systems at https://red.ht/insights-dashboard
[ec2-user@ip-172-31-13-154 ~]$ cd /etc
[ec2-user@ip-172-31-13-154 etc]$ ll
total 1024
```



```
total 16
-rw-r--r--. 1 root root 1679 Dec  6 15:14 cannoux-julien-key-pem
-rw-r--r--. 1 root root   72 Dec  6 15:10 key_pair.tf
-rw-r--r--. 1 root root  202 Dec  6 15:12 main.tf
-rw-r--r--. 1 root root    0 Dec  6 15:11 provider.tf
-rw-r--r--. 1 root root  776 Dec  6 15:11 security_group.tf
[ec2-user@ip-172-31-13-154 terraform]$
```

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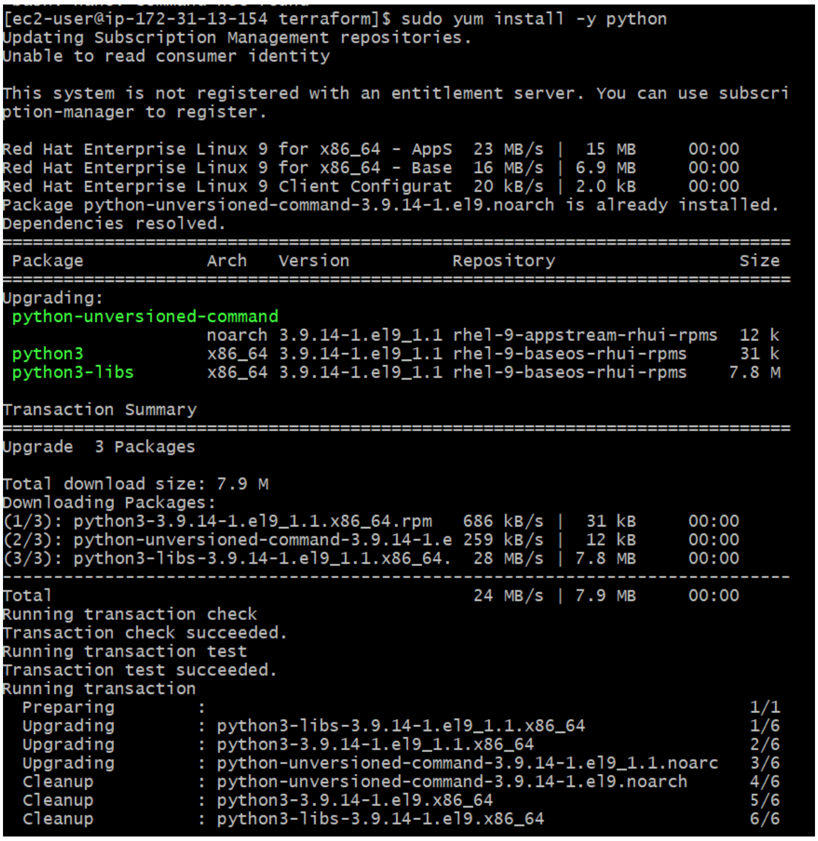
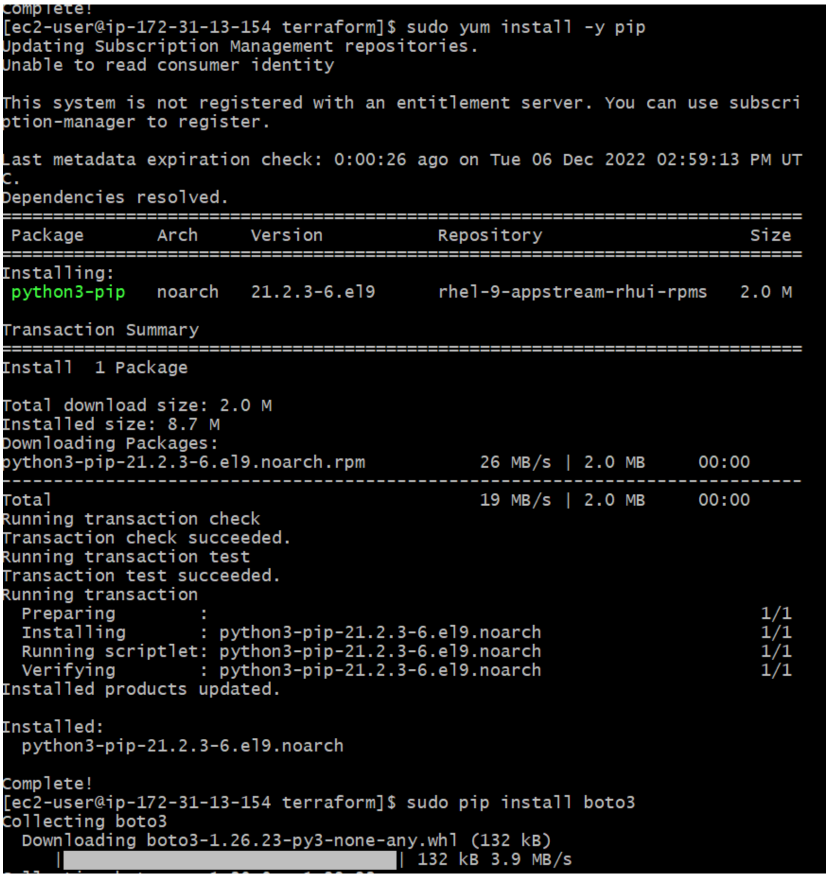
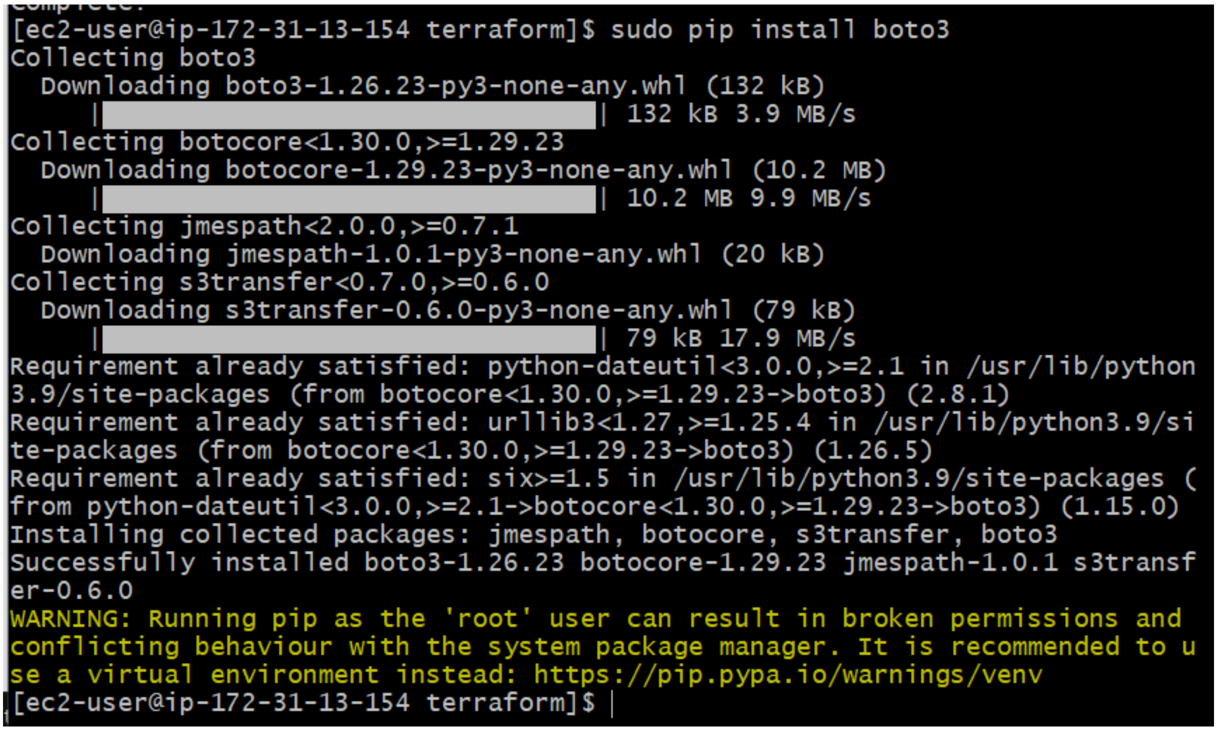
2)



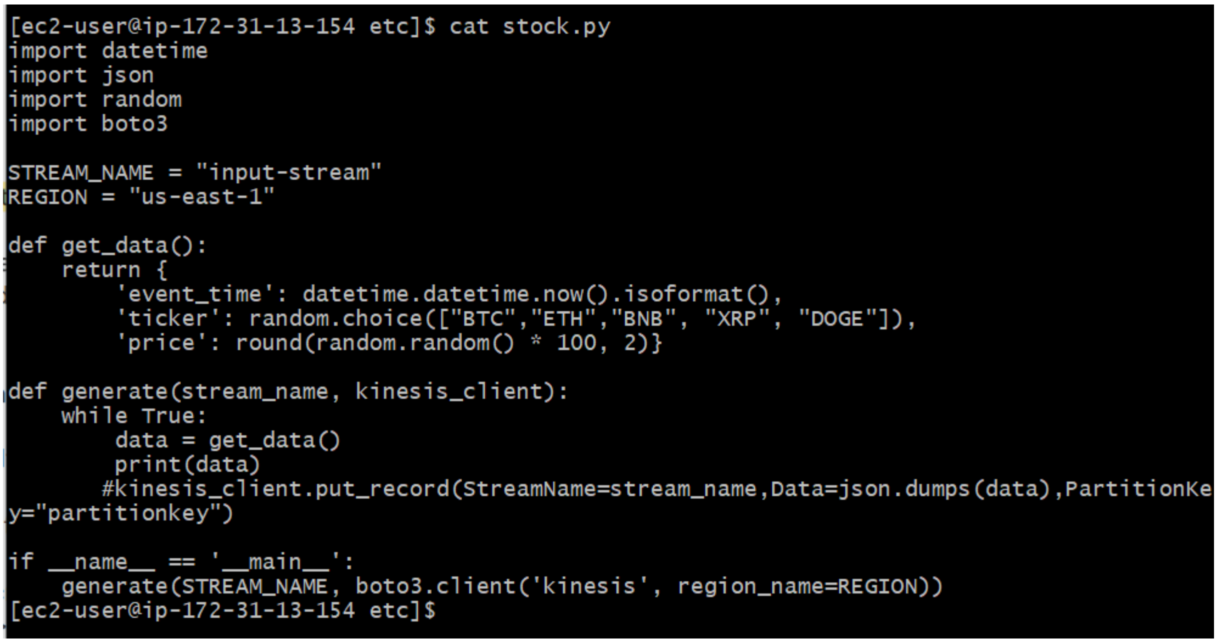
```
[ec2-user@ip-172-31-13-154 terraform]$ sudo yum install -y python
Updating Subscription Management repositories.
Unable to read consumer identity

This system is not registered with an entitlement server. You can use subscri
ption-manager to register.

