



Power Pages: The pro developers guide!

Nick Doelman



HEADLINER

resco



SILVER

The logo for Proekspert, featuring a stylized black "W" shape above the word "PROEKSPERT" in bold black capital letters.

PLATINUM

Visit Tallinn



PROMISE
GRUPA APN PROMISE

502nm



SWAG

logitech

MEDIA



SPEAKER DINNER





Nick Doelman

Power Platform Specialist

Microsoft MVP and Microsoft Certified Trainer (MCT)

Competitive Powerlifter (Team Canada)

Podcast host – Power Platform BOOST!



nick@readybms.com



readyxrm.blog



[@readyxrm](https://twitter.com/readyxrm)



[/in/nickdoelman](https://www.linkedin.com/in/nickdoelman)

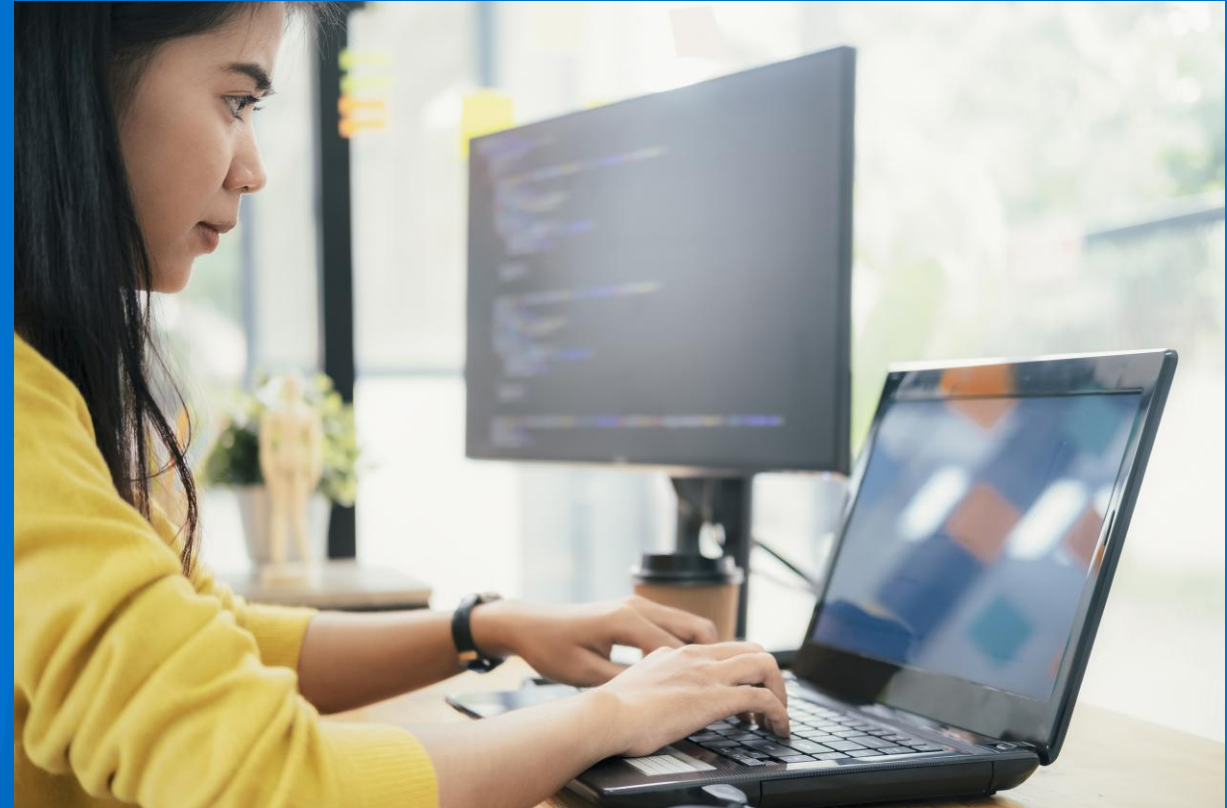
Agenda

- Role of developers in Power Pages projects
- Power Pages developer toolbox
- JavaScript
- Liquid/Custom web templates/components
- Portal Web API
- Power Automate, Plug-ins, Custom Code Components (PCF)



