Sentiment Analysis using Azure Synapse and Azure Cognitive service
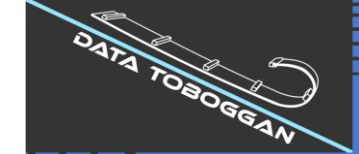

09 Jul 2022 1:00 pm

About Me

Alpa Buddhabhatti

Azure Consultant, Cluster Reply

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Microsoft Certified:
Azure Data Engineer Associate
Microsoft

Microsoft Certified:
Azure Data Scientist Associate
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Microsoft Certified:
Azure Developer Associate
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Microsoft Certified Trainer 2021-2022
Microsoft

Agenda

1. Azure Synapse Analytics overview

2. Azure Cognitive service for Language Overview

3. Demo
    Sentiment Analysis using Azure Synapse Data pipeline & Cognitive Services

1. Azure Synapse Analytics overview

What is Azure Synapse Analytics?

An analytics service that combines data integration, data warehousing, business functions and Big Data analysis in a shared space.
A limitless analytics service, that brings together enterprise data warehousing and Big Data analytics

Azure Data Lake Storage   Azure SQL Data Warehouse   Azure Analytics

The freedom to query data on your own terms, using either serverless or dedicated resources at scale.

https://docs.microsoft.com/en-us/azure/synapse-analytics/

Why we need it?

➢Serverless and PaaS Azure Services

➢No code or Low code data integration capabilities

➢Notebooks supports different languages E.g. Python , Scala , C#

➢Support more than 95 data source connector

➢All in one environment (ETL or ELT, Analytics, Machine Learning, Visualization)

➢Increases the speed of queries (Massively Parallel Processing Architecture)

➢Cost effective as storage and computing are paid separately

Data Integration

1 Linked services

2 Datasets

3 Activities

4 Pipelines

5 Triggers

What *can you do in Data Integration Pipeline?*

- ➢ Data Movements

- ➢ Data Transformation

- ➢ Orchestration

- ➢ Automation

- ➢ Easy to integrate

What *can you do in Data Integration Pipeline?*

➤ Pipelines are JSON, ready for

 Source Control

➤ Built in Git Integration

➤ Monitor
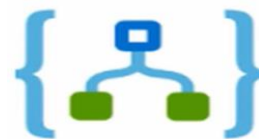
➤ Manage

{ JSON }

Azure DevOps Git

GitHub

What *can you do in Data Integration Pipeline?*

Trigger pipeline

➢A Specific Time

➢File created or deleted from Blob Storage

➢Customer Activity such as

2. Azure Cognitive service for Language

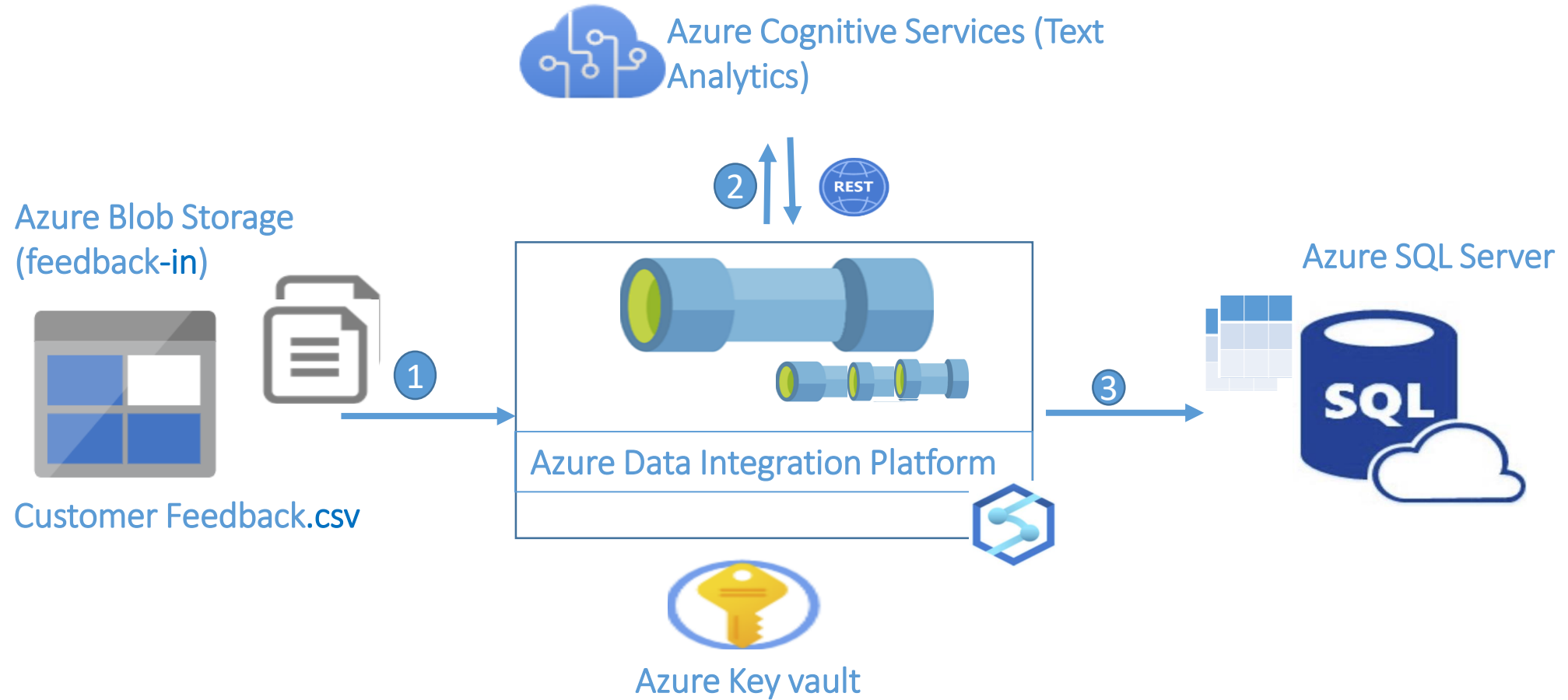**Azure Cognitive Services**
Text Analytics

