Designing and Developing PowerApps Portals



Agenda

- PowerApps Portal Architecture
- Portal Editor
- Portal Management App
- Portal Configuration
- Developing Web Templates



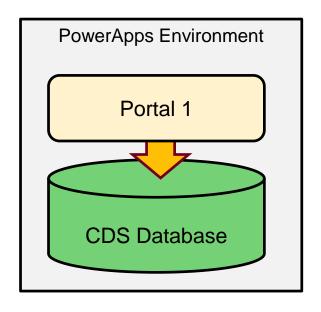
PowerApps Portals

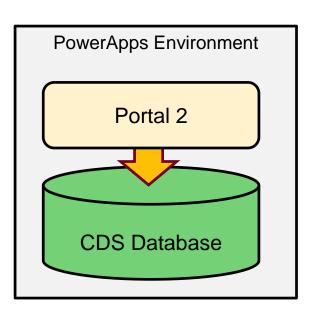
- PowerApps portals provide web development platform
 - Create websites for anonymous users and/or authenticated user
 - Allows for authentication through LinkedIn, Facebook, Twitter, etc.
- Portal content managed by business users
 - Portal Editor used to add pages and author content
 - Portal Management app created along with portal
- Portal can be customized by web developers
 - Portal can be extended with custom web templates
 - Web templates can be written to access CDS entities



PowerApps Portal Architecture

- PowerApps portals built on Common Data Service
 - You must create a environment with CDS database to create portal
 - CDS used to track data for pages, templates an site content
 - Creating portals triggers installation of several ADX solutions

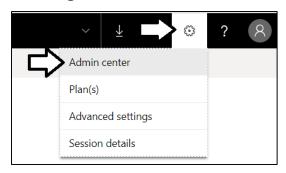




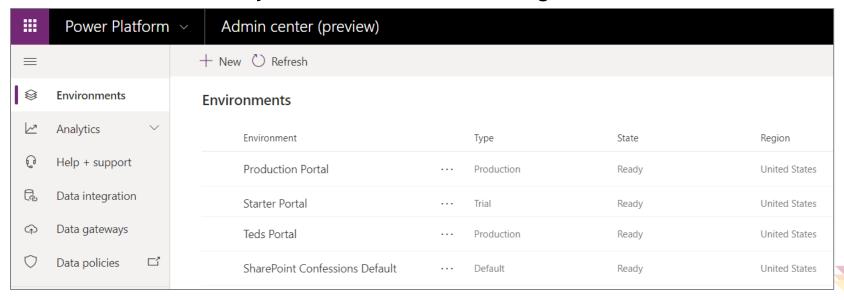


This Isn't Your Fathers PowerApps Admin Center

Navigate to the new PowerApps admin center

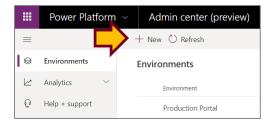


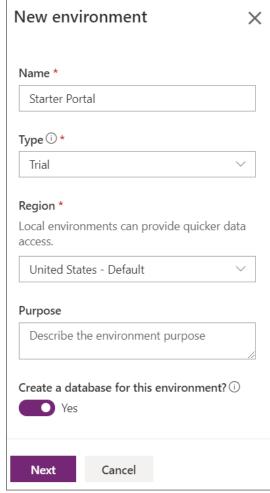
Admin center allows you to create and manage environments

