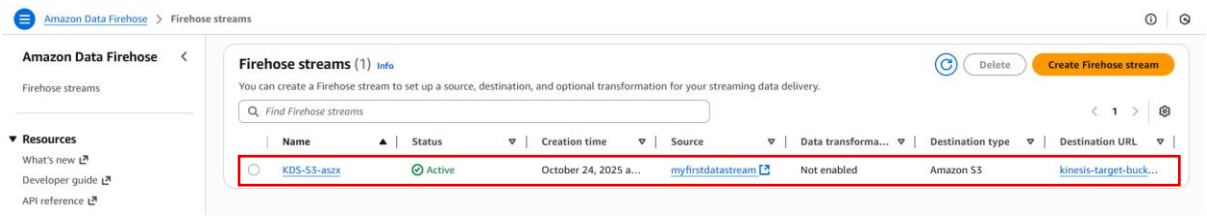
Data Firehose - Transformations with Lambda

To Begin with the Lab

Summary of the Lab

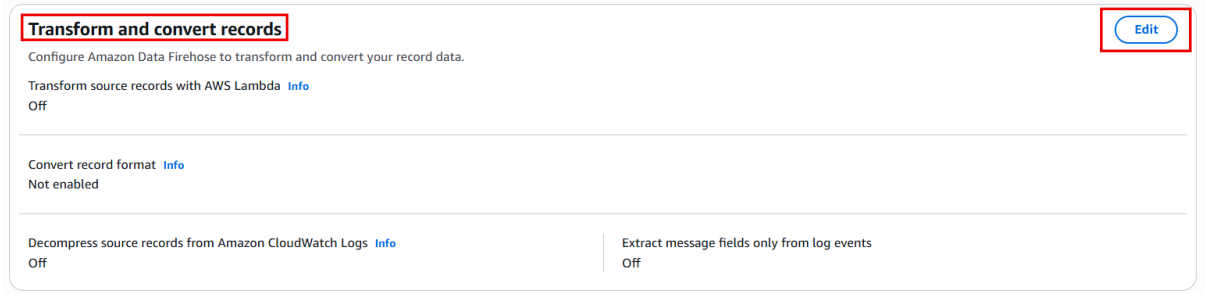
In this lab, you enable **data transformation in Amazon Kinesis Data Firehose** using **AWS Lambda**. You create a Lambda function from a blueprint to process and transform streaming data before it's delivered to S3. After connecting the Lambda function to Firehose, you send records to the Kinesis stream, verify transformed data in the S3 bucket, and confirm successful delivery.

- **Prerequisites**
    - A **Kinesis Data Stream** already created (e.g., myfirstdatastream).
    - A **Kinesis Data Firehose** delivery stream connected to that Kinesis stream.
    - An **S3 bucket** configured as the Firehose destination.
- Go to the **AWS Management Console** → Search and open **Kinesis**.
- Choose your existing **Firehose stream**.

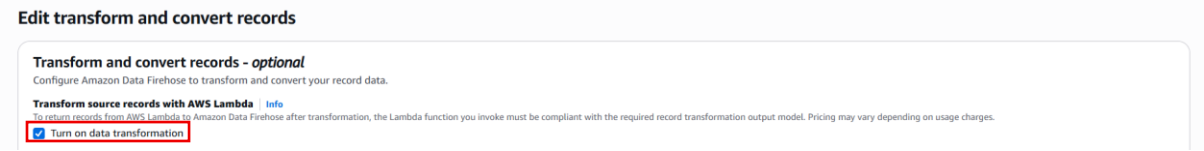


- Go to the **Configuration** tab of your Firehose stream.

- Scroll to **Transform and convert records**.
- Click **Edit**.

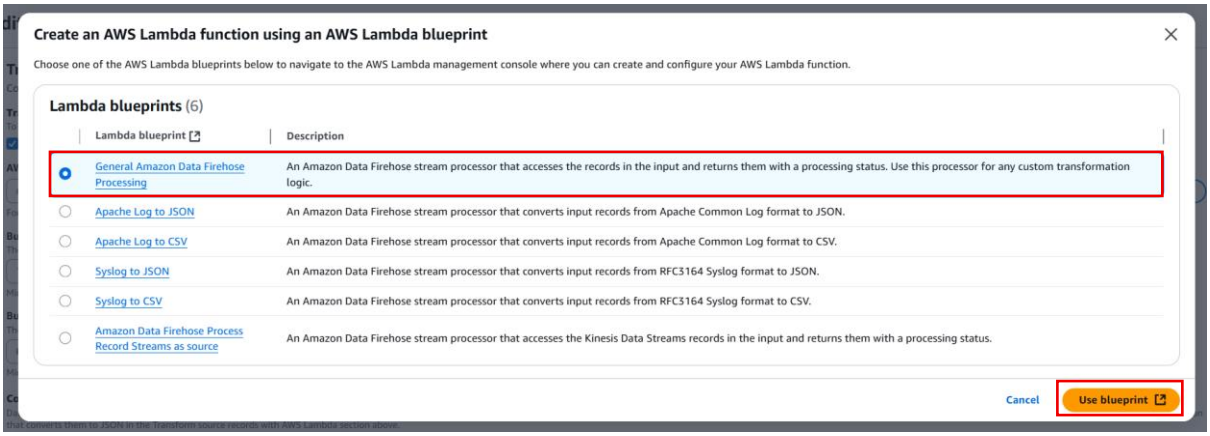


- Check the box **"Enable data transformation"**.

