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Power Platform

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24th May

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Nick Doelman MVP

Power Pages: Deep Dive using the WebAPI



Agenda

- What is Power Pages?
- What are no-code configuration options of Power Pages?
- What is the Power Pages Web API?
- Power Pages Web API security
- DEMO: Build a custom event registration page
- Limitations





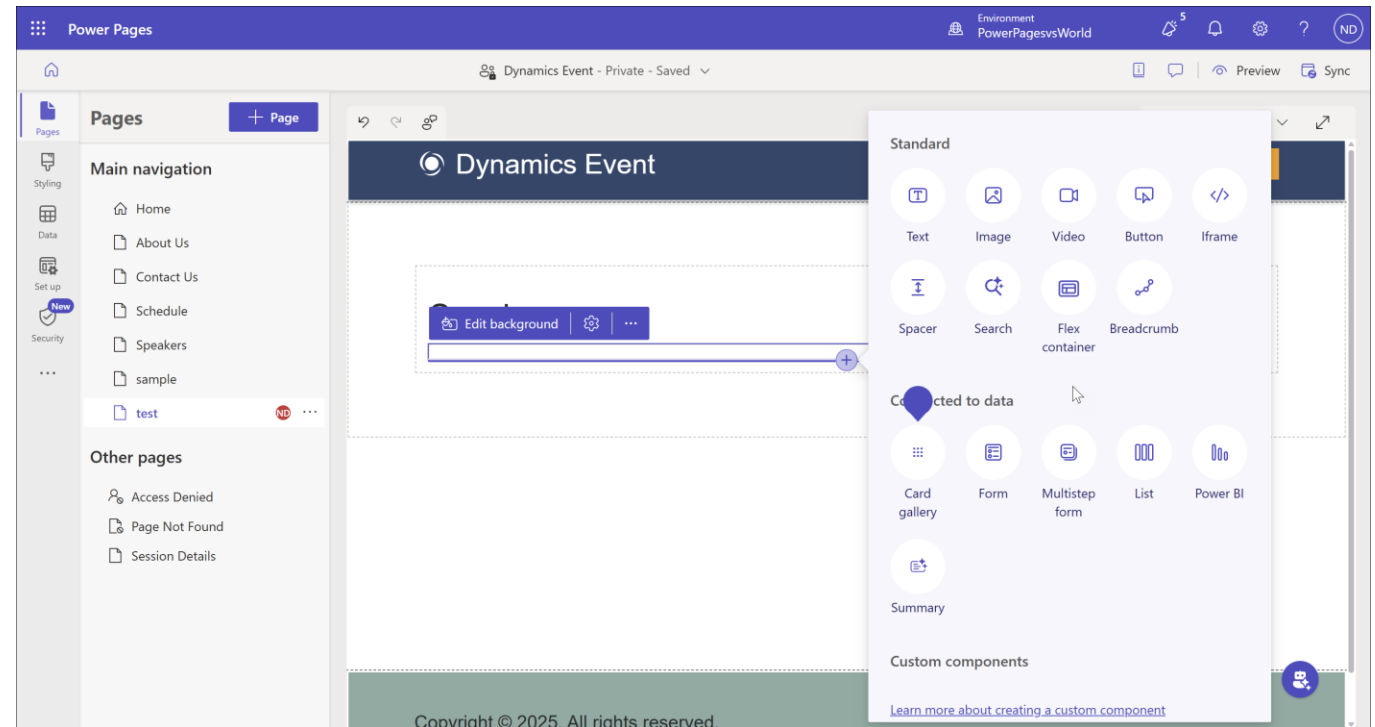
What is Power Pages?

Microsoft Power Pages is a low-code platform for web development, aimed at building, hosting, and managing secure business websites that can connect directly and safely with Microsoft Dataverse.



No-code configuration options

- Can add Power Pages list and form components directly connected to Dataverse on web pages.
- Examples:
 - Lists
 - Forms
 - Card Galleries
 - Summaries
 - Etc



No-code limitations

- UI limitations – render data in only prescribed formats (forms, lists, etc) and limited related table viewing
- Record level security, no field level security
- Data updates are via form submission
- Limited interactivity (form submissions, caching)

The screenshot shows a Power Apps form titled "Session Date and Time" overlaid on a dark background. The form contains the following fields:

- Session Date and Time:** A date and time picker showing "9/21/2023 12:00 PM".
- Rating:** A text input field containing the number "5".
- Duration:** A dropdown menu showing "50 minute".
- Sponsor Session:** Radio buttons for "No" (selected) and "Yes".
- Sponsor Info:** A large text area for additional information.

At the bottom of the form is a yellow "Submit" button. Below the form, on the dark background, is a promotional message: "Don't Miss Out! Make sure to register and secure your spot for this unforgettable experience." with a yellow "Register Now" button.

