



**365 POWERUP
PHILLY!**

January 25, 2020

**Microsoft Technology
Center**

Malvern, PA

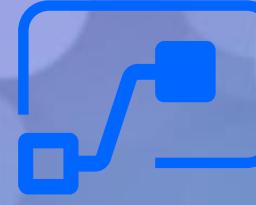


Microsoft

Solgari

eXalents

365 POWERUP



Intro to Power Apps Portals

Nick Doelman

Philadelphia, 2020

Nick Doelman

Power Platform/Dynamics 365 Specialist

Microsoft MVP - Business Applications

Microsoft Certified Trainer (MCT)

Ottawa, ON, CANADA

EMAIL: nick.doelman@readybms.com

TWITTER: @readyxrm

<https://readyxrm.blog>

<https://www.linkedin.com/in/nickdoelman/>



Intro to PowerApps Portals

Goal Today

- In the next 50(?) minutes...
- Provision a portal and surface CDS data to an authenticated external user
- LIVE demonstration
- Assume knowledge of Model-Driven Configuration (Entities, Forms, Views, etc)



Intro to PowerApps Portals

DEMO



Intro to PowerApps Portals

- Provision Portal

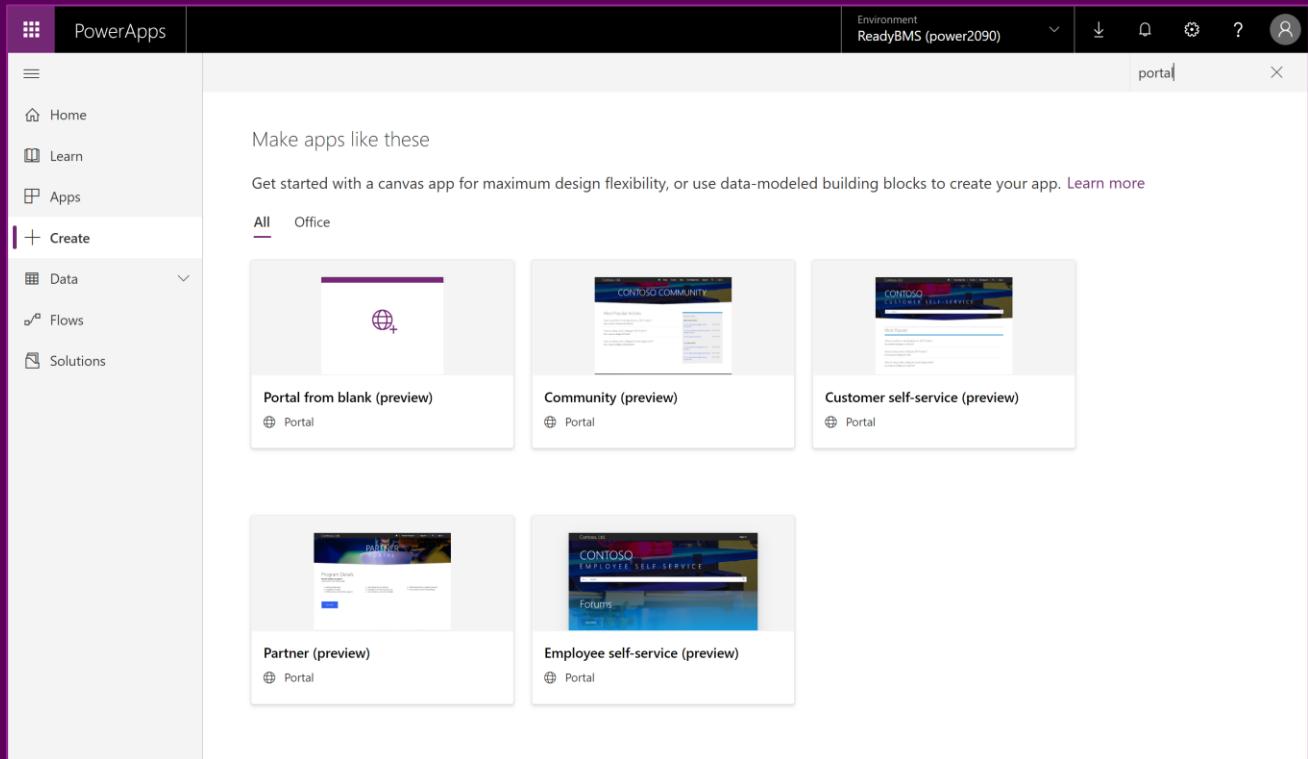
The screenshot shows the PowerApps portal interface. At the top, there's a navigation bar with icons for Home, Learn, Apps, Create, Data, Flows, and Solutions. The 'Home' icon is highlighted. A yellow banner at the top indicates a trial environment will expire in 29 days. Below the banner, the main content area features a heading 'Build business apps, fast' and a sub-section 'Create apps that connect to your data and work across web and mobile.' with a link to 'Learn about PowerApps'. There are three main app creation templates displayed: 'Canvas app from blank' (Icon: two overlapping rectangles), 'Model-driven app from blank' (Icon: gear with a plus sign), and 'Portal from blank (preview)' (Icon: globe with a plus sign). The 'Portal from blank (preview)' template is highlighted with a yellow background. Below these are sections for 'Recent apps' and 'Shared with me', each listing three items: 'Asset Checkout', 'Innovation Challenge', and 'Fundraiser', all created 5 days ago by Nick Doelman and categorized as Model-driven.

Name	Modified	Owner	Type
Asset Checkout	5 d ago	Nick Doelman	Model-driven
Innovation Challenge	5 d ago	Nick Doelman	Model-driven
Fundraiser	5 d ago	Nick Doelman	Model-driven