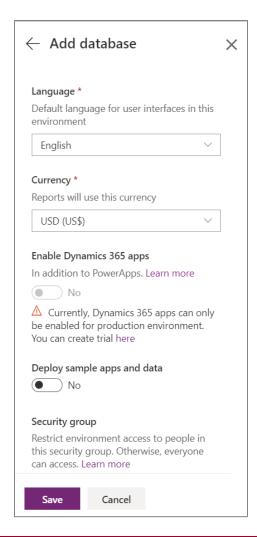


Creating a New Environment

Use New command in the new admin center









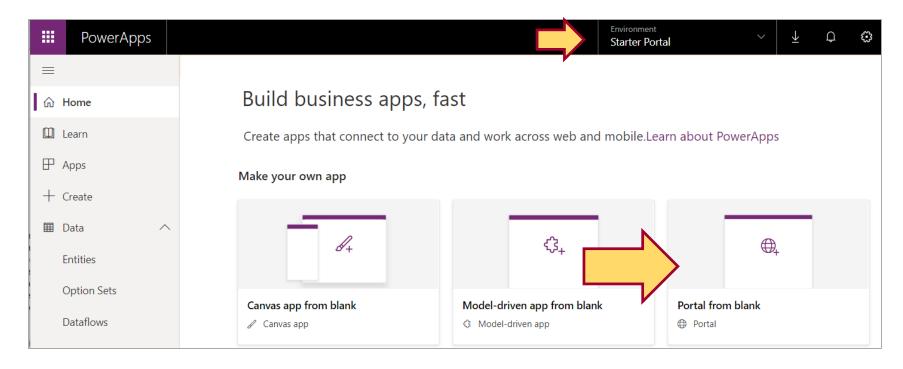
Configuring Environment Features

 	Power Platfor	m v	Admin center (preview)	
8	Environments		Environments > Starter Portal > Settings	
<u>~</u>	Analytics	/		
e e	Help + support		Behavior	Email settings
R	Data integration		Features	Email tracking
رھ	Data integration		Languages □	Mailboxes □
(7)	Data gateways		Privacy + Security	Server profiles □
\bigcirc	Data policies □	3	↑ ≜ Business	
-			Business closures □	Microsoft Social Engagement ロ
A	Admin centers ~		Calendar □	
			Currencies □	Data management
			Regional formatting ロ	Announcements □
			へ റ്റ് Users + permissions	Auto numbering □
			As esers : permissions	Automatic record creation policies \Box
			Business units □	Bulk deletion □
			Hierarchy security 다	Data import wizard □
			Positions □	Data maps □*
			Security roles □	Duplicate detection ☐
			Teams □	Mobile configuration ☐
_			Users □	Templates □²



Creating a New PowerApps Portal

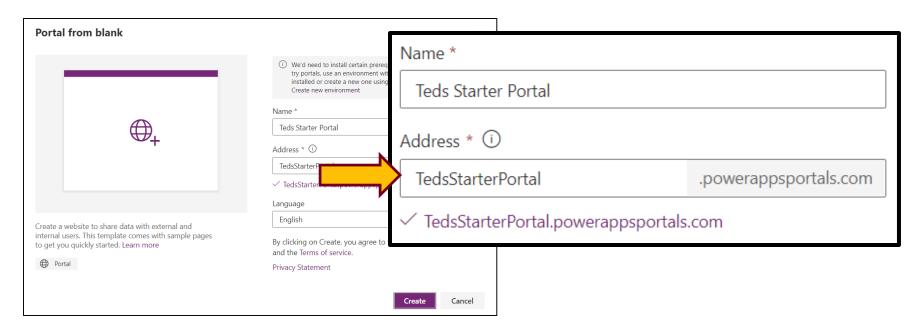
- New portal created using PowerApps Maker Portal
 - Select your target environment
 - Create portal using Portal from blank template

