

SAVE THE DATE

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Global **Azure**  
**BOOTCAMP**



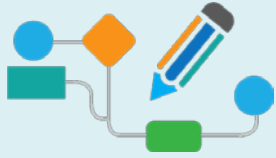
# Azure Logic App Integration

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# Agenda

- Logic Apps Introduction
- Design and Development of Logic Apps
- Cognitive Services
- Demo: Text Analytics API
- Demo: Computer Vision API
- Demo: Face API

# What is Logic Apps?



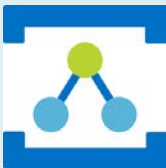
Workflow Engine



Integration Platform



Serverless Technology



Pre-built Connectors



Quick-start Templates

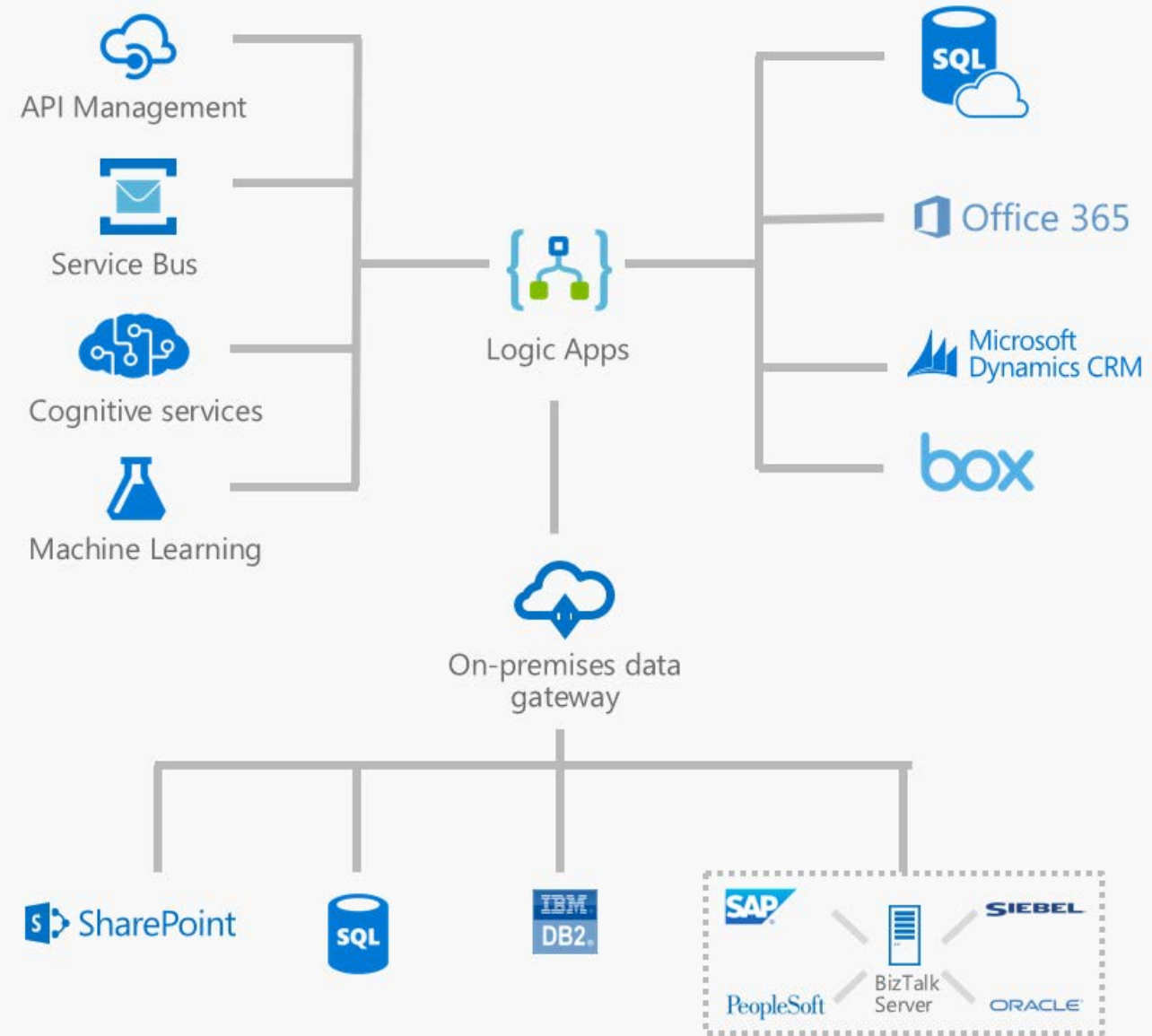


Visual Studio Tooling



# Integration Scenarios

- On-premises data gateway
- Azure API Management
- Azure Service Bus
- Azure Cognitive services
- Azure Machine Learning
- AI
- SaaS





