



# FUTURE NOW

CONFERENCE 2018

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October 25, 2018  
New Zealand



# Building intelligence into your apps

**Matt Simpson**



# AI is about amplifying *human ingenuity* with *intelligent technology*



## Reasoning

Learn and form  
conclusions with imperfect  
data



## Understanding

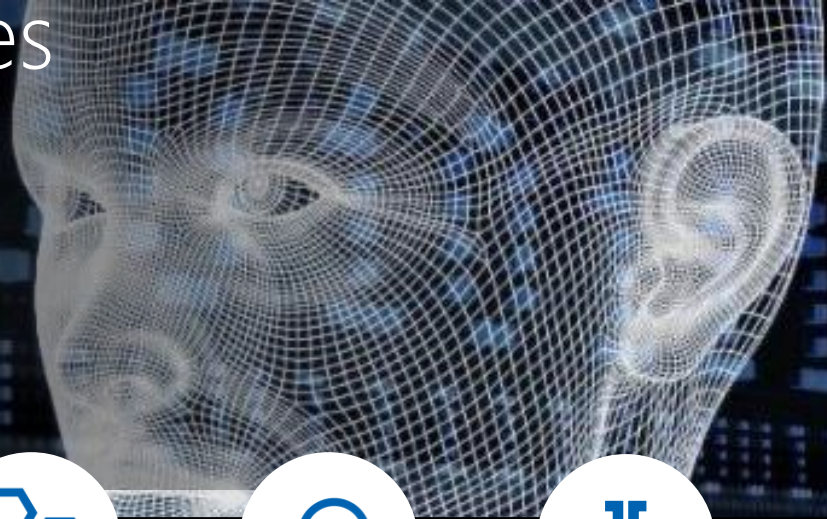
Interpret meaning of data  
including text, voice, images



## Interacting

Interact with people  
in natural ways

# Microsoft Cognitive Services



Vision



Speech



Language



Knowledge



Search



Labs

Perception

Comprehension

# Microsoft Cognitive Services



## Vision

Video Indexer

Computer Vision

Face

Emotion

Content Moderator

Custom Vision



## Speech

Speaker Recognition

Bing Speech

Custom Speech

Translator Speech

### Unified Speech

Speech to Text  
w. Custom Speech

Text to Speech  
w. Custom Voice

Speech Translation  
w. Custom Translator



## Language

Text Analytics

Bing Spell Check

Translator Text

Language Understanding  
(LUIS)



## Knowledge

QnA Maker

Custom Decision



## Search

Bing Entity Search

Bing Autosuggest

### Bing Search

Web Search

Image Search

News Search

Video Search

Bing Statistics add-in

Bing Visual Search

Bing Custom Search



## Labs

Project Gesture

Project Local Insights

Project Academic  
Knowledge

Project Entity Linking

Project Knowledge  
Exploration

Project Event Tracking

Project Answer Search

Project URL Preview

Project Anomaly Finder

Project Conversation  
Learner

Project Personality Chat



# Microsoft Cognitive Services Labs



## Project Conversation Learner

Teach new behaviors to task-oriented conversational interfaces through example interactions



## Project Personality Chat

Enhance your bot's conversational capabilities, by handling small talk, in line with a distinct chosen personality



## Project Knowledge Exploration

Enable interactive search experiences over structured data via natural language inputs



## Project Academic Knowledge

Tap into the wealth of academic content in the Microsoft Academic Graph



## Project Entity Linking

Power your app's data links with named entity recognition and disambiguation



## Project Anomaly Finder

The Anomaly Finder API helps you to monitor data over time and detect anomalies with machine learning that adapts to your unique data by automatically applying a statistical model



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# Face Recognition

## Face detection

Detect faces and their attributes within an image

## Face verification

Check if two faces belong to the same person

## Similar face searching

Find similar faces within a set of images

## Face grouping

Organize many faces into groups

## Face identification

Search which person a face belongs to





# Computer Vision

## Analyze an image

Understand content within an image

## OCR

Detect and recognize words within an image

## Generate thumbnail

Scale and crop images, while retaining key content

## Recognize celebrities

Thanks to domain-specific models, ability to recognize 200K celebrities from business, politics, sports, and entertainment around the world



