CLOUD COMPUTING

Deploy Sales ETL as a Serverless Function

Goal:

Deploy the output of your ETL pipeline as a cloud-based analytics API.

Tasks:

Use the ETL output stored in AWS S3 or Azure Blob Storage.
Create an AWS Lambda or Azure Function that:
Reads aggregated sales data.
Runs KPI calculations (e.g., total revenue, top region).
Returns results as JSON via API Gateway / Azure HTTP Trigger.
Configure a scheduled trigger (e.g., CloudWatch/ EventBridge).
Log execution results to CloudWatch or Application Insights.

Tech: AWS Lambda / Azure Functions, Boto3 / Azure SDK

Deliverables: Deployed function link + code repo + screenshots (Lambda/Function console, API JSON response, logs)

Dataset: https://wgcp-my.sharepoint.com/:f:/g/personal/ritish_jogi_blend360_com/EmxzwFjNkaxPuCw2mQ0abr0BGg6XzIPlj22VogFVtQniyg?e=aglSyr

```
[ ]  from google.colab import drive
     drive.mount('/content/drive')

     Mounted at /content/drive

[ ]  import os

     base_path = "/content/drive/MyDrive/blend_work_python/Sales Dataset"
     os.listdir(base_path)

     ['Amazon Sale Report.csv',
      'Expense IIGF.csv',
      'P  L March 2021.csv',
      'Sale Report.csv',
      'Cloud Warehouse Compersion Chart.csv',
      'International sale Report.csv',
      'May-2022.csv',
      'Amazon_Sales_Cleaned.csv']

[ ]  import pandas as pd

     file_path = os.path.join(base_path, "Amazon_Sales_Cleaned.csv")
     df = pd.read_csv(file_path)

     df.head()
```

	index	Order ID	Date	Status	Fulfilment	Sales Channel	ship-service-level	Style	SKU	Category	...	ship-state	ship-postal-code	ship-country	promotion-ids	B2B	fu
0	0	405-8078784-5731545	2022-04-30	Cancelled	Merchant	Amazon.in	Standard	SET389	SET389-KR-NP-S	Set	...	MAHARASHTRA	400081.0	IN	IN Core Free Shipping 2015/04/08 23-48-5-108	False	
1	1	171-9198151-1101146	2022-04-30	Shipped - Delivered to Buyer	Merchant	Amazon.in	Standard	JNE3781	JNE3781-KR-XXXL	kurta	...	KARNATAKA	560085.0	IN	Amazon PLCC Free-Financing Universal Merchant ...	False	
2	2	404-0687676-7273146	2022-04-30	Shipped	Amazon	Amazon.in	Expedited	JNE3371	JNE3371-KR-XL	kurta	...	MAHARASHTRA	410210.0	IN	IN Core Free Shipping 2015/04/08 23-48-5-108	True	
3	3	403-9615377-8133951	2022-04-30	Cancelled	Merchant	Amazon.in	Standard	J0341	J0341-DR-L	Western Dress	...	PUDUCHERRY	605008.0	IN	IN Core Free Shipping 2015/04/08 23-48-5-108	False	
4	4	407-1069790-7240320	2022-04-30	Shipped	Amazon	Amazon.in	Expedited	JNE3671	JNE3671-TU-XXXL	Top	...	TAMIL NADU	600073.0	IN	IN Core Free Shipping 2015/04/08 23-48-5-108	False	

5 rows × 27 columns

ETL WORK AGGREGATIONS AND KPI

```
#etl work aggregarion

#clean/transform

df['Date'] = pd.to_datetime(df['Date'], errors='coerce')
df['Quarter'] = df['Date'].dt.to_period('Q')
```

```
#kpi aggregation
total_revenue = df['Revenue'].sum()

region_revenue = (
    df.groupby('ship-state')['Revenue']
    .sum()
    .reset_index()
)

top_region = region_revenue.sort_values(by='Revenue', ascending=False).iloc[0]

kpi_data = {
    "total_revenue": total_revenue,
    "top_region": top_region['ship-state'],
    "top_region_revenue": top_region['Revenue']
}

kpi_df = pd.DataFrame([kpi_data])
kpi_df
```