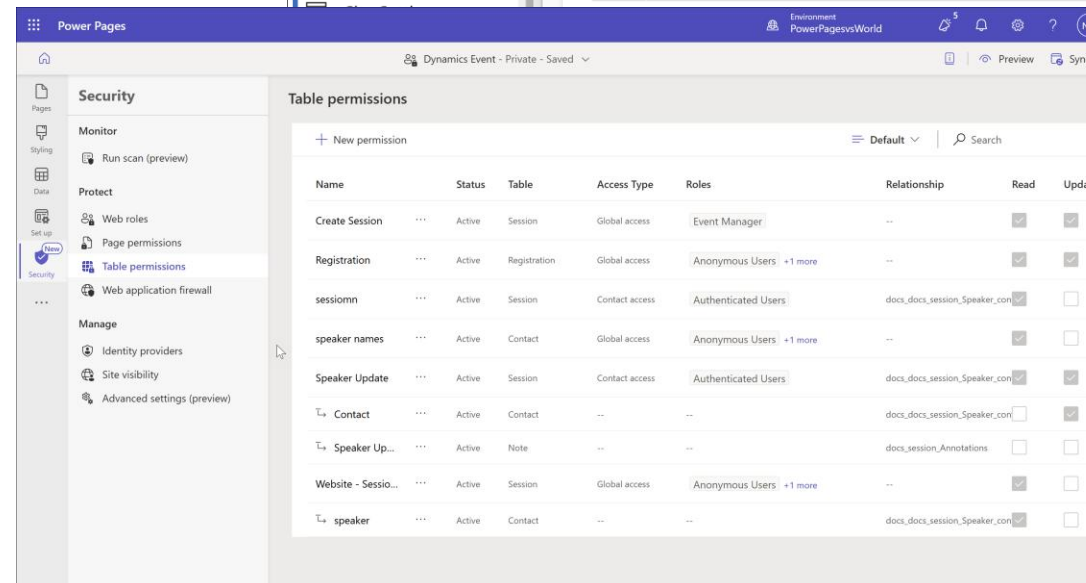
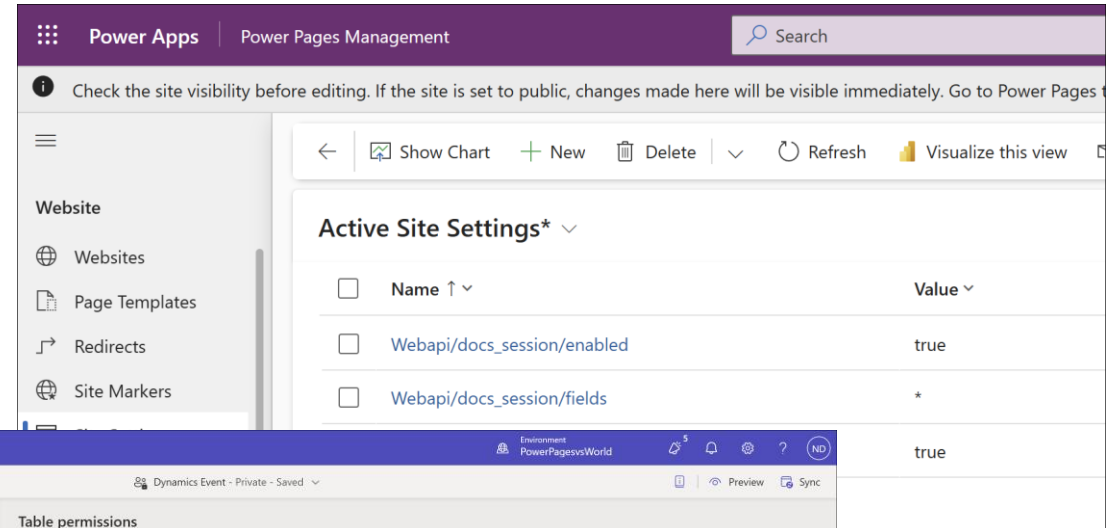
What is the Power Pages Web API?



- **JavaScript-based API** for interacting with Dataverse data directly from Power Pages.
- Enables **secure, client-side CRUD operations** (Create, Read, Update, Delete) + associate/disassociate.
- Built on top of the **Dataverse Web API**, tailored for Power Pages scenarios.
- Respects **Table Permissions and Web Roles** for secure data access.
- Ideal for building **dynamic, data-driven user experiences** in portals.
- Supports **lookup fields, option sets, and filtering** for complex queries.