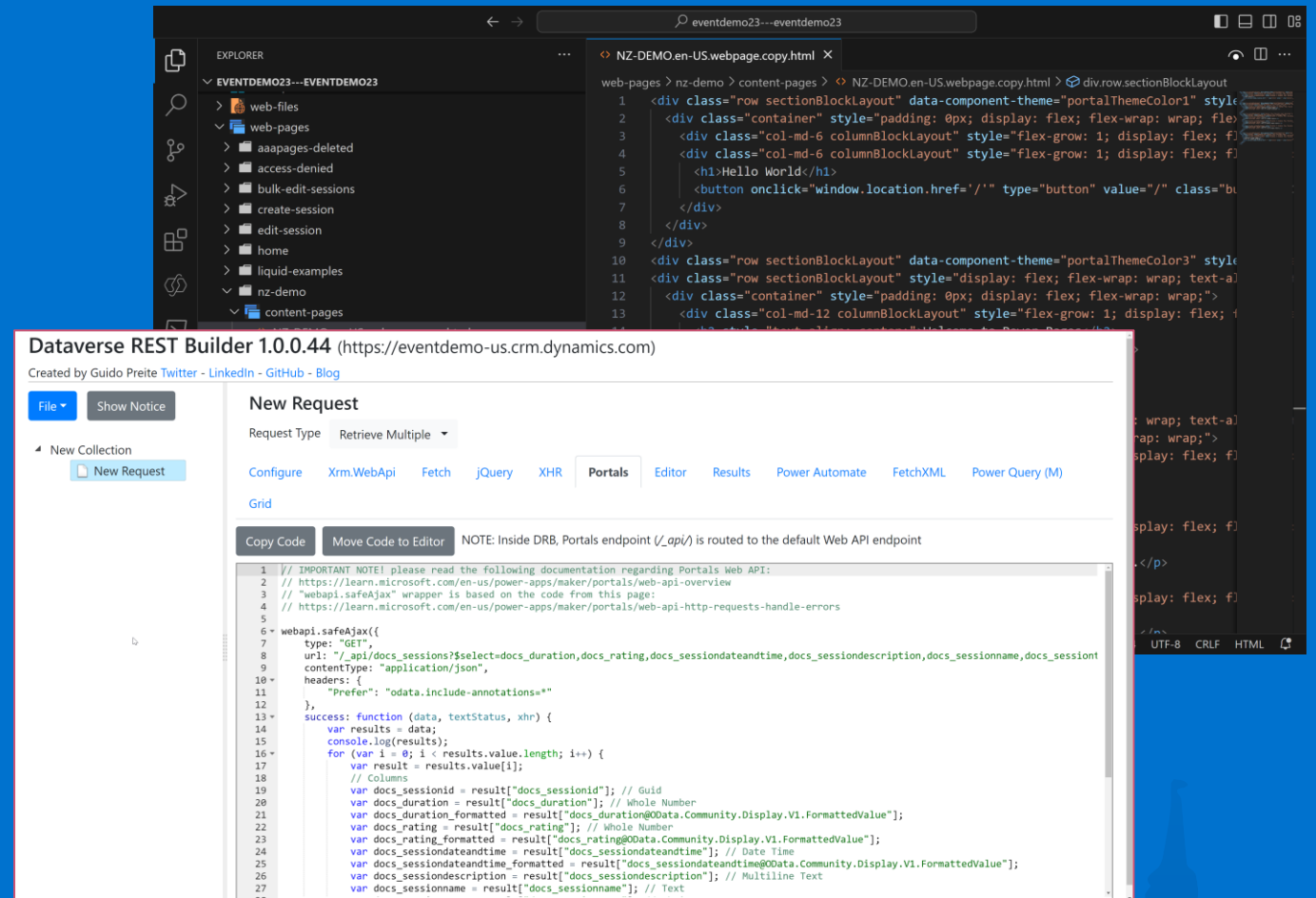
Role of Pro-developers in Power Pages

- Maker options
 - Static pages, forms, views, Power BI, SharePoint, Agents
- Developers can provide
 - Additional functionality/UX to forms and lists
 - Create custom web template components
 - Custom data views
 - Interactive functionality with Dataverse
 - Backend business logic



