
# Power Platform
## COMMUNITY CONFERENCE

**SEPTEMBER 18–20, 2024** • *Workshops: Sept 16, 17 & 21*

**MGM GRAND** • *Las Vegas, NV*


Power Platform
COMMUNITY CONFERENCE

# REST Assured: Powering Up the SharePoint REST API with Power Automate

Fausto Capellan, Jr

# Whova

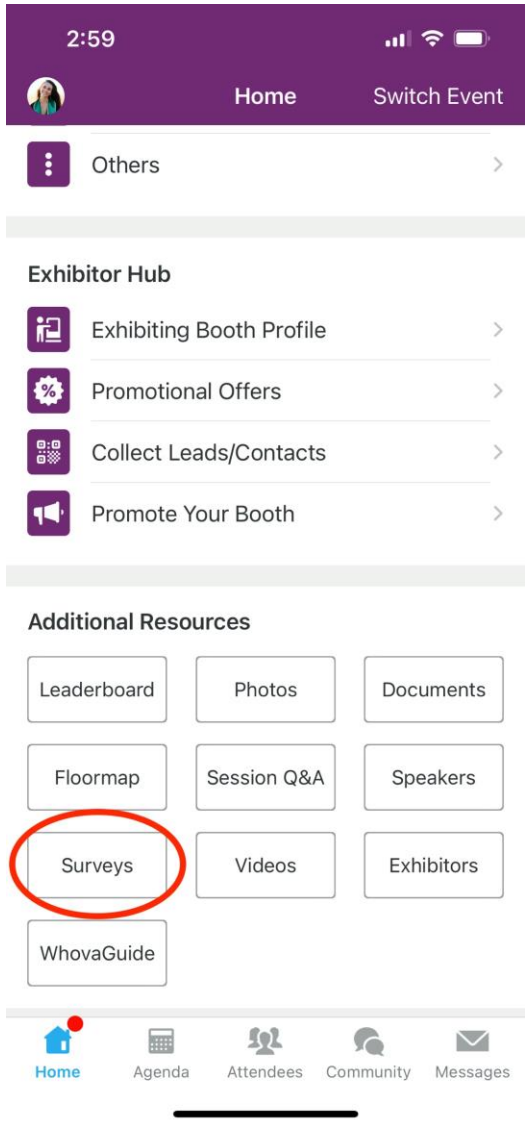
The official event app for the **Power Platform Community Conference**


Join the event app to access:

- Event announcements
- Personalized agenda, session details
- Speaker & attendee profiles
- Networking, meet-ups, messages
- Event documents

**Event Invitation Code: PPCConf2024**

# Session Feedback Surveys




*We really want to hear from YOU!*

*In the pursuit of making next year's Power Platform Community Conference even better, we want to hear your feedback about this session.*

