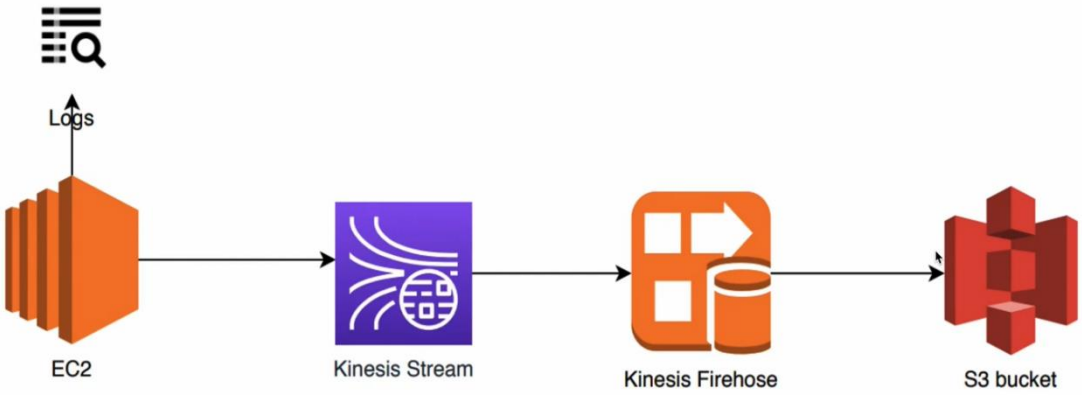
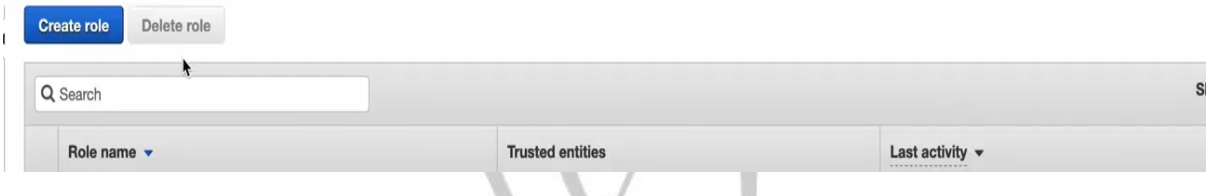
Kinesis

Configure Data Stream

The EC2 instance generated logs are put into the kinesis stream. This S3 bucket can be consumed through the Kinesis firehose to store logs.

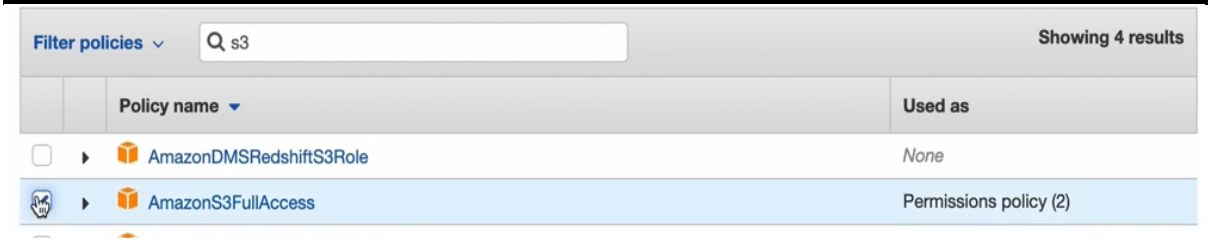


Create role



Click to EC2

Select to S3



Select to kinesis

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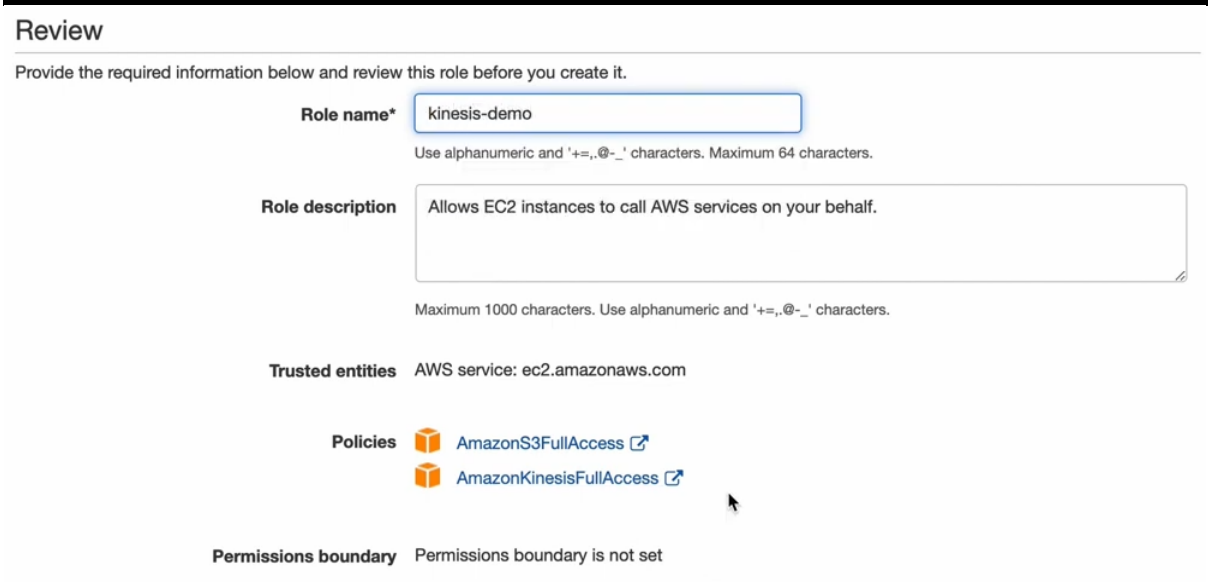
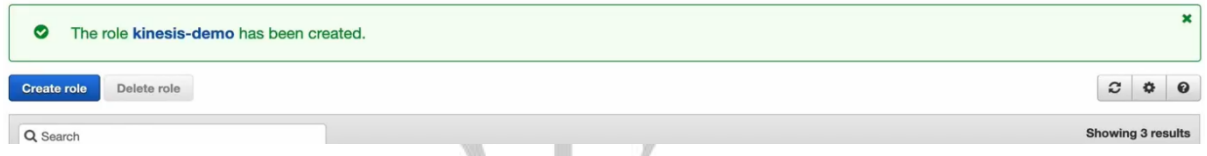
Kinesis

