

AI Cognitive Services

Using ColdFusion,
Azure REST API,
and Postman

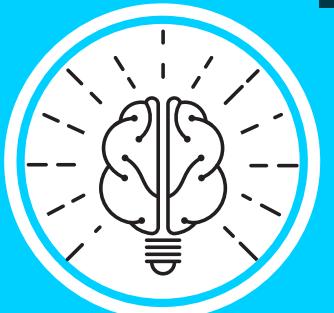
Presentation by:
Michael Hayes

Azure Solutions Architect at
Media3



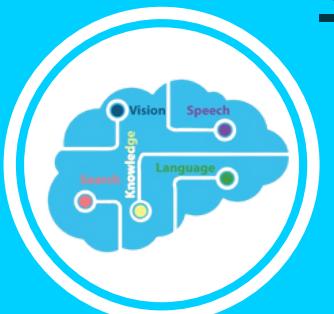
TABLE OF CONTENT

History of AI



- The father of AI
- The AI Winter
- Where AI is now
- What is involved

Cognitive Services



- What are Cognitive Services
- Different Types
- Use Cases

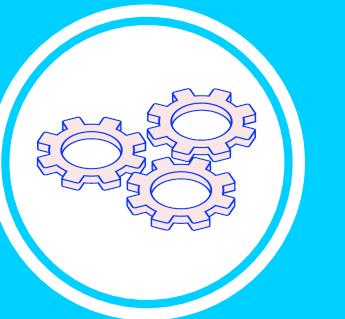
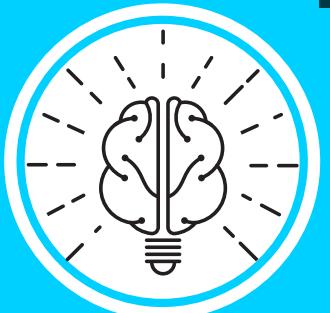


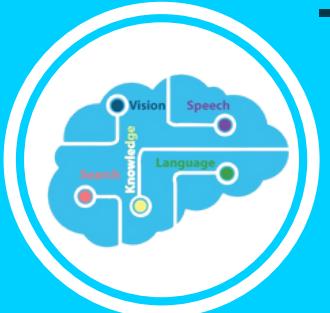
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Microsoft Azure



- What is Azure
- Authentication / Security
 - OAuth / MSAL
- The Azure REST API

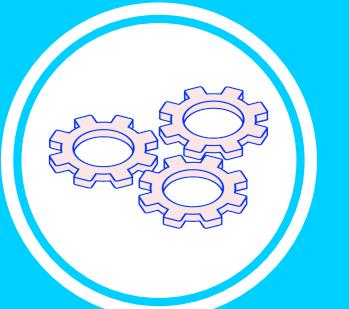
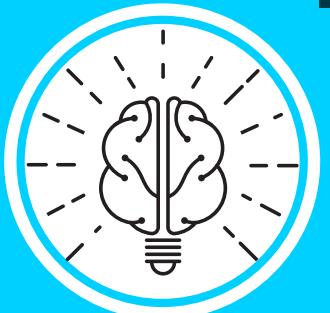


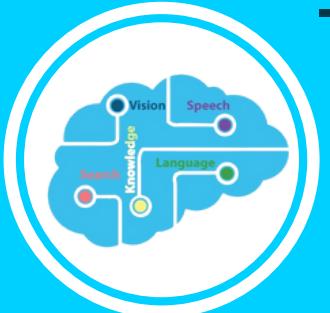
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Using Postman



- What is Postman
- Benefits of Postman
 - Modularity and Introspection
- Using with ColdFusion

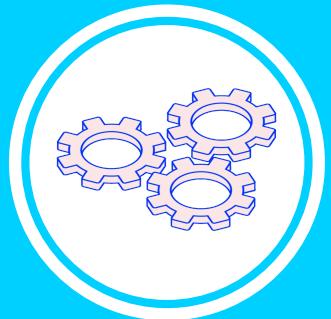
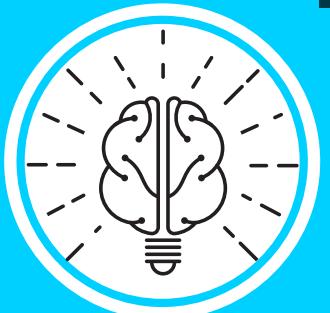


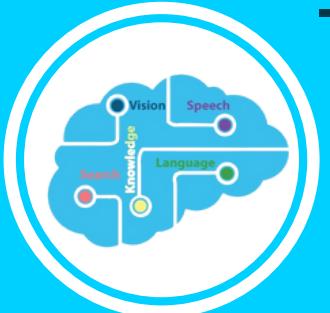
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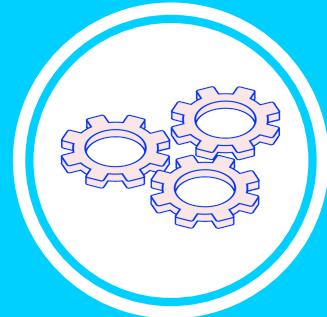
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- Using with ColdFusion

Putting it to use



- Using Collections
- Authentication Example
- Tips and tricks
- Questions and comments

AI STATISTICS

Tech leaders were asked questions about the benefits of adopting AI into their businesses



AI STATISTICS

- 84% of businesses say AI will enable them to obtain or sustain a competitive advantage (source).
- 75% of businesses say AI will allow them to move into new businesses and ventures (source).
- 80% of business and tech leaders say AI boosts productivity and creates jobs (source).
- 72% of business decision-makers say AI can enable humans to concentrate on meaningful work (source).
- 51% of executives say their primary goal for AI is to enhance the features, functions, and performance of their products (source).
- 36% of executives say their primary goal for AI is to optimize internal business operations (source).
- 36% of executives say their primary goal for AI is to free up workers to be more creative by automating tasks (source).
- 79% of executives worldwide say artificial intelligence will make their job easier and more efficient (source).
- 59% of executives say big data at their company would be improved through the use of AI (source).

