



Mastering Model-Driven Power Apps

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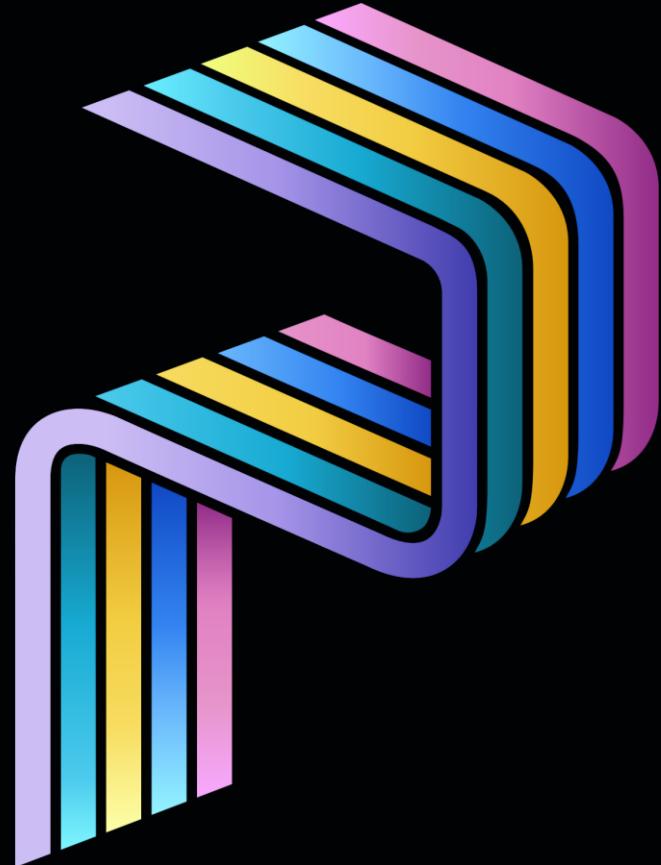


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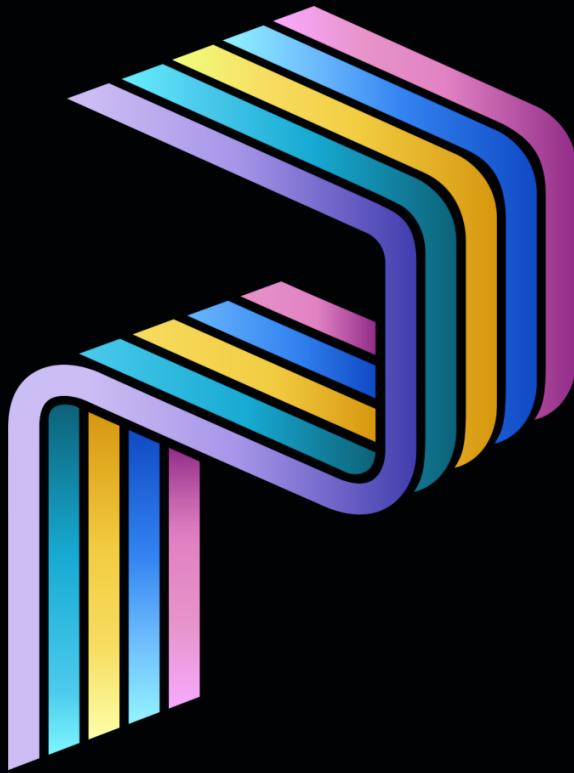


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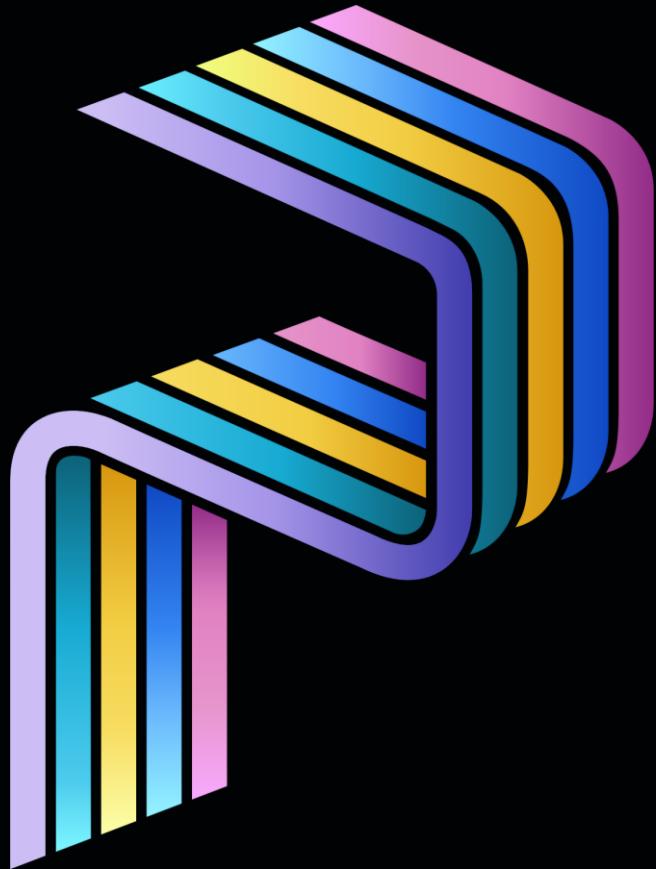


Agenda



Agenda

Part	Channel	Timings
1	Welcome and Intros	9:00 AM – 9:15 AM
2	Getting Lab Environments Ready	09:15 – 9:30 AM
3	Introduction to Dataverse and Model-Driven Apps	9:30 AM – 9:45 AM
4	Creating Your Own Data Model and Tables	9:45 AM – 10:30 AM
5	Break	10:30 AM – 10:45 AM
6	Configuring Forms, Views, Charts, and Dashboards	10:45 AM – 11:30 AM
7	Lunch	11:30 PM – 12:30 PM
8	Configuring Subgrids and Lookup Views	12:30 AM – 1:15 PM
9	Customizing Business Process Flows and Business Rules	1:15 PM – 2:00 PM
10	Break	2:00 PM – 2:30 PM
11	Configuring Security Roles and Column-Level Security	2:30 PM – 3:15 PM
12	Configuring the Command Bar	3:15 PM – 4:00 PM
13	Adding Custom Pages to Enhance Your Apps	4:00 PM – 4:45 PM
14	Q&A and Wrap-Up	4:45 PM – 5:00 PM



Welcome
and Intros



**POWER
CONFERENCE**

Partners

Thank you for making this possible 



manica[®]



KONICA MINOLTA



**Data
Brothers**

PROMISE
PROMISE GROUP

MULTIMA
SOFTWARE ATELIER

NETWORG

 TD SYNNEX

 **GOPAS[®]**

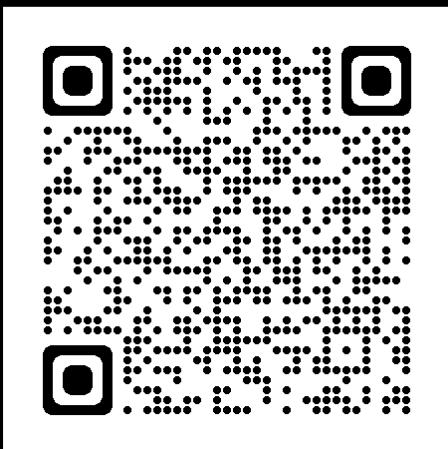


Angeliki Patsiavou

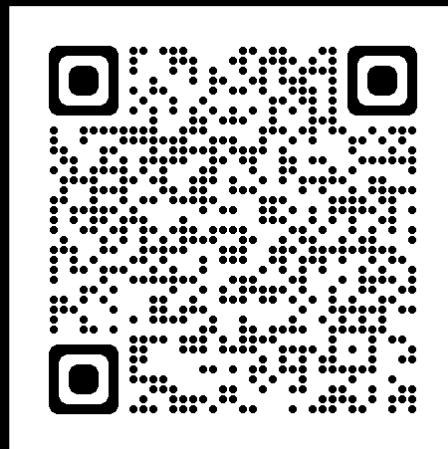
BizApps MVP | Speaker | Blogger | Human Evangelist



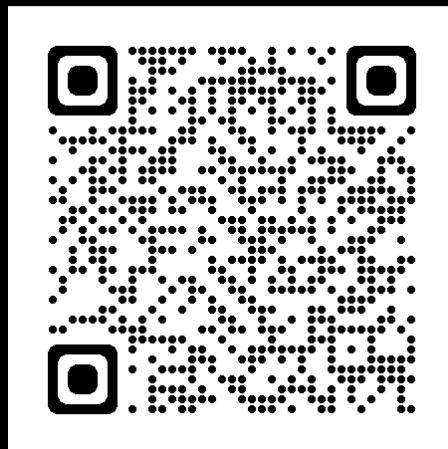
- 10+ Years in CRM – Marketing, Prosci® Change Management, Functional
- Hybrid Architect and Global Copilot Community Lead at Avanade
- Geek, Martial Artist, Singer



empoweredhumans.net



LinkedIn



Twitter/ X



Nick Doelman

BizApps MVP | MCT | Podcaster | Speaker | Trainer



- Independent Power Platform and Dynamics 365 Specialist
- Presentations, Workshops and Collaboration on Worldwide
- Competitive Powerlifter, Member of Team Canada



