



BING NEWS DATA ANALYTICS

SENTIMENT ANALYSIS





BING SEARCH API V7

Leveraging the Bing Search API v7 solely for sentiment analysis within Bing News enhances understanding of public sentiment towards topics, events, or entities. It provides valuable insights for sentiment tracking and trend analysis, aiding in decision-making and understanding public perception.



DATA FACTORY

Data Factory seamlessly integrates with Bing Search API v7, enabling efficient extraction, transformation, and loading (ETL) of data from Bing search results. With its scalable infrastructure, it simplifies the ingestion process, empowering organizations to leverage Bing search data for various analytics and insights.



ONE LAKE

To store data efficiently, we utilize a data lake architecture. This centralized repository allows for the storage of structured, semi-structured, and unstructured data in its native format, facilitating flexibility and scalability for storing data collected from the Bing Search API v7.



SYNAPSE DATA ENGINEERING

Leveraging Synapse Data Engineering, we streamline data transformation processes in our project. Its scalable infrastructure enables efficient processing of data sourced from the Bing Search API v7, ensuring seamless integration and optimization for analytics and insights generation.



DATA SCIENCE

Utilizing Synapse ML for sentiment analysis on data enables automated extraction of sentiment from text data sourced from the Bing Search API v7. This facilitates efficient understanding of public sentiment towards various topics, aiding decision-making and trend analysis.



POWER BI

For reporting, Power BI offers a dynamic and intuitive platform. Integrating Synapse ML sentiment analysis results with Power BI enables visual representation of sentiment trends sourced from Bing Search API v7 data, empowering stakeholders with actionable insights through interactive dashboards and reports.



DATA ACTIVATOR

Utilizing Data Activator, we configure alerts for real-time monitoring of data sourced from the Bing Search API v7. This ensures timely notifications based on predefined criteria, enabling proactive response to significant changes or events in the data, enhancing decision-making and operational efficiency.



MICROSOFT TEAMS

To receive alerts on Microsoft Teams, we integrate Data Activator with Teams' notification system. This setup ensures that alerts triggered by significant events or changes in data sourced from the Bing Search API v7 are promptly delivered to relevant Teams channels or individuals, facilitating collaboration and timely decision-making within the organization.



BING SEARCH API V7

Microsoft Azure Upgrade Search resources, services, and docs (G+)

tanishqshinde123@outl... DEFAULT DIRECTORY

Home > Bing-data-TanishQ >

Bing-Data-Analytics-TanishQ

Bing Search

Search

Enable Bing Statistics Disable Bing Statistics Delete Refresh Open in mobile

Overview

- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems
- Favorites
 - Keys and Endpoint
- RESOURCE MANAGEMENT
 - Monitoring
 - Automation
- Help

Essentials

Resource group: [Bing-data-TanishQ](#)

Location: Global

Status: Active

Subscription: [Free Trial](#)

Subscription ID: 5-16abf4264915

Tags (edit): tanishQ : Patil

API type: Bing Search

Pricing tier: Free

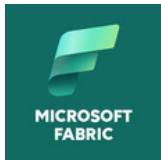
Endpoint: <https://api.bing.microsoft.com/>

Manage keys: [click here to manage keys](#)

Bing Statistics: Disabled

JSON View

Try me Sample code Tutorials



WORK_SPACES

BING-DATA-ANALYTICS-TANISHQ

Power BI Bing-Data-Analytics-TanishQ Search

Trial: 56 days left

Bing-Data-Analytics-TanishQ

Bing Data Analytics is a comprehensive platform designed for analyzing and extracting insights from data gathered by Bing search engine. It provides tools for data visualization, trend analysis, and user behavior tracking, empowering businesses to make data-driven decisions. With Bing Data Analytics, users can harness the power of search data for strategic advantage.

+ New Upload Create deployment pipeline

Filter by keyword Filter

Name	Type	Owner	Refreshed	Next refresh	Endors
Bing_Data_Pipeline_TanishQ	Data pipeline	Tanishk Shinde	—	—	—
Bing_LakeHouse_TanishQ	Lakehouse	Tanishk Shinde	—	—	—
Bing_LakeHouse_TanishQ	Semantic model (...)	Bing-Data-Analyti...	5/6/24, 10:44:22 AM	N/A	—
Bing_LakeHouse_TanishQ	SQL analytics end...	Bing-Data-Analyti...	5/9/24, 2:05:15 PM	N/A	—
Bing_Notebook_TanishQ	Notebook	Tanishk Shinde	—	—	—
Bing_Sentiment_Analysis_TanishQ	Notebook	Tanishk Shinde	—	—	—
positive sentiment item	Reflex	Tanishk Shinde	—	—	—
PowerBI_TanishQ_Report	Report	Bing-Data-Analyti...	5/9/24, 9:24:51 AM	—	—