THEN

Pre 2000s prior to virtualization and REST being an industry standard

- Creating the algorithms
- Writing the code
- Strong foundation of linear algebra
- Time to train the model
- Clean and scrub data
- High compute power
- Physical hardware

THEN

Pre 2000s prior to virtualization and REST being an industry standard

- Creating the algorithms
- Writing the code
- Strong foundation of linear algebra
- Time to train the model
- Clean and scrub data
- High compute power / physical VMs

NOW

Current day with virtualization and containerization

- High compute capability
- REST API as industry standard
- Minimal AI / Machine learning knowledge
- Automated machine learning
- Precleaned and structured data
- Capability for virtualized and containerized environments

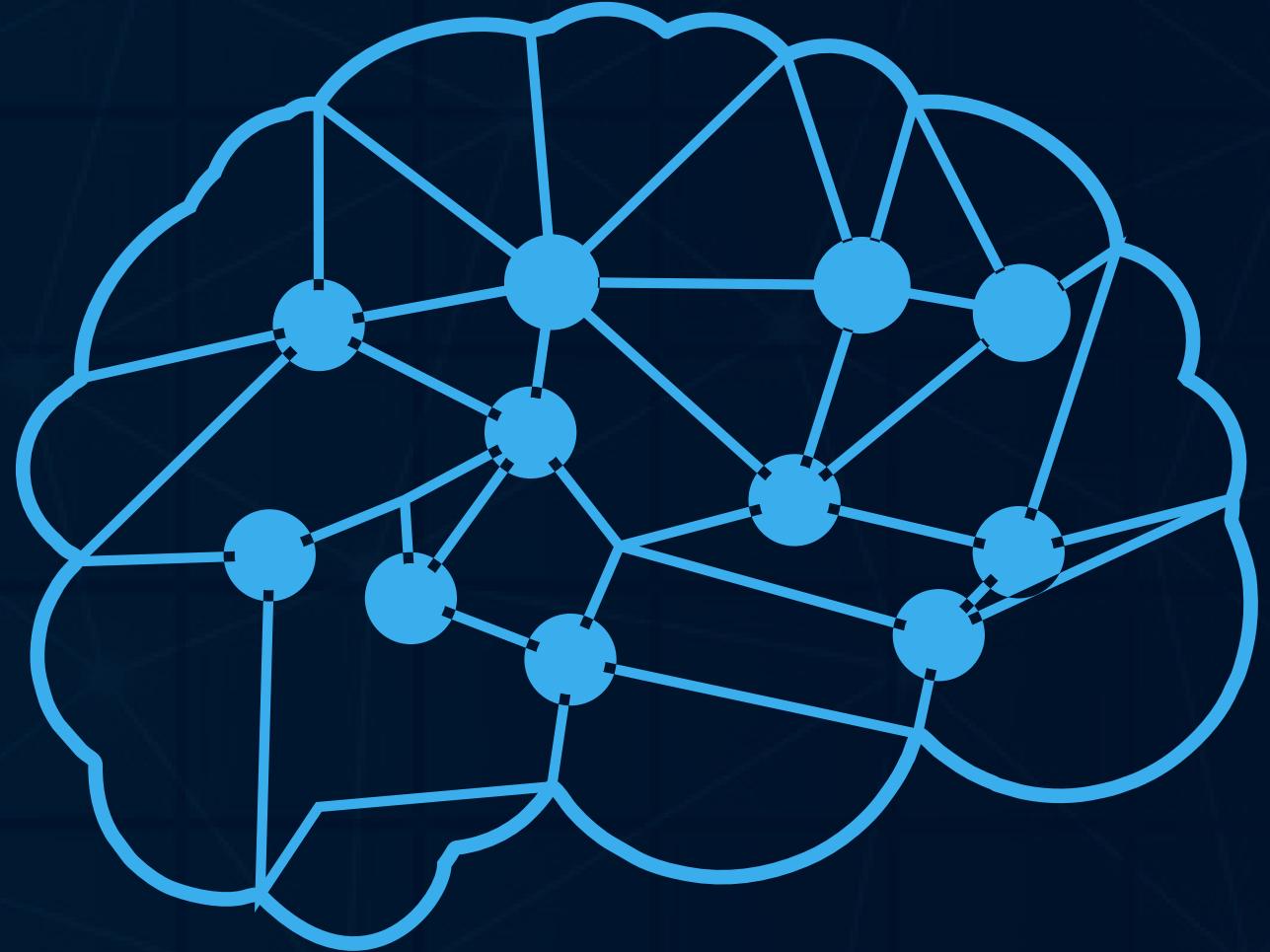
COGNITIVE SERVICES

- What are cognitive services and why do I care?
- The different types of cognitive services
- How and why they are used
- Use cases and practical implementation's with ColdFusion.



WHAT ARE COGNITIVE SERVICES

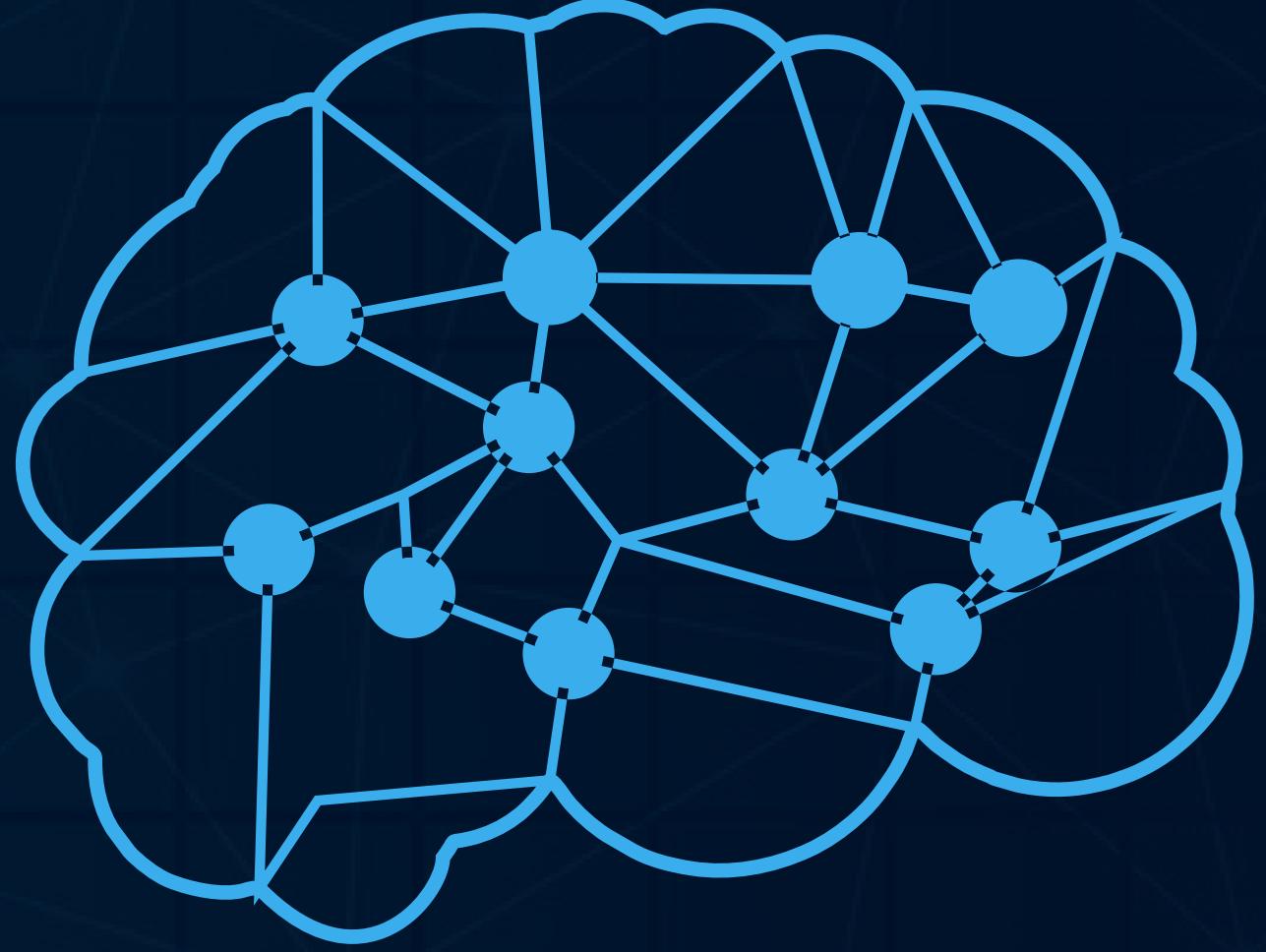
Cognitive Services are a set of machine learning algorithms that Microsoft has developed to solve problems in the field of Artificial Intelligence (AI). It is a simulation of human thought process in a computerized model, also known as cognitive computing.