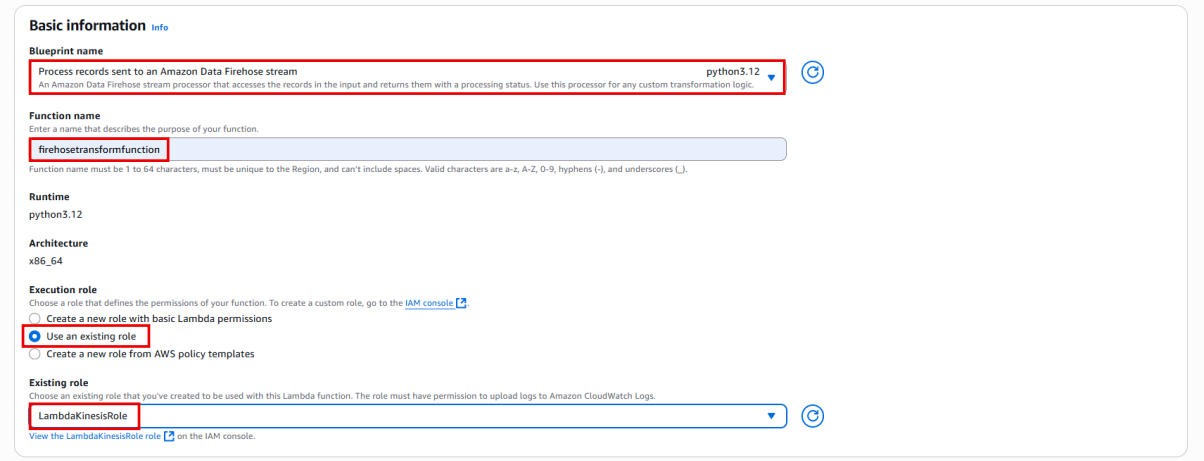


- Under **AWS Lambda function**, click **Create new**.

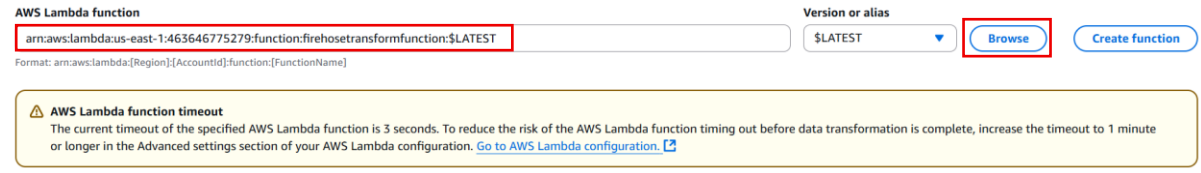
- In the Lambda creation window, choose **General Amazon Data Firehose Processing**.
- Select **Use blueprint**.

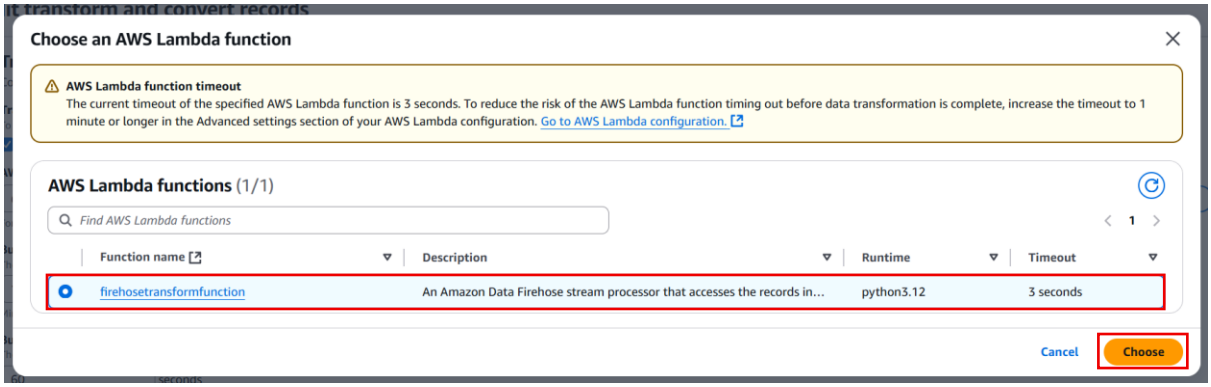


- This will redirect you to lambda interface.
- Name the lambda function.
- In Blueprint Name, search for the firehose.
- Choose **Runtime**: *Python 3.x*.
- Under **Permissions**, choose:
    - **Use an existing role** → select the role created earlier (e.g., LambdaKinesisRole) *(This role should have permissions for Kinesis and S3 access).*
- Review the pre-loaded code — it will **decode, process, and re-encode** records.
- Click **Create function**.