Red Hat Enterprise Linux 9 for x86_64 - AppS  23 MB/s |  15 MB     00:00
Red Hat Enterprise Linux 9 for x86_64 - Base  16 MB/s | 6.9 MB     00:00
Red Hat Enterprise Linux 9 Client Configurat  20 kB/s | 2.0 kB     00:00
Package python-unversioned-command-3.9.14-1.el9.noarch is already installed.
Dependencies resolved.
==============================================================================
 Package                Arch   Version          Repository                Size
==============================================================================
Upgrading:
 python-unversioned-command
                        noarch 3.9.14-1.el9_1.1 rhel-9-appstream-rhui-rpms  12 k
 python3                x86_64 3.9.14-1.el9_1.1 rhel-9-baseos-rhui-rpms     31 k
 python3-libs           x86_64 3.9.14-1.el9_1.1 rhel-9-baseos-rhui-rpms    7.8 M

Transaction Summary
==============================================================================
Upgrade  3 Packages

Total download size: 7.9 M
Downloading Packages:
(1/3): python3-3.9.14-1.el9_1.1.x86_64.rpm   686 kB/s |  31 kB     00:00
(2/3): python-unversioned-command-3.9.14-1.e 259 kB/s |  12 kB     00:00
(3/3): python3-libs-3.9.14-1.el9_1.1.x86_64.  28 MB/s | 7.8 MB     00:00
------------------------------------------------------------------------------
Total                                         24 MB/s | 7.9 MB     00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing        :                                                       1/1
  Upgrading        : python3-libs-3.9.14-1.el9_1.1.x86_64                  1/6
  Upgrading        : python3-3.9.14-1.el9_1.1.x86_64                       2/6
  Upgrading        : python-unversioned-command-3.9.14-1.el9_1.1.noarc     3/6
  Cleanup          : python-unversioned-command-3.9.14-1.el9.noarch        4/6
  Cleanup          : python3-3.9.14-1.el9.x86_64                           5/6
  Cleanup          : python3-libs-3.9.14-1.el9.x86_64                      6/6
```



```
Complete!
[ec2-user@ip-172-31-13-154 terraform]$ sudo yum install -y pip
Updating Subscription Management repositories.
Unable to read consumer identity

This system is not registered with an entitlement server. You can use subscri
ption-manager to register.

Last metadata expiration check: 0:00:26 ago on Tue 06 Dec 2022 02:59:13 PM UT
C.
Dependencies resolved.
==============================================================================
 Package        Arch      Version           Repository                   Size
==============================================================================
Installing:
 python3-pip    noarch    21.2.3-6.el9      rhel-9-appstream-rhui-rpms   2.0 M

Transaction Summary
==============================================================================
Install  1 Package

Total download size: 2.0 M
Installed size: 8.7 M
Downloading Packages:
python3-pip-21.2.3-6.el9.noarch.rpm           26 MB/s | 2.0 MB     00:00
------------------------------------------------------------------------------
Total                                         19 MB/s | 2.0 MB     00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing        :                                                      1/1
  Installing       : python3-pip-21.2.3-6.el9.noarch                      1/1
  Running scriptlet: python3-pip-21.2.3-6.el9.noarch                      1/1
  Verifying        : python3-pip-21.2.3-6.el9.noarch                      1/1
Installed products updated.

Installed:
  python3-pip-21.2.3-6.el9.noarch

Complete!
[ec2-user@ip-172-31-13-154 terraform]$ sudo pip install boto3
Collecting boto3
  Downloading boto3-1.26.23-py3-none-any.whl (132 kB)
     |████████████████████████████████| 132 kB 3.9 MB/s
```



```
[ec2-user@ip-172-31-13-154 terraform]$ sudo pip install boto3
Collecting boto3
  Downloading boto3-1.26.23-py3-none-any.whl (132 kB)
     |████████████████████████████████| 132 kB 3.9 MB/s
Collecting botocore<1.30.0,>=1.29.23
  Downloading botocore-1.29.23-py3-none-any.whl (10.2 MB)
     |████████████████████████████████| 10.2 MB 9.9 MB/s
Collecting jmespath<2.0.0,>=0.7.1
  Downloading jmespath-1.0.1-py3-none-any.whl (20 kB)
Collecting s3transfer<0.7.0,>=0.6.0
  Downloading s3transfer-0.6.0-py3-none-any.whl (79 kB)
     |████████████████████████████████| 79 kB 17.9 MB/s
Requirement already satisfied: python-dateutil<3.0.0,>=2.1 in /usr/lib/python
3.9/site-packages (from botocore<1.30.0,>=1.29.23->boto3) (2.8.1)
Requirement already satisfied: urllib3<1.27,>=1.25.4 in /usr/lib/python3.9/si
te-packages (from botocore<1.30.0,>=1.29.23->boto3) (1.26.5)
Requirement already satisfied: six>=1.5 in /usr/lib/python3.9/site-packages (
from python-dateutil<3.0.0,>=2.1->botocore<1.30.0,>=1.29.23->boto3) (1.15.0)
Installing collected packages: jmespath, botocore, s3transfer, boto3
Successfully installed boto3-1.26.23 botocore-1.29.23 jmespath-1.0.1 s3transf
er-0.6.0
WARNING: Running pip as the 'root' user can result in broken permissions and
conflicting behaviour with the system package manager. It is recommended to u
se a virtual environment instead: https://pip.pypa.io/warnings/venv
[ec2-user@ip-172-31-13-154 terraform]$ |
```