# Custom Vision

A customizable web service that learns to recognize specific content in imagery

## Upload images

Upload your own labeled images, or use Custom Vision Service to quickly tag any unlabeled images

## Train

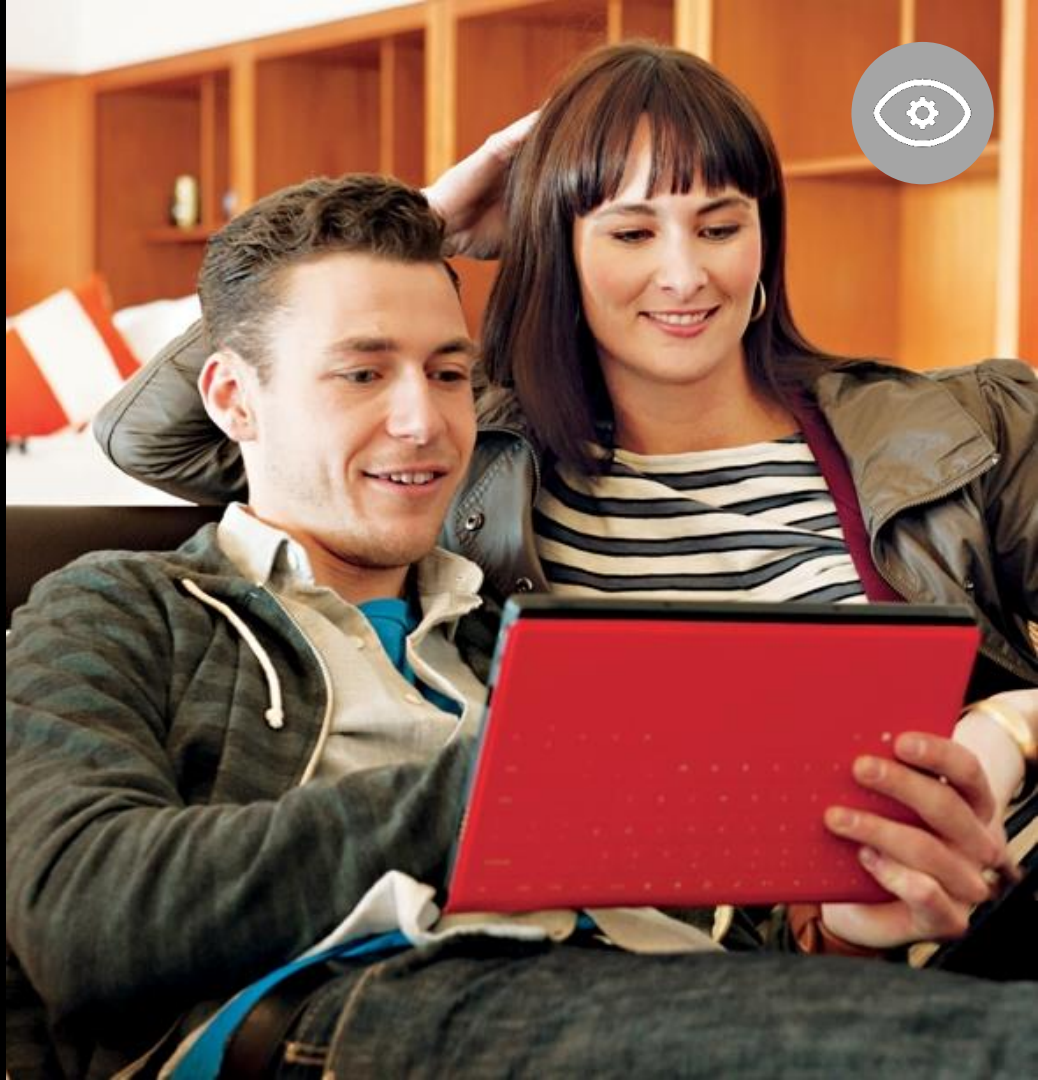
Use your labeled images to teach Custom Vision Service the concepts you want it to learn

## Evaluate

Use simple REST API calls to quickly tag images with your new custom computer vision model