TYPES OF AI COGNITIVE SERVICES

- 4 main types
- How each one is used
- Present day uses cases
- Theoretical use cases



DECISION

Anomaly Detector

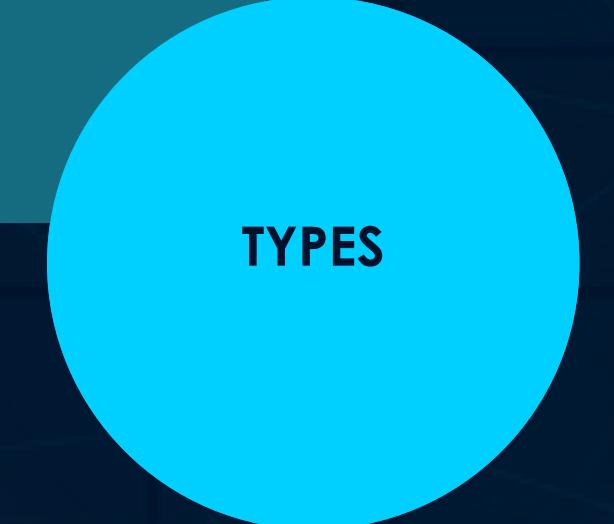
- Identify outliers in large data sets

Content Moderator

- Detect potentially offensive or unwanted content

Personalizer

- Create rich, personalized experiences for every user



TYPES

DECISION

Anomaly Detector

- Identify outliers in large data sets

Content Moderator

- Detect potentially offensive or unwanted content

Personalizer

- Create rich, personalized experiences for every user

SPEECH

Speech to text

- Transcribe audible speech into readable, searchable text.

Text to speech

- Convert text to lifelike speech for more natural interfaces.

Speech translation

- Create rich, personalized experiences for every user

Speaker recognition

- Identify and verify the people speaking based on audio.

TYPES

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TYPES

VISION

Computer Vision

- Analyze content in images and video.

Custom Vision

- Customize image recognition to fit your business needs.

Face API

- Detect and identify people in images.

DECISION

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TYPES

VISION

Computer Vision

- Analyze content in images and video.

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Face API

- Detect and identify people in images.

LANGUAGE

Entity recognition

- - Identify commonly-used and domain-specific terms.

Sentiment analysis

- - Automatically detect sentiments and opinions from text.

Question Answering

- - Distill information into easy-to-navigate questions and answers.

Conversational language understanding

- - Enable your apps to interact with users through natural language.

Translator

- Translate more than 100 languages and dialects.

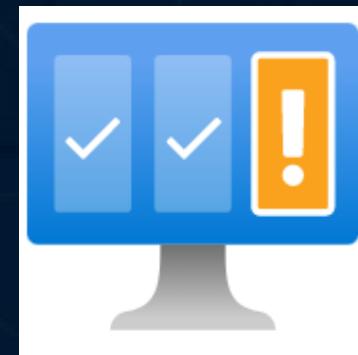


DECISION

ANOMOLY DETECTOR

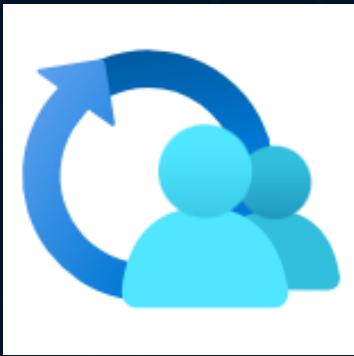
Easily embed time-series anomaly detection capabilities into your apps to help users identify problems quickly. Anomaly Detector ingests time-series data of all types and selects the best anomaly detection algorithm for your data to ensure high accuracy. Detect spikes, dips, deviations from cyclic patterns, and trend changes through both univariate and multivariate APIs. Customize the service to detect any level of anomaly. Deploy the anomaly detection service where you need it—in the cloud or at the intelligent edge.

- Predict customer sentiment to improve future interactions
- Find anomalies in data sets



CONTENT MODERATOR

Detect potentially offensive or unwanted content in realtime and keep your platform safe for end users. The content moderator provides Image moderation, text moderation, video moderation and human review tool to help deal with the potential false positives.



PERSONALIZER

Boost conversion and engagement, and add real-time relevance to product recommendations, with reinforcement learning-based capabilities available only through Azure. Select hero content, optimize layouts, and personalize offers with two API calls. Use Personalizer, part of Azure Cognitive Services, as a standalone personalization solution or to complement existing ranking engines—with no machine learning expertise required.