```
[ec2-user@ip-172-31-13-154 etc]$ cat stock.py
import datetime
import json
import random
import boto3

STREAM_NAME = "input-stream"
REGION = "us-east-1"

def get_data():
    return {
        'event_time': datetime.datetime.now().isoformat(),
        'ticker': random.choice(["BTC","ETH","BNB", "XRP", "DOGE"]),
        'price': round(random.random() * 100, 2)}

def generate(stream_name, kinesis_client):
    while True:
        data = get_data()
        print(data)
       #kinesis_client.put_record(StreamName=stream_name,Data=json.dumps(data),PartitionKe
y="partitionkey")

if __name__ == '__main__':
    generate(STREAM_NAME, boto3.client('kinesis', region_name=REGION))
[ec2-user@ip-172-31-13-154 etc]$
```

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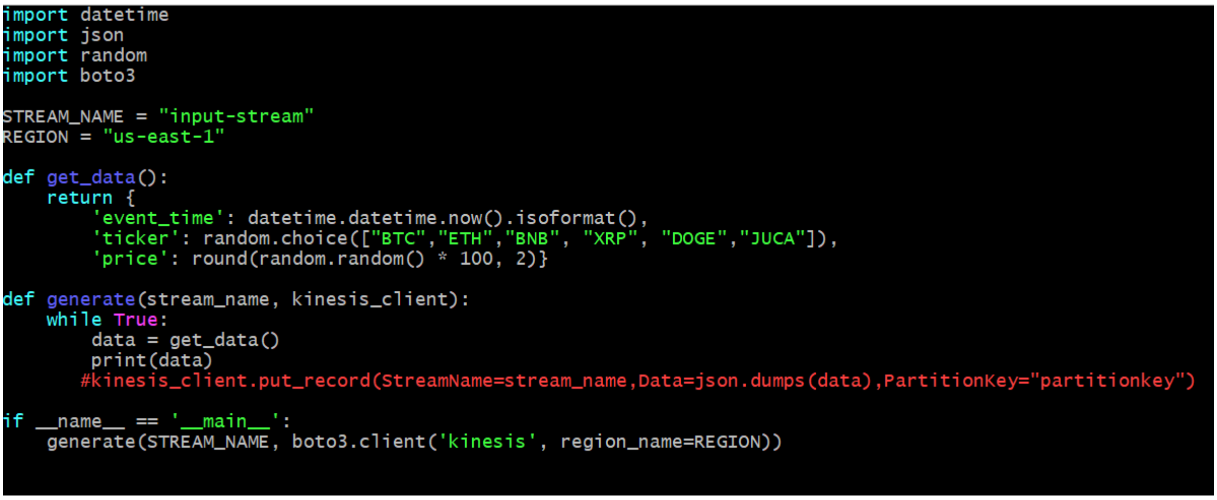


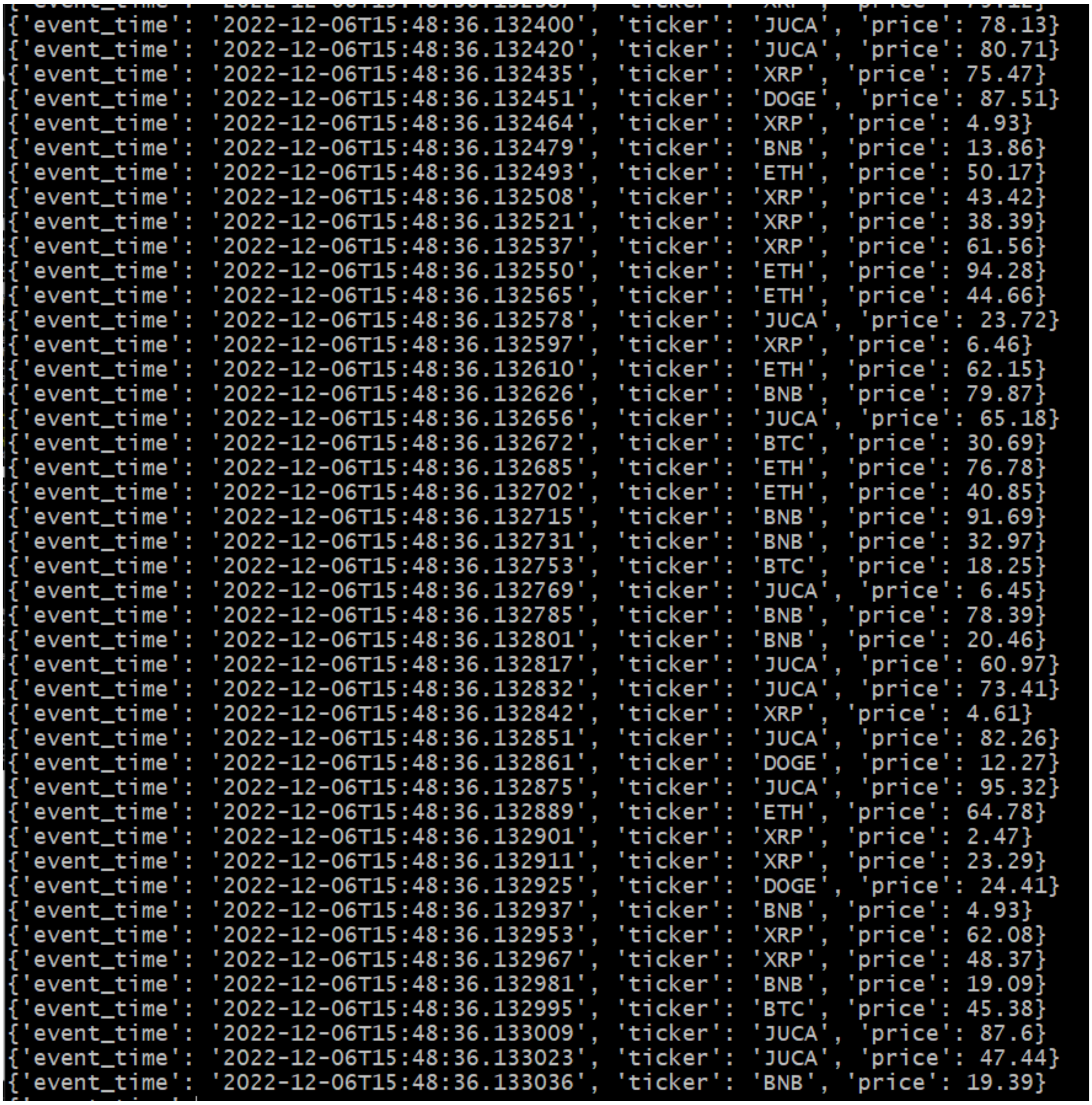
```python
import datetime
import json
import random
import boto3