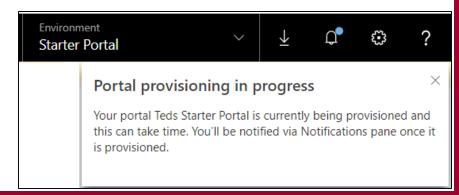




Providing Portal Provisioning Data

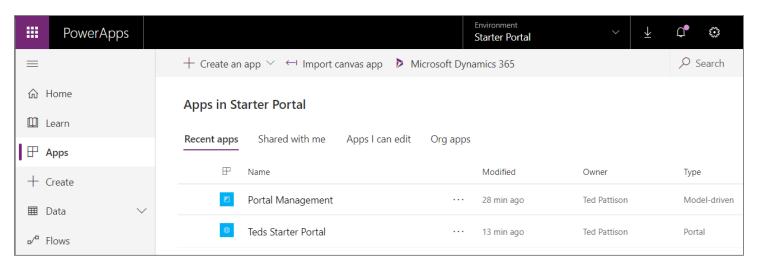
Portal requires Name and unique address





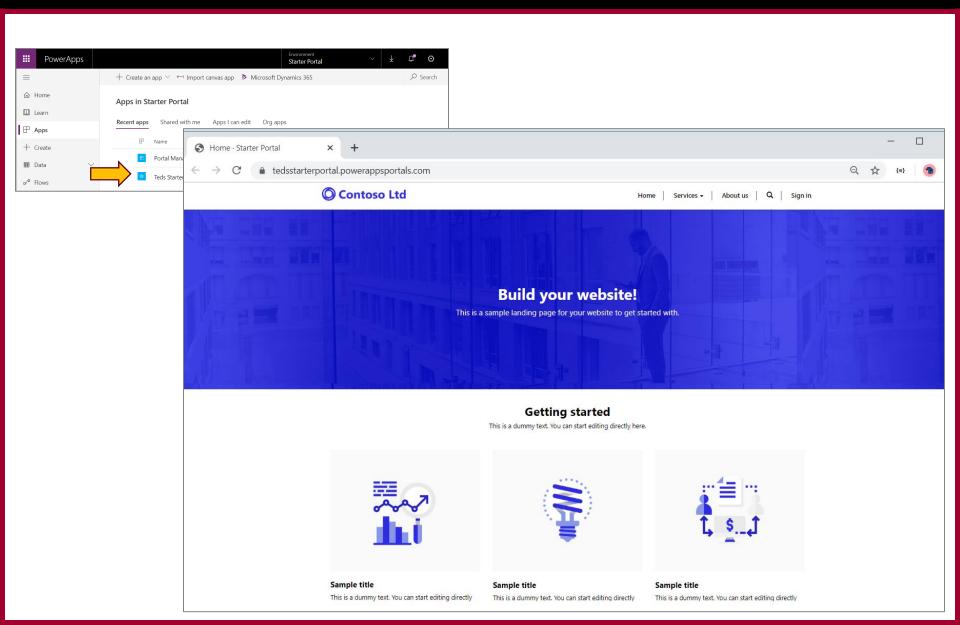
Portal Apps

- Provisioning a portal creates two applications
 - PowerApps portal
 - Model-driven app named Portal Management





Launching the Portal



Solutions Installed to Support Portals

Creation of portal triggers installation of ADX solutions

!!! PowerApps						
=	+ New solution ← Import 🖺 Open AppSource [📑 Publish a	ıll customizations ☐ S	witch to classic 🛭 🖰	Solution checker ∨	
ம் Home	Solutions					
☐ Learn	Display name		Name	Created ↓	Version	Managed externally?
□ Apps	Common Data Service Starter Portal		CDSStarterPortal	10/30/2019	9.2.10.10	А
+ Create	Dynamics 365 Portals - Base Html Editor		BaseHtmlEditor_portal	10/30/2019	1.1.1.1	А
⊞ Data ∨	Dynamics 365 Portals - Timeline		MicrosoftPortalTimel	10/30/2019	9.2.10.0	А
o/o Flows	Dynamics 365 Portals - Azure Storage		MicrosoftAzureStora	10/30/2019	9.2.10.0	А
∘	Dynamics 365 Portals - Feedback		Feedback	10/30/2019	9.2.10.0	А
Solutions	Dynamics 365 Portals - Web Forms		MicrosoftPortalWebF	10/30/2019	9.2.10.0	А
	Dynamics 365 Portals - Identity Workflows		MicrosoftldentityWo	10/30/2019	9.2.10.0	А
	Dynamics 365 Portals - Identity System Workfl		MicrosoftldentitySys	10/30/2019	9.2.10.0	А
	Dynamics 365 Portals - Identity		MicrosoftIdentity	10/30/2019	9.2.10.0	A
	Dynamics 365 Portals - Web Notification		WebNotification	10/30/2019	9.2.10.0	A
	Dynamics 365 Portals - Portal Base Workflows		MicrosoftCrmPortalB	10/30/2019	9.2.10.0	A
	Dynamics 365 Portals - Portal Base System Wor		MicrosoftCrmPortalB	10/30/2019	9.2.10.0	A
	Dynamics 365 Portals - Portal base		MicrosoftPortalBase	10/30/2019	9.2.10.0	A
	Portal Privacy Extensions	•••	msdynce_PortalPriva	10/30/2019	9.2.10.0	Α
	Dynamics 365 Portals - Portal dependencies	•••	MicrosoftPortalDepe	10/30/2019	9.2.10.0	А
	Common Data Services Default Solution		Cr7c436	10/12/2019	1.0.0.0	â
	Default Solution		Default	10/12/2019	1.0	â