LANGUAGE



LANGUAGE-SERVICE

Enable your apps to interact with users through natural language. Understand conversations and unstructured text with Cognitive Service for Language



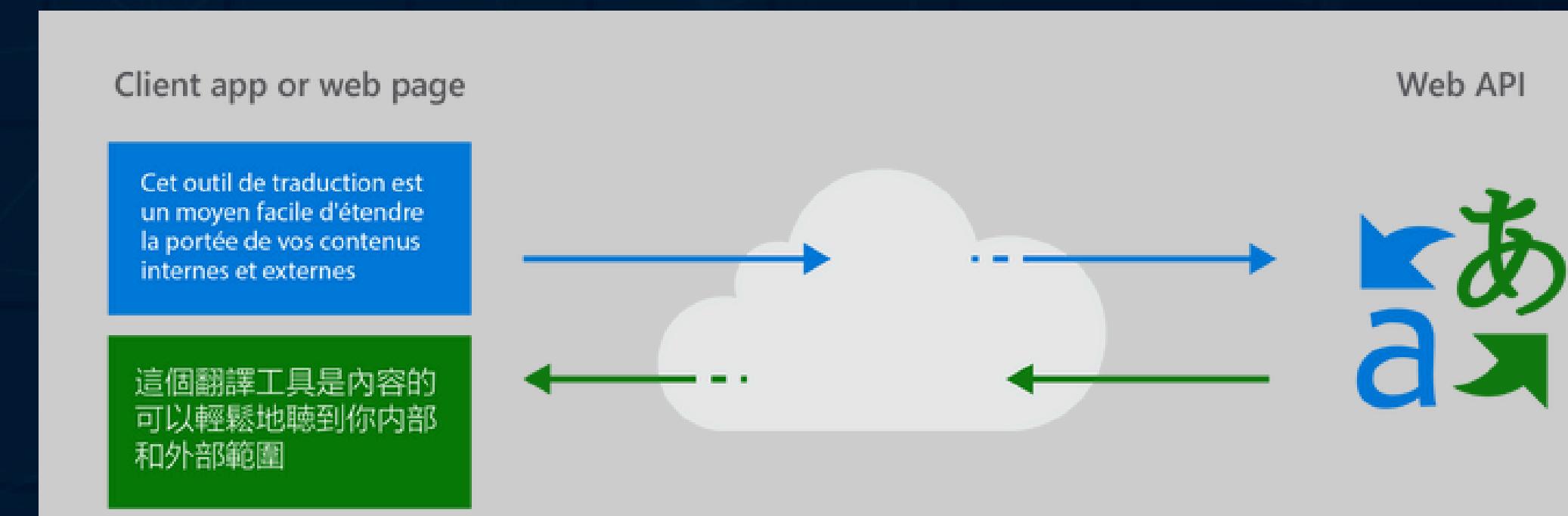
UNDERSTANDING

Automatically detect sentiments and opinions from text. Identify commonly-used and domain-specific terms.



TRANSLATOR

Translate more than 100 languages and dialects.





VISION

FACE API

The Azure Face service provides AI algorithms that detect, recognize, and analyze human faces in images. Facial recognition software is important in many different scenarios, such as identity verification, touchless access control, and face blurring for privacy.



COMPUTER VISION

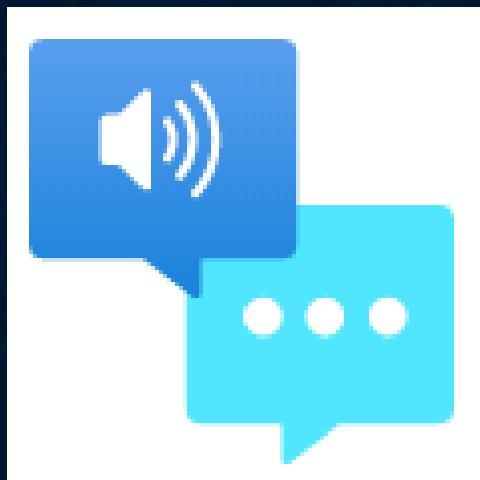
Azure's Computer Vision service gives you access to advanced algorithms that process images and return information based on the visual features you're interested in.



CUSTOM VISION

Azure Custom Vision is an image recognition service that lets you build, deploy, and improve your own image identifier models. An image identifier applies labels to images, according to their visual characteristics. Each label represents a classification or object. Unlike the Computer Vision service, Custom Vision allows you to specify your own labels and train custom models to detect them.

SPEECH SERVICES



LANGUAGE-SERVICE

Enable your apps to interact with users through natural language. Understand conversations and unstructured text with Cognitive Service for Language

media3

Secure • Managed • Cloud

Dashboard

Home / Dashboard

TRANSLATOR

Select Source Language

English

Hello my name is Michael

Options

Random Language

Translate To

Select Destination Language

Bosnian

Zdrave, moje ime je Michael.

Options

Random Language

Clear Data

Print

ASSETS

Collections

Environments

Cognitive Services

translator

entity-detector

speech-services

What is Microsoft Azure

The Azure cloud platform is more than 200 products and cloud services designed to help you bring new solutions to life—to solve today's challenges and create the future. Build, run, and manage applications across multiple clouds, on-premises, and at the edge, with the tools and frameworks of your choice.