readybms.com

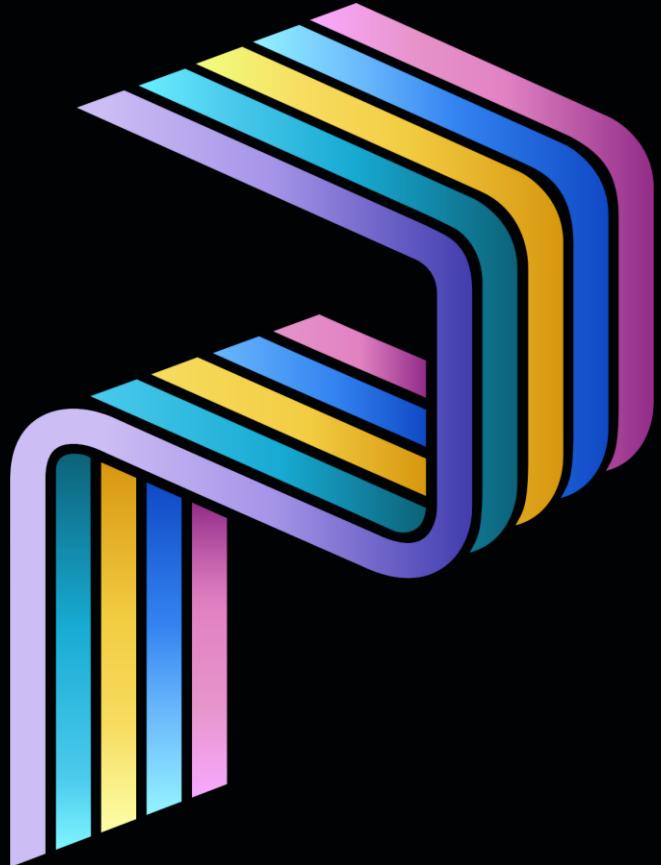


LinkedIn

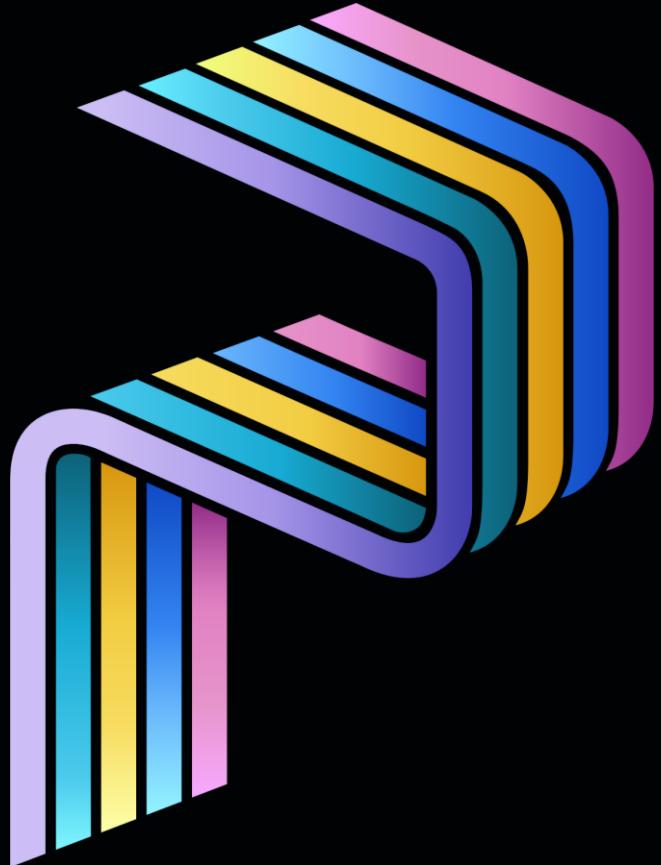


Twitter/ X

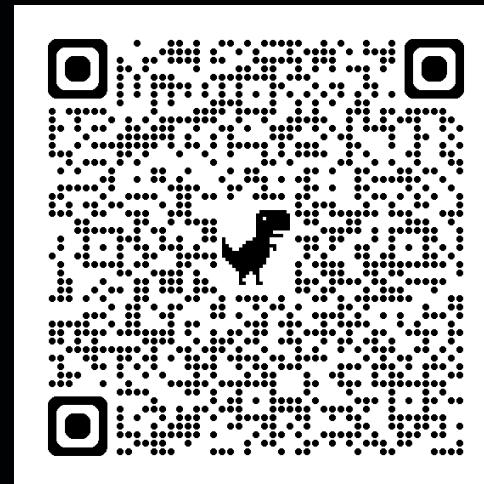




Getting Lab Environments Ready



Workshop resources



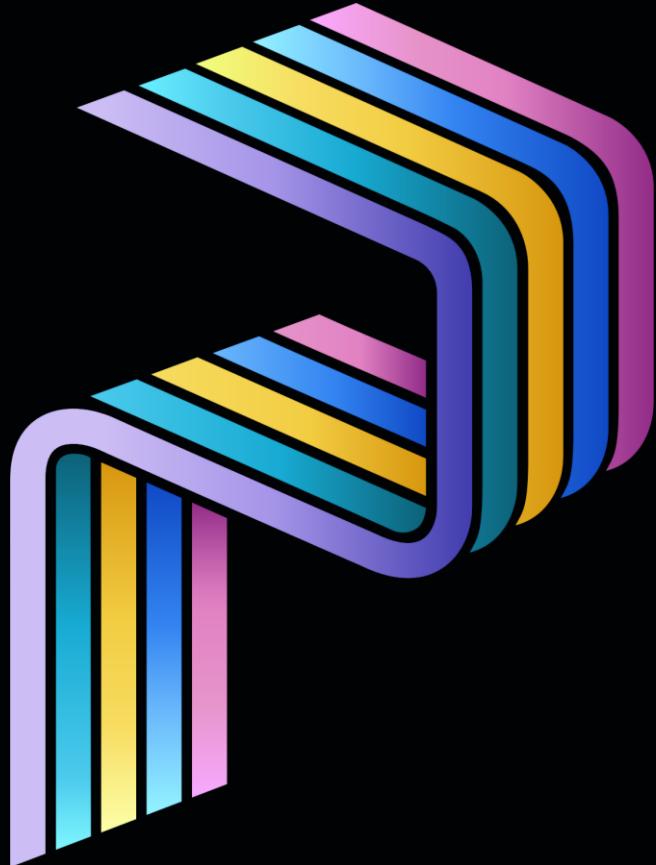
<http://bit.ly/3D0LqVa>

Getting Lab Environments Ready



Create a new browser profile in Edge or Chrome

- Get labuserXXX@xxxxxx.onmicrosoft.com credential and password
- Go to <https://make.preview.powerapps.com>
- Sign in with lab credentials
- Setup Authenticator (App)
- Update password
- Select Stay signed in
- Developer environment should start to be created
- May have to refresh to see environment



Introduction to Dataverse and Model-Driven Apps

Power Platform Overview



Business Apps

Microsoft 365

Dynamics 365

Teams

AppSource

Custom

Partners

Low code tools

PCF
Power FX
Canvas apps
Model-driven apps
Declarative
AI



Power Apps
Application development

Task Mining
Process Mining
BPM
DPA
RPA
AI



Power Automate
Platform automation

Insights
Analytics
Dashboards
Reports
Integration
AI



Power BI
Business analytics

Authenticated
Unauthenticated
Partners
Customers
External websites
Drag & drop



Power Pages
Website development

Measure & Monitor
Embed in Channels
Partners
Declarative tools
Intelligent Bots
AI



Copilot Studio
Intelligent chat agents



Visual Studio Code
Development Tools



Visual Studio
Development Tools



Azure DevOps
Deployment Tools



Edge
Online Tools



Shell
Command Line



Github
Source Tools

Low code services



AI Builder
Extend with AI

No code

OOTB Models

Custom Models

Document Processing

Image Classification

Object Detection



Connectors
Extend with enterprise

1,000+ Connectors

Custom API

Actions

Triggers

Validation

DLP support



Dataverse
Extend with data

Security

Logic

Data

CDM

Storage

Integration



Managed
Environments

Environments

Users

Teams

Roles

Privileges

Features

Security

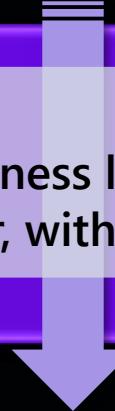
Monitoring

Governance

Introduction to Dataverse



- Dataverse isn't just a relational database!
- It easily structures a wealth of data and business logic to support interconnected apps as well as processes in a secure and compliant manner, with out-of-the-box capabilities.



Collaboration

Data Storage
and Usage

Connections

Environment
Management

Security

Automation

Reporting

Application Lifecycle
Management

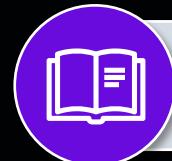


Model-Driven Apps Overview



- Standardized choice for creating reliable, data-centric solutions and automating processes
- Focuses on data relationships; structured and organized interface ideal for data-heavy apps

**Works only with
Dataverse!**



Low-code dev with reusable components



Responsive & integrated design



Scalable and secure at enterprise-level

Anatomy of a Model-Driven App



The screenshot shows a Power Apps interface with the following components labeled:

- 1. Navigation Bar:** The top header bar with the "Power Apps" logo, the current site name "Power Prague 365", and various navigation icons (magnifying glass, plus sign, etc.).
- 2. Navigation Menu:** The left sidebar containing links to "Home", "Recent", "Pinned", and sections for "Committee Management" (Events, Sessions, Registrations).
- 3. Command Bar:** The top toolbar within the main content area, featuring actions like "Show Chart", "New", "Delete", "Refresh", "Visualize this view", "Email a Link", "Flow", "Run Report", "Excel Templates", "Export to Excel", and "Share".
- 4. Canvas:** The main content area displaying a list titled "Active Events" with columns for Event Name, Created On, Event Details, and Event Date. The list includes entries for "Art Exhibition", "Food Fair", "Health Summit", "Music Festival", and "Tech Conference".

1. Navigation Bar
2. Navigation Menu
3. Command Bar
4. Canvas

Key Components of Model-Driven Apps



Business
Process Flows

Business
Rules

Custom Views
& Dashboards

Editable
Grids

Power Apps
Copilot

Classic
Workflows

Power
Automate Flows

Excel & Teams
Integration

Power BI
Integration

Custom
Pages

Canvas Apps

Global
Search

In-app
Notifications

Timeline
Activity

Localization
Available

Environment Setup – Select environment

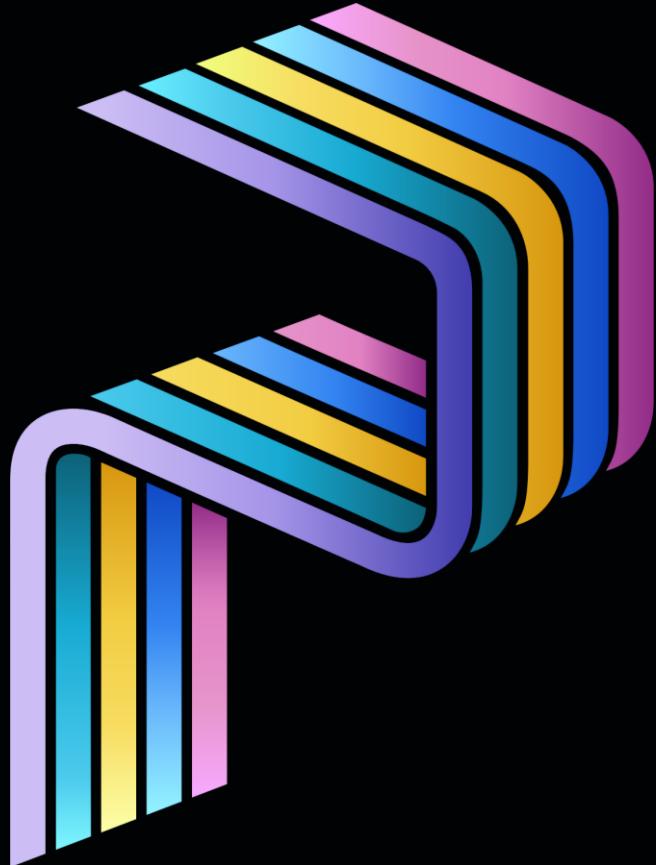


The screenshot shows the Microsoft Power Apps home page. On the left, there's a navigation menu with options like Home, Create, Learn, Apps, Tables, Flows, Solutions, More, and Power Platform. Below the menu, there's a button to Ask a virtual agent.

The main area features a large "Let's build an app. What's your idea?" card with three buttons: Collect RSVPs, Track sales leads, and List inventory. Below this is a text input field for describing the app's purpose, followed by a note about generative AI and a link to see terms.

A "Select environment" modal is open on the right. It displays the current environment as "labuser023". It also shows the user's role as "Admin" and the data platform as "Dataverse". The environment type is listed as "Developer".

The modal contains a section titled "Need your own environment? (It's free.)" with a "Try it now" button. It also includes a search bar and a filter dropdown. A list of environments is shown, with "labuser023" currently selected. Other environments listed include CRM767745, MDA Workshop, and Contoso (default). There are also sections for "Build apps with Dataverse (3)" and "Other environments (1)".



Creating Your Own Data Model and Tables

Importance of Defining a Data Model



Our lab scenario

Build an event management app that has events with name, details and dates. Each event has many unique sessions with session type, room, start time, end time. An event can have many registrations with registration number, status and special requests.