Enter name

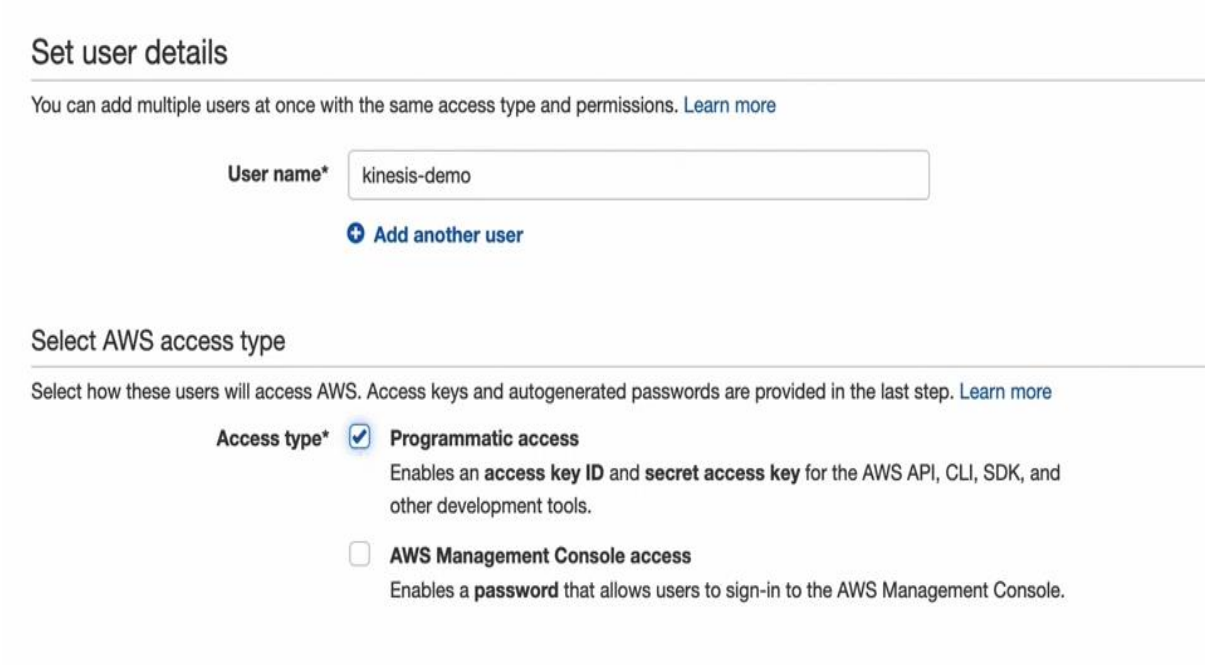


Successfully create



Create Add user

Configure



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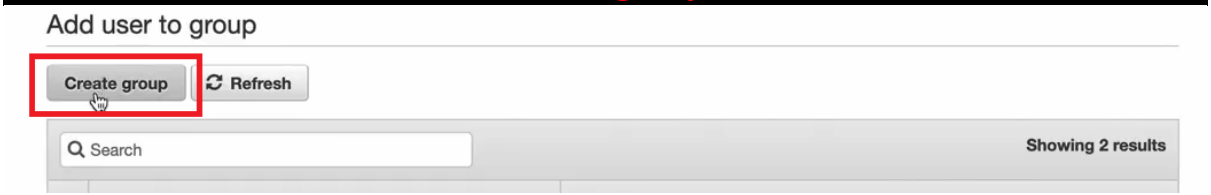
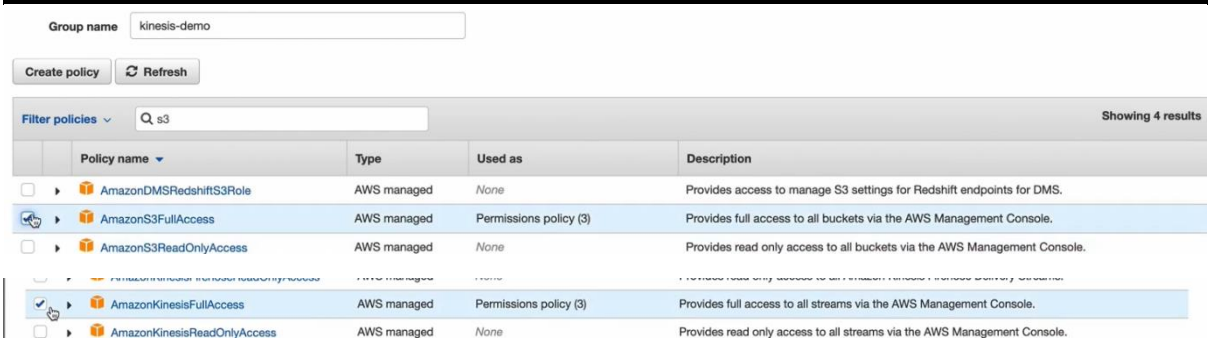
Kinesis

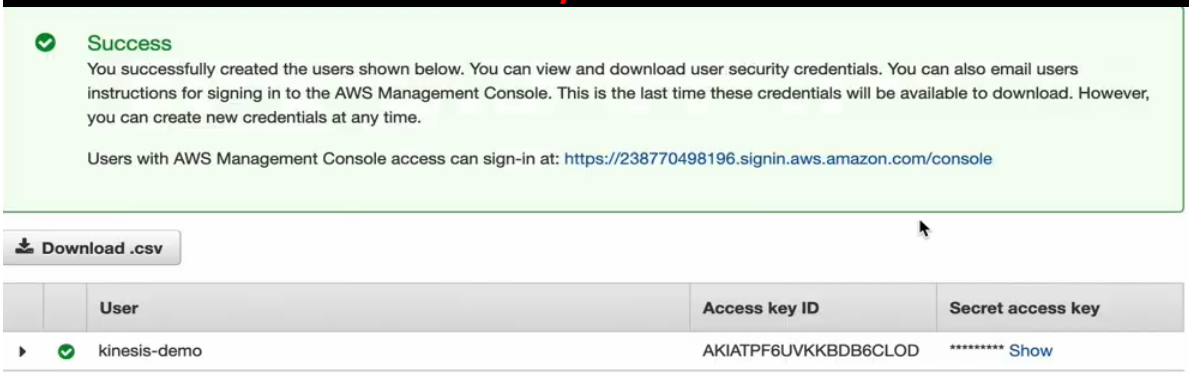
Create group



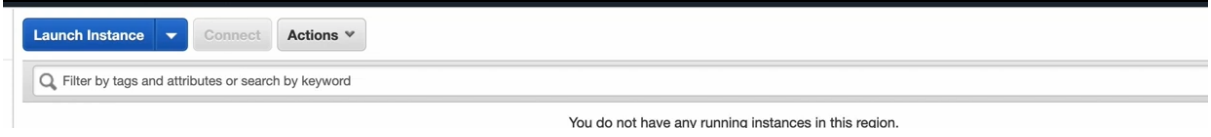
Create policy



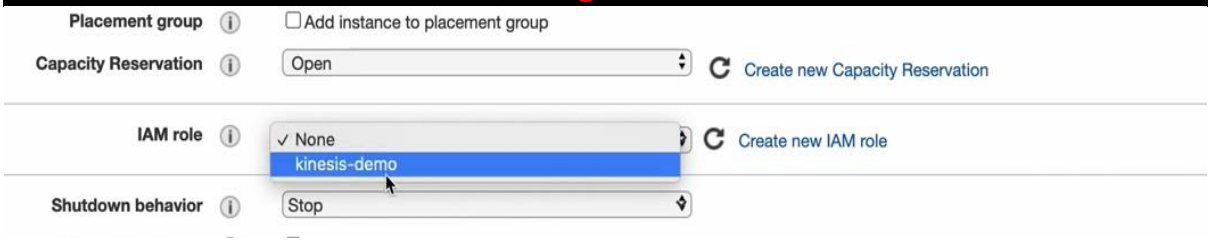
Create successfully and download .csv file