Bing_Data_Pipeline_TanishQ

Search

Trial: 56 days left

Home Activities Run View

Validate Run Schedule View run history Copy data Dataflow Notebook Lookup Invoke pipeline

Copy Latest News Notebook Data Transformation Notebook Sentiment Analysis

General Source Destination Mapping Settings

Name * Copy Latest News [Learn more](#)

Description

Activity state ☒ Activated ☐ Deactivated

Timeout 0.12:00:00

Azure Data Factory to make REST API calls to the Bing Search API v7 for retrieving information. This involves setting up a linked service in Azure Data Factory to connect to the Bing Search API v7 endpoint and defining appropriate activities within pipelines to invoke the REST API and retrieve the desired data. With this setup, you can efficiently integrate data from Bing Search API v7 into your data workflows within Azure Data Factory.

New connection



REST [Learn more](#)

Connection settings

Base Url *

Example: https://bing.com

Token Audience Uri

Example: Not applicable at present

Connection credentials

Connection

Create new connection

Connection name

Connection

Data gateway

(none)

Authentication kind

Create

Back

Cancel

The Web Search API lets you send a search query to Bing and get back search results that include links to webpages, images, and more. This section provides technical details about the query parameters and headers that you use to request web search results and the JSON response objects that contain them. For examples that show how to make requests, see [Bing Web Search overview](#).

Endpoints

To request web search results, send a GET request to:

Copy

```
https://api.bing.microsoft.com/v7.0/search
```

The request must use the HTTPS protocol.

REQUEST HEADERS

Ocp-Apim-Subscription-Key	Yes	The subscription key that you received when you signed up for this service in Azure Portal while creating a Bing resource.
---------------------------	-----	--

KEYS AND ENDPOINT

Microsoft Azure Upgrade

Search resources, services, and docs (G+)

tanishqshinde123@outl...
DEFAULT DIRECTORY (TANISHQSHINDE123@OUTLOOK.COM)

Home > Bing-Data-Analytics-TanishQ

Bing-Data-Analytics-TanishQ | Keys and Endpoint

✕

Search

Regenerate Key1 Regenerate Key2

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Favorites

Keys and Endpoint

RESOURCE MANAGEMENT

Monitoring

Automation

Help

ⓘ These keys are used to access your Bing resource. Do not share your keys. Store them securely— for example, using Azure Key Vault. We also recommend regenerating these keys regularly. Only one key is necessary to make an API call. When regenerating the first key, you can use the second key for continued access to the service.

Show Keys

Key 1

Key 2

Endpoint

Location ⓘ

.....

.....

https://api.bing.microsoft.com/

global

https://portal.azure.com/#@tanishqshinde123outlook.onmicrosoft.com/resource/subscriptions/5f289e02-d893-4d7e-8fc5-16abf4264915/resourceGroups/Bing-data-TanishQ/providers/Microsoft.Bing/accounts/Bing-Data-Analytics-Ta...

PREVIEW DATA

Preview data

```
[
  {
    "_type": "News",
    "readLink": "https://api.bing.microsoft.com/api/v7/news/search?q=latest+news",
    "queryContext": {
      "originalQuery": "latest news",
      "adultIntent": false
    },
    "totalEstimatedMatches": 32,
    "sort": [
      {
        "name": "Best match",
        "id": "relevance",
        "isSelected": true,
        "url": "https://api.bing.microsoft.com/api/v7/news/search?q=latest+news"
      },
      {
        "name": "Most recent",
        "id": "date",
        "isSelected": false,
        "url": "https://api.bing.microsoft.com/api/v7/news/search?q=latest+news&sortby=date"
      }
    ]
  }
]
```

PIPELINE EXPRESSION BUILDER

Pipeline expression builder



Add dynamic content below using any combination of [expressions](#), [functions](#) and [system variables](#).

```
?q=@{pipeline().parameters.search_term}&count=100&freshness=Day&mkt=en-IN
```

Explorer

▼ Bing_LakeHouse_TanishQ

> Tables

> Files

Files

Name	Date modified	Type	Size
Bing-Latest-News-TanishQ.json	5/9/2024 1:36:...	JSON	39 KB

Bing_Data_Pipeline_TanishQ

Search

Trial: 56 days left

Home Activities Run View

Copy Latest News

Data Transformation

Sentiment Analysis

General

Source

Destination

Mapping

Settings

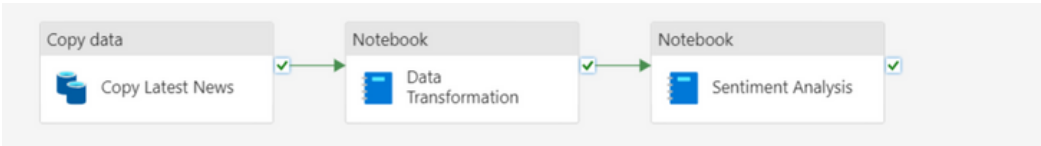
Name

Copy Latest News

Description

Activity state

Timeout





SYNAPSE DATA ENGINEERING

```
1 df = spark.read.option("multiline", "true").json("Files/Bing-Latest-News-TanishQ.json")
2 # df now is a Spark DataFrame containing JSON data from "Files/Bing-Latest-News-TanishQ.json".
3 display(df)
```