Process of defining the structure and relationships of data to be used in an app



In Dataverse, they are key to organizing and maintaining data in scalable and efficient way



Creating a data model before creating an app ensures it will have consistent, high-quality data

So, you think you can data model?

Creating Tables and Managing Relationships



 Standard Table

 Activity Table

 Virtual Table

 Elastic Table

 One-to-many relationships (1:N)

 Many-to-many relationships (N:N)



Understanding Data Types

New column

Previously called fields. [Learn more](#)

Display name *

Description ⓘ

Data type * ⓘ

Single line of text

Search

Text | >

Number | >

Date and time | >

Lookup >

Choice >

Currency

Autonumber

File >

Formula

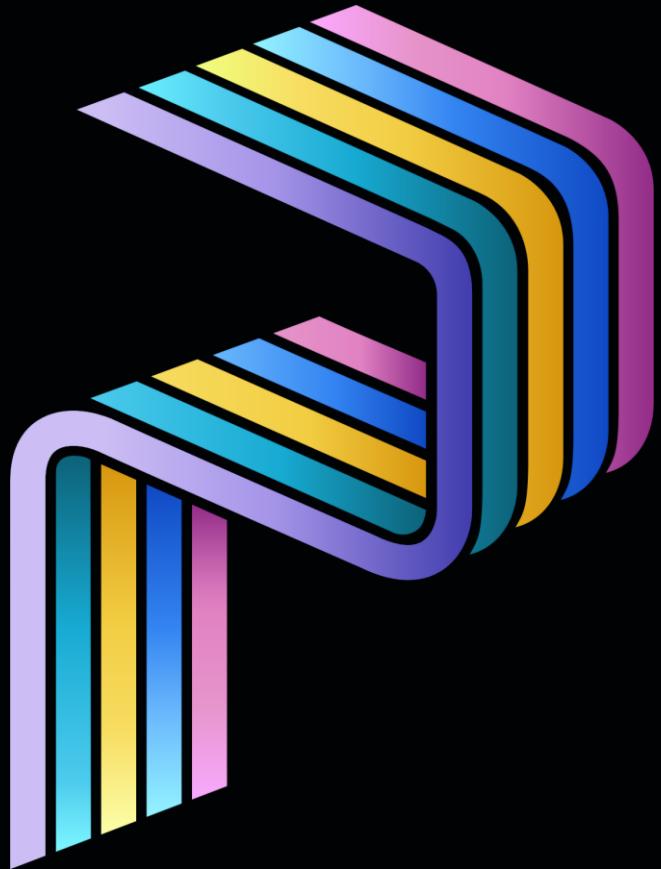


Lab Time: Create a Data Model with Copilot



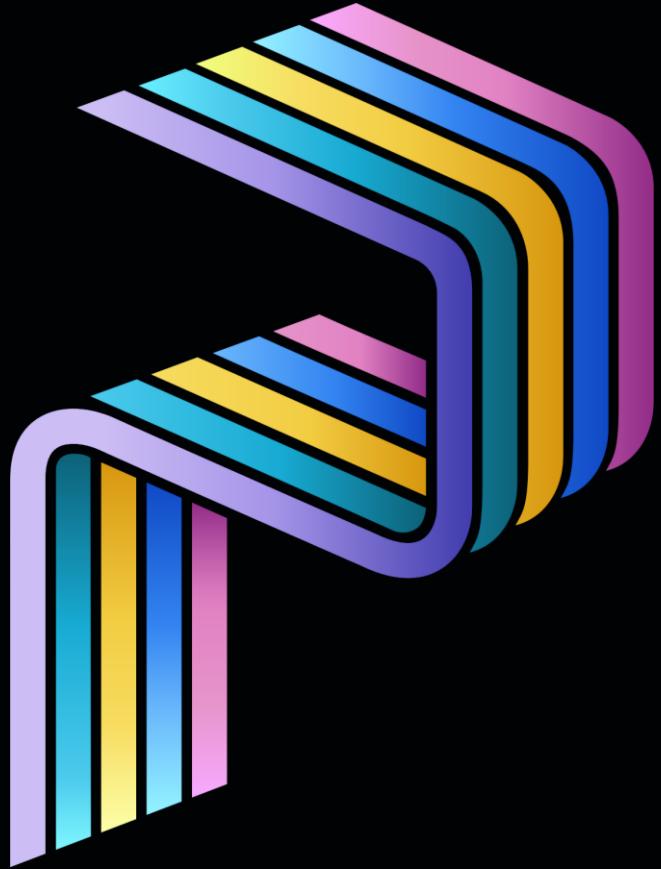
Build an event management app that has events with name, details and dates. Each event has many unique sessions with session type, room, start time, end time. An event can have many registrations with registration number, status and special requests.

The screenshot shows the Microsoft Power Apps home page. On the left, there's a navigation bar with options like Home, Create, Learn, Apps, Tables, Flows, Solutions, Websites, Chatbots, More, and Power Platform. The main area features a large, colorful graphic of a smartphone displaying a calendar icon. The text "Let's build an app. What should it do?" is prominently displayed. Below this, there's a text input field with placeholder text "Use everyday words to describe what your app should collect, track, list, or manage ...". A note below the input says "This feature uses generative AI. See terms". At the bottom, there are three cards under the heading "Other ways to create an app": "Start with data" (Create new tables, select existing tables, or connect to external data sources), "Start with a page design" (Select from a list of different designs and layouts to get your app going), and "Start with an app template" (Select from a list of fully-functional business app templates. Use as-is or customize to suit your needs).



Break Time

**See you at
10:45!**



Configuring Forms, Views, Charts, and Dashboards

Understanding Form Types



Main Form

Quick View Form

Card Form

The main window into a record, customizable for your requirements

The screenshot shows the Power Apps Form builder interface. On the left, there's a sidebar titled 'Table columns' with a search bar and a list of columns: Created By, Created By (Delegate), Created On, Modified By, Modified By (Delegate), Modified On, Owning Business Unit, Status, and Status Reason. A checkbox 'Show only unused table columns' is checked. In the center, a 'New Event' form is displayed with tabs for 'General' and 'Related'. The 'General' tab shows fields for 'Event Name' (with a required asterisk), 'Owner' (set to Angeliki Patsiavou), 'Event Details' (with three dots), and 'Event Date' (with three dots). On the right, the 'Information' section of the 'Properties' pane is shown, with 'Display Name' set to 'Information' and 'Description' set to 'A form for this entity.' Below that, 'Max Width (pixels)' is set to 1,920 and the 'Show image' checkbox is checked.



Purpose



Blocks



Settings



Security



Hierarchy

Summary Agent and Data Entry Agent will enhance intelligent Power Apps!

Understanding Form Types



Main Form

Quick View Form

Card Form

Your peaking window into a summarized version of a record within a form

The screenshot shows the Power Apps Form builder interface. On the left, there's a navigation bar with 'Power Apps | Form', 'Back', 'Components', 'Table columns', and 'Tree view'. The main area displays a 'New Event' form with fields for 'Event Name', 'Event Date', 'Modified On', and 'Modified By'. The 'Modified By' field has a red border, indicating it's selected or highlighted. To the right of the form is a properties pane for the 'Modified By' field. The pane shows the 'Properties' section with options like 'Display options', 'Table column', 'Label' (set to 'Modified By'), and various checkboxes for visibility and editing. Below the properties are sections for 'Table' (User) and 'Default view' (User Lookup View). At the bottom of the properties pane, there are buttons for '+ Add view' and a 'Save and publish' button.

Purpose

Blocks

Settings

Hierarchy

Understanding Form Types



Main Form

Quick View Form

Card Form

Your peaking window into a short version of a record within a view or subgrid

The screenshot shows the Microsoft Power Apps Form Designer interface. The top navigation bar includes FILE, HOME, and various toolbars for saving, undoing, redoing, and managing properties. The main workspace displays the 'Event' form with a header, details section, and footer. The 'ColorStrip' block is visible in the header. The 'Field Explorer' pane on the right lists fields like Created By, Event Date, and Status, with a filter set to 'Only show unused fields'. A status bar at the bottom indicates 'New Field'.



Purpose



Blocks



Settings



Hierarchy

Configuring Views and Filters



Your ordered and filtered list of data, and a quick entry point into Main Forms

The screenshot shows the Microsoft Power Apps View interface. On the left, there's a sidebar titled "Table columns" with a "Session" tab selected. It lists various columns like Room, Created On, Session Type, Start Time, End Time, and Event, along with their sorting and filtering icons. Below this is a search bar and a "New table column" button. The main area displays a table of session data:

Room ↑	Created On	Session Type	Start Time	End Time	Event
Columbus	10/27/2024 6:57 PM	Workshop	11/1/2024 8:00 AM	10/2/2023 12:30 AM	Tech Conference
Elysium	10/27/2024 6:57 PM	Panel Discussion	10/2/2023 2:00 AM	10/2/2023 3:30 AM	Tech Conference
Mediterranea	10/27/2024 6:57 PM	Networking	10/2/2023 4:00 AM	10/2/2023 5:00 AM	Tech Conference
Silverstone	10/27/2024 6:57 PM	Closing Remarks	10/2/2023 5:00 AM	10/2/2023 6:00 AM	Tech Conference
Skyline Ballroom	10/27/2024 6:57 PM	Keynote	10/1/2023 9:00 PM	10/1/2023 10:00 PM	Tech Conference

To the right of the table are several configuration panels:

- Active Sessions**: A view panel with fields for Name (Active Sessions) and Description.
- Sort by ...**: A panel with a dropdown set to "Room".
- Then sort by ...**: A panel with a dropdown.
- Filter by ...**: A panel with a dropdown set to "Status is 0".
- Edit filters ...**: A button to edit filter settings.