STREAM_NAME = "input-stream"
REGION = "us-east-1"

def get_data():
    return {
        'event_time': datetime.datetime.now().isoformat(),
        'ticker': random.choice(["BTC","ETH","BNB", "XRP", "DOGE","JUCA"]),
        'price': round(random.random() * 100, 2)}

def generate(stream_name, kinesis_client):
    while True:
        data = get_data()
        print(data)
       #kinesis_client.put_record(StreamName=stream_name,Data=json.dumps(data),PartitionKey="partitionkey")

if __name__ == '__main__':
    generate(STREAM_NAME, boto3.client('kinesis', region_name=REGION))
```



```
{'event_time': '2022-12-06T15:48:36.132400', 'ticker': 'JUCA', 'price': 78.13}
{'event_time': '2022-12-06T15:48:36.132420', 'ticker': 'JUCA', 'price': 80.71}
{'event_time': '2022-12-06T15:48:36.132435', 'ticker': 'XRP', 'price': 75.47}
{'event_time': '2022-12-06T15:48:36.132451', 'ticker': 'DOGE', 'price': 87.51}
{'event_time': '2022-12-06T15:48:36.132464', 'ticker': 'XRP', 'price': 4.93}
{'event_time': '2022-12-06T15:48:36.132479', 'ticker': 'BNB', 'price': 13.86}
{'event_time': '2022-12-06T15:48:36.132493', 'ticker': 'ETH', 'price': 50.17}
{'event_time': '2022-12-06T15:48:36.132508', 'ticker': 'XRP', 'price': 43.42}
{'event_time': '2022-12-06T15:48:36.132521', 'ticker': 'XRP', 'price': 38.39}
{'event_time': '2022-12-06T15:48:36.132537', 'ticker': 'XRP', 'price': 61.56}
{'event_time': '2022-12-06T15:48:36.132550', 'ticker': 'ETH', 'price': 94.28}
{'event_time': '2022-12-06T15:48:36.132565', 'ticker': 'ETH', 'price': 44.66}
{'event_time': '2022-12-06T15:48:36.132578', 'ticker': 'JUCA', 'price': 23.72}
{'event_time': '2022-12-06T15:48:36.132597', 'ticker': 'XRP', 'price': 6.46}
{'event_time': '2022-12-06T15:48:36.132610', 'ticker': 'ETH', 'price': 62.15}
{'event_time': '2022-12-06T15:48:36.132626', 'ticker': 'BNB', 'price': 79.87}
{'event_time': '2022-12-06T15:48:36.132656', 'ticker': 'JUCA', 'price': 65.18}
{'event_time': '2022-12-06T15:48:36.132672', 'ticker': 'BTC', 'price': 30.69}
{'event_time': '2022-12-06T15:48:36.132685', 'ticker': 'ETH', 'price': 76.78}
{'event_time': '2022-12-06T15:48:36.132702', 'ticker': 'ETH', 'price': 40.85}
{'event_time': '2022-12-06T15:48:36.132715', 'ticker': 'BNB', 'price': 91.69}
{'event_time': '2022-12-06T15:48:36.132731', 'ticker': 'BNB', 'price': 32.97}
{'event_time': '2022-12-06T15:48:36.132753', 'ticker': 'BTC', 'price': 18.25}
{'event_time': '2022-12-06T15:48:36.132769', 'ticker': 'JUCA', 'price': 6.45}
{'event_time': '2022-12-06T15:48:36.132785', 'ticker': 'BNB', 'price': 78.39}
{'event_time': '2022-12-06T15:48:36.132801', 'ticker': 'BNB', 'price': 20.46}
{'event_time': '2022-12-06T15:48:36.132817', 'ticker': 'JUCA', 'price': 60.97}
{'event_time': '2022-12-06T15:48:36.132832', 'ticker': 'JUCA', 'price': 73.41}
{'event_time': '2022-12-06T15:48:36.132842', 'ticker': 'XRP', 'price': 4.61}