## Active learning

Images evaluated through your custom vision model become part of a feedback loop you can use to keep improving your classifier



# Microsoft Cognitive Services



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# Unified Speech

Combine speech recognition, text-to-speech, customized voice models, and translation service

## Speech to text

Convert continuous human speech to text that can be used as inputs

## Text to speech

Convert text to audio files of natural-sounding speech

## Speech translation

Use text or speech to provide translations of speech to other languages



# Microsoft Cognitive Services



Vision



Speech



Language



Knowledge



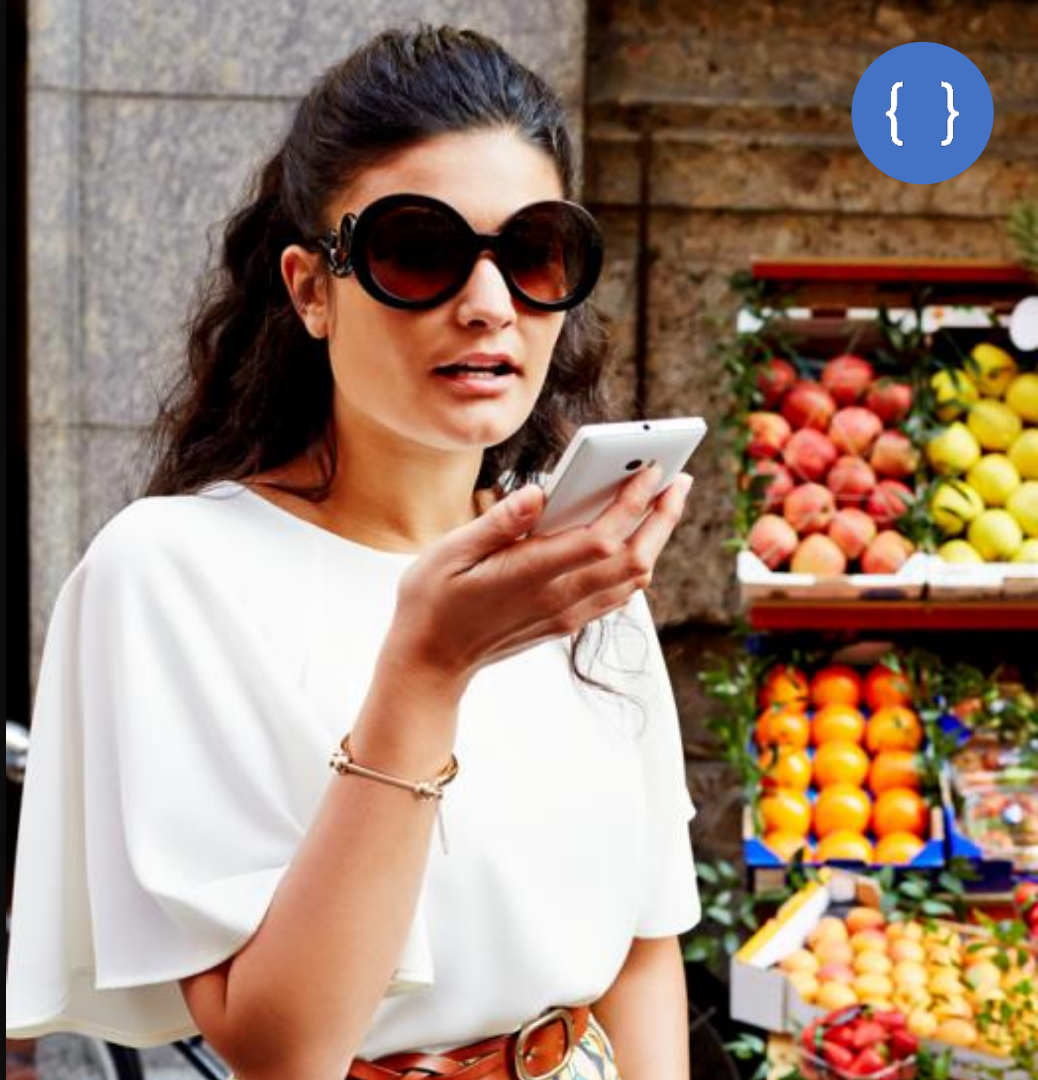
Search



# Language Understanding Intelligent Service (LUIS)

**Understand what  
your users are saying and  
create agents that perform  
custom actions**

Use pre-built models or create your own



# Text Analytics

## Sentiment analysis

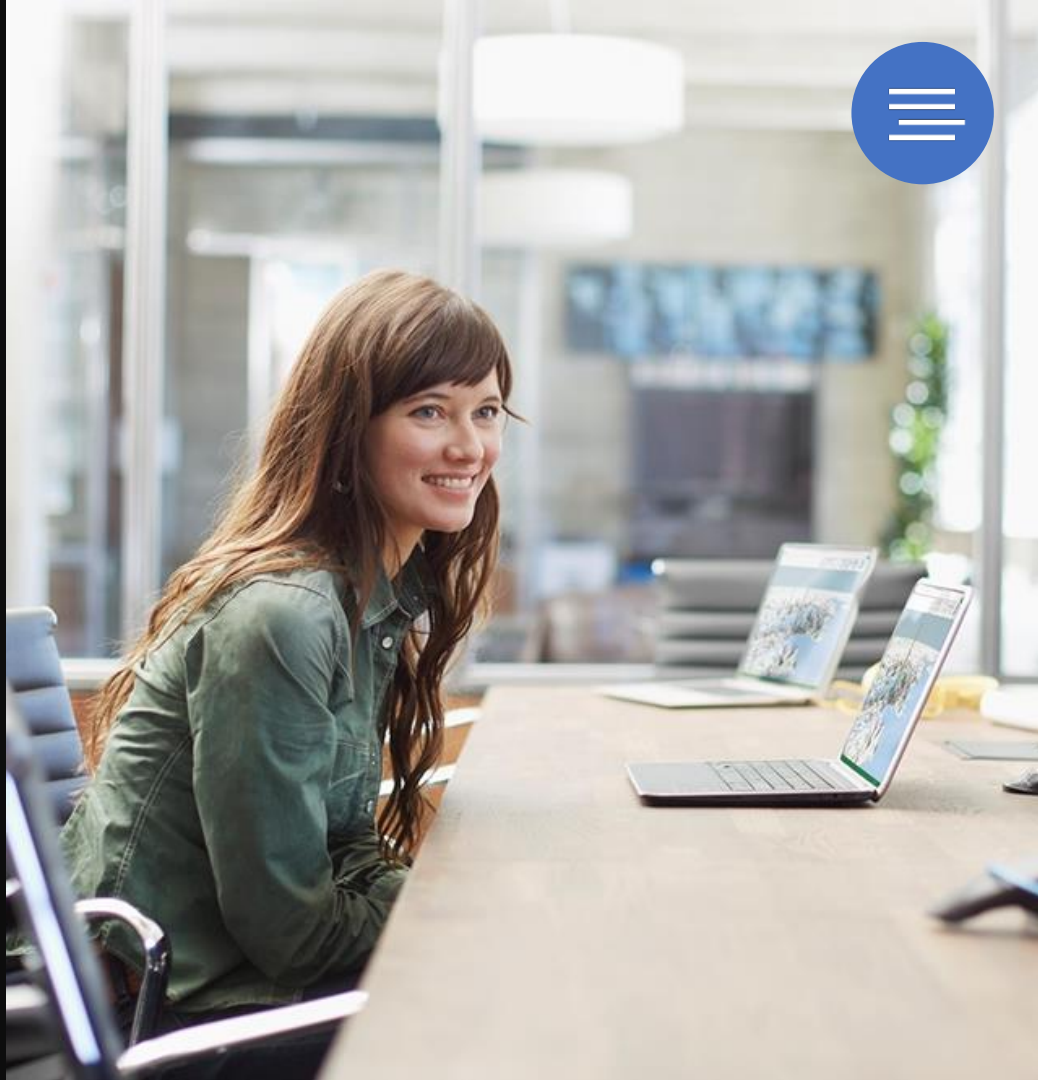
Understand if a record has positive or negative sentiment