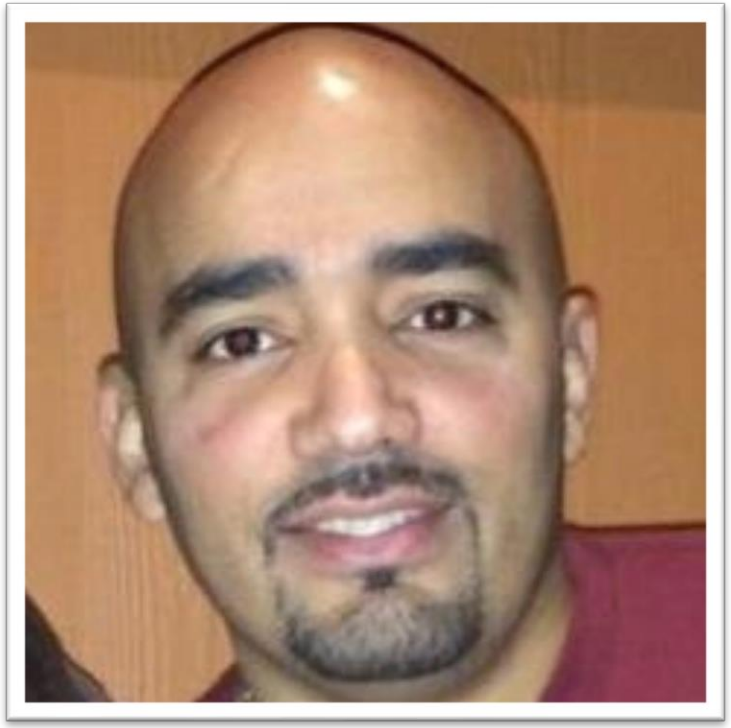
***Here's How -***

- *Simply go to the Whova App on your smartphone*
- *Scroll down on the Power Platform Community Conference Homepage to 'Additional Resources' to click "Surveys'.*
- *Click Session Feedback.*
- *Scroll down to find this session title.*
- *Complete the session feedback survey.*
- *Finally, click 'Submit'*

*It's just that easy!*

# About Me

- Consultant @ PowerApps911
- Microsoft MVP – Business Applications
- Power Platform Advocate
- Active Community Member
- Traveler



MVP Microsoft® Most Valuable Professional

# Agenda

- Overviews
- How the SharePoint REST service works
- HTTP Request Methods
- Determine SharePoint REST service endpoints
- OData Query Operations
- Browser Extensions
- Navigate data structure
- Why use Send an HTTP Request to SharePoint action over pre-built actions
- Demo data structure and OData queries
- Demos

# Overviews

# REST Overview

- Stands for REpresentational State Transfer
- It is an architectural style for designing networked applications
- It is neither a protocol nor a standard
- RESTful systems use standard HTTP methods (GET, POST, PUT, DELETE) to Create, Read, Update, and Delete resources (CRUD)
- Resources are represented in JSON or XML format
- RESTful systems are very popular because they promote
  - ☐ Scalability
  - ☐ Simplicity
  - ☐ Modifiability

# SharePoint REST API Overview

- It is a powerful and efficient method to interact with SharePoint data remotely
- It allows developers to effectively integrate SharePoint functionality into their own applications
- Developers can use it to perform Create, Read, Update, and Delete operations on SharePoint entities such as sites, lists, and document libraries

# OData Overview

- Stands for Open Data Protocol
- It is a standard protocol for building and consuming RESTful APIs
- It enables the creation of REST-based services where resources are identified using Uniform Resource Locators (URLs) and defined in a data model
- It allows developers to perform Create, Read, Update, and Delete operations
- Web clients can publish and edit these resources using HTTP messages

# How the SharePoint REST Service Works

# How the SharePoint REST Service Works

- It provides the ability to interact with SharePoint resources using technology that supports standard REST capabilities
  - ☐ Power Automate
- SharePoint resources are accessed by constructing a RESTful HTTP request using OData standard

**CSOM**

```
C#

var items = List.GetByTitle(listname).GetItems();
```

**REST**

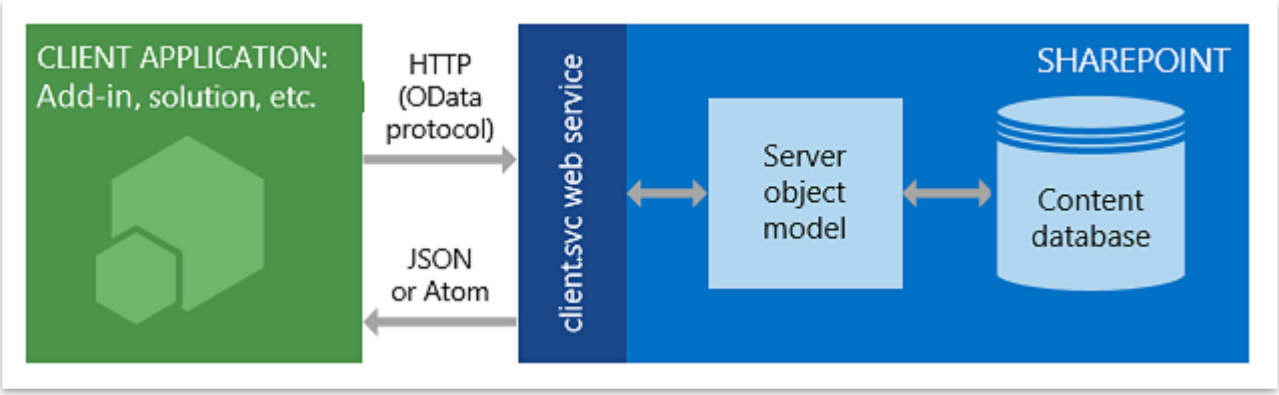
```
HTTP

GET https://{site_url}/_api/lists/getbytitle('{list_name}')/items
Authorization: "Bearer " + accessToken
Accept: "application/json;odata=verbose"
```