✓ - Command executed in 819 ms by Tanishk Shinde on 1:33:55 PM, 5/09/24

PySpark (Python) ▾

Table Chart Showing rows 1 - 1

Inspect

Search

	ABC_type	ANY queryContext	ABC readLink	ANY sort	12L totalEstimatedMatches	ANY value
1	News	[{"adultIntent":false,"...	https://api.bin...	[{"id":"relev...	39	[{"datePubli...

```
1 df= df.select("value")
```

✓ - Command executed in 246 ms by Tanishk Shinde on 1:33:56 PM, 5/09/24

PySpark (Python) ▾

```
1 display(df)
```

✓ - Command executed in 261 ms by Tanishk Shinde on 1:33:57 PM, 5/09/24

PySpark (Python) ▾

Table Chart Showing rows 1 - 1

Inspect

Search

	ANY value
1	[{"datePubli...

```
1 from pyspark.sql.functions import explode
2
3 df_explode = df.select(explode(df["value"]).alias("json_Object"))
```

✓ - Command executed in 237 ms by Tanishk Shinde on 1:33:58 PM, 5/09/24

PySpark (Python) ▾

```
1 display(df_explode)
```

✓ - Command executed in 814 ms by Tanishk Shinde on 1:33:59 PM, 5/09/24

PySpark (Python) ▾

Table Chart Showing rows 1 - 39

Inspect

Search

	ANY json_Object
1	[{"datePublished":"...
2	[{"datePublished":"...
3	[{"datePublished":"...
4	[{"datePublished":"...
5	[{"datePublished":"...
6	[{"datePublished":"...
7	[{"datePublished":"...
8	[{"datePublished":"...

```
1 json_list = df_explode.toJSON().collect()
```

✓ - Command executed in 812 ms by Tanishk Shinde on 1:34:00 PM, 5/09/24

PySpark (Python) ▾

+ Code + Markdown

```
1 print(json_list)
```

✓ - Command executed in 364 ms by Tanishk Shinde on 1:34:01 PM, 5/09/24

PySpark (Python) ▾

```
[{"json_Object": {"about": [{"name": "Pickleball", "readLink": "https://api.bing.microsoft.com/api/v7/entities/d6a2574a-9b44-74ee-6e04-ba1976d07181"}, {"name": "Table tennis", "readLink": "https://api.bing.microsoft.com/api/v7/entities/574f0ecc-043a-6f47-a383-39bd82059d6c"}, {"name": "Badminton", "readLink": "https://api.bing.microsoft.com/api/v7/entities/33a4342a-8aa1-5d93-45d5-5d8c27494e59"}, {"name": "Tennis", "readLink": "https://api.bing.microsoft.com/api/v7/entities/7a186152-36fa-501a-77a6-71b4f02f4c99"}], "category": "Sports", "datePublished": "2024-05-09T03:50:00.000000Z", "description": "Natekar Sports launches World Pickleball League with Sony Entertainment as strategic investor, aiming to promote sport globally.", "image": {"thumbnail": {"contentUrl": "https://www.bing.com/th?id=OVFT.ppeiu0svQ-D9lqPwUf4f9i8pid=News", "height": 393, "width": 700}}, "name": "Natekar Sports and Gaming set to launch World Pickleball League", "provider": [{"_type": "Organization", "image": {"thumbnail": {"contentUrl": "https://www.bing.com/th?id=OPE-95w17-49a4v6f6TA4ur8pid=news"}}}], "name": "Business
```

```
1 import json
2 news_json = json.loads(json_list[25])
```

✓ - Command executed in 246 ms by Tanishk Shinde on 1:34:02 PM, 5/09/24

PySpark (Python) ▾

```
1 print(news_json)
```

✓ - Command executed in 240 ms by Tanishk Shinde on 1:34:02 PM, 5/09/24

PySpark (Python) ▾

```
{'json_Object': {'category': 'Sports', 'datePublished': '2024-05-08T23:41:00.000000Z', 'description': 'From the cricket world, Mongolia will kickstart their seven-match tour of Japan with the first T20I at the Sano Cricket Ground. Meanwhile, Bangladesh will look to clinch the five-match T20I series against Zimbabwe with a win in the third game at Chattogram.', 'name': 'Sports Highlights: Dortmund Pip PSG 1-0 In Champions League, Enter Final', 'provider': [{'_type': 'Organization', 'image': {'thumbnail': {'contentUrl': 'https://www.bing.com/th?id=ODF.nP2rzyfwERvAkqhL1eU8tg&pid=news'}}}, {'name': 'Outlookindia', 'url': 'https://www.outlookindia.com/sports/live-scores-today-may-7-2024-ipl-dc-vs-rr-ucl-psg-vs-dortmund-world-schedule-results'}}
```

```
1 print(news_json['json_Object']['description'])
```