# Demo



Create simple Logic App using  
Visual Studio

# Designer & Deployment Options



Visual Studio 2015/2017 Plug-in

Web-based Designer with  
Azure Portal

Promotion using the  
Web Designer

Azure Resource Manager (ARM)  
Templates & PowerShell

# Connectors



Connectors are pre-built wrappers around systems to greatly simplify interaction with those systems



# Built-in Connectors

## Standard

- Azure Blob Storage
- Dynamics 365 CRM Online
- Event Hubs
- FTP
- Office 365 Outlook
- Salesforce
- Service Bus
- SharePoint Online
- Azure SQL Database
- Twitter

## Integration account

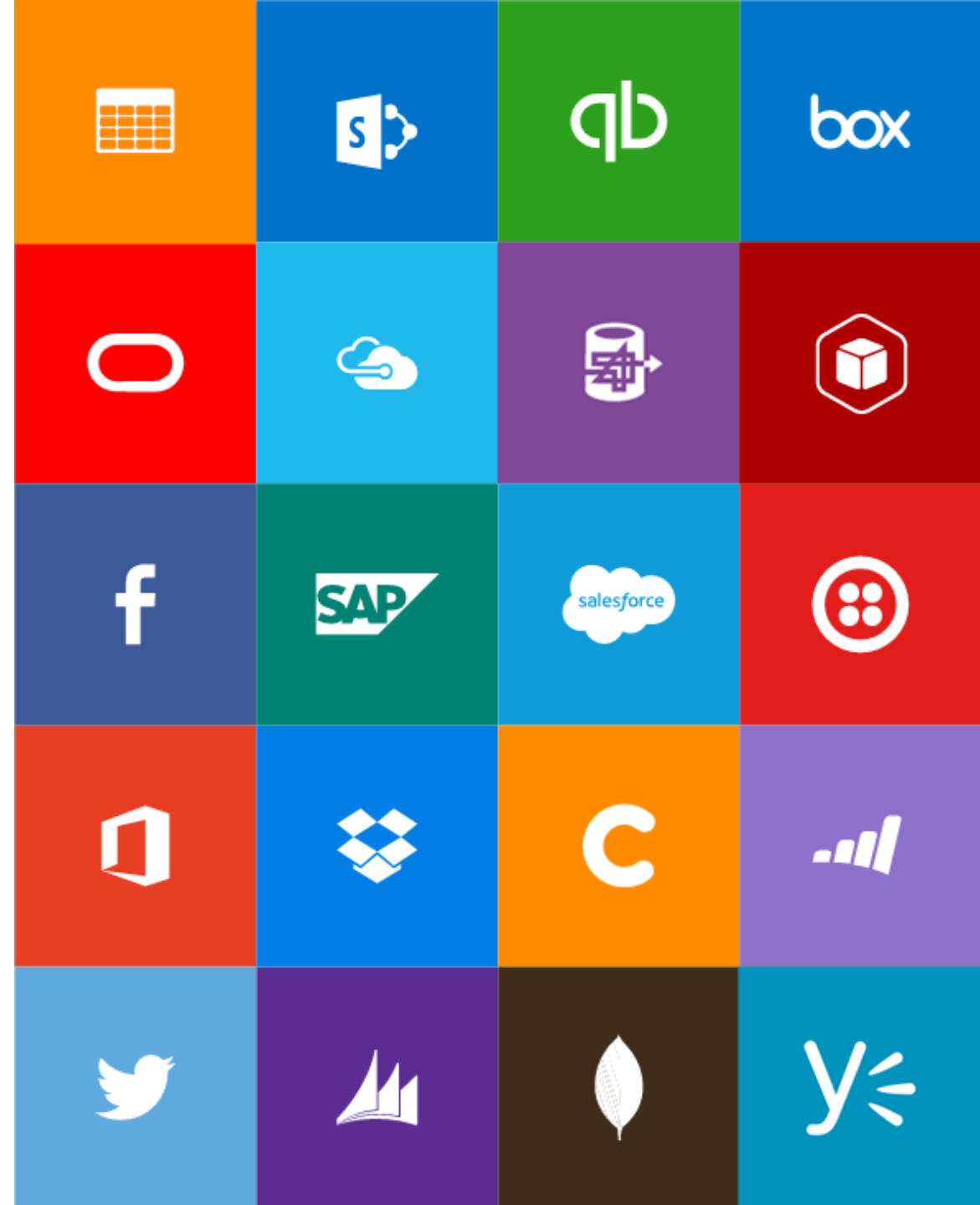
- AS2 decoding
- AS2 encoding
- EDIFACT decoding
- EDIFACT encoding
- Flat file decoding
- Flat file encoding
- Integration account
- Transform XML
- X12 decoding
- X12 encoding
- XML validation
- Transform JSON