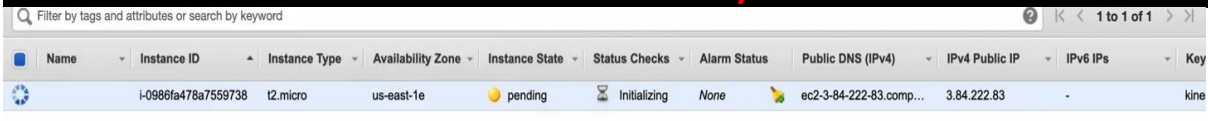
Create EC2



Assign Role

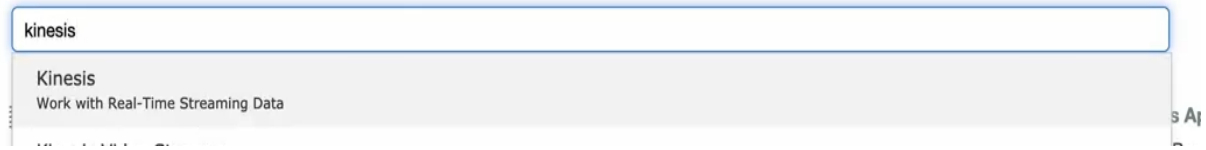


Create successfully

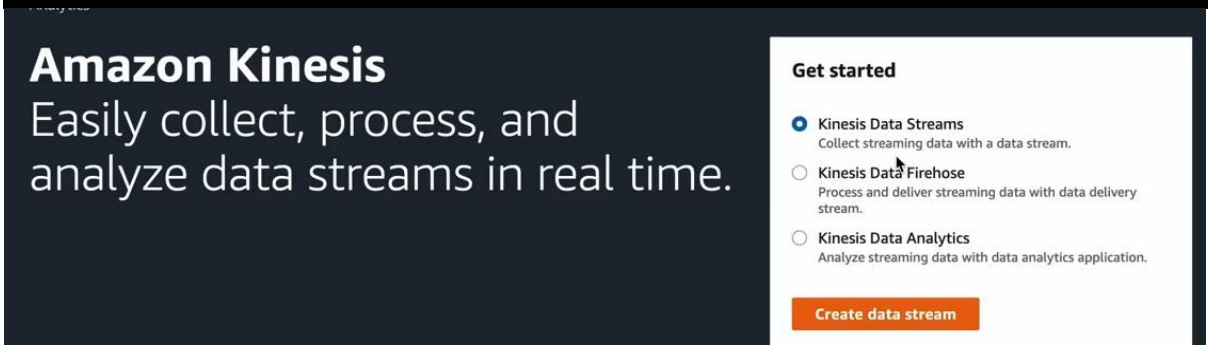


Kinesis

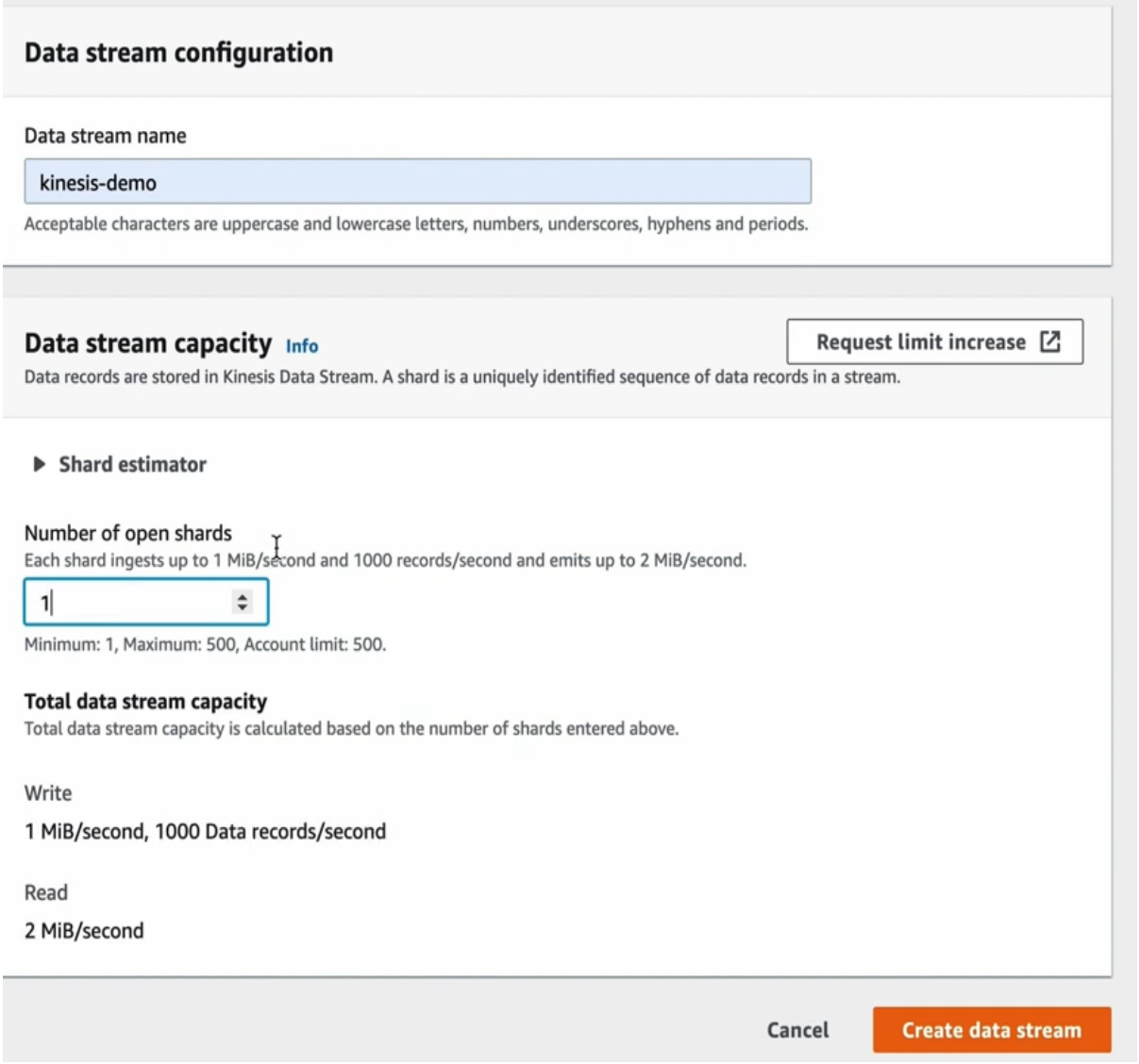
Kinesis open



Select kinesis data streams



Enter name and enter shard count



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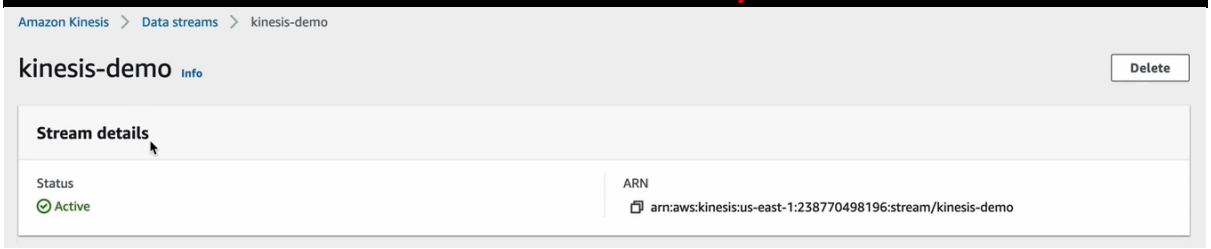
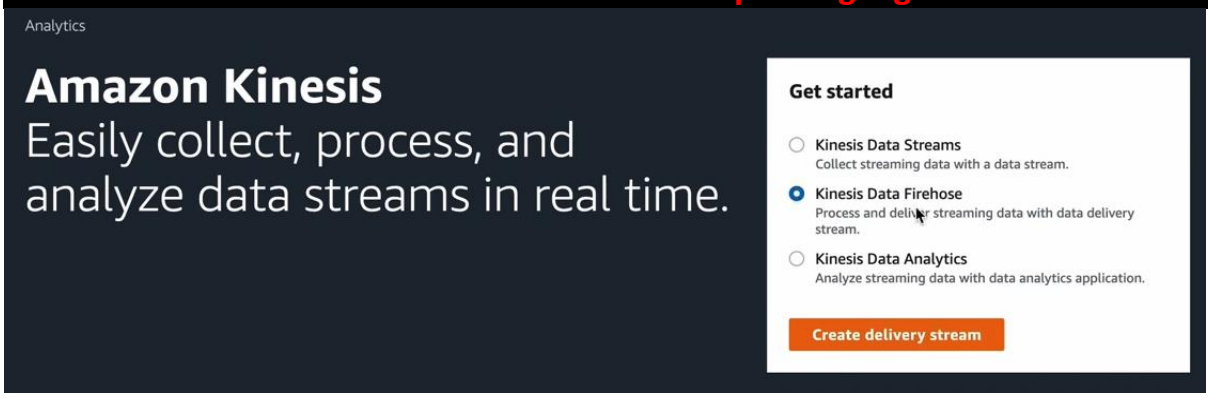
Kinesis