Saving ETL IN A CSV FILE

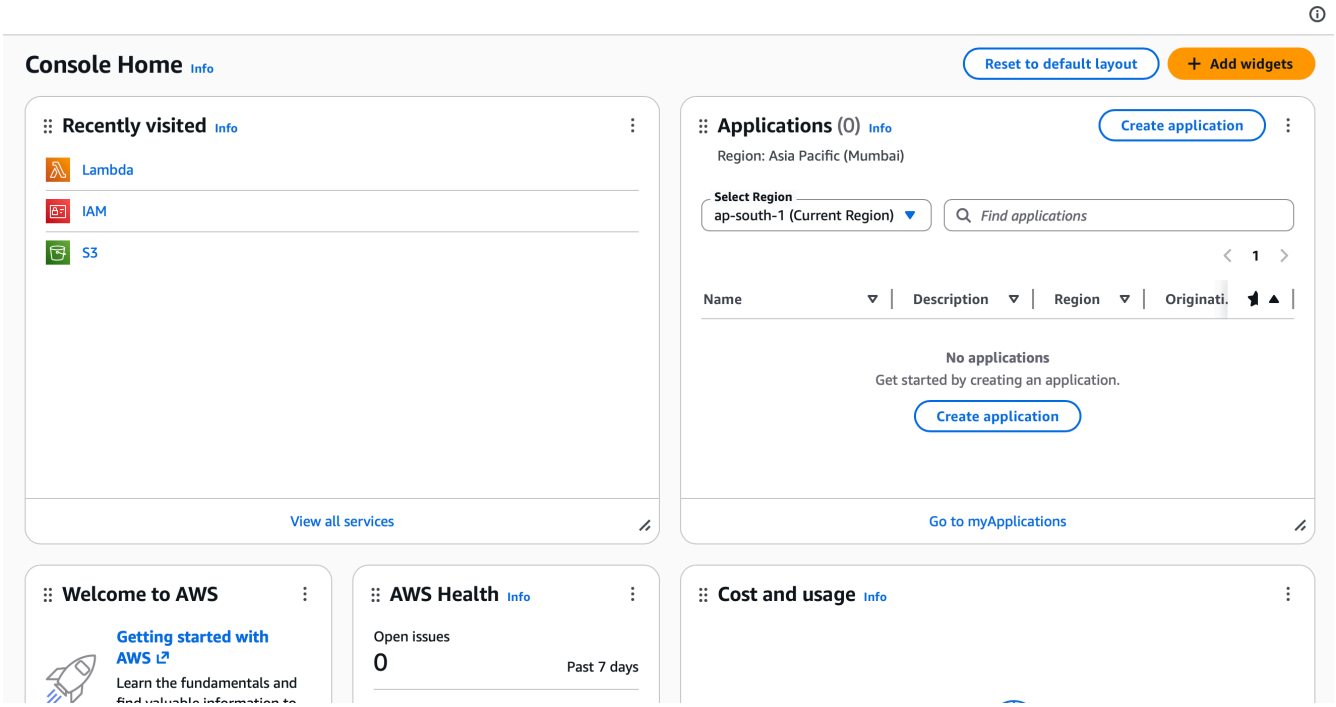
```
#saving ETL OP so that lambda can read now

output_path = "/content/drive/MyDrive/sales_kpi_summary.csv"
kpi_df.to_csv(output_path, index=False)

output_path
```