## On-premises

- IBM DB2
- Oracle DB
- SharePoint Server
- File System
- SQL Server
- BizTalk Server

## Enterprise

- MQ
- SAP



# Triggers



All logic apps start with a trigger, which specifies the calls that can start a logic app run.



# Common Trigger Types

1

Recurrence

2

Request

3

HTTP

4









WebHook

# Common trigger templates



Start with a common trigger

Pick from one of the most commonly used triggers, then orchestrate any number of actions using the rich collection of connectors

	When a message is received in a Service Bus queue		When a HTTP request is received		When a new tweet is posted
	When a Event Grid event occurs		Recurrence		When a new email is received in Outlook.com
	When a new file is created on OneDrive		When a file is added to FTP server		

# Actions



Actions are building blocks of a Logic App. Most Actions are also Connectors

# Flow Control



Flow control is used to control the sequence of logic through a Logic App



# Some flow controls



**Condition 3** ...

@equals("", "")

Edit in basic mode Collapse condition

✓ If true

Add an action ... More

✗ If false

Add an action ... More

**For each 2** ...

\* Select an output from previous steps

Add an action Add a condition ... More

Recurrence

↓

Scope

↓

**If scope failed** ...

@result('Scope')[0]['status'] is equal to Failed, Aborted

Add dynamic content Edit in advanced mode Collapse condition

✓ If true

Scope failed

Add an action ... More

✗ If false

Scope succeeded

Add an action ... More

# Outputs



Outputs specify information that can be returned from a workflow run.

# Workflow Definition Language (WDL)



```
{  
  "$schema": "<schema-of the-definition>",  
  "contentVersion": "<version-number-of-definition>",  
  "parameters": { <parameter-definitions-of-definition> },  
  "triggers": [ { <definition-of-flow-triggers> } ],  
  "actions": [ { <definition-of-flow-actions> } ],  
  "outputs": { <output-of-definition> }  
}
```

<https://docs.microsoft.com/en-us/azure/logic-apps/logic-apps-workflow-definition-language>

# Content Types



- application/json
- text/plain
- type conversion

**@json()** - casts data to application/json

**@xml()** - casts data to application/xml

**@binary()** - casts data to application/octet-stream

**@string()** - casts data to text/plain

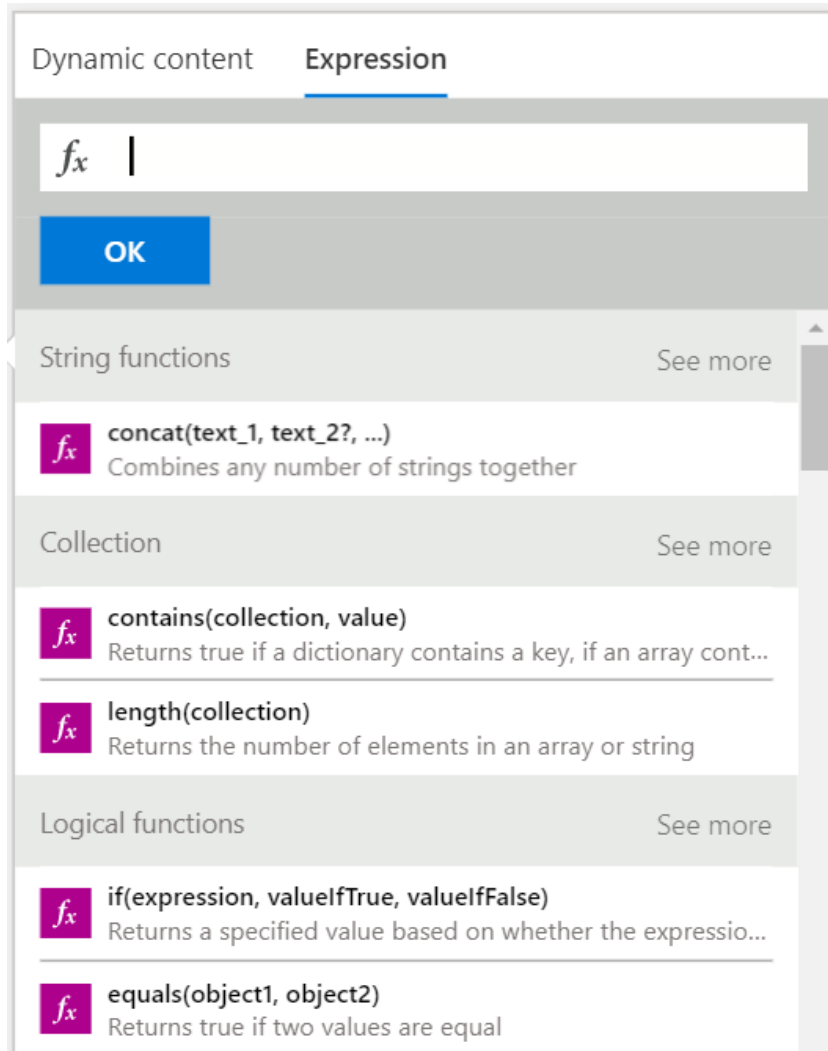
**@base64()** - converts content to a base64 string