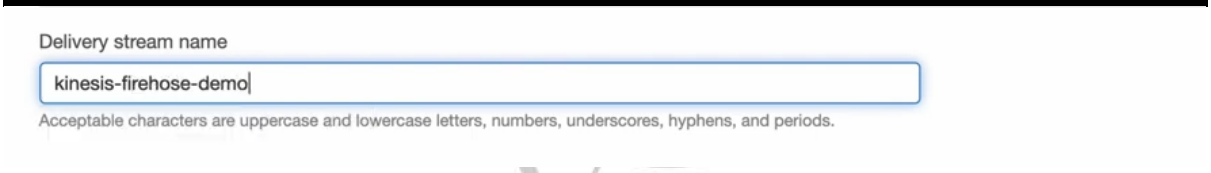
Create successfully



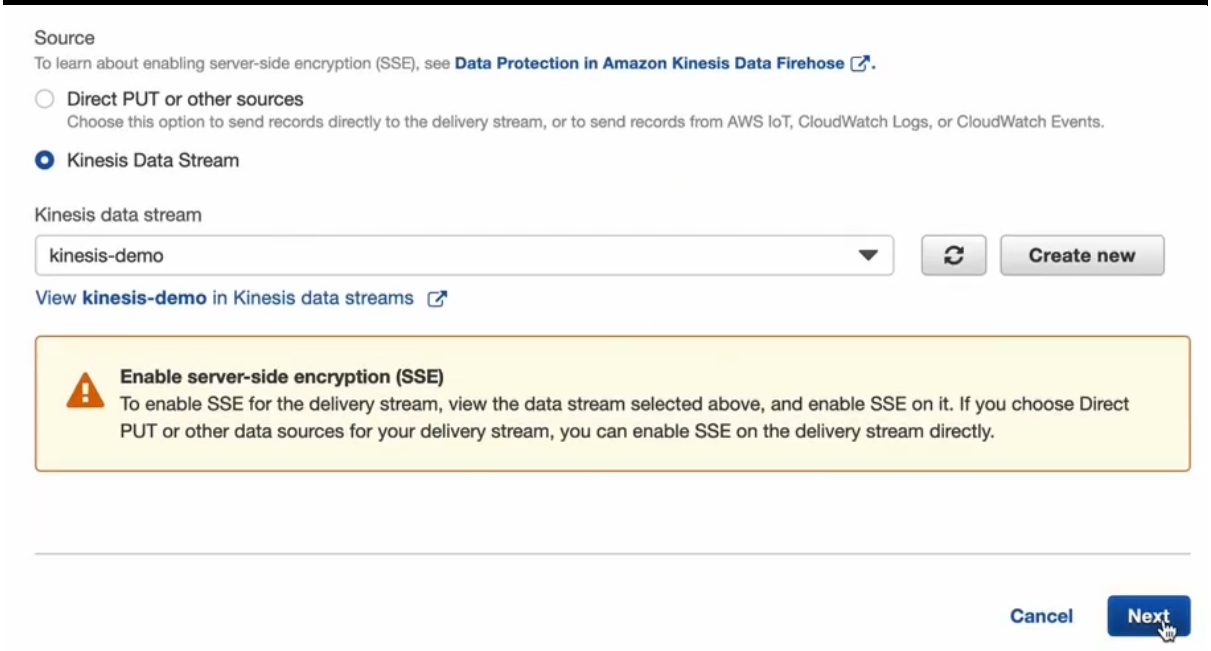
Create Kinesis Data Firehouse for pushing log to S3



Enter name



Select source



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Kinesis

Configuration as it is

Transform source records with AWS Lambda

To return records from AWS Lambda to Kinesis Data Firehose after transformation, the Lambda function you invoke must be compliant with the required record transformation output model. **Learn more**

Data transformation

- (•) Disabled
- ( ) Enabled

Convert record format

Data in Apache Parquet or Apache ORC format is typically more efficient to query than JSON. Kinesis Data Firehose can convert your JSON-formatted source records using a schema from a table defined in **AWS Glue**. For records that aren't in JSON format, create a Lambda function that converts them to JSON in the **Transform source records with AWS Lambda** section above. **Learn more**

Record format conversion

- (•) Disabled
- ( ) Enabled

  If record format conversion is enabled, Kinesis Data Firehose can deliver data to Amazon S3 only. Record format conversion will be configured using the OpenX JSON SerDe. For other options use the **AWS CLI**.

Cancel | Previous | Next

Push data

Destination

- (•) Amazon S3
  Amazon S3 is an easy-to-use object storage, with a simple web service interface to store and retrieve any amount of data from anywhere on the web.
- ( ) Amazon Redshift
  Amazon Redshift is a fast, fully managed, petabyte-scale data warehouse that makes it simple and cost effective to analyze all your data using your existing business intelligence tools
- ( ) Amazon Elasticsearch Service
  Elasticsearch is an open-source search and analytics engine for use cases such as log analytics, real-time application monitoring, and click stream analytics
- ( ) Splunk
  Splunk is an operational intelligence tool for analyzing machine-generated data in real-time

Click create new bucket

S3 destination

Choose a destination in Amazon S3 where your data will be stored. Amazon S3 is object storage built to store and retrieve any amount of data from anywhere. **Learn more**

S3 bucket

Choose a bucket | Create new

S3 prefix

Create

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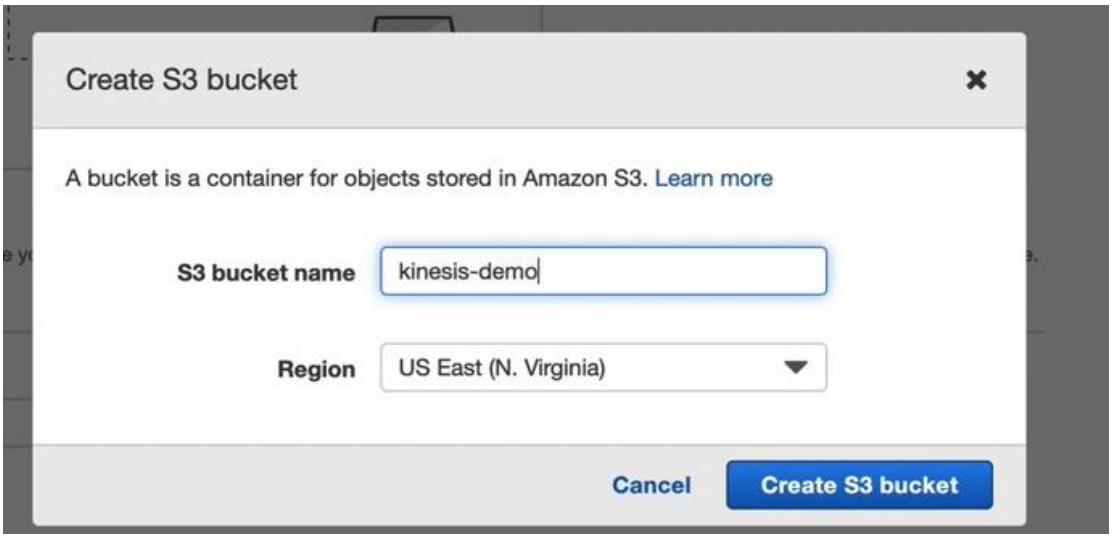
Kinesis



next

S3 bucket

kinesis-demo9363 | Create new

View **kinesis-demo9363** in S3 console

S3 prefix

By default, Kinesis Data Firehose appends the prefix "YYYY/MM/dd/HH" (in UTC) to the data it delivers to Amazon S3. You can override this default by specifying a custom prefix that includes expressions that are evaluated at runtime.

