

Kinesis Firehose Agent:

Kinesis agent is a agent provided by the kinesis or AWS under kinesis, Which will actually used to push the logs from the server where they are generated to Kinesis stream OR Delivery Stream.

Logs are located here: C: /development/practice/gen_logs/access.log

Setup Kinesis Firehose Agent: (Reference: <https://docs.aws.amazon.com/firehose/latest/dev/writing-with-agents.html#download-install>)

```
[ec2-user@ip-172-31-35-126 ~]$ sudo service aws-kinesis-agent start
Starting aws-kinesis-agent (via systemctl): [ OK ]
[ec2-user@ip-172-31-35-126 ~]$ sudo systemctl status aws-kinesis-agent
● aws-kinesis-agent.service - LSB: Daemon for Amazon Kinesis Agent.
   Loaded: loaded (/etc/rc.d/init.d/aws-kinesis-agent; bad; vendor preset: disabled)
   Active: active (running) since Sun 2022-03-06 06:02:31 UTC; 45s ago
     Docs: man:systemd-sysv-generator(8)
   Process: 1062 ExecStart=/etc/rc.d/init.d/aws-kinesis-agent start (code=exited, status=0/SUCCESS)
   CGroup: /system.slice/aws-kinesis-agent.service
           └─1068 runuser aws-kinesis-agent-user -s /bin/sh -c /usr/bin/start-aws-kinesis-agent
             └─1070 /usr/lib/jvm/jre/bin/java -server -Xms32m -Xmx512m -Dlog4j.configurationFile=file:///etc/aws-kinesis/log4j.xml -XX:OnOutOfMemoryError="/bin/kill -9...
```

Create delivery stream to push the logs into target in Kinesis.

Use Case: Collect the data from Kinesis firehose agent and write the data to target s3 bucket.

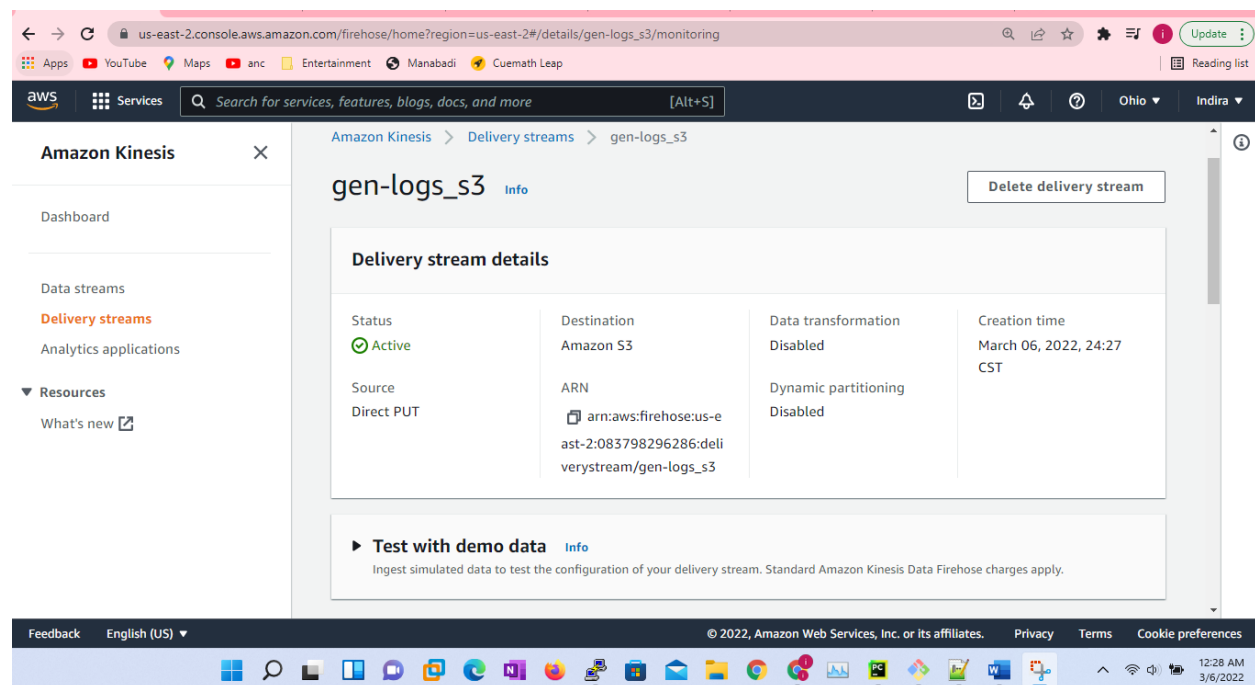


Figure 1 Configured the Kinesis delivery stream

Create the IAM user and related group with required policies.