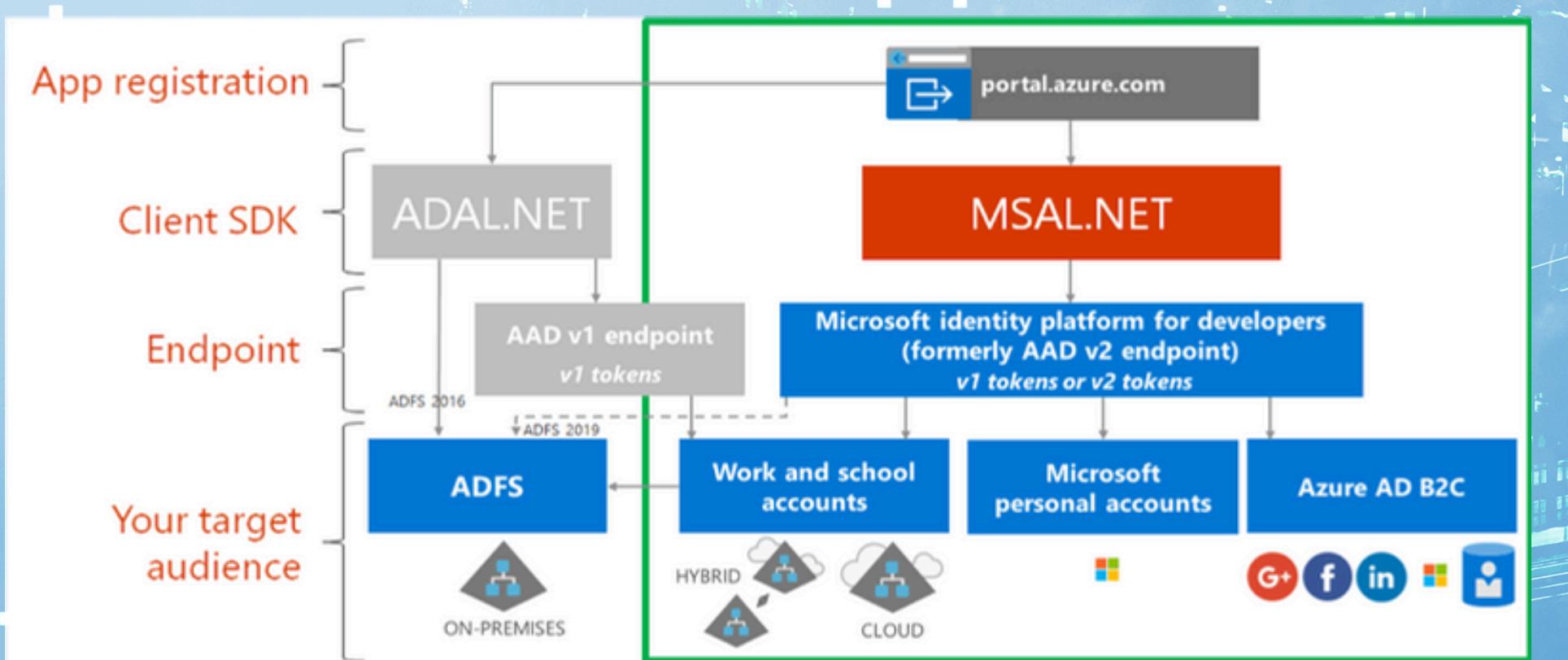


Microsoft Azure



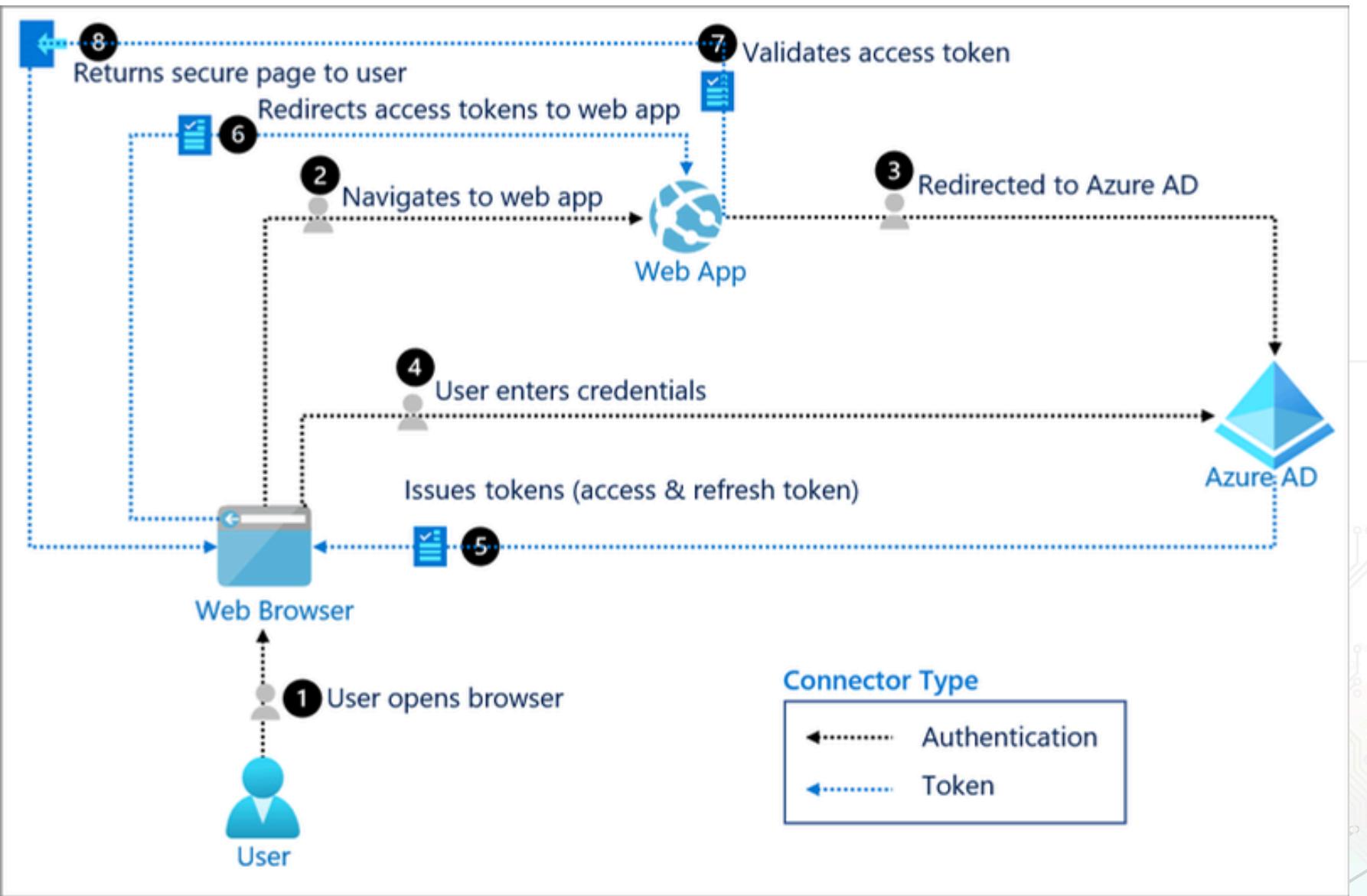
Azure MSAL

The Microsoft Authentication Library, also known as MSAL is one of, if not the most powerful authentication library covering any business requirements you may need. Integrating with federated IDPs, replacing your existing authentication, or starting from scratch on a new application MSAL has you covered.