If your custom prefix doesn't include expressions, Kinesis Data Firehose uses your prefix and appends "YYYY/MM/dd/HH". If your custom prefix includes a Kinesis Data Firehose random string or timestamp expression, Kinesis Data Firehose doesn't append "YYYY/MM/dd/HH". Learn more

Prefix - *optional*

Enter a prefix

S3 error prefix

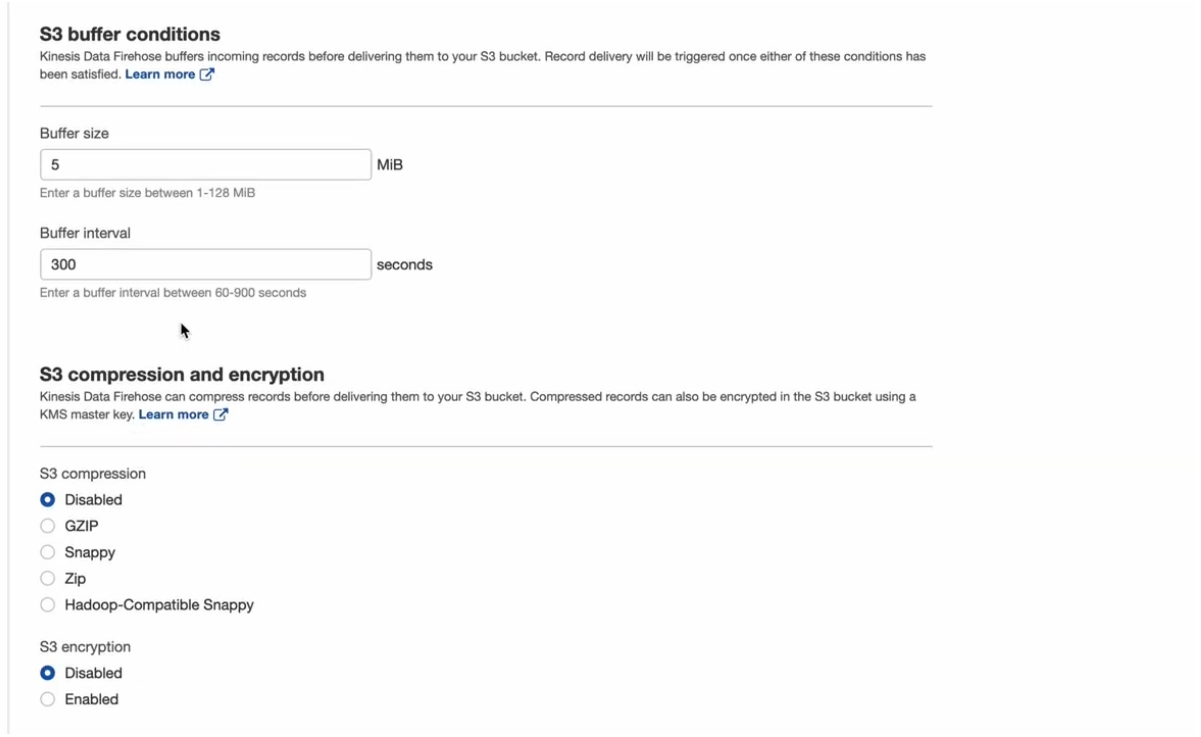
You can specify an S3 bucket prefix to be used in error conditions. This prefix can include expressions for Kinesis Data Firehose to evaluate at runtime. Learn more about the rules for specifying prefix expressions