PowerApps Portal Entities

Ad	adx_ad
Ad Placement	adx_adplacement
Alert Subscription	adx_alertsubscription
Change Password for Portals Contact	adx_bpf_c2857b638fa7473d
Content Snippet	adx_contentsnippet
Entity Form	adx_entityform
Entity Form Metadata	adx_entityformmetadata
Entity List	adx_entitylist
Entity Permission	adx_entitypermission
External Identity	adx_externalidentity
Invitation	adx_invitation
Invite Redemption Page Alert	adx inviteredemption adx_pagealert
Page Notification	adx_pagenotification
Page Tag	adx_pagetag
Page Template	adx_pagetemplate
Poll	adx_poll
Poll Option	adx_polloption
Poll Placement	adx_pollplacement
Poll Submission	adx_pollsubmission
Portal Comment	adx_portalcomment
Portal Language	adx_portallanguage
Publishing State	adx_publishingstate
Publishing State Transition Rule	adx_publishingstatetransitionrule
Redirect	adx_redirect
Setting	adx_setting
Shortcut	adx_shortcut

Site Marker	adx_sitemarker
Site Setting	adx_sitesetting
Tag	adx_tag
URL History	adx_urlhistory
Web File	adx_webfile
Web File Log	adx_webfilelog
Web Form	adx_webform
Web Form Metadata	adx_webformmetadata
Web Form Session	adx_webformsession
Web Form Step	adx_webformstep
Web Link	adx_weblink
Web Link Set	adx_weblinkset
Web Notification Entity	adx_webnotificationentity
Web Notification URL	adx_webnotificationurl
Web Page	adx_webpage
Web Page Access Control Rule	adx_webpageaccesscontrolrule
Web Page History	adx_webpagehistory
Web Page Log	adx_webpagelog
Web Role	adx_webrole
Website	adx_website
Website Access	adx_websiteaccess
Website Binding	adx_websitebinding
Website Language	adx_websitelanguage
Web Template	adx_webtemplate



Portal Templates

Customer self-service portal

Provides customers with access info, support resources and order status

Partner portal

Provides portal for with resellers, distributors, suppliers and/or partners

Employee self-service portal

streamline common tasks and allows for sharing resource

Community portal

Facilitates interactions between customers and experts

Portal from blank

Minimum portal with a small set of sample pages



Portal Template Features

Feature	Customer self-service portal	Partner portal	Employee self-service portal	Community portal	Portal from blank
World Ready	•	•	•	•	•
Multi-Language Support	•	•	•	•	•
Portal Administration	•	•	•	•	•
Customization and Extensibility	•	•	•	•	•
Theming	•	•	•	•	•
Content Management	•		•	•	
Knowledge Management	•	•	•	•	
Support/Case Management	•		•	•	
Forums	•		•	•	
Faceted Search	•		•		
Profile Management	•		•		
Subscribe to Forum Thread	•		•		
Comments	•		•	•	
Azure AD Authentication			•		
Ideas				•	
Blogs				•	
Project Service Automation Integration		•			
Field Service Integration		•			
Partner Onboarding		•			
Portal Base	•	•	•	•	•
Portal Workflows	•	•	•	•	•
Web Notifications	•	•	•	•	•
Microsoft Identity	•	•	•	•	•
Identity Workflows	•	•	•	•	•
Web Forms	•	•	•	•	•
Feedback	•	•	•	•	•



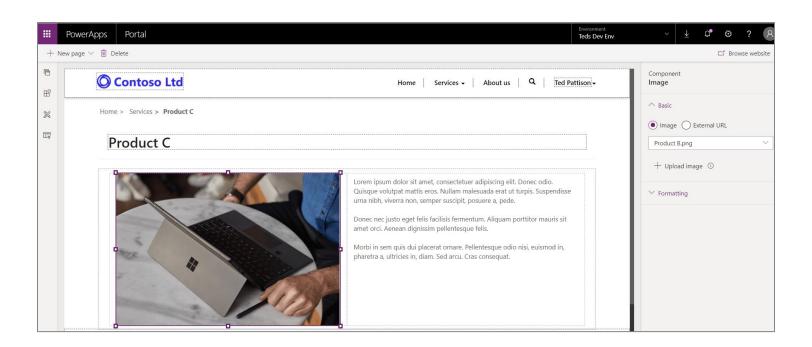
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Portal Editor

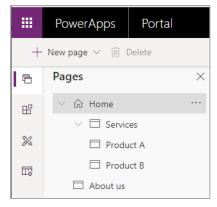
- Used to add pages and author page content
 - Designed for less-technical users
 - Editor not require web designer/developer skills





Page Hierarchy

- Web Page can have one or more child pages
 - Provides foundation for building page hierarchy



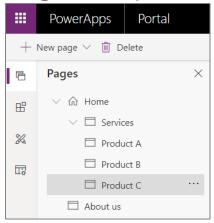
Page hierarchy used to build navigation menu