✓ - Command executed in 275 ms by Tanishk Shinde on 1:34:03 PM, 5/09/24

PySpark (Python) ▾

From the cricket world, Mongolia will kickstart their seven-match tour of Japan with the first T20I at the Sano Cricket Ground. Meanwhile, Bangladesh will look to clinch the five-match T20I series against Zimbabwe with a win in the third game at Chattogram.

```
1 print(news_json["json_Object"]["name"])
2 print(news_json["json_Object"]["description"])
3 print(news_json["json_Object"]["category"])
4 print(news_json["json_Object"]["url"])
5
6 # Check if "image" key exists before accessing it
7 if "image" in news_json["json_Object"]["provider"][0]:
8     print(news_json["json_Object"]["provider"][0]["image"]["thumbnail"]["contentUrl"])
9 else:
10     print("Image not available")
11
12 print(news_json["json_Object"]["provider"][0]["name"])
13 print(news_json["json_Object"]["datePublished"])
14
```

✓ - Command executed in 262 ms by Tanishk Shinde on 1:34:03 PM, 5/09/24

PySpark (Python) ▾

Sports Highlights: Dortmund Pip PSG 1-0 In Champions League, Enter Final
From the cricket world, Mongolia will kickstart their seven-match tour of Japan with the first T20I at the Sano Cricket Ground. Meanwhile, Bangladesh will look to clinch the five-match T20I series against Zimbabwe with a win in the third game at Chattogram.
Sports
<https://www.outlookindia.com/sports/live-scores-today-may-7-2024-ipl-dc-vs-rr-ucl-psg-vs-dortmund-world-schedule-results>
<https://www.bing.com/th?id=ODF.nP2rzyfwERvAkqhL1eU8tg&pid=news>
Outlookindia
2024-05-08T23:41:00.000000Z

```

1 title = []
2 description = []
3 category = []
4 url = []
5 image = []
6 provider = []
7 datePublished = []
8
9 for json_str in json_list:
10     try:
11         article = json.loads(json_str)
12
13         if "json_Object" in article:
14             if "name" in article["json_Object"]:
15                 title.append(article["json_Object"]["name"])
16             else:
17                 title.append(None)
18
19             if "description" in article["json_Object"]:
20                 description.append(article["json_Object"]["description"])
21             else:
22                 description.append(None)
23
24             if "category" in article["json_Object"]:
25                 category.append(article["json_Object"]["category"])
26             else:
27                 category.append(None)
28
29             if "url" in article["json_Object"]:
30                 url.append(article["json_Object"]["url"])
31             else:
32                 url.append(None)
33
34             if "image" in article["json_Object"] and "thumbnail" in article["json_Object"]["image"]:
35                 image.append(article["json_Object"]["image"]["thumbnail"].get("contenturl"))
36             else:
37                 image.append(None)
38
39             if "provider" in article["json_Object"] and len(article["json_Object"]["provider"]) > 0:
40                 provider.append(article["json_Object"]["provider"][0].get("name"))
41             else:
42                 provider.append(None)
43
44             if "datePublished" in article["json_Object"]:
45                 datePublished.append(article["json_Object"]["datePublished"])
46             else:
47                 datePublished.append(None)
48
49         except Exception as e:
50             print(f"Error processing json object: {e}")
51

```

✓ - Command executed in 260 ms by Tanishk Shinde on 1:34:04 PM, 5/09/24

1 description

✓ - Command executed in 250 ms by Tanishk Shinde on 1:34:05 PM, 5/09/24

PySpark (Python) ▾

['Natekar Sports launches World Pickleball League with Sony Entertainment as strategic investor, aiming to promote sport globally.',
 'ROASTING THE GOAT - Former NFL star Shawne Merriman told Fox News Digital he thought Netflix's "Greatest Roast of All Time: Tom Brady" was one of
 the best roasts he'd ever seen. Continue reading..',
 "Welcome to ESPN India's daily blog, where we aim to bring you all the news from the dynamic world of Indian sports: from the wide variety of
 Olympic sports to franchise leagues. May has plenty of sporting action taking place - which you can find listed out in ESPN India's sporting
 calendar."]

```

from pyspark.sql.types import StructType, StructField, StringType
# combine list
data = list(zip(title, description, category, url, image, provider, datePublished))
# define schema

schema = StructType([
    StructField("title", StringType(), True),
    StructField("description", StringType(), True),
    StructField("category", StringType(), True),
    StructField("url", StringType(), True),
    StructField("image", StringType(), True),
    StructField("provider", StringType(), True),
    StructField("datePublished", StringType(), True)
])
df_cleaned = spark.createDataFrame(data, schema=schema)