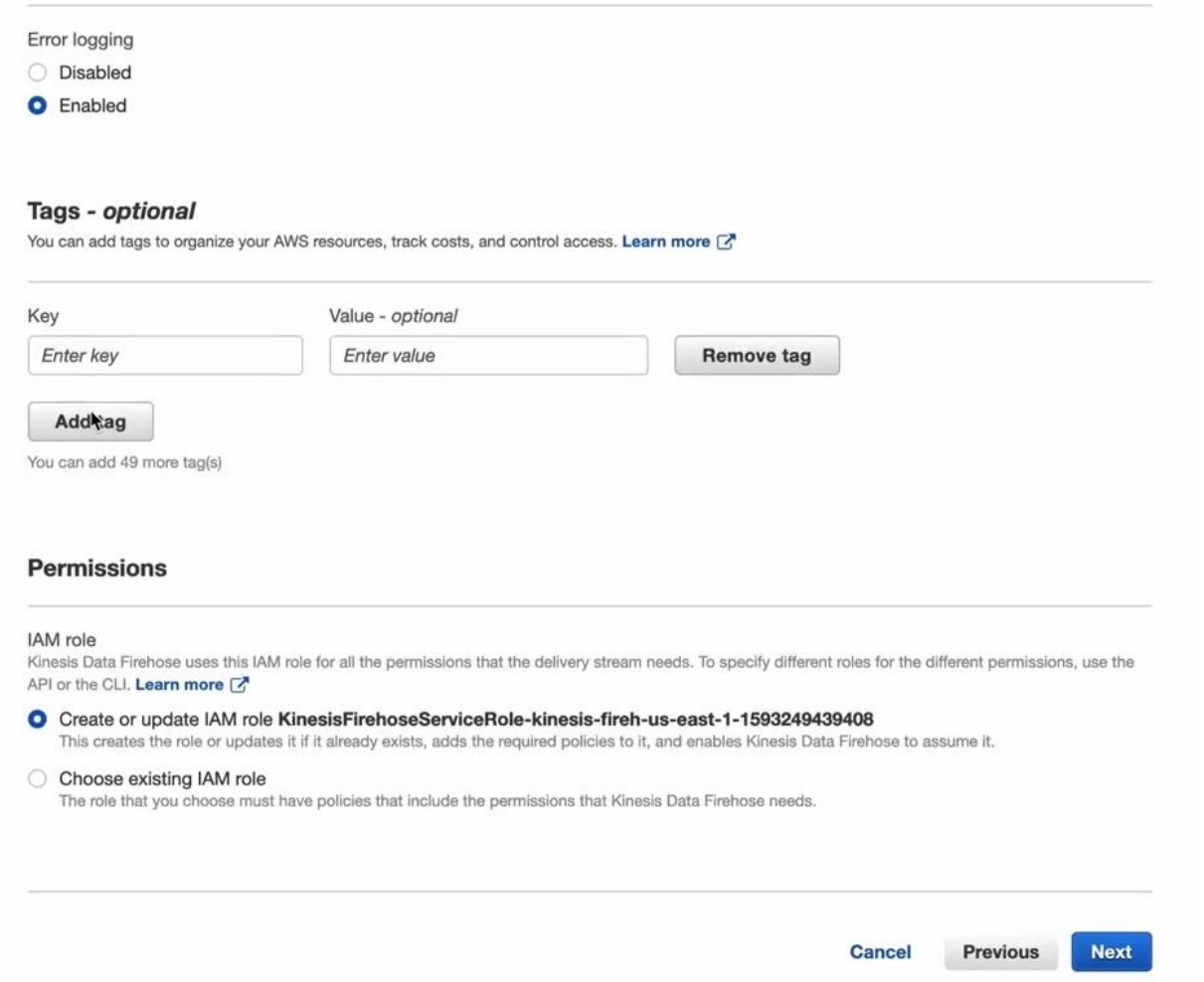
Error prefix - *optional*

Enter a prefix

Cancel | Previous | Next

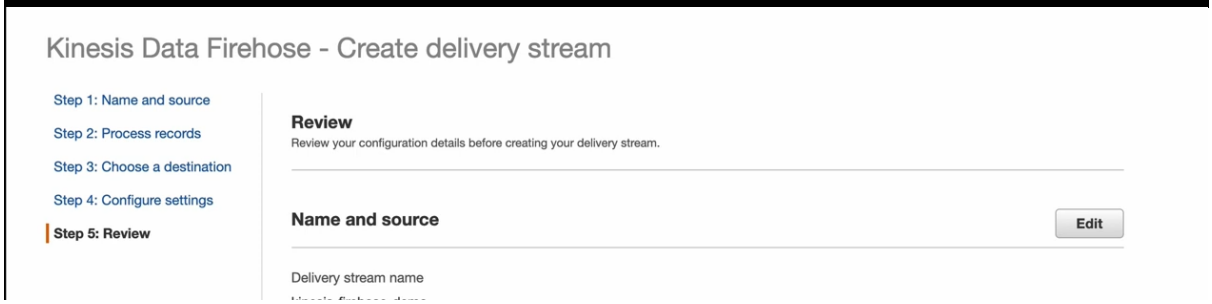
Select as you required


S3 buffer conditions
Kinesis Data Firehose buffers incoming records before delivering them to your S3 bucket. Record delivery will be triggered once either of these conditions has been satisfied. Learn more
Buffer size
5
MiB
Enter a buffer size between 1-128 MiB
Buffer interval
300
seconds
Enter a buffer interval between 60-900 seconds
S3 compression and encryption
Kinesis Data Firehose can compress records before delivering them to your S3 bucket. Compressed records can also be encrypted in the S3 bucket using a KMS master key. Learn more
S3 compression
Disabled
GZIP
Snappy
Zip
Hadoop-Compatible Snappy
S3 encryption
Disabled
Enabled

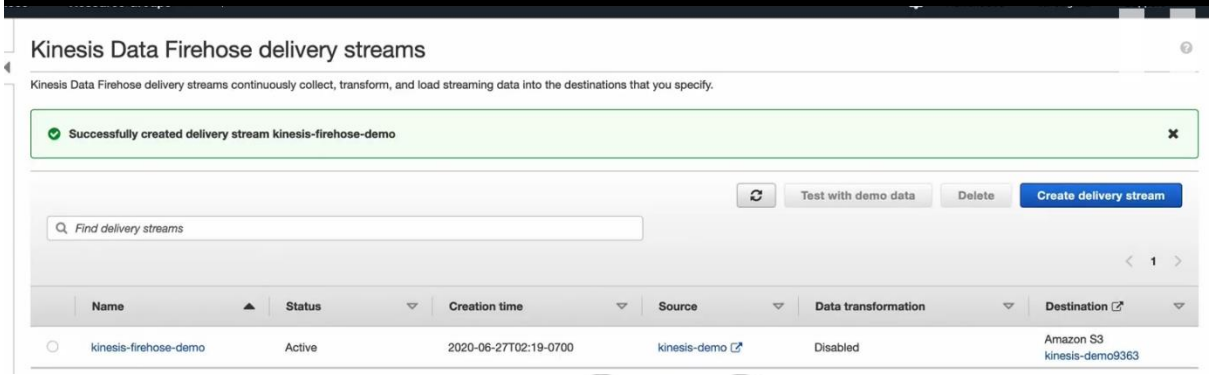

Error logging
Disabled
Enabled
Tags - optional
You can add tags to organize your AWS resources, track costs, and control access. Learn more
Key
Value - optional
Enter key
Enter value
Remove tag
Add tag
You can add 49 more tag(s)
Permissions
IAM role
Kinesis Data Firehose uses this IAM role for all the permissions that the delivery stream needs. To specify different roles for the different permissions, use the API or the CLI. Learn more
Create or update IAM role KinesisFirehoseServiceRole-kinesis-fireh-us-east-1-1593249439408
This creates the role or updates it if it already exists, adds the required policies to it, and enables Kinesis Data Firehose to assume it.
Choose existing IAM role
The role that you choose must have policies that include the permissions that Kinesis Data Firehose needs.
Cancel
Previous
Next