**@base64toString()** - converts a base64 encoded string to text/plain

**@base64toBinary()** - converts a base64 encoded string to application/octet-stream

**@encodeDataUri()** - encodes a string as a dataUri byte array

**@decodeDataUri()** - decodes a dataUri into a byte array



# Internal Functions


Internal functions are shortcuts for working with collections, strings, logical operators, conversion, math and dates

# Exception Handling



- Retry Policies
- Run After

'For each' should run after:

	Detect faces Succeeded	<input checked="" type="checkbox"/> is successful
		<input type="checkbox"/> has failed
		<input type="checkbox"/> is skipped
		<input type="checkbox"/> has timed out

**Done** Cancel

## Retry Policy

A retry policy applies to intermittent failures, characterized as HTTP status codes 408, 429, and 5xx, in addition to any connectivity exceptions. The default is an exponential interval policy set to retry 4 times.

Type

Fixed Interval

\* Count

Specify a retry count from 1 to 90

\* Interval ⓘ







Example: PT20S







# Cognitive Services









## Vision

-  Computer Vision
-  Content Moderator
-  Custom Vision Service PREVIEW
-  Emotion API PREVIEW
-  Face API
-  Video Indexer PREVIEW

## Speech

-  Bing Speech Service
-  Custom Speech Service PREVIEW
-  Speaker Recognition PREVIEW
-  Translator Speech

## Language

-  Bing Spell Check
-  Language Understanding (LUIS)
-  Linguistic Analysis PREVIEW
-  Text Analytics
-  Translator Text
-  Web Language Model PREVIEW

# Demo



*Trigger*



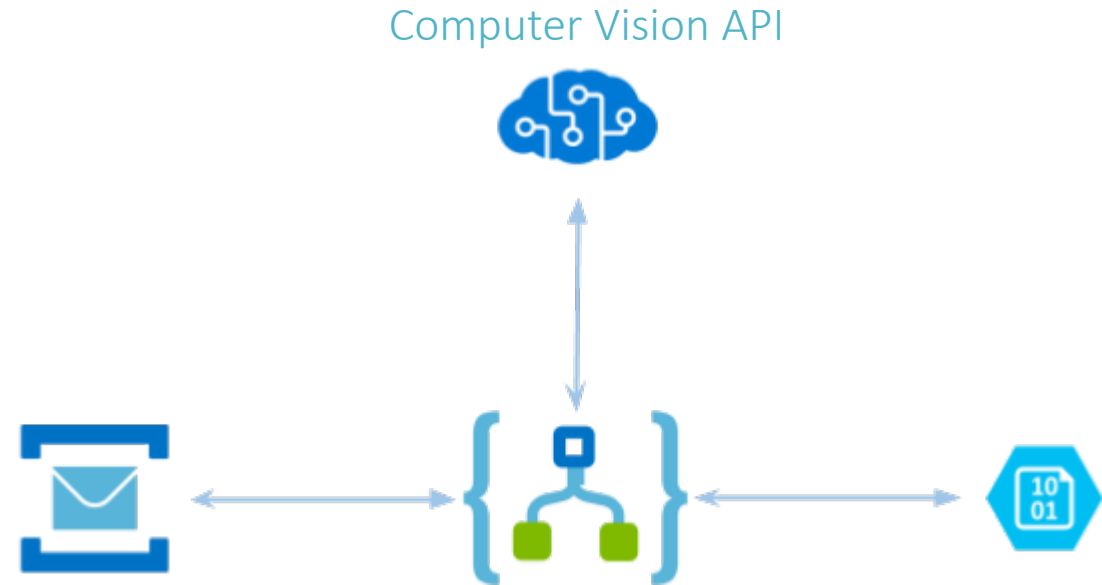
## Getting Logic App works with Text Analytics API