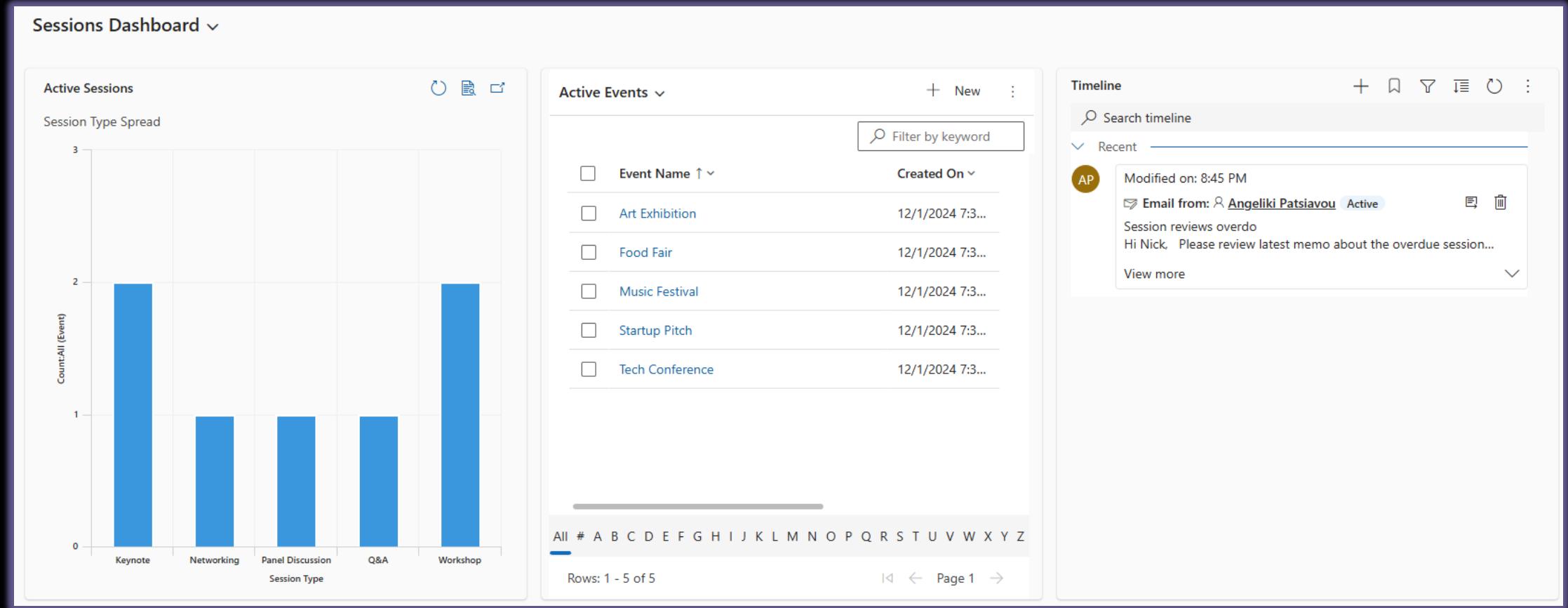
Ordering

Filtering

System VS Personal views

Data exploration agent

Charts and Dashboards for Data Visualization



Lab: Sessions Forms, Views and Dashboards



Room A - Unsaved
Session

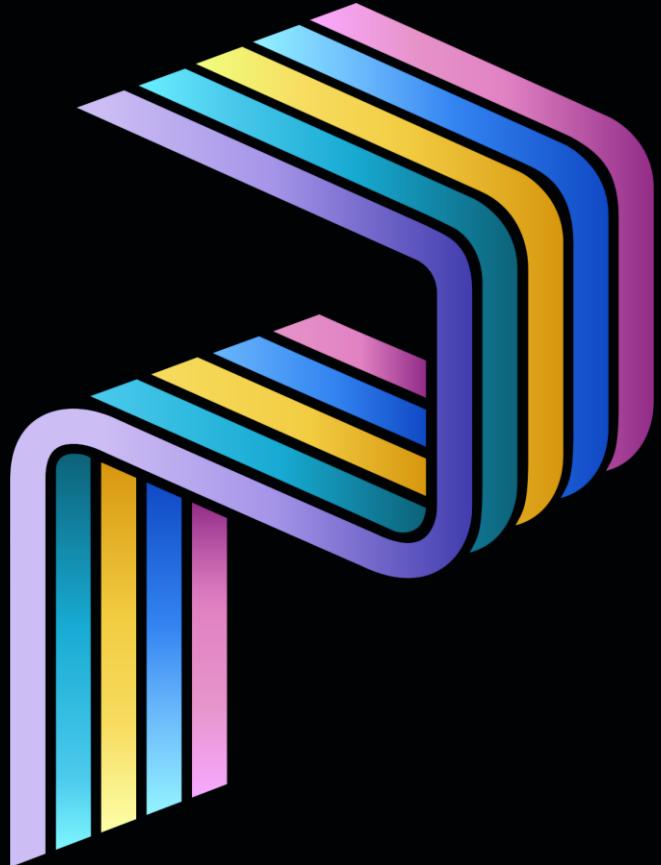
General Admin History Related ▾

Session Type * Keynote

Room Room A

Event 🔍 Tech Conference ×

Event Name	* <input type="text" value="Tech Conference"/>
Event Date	<input type="text" value="9/14/2023"/>
Event Details	<input type="text" value="Annual tech conference"/>
Owner	*  Angeliki Patsiavou (Offline)
Modified On	<input type="text" value="12/1/2024"/> 7:33 PM
Start Time	<input type="text" value="9/15/2023"/> 🕒 5:00 AM
End Time	<input type="text" value="9/15/2023"/> 🕒 6:00 AM
Pre-Eligible For Next Year	<input checked="" type="checkbox"/> Yes

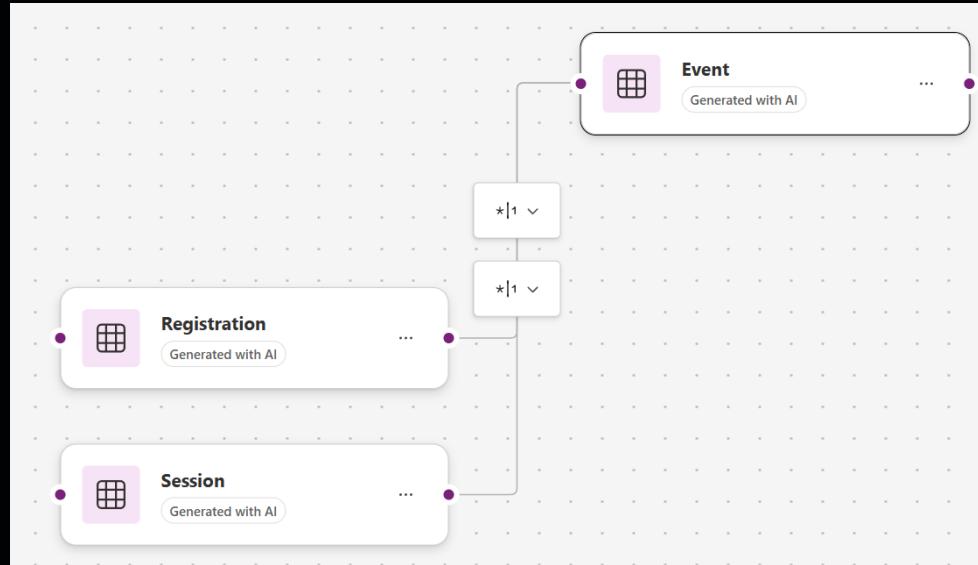


Configuring Subgrids and Lookup Views

Subgrids



- Data models often has parent – child relationships
- Difficult to view/review via the Related tab
- Subgrids provide a better way to view related data



The screenshot shows the Microsoft Power Apps Event App interface. On the left, the navigation bar includes Home, Recent, Pinned, Event Management (Events, Sessions, Registrations, Custom Session page), Stakeholder Management, and Contacts. The main area displays a card for an event titled "Tech Conference" with a status of "Saved". Below the title are three tabs: "General", "Registrations", and "Related". The "Related" tab is currently selected, showing a subgrid with two items: "Sessions" and "Registrations". A red arrow points from the "Related" tab to the "Sessions" item in the subgrid. The subgrid also includes a "Registrations" item. At the bottom of the card, there is a note: "5/15/2023".

Adding subgrids

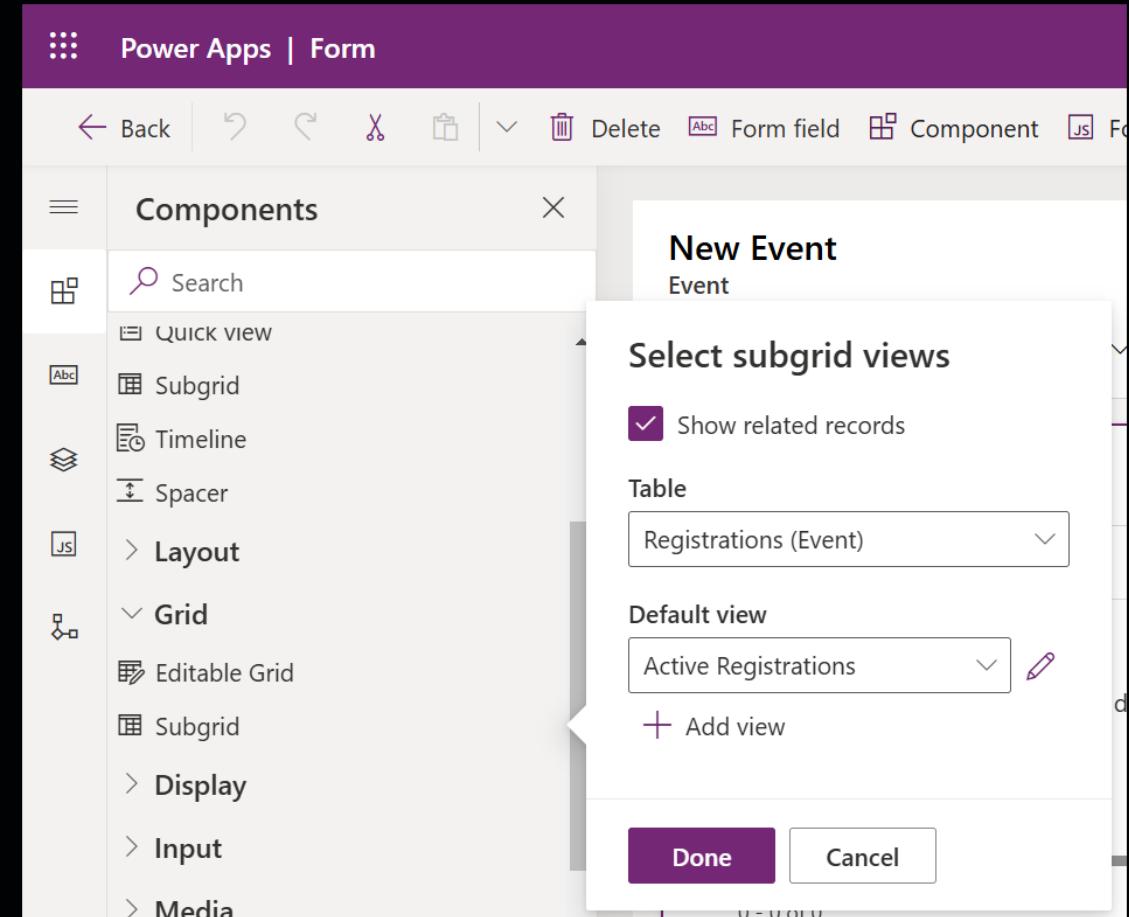


Add to section or tab

Add subgrid of any table on form

Related records box limits to child records

Select child record + view



Adding subgrids – adjusting properties

A screenshot of the Microsoft Power Apps Form builder interface. On the left, the 'Components' sidebar is open, showing various layout and grid components. The main area displays a 'New Event' form with a 'Sessions' subgrid. The subgrid has columns for Room, Created On, Session Type, and Start Time. A tooltip 'Event Details' is visible near the subgrid. The properties pane on the right is set to 'Sessions Subgrid' and shows the following configuration:

- Properties section:
 - Display options:
 - Label: Sessions
 - Name: Subgrid_new_1
 - Show related records: checked
 - Table: Sessions (Event)
 - Default view: Active Sessions
 - Hide search box: checked
 - Default chart: Select an option

- Display options
- Labels + Names
- Hide labels
- Hide search box
- View selectors
- Number of rows
- Enable/disable charts
- Formatting
- Custom components – Calendar or Editable Grid

Subgrids on forms



Power Apps | Event App

Home Recent Pinned Event Management Events Sessions Registrations Custom Session page Stakeholder Management Contacts

Tech Conference - Saved Event

General Registrations Related

Event Name * Tech Conference

Owner * labuser024 labuser024 (Offline) x

Event Details Annual tech conference

Event Date 9/15/2023

Sessions + New Session

<input type="checkbox"/> Topic ▾	Room ↑ ▾	Created On ▾	Session Type ▾
<input type="checkbox"/> Power Pages	Room A	11/27/2024 9...	Keynote
<input type="checkbox"/> Dataverse 101	Room B	11/27/2024 9...	Workshop

Create record from subgrids



Add related (child) records with minimal navigation

Some details already pre-populated

The screenshot illustrates the creation of a new event record in a Microsoft Power Apps application. The main interface shows an 'Event' record for 'Tech Conference'. A 'Sessions' subgrid is displayed below the main event details. A 'Quick Create: Session' dialog box is open on the right, allowing the creation of a new session record. The dialog box contains fields for Event (set to 'Tech Conference'), Topic (set to 'Microsoft Fabric'), Session Type (set to 'Keynote'), Details (set to 'Introduction session on Power BI and Microsoft Fabric'), Room (set to 'Room A'), Start Time (set to 12/3/2024 at 8:00 AM), End Time (set to 12/3/2024 at 9:30 AM), and Status Reason (set to 'Active').