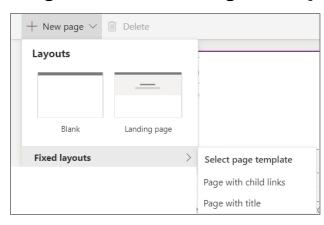


Adding and Navigating Pages

Pages tab provides navigation across pages



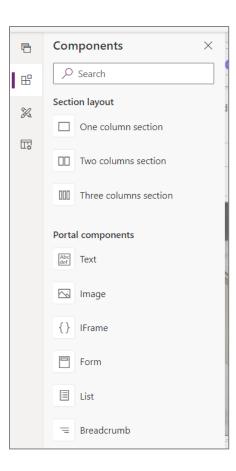
Pages added using New page menu button





Adding Page Content using Components

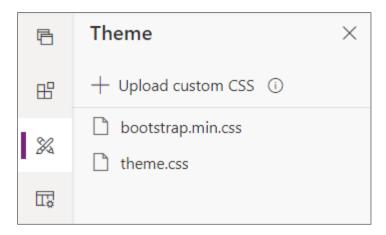
- Portal Editor provides Components for content authors
 - You drag components onto page design surface





Themes

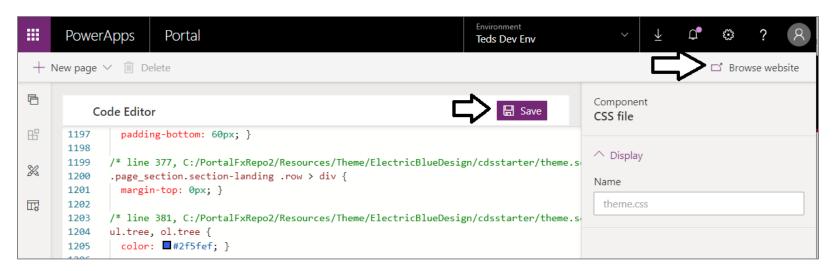
- PowerApps portals styled using Bootstrap 3
 - Not practical to use a more recent version of bootstrap (e.g. v4)
 - theme.css file is provided for your custom styles





Seeing Your Changes in the Portal

- Portal Editor provides Browse website button
 - Used to test how the portal will appear to others
 - Browse website clears cache to enabled development



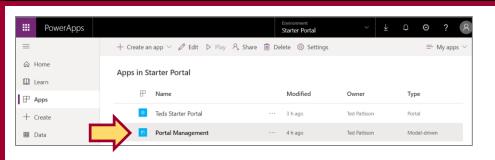


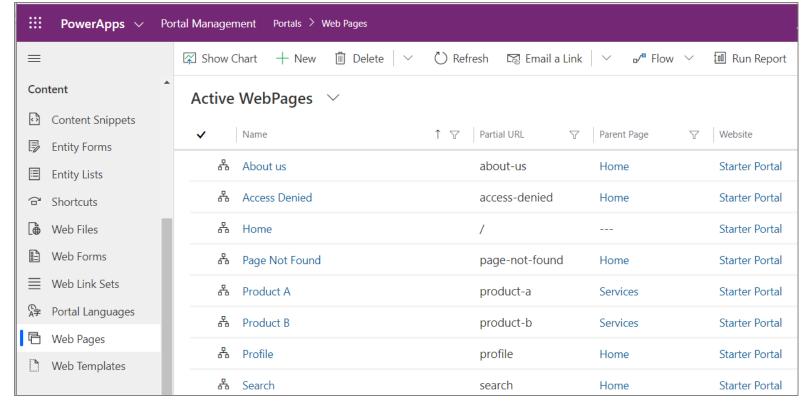
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Portal Management App



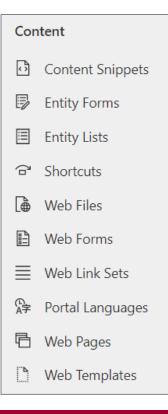


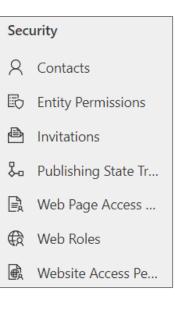


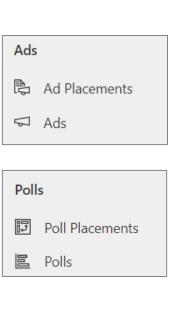
Portal Management App Entities

- Portal Management app provides access to portal entities
 - Website entities
 - Content entities
 - Security entities
 - Ad and Poll entities