{'event_time': '2022-12-06T15:48:36.132851', 'ticker': 'JUCA', 'price': 82.26}
{'event_time': '2022-12-06T15:48:36.132861', 'ticker': 'DOGE', 'price': 12.27}
{'event_time': '2022-12-06T15:48:36.132875', 'ticker': 'JUCA', 'price': 95.32}
{'event_time': '2022-12-06T15:48:36.132889', 'ticker': 'ETH', 'price': 64.78}
{'event_time': '2022-12-06T15:48:36.132901', 'ticker': 'XRP', 'price': 2.47}
{'event_time': '2022-12-06T15:48:36.132911', 'ticker': 'XRP', 'price': 23.29}
{'event_time': '2022-12-06T15:48:36.132925', 'ticker': 'DOGE', 'price': 24.41}
{'event_time': '2022-12-06T15:48:36.132937', 'ticker': 'BNB', 'price': 4.93}
{'event_time': '2022-12-06T15:48:36.132953', 'ticker': 'XRP', 'price': 62.08}
{'event_time': '2022-12-06T15:48:36.132967', 'ticker': 'XRP', 'price': 48.37}
{'event_time': '2022-12-06T15:48:36.132981', 'ticker': 'BNB', 'price': 19.09}
{'event_time': '2022-12-06T15:48:36.132995', 'ticker': 'BTC', 'price': 45.38}
{'event_time': '2022-12-06T15:48:36.133009', 'ticker': 'JUCA', 'price': 87.6}
{'event_time': '2022-12-06T15:48:36.133023', 'ticker': 'JUCA', 'price': 47.44}
{'event_time': '2022-12-06T15:48:36.133036', 'ticker': 'BNB', 'price': 19.39}
```

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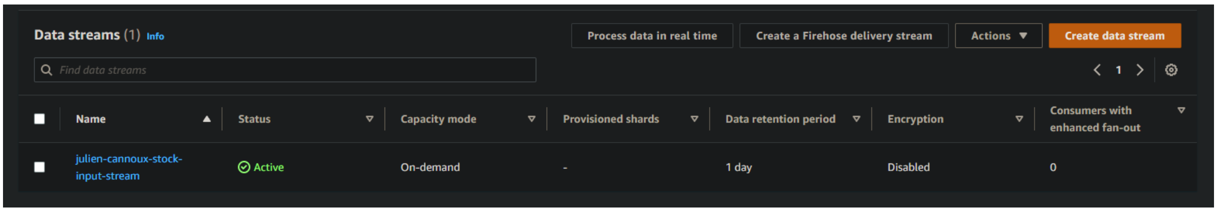
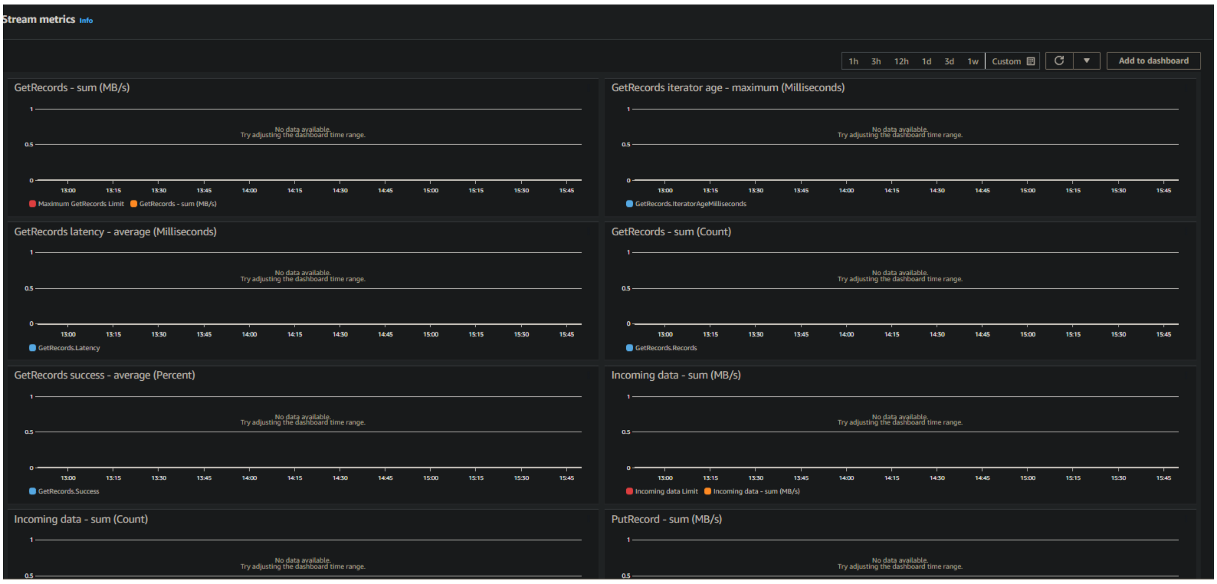
3)

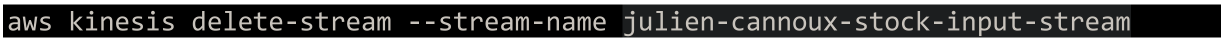


□	Name	Status	Capacity mode	Provisioned shards	Data retention period	Encryption	Consumers with enhanced fan-out
□	julien-cannoux-stock-input-stream	✓ Active	On-demand	-	1 day	Disabled	0



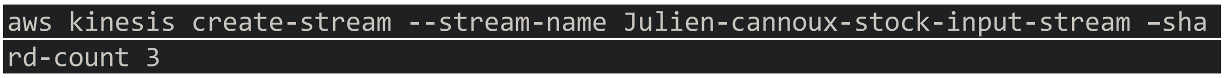
Stream metrics Info
1h
3h
12h
1d
3d
1w
Custom
Add to dashboard
GetRecords - sum (MB/s)
No data available.
Try adjusting the dashboard time range.
1
0.5
0
13:00 13:15 13:30 13:45 14:00 14:15 14:30 14:45 15:00 15:15 15:30 15:45
Maximum GetRecords Limit
GetRecords - sum (MB/s)
GetRecords iterator age - maximum (Milliseconds)
No data available.
Try adjusting the dashboard time range.
GetRecords.IteratorAgeMilliseconds
GetRecords latency - average (Milliseconds)
No data available.
Try adjusting the dashboard time range.
GetRecords.Latency
GetRecords - sum (Count)
No data available.
Try adjusting the dashboard time range.
GetRecords.Records
GetRecords success - average (Percent)
No data available.
Try adjusting the dashboard time range.
GetRecords.Success
Incoming data - sum (MB/s)
No data available.
Try adjusting the dashboard time range.
Incoming data Limit
Incoming data - sum (MB/s)
Incoming data - sum (Count)
No data available.
Try adjusting the dashboard time range.
PutRecord - sum (MB/s)
No data available.
Try adjusting the dashboard time range.

4.1)



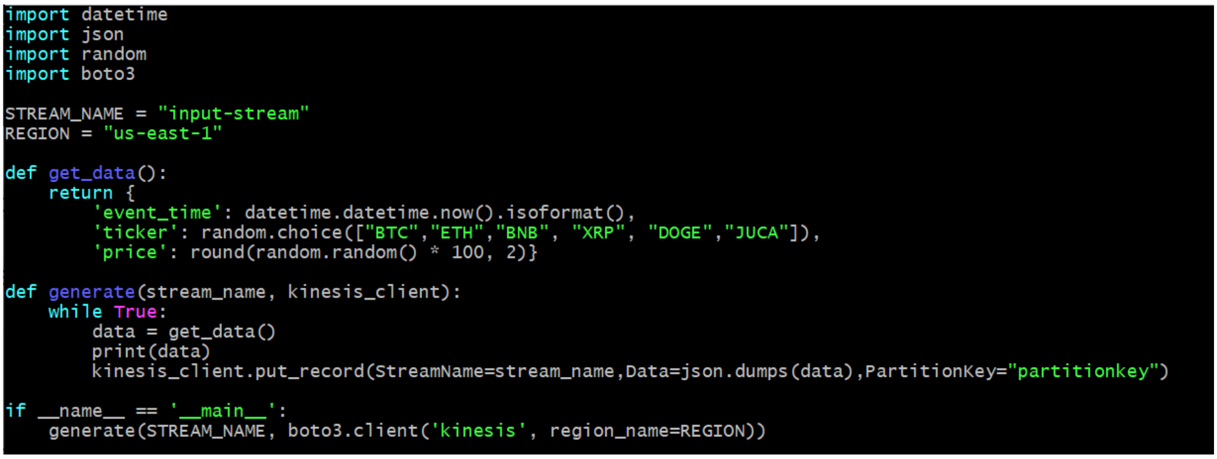
```
aws kinesis delete-stream --stream-name julien-cannoux-stock-input-stream
```

4.2)