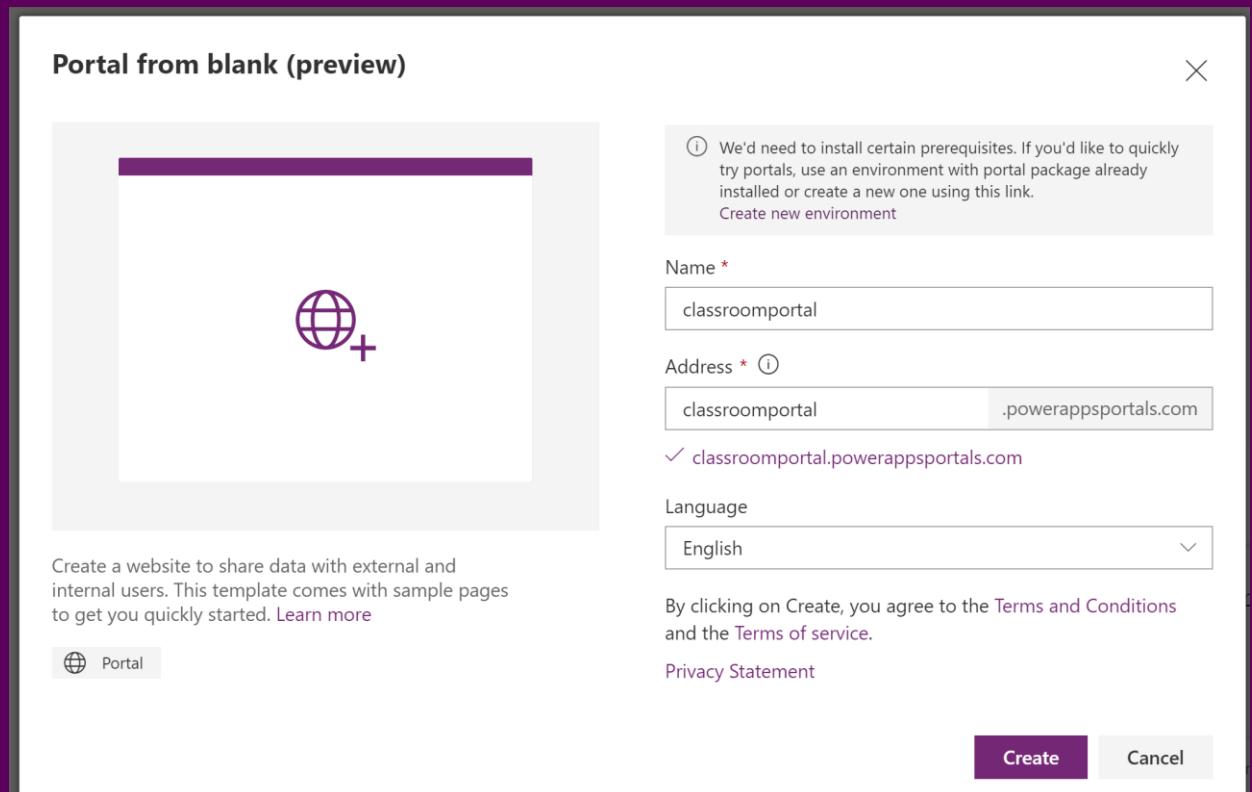
Intro to PowerApps Portals

- If Dynamics 365, you can choose other starter portals



Intro to PowerApps Portals

- Provision Portal



Intro to PowerApps Portals

The screenshot shows the PowerApps portal creation interface. At the top, there's a navigation bar with 'PowerApps' and other options like 'Environment' (set to 'classroomportal (org9430c51d)'), download, refresh, settings, and help icons. A yellow banner at the top left says 'Your trial environment will expire in 29 days. Convert it to production to keep it. Learn more about trials.' A modal window titled 'Portal provisioning in progress' is open, stating 'Your portal classroomportal is currently being provisioned and this can take time. You'll be notified via Notifications pane once it is provisioned.' Below the banner, the main area has a heading 'Build business apps, fast' and a sub-section 'Create apps that connect to your data and work across web and mobile. [Learn about PowerApps](#)'. There's a section for 'Make your own app' with three templates: 'Canvas app from blank' (Icon: smartphone with pencil), 'Model-driven app from blank' (Icon: puzzle piece with plus sign), and 'Portal from blank (preview)' (Icon: globe). The 'Portal from blank (preview)' template is highlighted with a blue border. Below these are 'All templates →' and 'Recent apps' and 'Shared with me' sections. The 'Recent apps' table lists three items:

Name	Modified	Owner	Type
classroomportal	...		Portal
Asset Checkout	5 d ago	Nick Doelman	Model-driven
Innovation Challenge	5 d ago	Nick Doelman	Model-driven



Intro to PowerApps Portals

The screenshot shows the PowerApps portal interface. At the top, there's a navigation bar with a grid icon, the text "PowerApps", and a dropdown for "Environment" set to "classroomportal (org9430c51d)". To the right are icons for download, notifications, settings, help, and search.

A yellow banner at the top states: "Your trial environment will expire in 29 days. Convert it to production to keep it. Learn more about trials."

The main content area features a heading "Build business apps, fast" and a sub-section "Create apps that connect to your data and work across web and mobile. [Learn about PowerApps](#)". Below this is a section titled "Make your own app" with three options:

- Canvas app from blank** (Icon: white card with a pencil)
- Model-driven app from blank** (Icon: purple cube with a plus)
- Portal from blank (preview)** (Icon: globe with a plus)

Below these options is a link "[All templates →](#)".

At the bottom, there are two tabs: "Recent apps" (selected) and "Shared with me". A table lists recent apps:

Name	Modified	Owner	Type
Portal Management	2 min ago	Nick Doelman	Model-driven
Asset Checkout	5 d ago	Nick Doelman	Model-driven
Innovation Challenge	5 d ago	Nick Doelman	Model-driven



Intro to PowerApps Portals

The screenshot shows the PowerApps portal interface. The top navigation bar includes the 'PowerApps' logo, environment dropdown ('Environment classroomportal (org9430c51d)'), and various icons for download, notifications, settings, and help.

The main content area features a message about trial expiration: 'Your trial environment will expire in 29 days. Convert it to production to keep it. Learn more about trials.'

Build business apps, fast

Create apps that connect to your data and work across web and mobile. [Learn about PowerApps](#)

Make your own app

- Canvas app from blank** (Icon: white card with pencil)
- Model-driven app from blank** (Icon: puzzle piece with plus sign)
- Portal from blank (preview)** (Icon: globe with plus sign)

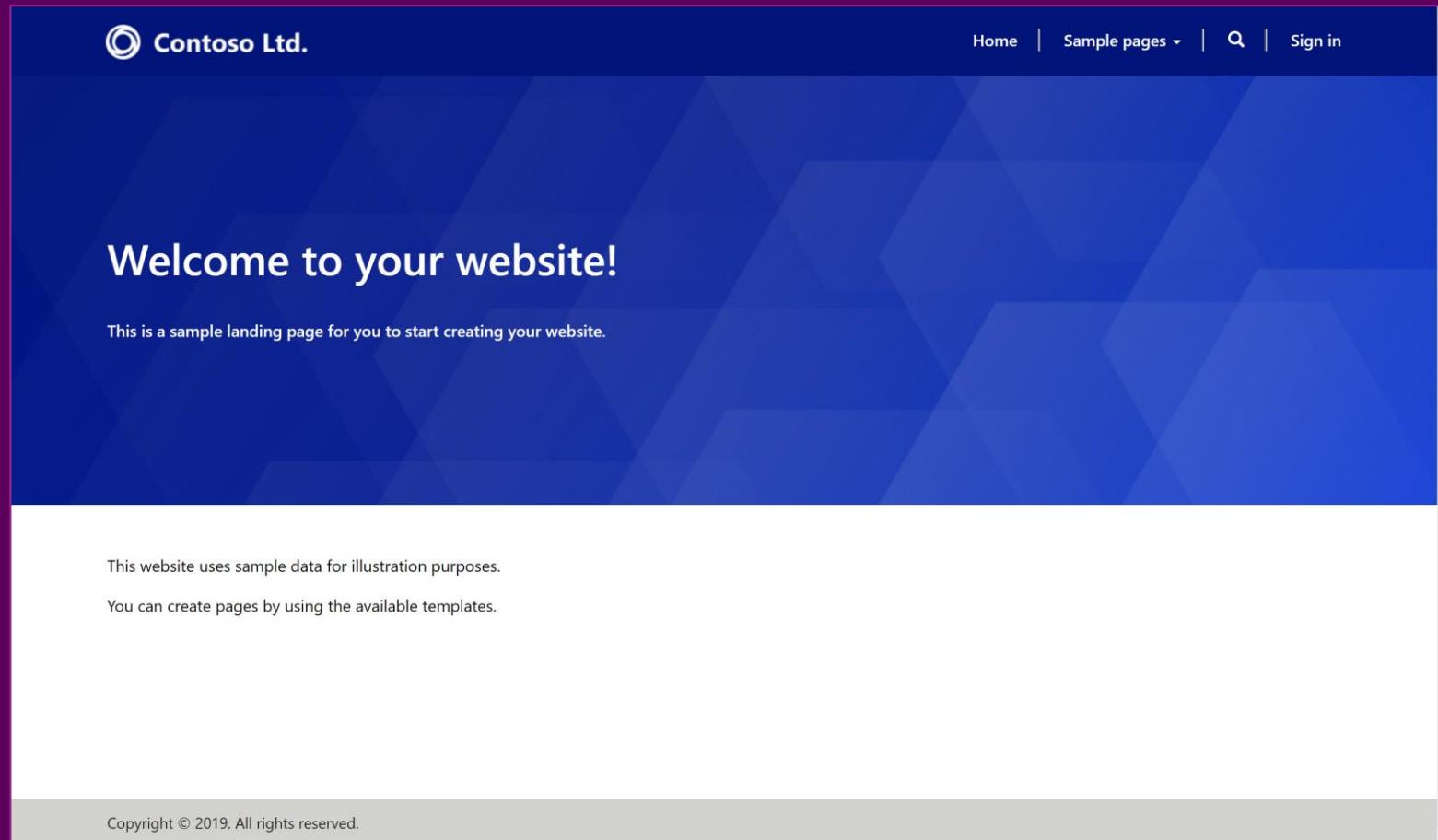
[All templates →](#)

Recent apps

Name	Modified	Owner	Type
classroomportal	1 min ago	Nick Doelman	Portal
Portal Management	12 min ago	Nick Doelman	Model-driven
Asset Checkout	5 d ago	Nick Doelman	Model-driven