```

```
1 display(df_cleaned)
```

✓ - Command executed in 1 sec 536 ms by Tanishk Shinde on 1:34:09 PM, 5/09/24

Table Chart Showing rows 1 - 39

	ABC title	ABC description	ABC category	ABC url	ABC image	ABC provider	ABC datePublished
1	Natekar Sp...	Natekar Sports la...	Sports	https://ww...	https://www...	Business Line	2024-05-09T03:50:0...
2	Fox News S...	ROASTING THE ...	Sports	https://ww...	https://www...	Fox News on ...	2024-05-08T19:48:0...
3	Indian Spor...	Welcome to ESP...	Sports	https://ww...	https://www...	ESPN	2024-05-09T03:30:0...
4	Alderson Br...	Visit ESPN for Al...	NULL	https://ww...	https://www...	ESPN	2024-05-09T07:12:0...
5	Prep sports...	With a 27-2 reco...	Sports	https://ww...	https://www...	Los Angeles Ti...	2024-05-09T00:31:5...
6	Disney's Rit...	With ESPN, Disn...	NULL	https://ww...	https://www...	NextTV on MS...	2024-05-08T17:33:0...

```
1 from pyspark.sql.functions import to_date , date_format
2
3 df_cleaned_final = df_cleaned.withColumn("datePublished",date_format(to_date("datePublished"),"dd-MMM-yyyy"))
```

✓ - Command executed in 267 ms by Tanishk Shinde on 1:34:09 PM, 5/09/24

```
1 display(df_cleaned_final)
```

✓ - Command executed in 828 ms by Tanishk Shinde on 1:34:11 PM, 5/09/24

Table Chart Showing rows 1 - 39

	ABC title	ABC description	ABC category	ABC url	ABC image	ABC provider	ABC datePublished
1	Natekar Sp...	Natekar Sports la...	Sports	https://ww...	https://www...	Business Line	09-May-2024
2	Fox News S...	ROASTING THE ...	Sports	https://ww...	https://www...	Fox News on ...	08-May-2024
3	Indian Spor...	Welcome to ESP...	Sports	https://ww...	https://www...	ESPN	09-May-2024
4	Alderson Br...	Visit ESPN for Al...	NULL	https://ww...	https://www...	ESPN	09-May-2024
5	Prep sports...	With a 27-2 reco...	Sports	https://ww...	https://www...	Los Angeles Ti...	09-May-2024
6	Disney's Rit...	With ESPN, Disn...	NULL	https://ww...	https://www...	NextTV on MS...	08-May-2024
7	Michigan S...	Michigan becam...	Sports	https://ww...	https://www...	Forbes	08-May-2024

```
1 from pyspark.sql.utils import AnalysisException
2
3 try:
4
5     table_name = 'Bing_LakeHouse_TanishQ.tbl_latest_news'
6
7     df_cleaned_final.write.format("delta").saveAsTable(table_name)
8
9 except AnalysisException:
10
11     print("Table Already Exists")
12
13     df_cleaned_final.createOrReplaceTempView("vw_df_cleaned_final")
14
15     spark.sql(f""" MERGE INTO {table_name} target_table
16                     USING vw_df_cleaned_final source_view
17
18                     ON source_view.url = target_table.url
19
20                     WHEN MATCHED AND
21                         source_view.title <> target_table.title OR
22                         source_view.description <> target_table.description OR
23                         source_view.category <> target_table.category OR
24                         source_view.image <> target_table.image OR
25                         source_view.provider <> target_table.provider OR
26                         source_view.datePublished <> target_table.datePublished
27
28                     THEN UPDATE SET *
29
30                     WHEN NOT MATCHED THEN INSERT *
31
32 """)
```

```

1 df = spark.sql("SELECT * FROM Bing_LakeHouse_TanishQ.tbl_latest_news LIMIT 1000")
2 display(df)

```

✓ - Command executed in 1 sec 532 ms by Tanishk Shinde on 1:34:36 PM, 5/09/24

Table  Chart Showing rows 1 - 68  

	ABC title	ABC description	ABC category	ABC url	ABC image	ABC provider	ABC datePublished
1	Fox News S...	ROASTING THE ...	Sports	https://ww...	https://www...	Fox News on ...	08-May-2024
2	Indian Spor...	Welcome to ESP...	Sports	https://ww...	https://www...	ESPN	09-May-2024
3	Alderson Br...	Visit ESPN for Al...	NULL	https://ww...	https://www...	ESPN	09-May-2024
4	Natekar Sp...	Natekar Sports la...	Sports	https://ww...	https://www...	Business Line	09-May-2024


```

1 %%sql
2 SELECT count(*) FROM tbl_latest_news