# How the SharePoint REST Service Works

- The client.svc web service in SharePoint handles the HTTP request and serves the response in either Atom(XML) or JavaScript Object Notation (JSON) format
- The response must be parsed by the client application

**SharePoint REST Service Architecture**



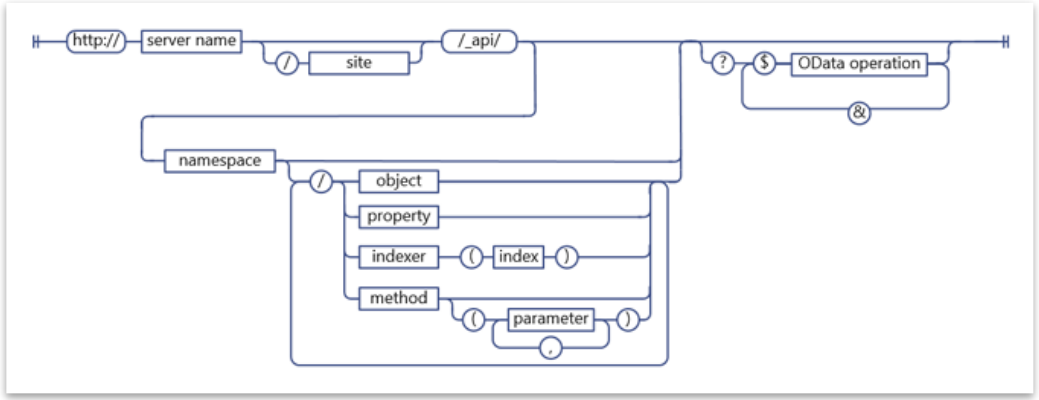
# HTTP Request Methods

| HTTP Request | Action |
| --- | --- |
| GET | Read a resource |
| POST | Create or update a resource |
| PUT | Update or insert a resource |
| DELETE | Delete a resource |

# Determine SharePoint REST Service Endpoints

- Must figure out the URI endpoint for the desired resource
- The URI endpoints closely match the SharePoint Client Object Model counterparts whenever possible
- In some cases, the URI endpoints are different from their SharePoint Client Object Model counterparts to comply with REST or OData conventions

**SharePoint REST Service Architecture**



# Determine SharePoint REST Service Endpoints

Constructing a REST endpoint for a SharePoint resource

1. Accessing a specific site collection
   http://{site_url}/_api/site

2. Accessing a specific site
   http://{site_url}/_api/web

3. Accessing a specific list
   http://{site_url}/_api/web/lists/getbytitle('ListDisplayName')

# OData Query Operators

# OData Query Operators

SharePoint REST service supports a wide range of OData query operators that enable selecting, filtering, and order the requested data

- **$select** returns the selected fields for a given list or list item
  http://{site_url}/_api/web/lists/getbytitle('ListDisplayName')/items?$select=Title,Name
- **$filter** returns the selected item based on the specified filter
  http://{site_url}/_api/web/lists/getbytitle('ListDisplayName')/items?$filter=Title eq 'String'
- **$orderby** sorts the returned items based on the speficied field
  http://{site_url}/_api/web/lists/getbytitle('ListDisplayName')/items?$orderby=Title asc