The screenshot shows the AWS IAM console interface. The left sidebar contains the 'Identity and Access Management (IAM)' menu with options like Dashboard, Access management, Access reports, and Credential report. The main content area displays the 'Summary' page for the 'ITVGenLogsGroup'. It includes fields for 'User group name' (ITVGenLogsGroup), 'Creation time' (March 06, 2022, 01:07 (UTC-06:00)), and 'ARN' (arn:aws:iam::083798296286:group/ITVGenLogsGroup). Below this, there are tabs for 'Users', 'Permissions', and 'Access Advisor'. The 'Users' tab is active, showing a table with one user: 'ITVGenLogsUser'. The table has columns for 'User name', 'Groups', 'Last activity', and 'Creation time'. The user 'ITVGenLogsUser' is listed with 1 group, no last activity, and a creation time of 11 minutes ago. The bottom of the screen shows the Windows taskbar with various application icons and the system clock indicating 1:20 AM on 3/6/2022.

User name	Groups	Last activity	Creation time
ITVGenLogsUser	1	None	11 minutes ago

The screenshot shows the AWS IAM console interface for editing a policy. The left sidebar is the same as the previous screenshot. The main content area displays the 'Summary' page for the 'ITVGenLogsPolicy'. It includes fields for 'Policy ARN' (arn:aws:iam::083798296286:policy/ITVGenLogsPolicy) and 'Description'. Below this, there are tabs for 'Permissions', 'Policy usage', 'Tags', 'Policy versions', and 'Access Advisor'. The 'Permissions' tab is active, showing a 'Policy summary' section with a JSON editor. The JSON content is as follows:

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": [
        "firehose:DeleteDeliveryStream",
        "firehose:PutRecord",
        "firehose:PutRecordBatch",
        "firehose:UpdateDestination"
      ],
      "Resource": [
        "arn:aws:firehose:us-east-2:083798296286:deliverystream/itv-gen-logs"
      ]
    }
  ]
}
```

The bottom of the screen shows the Windows taskbar with various application icons and the system clock indicating 1:20 AM on 3/6/2022.

Configure Kinesis Firehose Agent:

```
{  
  "cloudwatch.emitMetrics": false,  
  "awsAccessKeyId": "AKIARHAWEQ3PGYMTNBNA",  
  "awsSecretAccessKey": "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",  
  "flows": [  
    {  
      "filePattern": "/gen_logs/access.logs",  
      "deliveryStream": "gen-logs_s3"  
    }  
  ]  
}
```

Start and Validate Agent:

```
ec2-user@ip-172-31-35-126 aws-kinesis-agent]$ sudo systemctl restart aws-kinesis-agent
ec2-user@ip-172-31-35-126 aws-kinesis-agent]$ sudo systemctl status aws-kinesis-agent
aws-kinesis-agent.service - LSB: Daemon for Amazon Kinesis Agent.
   Loaded: loaded (/etc/rc.d/init.d/aws-kinesis-agent; bad: vendor preset: disabled)
   Active: active (running) since Mon 2022-03-07 05:20:17 UTC; 12s ago
     Docs: man:systemd-sysv-generator(8)
  Process: 27786 ExecStop=/etc/rc.d/init.d/aws-kinesis-agent stop (code=exited, status=0/SUCCESS)
  Process: 27848 ExecStart=/etc/rc.d/init.d/aws-kinesis-agent start (code=exited, status=0/SUCCESS)
    CGroup: /system.slice/aws-kinesis-agent.service
            └─27856 runner aws-kinesis-agent-user -s /bin/sh -c /usr/bin/start-aws-kinesis-agent
              └─27858 /usr/lib/jvm/jre/bin/java -server -Xms32m -Xmx512m -Dlog4j.configurationFile=file:///etc/aws-kinesis/log4j.xml -XX:OnOutOfMemoryError="/bin/kill -...