```

✓ - Command executed in 1 sec 467 ms by Tanishk Shinde on 1:34:38 PM, 5/09/24

Table  Chart 

	12L count(1)
1	68



DATA SCIENCE

SENTIMENT ANALYSIS USING SYNAPSE MLC

```
1 df = spark.sql("SELECT * FROM Bing_LakeHouse_TanishQ.tbl_latest_news LIMIT 1000")
2 display(df)
```

✓ - Command executed in 14 sec 634 ms by Tanishk Shinde on 1:49:42 PM, 5/09/24

Table Chart Showing rows 1 - 76

	ABC title	ABC description	ABC category	ABC url	ABC image	ABC provider	ABC datePubli...
1	Ex-interpret...	LOS ANGEL...	NULL	https://abc...	https://ww...	ABC	08-May-2024
2	Today in Sp...	LeBron Jam...	Sports	https://apn...	NULL	Associated ...	08-May-2024
3	Alderson Br...	Visit ESPN f...	NULL	https://ww...	https://ww...	ESPN	09-May-2024
4	Indian Spor...	Welcome t...	Sports	https://ww...	https://ww...	ESPN	09-May-2024
5	Michigan S...	Michigan b...	Sports	https://ww...	https://ww...	Forbes	08-May-2024
6	Virginia Sp...	The legal s...	Sports	https://ww...	https://ww...	Forbes	08-May-2024

```
1 # APPLY THE MODEL TO OUR DATAFRAME
2 result = model.transform(df)
```

✓ - Command executed in 786 ms by Tanishk Shinde on 1:49:45 PM, 5/09/24

PySpark (Python)

```
1 import synapse.ml.core
2 from synapse.ml.services import AnalyzeText
```

✓ - Command executed in 243 ms by Tanishk Shinde on 1:49:43 PM, 5/09/24

PySpark (Python)

```
1 # IMPORT THE MODEL AND CONFIGURE THE INPUT AND OUTPUT COLUMNS
2
3 model = (AnalyzeText()
4         .setTextCol("description")
5         .setKind("SentimentAnalysis")
6         .setOutputCol("response")
7         .setErrorCol("error"))
```

✓ - Command executed in 248 ms by Tanishk Shinde on 1:49:43 PM, 5/09/24

PySpark (Python)

```
1 display(result)
```

✓ - Command executed in 6 sec 324 ms by Tanishk Shinde on 1:49:51 PM, 5/09/24

Table Chart Showing rows 1 - 76

	ABC title	ABC description	ABC category	ABC url	ABC image	ABC provider	ABC datePubli...	ANY error	ANY response
1	Ex-interpret...	LOS ANGEL...	NULL	https://abc...	https://ww...	ABC	08-May-2024	NULL	("document...
2	Today in Sp...	LeBron Jam...	Sports	https://apn...	NULL	Associated ...	08-May-2024	NULL	("document...
3	Alderson Br...	Visit ESPN f...	NULL	https://ww...	https://ww...	ESPN	09-May-2024	NULL	("document...
4	Indian Spor...	Welcome t...	Sports	https://ww...	https://ww...	ESPN	09-May-2024	NULL	("document...
5	Michigan S...	Michigan b...	Sports	https://ww...	https://ww...	Forbes	08-May-2024	NULL	("document...
6	Virginia Sp...	The legal s...	Sports	https://ww...	https://ww...	Forbes	08-May-2024	NULL	("document...
7	The Sports ...	Yoshinobu ...	Sports	https://ww...	NULL	Los Angele...	08-May-2024	NULL	("document...

```

1 # CREATE SENTIMENT COLUMN
2 from pyspark.sql.functions import col
3
4 sentiment_df = result.withColumn("sentiment", col("response.documents.sentiment"))

```

✓ - Command executed in 235 ms by Tanishk Shinde on 1:49:52 PM, 5/09/24

```
1 display(sentiment_df)
```

✓ - Command executed in 3 sec 534 ms by Tanishk Shinde on 1:49:56 PM, 5/09/24

Table Chart Showing rows 1 - 76

	ABC title	ABC description	ABC category	ABC url	ABC image	ABC provider	ABC datePubli...	ANY error	ANY response	ABC sentiment
1	Ex-interpret...	LOS ANGEL...	NULL	https://abc...	https://ww...	ABC	08-May-2024	NULL	["document...	negative
2	Today in Sp...	LeBron Jam...	Sports	https://apn...	NULL	Associated ...	08-May-2024	NULL	["document...	neutral
3	Alderson Br...	Visit ESPN f...	NULL	https://ww...	https://ww...	ESPN	09-May-2024	NULL	["document...	neutral
4	Indian Spor...	Welcome t...	Sports	https://ww...	https://ww...	ESPN	09-May-2024	NULL	["document...	neutral
5	Michigan S...	Michigan b...	Sports	https://ww...	https://ww...	Forbes	08-May-2024	NULL	["document...	neutral
6	Virginia Sp...	The legal s...	Sports	https://ww...	https://ww...	Forbes	08-May-2024	NULL	["document...	neutral
7	The Sports ...	Yoshinobu ...	Sports	https://ww...	NULL	Los Angele...	08-May-2024	NULL	["document...	neutral

```
1 sentiment_df_final = sentiment_df.drop("error", "response")
```