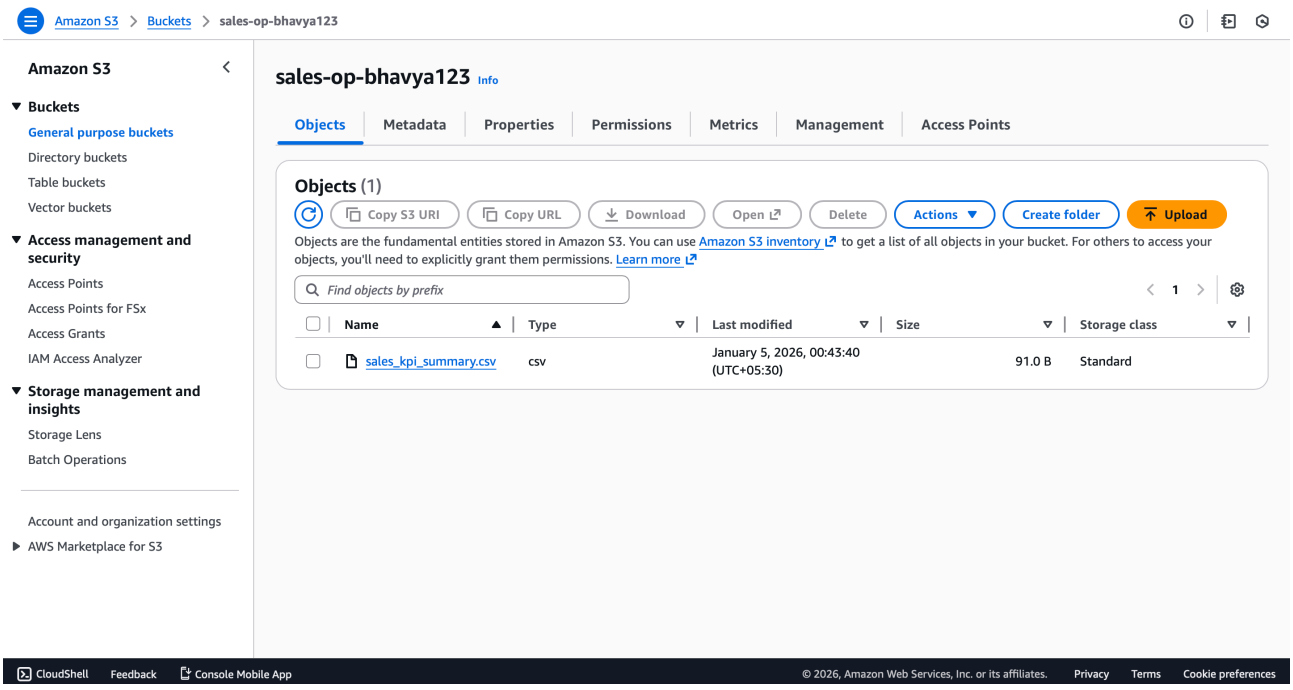
```
'/content/drive/MyDrive/sales_kpi_summary.csv'
```