# OData Query Operators

SharePoint REST service supports a wide range of OData query operators that enable selecting, filtering, and order the requested data

- **$top** returns the first number of items indicated
  http://{site_url}/_api/web/lists/getbytitle('ListDisplayName')/items?$top=5
- **$skiptoken** skips over the number of items indicated
  http://{site_url}/_api/web/lists/getbytitle('ListDisplayName')/items?$skiptoken=Paged=TRUE&p_ID=5

# OData Query Operators

Supported OData query operators

**Numeric Comparisons**

- lt (Less Than)
- le (Less Than or Equals To)
- gt (Greater)
- ge (Greater Than or Equals To)
- eq (Equals)
- ne (Not Equals)

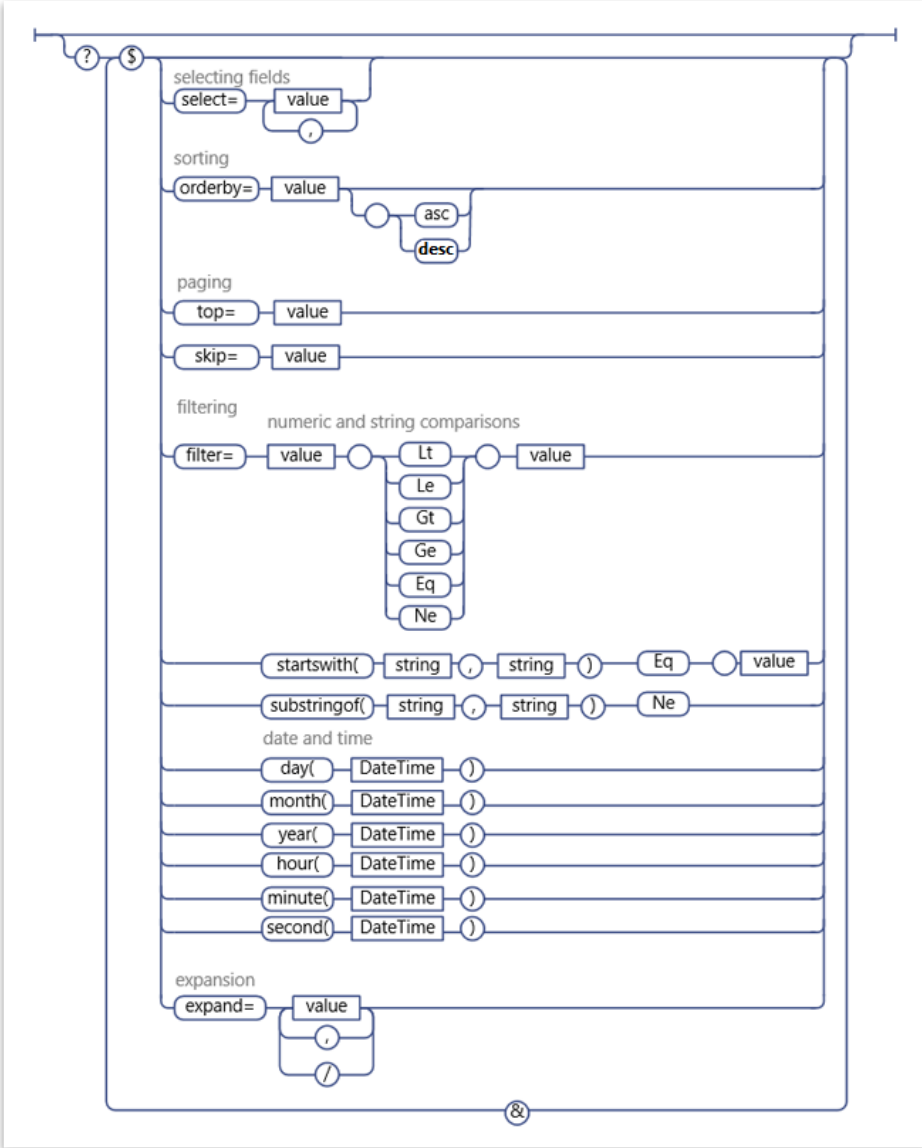
**String Comparisons**

- eq (Equals)
- ne (Not Equals)
- startswith(colToQuery,'StringToCheck')
- substringof('StringToCheck',colToQuery)