Website Websites Page Templates Redirects Site Markers Site Settings Website Bindings Settings







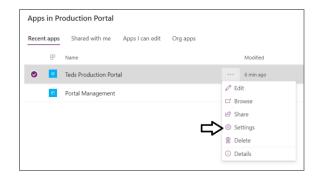


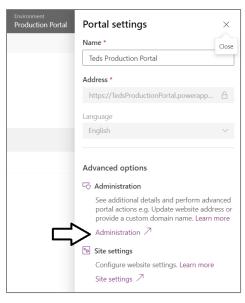
Agenda

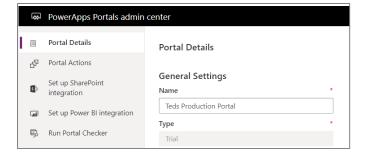
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Navigating to the Portal admin center



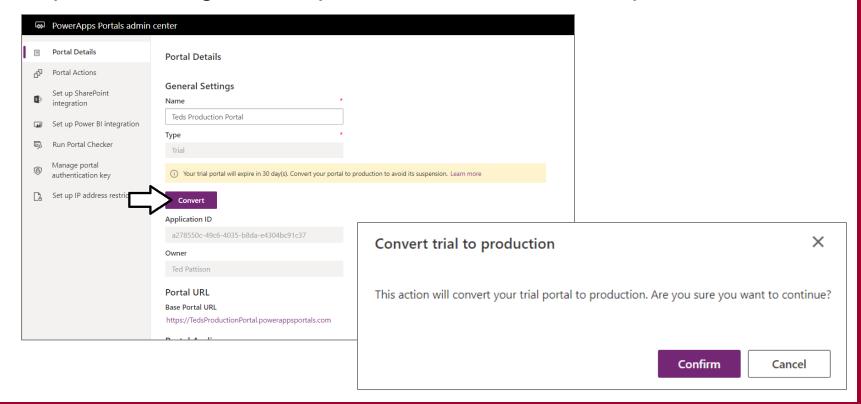






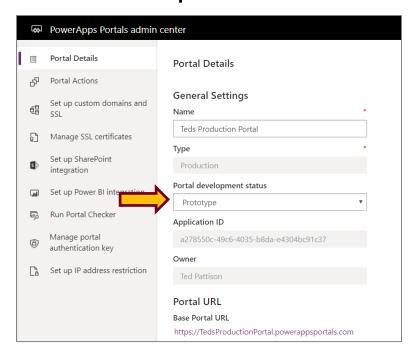
Converting from Trial to Production

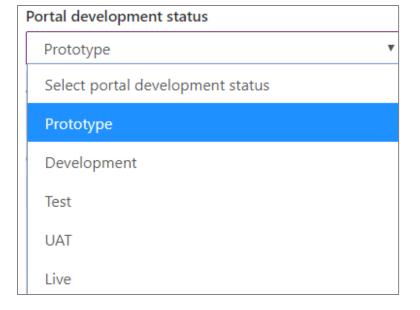
- Portal is created in trial mode
 - Portal must be converted to production mode within 30 days
 - Host environment must be in production mode to convert portal
 - Important configuration options not available in trial portal



Portal Development Status

Production portal has develop status property

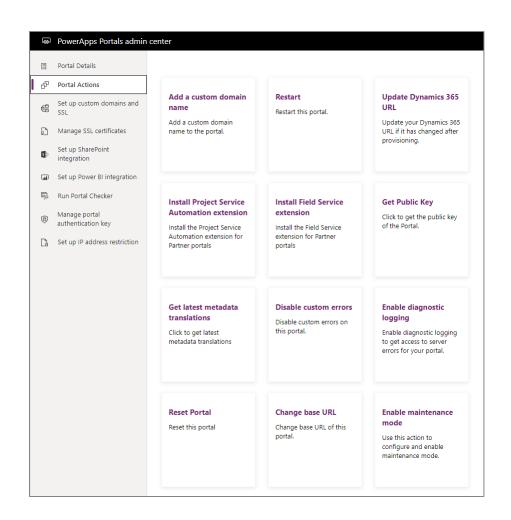






Portal Actions

- Import portal actions
 - Add custom domain
 - Configure SSL
 - Enable SharePoint Integration
 - Enabled Power BI Integration
 - Restart Portal
 - Reset Portal