AMAZON AWS WORK

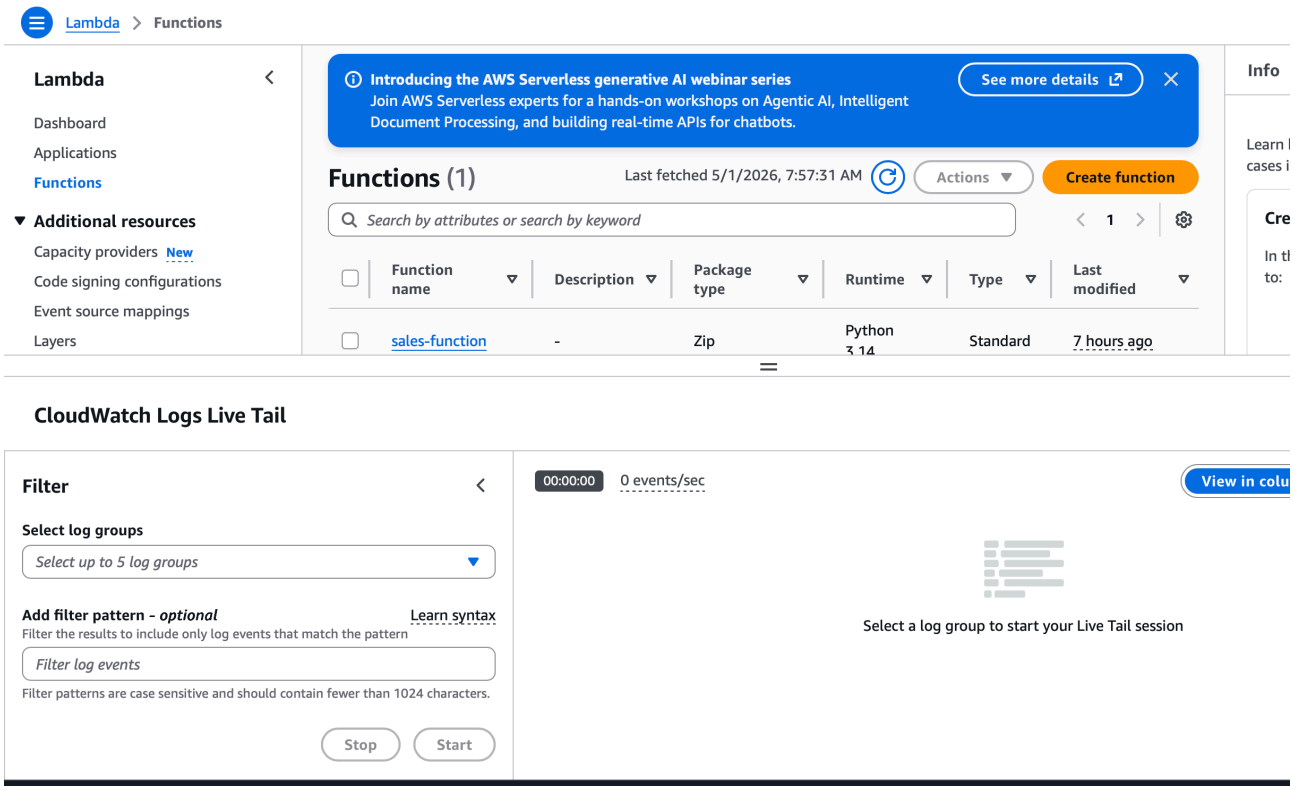


Caption

Uploaded the CSV FILE OF ETL into s3 bucket



LAMBDA CODE


Lambda > Functions
Lambda
Dashboard
Applications
Functions
Additional resources
Capacity providers New
Code signing configurations
Event source mappings
Layers
Introducing the AWS Serverless generative AI webinar series
Join AWS Serverless experts for a hands-on workshops on Agentic AI, Intelligent Document Processing, and building real-time APIs for chatbots.
See more details
Info
Functions (1)
Last fetched 5/1/2026, 7:57:31 AM
Actions
Create function
Search by attributes or search by keyword
1
Function name
Description
Package type
Runtime
Type
Last modified
sales-function
-
Zip
Python 3.14
Standard
7 hours ago
CloudWatch Logs Live Tail
Filter
Select log groups
Select up to 5 log groups
Add filter pattern - optional
Learn syntax
Filter the results to include only log events that match the pattern
Filter log events
Filter patterns are case sensitive and should contain fewer than 1024 characters.
Stop
Start
00:00:00
0 events/sec
View in colu
Select a log group to start your Live Tail session

LAMBDA CODE IN PYTHON3

```
import json
import boto3
import pandas as pd
from io import BytesIO


BUCKET_NAME = 'sales-op-bhavya123'
FILE_KEY = 'sales_kpi_summary.csv'

s3 = boto3.client('s3')

def lambda_handler(event, context):
    try:        response = s3.get_object(Bucket=BUCKET_NAME, Key=FILE_KEY)
        df = pd.read_csv(BytesIO(response['Body'].read()))

        total_revenue = float(df['Revenue'].sum())
        top_region = df.groupby('Region')['Revenue'].sum().idxmax()
        top_product = df.groupby('Product')['Revenue'].sum().idxmax()


        result = {
            "Total Revenue": total_revenue,
            "Top Region": top_region,
            "Top Product": top_product
        }

        return {
            "statusCode": 200,
            "body": json.dumps(result)
        }

    except Exception as e:
        return {
            "statusCode": 500,
            "body": json.dumps({"error": str(e)})
        }
```

Testing and getting correct response using AMAZON AWS