Enable Quick Create forms



Enable quick create from table properties

The screenshot shows the Microsoft Power Apps portal interface. On the left, there's a navigation pane with 'Objects' selected. Under 'Tables', 'Session' is expanded, showing options like 'Columns', 'Relationships', 'Keys', 'Forms', 'Views', 'Charts', 'Dashboards', 'Business rules', and 'Commands'. The main area displays the 'Session' table properties. It shows the table name is 'Session', the primary column is 'Room', and the type is 'Standard'. Below this is a table of 'Session columns and data', which lists five rows, each with 'Created By' as 'labuser024' and 'Created On' as '11/27/2024 4:57 PM'. To the right of the table properties, there are several sections: 'Color' (with a color picker and input field 'Enter color code'), 'Primary row image' (set to 'None'), and a large section for managing data usage. This section includes checkboxes for 'Apply duplicate detection rules', 'Audit changes to its data', 'Track changes', 'Provide custom help', 'Help URL', 'Leverage quick-create form if available' (which is checked and highlighted with a red box), 'Enable long term retention', and 'Enable recycle bin'. There are also sections for 'Make this table an option when' (with checkboxes for 'Creating a new activity', 'Doing a mail merge', and 'Setting up SharePoint document management') and 'Rows in this table' (with checkboxes for 'Can have connections', 'Can have a contact email', 'Have an access team', 'Can be added to a queue', 'Appear in search results', 'Can be taken offline', and 'When rows are created or assigned, move them to the owner's default queue'). At the bottom are 'Save' and 'Cancel' buttons.

Design Quick Create forms



Single column only

Hide unused sections

Can use JavaScript for form events

Use quick start form in other parts of the app

A screenshot of the Microsoft Power Apps Form designer interface. The main area shows a 'Quick Create: Session' form with the following fields and values:

- Session Type: * Keynote
- Room: ---
- Start Time: ---
- End Time: ---
- Status Reason: Active

The left side of the screen features a 'Table columns' pane with filters for 'Event' and 'Owner'. On the right, the 'Properties' pane is open, showing the 'Display Name' as 'Quick Create Session' and the 'Description' as 'Quickly create a new session record'. A checkbox for 'Show image' is checked. The top navigation bar includes 'Back', 'Delete', 'Form field', 'Component', 'Form libraries', 'Form properties', 'Form settings', and other standard application icons.

Test: Create record from subgrids



If full screen appears, try refreshing app

Power Apps | Event App

Tech Conference - Saved

Event

General Registrations Related

Event Name: Tech Conference

Owner: labuser024 labuser024 (Offline)

Event Details: Annual tech conference

Event Date: 9/15/2023

Sessions

Topic	Room
Power Pages	Room A
Dataverse 101	Room B

Quick Create: Session

Event	Tech Conference
Topic	Microsoft Fabric
Session Type	Keynote
Details	Introduction session on Power BI and Microsoft Fabric
Room	Room A
Start Time	12/3/2024 8:00 AM
End Time	12/3/2024 9:30 AM
Status Reason	Active

Save and Close Cancel

The screenshot shows a Microsoft Power Apps interface. On the left, there's a navigation bar with icons for Home, Data, Events, and People. The main area displays an 'Event' record for 'Tech Conference'. Below the main record, there's a subgrid titled 'Sessions' showing three rows: 'Power Pages' in 'Room A' and 'Dataverse 101' in 'Room B'. To the right of the main record, a 'Quick Create: Session' dialog is open, allowing the creation of a new session record. The dialog includes fields for Event (set to 'Tech Conference'), Topic ('Microsoft Fabric'), Session Type ('Keynote'), Details ('Introduction session on Power BI and Microsoft Fabric'), Room ('Room A'), Start Time ('12/3/2024 8:00 AM'), End Time ('12/3/2024 9:30 AM'), and Status Reason ('Active'). At the bottom of the dialog are 'Save and Close' and 'Cancel' buttons.

Lookup configuration



Simplified:
Linking a related record

Start typing, choose from list, choose between
recent records or all records

Lookup shows record name field + 1st column
based on Lookup View, others viewed by
choose

The screenshot shows the 'Event App' interface. On the left, a navigation bar includes 'Home', 'Recent', 'Pinned', 'Event Management' (with 'Events', 'Sessions', 'Registrations' selected), and 'Custom Session page'. On the right, the 'New Registration' form is displayed. The 'General' tab is active. In the 'Event' field, the text 'ted' is typed, and a dropdown menu appears, showing 'Recent records' and a list of events, including 'Tech Conference' with the date '9/15/2023'. Other fields visible include 'Session', 'Registration Number', 'Contact', 'Special Requests', and 'Status Reason' (set to 'Registered').

Lookup configuration



Simplified:
Linking a related record

Start typing, choose from list, choose between
recent records or all records

Lookup shows record name field + 1st column
based on Lookup View, others viewed by
choose

The screenshot shows the 'New Registration' form in the 'Event App' within the Power Apps interface. The 'Event' field is currently active, displaying a dropdown menu. A red box highlights this dropdown. Inside the dropdown, the 'Events' tab is selected, showing a list of recent events. One event, 'Tech Conference' dated 9/15/2023, is listed. At the bottom of the dropdown, there is a link to 'Advanced lookup'. The rest of the form includes fields for 'Session', 'Registration Number', 'Contact', 'Special Requests', and 'Status Reason', with 'Status Reason' currently set to 'Registered'.

Lookup configuration properties



Configure properties of lookup for more detailed control

E.g. shut off most recently viewed items

The screenshot shows the MDA Workshop interface with a 'Form' titled 'New Registration'. The form contains fields for 'Event', 'Session', 'Registration Number', 'Contact', and 'Special Requests'. On the right side, there is a 'Properties' panel for the 'Event' field. A red box highlights the 'Disable most recently used items' checkbox under the 'Lookup' section, which is checked. Other options in the list include 'Hide label', 'Hide on phone', 'Hide', 'Lock', 'Read-only', 'Use Main Form Dialog for Create', and 'Use Main Form Dialog for Edit'.

Lookup configuration dynamic filtering



Filter returned items to only match relationship of other lookup field

More advanced filtering can be done with JavaScript

The screenshot shows the Microsoft Power Apps Form builder interface. On the left, there's a sidebar titled "Table columns" listing various fields like "Event", "Session", "Registration Number", "Contact", and "Special Requests". The "Session" field is highlighted with a pink border. In the main form area, there's a section titled "New Registration" with fields for "Event" and "Session". A red arrow points from a callout box labeled "Filter sessions based on event" to the "Session" field. To the right, the "Properties" pane is open, specifically the "Filtering" section. This section contains a checkbox for "Filter by related rows" which is checked, and dropdown menus for "Relationship to current table" set to "Event (Registrations)" and "Relationship to this lookup's table" set to "Event (Sessions)". A red box highlights this entire filtering configuration area.

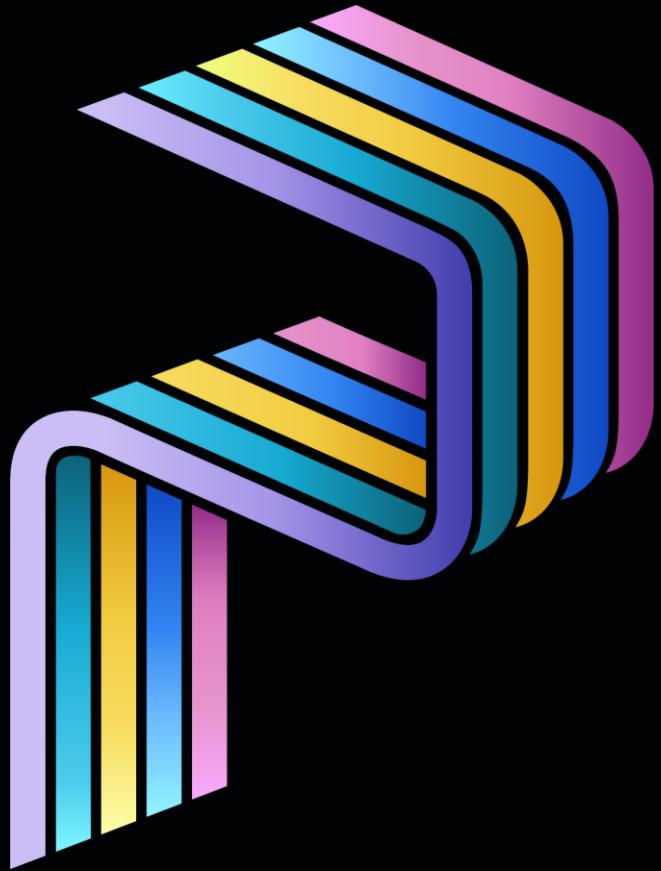
Lab time!



Add and configure a subgrid on a form

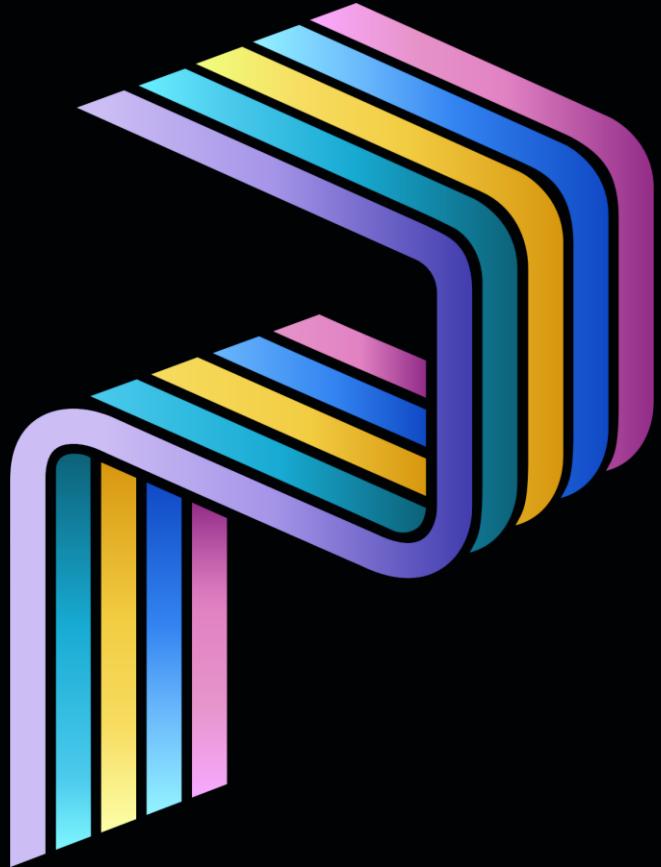
Add and configure a side panel form to create child records

Configure lookup columns on forms



Lunch Time

**See you at
12:30!**



Customizing Business Process Flows and Business Rules

Creating and Managing Business Process Flows



Guided Workflows

Process Standardization

Stages & Steps

Required VS Optional

The screenshot illustrates the management of business processes. On the left, a session titled "Columbus - Saved Session" is shown, featuring a "Session Preparation" stage active for 29 days. A purple arrow points from the word "Stage" to a blue circular icon representing the "Proposal" step within this stage. On the right, a detailed view of an "Approval" step is displayed, which is currently inactive. This step is scheduled to start at 11/1/2024 at 8:00 AM and end at 10/2/2023 at 12:30 AM, taking place in the Columbus room. The "Steps" section is highlighted with a purple border.