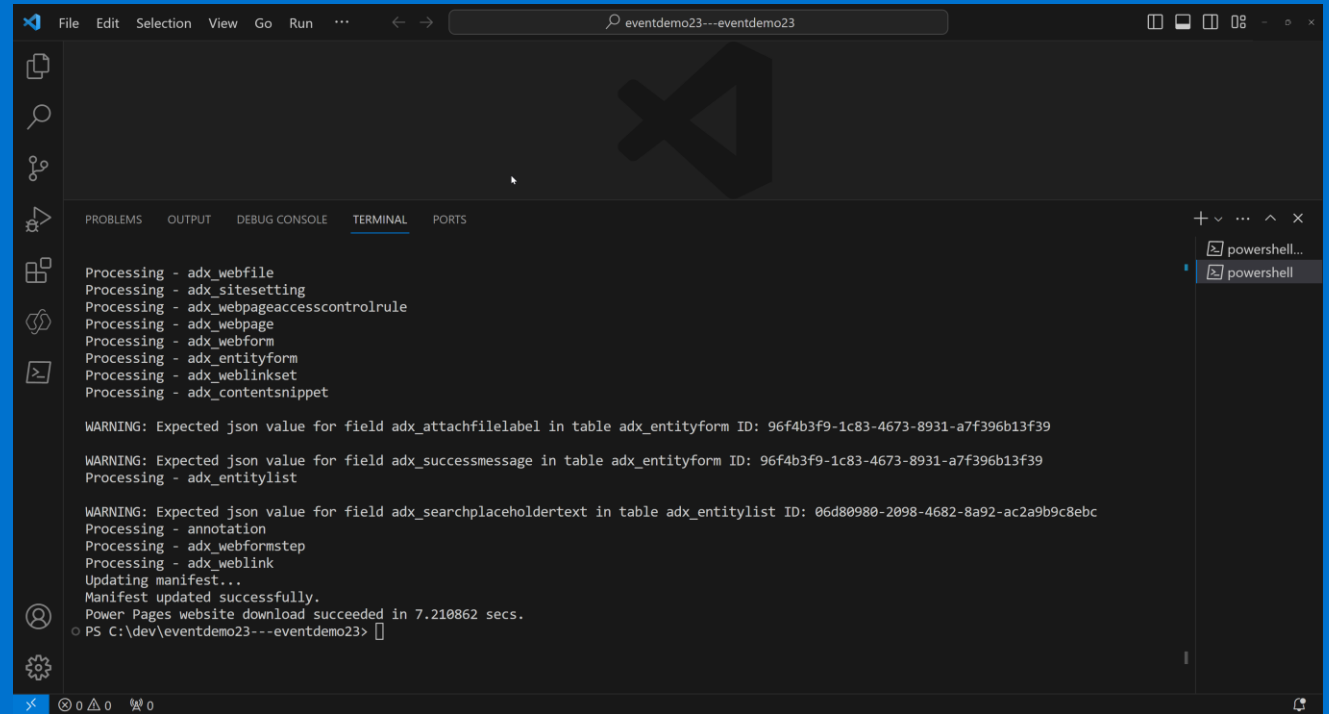
Pro-developer toolbox

- Visual Studio Code
- Power Platform Tools
- XrmToolBox
- Dataverse Rest Builder
- Power Platform Level Up
- Copilot for Power Pages
- Github Copilot



Demo – Visual Studio Code

- Run Visual Studio Code desktop
- Download website metadata
- Create a web page
- Upload website metadata



The screenshot shows the Visual Studio Code interface with the terminal panel open. The terminal displays the following output:

```
Processing - adx_webfile
Processing - adx_sitsetting
Processing - adx_webpageaccesscontrolrule
Processing - adx_webpage
Processing - adx_webform
Processing - adx_entityform
Processing - adx_weblinkset
Processing - adx_contentsnippet

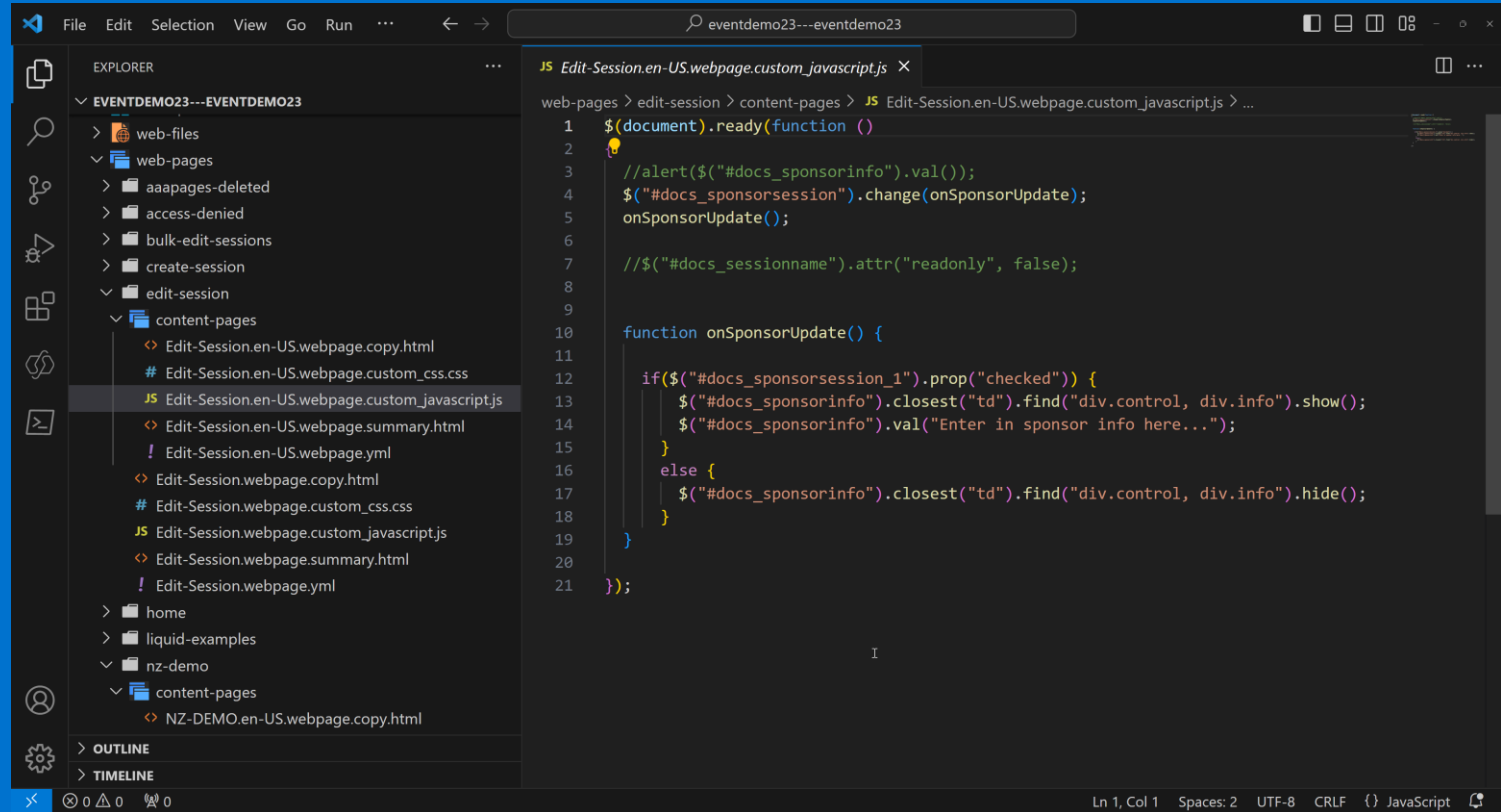
WARNING: Expected json value for field adx_attachfilelabel in table adx_entityform ID: 96f4b3f9-1c83-4673-8931-a7f396b13f39

WARNING: Expected json value for field adx_successmessage in table adx_entityform ID: 96f4b3f9-1c83-4673-8931-a7f396b13f39
Processing - adx_entitylist

WARNING: Expected json value for field adx_searchplaceholdertext in table adx_entitylist ID: 06d80980-2098-4682-8a92-ac2a9b9c8ebc
Processing - annotation
Processing - adx_webformstep
Processing - adx_weblink
Updating manifest...
Manifest updated successfully.
Power Pages website download succeeded in 7.210862 secs.
PS C:\dev\eventdemo23---eventdemo23>
```