Sentiment Analysis

➢Azure Cognitive Service for Language

➢Text Analytics (Text, Documents)

➢Extract, Classify and Understand text within documents

➢Sentiment labels (such as "negative", "neutral" and "positive")

➢NLP - Natural Language processing technique

➢No code or Low code

➢Create an Azure Language resource

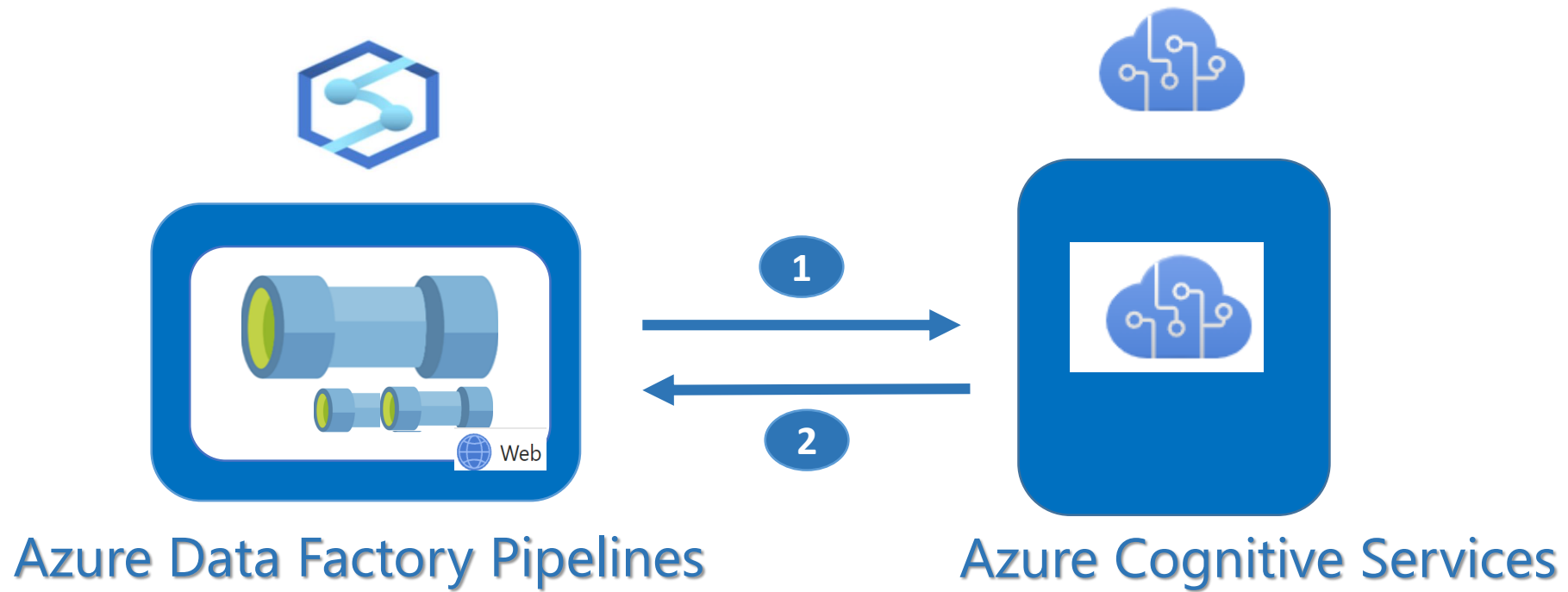➢The REST API or the client library for C#, Java, JavaScript, and Python