## Key phrase extraction

Extract key phrases from a piece of text, and retrieve topics

## Language detection

Identify the language,  
120 supported languages



# Text Translator

Conduct real-time translation  
with a REST API call

## Automatic detection

Accurately detect specific languages  
on any text string

## Transliterate

Translate and display text  
in different language alphabets

## Speech translation

Build custom NTM models that better  
handle writing styles and expressions





# Content Moderator

## Image moderation

Machine-learning based classifiers, custom blacklists, and Optical Character Recognition (OCR)

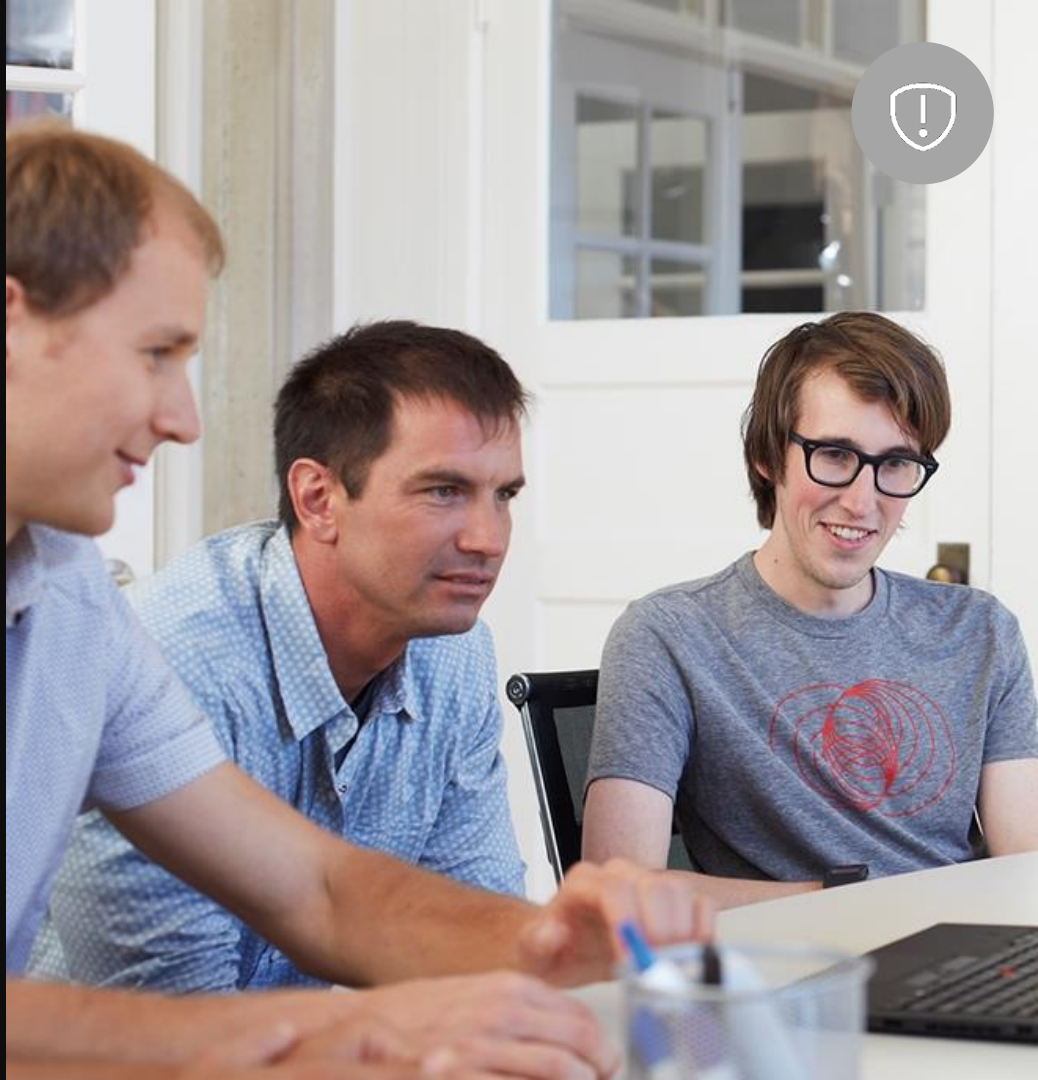
## Text moderation

Helps you detect potential profanity in more than 100 languages and match text against your custom lists automatically.