Conditions & Branches

Multiple Entities

User Role-Tailored

Power Automate Actions



Automating Actions With Business Rules

Data Logic & Validation in Same Entity

Real-time Results on the Form

Components Properties

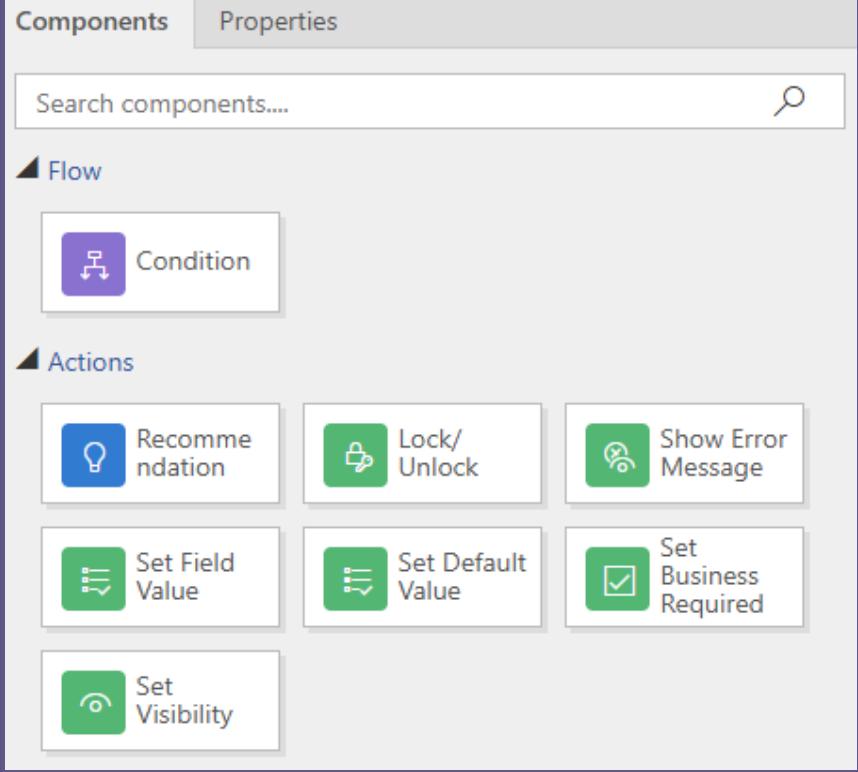
Search components....

Flow

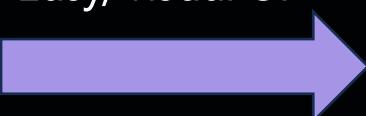
- Condition

Actions

- Recommendation
- Lock/Unlock
- Show Error Message
- Set Field Value
- Set Default Value
- Set Business Required
- Set Visibility



Easy, visual UI
Instead of JS



Components Properties

Condition

Display Name: Check Start Date

Entity: Session

Rules + New

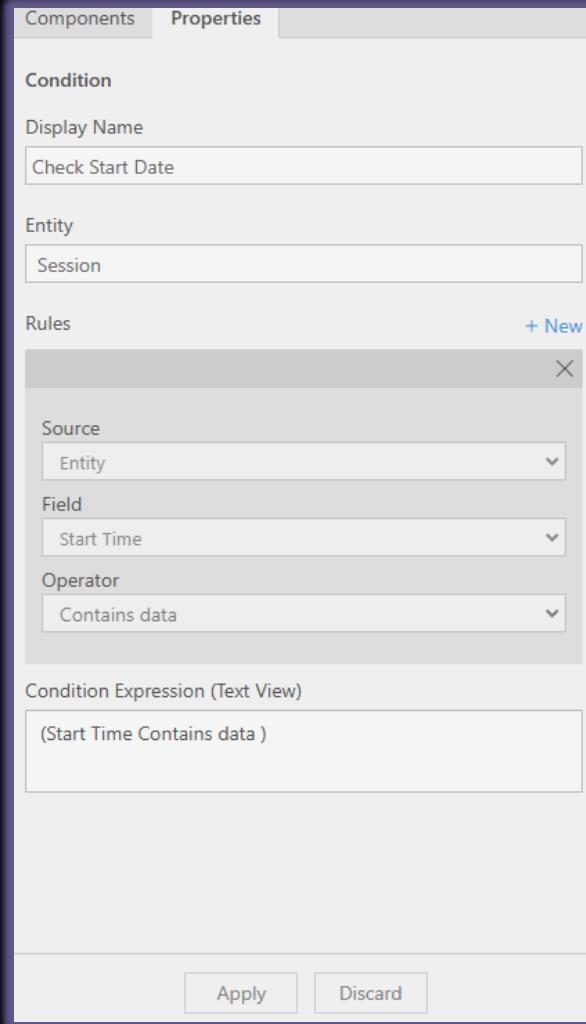
Source: Entity

Field: Start Time

Operator: Contains data

Condition Expression (Text View): (Start Time Contains data)

Apply Discard





But Before You Choose

- Ask yourself, and discuss with your team, the following questions
- These are considerations before you chose the right automation option, on top of the kind of low-code or pro-code skills you have in the team:



How many tables are you working with?



Which data types, database or systems?



Do we need sync or async results?

**(Fusion) Teamwork
Makes the Dream
Work!**



Other Automation Options

Classic Workflows

Dataverse only and only related tables

Background or real time (server side)

Power Automate

Multiple tables, data types and databases

Background (server side)

Be passionate and bold. Always keep learning. You stop doing useful things if you don't learn.



Satya Nadella

Other options could be Power Fx formulas, JavaScript web resources and event handlers, Logic Apps, Plugins etc.

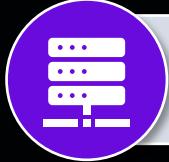
Discussion on Extending with JavaScript



Needing data logic across multiple tables?



Working with calculated or rollup fields?



Need to impact subgrid data?

Reservation Overview >

Main form

Properties Events

On Save

+ Event Handler

On Load

+ Event Handler

Use cases like this, we can consider JavaScript e.g., in Event Handlers. However, we still have low-code options such as Classic Workflows or Power Automate

Lab: Business Process Flows and Business Rules



Room A - Saved
Session

Session Management Active for less than one minute < Propose

General Admin History Related

Session Type * Keynote

Room Room A

Event Tech Conference

Event Name * Tech Conference

Event Date 9/14/2023

Event Details Annual tech conference

Owner * Angeliki Patsiavou (Offline)

Modified On 12/1/2024 7:33 PM

Start Time 9/15/2023 5:00 AM

End Time * 9/15/2023 6:00 AM

Pre-Eligible For Next Year Yes

Prepare (< 1 Min) Active for less than one minute

Start Time * ✓ 9/15/2023 5:00 AM

End Time * ✓ 9/15/2023 6:00 AM

Next Stage

Keynote Session Type Event

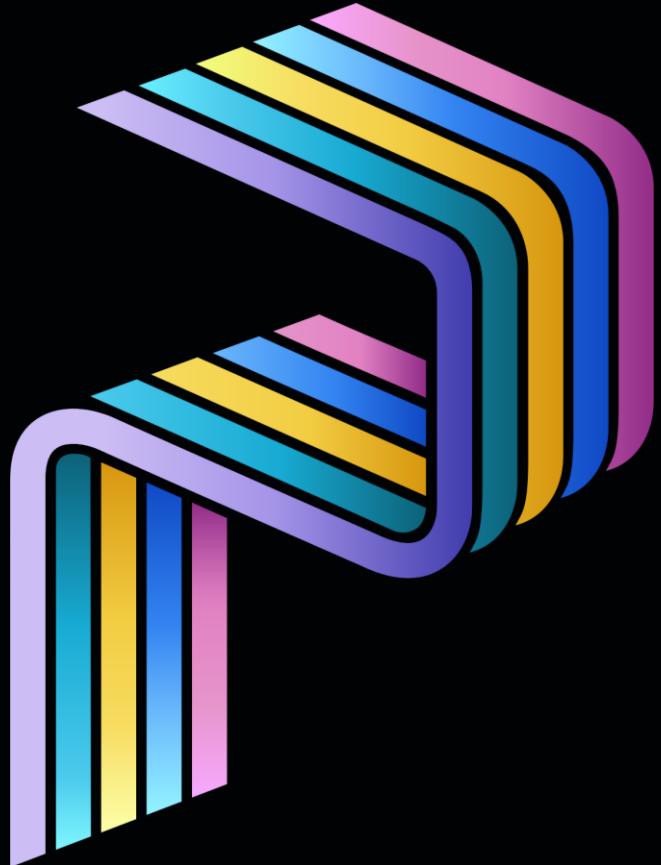
Tech Conference Event

Angeliki Patsiavou AP Owner

Approve Run

>

```
graph LR; Start(( )) --> Propose((Propose)); Propose --> Prepare((Prepare)); Prepare --> Approve((Approve)); Approve --> Run((Run))
```



Configuring Security Roles and Column- Level Security

Security concepts



Users

Security roles

Security
Privileges

Business Units

Teams

Adding users



Need to be M365 Users

Assign to environment
and add security roles

Power Platform admin center

New admin center

Manage environments

Refresh Add user Manage users in Dynamics 365 Filter Search

Environments > MDA Workshop > Settings > Users

Manage users so they can access data within their environment. This list includes users with disabled and enabled statuses. [Learn more](#)

Looking for application users? Click here to go to the [app users list](#)

To validate user permissions for specific app(s), go to [app access checker](#).

Name	Username	Main pho
labuser001 labuser001	labuser001@CRM767745.onmicrosoft.com	
labuser024 labuser024	labuser024@CRM767745.onmicrosoft.com	
Support User	crmoln@microsoft.com	

Feedback

Name	Username	Main pho
labuser001 labuser001	labuser001@CRM767745.onmicrosoft.com	
labuser024 labuser024	labuser024@CRM767745.onmicrosoft.com	
Support User	crmoln@microsoft.com	

Security roles



Create, copy or use OOB

Roles determine privileges

Users assigned to one or many security roles

Can be assigned to owner based teams

The screenshot shows the Power Platform admin center interface. On the left, there's a sidebar with various management options like Home, Action center, Manage, Monitoring, Security, Licensing, Copilot, Support, and Admin centers. The main area is titled "Manage" under "Security roles". It shows a list of custom tables with their names, record owners, permissions, and organization details. A search bar at the top right is set to "mada".