Intro to PowerApps Portals



Intro to PowerApps Portals

- Portal Theory



Power Apps Portals Components

Common Data Service Environment



Power Apps Portals Solutions

Power Apps		+	New solution	Import	Open AppSource	Publish all customizations	Switch to classic
	Home	Dynamics 365 Portals - Azure Storage	...	MicrosoftFileStorage...	11/25/2018	\$2,100	
	Learn	Dynamics 365 Portals - Base Html Editor	...	MicrosoftLearnPortal...	11/25/2019	\$1,111	
	Apps	Dynamics 365 Portals - Feedback	...	MicrosoftFeedback...	11/25/2019	\$2,100	
	Create	Dynamics 365 Portals - Identity	...	MicrosoftIdentity...	11/25/2019	\$2,100	
	Data	Dynamics 365 Portals - Identity System Workflows	...	MicrosoftIdentitySys...	11/25/2019	\$2,100	
	Ross	Dynamics 365 Portals - Identity Workflows	...	MicrosoftIdentityWor...	11/25/2019	\$2,100	
	AI Builder	Dynamics 365 Portals - Portal base	...	MicrosoftPortalBase...	11/25/2019	\$2,100	
	Solutions	Dynamics 365 Portals - Portal Base System Workflows	...	MicrosoftPortalBaseS...	11/25/2019	\$2,100	
		Dynamics 365 Portals - Portal Base Workflows	...	MicrosoftPortalBaseW...	11/25/2019	\$2,100	
		Dynamics 365 Portals - Portal dependencies	...	MicrosoftPortalDepen...	11/25/2019	\$2,100	
		Dynamics 365 Portals - Timeline	...	MicrosoftPortalTImelin...	11/25/2019	\$2,100	
		Dynamics 365 Portals - Web Forms	...	MicrosoftPortalWebF...	11/25/2019	\$2,100	
		Dynamics 365 Portals - Web Notification	...	MicrosoftPortalNotific...	11/25/2019	\$2,100	

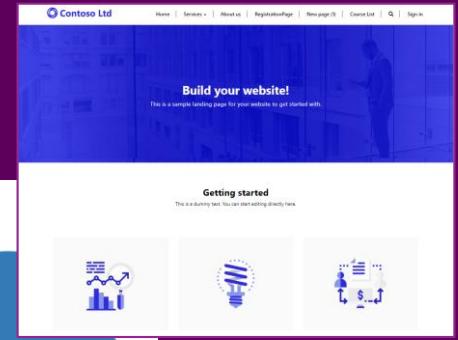
Power Apps Portals Metadata

A screenshot of the Microsoft SharePoint ribbon interface. The top navigation bar includes 'PowerApps', 'Portal Management', 'Ruler', 'Web Page', and 'View'. Below the ribbon, the 'Home' tab is selected. The main content area shows a 'Layout' column under the 'Web Template' section. The 'General' tab is active, displaying a 'Name' field with 'Layout 1 Columns' and a 'Website' field with 'Starter Portal'. The 'Source' field contains the following HTML code:

```
<div id="pageLayoutBody">
  <div id="contentArea">
    <div id="mainContentArea">
      <div>[3 blank breakareas]</div>
      <div>[1 blank breakarea]</div>
      <div>[1 blank breakarea]</div>
    </div>
    <div id="rightContentArea">
      <div>[3 blank breakareas]</div>
      <div>[1 blank breakarea]</div>
      <div>[1 blank breakarea]</div>
    </div>
  </div>
</div>
```

The left sidebar contains navigation links for Home, Recent, Shared, Websites, Page Templates, Redirects, Site Markets, Site Settings, Site Columns, Site Content, Content Types, Entity Forms, Entity Lists, and Publishing Site. The bottom right corner features a 'Run Report' button.

Power Apps Portals Web Application



Power Apps Portals Tools

Power Apps Portals admin center

The screenshot shows the Power Apps Portals admin center interface. On the left, there's a sidebar with 'Portal Details' and 'Portal Actions'. Under 'Portal Actions', there are several cards: 'Add a custom domain name', 'Restart', 'Update Dynamics 365 URL', 'Install Project Service Automation extension', 'Install Field Service extension', 'Get Public Key', 'Get latest metadata translations', 'Disable custom errors', and 'Enable diagnostic logging'. At the bottom, there are links for 'Reset Portal', 'Change base URL', and 'Enable maintenance'.

Portal Management app

The screenshot shows the 'Layout 1 Column' Web Template in the Portal Management app. The interface includes a toolbar with 'New', 'Deactivate', 'Delete', 'Refresh', 'Email a Link', 'Flow', and 'Word Templates'. The main area shows the template's structure with sections for 'Content' (Content Snippets, Entity Forms, Entity Lists, Shortcuts, Web Files, Web Forms, Web Link Sets, Portal Languages, Web Pages, Web Templates), 'General' (Name: Layout 1 Column, Website: Starter Portal), and 'Source' (HTML code). The code editor contains the following HTML:

```
1 <div class="wrapper-body">
2   <div class="container">
3     <div class="page-heading">
4       {% block breadcrumbs %}
5         {% include 'breadcrumbs' %}
6       {% endblock %}
7       {% block title %}
8         {% include 'Page Header' %}
9       {% endblock %}
10  </div>
11  <div class="row">
12    <div class="col-md-12">
13      {% block main %}
14        <p>About us</p>
15        <a href="#" style="color: #000000; font-size: 20px; font-weight: bold;">About us</a>
16      {% endblock %}
17    </div>
18  </div>
19  <div class="push"></div>
20 </div>
```

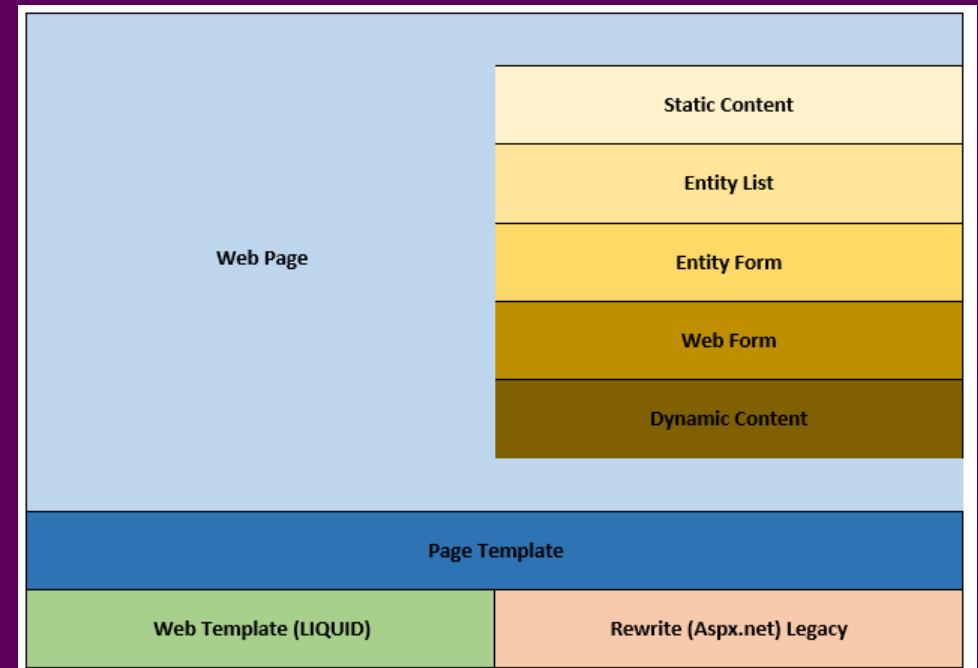
Power Apps Portals design studio

The screenshot shows the Power Apps Portals design studio. It features a visual page builder on the left with a preview of a team meeting scene, and a 'Code Editor' on the right containing the same HTML code as the previous screenshot. The interface also includes a 'Component' section with 'Image' and 'External URL' options, and a 'Formatting' section.