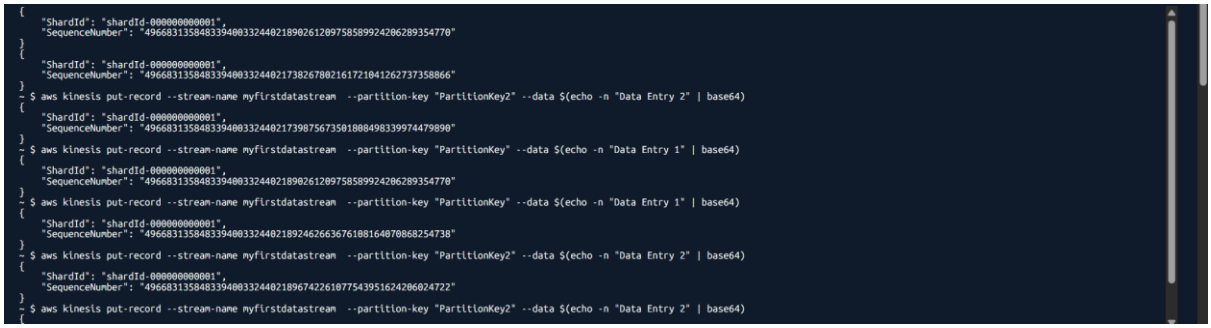


- Return to your **Firehose stream** configuration.
- In the **Transformation** section, select the Lambda function you just created.

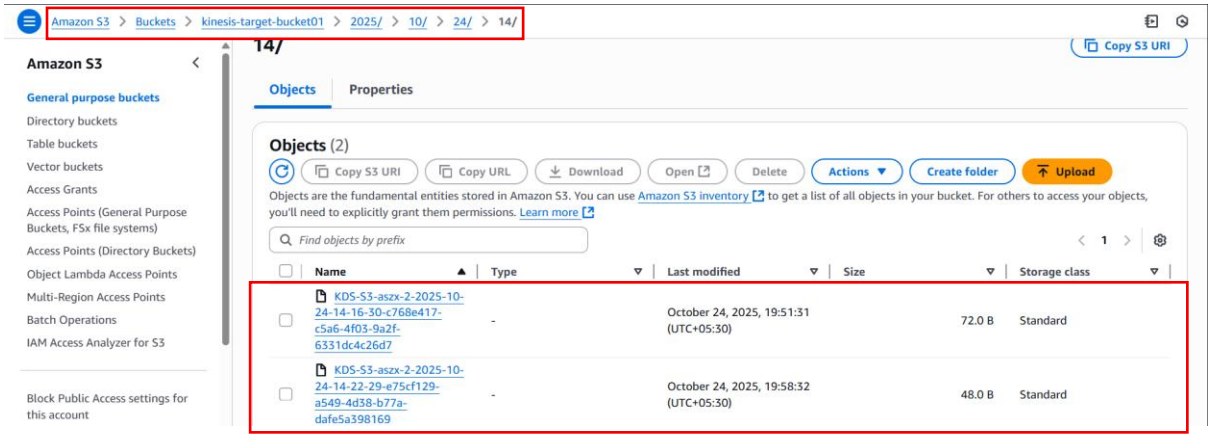


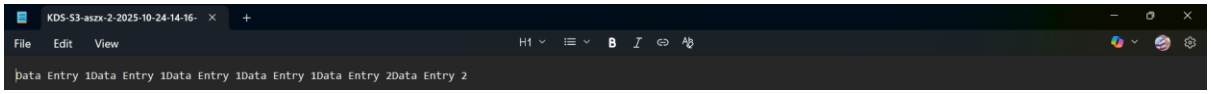


- Open **AWS CloudShell** or your **AWS CLI**.
- Use the **put-record** command to send records into your Kinesis data stream



- Wait a few minutes for Firehose to process and deliver the transformed data.
- Go to the **S3 Console** → Open your **destination bucket**.
- Locate the new folder (organized by **year/month/day**).
- Download a file and open it to confirm the **transformed data**.




KDS-S3-aszx-2-2025-10-24-14-16-
File
Edit
View
H1
data Entry 1Data Entry 1Data Entry 1Data Entry 1Data Entry 2Data Entry 2