Table	Name	Record owner...	Permiss...	Create	Read
Event	mda_event	User or Team	Custom		
Registration	mda_registration	User or Team	Collaborate		
Session	mda_session	User or Team	Custom		



Security privileges

Copy security role Rename security role Delete Save Save + close Configure column view ▾

… > Settings > Security roles > **Event Manager** X

▼ Details

Tables Miscellaneous privileges Privacy-related privileges

Show only assigned tables Compact Grid View On

Permissions...	Create	Read	Write	Delete	Append	Append to	Assign	Share
Custom								
Collaborate								
Custom								

Business units



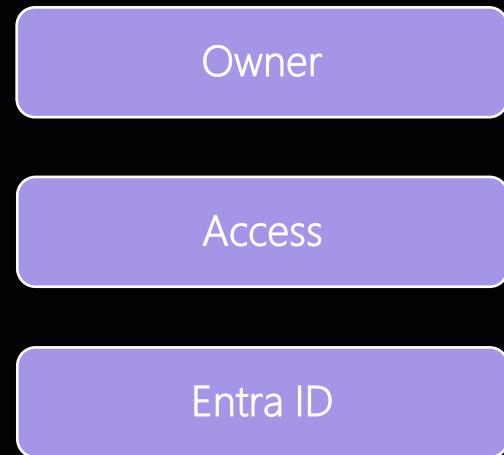
Replicate hierarchy of a business

Needs to be completely separate – consider different environments

Consider owner teams to divide data

The screenshot shows the Power Platform admin center interface. On the left, a sidebar lists various administrative sections: Home, Action center, Manage, Monitoring, Security, Licensing, Copilot, Support, and Admin centers. The 'Manage' section is currently selected. The main content area is titled 'Power Platform admin center' and shows the 'Business Units' settings. The breadcrumb navigation indicates the path: Environments > MDA Workshop > Settings > Business Units > org4440bf9a. A search bar at the top right contains the placeholder 'Search'. Below the breadcrumb, there's a 'Details' section with fields for Name (org4440bf9a), Division (None), Parent business unit (None), and Status (Enabled). There are tabs for Child Business Units, Users, Teams, and Audit history, with 'Child Business Units' being the active tab. Under 'Active Business Units', two entries are listed: Europe and North America. Each entry has a 'Main Phone' and 'Website' column with dropdown arrows, and a 'More' button (three dots) on the far right.

Teams



Power Platform admin center

New admin center ?

Manage Refresh

Environments Environment groups Tenant settings Data (preview) Products Power Pages Dynamics 365 Apps

Environments > MDA Workshop > Settings > Teams

Manage teams to share business objects and collaborate across business units in a secure and easy manner. [Learn more](#)

All teams

Name ↑	Modified	Business unit	Team type	Admin
Europe	2024-11-30T07:24:38Z	Europe	Owner	labuse
Event Admin team	2024-11-30T07:29:34Z	org4440bf9a	Owner	labuse
North America	2024-11-30T07:24:17Z	North America	Owner	labuse
org4440bf9a	2024-11-23T05:16:55Z	org4440bf9a	Owner	labuse

Restricting forms by security role



Specify which security roles have access to specific forms

The screenshot shows the 'Form settings' dialog in the Microsoft Power Apps environment. The title bar indicates the environment is 'MDA Workshop'. The left sidebar lists 'Form settings' options: Security roles (selected), Form order, Fallback forms, and Form access checker. The main content area is titled 'Security roles for Event form' and contains a descriptive text about assigning security roles to forms. Below this is a list of security roles assigned to the 'Event form':

Role	User ID
EAC Reader App Access	org4440bf9a
Environment Maker	org4440bf9a
Event Manager	org4440bf9a
Export Customizations (Solution Checker)	org4440bf9a
Fabric AI Skill Role	org4440bf9a

At the bottom right are 'Save and publish' and 'Cancel' buttons.

Lab – security roles

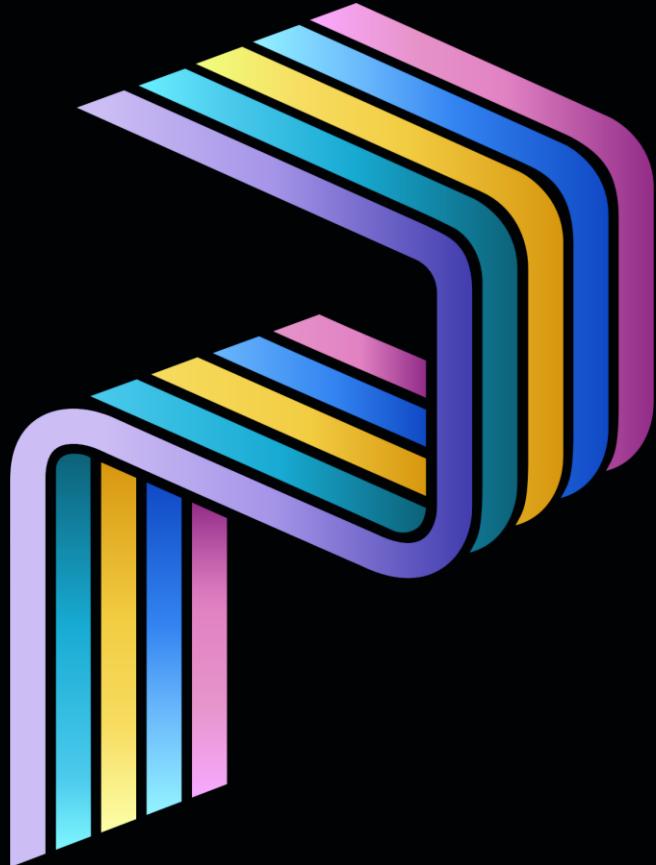


Create a security role

Add a user to your environment

Create access team

Create owner team



Configuring the Command Bar



Command bar

Default Command bar

Command bar locations

Command bar composition

Command bar designer

The screenshot shows the Power Apps Event App interface. At the top is a purple navigation bar with the title "Power Apps | Event App". Below it is a white header bar containing a back arrow, edit, activate, deactivate, delete, assign, share, email a link, flow, run report, word templates, and a more options menu. The main content area has a dark header "Active Events" with a dropdown arrow. Below is a table with columns: Event Name (sorted by created date), Created On, Event Details, and Event Date. The first row, "Art Exhibition", is selected and highlighted with a blue border. The table contains the following data:

Event Name	Created On	Event Details	Event Date
Art Exhibition	11/27/2024 9:57 PM	Showcasing local artists	10/5/2023
Book Fair	11/27/2024 9:57 PM	Celebrating literature and authors	8/25/2023
Food Fair	11/27/2024 9:57 PM	Culinary delights from around the world	12/1/2023
Music Festival	11/27/2024 9:57 PM	Live music performances	11/20/2023
Tech Conference	11/27/2024 9:57 PM	Annual tech conference	9/15/2023

Command bar composition



Command

Dropdown

Split button

Group

The screenshot illustrates the composition of a command bar in Microsoft Excel. It is divided into several sections:

- Leftmost section (Command):** Contains a green plus icon labeled "New".
- Second section (Dropdown):** Labeled "Excel Templates" with a dropdown arrow. This is identified as a "Dropdown" component.
- Third section (Split button):** A horizontal separator line with a downward-pointing arrow on the right. To its left is a "Create Excel Template" button, which is identified as a "Group".
- Fourth section (Command):** Two buttons: "Upload Template" and "Download Template". The "Download Template" button is identified as a "Command".
- Personal Excel Templates section:** A horizontal separator line with a downward-pointing arrow on the left. To its right is a "View All My Templates" button.
- Rightmost section (Group):** A vertical list of options:
 - "Open in Excel Online"
 - "Static Worksheet" (preceded by a red arrow pointing left, indicating it is part of the previous group)
 - "Static Worksheet (Page only)"
 - "Dynamic Worksheet"
 - "Dynamic PivotTable"

Red arrows and labels indicate the relationships between these components according to the legend at the top.

Command bar designer



Arrange

Modify

Add new

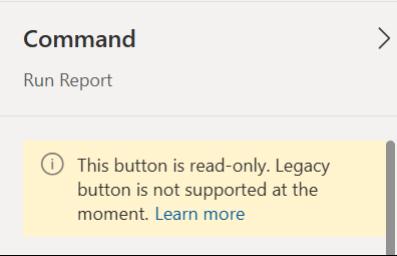
Hide

The screenshot shows the Power Apps Command Bar Designer interface. The main area displays a command card for 'Deactivate'. The card includes the following details:

- Command:** Deactivate
- Description:** modified. [Learn more](#)
- Visibility:** Classic Rules
- Tooltip title:** Deactivate
- Tooltip description:** Deactivate these {EntityLogicalNameCollectionMarker}. You can reactivate
- Accessibility text:** Deactivate
- Scope:** Global
- Order number:** 1000100040
- Hide:**

The 'Deactivate' button is highlighted with a red border. The left sidebar shows a list of commands under the 'Commands' category, including 'New', 'Edit', 'Show As', 'Activate', 'Deactivate', 'Delete', 'Open Active Stage', 'Open in side pane', 'Refresh', 'See all records', 'Visualize this view', 'Send Direct Email', 'Assign', 'Share', 'View Hierarchy', 'Email a Link', 'Add to Queue', 'AI Builder', 'Flow', 'Import from Excel', 'Run Report', 'Excel Templates', 'Word Templates', 'Export to Excel', 'Refresh', 'Chart Pane', 'Edit Chart', and 'Delete Chart'. The bottom of the interface shows a 'Save Filters to Current ...' button.

Legacy tool – Ribbon Workbench



Many buttons and menu command are consider “legacy” and not editable with the command bar editor.

Use XrmToolBox
Ribbon Workbench
Tool or modify XML
directly.

The screenshot shows the XrmToolBox for Microsoft Dataverse and Microsoft Dynamics 365 (v1.2024.9.69) interface. The main window title is "Ribbon Workbench (Red Cross...)". The ribbon tabs visible are Home, SubGrid, and Form. In the Form tab, the "QUEUE ITEM DETAILS" ribbon tab is selected, and a context menu is open over a button, with the "Hide" option highlighted. The left sidebar shows categories like UNIFIED INTERFACE, CLASSIC, and SOLUTION ELEMENTS. The SOLUTION ELEMENTS tab is active, displaying a list of items including TABS, GROUPS, BUTTONS, and HIDE ACTIONS. A detailed view of a "QUEUE ITEM DETAILS" item is shown in the center-right panel, with fields like Id, Command, Label, Alt, Tool Tip Title, Tool Tip Description, Image 16, Image 32, ModernImage, Sequence, CommandCore, and CommandValueId. The bottom status bar indicates "4 Updates are available for your tools" and "Connected to 'nxr-dev.crm4.dynamics.com (NRX DEV)'".