- ✓ Sentiment analysis
- ✓ Key phrase extraction
- ✓ Detect Languages





# Demo

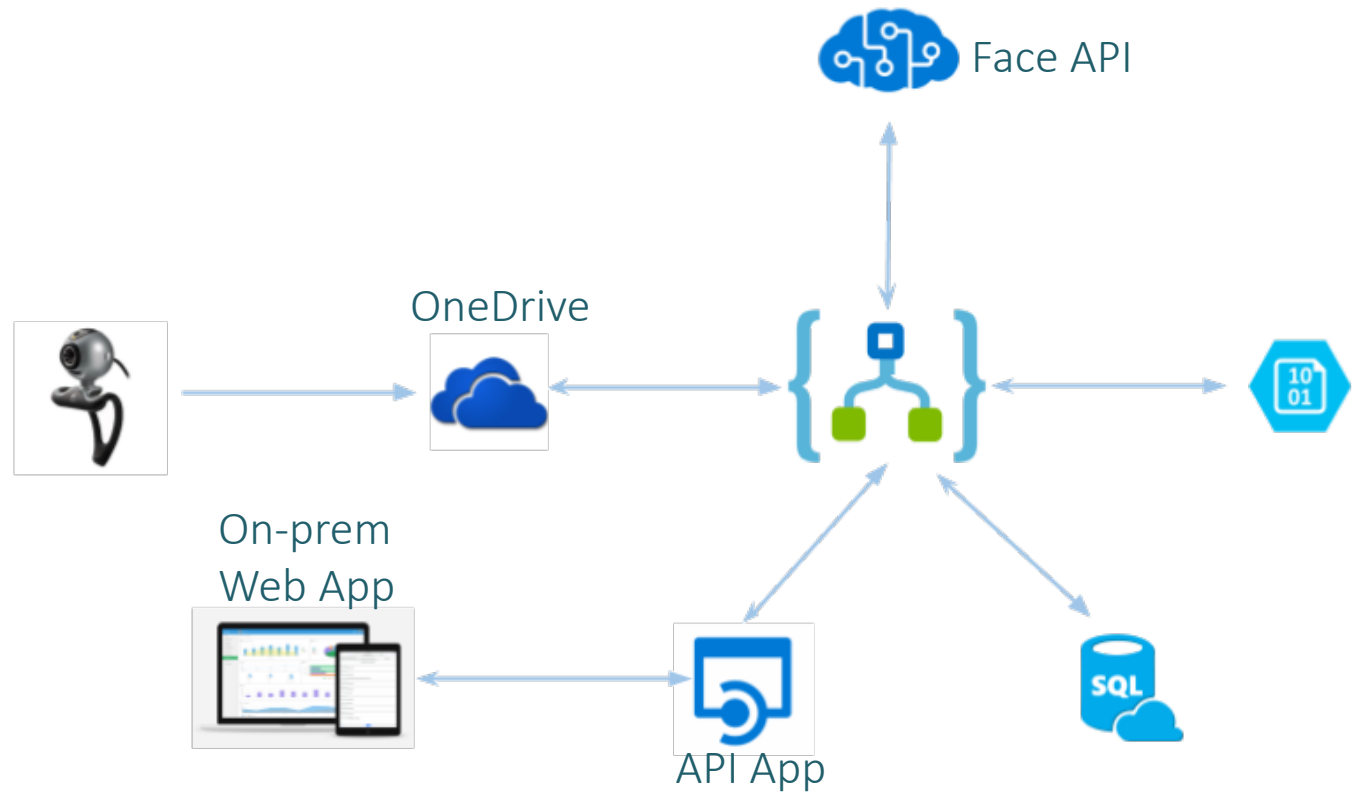


## Getting Logic App works with Computer Vision API

✓ OCR

✓ Analyze Image

# Demo



## Realtime Face detection with Face API and Logic App

✓ Face recognition

Code samples: <https://github.com/ndhanh/logicapp>