**Date and Time**

- day()
- month()
- year()
- hour()
- minute()
- second()

# OData Query Operators

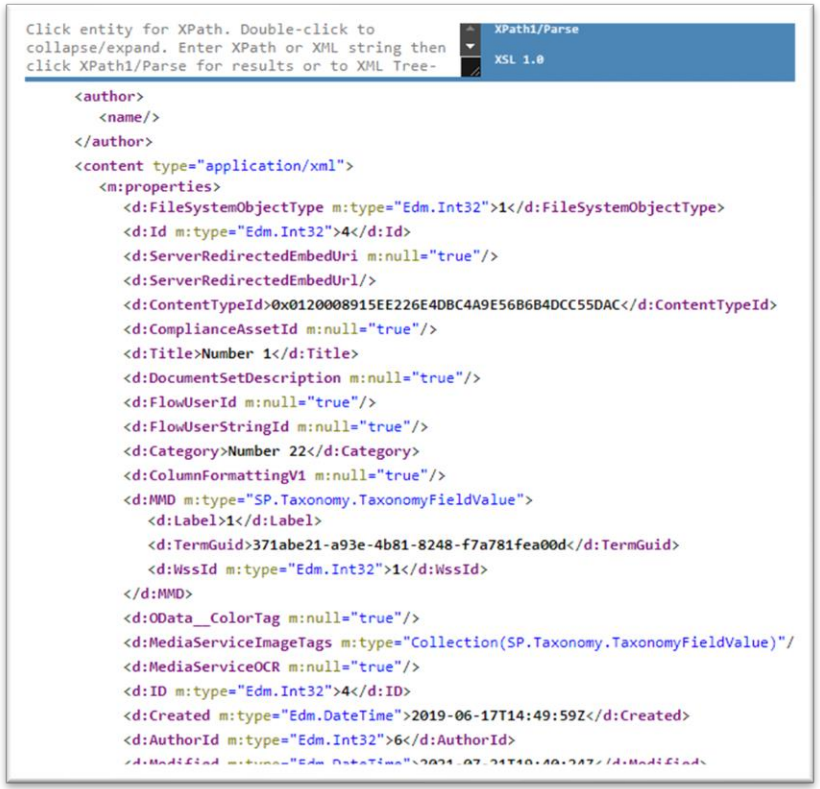


# Browser Extensions

XML XML Tree

Featured 4.0 ★ (554 ratings)