✓ - Command executed in 251 ms by Tanishk Shinde on 1:49:57 PM, 5/09/24

```
1 display(sentiment_df_final)
```

✓ - Command executed in 3 sec 521 ms by Tanishk Shinde on 1:50:00 PM, 5/09/24

Table Chart Showing rows 1 - 76

	ABC title	ABC description	ABC category	ABC url	ABC image	ABC provider	ABC datePublished	ABC sentiment
1	Ex-interpret...	LOS ANGELES -- ...	NULL	https://abc...	https://www...	ABC	08-May-2024	negative
2	Today in Sp...	LeBron James sc...	Sports	https://apn...	NULL	Associated Pr...	08-May-2024	neutral
3	Alderson Br...	Visit ESPN for Al...	NULL	https://ww...	https://www...	ESPN	09-May-2024	neutral
4	Indian Spor...	Welcome to ESP...	Sports	https://ww...	https://www...	ESPN	09-May-2024	neutral
5	Michigan S...	Michigan becam...	Sports	https://ww...	https://www...	Forbes	08-May-2024	neutral
6	Virginia Sp...	The legal sports ...	Sports	https://ww...	https://www...	Forbes	08-May-2024	neutral

```

1 from pyspark.sql.functions import col, to_date
2
3 sentiment_df_final = sentiment_df_final.withColumn("datePublished", to_date(col("datePublished"), "dd-MMM-yyyy"))

```

✓ - Command executed in 263 ms by Tanishk Shinde on 1:58:59 PM, 5/09/24

PySpark (Python) ✓


```

1  from pyspark.sql.utils import AnalysisException
2
3  try:
4
5      table_name = 'Bing_LakeHouse_TanishQ.tbl_Sentiment_Analysis'
6
7      sentiment_df_final.write.format("delta").saveAsTable(table_name)
8
9  except AnalysisException:
10
11      print("Table Already Exists")
12
13      sentiment_df_final.createOrReplaceTempView("vw_sentiment_df_final")
14
15      spark.sql(f""" MERGE INTO {table_name} target_table
16                  USING vw_sentiment_df_final source_view
17
18                  ON source_view.url = target_table.url
19
20                  WHEN MATCHED AND
21                     source_view.title <> target_table.title OR
22                     source_view.description <> target_table.description OR
23                     source_view.category <> target_table.category OR
24                     source_view.image <> target_table.image OR
25                     source_view.provider <> target_table.provider OR
26                     source_view.datePublished <> target_table.datePublished
27
28                  THEN UPDATE SET *
29
30                  WHEN NOT MATCHED THEN INSERT *
31
32      """)

```

```

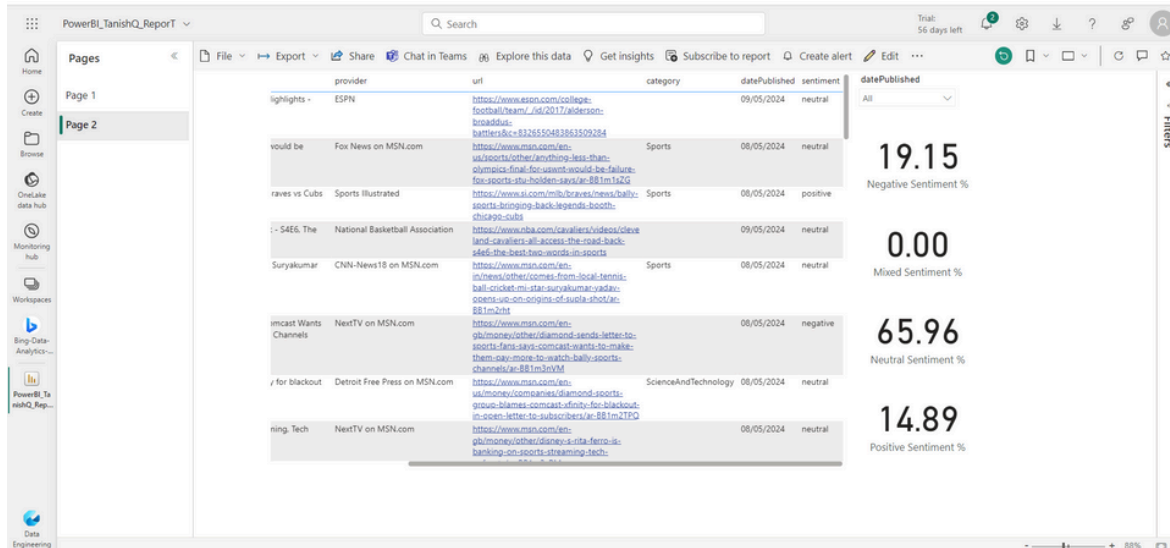
1  df = spark.sql("SELECT * FROM Bing_LakeHouse_TanishQ.tbl_sentiment_analysis LIMIT 1000")
2  display(df)

