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
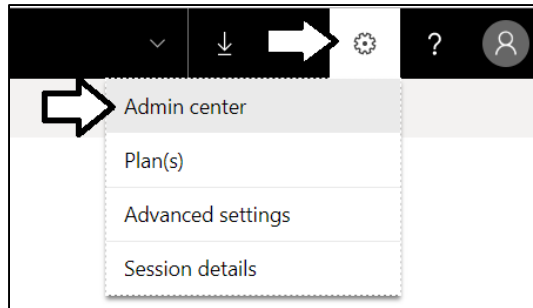 - Web templates can be written to access CDS entities

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
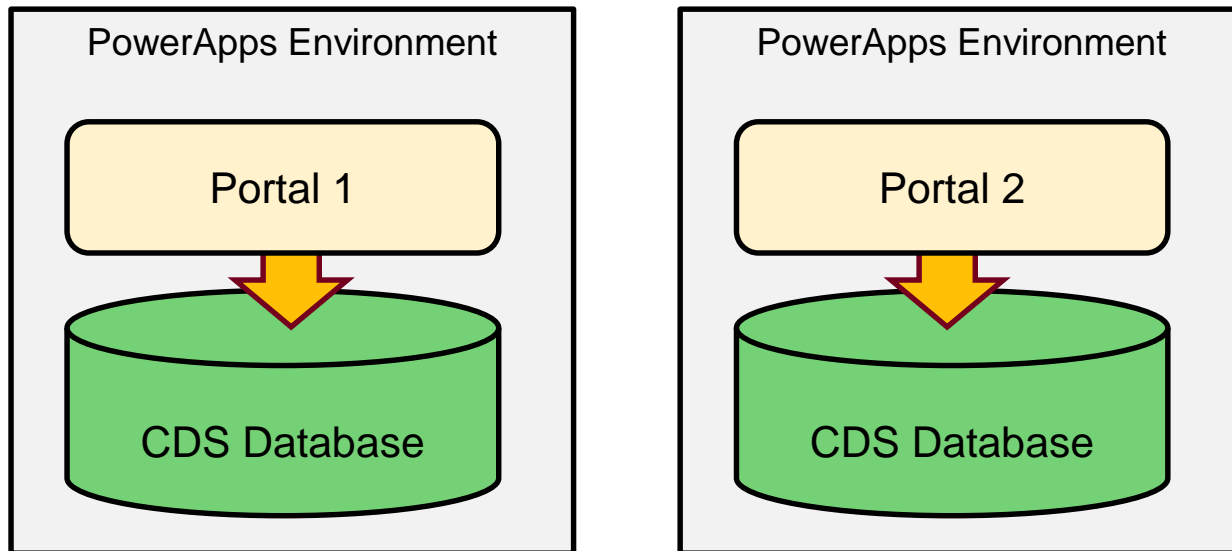
This Isn't Your Fathers PowerApps Admin Center

- 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 Platform ∨ | Admin center (preview)

Environments > Starter Portal > Settings

⚙ Product

Behavior

Features

Languages ⤢

Privacy + Security

🔒 Business

Business closures ⤢

Calendar ⤢

Currencies ⤢

Regional formatting ⤢

👥 Users + permissions

Business units ⤢

Hierarchy security ⤢

Positions ⤢

Security roles ⤢

Teams ⤢

Users ⤢

✉ Email

Email settings

Email tracking

Mailboxes ⤢

Server profiles ⤢

🪟 Services

Microsoft Social Engagement ⤢

📑 Data management

Announcements ⤢

Auto numbering ⤢

Automatic record creation policies ⤢

Bulk deletion ⤢

Data import wizard ⤢

Data maps ⤢

Duplicate detection ⤢

Mobile configuration ⤢

Templates ⤢

Left navigation menu

- 📚 Environments
- 📈 Analytics ∨
- 🎧 Help + support
- 🗃 Data integration
- ☁ Data gateways
- 🛡 Data policies ⤢
- 🅰 Admin centers ∨