Command bar actions



JavaScript

Power FX

The screenshot shows the Power Apps command bar interface. At the top, there's a purple header bar with the title "Power Apps | Event App > Events > Main grid". Below it is a white command bar with various actions: Back, New, Duplicate, Hide, Delete, Switch command bar, Open component library, Save and Publish, and Play. A search bar with the placeholder "Create component library to enable Power Fx" is also present. On the left, a sidebar titled "Commands" lists actions like New, Edit, Show As, Activate, Deactivate, Delete, Open Active Stage, Open in side pane, Refresh, See all records, Visualize this view, Send Direct Email, Assign, Share, View Hierarchy, Email a Link, Add to Queue, AI Builder, AIBuilder Hidden, Flow, Import from Excel, Run Report, Excel Templates, Word Templates, Export to Excel, Refresh, Chart Pane, Edit Chart, and Delete Chart. The "Deactivate" action is highlighted with a red border. To the right of the command bar, a detailed configuration panel for the "Deactivate" action is open, showing fields for Command, Visibility (Classic Rules), Tooltip title (Deactivate), Tooltip description (Deactivate these {EntityLogicalNameCollectionMark er}. You can reactivate), Accessibility text (Deactivate), Scope (Global), Order number (1000100040), and Hide (unchecked). The "View rules" button is also visible.

Command bar actions – Power FX



Patch(

'Registrations',
Self.Selected.Item,
{ 'Status Reason': 'Status
Reason (Registrations)'. 'No
show' }
);

Notify("no show");

The screenshot shows the Power Apps command bar editor interface. The formula being edited is:

```
Patch(  
    'Registrations',  
    Self.Selected.Item,  
    { 'Status Reason': 'Status Reason (Registrations)'. 'No show' }  
);  
Notify("no show");
```

The command bar itself has several buttons visible, including Save, No Show (which is highlighted), Mark Complete, Save & Close, New, Summarize, Activate, Deactivate, Delete, Open Active Stage, Export to PDF, Check Access, Refresh, Close, Process, Add to Queue, Queue Item Details, Assign, View Hierarchy, Share, Run Report, and Word Templates.

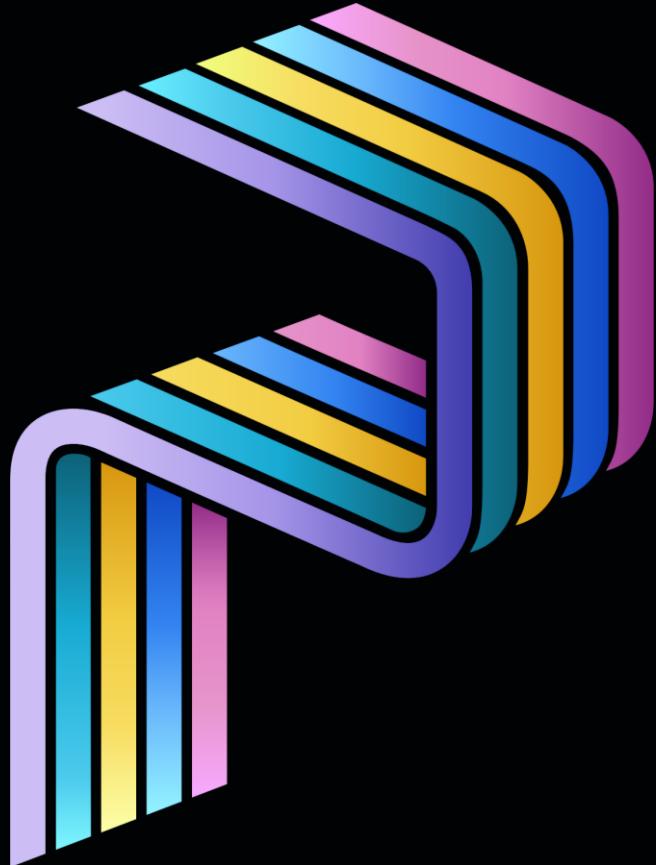
Lab – command bar



Hide a button

Add a button to
perform an action on
the current record

Bonus:
Add a button to start a
Power Automate flow



Adding Custom Pages to Enhance Your Apps

Custom Pages



Full page canvas apps

Dialogs

Embedded Canvas apps

The screenshot shows a Power Apps canvas application titled "Event App". On the left, a navigation sidebar includes "Home", "Recent", "Pinned", "Event Management" (with "Events", "Sessions", "Registrations", and "Custom Session page" listed), and "Stakeholder Management" (with "Contacts"). The main area is titled "Sessions" and contains a list of sessions:

- + New record
- Power Apps unleashed
Room D
- How is AI going to change your job?
Room C
- Power Pages
Room A
- Dataverse 101
Room B
- All about the Power Platform
Room E

To the right, a detailed view of the "Power Apps unleashed" session is shown in a form-like interface:

Topic	Power Apps unleashed
Room	Room D
Created On	11/27/2024 10:57 PM
Session Type	Live Performance
Start Time	11/21/2023 10:00
End Time	11/21/2023 11:30

Custom Pages – Full page canvas apps



Power Apps | Event App

Home Recent Pinned Event Management Events Sessions Registrations Custom Session page Stakeholder Management Contacts

Sessions

+ New record

Power Apps unleashed
Room D

How is AI going to change your job?
Room C

Power Pages
Room A

Dataverse 101
Room B

All about the Power Platform
Room E

Topic: Power Apps unleashed

Room: Room D

Created On: 11/27/2024 10:57 PM

Session Type: Live Performance

Start Time: 11/21/2023 10:00

End Time: 11/21/2023 11:30

Custom Pages – Custom Dialogs



SANDBOX

Dynamics 365 | Volunteer Management

Search

Vakt for konsert med Honningbarna

Add positions

Hjelpekorps Moss Røde Kors

Vakt for konsert med Honningbarna

Function

Number of positions required

Add positions

New Participation

Filter by keyword

Cancel Create Positions

Shift admin

Recent

Pinned

Shift Groups

Shifts

About Duty schedule Settings

Active Participations

Status Reason Draft

Rows: 6

Shift management

HB Primary Administrator Published Status Reason Red Cross Activity

A red arrow points from the "Add positions" button in the main interface to the "Add positions" button in the modal dialog.

The screenshot shows a Dynamics 365 interface for "Volunteer Management". A modal dialog titled "Add positions" is open over a shift record for "Vakt for konsert med Honningbarna" at "Hjelpekorps Moss Røde Kors". The modal contains fields for "Function" (dropdown) and "Number of positions required" (input field with value "1"). At the bottom are "Cancel" and "Create Positions" buttons. In the background, the shift details show "Rows: 6" and a "Shift management" ribbon tab. A red arrow highlights the "Add positions" button in the modal, which corresponds to the one in the main shift list.

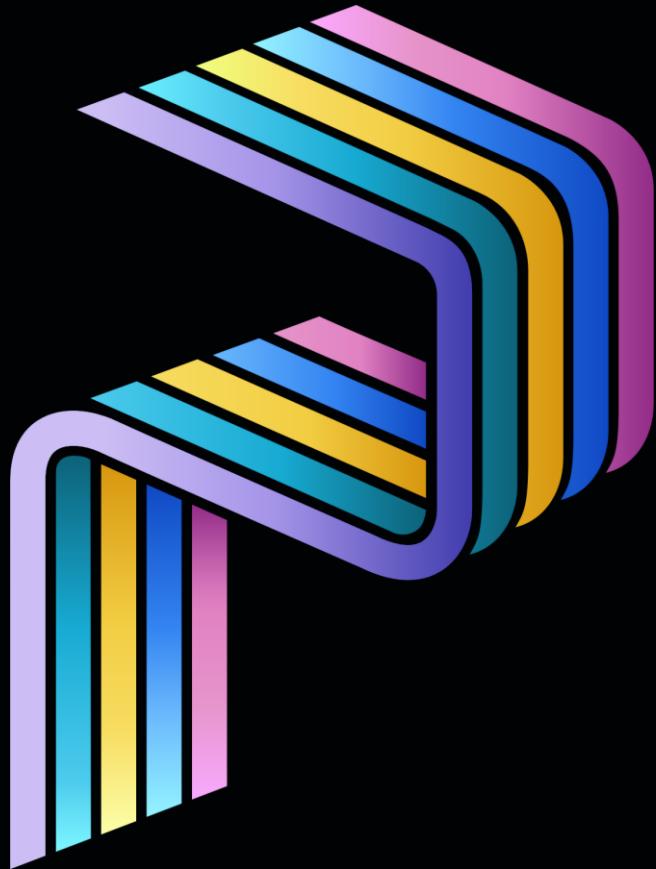
Custom Pages – Embedded Canvas Apps



Lab – custom pages



Create a custom page



Q&A and Wrap-Up

Recap of Key Takeaways



Data modeling

Whether you start with Copilot or start from scratch, be clear about the data, relationships and end users behind them.

OOTB VS custom built

Get to know the out-of-the-box features within Model-Driven Apps and Power Platform before building more complex, custom solutions.

Fusion teams

Whether you are a maker or a pro-developer, Power Platform accelerates your journey and collaboration with others incl. business users!

Your journey, your way

There are more areas to explore such as environment management and governance, pipelines, PCFs, integration with Power Automate, Power Pages or Power BI and much more.

Open Questions Forum

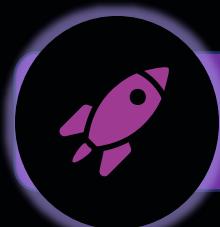




Final Thoughts and Next Steps

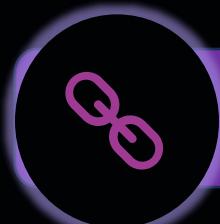


Loved spending time with you today – you can find us for any questions at the conference tomorrow



You can meet us at 11:00am tomorrow for a brand-new session

The Ultimate Power Slam:
Model-Driven Apps vs.
Power Pages Portals
**Angeliki Patsiavou, Nick
Doelman**



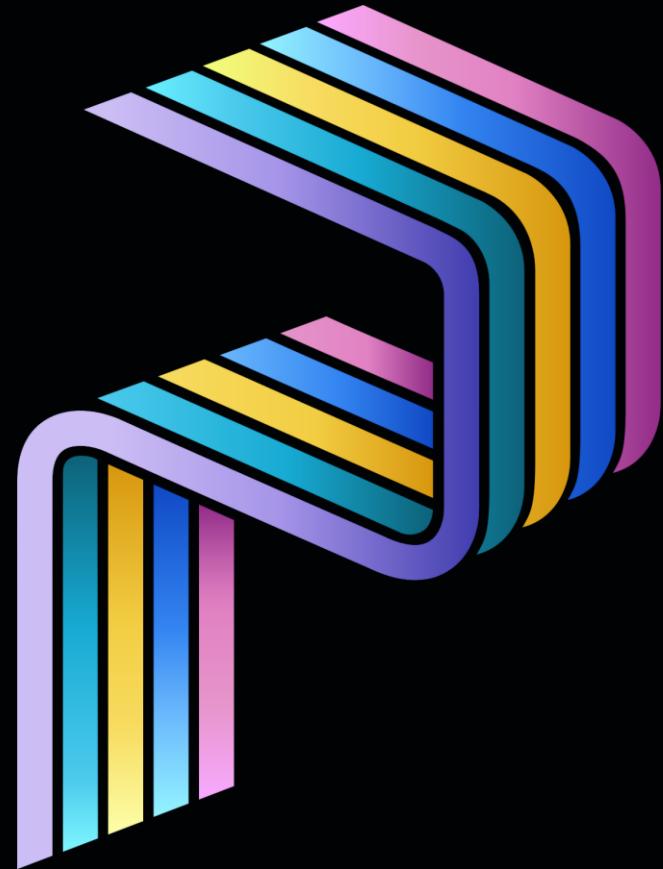
You can find these slides and the complete solution in this link

<http://bit.ly/3D0LqVa>



Thank You, Stay Connected!





Goodbye