```

✓ - Command executed in 1 sec 584 ms by Tanishk Shinde on 1:57:02 PM, 5/09/24

 Table  Chart Showing rows 1 - 76  

	ABC title	ABC description	ABC category	ABC url	ABC image	ABC provider	 datePublished	ABC sentiment
1	Ex-interpret...	LOS ANGELES -- ...	NULL	https://abc...	https://www...	ABC	2024-05-08	negative
2	Today in Sp...	LeBron James sc...	Sports	https://apn...	NULL	Associated Pr...	2024-05-08	neutral
3	PSU bank s...	PSU bank stocks....	Business	https://eco...	https://www...	Indiatimes	2024-05-06	negative
4	iSportz Ann...	ORLANDO, FL / ...	ScienceAndTec...	https://fina...	https://www...	YAHOO!Finance	2024-05-09	neutral
5	PRESS DIGE...	The following ar...	LifeStyle	https://fina...	NULL	YAHOO!Finance	2024-05-06	negative
6	Israel Move...	The order—whic...	World	https://tim...	https://www...	Time	2024-05-06	negative



OPEN DATA MODEL

tbl_sentiment_analysis	
category	
datePublished	
description	
image	
provider	
sentiment	
title	
url	
Collapse ^	



DATA ANALYSIS EXPRESSIONS (DAX)

```
1 Mixed Sentiment % =
2 IF (
3     COUNTROWS ( FILTER ('tbl_sentiment_analysis', 'tbl_sentiment_analysis'[Sentiment] = "mixed")) > 0,
4     DIVIDE (
5         CALCULATE (
6             COUNTROWS ( FILTER ('tbl_sentiment_analysis', 'tbl_sentiment_analysis'[Sentiment] = "mixed"))
7         ),
8         COUNTROWS ('tbl_sentiment_analysis')
9     )*100,
10    0
11 )
12
```

```
1 Negative Sentiment % =
2 IF (
3     COUNTROWS ( FILTER ('tbl_sentiment_analysis', 'tbl_sentiment_analysis'[Sentiment] = "negative")) > 0,
4     DIVIDE (
5         CALCULATE (
6             COUNTROWS ( FILTER ('tbl_sentiment_analysis', 'tbl_sentiment_analysis'[Sentiment] = "negative"))
7         ),
8         COUNTROWS ('tbl_sentiment_analysis')
9     )*100,
10    0
11 )
12
```

```
1 Neutral Sentiment % =
2 IF (
3     COUNTROWS ( FILTER ('tbl_sentiment_analysis', 'tbl_sentiment_analysis'[Sentiment] = "neutral")) > 0,
4     DIVIDE (
5         CALCULATE (
6             COUNTROWS ( FILTER ('tbl_sentiment_analysis', 'tbl_sentiment_analysis'[Sentiment] = "neutral"))
7         ),
8         COUNTROWS ('tbl_sentiment_analysis')
9     )*100,
10    0
11 )
12
```

```
1 Positive Sentiment % =
2 IF (
3     COUNTROWS ( FILTER ('tbl_sentiment_analysis', 'tbl_sentiment_analysis'[Sentiment] = "positive")) > 0,
4     DIVIDE (
5         CALCULATE (
6             COUNTROWS ( FILTER ('tbl_sentiment_analysis', 'tbl_sentiment_analysis'[Sentiment] = "positive"))
7         ),
8         COUNTROWS ('tbl_sentiment_analysis')
9     )*100,
10    0
11 )
12
```



DATA ACTIVATOR

positive sentiment item

Search

Trial: 59 days left

Home

New Property New Trigger Custom Actions Delete Save Start Update Stop Send me a test alert

Objects

- Positive Sentiment %
 - Triggers
 - Positive Se...
 - Properties
 - Positive Sent...
 - Events
 - Positive Sent...

Positive Sentiment % becomes greater than 0

0 of 1 ID Last Hour

Let's get started! Take a tour to learn how to create your first trigger using Data Activator

View tutorial Not now

Act Send Teams message

Recipients *

kumarsr@mrktalkstechgmail.onmicrosoft.com

Headline *

Positive Sentiment % becomes greater than 0

Optional message

The trigger condition has been met for your Power BI report

Additional information

Positive Sentiment %

Limit of 5.

Data Design