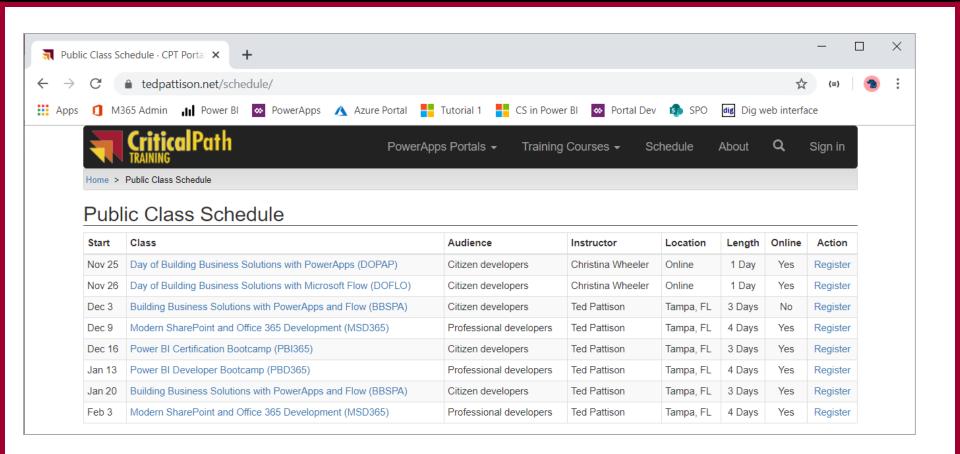
Integrating External Authentication Providers

- PowerApps portals allows for external authentication providers
 - Users can authenticate using LinkedIn, Facebook and Twitter

- Brian Knight (MVP) has some very useful videos
 - PowerApps Portals External Authentication with LinkedIn https://www.youtube.com/watch?v=8Zx2RBhwV4I
 - PowerApps Portals External Authentication with Facebook https://www.youtube.com/watch?v=egfnaXlqpwU



Demo Portal at www.TedPattison.net





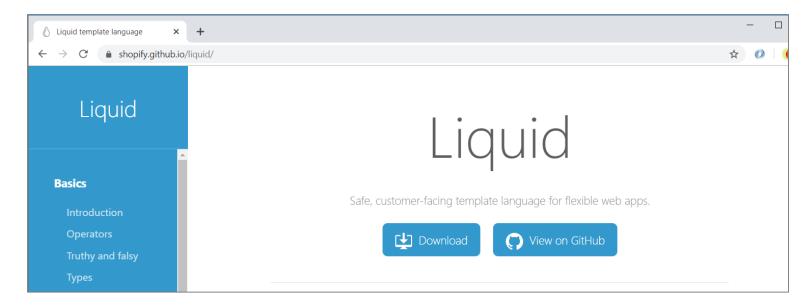
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Liquid Template Language

- Liquid is open-source template language
 - Created by Shopify in 2006
 - Currently used by 100s of websites and ISVs
 - Designed to surface data from databases into web pages
 - Liquid template code runs in the cloud in secure manner
 - Docs and tutorial available at https://shopify.github.io/liquid/





Liquid 101 – Objects and Tags

Objects and variables denoted by double curly braces: {{ and }}

```
Input
{{ page.title }}

Output
Introduction
```

Tags with logic use curly braces and percent signs: {% and %}.

```
Input

{% if user %}
  Hello {{ user.name }}!
  {% endif %}

Output

Hello Adam!
```



Liquid Objects

The follow Liquid objects are available in PowerApps portals

now	A date/time object that refers to the current UTC time at the time the template is rendered.		
page	current portal request page with title and URL		
params	request.params		
request	Contains information about the current HTTP request. More information: request		
settings	ttings Allows you to load any Site Setting by name. More information: settings		
sitemap	Allows access to the portal site map. More information: sitemap		
sitemarkers	markers Allows you to load any Site Markers by name. More information: sitemarkers		
snippets	snippets Allows you to load any Content Snippet by name. More information: snippets		
user	Refers to the current portal user. If no user is signed in, this variable will be null.		
weblinks	weblinks Allows you to load any Web Link Set by name or ID. More information: weblinks		
website	current portal Website record with website properties		

- PowerApps-specific reference for Liquid template language
 - https://docs.microsoft.com/en-us/powerapps/maker/portals/liquid/liquid-overview



Liquid 101 - Filters

Filters transform objects and are separated by a |

```
Input
{{ "/my/fancy/url" | append: ".html" }}

Output
/my/fancy/url.html
```

```
Input
{{ "adam!" | capitalize | prepend: "Hello " }}

Output
Hello Adam!
```