Identification of possible Personally Identifiable Information (PII)

## Video moderation

Scoring of possible adult or racy content in videos.



# Microsoft Cognitive Services



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# Bing Custom Search

An easy-to-use, ad-free, commercial-grade search tool lets you deliver results you want

## Customize your search

Quickly and reliably define the slices of the web that you want to draw from. Change the parameters of the sites you want and don't want at any time

## Easy-to-use

Custom Search features a straightforward UI that enables you to create your web search without a line of code

## Commercial-grade

Usage is ad-free—no matter how much or how little of the service you use



# Bing Visual Search

**Deliver new experiences that enable users to search with images and gain insights in compelling new ways**

- Discover intelligent context identification
- Enhance product recommendations for your business
- Make your applications and devices intelligent
- Augment image understanding through OCR
- Power statistics for your queries



# Cognitive Search

INGEST

ENRICH

EXPLORE

101010  
010101  
101010

Data in any  
format, any  
Azure store



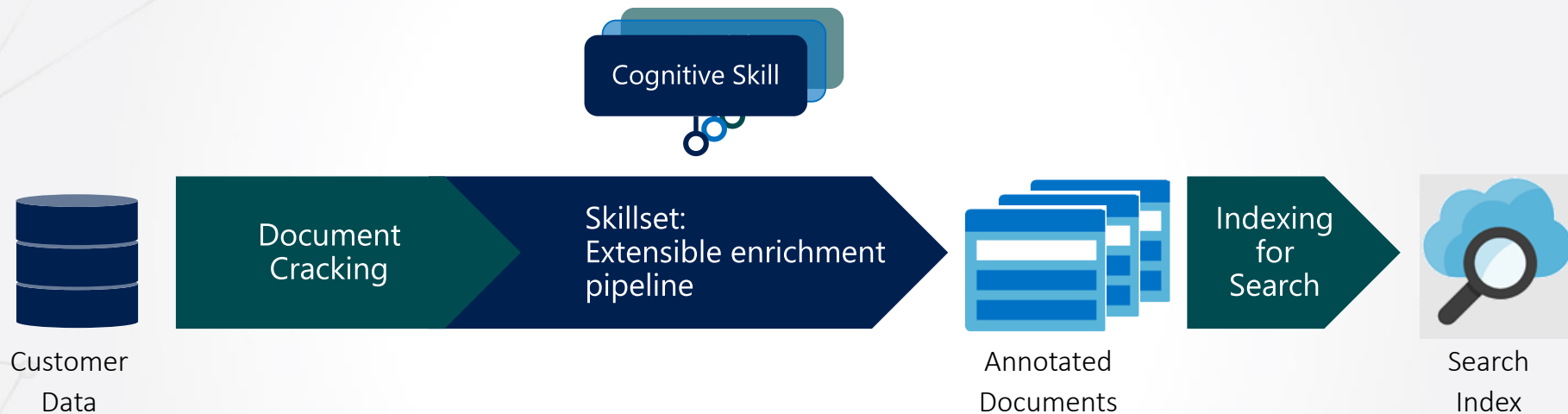
Cognitive  
skills



Search



Annotations



INGEST

ENRICH

EXPLORE

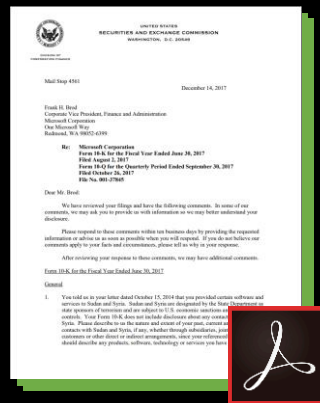


## • Different types of data sources

- Blob Storage
- Azure SQL
- Cosmos DB
- Azure Tables
- MySQL
- Azure Files ( private preview)

## • File formats supported in blob storage

- |       |        |       |
|-------|--------|-------|
| • pdf | • rtf  | • doc |
| • xml | • json | • ppt |
| • png | • html | • xls |



text

metadata

images

**Quick starts, tutorials, API reference,  
and code examples!**

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paths at **Microsoft Learn**.

**Check it out here:**