Kinesis

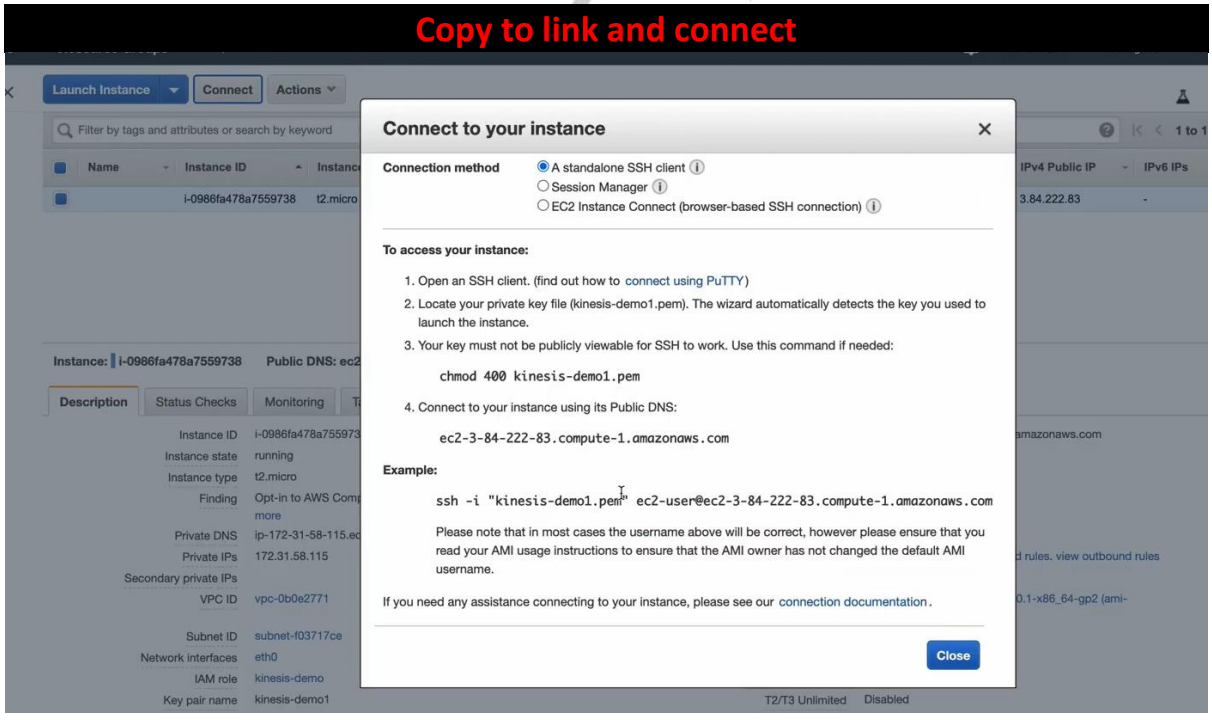
review



Created



Copy to link and connect



connected

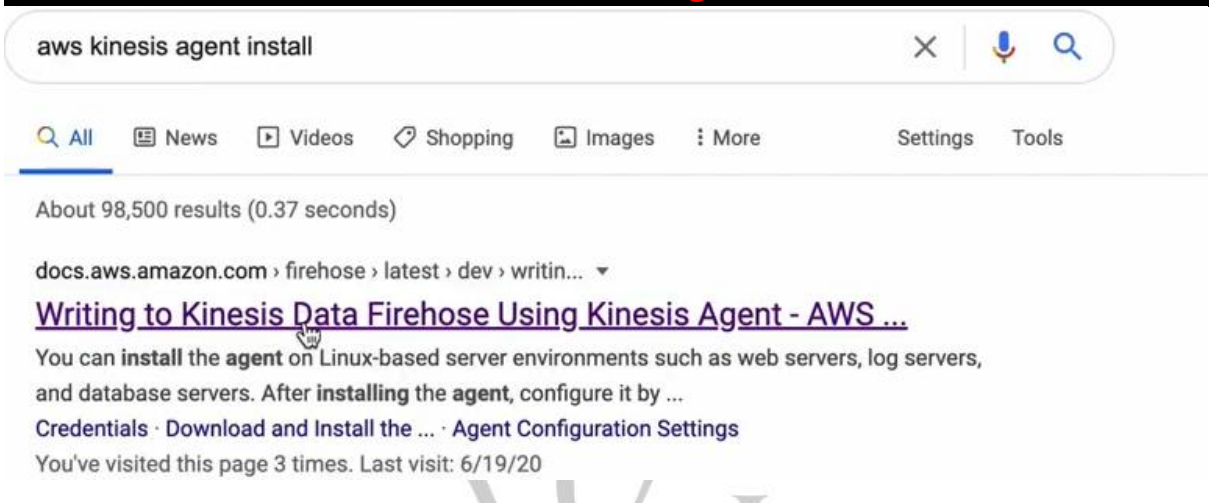
Kinesis

```
Manishs-MBP:KINESIS msingh$ ssh -i "kinesis-demo1.pem" ec2-user@ec2-3-84-222-83.compute-1.amazonaws.com
The authenticity of host 'ec2-3-84-222-83.compute-1.amazonaws.com (3.84.222.83)' can't be established.
ECDSA key fingerprint is SHA256:gQxPWMOFQ1WE5b369jducoDyAUPDRjUtXMc37djmGsY.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-3-84-222-83.compute-1.amazonaws.com,3.84.222.83' (ECDSA) to the list of known hosts.

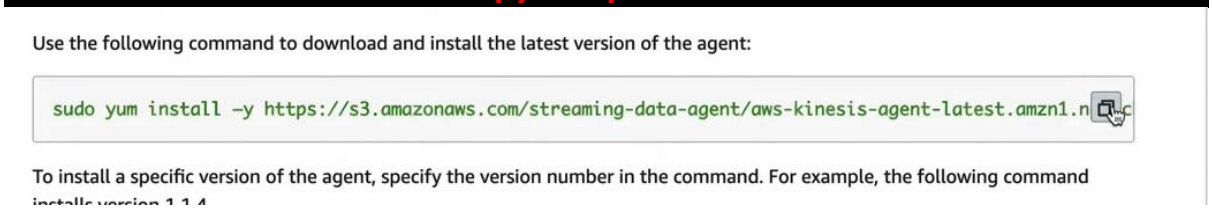
       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
4 package(s) needed for security, out of 10 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-58-115 ~]$ sudo su
[root@ip-172-31-58-115 ec2-user]#
```

Install kinesis agent



Copy and paste EC2



INSTALL

```
[root@ip-172-31-58-115 etc]# sudo yum install -y https://s3.amazonaws.com/streaming-data-agent/aws-kinesis-agent-latest.amzn1.noarch.rpm
aws-kinesis-agent-latest.amzn1.noarch.rpm
Examining /var/tmp/yum-root-2z8OPF/aws-kinesis-agent-latest.amzn1.noarch.rpm: aws-kinesis-agent-1.1.5-1.amzn1.noarch
Marking /var/tmp/yum-root-2z8OPF/aws-kinesis-agent-latest.amzn1.noarch.rpm to be installed
Resolving Dependencies
--> Running transaction check
---> Package aws-kinesis-agent.noarch 0:1.1.5-1.amzn1 will be installed
```

Create aws-kinesis

```
drwxr-xr-x  3 root root      56 Jun 27 09:27 aws-kinesis
drwxr-xr-x  5 root root    4096 Jun 27 09:27 sysconfig
drwxr-xr-x  2 root root      98 Jun 27 09:27 cron.d
[root@ip-172-31-58-115 etc]# cd aws-kinesis/
[root@ip-172-31-58-115 aws-kinesis]#
```

Auto create

```
[root@ip-172-31-58-115 aws-kinesis]# ls -lrt
total 8
-rw-r--r-- 1 root root 1334 Apr 23 22:49 log4j.xml
-rw-r--r-- 1 root root  338 Apr 23 22:49 agent.json
drwxr-xr-x 2 root root    6 Apr 23 22:49 agent.d
[root@ip-172-31-58-115 aws-kinesis]#
```

Kinesis

Create DIR

```
-rw-------  1 root                    root                    80252 Jun 27 09:29 messages
[root@ip-172-31-58-115 log]# mkdir weather
```

CREATE GROUP AND CHANGE OWN TO DIR

```
[root@ip-172-31-58-115 log]# sudo groupadd weather
[root@ip-172-31-58-115 log]# sudo usermod -a -G weather ec2-user
[root@ip-172-31-58-115 log]# exit
exit
[ec2-user@ip-172-31-58-115 ~]$ exit
logout
Connection to ec2-3-84-222-83.compute-1.amazonaws.com closed.
Manishs-MBP:KINESIS msingh$ ssh -i "kinesis-demo1.pem" ec2-user@ec2-3-84-222-83.compute-1.amazonaws.com
Last login: Sat Jun 27 09:21:23 2020 from cpe-75-83-87-39.socal.res.rr.com

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
4 package(s) needed for security, out of 10 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-58-115 ~]$ cd /var
```

```
[ec2-user@ip-172-31-58-115 var]$ cd log
```

```
[ec2-user@ip-172-31-58-115 log]$ groups
ec2-user adm wheel systemd-journal weather
[ec2-user@ip-172-31-58-115 log]$ sudo chown -R root:weather /var/log/weather
[ec2-user@ip-172-31-58-115 log]$ sudo chmod 2775 /var/log/weather
[ec2-user@ip-172-31-58-115 log]$
```

send template data local system to EC2

```
Manishs-MBP:KINESIS msingh$ scp -i "kinesis-demo1.pem" /Users/msingh/AWS/KINESIS/agent_template.txt ec2-user@ec2-3-84-222-83.compute-1.amazonaws.com:/var/log/weather
agent_template.txt
Manishs-MBP:KINESIS msingh$
```

In template file

```
{
  "cloudwatch.emitMetrics": true,
  "kinesis.endpoint": "",
  "firehose.endpoint": "",

  "awsAccessKeyId": "AKIATPF6UVKKBDB6CLOD",
  "awsSecretAccessKey": "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",

  "flows": [
    {
      "filePattern": "/var/log/weather/*.log",
      "kinesisStream": "kinesis-demo",
      "partitionKeyOption": "RANDOM",
      "dataProcessingOptions": [
         {
            "optionName": "CSVTOJSON",
            "customFieldNames": ["Region", "Country", "State","City", "Month", "Day", "Year", "AvgTemperature"]
         }
      ]
    }
  ]
}
```

First delete json file

```
[ec2-user@ip-172-31-58-115 weather]$ cd /etc/aws-kinesis/
[ec2-user@ip-172-31-58-115 aws-kinesis]$ ls -lrt
total 8
-rw-r--r-- 1 root root 1334 Apr 23 22:49 log4j.xml
-rw-r--r-- 1 root root  338 Apr 23 22:49 agent.json
drwxr-xr-x 2 root root    6 Apr 23 22:49 agent.d
[ec2-user@ip-172-31-58-115 aws-kinesis]$ rm -f agent.json
rm: cannot remove 'agent.json': Permission denied
[ec2-user@ip-172-31-58-115 aws-kinesis]$ sudo rm -f agent.json
[ec2-user@ip-172-31-58-115 aws-kinesis]$
```