```
aws kinesis create-stream --stream-name Julien-cannoux-stock-input-stream –sha
rd-count 3
```

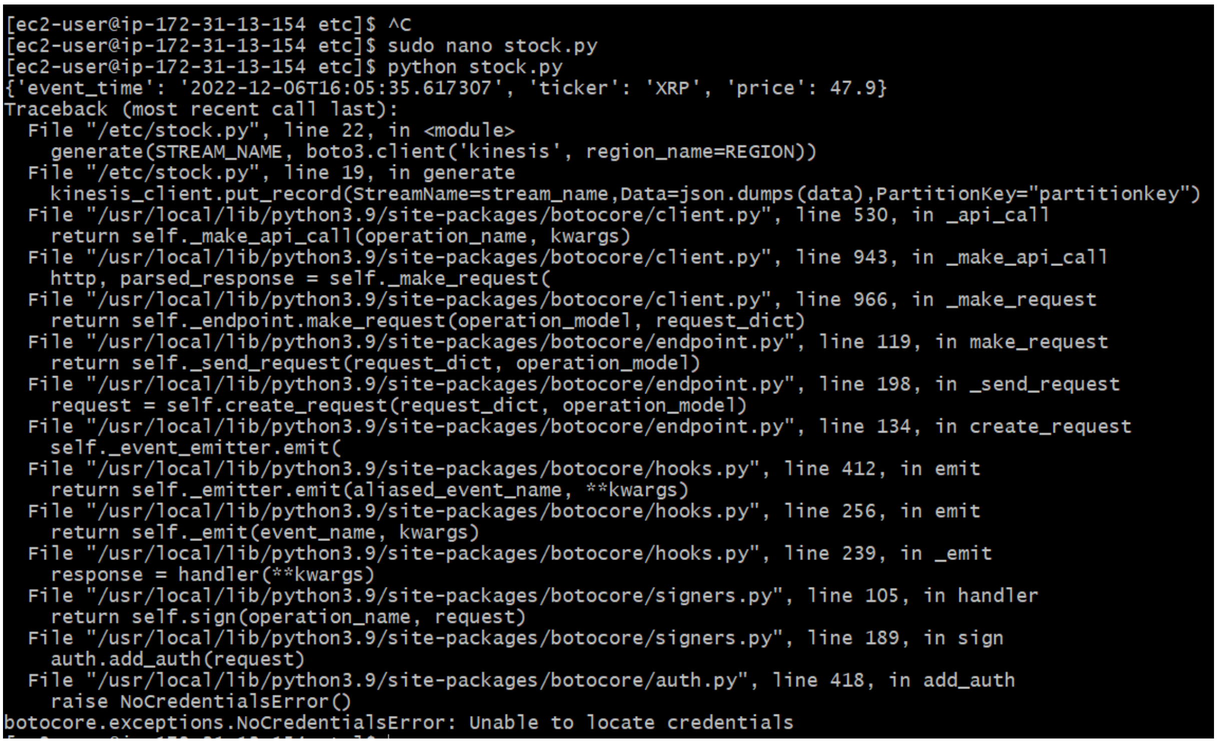
4.3)