3. DEMO
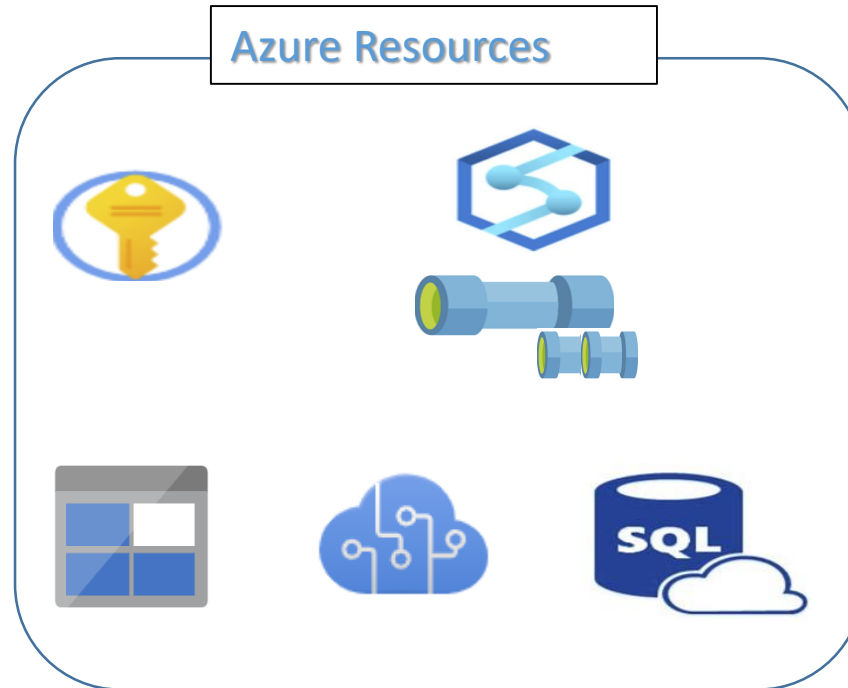# Sentiment Analysis using ADF using Cognitive Services

Highlevel Design

Azure Cognitive Services (Text Analytics)

Azure Blob Storage (feedback-in)

Customer Feedback.csv

Azure Data Integration Platform

Azure Key vault

Azure SQL Server

17

How to Integration them?

Azure Data Factory Pipelines

Azure Cognitive Services

DEMO

Azure Resources

Key *Takeaway*

Azure Synapse Analytics

> ➤ Connect data sources into Synapse Workspace
> ➤ Process data using Dedicated SQL Pool
> ➤ Transform data using Apache Spark Pool
> ➤ Ingest, transform & orchestrate using Pipelines
> ➤ Query data using Serverless SQL Pool
> ➤ Easy to integrate with other Azure services (Cosmos DB, Power BI etc)

Key *Takeaway*

Azure Cognitive Services

- ➢ It summarized big documents and provide sentiments
- ➢ A wide range of languages
- ➢ Understand common topics and trends
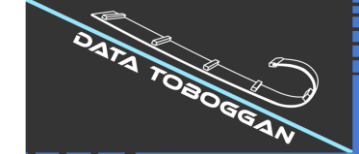- ➢ A Gain deeper understanding about your customer sentiments

Key *Takeaway*

DEMO

- ➢ Read Feedbacks from Blob storage
- ➢ Apply sentiment analysis on each feedback
- ➢ Apply transformation and store data to Azure SQL Table

Thank you !!!

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Q & A

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Azure Synapse Analytics

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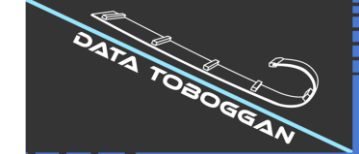
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Useful links

Introduction to Azure Synapse Analytics - Learn | Microsoft Docs

Introduction to Azure Synapse Analytics (microsoft.com)