Liquid 101 – where filter

where can be used to filter records

```
Input
All products:
{% for product in products %}
- {{ product.title }}
{% endfor %}
{% assign kitchen_products = products | where: "type", "kitchen" %}
Kitchen products:
{% for product in kitchen products %}
- {{ product.title }}
{% endfor %}
Output
All products:
- Vacuum
- Spatula
- Television
- Garlic press
Kitchen products:
- Spatula
- Garlic press
```



Creating a Solution with Custom Entities

Solutions > Critical Path Training Solution						
Display name ✓		Name	Type ✓			
Audience		cpt_audience	Option Set			
Class		cpt_class	Entity			
Class Location		cpt_classlocation	Entity			
Course		cpt_course	Entity			
Course Length		cpt_length	Option Set			
Training Class Management □		cpt_TrainingClassManagement	Client Extension			
Training Class Management □		cpt_TrainingClassManagement	Model-driven App			
Import class events from Eventbrite ☑		Import class events from Eventbrite	Flow			



The Course Entity

Solutions > Critical Path Training Solution > Course				
<u>Fields</u> Relationships Business rules Views Forms	Dashboards Charts Keys Data			
Display name ↑ ∨	Name ∨	Data type ∨		
Audience	··· cpt_audience	■ Option		
Course Code	··· cpt_coursecode	Abc Text		
Currency	··· transactioncurrencyid	匪 Lookup		
Description	··· cpt_description	Abc Text Area		
Description URL	··· cpt_descriptionurl	Abc URL		
Exchange Rate	··· exchangerate	X₂ Decimal		
Length	··· cpt_length	■ Option		
List Price	··· cpt_listprice	Currency		
List Price (Base)	··· cpt_listprice_base	Currency		
Name Primary Field	··· cpt_name	Abc Text		



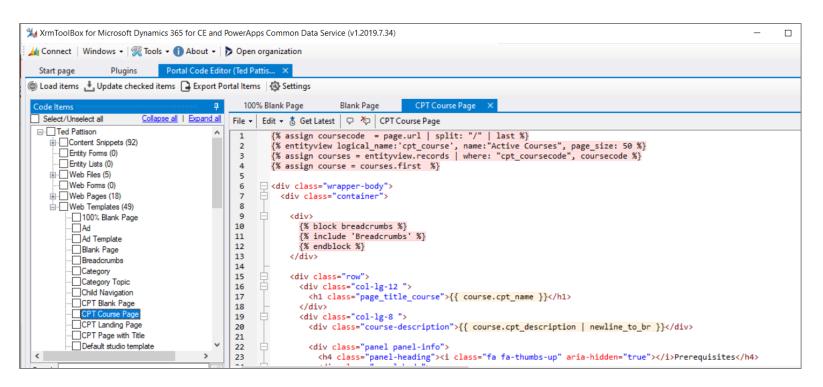
The Class Entity

Solutions > Critical Path Training Solution > Class					
Fields Relationships Business rules	Views Forms Dashboards Charts Keys Data				
Display name ↑ ∨	Name ∨	Data type ∨			
Attend Online	··· cpt_attendonline	≡ Two Options			
Course	··· cpt_course	⊞ Lookup			
Description	··· cpt_description	Abc Text Area			
End	··· cpt_end	Date and Time			
EventbriteID	··· cpt_eventbriteid	Abc Text			
Instructor	··· cpt_instructor	臣 Lookup			
Location	··· cpt_location	臣 Lookup			
Name Primary Field	··· cpt_name	Abc Text			
Resgistration Url	··· cpt_resgistrationurl	Abc URL			
Start	··· cpt_start	₿ Date and Time			



XrmToolbox

- Authoring Tool for PowerApps Portals
 - Provides plug-ins for authoring and managing portals





Using Liquid to Access Entity Data

- Web Template created using Liquid scripting language
 - Can be used to access CDS data

```
<thead class="thead-dark">
    Start
    Instructor
    Location
    Action
  </thead>
 {% entityview logical name: 'cpt_class', name: "Active Classes", page_size: 50 %}
 {% assign classes = entityview.records | where: "cpt Class Course cpt Course.cpt coursecode", course.cpt coursecode |
                                order by: "cpt start" %}
 {% for item in classes %}
 {{item.cpt start | date: "MMM d"}}
   {{item.cpt instructor.name}}
   {{item.cpt location.name}}
   <a href="{{item.cpt registrationurl}}" target=" blank">Register
 {% endfor %}
 {% endentityview %}
```



Summary

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