Creating a New PowerApps Portal

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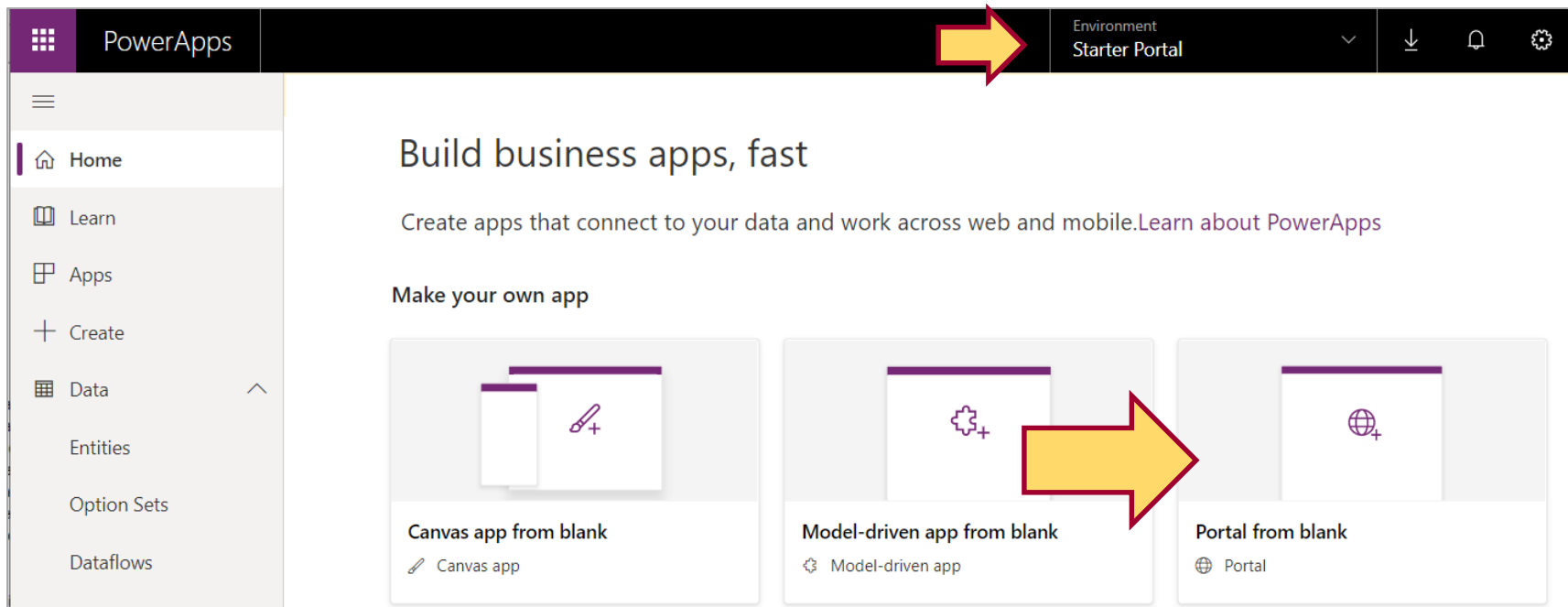
Providing Portal Provisioning Data