DEMO - JavaScript

- Add code to be run client side to manipulate Power Pages form and list components
- Copilot for Power Pages can assist in generation of code
- DEMO



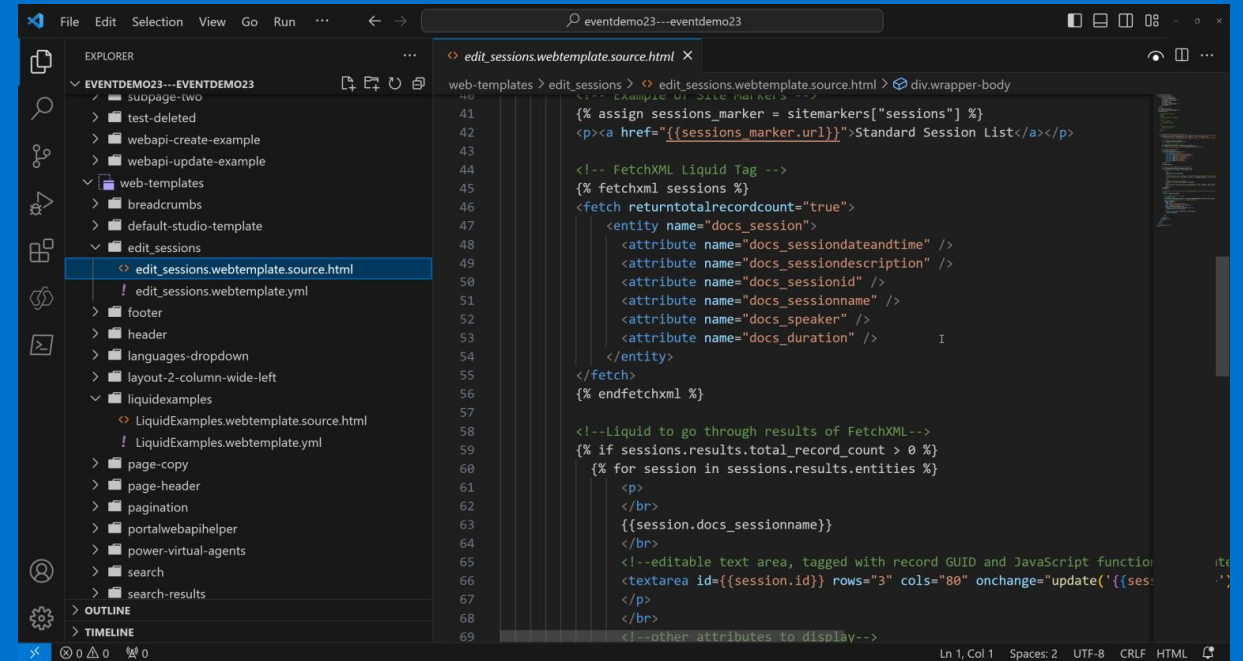
The screenshot shows the Visual Studio Code editor with a project named 'EVENTDEMO23'. The Explorer pane on the left shows the file structure, with the file 'Edit-Session.en-US.webpage.custom_javascript.js' selected under the 'content-pages' folder. The main editor area displays the JavaScript code for this file. The code is as follows:

```
1 $(document).ready(function ()
2
3 //alert($("#docs_sponsorinfo").val());
4 $("#docs_sponsorinfo").change(onSponsorUpdate);
5 onSponsorUpdate();
6
7 //$("#docs_sessionname").attr("readonly", false);
8
9
10 function onSponsorUpdate() {
11
12     if($("#docs_sponsorinfo").prop("checked")) {
13         $("#docs_sponsorinfo").closest("td").find("div.control, div.info").show();
14         $("#docs_sponsorinfo").val("Enter in sponsor info here...");
15     }
16     else {
17         $("#docs_sponsorinfo").closest("td").find("div.control, div.info").hide();
18     }
19 }
20
21 });
```

The status bar at the bottom indicates the current line and column (Ln 1, Col 1), the number of spaces (2), the encoding (UTF-8), the line endings (CRLF), and the language (JavaScript).