Azure OAUTH

Take out the complexity by adding some in



Azure OAUTH

Take out the complexity by adding some in

Authentication is hard, let azure make it easy with applications ready to accept login requests in seconds. Not only does this simplify your life by taking out the complexity of managing usernames and passwords for each of your applications. But you gain functionality like SSO, and advanced multi factor authentication ranging from SMS two factor, biometrics and FIDO keys. This can allow organizations with high security requirements hit every angle of the security triad.



What is needed?

The resources and information required to get make your first authentication request.

client_id: This is also known as an application Id. This is a unique identifier for your application and will be used very frequently

tenant: The {tenant} value in the path of the request can be used to control who can sign into the application. Valid values are common, organizations, consumers, and tenant identifiers. For guest scenarios where you sign a user from one tenant into another tenant, you must provide the tenant identifier to sign them into the resource tenant. For more information, see Endpoints.

state A value included in the request that is also returned in the token response. It can be a string of any content that you wish. A randomly generated unique value is typically used for preventing cross-site request forgery attacks. The value can also encode information about the user's state in the app before the authentication request occurred. For instance, it could encode the page or view they were on.

response_type: Must include code for the authorization code flow. Can also include id_token or token if using the hybrid flow.

scope: A space-separated list of scopes that you want the user to consent to. For the /authorize leg of the request, this parameter can cover multiple resources. This value allows your app to get consent for multiple web APIs you want to call.

response_mode: Specifies how the identity platform should return the requested token to your app.

Supported values:

- query: Default when requesting an access token. Provides the code as a query string parameter on your redirect URI. The query parameter is not supported when requesting an ID token by using the implicit flow.
- fragment: Default when requesting an ID token by using the implicit flow. Also supported if requesting only a code.
- form_post: Executes a POST containing the code to your redirect URI. Supported when requesting a code.

redirect_uri: The security token service (STS) endpoint for the user to authenticate. It's usually <https://login.microsoftonline.com/{tenant}/v2.0> for the public cloud. In that URL {tenant} is the name of your tenant, your tenant ID, or common for a reference to the common endpoint. (The common endpoint is used for multitenant applications.)

Part 3 - Service Tiers / Limitations

Product	Features	Price
Computer Vision \$1 up to 10 requests per second	TagFaceGetThumbnailColorImage TypeGetAreaOfInterest	0-1M transactions - \$1 per 1,000 transactions 1,000 transactions 1-10M transactions - \$0.65 per 1,000 transactions 10-100M transactions - \$0.60 per 1,000 transactions 100M+ transactions - \$0.40 per 1,000 transactions
	OCRAutoAdultCelebrityLandmarkDetection, ObjectsBrand	0-1M transactions - \$1 per 1,000 transactions 1,000 transactions 1-10M transactions - \$0.65 per 1,000 transactions 10-100M transactions - \$0.60 per 1,000 transactions 100M+ transactions - \$0.40 per 1,000 transactions
	Describe+Read	0-1M transactions - \$1.50 per 1,000 transactions 1M+ transactions - \$0.60 per 1,000 transactions
Content Moderator \$0 up to 10 requests per second	Moderate, Review	0-1M transactions - \$1 per 1,000 transactions 1,000 transactions 1-5M transactions - \$0.75 per 1,000 transactions 5-10M transactions - \$0.60 per 1,000 transactions 10M+ transactions - \$0.40 per 1,000 transactions
	Face DetectionFace VerificationFace IdentificationFace GroupingSimilar Face Search	0-1M transactions - \$1 per 1,000 transactions 1,000 transactions 1-5M transactions - \$0.80 per 1,000 transactions 5-100M transactions - \$0.60 per 1,000 transactions 100M+ transactions - \$0.40 per 1,000 transactions
Face API Standard up to 10 requests per second	Face Storage	\$0.01 per 1,000 faces per month

Part 3 - Service Tiers / Limitations

Product	Features	Price
Language Understanding Standard up to 50 requests per second	Text Requests	\$1.50 per 1,000 transactions
	Speech Requests	\$5.50 per 1,000 transactions
Text Analytics Standard up to 100 requests per second and 1,000 requests per minute	Sentiment analysis (and opinion mining) Key phrase extraction Language detection Named entity recognition (not available in container)	0M-0.5M text records - \$1 per 1,000 text records 0.5M-2.5M text records - \$0.75 per 1,000 text records 2.5M-10.0M text records - \$0.30 per 1,000 text records 10.0M+ text records - \$0.25 per 1,000 text records
	Text analytics for health	N/A per 1,000 text records
	Question answering*	Free
Translator S1	Text Translation Customization Language Detection Bilingual Dictionary Transliteration	\$10 per million chars (Pay as You Go)

Benefits of Postman

- Modular code that can be tested at scale.
- Team capability for testing
- Best used with introspective coding styles which coldfusion helps dramatically with
- Assisted OAuth authentication

VARIABLE	TYPE ⓘ	INITIAL VALUE ⓘ	CURRENT VALUE ⓘ	...	Persist All	Reset All
access_token	secret ⓘ				
refresh_token	secret ⓘ				
client_id	default ⓘ	e5oddadc-04fd-46e2-af05-008524748af0	e5oddadc-04fd-46e2-af05-008524748af0			
tenantId	default ⓘ	4bd1d0b7-977d-40b2-84f1-39a01eb49ad0	4bd1d0b7-977d-40b2-84f1-39a01eb49ad0			
subscriptionId	default ⓘ	481edbd7-1f11-4009-b1b8-0eed8f096a6b	481edbd7-1f11-4009-b1b8-0eed8f096a6b			
cloud_instance_name	default ⓘ	microsoftonline.com	microsoftonline.com			
client_secret	secret ⓘ			
management_url	default ⓘ	https://management.azure.com/	https://management.azure.com/			
redirect_url	default ⓘ	https://cfsummit.media3.net/auth/	https://cfsummit.media3.net/auth/			
response_type	default ⓘ	code id_token	code id_token			
response_mode	default ⓘ	form_post	form_post			
scope	default ⓘ	https://management.azure.com/user_impersonation	https://management.azure.com/user_impersonation openid offline_access			
token_endpoint	default ⓘ	https://login.microsoftonline.com/common/oauth2	https://login.microsoftonline.com/common/oauth2/v2.0/token			
authorization_endpoint	default ⓘ	https://login.microsoftonline.com/common/oauth2	https://login.microsoftonline.com/common/oauth2/v2.0/authorize			

Add a new variable

What is the Microsoft identity platform?

What's new in docs?