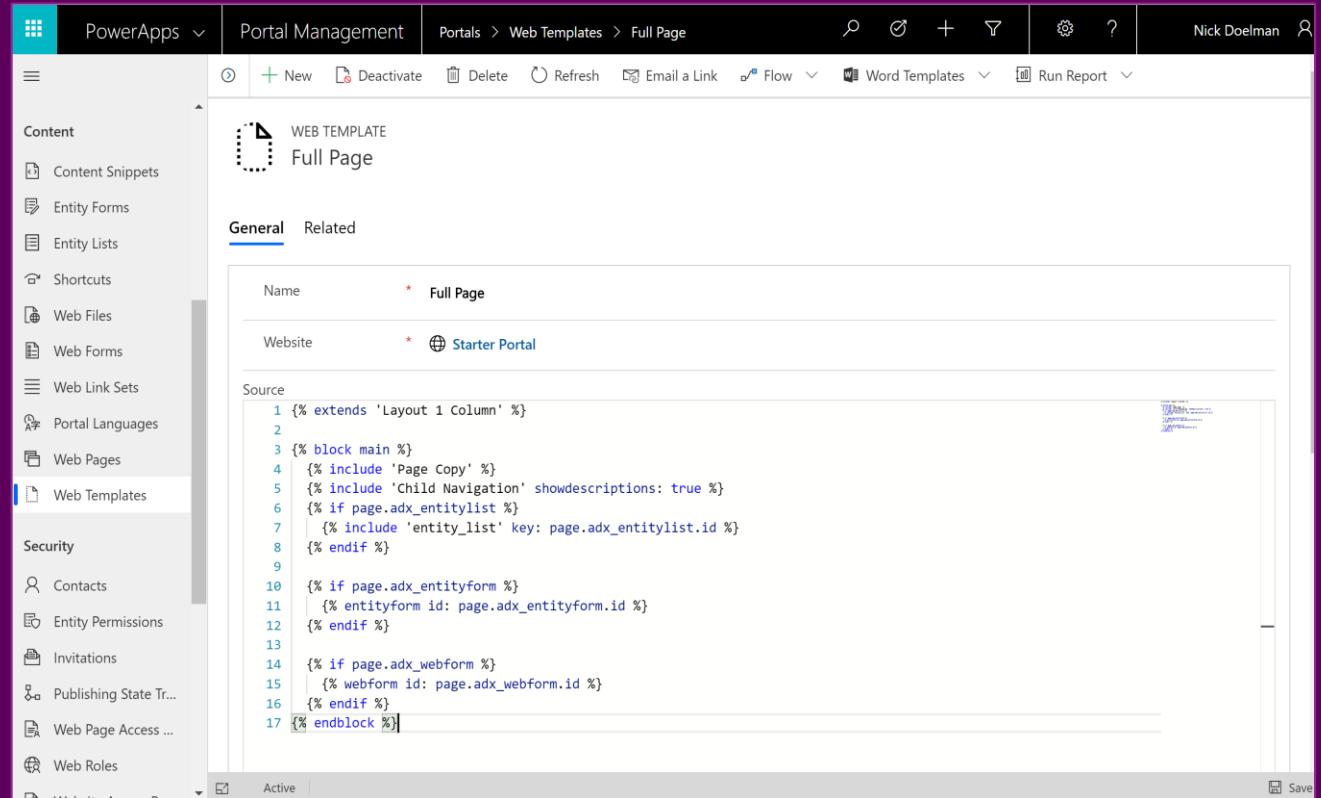
Intro to PowerApps Portals

- Portal structure
- Portal metadata stored in CDS
- Different Portal Components for rendering



Intro to PowerApps Portals

- Preconfigured templates
- HTML
- Uses Liquid Markup
- Good place to store JavaScript, CSS



Intro to PowerApps Portals

```
{% extends 'Layout 1 Column' %}  
{% block main %}  
    {% include 'Page Copy' %}  
    {% include 'Child Navigation' showdescriptions: true %}  
    {% if page.adx_entitylist %}  
        {% include 'entity_list' key: page.adx_entitylist.id %}  
    {% endif %}  
    {% if page.adx_entityform %}  
        {% entityform id: page.adx_entityform.id %}  
    {% endif %}  
    {% if page.adx_webform %}  
        {% webform id: page.adx_webform.id %}  
    {% endif %}  
{% endblock %}
```



Intro to PowerApps Portals

Requirement

- We have a class management model driven app
- We want folks to see class information on a portal
- We want instructors to see just the classes they are teaching

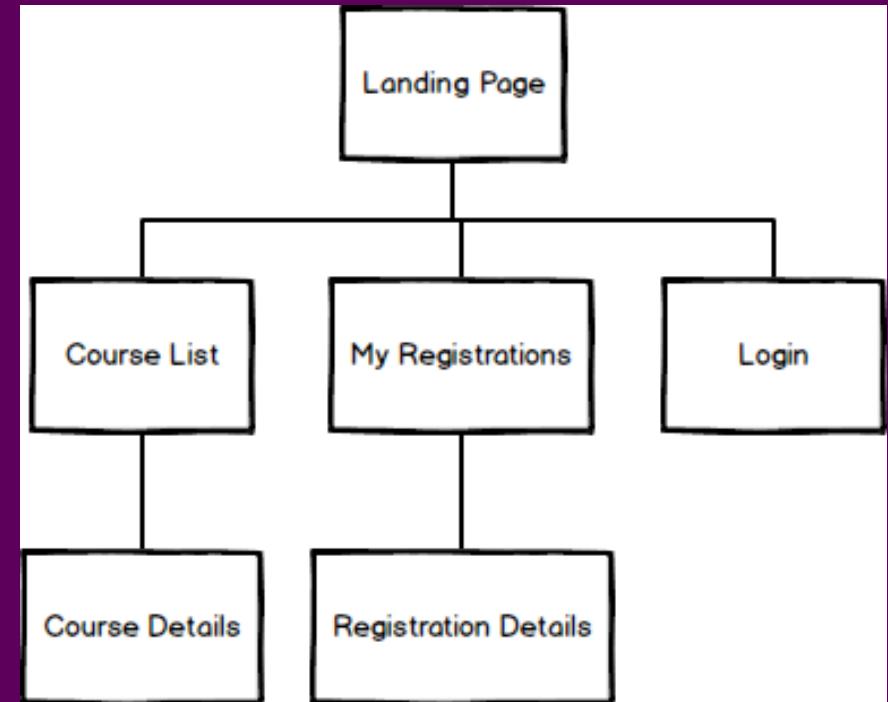


Created by Håkan Forss @hakanforss <http://hakanforss.wordpress.com>



Intro to PowerApps Portals

- Design Portal
- Site Map a good place to start
- Consider “Minimal Viable Product”



Intro to PowerApps Portals

Design – Web Pages

Class room

http://classroom.powerappspartials.com

My Registrations

Registration ID	Student	Class	Date
REG-002	Bob Smith	Intro to Portals	2019-8-20
REG-005	Bob Smith	SSRS	2019-6-13
REG-007	Bob Smith	Power Apps	2019-10-16

Class room

http://classroom.powerappspartials.com

REG-002

Course	<input type="text" value="Portals"/>
Start Date	<input type="text" value="3/10/2019"/> 
Student	<input type="text" value="Bob Smith"/>
Fee	<input type="text" value="\$1000"/>



Intro to PowerApps Portals

Model Driven App

The screenshot shows a PowerApps Model Driven App interface. The top navigation bar includes 'PowerApps' with a dropdown, 'Class Room App', 'Classroom > Registrations', and various action buttons like 'Show Chart', 'New', 'Delete', 'Refresh', 'Email a Link', 'Flow', 'Run Report', 'Excel Templates', and a search bar. The left sidebar has sections for 'Home', 'Recent', 'Pinned', 'Management' (with 'Courses', 'Classes', and 'Registrations' listed), and a 'Classroom' tab at the bottom. The main area is titled 'Active Registrations' and displays a grid of registration records:

Registration ID	Class	Student	Student Account	Registration Status	Date	Status
REG-01000	Intro to PowerApps Portals-8/1	Maria Campbell (sample)	---	---	8/9/2019	Registered
REG-01001	SSRS for the PowerApps-8/21/2	Maria Campbell (sample)	---	---	8/5/2019	Registered
REG-01002	Intro to PowerApps Portals-9/1	Nancy Anderson (sample)	---	---	8/6/2019	Registered

At the bottom, there's a navigation bar with letters A-Z and a message '1 - 3 of 3 (0 selected)'.



Intro to PowerApps Portals

Model Driven App

The screenshot shows a PowerApps Model Driven App interface. The top navigation bar includes the PowerApps logo, a dropdown menu, the app name "Class Room App", and a breadcrumb trail: Classroom > Registrations > REG-01000. Below the navigation is a toolbar with actions: New, Deactivate, Delete, Refresh, Assign, Share, Email a Link, and Flow.