Liquid

- Liquid is a markup language that has been extended to display information from Dataverse
- Runs server side, meaning essentially read-only
- Can be added anywhere (web pages, web templates, etc)
- Hard to debug
- Foundation for creating custom web templates



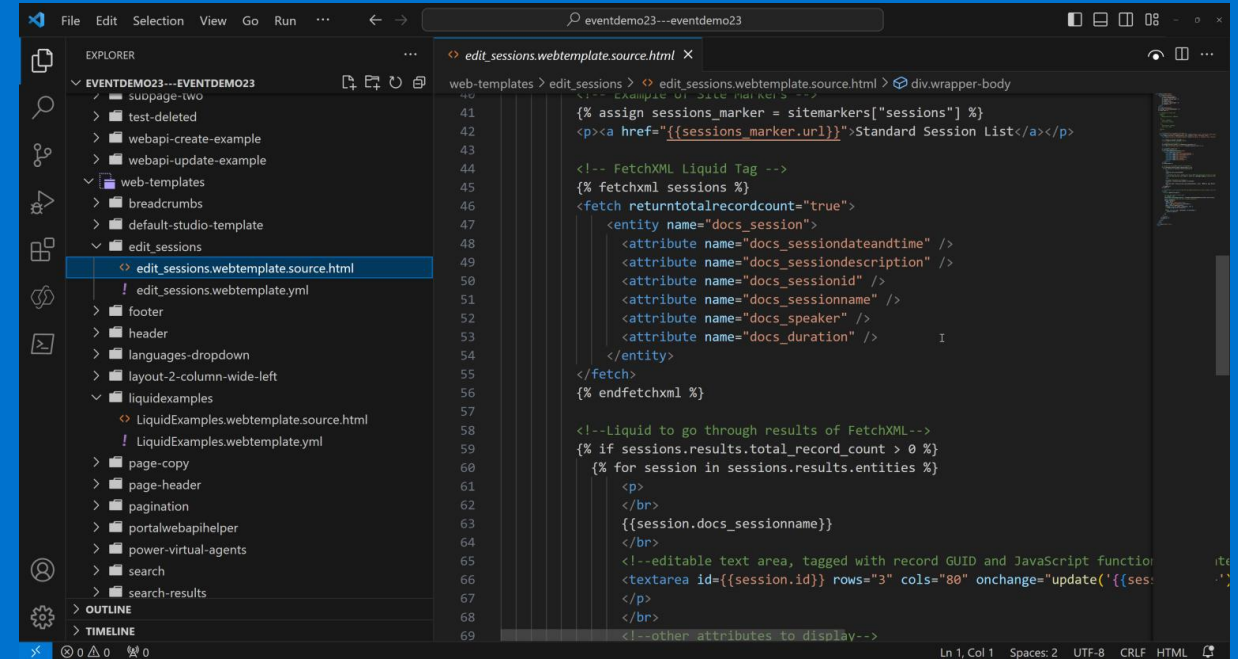
```
41 {% assign sessions_marker = sitemarkers["sessions"] %}  
42 <p><a href="{{sessions_marker.url}}">Standard Session List</a></p>  
43  
44 <!-- FetchXML Liquid Tag -->  
45 {% fetchxml sessions %}  
46 <fetch returntotalrecordcount="true">  
47   <entity name="docs_session">  
48     <attribute name="docs_sessiondateandtime" />  
49     <attribute name="docs_sessiondescription" />  
50     <attribute name="docs_sessionid" />  
51     <attribute name="docs_sessionname" />  
52     <attribute name="docs_speaker" />  
53     <attribute name="docs_duration" />  
54   </entity>  
55 </fetch>  
56 {% endfetchxml %}  
57  
58 <!--Liquid to go through results of FetchXML-->  
59 {% if sessions.results.total_record_count > 0 %}  
60   {% for session in sessions.results.entities %}  
61     <p>  
62       </br>  
63       {{session.docs_sessionname}}  
64       </br>  
65       <!--editable text area, tagged with record GUID and JavaScript function-->  
66       <textarea id="{{session.id}}" rows="3" cols="80" onchange="update('{{ses  
67     </p>  
68   </br>  
69 <!--other attributes to display-->
```

Debug Liquid:

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

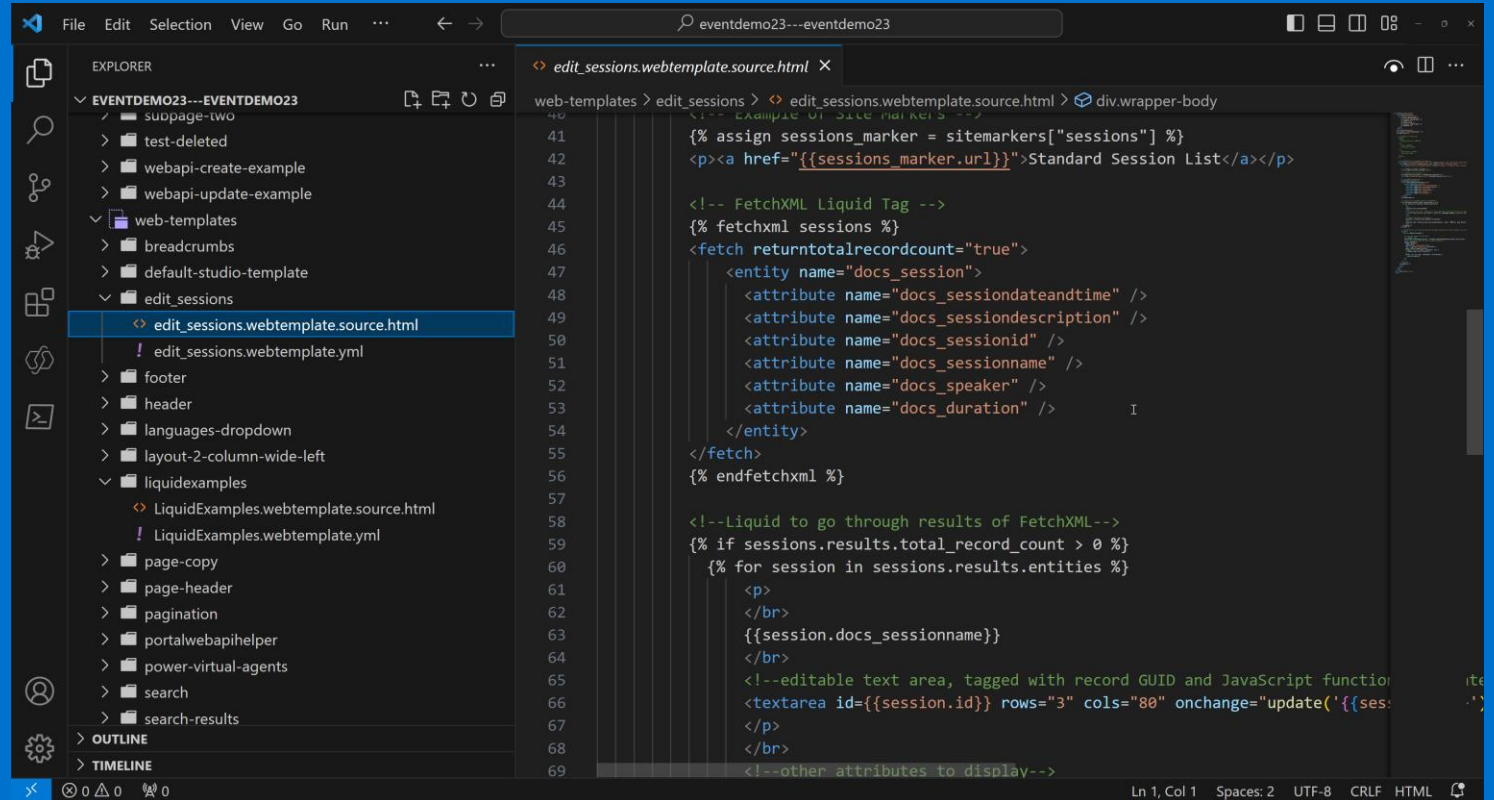
DEMO - Custom web templates/components

- Can contain HTML, CSS, JavaScript, Liquid
- Foundation for web pages
- Not tied to language (like web pages)
- Can also be used as components in web pages
- Web template components can be added and configured by makers
- DEMO – custom list component