```
import datetime
import json
import random
import boto3

STREAM_NAME = "input-stream"
REGION = "us-east-1"

def get_data():
    return {
        'event_time': datetime.datetime.now().isoformat(),
        'ticker': random.choice(["BTC","ETH","BNB", "XRP", "DOGE","JUCA"]),
        'price': round(random.random() * 100, 2)}

def generate(stream_name, kinesis_client):
    while True:
        data = get_data()
        print(data)
        kinesis_client.put_record(StreamName=stream_name,Data=json.dumps(data),PartitionKey="partitionkey")

if __name__ == '__main__':
    generate(STREAM_NAME, boto3.client('kinesis', region_name=REGION))
```

Nous avons une erreur de compilation :

CC1 – Julien CANNOUX ING 3 FISA



```
[ec2-user@ip-172-31-13-154 etc]$ ^C
[ec2-user@ip-172-31-13-154 etc]$ sudo nano stock.py
[ec2-user@ip-172-31-13-154 etc]$ python stock.py
{'event_time': '2022-12-06T16:05:35.617307', 'ticker': 'XRP', 'price': 47.9}
Traceback (most recent call last):
  File "/etc/stock.py", line 22, in <module>
    generate(STREAM_NAME, boto3.client('kinesis', region_name=REGION))
  File "/etc/stock.py", line 19, in generate
    kinesis_client.put_record(StreamName=stream_name,Data=json.dumps(data),PartitionKey="partitionkey")
  File "/usr/local/lib/python3.9/site-packages/botocore/client.py", line 530, in _api_call
    return self._make_api_call(operation_name, kwargs)
  File "/usr/local/lib/python3.9/site-packages/botocore/client.py", line 943, in _make_api_call
    http, parsed_response = self._make_request(
  File "/usr/local/lib/python3.9/site-packages/botocore/client.py", line 966, in _make_request
    return self._endpoint.make_request(operation_model, request_dict)
  File "/usr/local/lib/python3.9/site-packages/botocore/endpoint.py", line 119, in make_request
    return self._send_request(request_dict, operation_model)
  File "/usr/local/lib/python3.9/site-packages/botocore/endpoint.py", line 198, in _send_request
    request = self.create_request(request_dict, operation_model)
  File "/usr/local/lib/python3.9/site-packages/botocore/endpoint.py", line 134, in create_request
    self._event_emitter.emit(
  File "/usr/local/lib/python3.9/site-packages/botocore/hooks.py", line 412, in emit
    return self._emitter.emit(aliased_event_name, **kwargs)
  File "/usr/local/lib/python3.9/site-packages/botocore/hooks.py", line 256, in emit
    return self._emit(event_name, kwargs)
  File "/usr/local/lib/python3.9/site-packages/botocore/hooks.py", line 239, in _emit
    response = handler(**kwargs)
  File "/usr/local/lib/python3.9/site-packages/botocore/signers.py", line 105, in handler
    return self.sign(operation_name, request)
  File "/usr/local/lib/python3.9/site-packages/botocore/signers.py", line 189, in sign
    auth.add_auth(request)
  File "/usr/local/lib/python3.9/site-packages/botocore/auth.py", line 418, in add_auth
    raise NoCredentialsError()
botocore.exceptions.NoCredentialsError: Unable to locate credentials
```