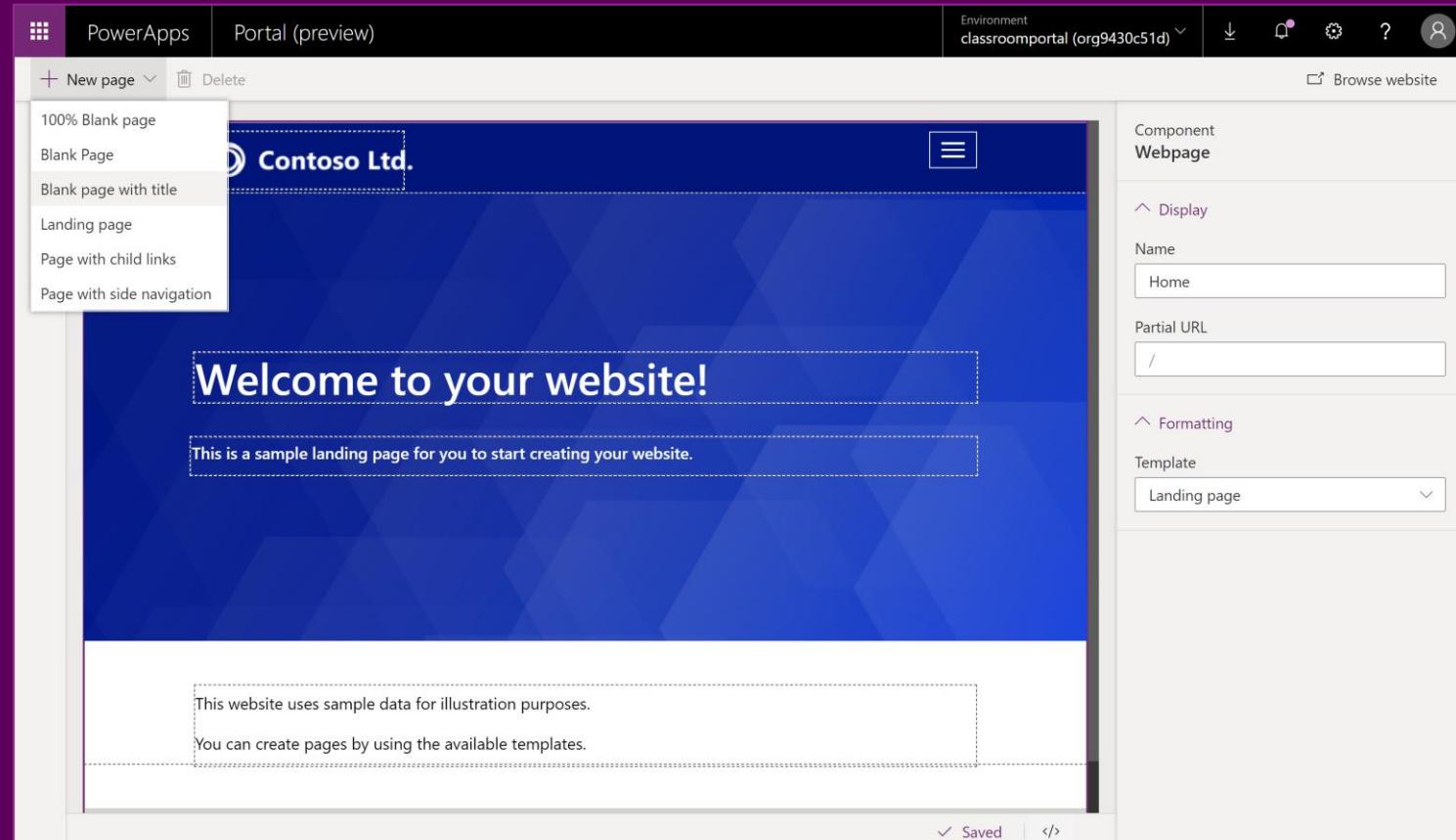
The main content area displays a registration record titled "REGISTRATION REG-01000". The "General" tab is selected, showing the following data:

Class	Intro to Powe...	Registration Number	REG-01000
Registration Date	8/9/2019	Amount Paid	\$1,000.000
Student	Maria Campb...	Student Account	---
Status Reason	Registered		



Intro to PowerApps Portals

Create New
Page



Intro to PowerApps Portals

Edit Page

The screenshot shows the PowerApps Portal (preview) editor interface. The top navigation bar includes 'PowerApps', 'Portal (preview)', 'Environment classroomportal (org9430c51d)', and various icons for saving, deleting, and browsing. On the left, a sidebar provides navigation and editing tools. The main content area displays a web page titled 'Available Classes' under 'Contoso Ltd.' The page shows a breadcrumb 'Home > Available Classes', a title 'Available Classes', a sample message about using sample data, and a copyright notice at the bottom. A status bar at the bottom indicates 'Save failed'.