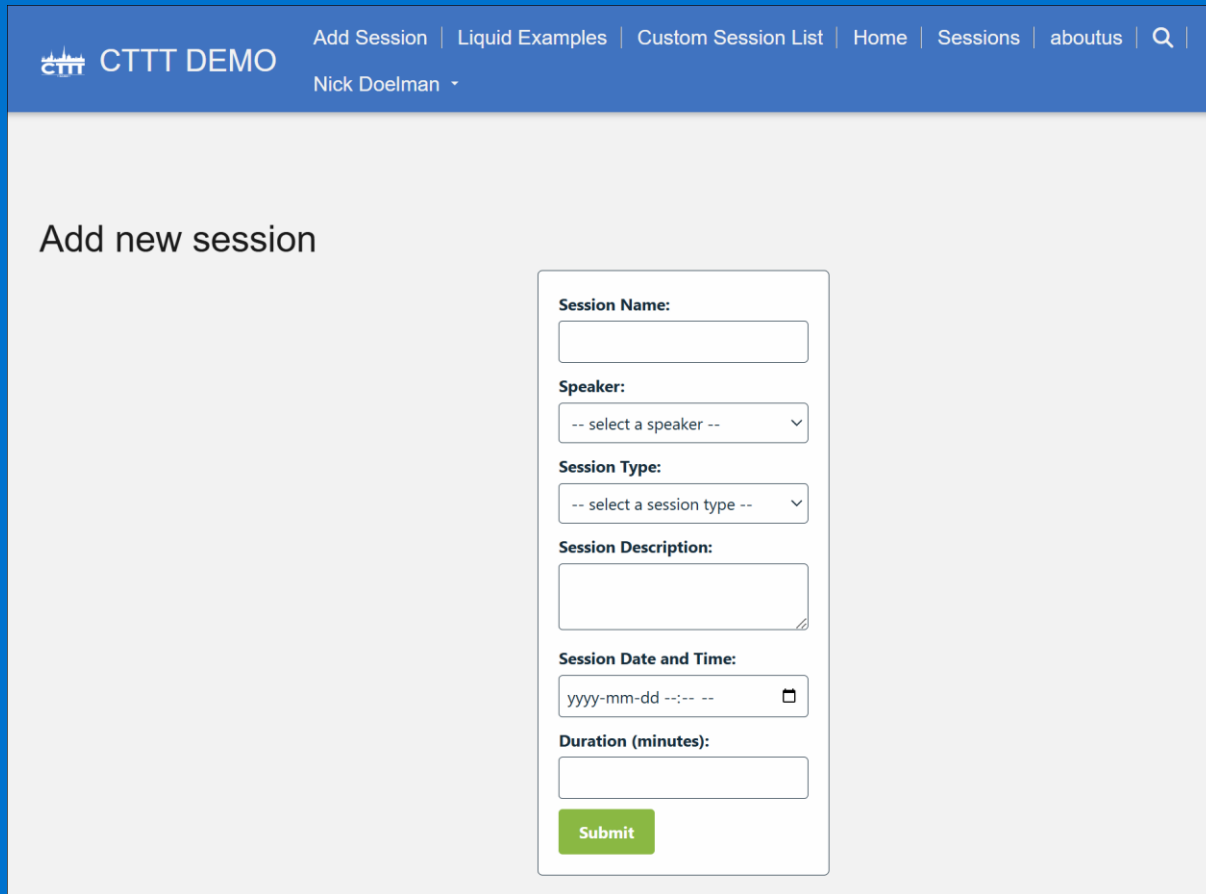
Power Pages Web API

- Ability to Create, Read, Update, Delete, Associate and Disassociate Dataverse records
- Useful in creating custom interfaces
- DEMO – create session using WebAPI



```
41  {% assign sessions_marker = sitemarkers["sessions"] %}
42  <p><a href="{{sessions_marker.url}}">Standard Session List</a></p>
43
44  <!-- FetchXML Liquid Tag -->
45  {% fetchxml sessions %}
46  <fetch returntotalrecordcount="true">
47    <entity name="docs_session">
48      <attribute name="docs_sessiondateandtime" />
49      <attribute name="docs_sessiondescription" />
50      <attribute name="docs_sessionid" />
51      <attribute name="docs_sessionname" />
52      <attribute name="docs_speaker" />
53      <attribute name="docs_duration" />
54    </entity>
55  </fetch>
56  {% endfetchxml %}
57
58  <!--Liquid to go through results of FetchXML-->
59  {% if sessions.results.total_record_count > 0 %}
60    {% for session in sessions.results.entities %}
61      <p>
62        <br>
63        {{session.docs_sessionname}}
64        <br>
65        <!--editable text area, tagged with record GUID and JavaScript function-->
66        <textarea id="{{session.id}}" rows="3" cols="80" onchange="update('{{ses
67      </p>
68    </br>
69    <!--other attributes to display-->
```

Custom web template examples



The screenshot shows a web application interface for adding a new session. The header is dark blue with the text "CTTT DEMO" and a navigation menu: "Add Session | Liquid Examples | Custom Session List | Home | Sessions | aboutus | Q |". Below the header, the user "Nick Doelman" is logged in. The main content area is light gray and contains the heading "Add new session". A white form box is centered, containing the following fields: "Session Name:" (text input), "Speaker:" (dropdown menu with "-- select a speaker --"), "Session Type:" (dropdown menu with "-- select a session type --"), "Session Description:" (text area), "Session Date and Time:" (date and time picker with a calendar icon), and "Duration (minutes):" (text input). A green "Submit" button is at the bottom of the form.

- Custom HTML form to create new session records

Other Power Pages pro-developer tools

- Power Automate
- Dataverse plug-ins
- Custom code components
- Integrations (DocuSign, Copilots, Payments)

Edit Session

Session Name *

Introduction to Power Platform

Speaker

Scott Konersmann (sample) ✕ 🔍

Session Description

Learn the basics of Power Platform and its capabilities.