Power Pages Web API Security

- Based on standard Dataverse table permissions and web roles
- Must also designate tables and fields used in Web API
- Can add field level security via the WebAPI



DEMO: Power Pages Web API Setup

- Include the Portal Web API helper
- Configure site settings
- Write code using Visual Studio Code (Desktop can use GitHub Copilot with @powerpages as a participant)

```
8 </div>
9 <div class="row sectionBlockLayout" style="display: flex; flex-wrap:
10 <div class="row sectionBlockLayout text-left" style="display: flex;
11 <div class="container" style="width: 100%; padding: 10px;">
12 <div class="col-md-12" style="padding: 5px;">
13 <!--include PortalWebAPIHelper
14 {% include 'portalWebAPIHelper' %}
15 </div>
16 <div class="col-md-12" style="padding: 5px;">
17 <form id="myForm">
18 <div class="form-group">
19 <label for="docs_sessionname">Session Name:</label>
20 <input type="text" id="docs_sessionname" name="docs_sessionname">
21 </div>
22 <div class="form-group">
23 <label for="docs_sessiondescription">Session Description:</label>
24 <input type="text" id="docs_sessiondescription" name="docs_sessiondescription">
25 </div>
26 <div class="form-group">
27 <label for="docs_sessiondateandtime">Session Date and Time:</label>
28 <input type="datetime-local" id="docs_sessiondateandtime" name="docs_sessiondateandtime">
29 </div>
30 <div class="form-group">
31 <label for="docs_duration">Duration (minutes):</label>
32 <input type="number" id="docs_duration" name="docs_duration">
33 </div>
34 <div class="form-group">
35 <input type="submit" value="Submit">
36 </div>
37 </form>
38 </div>
39 </div>
```

The label element represents a caption in a user interface. The caption can be associated with a specific form control, known as the label element's labeled control, either using the for attribute, or by putting the form control inside the label element itself.

Widely available across major browsers (Baseline since 2015)

MDN Reference

and rating Dynamics Conference sessions. It uses Liquid templating and FetchXML to retrieve session data from Dynamics 365.

Key features:

- **FetchXML Query:** Retrieves session records (docs_session) with attributes like name, description, date/time, ID, and rating. It also joins the related speaker (contact) to get the speaker's full name.
- **Session List Rendering:** Iterates over the fetched sessions and displays each in a Bootstrap-styled panel within a grid layout.

Power Pages website upload succeeded in 8.55 secs.

PS C:\dev\dynamics-event>

DEMO: Power Pages Vibe Coding



- Create a custom panel layout using GitHub Copilot

Dynamics Event

test | Home | About Us | Contact Us | Schedule | Speakers | sample | Registration | rate-sessions |

webapicreatedemo | 🔍 | Scott Konersmann (sample) ▾

Rate Dynamics Conference Sessions

Introduction to Power Platform

Learn the basics of Power Platform and its capabilities.

Date and Time: 9/21/2023 10:00 AM

Speaker:

Rating: 5

Edit this Session

Power Apps Advanced Features

Explore advanced features of Power Apps for building custom solutions.

Date and Time: 10/5/2023 2:30 PM

Speaker:

Rating: 3

Edit this Session

Power BI Data Visualization

Master the art of data visualization with Power BI.

Date and Time: 11/15/2023 9:15 AM

Speaker:

Rating: 5

Edit this Session

Power Automate Workflow Automation

Automate your business processes using Power Automate.

Date and Time: 9/25/2023 11:45 AM

Speaker:

Rating: 2

Edit this Session

Power Platform for Business Analysts

Empower business analysts with the Power Platform tools.

Date and Time: 10/12/2023 4:00 PM

Speaker:

Rating: 5

Edit this Session

Power Platform Security Best Practices

Ensure the security of your Power Platform applications.

Date and Time: 11/30/2023 1:30 PM

Speaker:

Rating: 4

Edit this Session

DEMO: Power Pages Vibe Coding PROMPT

I am working a Power Pages developer today, therefore I will use liquid (fetchxml filter), html (bootstrap 5), and javascript.

Use this documentation as reference <https://learn.microsoft.com/en-us/power-pages/configure/liquid/liquid-overview>

Add a bootstrap container.

Add an h1 with title Rate Dynamics Conference Sessions within the container. No additional html is needed.

I am writing site page to list out sessions available within an event in a panel format.

The data structure to use is the docs_session table, with fields: docs_sessionname, docs_sessiondescription, docs_sessiondateandtime, docs_rating

There is a linked entity to contact table through the docs_speaker field, please show the fullname of the related contact using speaker alias

Let's start with just the liquid fetchxml filter to write a query to show sessions sorted by docs_sessiondateandtime

Add a simple html in a for loop to expose the records in individual panels.

create a border around each of the cards and spacing between panels

add the | date: 'g' liquid filter to the docs_sessiondateandtime



Building WebAPI query

- Build by hand
- Build using GitHub Copilot
- Build using Dataverse Rest Builder

Dataverse REST Builder 1.0.0.44 (<https://org934b649c.crm.dynamics.com>)
Created by Guido Preite [Twitter](#) - [LinkedIn](#) - [GitHub](#) - [Blog](#)