Component
Webpage

Display

Name
Available Classes

Partial URL
classes

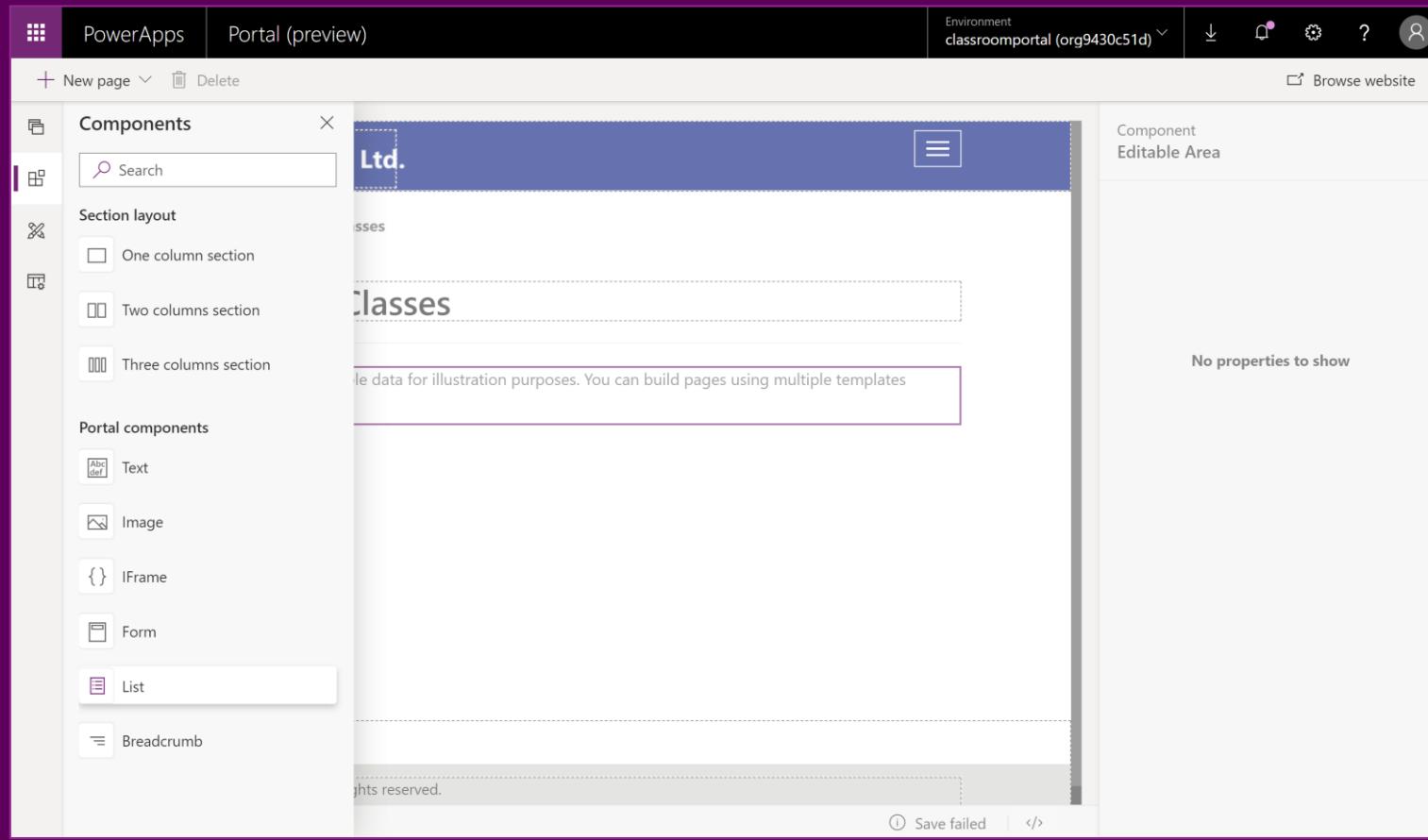
Formatting

Template
Blank page with title



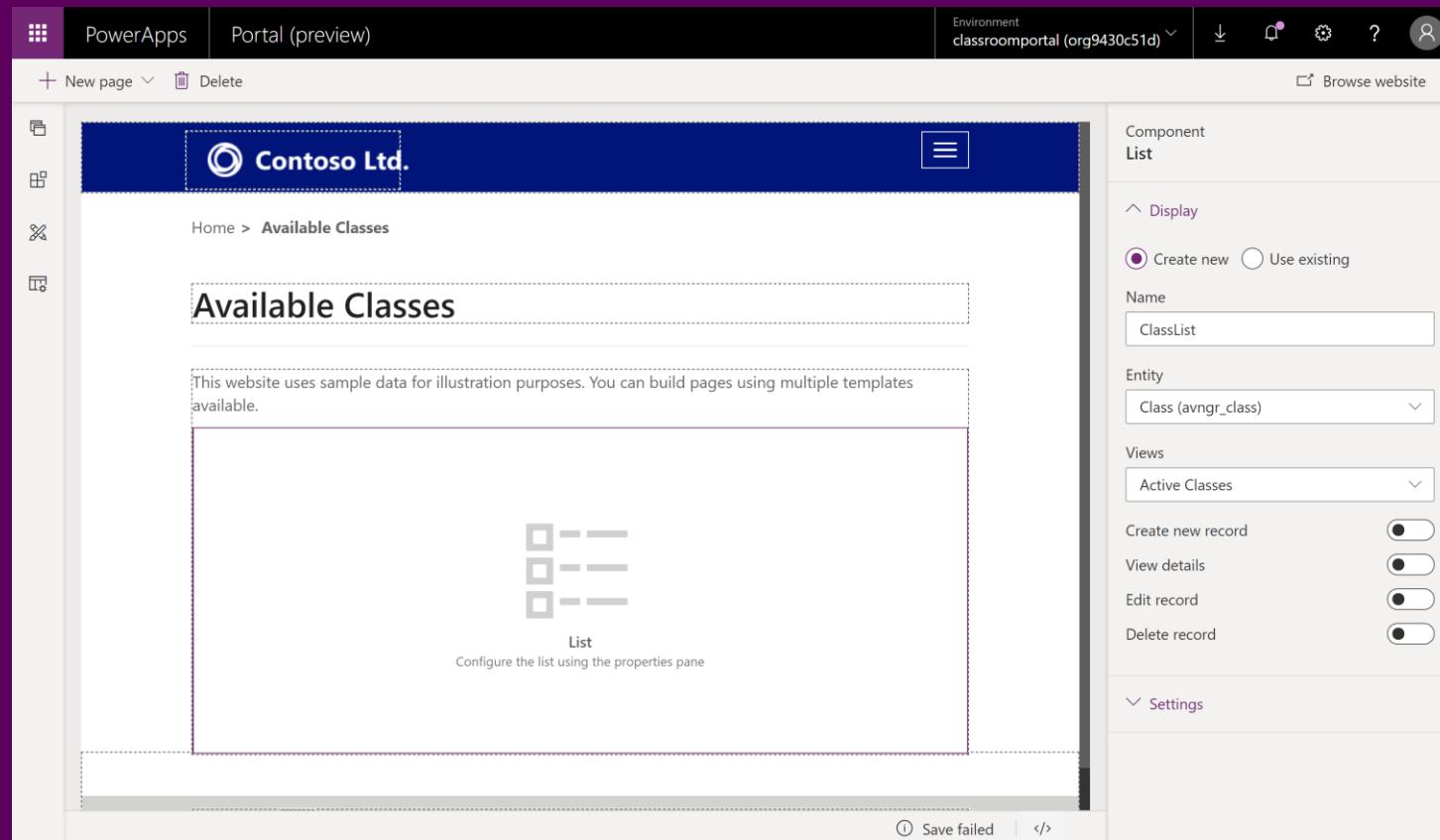
Intro to PowerApps Portals

Add List



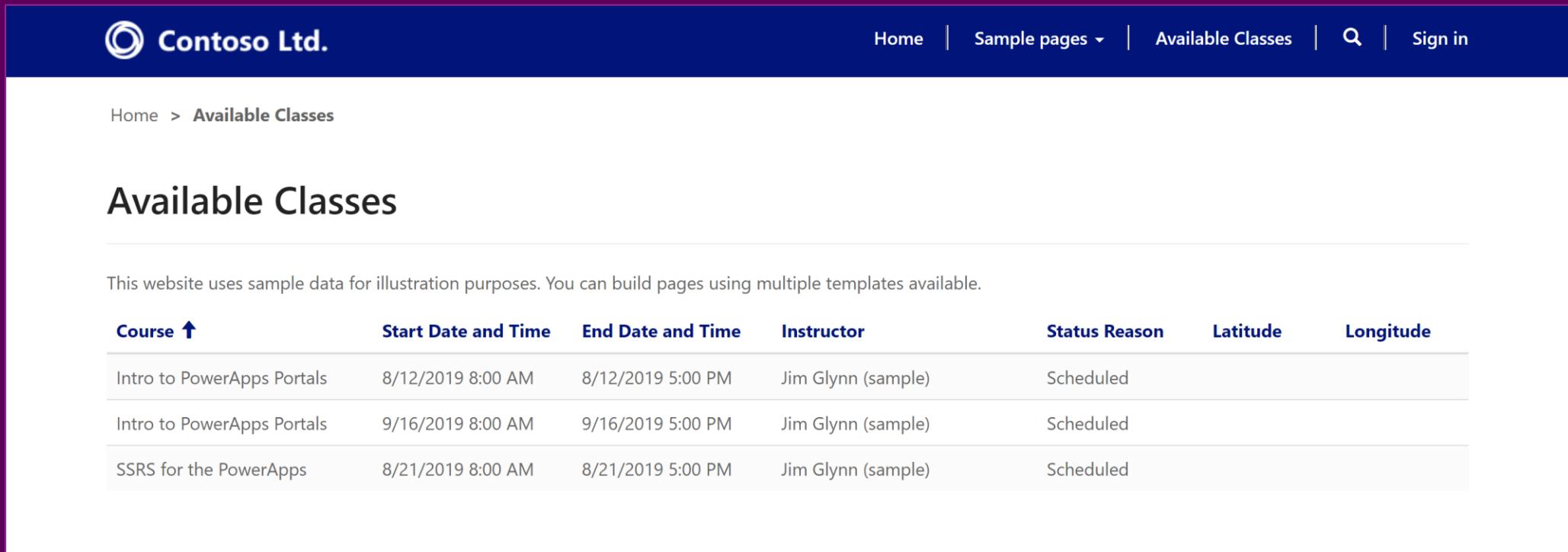
Intro to PowerApps Portals

Link List to Model Driven View



Intro to PowerApps Portals

Preview Portal App



The screenshot shows a web browser displaying a PowerApp portal for "Contoso Ltd.". The header is dark blue with the company logo and name on the left, and navigation links for "Home", "Sample pages", "Available Classes", a search icon, and "Sign in" on the right.