Session Date and Time

9/20/2023 6:00 AM 📅

Rating

★ ★ ★ ★ ★

Duration

30 minutes ▼

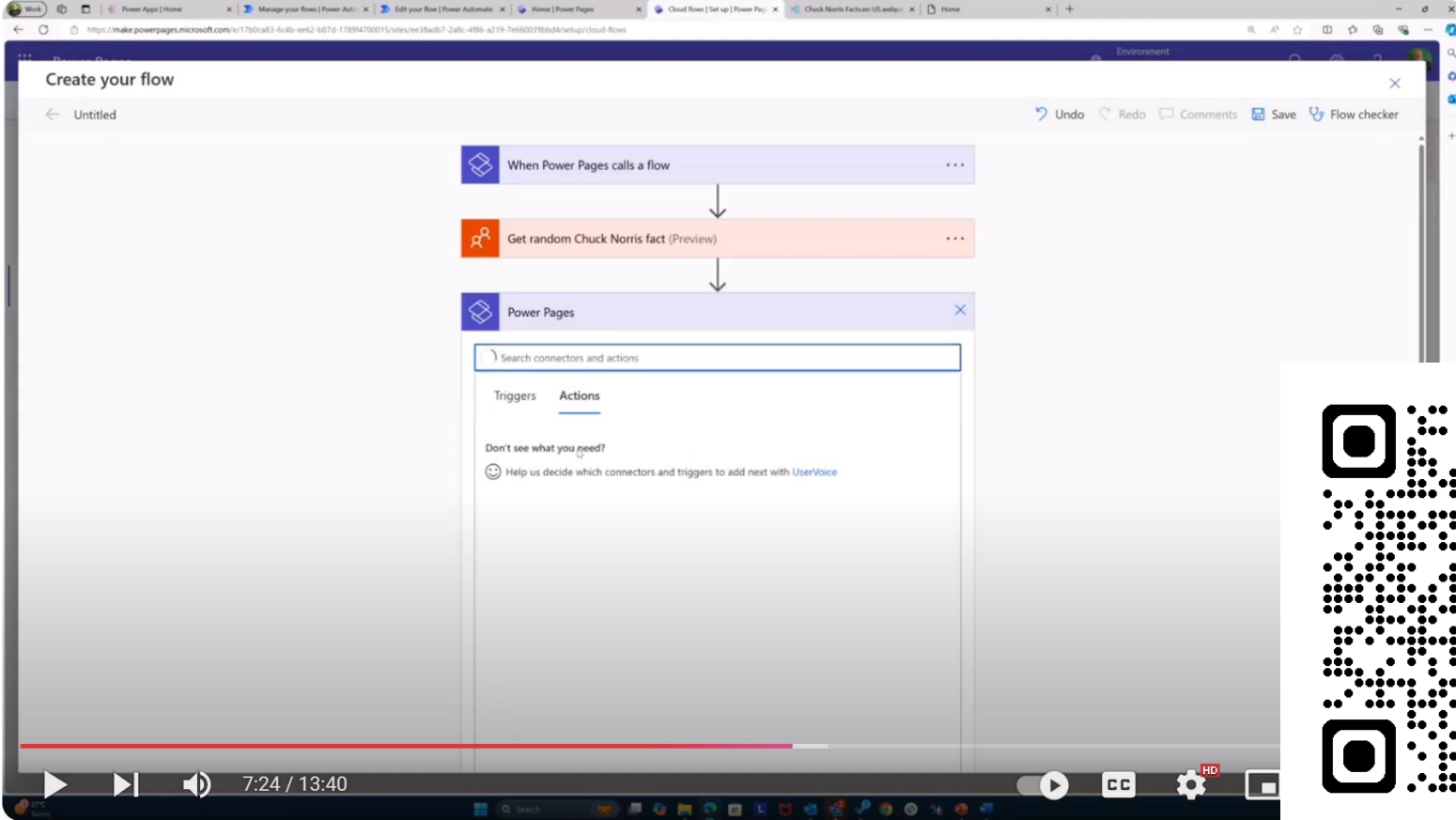
Sponsor Session

☒ No ☐ Yes

Submit

Power Pages and Power Automate

https://youtu.be/gqsAm_n13d8?si=cSsCGNV8QTjQcAbs

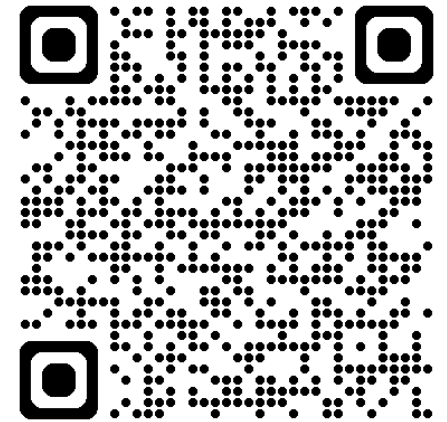


Powering up your Power Pages with Power Automate

Microsoft Community Learning
57.4K subscribers

Subscribe

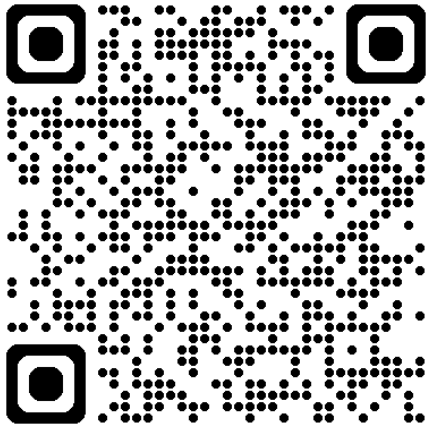
17 | | Share | Save | ...



Power Pages and Dataverse Plug-Ins

<https://youtu.be/xCB63bPPW7k?si=kpKAiEZl2hgJwF0r>

Using Dataverse low-code plug-ins in Power Pages



Summary

- A pro-developer is a key contributor to Power Pages projects
- Power Pages is “pro-developer” friendly with both built in and community tools
- Pro-developers fit well in fusion teams further enabling no-code/low-code makers



Homework

- Setup a developer environment and provision a developer website
- Download Visual Studio code and enable the Power Platform Tools
- Write some code! 😊



HEADLINER

resco

GOLD



SILVER



WORKPLACE NINJAS UK

PROEKSPERT

COMMUNITY



PLATINUM



BRONZE



SWAG



MEDIA



SPEAKER DINNER





Please rate this session!

Your feedback will help with

- speaker evaluation
- content relevance
- decision making for future events
- quality improvement

Thank you!

Q&A