Kinesis

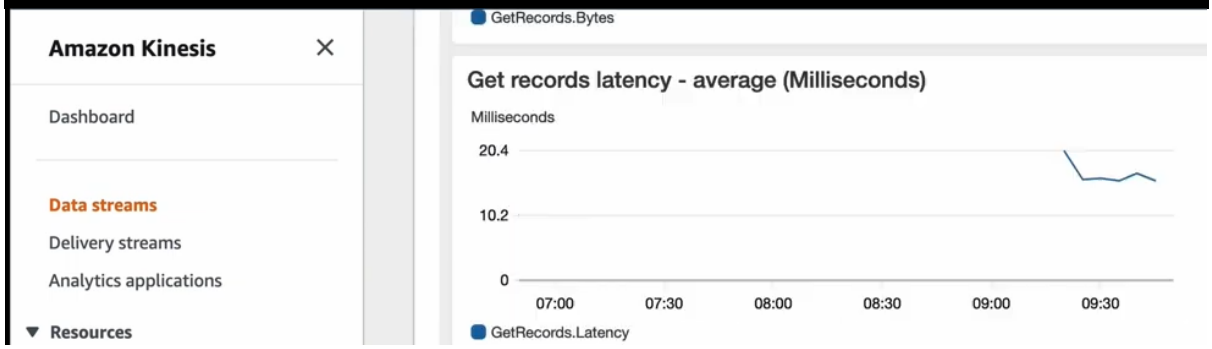
Move file to json

```
[ec2-user@ip-172-31-58-115 aws-kinesis]$ sudo mv /var/log/weather/agent_template.txt /etc/aws-kinesis/agent.json
[ec2-user@ip-172-31-58-115 aws-kinesis]$ ls -lrt
total 8
-rw-r--r-- 1 root     root    1334 Apr 23 22:49 log4j.xml
drwxr-xr-x 2 root     root       6 Apr 23 22:49 agent.d
-rw-rw-r-- 1 ec2-user weather  592 Jun 27 09:45 agent.json
```

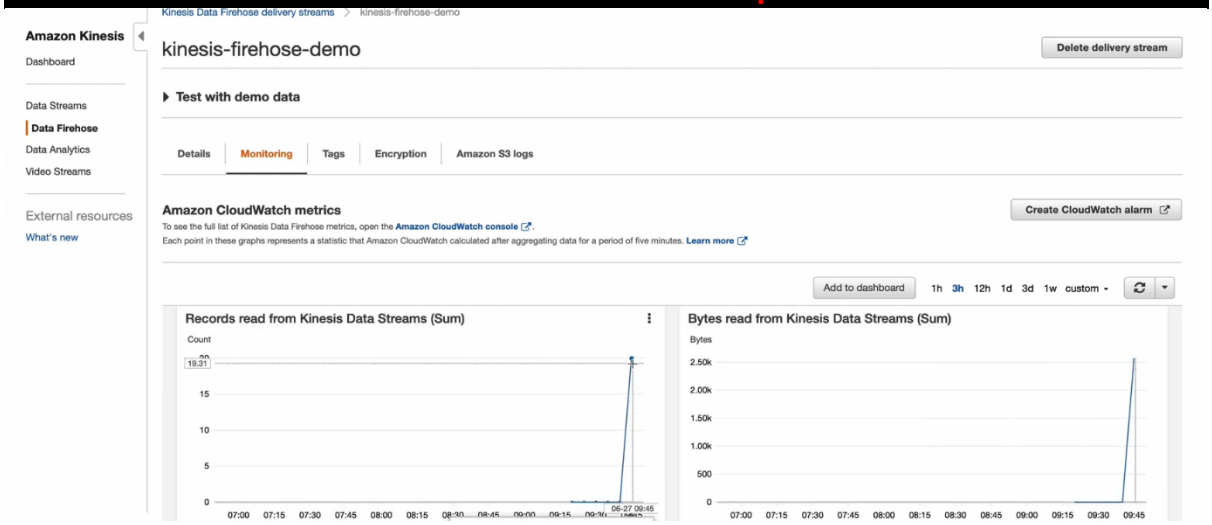
Start services

```
[[ec2-user@ip-172-31-58-115 aws-kinesis]$ sudo service aws-kinesis-agent start
Starting aws-kinesis-agent (via systemctl):                [  OK  ]
[ec2-user@ip-172-31-58-115 aws-kinesis]$
```

Check data steam



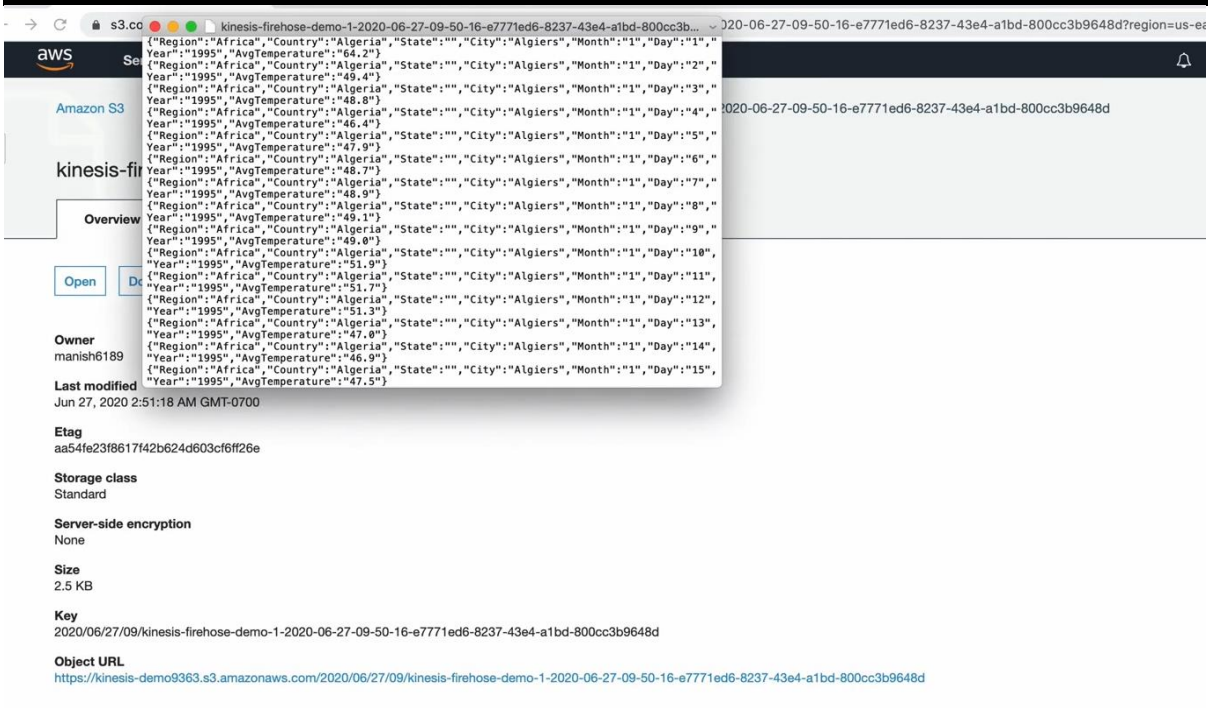
Check data firehouse to push



Check S3 BUCKET

Kinesis

CHECK download file



File


```
{"Region":"Africa","Country":"Algeria","State":"","City":"Algiers","Month":"1","Day":"1","Year":"1995","AvgTemperature":"64.2"}
{"Region":"Africa","Country":"Algeria","State":"","City":"Algiers","Month":"1","Day":"2","Year":"1995","AvgTemperature":"49.4"}
{"Region":"Africa","Country":"Algeria","State":"","City":"Algiers","Month":"1","Day":"3","Year":"1995","AvgTemperature":"48.8"}
{"Region":"Africa","Country":"Algeria","State":"","City":"Algiers","Month":"1","Day":"4","Year":"1995","AvgTemperature":"46.4"}
{"Region":"Africa","Country":"Algeria","State":"","City":"Algiers","Month":"1","Day":"5","Year":"1995","AvgTemperature":"47.9"}
{"Region":"Africa","Country":"Algeria","State":"","City":"Algiers","Month":"1","Day":"6","Year":"1995","AvgTemperature":"48.7"}
{"Region":"Africa","Country":"Algeria","State":"","City":"Algiers","Month":"1","Day":"7","Year":"1995","AvgTemperature":"48.9"}
{"Region":"Africa","Country":"Algeria","State":"","City":"Algiers","Month":"1","Day":"8","Year":"1995","AvgTemperature":"49.1"}
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