Mar 07 05:20:15 ip-172-31-35-126.us-east-2.compute.internal systemd[1]: Stopped LSB: Daemon for Amazon Kinesis Agent..
Mar 07 05:20:15 ip-172-31-35-126.us-east-2.compute.internal systemd[1]: Starting LSB: Daemon for Amazon Kinesis Agent....
Mar 07 05:20:15 ip-172-31-35-126.us-east-2.compute.internal runner[27856]: pam_unix(runuser:session): session opened for user aws-kinesis-agent-user by (uid=0)
Mar 07 05:20:17 ip-172-31-35-126.us-east-2.compute.internal aws-kinesis-agent[27848]: [34B blob data]
Mar 07 05:20:17 ip-172-31-35-126.us-east-2.compute.internal systemd[1]: Started LSB: Daemon for Amazon Kinesis Agent..
ec2-user@ip-172-31-35-126 aws-kinesis-agent]$ ls -ltr
total 64
-rw-r--r-- 1 aws-kinesis-agent-user aws-kinesis-agent-user 2377 Mar  6 07:00 aws-kinesis-agent-2022-03-06-06.log.gz
-rw-r--r-- 1 aws-kinesis-agent-user aws-kinesis-agent-user 2605 Mar  6 08:00 aws-kinesis-agent-2022-03-06-07.log.gz
-rw-r--r-- 1 aws-kinesis-agent-user aws-kinesis-agent-user 1057 Mar  6 23:08 aws-kinesis-agent-2022-03-06-08.log.gz
-rw-r--r-- 1 aws-kinesis-agent-user aws-kinesis-agent-user 1804 Mar  7 00:00 aws-kinesis-agent-2022-03-06-23.log.gz
-rw-r--r-- 1 aws-kinesis-agent-user aws-kinesis-agent-user 1705 Mar  7 01:00 aws-kinesis-agent-2022-03-07-00.log.gz
-rw-r--r-- 1 aws-kinesis-agent-user aws-kinesis-agent-user 2344 Mar  7 02:00 aws-kinesis-agent-2022-03-07-01.log.gz
-rw-r--r-- 1 aws-kinesis-agent-user aws-kinesis-agent-user 2208 Mar  7 03:00 aws-kinesis-agent-2022-03-07-02.log.gz
-rw-r--r-- 1 aws-kinesis-agent-user aws-kinesis-agent-user 1064 Mar  7 04:33 aws-kinesis-agent-2022-03-07-03.log.gz
-rw-r--r-- 1 aws-kinesis-agent-user aws-kinesis-agent-user 1263 Mar  7 05:00 aws-kinesis-agent-2022-03-07-04.log.gz
-rw-r--r-- 1 aws-kinesis-agent-user aws-kinesis-agent-user 25027 Mar  7 05:20 aws-kinesis-agent.log
ec2-user@ip-172-31-35-126 aws-kinesis-agent]$