Extension | Developer Tools | 100,000 users




{=} JSON Viewer

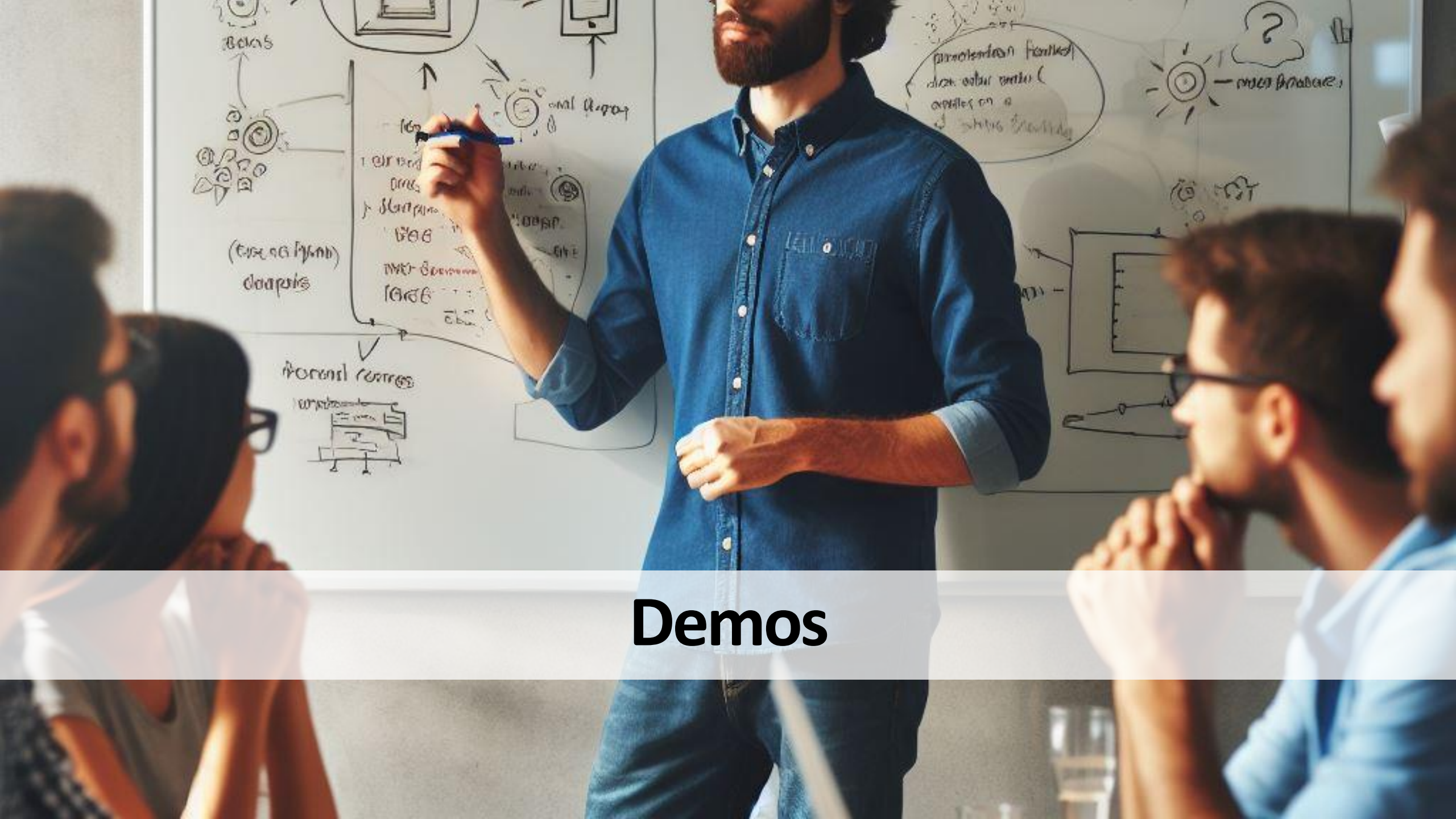
Featured 4.5 ★ (1.1K ratings)

Extension | Developer Tools | 2,000,000 users


# Why use Send an HTTP Request to SharePoint action over pre-built actions

# Send an HTTP Request to SharePoint

- Use endpoints not exposed via pre-built actions
  - ☐ Create SharePoint sites
  - ☐ Create Lists
  - ☐ Create Document Libraries
  - ☐ Create Site Columns
  - ☐ Update Choice Column Values
  - ☐ Move Files and Folders (CopyJobs)
  - ☐ Dynamic Information
    - ☐ SharePoint Site URLs
    - ☐ List Names
    - ☐ Document Library Names



# Demos

# Resources

Get to know the SharePoint REST service

REST (REpresentational State Transfer)

Welcome to OData

Complete basic operations using SharePoint REST endpoints

Fields REST API reference

# Contact Me


 fausto@powerapps911.com (Work)

 fausto@vecaent.com (Personal)

 @fcapellanjr

 https://www.linkedin.com/in/fausto-capellan-jr/

 https://faustocapellan.com