Code samples

> Concepts

> How-to

> Single-page app (SPA)

> Web app

> Web API

> Desktop

> Mobile

> Service, daemon, script

> Reference

> Microsoft Authentication Library (MSAL) reference

> Protocol reference (OAuth, OpenID Connect, SAML)

> OAuth 2.0 and OpenID Connect (OIDC)

> Token grant flows

OAuth 2.0 auth code grant

OAuth 2.0 client credentials grant

OAuth 2.0 device code flow

OAuth 2.0 on-behalf-of flow

OAuth 2.0 implicit grant flow

OAuth 2.0 resource owner password credentials grant

OpenID Connect

> Security tokens

OAuth 2.0 application types

Certificate credentials

Signing key rollover

Userinfo endpoint (OIDC)

> SAML 2.0

> App registration reference

Microsoft auth libraries by app type

AADSTS error code reference

Endpoint reference: Admin consent (API)

authorization code flow

Article • 09/21/2022 • 26 minutes to read • 23 contributors



The OAuth 2.0 authorization code grant type, or **auth code flow**, enables a client application to obtain authorized access to protected resources like web APIs. The auth code flow requires a user-agent that supports redirection from the authorization server (the Microsoft identity platform) back to your application. For example, a web browser, desktop, or mobile application operated by a user to sign in to your app and access their data.

This article describes low-level protocol details usually required only when manually crafting and issuing raw HTTP requests to execute the flow, which we do not recommend. Instead, use a [Microsoft-built and supported authentication library](#) to get security tokens and call protected web APIs in your apps.

Applications that support the auth code flow

Use the auth code flow paired with [Proof Key for Code Exchange \(PKCE\)](#) and [OpenID Connect \(OIDC\)](#) to get access tokens and ID tokens in these types of apps:

- [Single-page web application \(SPA\)](#)
- [Standard \(server-based\) web application](#)
- [Desktop and mobile apps](#)

Protocol details

The OAuth 2.0 authorization code flow is described in [section 4.1 of the OAuth 2.0 specification](#). Apps using the OAuth 2.0 authorization code flow acquire an `access_token` to include in requests to resources protected by the Microsoft identity platform (typically APIs). Apps can also request new ID and access tokens for previously authenticated entities by using a refresh mechanism.



▶ Run in Postman

Try executing this request and more in Postman -- don't forget to replace tokens and IDs!

This diagram shows a high-level view of the authentication flow:



Request an authorization code

Show more ▾

The screenshot shows the Microsoft Azure API Management interface. On the left, a sidebar lists various services and protocols. The main area displays a configuration for an 'Authorize Request' endpoint under 'OAuth 2.0 Authorization Code Flow'. The URL is set to `https://login.microsoftonline.com/common/oauth2/v2.0/authorize?client_id=0731de70-14e0-4fba-97bc-0eba001439fe&response_type=code`. The 'Query Params' table contains the following data:

	KEY	VALUE	DESCRIPTION
1	client_id	0731de70-14e0-4fba-97bc-0eba001439fe	
2	response_type	code	
3	redirect_uri	http://localhost/myapp/	
4	response_mode	query	
5	scope	openid%20offline_access%20https%3A%2F%2Fgraph...	
6	state	12345	
7	key	Value	Description

The 'Body' tab shows the response body as an HTML snippet:

```
<!-- Copyright © Microsoft Corporation. All rights reserved. -->
<!DOCTYPE html>
<html dir="ltr" class=" lang-en">
  <head>
```

The 'Headers' tab shows the response headers:

- Content-Type: application/json; charset=UTF-8
- Content-Length: 12345
- Content-Language: en-US

The 'Code snippet' tab shows the PowerShell command to make the request:

```
PowerShell -Command <code>
```

- Headers = New-Object "System.Collections.Generic.Dictionary[[String],[String]]"
- Headers.Add("Content-Type", "application/x-www-form-urlencoded")
- Headers.Add("User-Agent", "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/91.0.4453.102 Safari/537.36")
- Response = Invoke-WebRequest -Uri "https://login.microsoftonline.com/common/oauth2/v2.0/authorize?client_id=0731de70-14e0-4fba-97bc-0eba001439fe&response_type=code&redirect_uri=http://localhost/myapp/&response_mode=query&scope=openid%20offline_access%20https%3A%2F%2Fgraph.microsoft.com&state=12345" -Method Get -Headers Headers
- Response | ConvertTo-Json

Modular Code and how to export collections

The screenshot shows the Postman application interface. On the left, there's a sidebar with various sections like Home, Workspaces, API Network, and Explore. Below these are sections for Collections, Environments, Mock Servers, Monitors, Plans, and Metrics. The Collections section is currently active, showing a list of collections: Anomaly Detector, Auth Flow, Azure AD v2.0 Protocols, Computer Vision, Content, Custom, MSAL, Persona, Speech, Test API, and Transient. A context menu is open over the 'Azure AD v2.0 Protocols' item, with options like Rename (Ctrl+R), Duplicate (Ctrl+D), Export (highlighted in red), Manage spies, Insert (Ctrl+I), and Delete (Del). The main workspace shows the 'Azure AD v2.0 Protocols' collection details, including tabs for Authorization (selected), Pre-request Script, Tests, and Variables. It also includes sections for Run collection, Edit, Add request, and Add spider, along with Monitor collection and Mock collection buttons.

The screenshot shows the 'Export Collection' dialog box. At the top, it says 'Computer Vision' will be exported as a JSON file. It offers two export formats: 'Collection v2' (radio button) and 'Collection v2.1 (recommended)' (radio button, which is selected). Below this is a link 'Learn more about collection formats'. There's a note about sharing the collection: 'Sending your collection to a teammate? Save time by sharing it instead.' with 'Share Collection' and 'Learn more' buttons. At the bottom are 'Cancel' and 'Export' buttons, with 'Export' being highlighted in orange.

Having the ability to test in one development sandbox/environment (not to be confused with postman environment. I just mean an area you are working in, or platform you are working on), and export it to another allows for much faster configuration, and allow you to focus on the important things.