File ▾
Show Notice

▾ New Collection
New Request

New Request
Request Type Create ▾

Configure Xrm.WebApi Xrm.WebApi execute Fetch jQuery XHR **Portals** Editor Results C# SDK

Copy Code Move Code to Editor NOTE: Inside DRB, Portals endpoint (/api) is routed to the default Web API endpoint

```
1 // IMPORTANT NOTE! please read the following documentation regarding Portals Web API:
2 // https://learn.microsoft.com/en-us/power-apps/maker/portals/web-api-overview
3 // "webapi.safeAjax" wrapper is based on the code from this page:
4 // https://learn.microsoft.com/en-us/power-apps/maker/portals/web-api-http-requests-handle-errors
5
6 var record = {};
7 record.docs_sessionname = null; // Text
8 record.docs_duration = null; // Whole Number
9 record.docs_sessiondescription = null; // Multiline Text
10 record.docs_sessiondateandtime = null; // Date Time
11
12 webapi.safeAjax({
13   type: "POST",
14   contentType: "application/json",
15   url: "/_api/docs_sessions",
16   data: JSON.stringify(record),
17   success: function (data, textStatus, xhr) {
18     var newId = xhr.getResponseHeader("entityid");
19     console.log(newId);
20   },
21   error: function (xhr, textStatus, errorThrown) {
22     console.log(xhr);
23   }
24 });
```

DEMO: Create record and read with WebAPI


- Create HTML form
- Submit new record to WebAPI
- Read the record back

WebAPI examples - Create and Read a record

Session Name:

Session Description:

Session Date and Time:


 

Duration (minutes):


Submit

DEMO: Update record with WebAPI

- HTML form
- Update record with WebAPI

 Dynamics Event

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[webapicreatedemo](#) |  | [Scott Konersmann \(sample\)](#) ▾


WebAPI examples - Update a record

Session Name:

Session Description:

Explore advanced features
of Power Apps for building

Session Date and Time:

2023-10-05 02:30 PM 

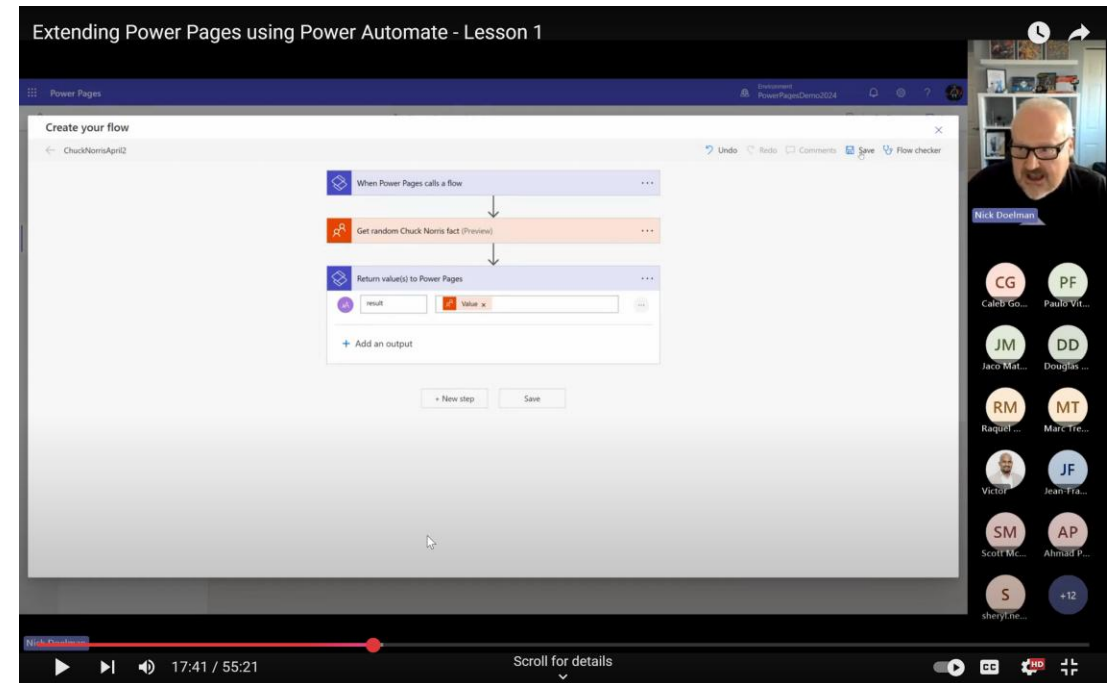
Duration (minutes):

Submit

WebAPI: What can't it do?

- Cannot do batch requests
- Cannot call custom actions
- You can use **Power Automate**

<https://www.youtube.com/watch?v=h5gbsD9dKw4>





QUESTIONS?



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integrate your data



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