022-03-08 03:55:35.611+0000 (Agent.MetricsEmitter RUNNING) com.amazon.kinesis.streaming.agent.Agent [INFO] Agent: Progress: 0 records parsed (2380787 bytes), and 0 re
ords sent successfully to destinations. Uptime: 2150071ms
022-03-08 03:56:05.609+0000 (FileTailer[fh:gen_logs_s3:/tmp/accesslogs.log].MetricsEmitter RUNNING) com.amazon.kinesis.streaming.agent.tailing.FileTailer [INFO] FileT
iler[fh:gen_logs_s3:/tmp/accesslogs.log]: Tailer Progress: Tailer has parsed 0 records (2380787 bytes), transformed 0 records, skipped 0 records, and has successfully
ent 0 records to destination.
022-03-08 03:56:05.611+0000 (Agent.MetricsEmitter RUNNING) com.amazon.kinesis.streaming.agent.Agent [INFO] Agent: Progress: 0 records parsed (2380787 bytes), and 0 re
ords sent successfully to destinations. Uptime: 2220071ms
022-03-08 03:56:35.609+0000 (FileTailer[fh:gen_logs_s3:/tmp/accesslogs.log].MetricsEmitter RUNNING) com.amazon.kinesis.streaming.agent.tailing.FileTailer [INFO] FileT
iler[fh:gen_logs_s3:/tmp/accesslogs.log]: Tailer Progress: Tailer has parsed 0 records (2380787 bytes), transformed 0 records, skipped 0 records, and has successfully
ent 0 records to destination.
022-03-08 03:56:35.611+0000 (Agent.MetricsEmitter RUNNING) com.amazon.kinesis.streaming.agent.Agent [INFO] Agent: Progress: 0 records parsed (2380787 bytes), and 0 re
ords sent successfully to destinations. Uptime: 2280071ms
022-03-08 03:57:05.609+0000 (FileTailer[fh:gen_logs_s3:/tmp/accesslogs.log].MetricsEmitter RUNNING) com.amazon.kinesis.streaming.agent.tailing.FileTailer [INFO] FileT
iler[fh:gen_logs_s3:/tmp/accesslogs.log]: Tailer Progress: Tailer has parsed 0 records (2380787 bytes), transformed 0 records, skipped 0 records, and has successfully
ent 0 records to destination.
022-03-08 03:57:05.611+0000 (Agent.MetricsEmitter RUNNING) com.amazon.kinesis.streaming.agent.Agent [INFO] Agent: Progress: 0 records parsed (2380787 bytes), and 0 re
ords sent successfully to destinations. Uptime: 2310071ms
022-03-08 03:58:05.609+0000 (FileTailer[fh:gen_logs_s3:/tmp/accesslogs.log].MetricsEmitter RUNNING) com.amazon.kinesis.streaming.agent.tailing.FileTailer [INFO] FileT
iler[fh:gen_logs_s3:/tmp/accesslogs.log]: Tailer Progress: Tailer has parsed 0 records (2380787 bytes), transformed 0 records, skipped 0 records, and has successfully
ent 0 records to destination.
022-03-08 03:58:05.611+0000 (Agent.MetricsEmitter RUNNING) com.amazon.kinesis.streaming.agent.Agent [INFO] Agent: Progress: 0 records parsed (2380787 bytes), and 0 re
ords sent successfully to destinations. Uptime: 2340071ms
022-03-08 03:58:35.609+0000 (FileTailer[fh:gen_logs_s3:/tmp/accesslogs.log].MetricsEmitter RUNNING) com.amazon.kinesis.streaming.agent.tailing.FileTailer [INFO] FileT
iler[fh:gen_logs_s3:/tmp/accesslogs.log]: Tailer Progress: Tailer has parsed 0 records (2380787 bytes), transformed 0 records, skipped 0 records, and has successfully
ent 0 records to destination.
022-03-08 03:58:35.611+0000 (Agent.MetricsEmitter RUNNING) com.amazon.kinesis.streaming.agent.Agent [INFO] Agent: Progress: 0 records parsed (2380787 bytes), and 0 re
ords sent successfully to destinations. Uptime: 2370071ms
022-03-08 03:59:05.609+0000 (FileTailer[fh:gen_logs_s3:/tmp/accesslogs.log].MetricsEmitter RUNNING) com.amazon.kinesis.streaming.agent.tailing.FileTailer [INFO] FileT
iler[fh:gen_logs_s3:/tmp/accesslogs.log]: Tailer Progress: Tailer has parsed 0 records (2380787 bytes), transformed 0 records, skipped 0 records, and has successfully
ent 0 records to destination.
022-03-08 03:59:05.611+0000 (Agent.MetricsEmitter RUNNING) com.amazon.kinesis.streaming.agent.Agent [INFO] Agent: Progress: 0 records parsed (2380787 bytes), and 0 re
ords sent successfully to destinations. Uptime: 2400071ms
022-03-08 03:59:35.609+0000 (FileTailer[fh:gen_logs_s3:/tmp/accesslogs.log].MetricsEmitter RUNNING) com.amazon.kinesis.streaming.agent.tailing.FileTailer [INFO] FileT
iler[fh:gen_logs_s3:/tmp/accesslogs.log]: Tailer Progress: Tailer has parsed 0 records (2380787 bytes), transformed 0 records, skipped 0 records, and has successfully
ent 0 records to destination.
022-03-08 03:59:35.611+0000 (Agent.MetricsEmitter RUNNING) com.amazon.kinesis.streaming.agent.Agent [INFO] Agent: Progress: 0 records parsed (2380787 bytes), and 0 re
ords sent successfully to destinations. Uptime: 2430071ms
```