Exporting Postman Environments

The screenshot shows the Postman interface with the following details:

- Header Bar:** Home, Workspaces, API Network, Explore, Search Postman, A invite, ⚙️, ⚡, Team, ⌂.
- Left Sidebar:** Collections, APIs, Environments, Test Suites, Monitors, Flows, History.
- Current Environment:** M365Env2 (selected in the sidebar).
- Environment Variables Table:**

VARIABLE	TYPE	INITIAL VALUE	CURRENT VALUE	Actions
access_token	secret	XXXXXXXXXXXXXXXXXXXX		Move
refresh_token	secret	XXXXXXXXXXXXXXXXXXXX		Export
client_id	default	e1fddad0-041d-4b42-a0f5-80852474ba46	e1fddad0-041d-4b42-a0f5-80852474ba46	Duplicate (Ctrl+D)
tenantId	default	464f9067-977d-4062-84f1-39a01eb49a20	464f9067-977d-4062-84f1-39a01eb49a20	Create a fork (Ctrl+Alt+F)
subscriptionId	default	487edc7-1111-4009-61a8-0eef00000000	487edc7-1111-4009-61a8-0eef00000000	Create pull request
cloud_instance_name	default	microsoftonline.com	microsoftonline.com	Merge changes
client_secret	secret	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	Pull changes
management_url	default	https://management.azure.com/	https://management.azure.com/	Manage Roles
redirect_url	default	https://v1summit.media3.net/auth/	https://v1summit.media3.net/auth/	Delete (Del)
response_type	default	code id_token	code id_token	
response_mode	default	form_post	form_post	
scope	default	https://management.azure.com/user_impersonation	https://management.azure.com/user_impersonation openid offline_access	
token_endpoint	default	https://login.microsoftonline.com/common/oauth2/token	https://login.microsoftonline.com/common/oauth2/v2.0/token	
authorization_endpoint	default	https://login.microsoftonline.com/common/oauth2/authorize	https://login.microsoftonline.com/common/oauth2/v2.0/authorize	

Part 4 - Introspection

```
1
2 "info": {
3     "_postman_id": "7f6536d9-04f4-417b-823b-4d3507de3f92",
4     "name": "Anomaly Detector",
5     "description": "A set of requests for Azure AI Cognitive Services\nGET requests should be copy & pasted into a browser,\ninteractive user login.\n\nPOST requests can be run in Postman, of course. Make sure to replace the placeholder values for\nyour own.\n\nThese requests use a sample application that we've registered with Azure AD ahead of time.\n\nGood luck!",
6     "schema": "https://schema.getpostman.com/json/collection/v2.1.0/collection.json",
7     "_exporter_id": "1526394"
8 },
9 "item": [
10 ],
11 ],
12 ],
13 ],
14 ],
15 ],
16 ],
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22 ],
23 ],
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94 ],
95 ],
96 ],
97 ],
98 ],
99 ],
100 ]
```

m369162.onmicrosoft.com.json new 3 cfsummit.notes Cognitive-Services.json new 2 new 1 AuthFlow.json Anomaly Detector.json

```
1 {
2     "id": "7134fa3f-364f-4672-be1e-edb7679607d4",
3     "name": "m369162.onmicrosoft.com",
4     "values": [
5         {
6             "key": "client_id",
7             "value": "e5cddadc-04fd-46e2-afd5-808524748af6",
8             "type": "default",
9             "enabled": true
10        },
11        {
12        },
13        {
14        },
15        {
16        },
17        {
18        },
19        {
20        },
21        {
22        },
23        {
24        },
25        {
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75        {
76        },
77        {
78        },
79        {
80        },
81        {
82        },
83        {
84        },
85        {
86        },
87        {
88        },
89        ],
90        "_postman_variable_scope": "environment",
91        "_postman_exported_at": "2022-09-19T17:04:43.102Z",
92        "_postman_exported_using": "Postman/9.31.7"
93    }
```

Using with ColdFusion

Utilizing system functions and coding with an introspective mindset and how to achieve introspective code

FileRead()

FileWrite()

GetCurrentTemplatePath()

GetDirectoryFromPath()

DirectoryCopy()

DirectoryExists()

FileExists()

FileCopy()

Getting deeper with ColdFusion

Internet protocol tags

cfhttp

User Defined Functions

DecodeJWT()
SetNonce()

Conversion Functions

DeserializeJSON(JSONVar[, strictMapping, useCustomSerializer])
UrlEncodedFormat()

```
application.nonceLifeSpan = 1; // SET IN OnApplicationStart() METHOD  
Session.State = CreateUUID(); // SET IN OnSessionStart() METHOD  
Session.Nonce = SetNonce();
```

```
// TYPICALLY IN THE C:\ColdFusion2021\cfusion\customtags\component.cfc file  
public function SetNonce( string state=Session.State )  
{  
    return ToBase64( SerializeJSON ( {  
        "id" : CreateUUID(), // ID  
        "ip" : CGI.REMOTE_ADDR, // REMOTE_ADDR  
        "uint" : RandRange( 100,999999 ), // Unique Integer  
        "state" : arguments.state,  
        "origin" : "https://" & CGI.SERVER_NAME,  
        "expires" : DateAdd( "n", Application.nonceLifeSpan, Now() )  
    } ) );  
};
```



Keeping High Availability in mind

- Redis Cache
- Windows IIS ARR (Application Request Routing) with server farms and optional scalesets.
- Scale Sets with blob read/write capabilities (theoretical)
- Application Gateway
- Azure Front door
- Network Storage

Postman with ColdFusion

```
body = ArrayList( [
    "client_id={{client_id}}",
    "scope={{scope}}",
    "redirect_uri={{redirect_uri}}",
    "grant_type=refresh_token",
    "client_secret={{client_secret}}",
    "refresh_token={{refresh_token}}"
], '&' );

cfhttp( method = "POST", charset = "UTF-8", url = "https://login.{{cloud_instance_name}}/{{tenantId}}/oauth2/v2.0/token" )
{
    cfhttpparam( type="BODY", value="#Body#");
};
```

Media3 Github

I do plan on having this public on the Media3 github in the future but it is not publicly available yet. However, there are other repositories that are very helpful when getting starting with Azure.

The Media3 github is found at <https://github.com/Media3-Technologies>



Media3 Technologies, LLC.

1 follower 33 Riverside drive, Pembroke MA <https://www.media3.net>

[Overview](#) [Repositories 3](#) [Projects](#) [Packages](#) [People](#)

Popular repositories

azure-quickstart-templates Public
Forked from Azure/azure-quickstart-templates
Azure Quickstart Templates
Shell

azure-rest-api-specs Public
Forked from Azure/azure-rest-api-specs
The source for REST API specifications for Microsoft Azure.
TypeScript

Posh-ACME Public
Forked from rmbolger/Posh-ACME
PowerShell module and ACME client to create certificates from Let's Encrypt (or other ACME CA)
PowerShell

People
This organization has no public members. You must be a member to see who's a part of this organization.

Top languages
Shell PowerShell TypeScript