The main content area has a white background. At the top, there's a breadcrumb navigation: "Home > Available Classes". Below it, a large heading says "Available Classes". A note below the heading states: "This website uses sample data for illustration purposes. You can build pages using multiple templates available." A table follows, listing three available classes:

Course ↑	Start Date and Time	End Date and Time	Instructor	Status Reason	Latitude	Longitude
Intro to PowerApps Portals	8/12/2019 8:00 AM	8/12/2019 5:00 PM	Jim Glynn (sample)	Scheduled		
Intro to PowerApps Portals	9/16/2019 8:00 AM	9/16/2019 5:00 PM	Jim Glynn (sample)	Scheduled		
SSRS for the PowerApps	8/21/2019 8:00 AM	8/21/2019 5:00 PM	Jim Glynn (sample)	Scheduled		



Intro to PowerApps Portals

Add Detail Form

The screenshot shows the PowerApps Portal (preview) interface. The top navigation bar includes 'PowerApps', 'Portal (preview)', 'Environment classroomportal (org9430c51d)', and various icons for file operations like 'New page', 'Delete', and 'Browse website'. The main content area displays a 'Class Details' page with a placeholder message: 'This website uses sample data for illustration purposes. You can build pages using multiple templates available.' Below this is a large empty form area with a placeholder icon. A tooltip indicates 'Form' and 'Unable to show preview. Edit the form through the property panel'. At the bottom, there's a copyright notice 'Copyright © 2019. All rights reserved.' and a status bar with 'Saved' and a refresh icon. On the right side, a 'Component Form' configuration pane is open, showing settings for 'Display' (radio button selected for 'Use existing'), 'Name' (set to 'Class Details'), 'Entity' (set to 'Class (avngr_class)'), 'Form layout' (set to 'Web - Class Details'), 'Mode' (set to 'ReadOnly'), and sections for 'Form success settings' and 'Advanced settings'.



Intro to PowerApps Portals

Edit List Control to navigate to form

The screenshot shows the PowerApps Portal (preview) editor interface. On the left, the main canvas displays a page titled "Available Classes" under the "Contoso Ltd." logo. The page includes a breadcrumb navigation bar ("Home > Available Classes") and a message stating, "This website uses sample data for illustration purposes. You can build pages using multiple templates available." Below this message is a placeholder area with a "List" icon and a note: "Unable to show preview. Edit the list through the property panel". On the right, the "Component List" panel is open, showing settings for a "List" component. The "Display" section is expanded, showing options for "Create new" (radio button) and "Use existing" (radio button, selected). The "Name" field is set to "classlist", and the "Entity" field is set to "Class (avngr_class)". Under the "Views" section, "Active Classes" is selected. The "Create new record" toggle switch is turned off. The "View details" toggle switch is turned on, and its "Target type" dropdown is set to "Form". The "Edit record" and "Delete record" toggle switches are also turned on. At the bottom of the panel, the "Settings" section is partially visible.



Intro to PowerApps Portals

Portal Management App

The screenshot shows the 'Portal Management' app interface. The left sidebar includes sections for Entity Forms, Entity Lists (which is currently selected), Shortcuts, Web Files, Web Forms, Web Link Sets, Portal Languages, Web Pages, and Web Templates. Below these are sections for Security (Contacts, Entity Permissions, Invitations, Publishing State Tr...), Web Roles, Website Access Pe..., and Ads (Ad Placements). The main content area is titled 'Active Entity Lists'. It displays a table with two rows:

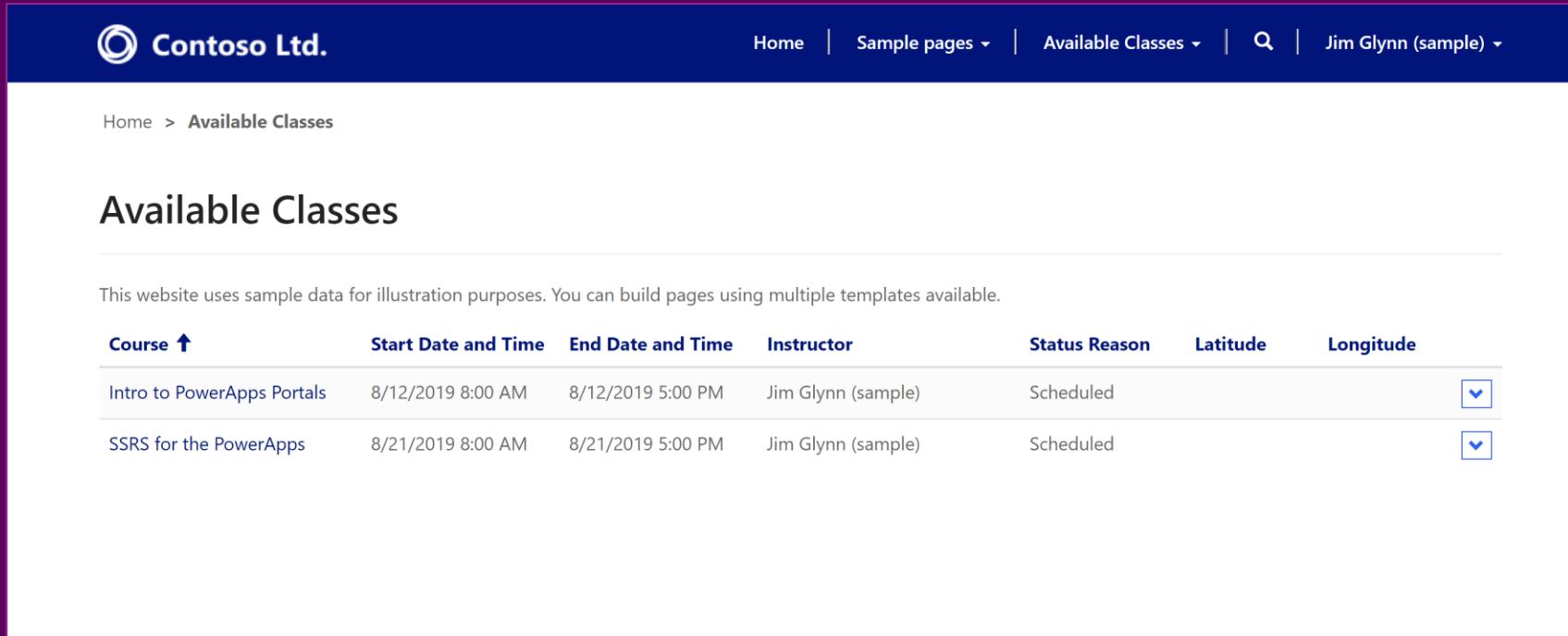
Name	Entity Name	P..	Enable Entit...	Sea...	Filte...	Calendar Vi...	Ma...	OD...
classlist	avngr_class	10	No	No	No	No	No	No
Courselist	avngr_course	10	No	No	No	No	No	No

At the bottom, there is a navigation bar with letters A through Z, indicating page navigation.



Intro to PowerApps Portals

Allow users to login (Entity Permissions)



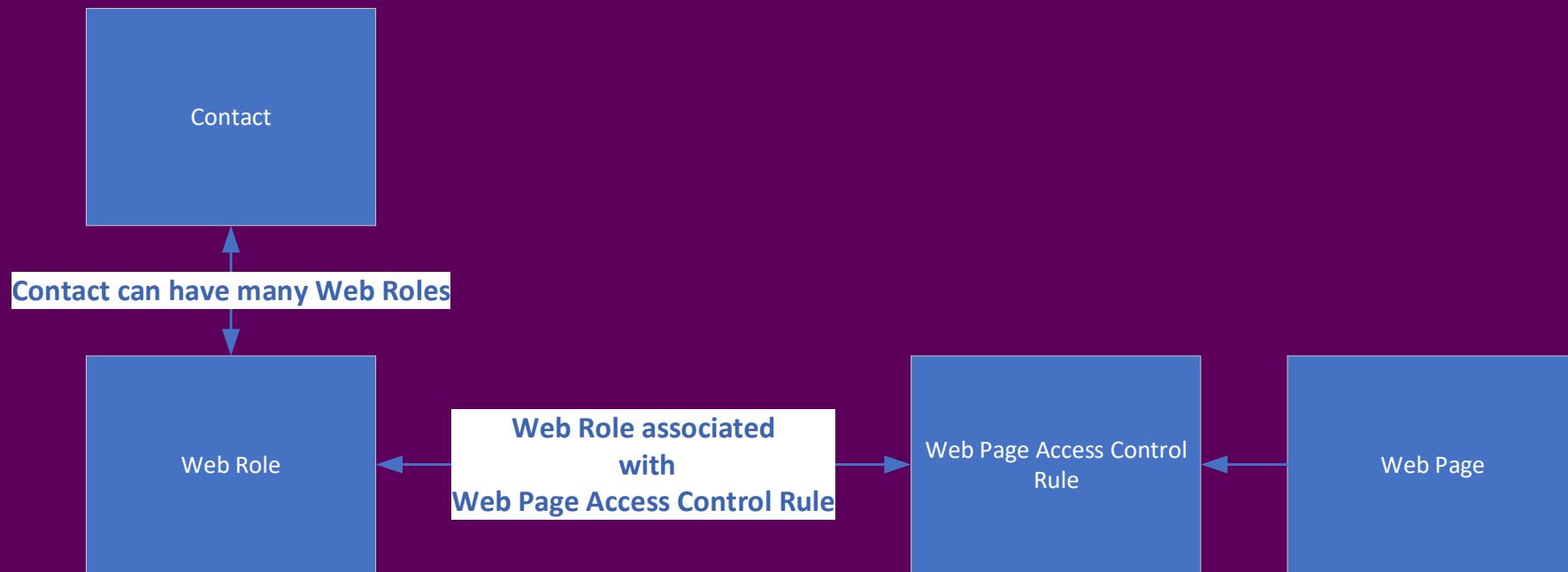
The screenshot shows a web browser window with a dark blue header bar. The header contains the logo for "Contoso Ltd.", navigation links for "Home", "Sample pages", "Available Classes", a search icon, and a user profile for "Jim Glynn (sample)". Below the header, the URL "Home > Available Classes" is visible. The main content area has a light gray background and features a title "Available Classes". A note below the title states: "This website uses sample data for illustration purposes. You can build pages using multiple templates available." Below this note is a table with the following data:

Course ↑	Start Date and Time	End Date and Time	Instructor	Status Reason	Latitude	Longitude
Intro to PowerApps Portals	8/12/2019 8:00 AM	8/12/2019 5:00 PM	Jim Glynn (sample)	Scheduled	<input type="button" value="▼"/>	
SSRS for the PowerApps	8/21/2019 8:00 AM	8/21/2019 5:00 PM	Jim Glynn (sample)	Scheduled	<input type="button" value="▼"/>	



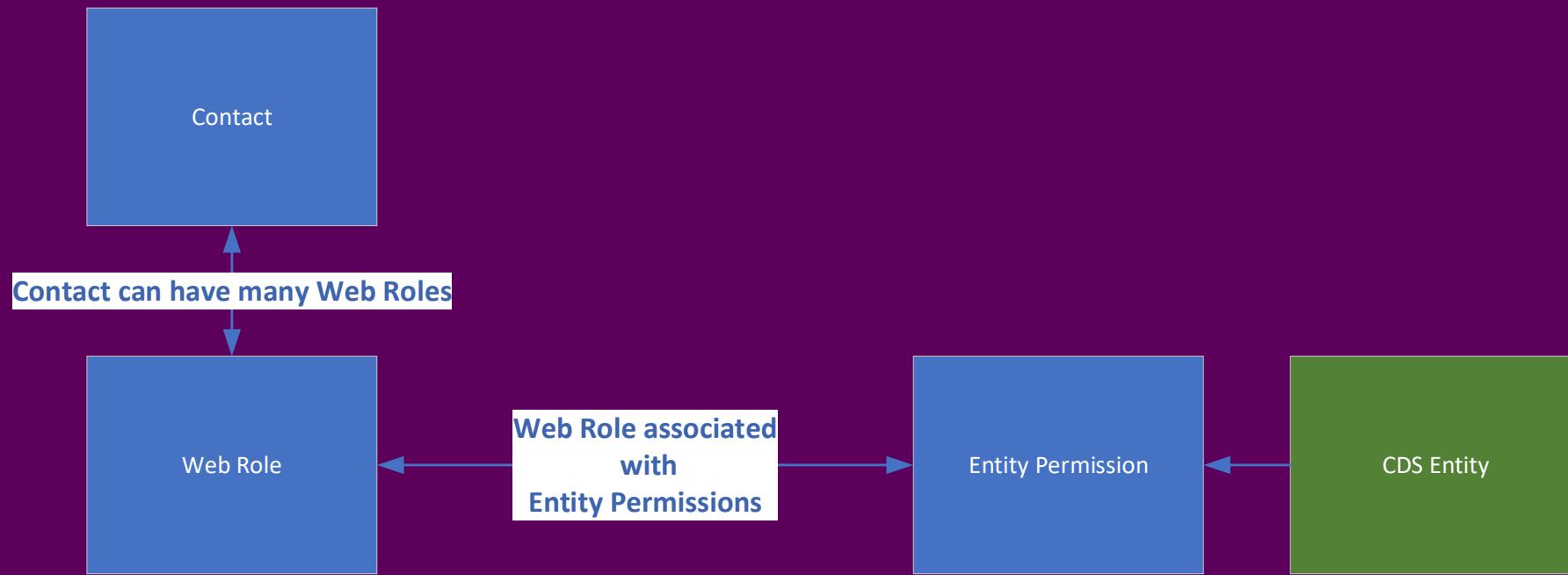
Intro to PowerApps Portals

Web Page Access Control Rule



Intro to PowerApps Portals

Entity Permissions



PowerApps Portals Licensing

User Type	Model	SKU Names	Unit capacity	Price/month	Channel	Comments
External user (authenticated)	Per log in	PowerApps Portals login capacity add-on	100 logins	\$200	All	<ul style="list-style-type: none"> A login provides the authenticated user with access to a single portal for up to 24 hours Multiple logins during the 24-hour period count as 1 billable login
		PowerApps Portals login capacity add-on Tier 2	1000 logins	\$1000	All	
		PowerApps Portals login capacity add-on Tier 3	5000 logins	\$3500	CSP Only	
External user (Unauthenticated)	Per page view	PowerApps Portals page view capacity add-on	100,000 page views	\$100	All	
Internal user	Via license	Dynamics 365 (various) PowerApps per app plan PowerApps per user plan	N/A	N/A	N/A	<ul style="list-style-type: none"> Custom portal use rights are aligned with custom app use rights



Intro to PowerApps Portals

Next Steps – “Homework”

- Provide feedback! <https://experience.dynamics.com/insider>
- Create Portal Content (Wizard in Portal Management App)
- Create custom web templates
- View on Mobile (responsive design)
- Change CSS Themes/Logos/etc.
- Explore Entity Permissions for tighter security
- Azure B2C for Authentication
- Custom Scripting and integration to Azure (Payment Button)
- Subscribe to “Refresh the Cache” podcast



Intro to PowerApps Portals

Learning Resources

- MS Learn

<https://docs.microsoft.com/en-us/learn/patterns/extend-dynamics-365-portals/>

<https://docs.microsoft.com/en-us/learn/patterns/work-with-portals-in-dynamics-365/>

<https://docs.microsoft.com/en-us/learn/patterns/get-started-dynamics-365-portals/>

- Scottish Summit 2020 – Portals Class on February 27, 2020
- Online Learning (Coming soon!)





365 Power Up Philly 2020

	Multi-Purpose Room 1	Multi-Purpose Room 2	Envisioning Center
8:00—9:00 AM	Registration		
9:00—10:20 AM	Keynote • Linda Simovic, Microsoft		
10:30—11:25 AM	Intro to Power Apps Portals	Getting Started with Power Apps Component Framework	AI Builder Integration: Love is in the Air
11:35—12:30 PM	Introduction to Power Virtual Agents	Working with Liquid Templates in Power Portals	United Interface—Breaking Down the Controls
12:30—1:15 PM	Lunch Break		
1:15—2:10 PM	Tame Forms with Power Platform, Portals and AI	Omni-Channel Integration Framework	Power BI with Dynamics 365
2:20—3:15 PM	Workflow to Flow: Upgrading your Automation	Building a Model-Driven App in Dynamics 365 using Power Apps and OOB Functionality	Sprinkle Some AI into your Implementations!
3:25—4:20 PM	Learning from the Failures of Others	Upgrading to Unified Client Interface	DevOps for Small Implementations
4:30 PM	Prize Raffle		



#PowerUpPhilly • Wifi MSFTGuest Event Attendee Code: msevent062yz

Event Survey: <https://bit.ly/2TKRE2F>



Session Surveys: <https://bit.ly/2TvWw0r>





**365 POWER UP
PHILLY!**

Please thank
your sponsors!



Microsoft

Solgari

eXalents