- 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 Portal Entities

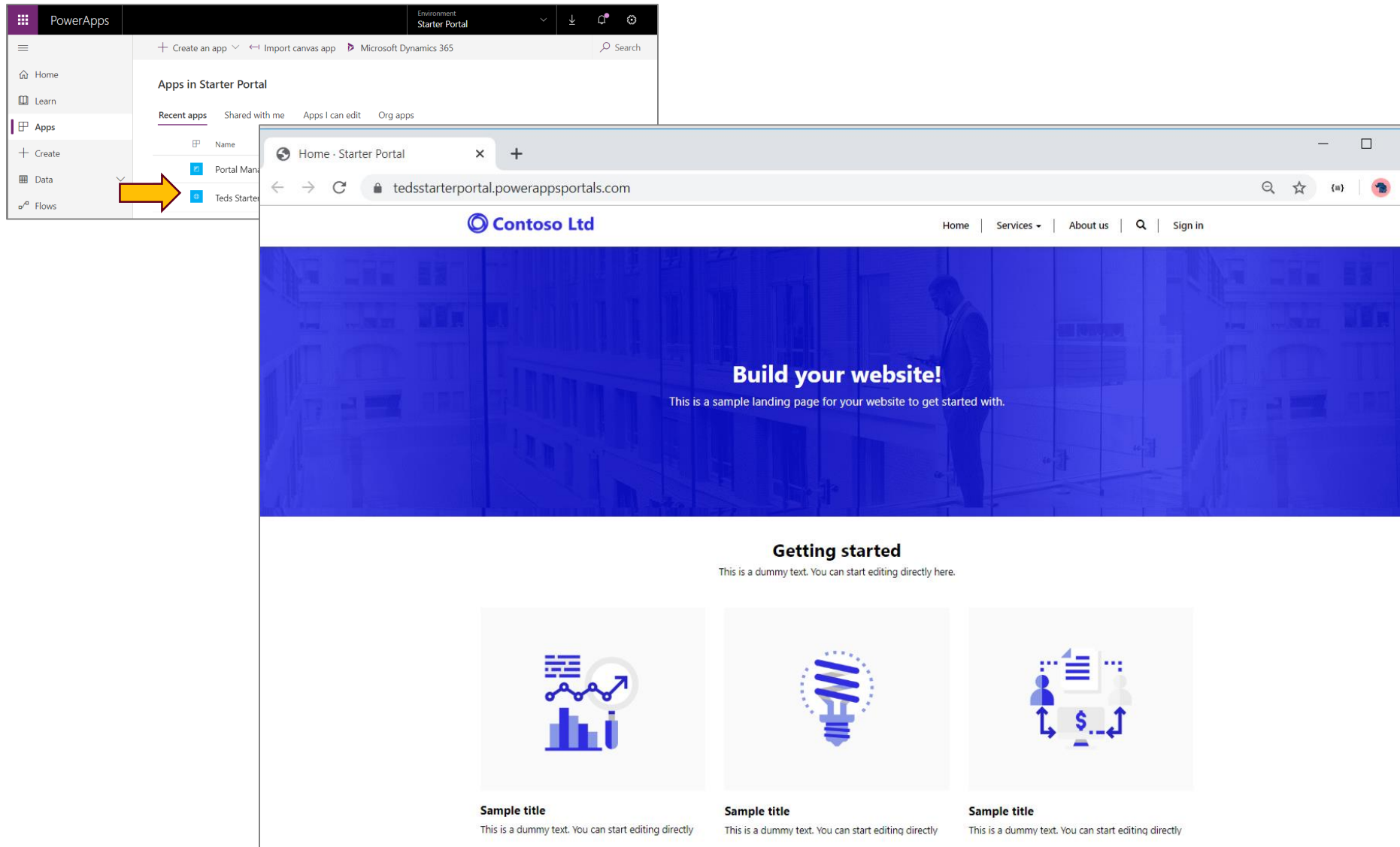|	
Ad	adx_ad
Ad Placement	adx_adplacement
Alert Subscription	adx_alertsubscription
Change Password for Portals Contact	adx_bpf_c2857b638fa7473d
Content Snippet	adx_contentsnippet
Entity Form	adx_entityform
Entity Form Metadata	adx_entityformmetadata
Entity List	adx_entitylist
Entity Permission	adx_entitypermission
External Identity	adx_externalidentity
Invitation	adx_invitation
Invite Redemption	adx_inviteredemption
Page Alert	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	•	•	•	•	•

Agenda

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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
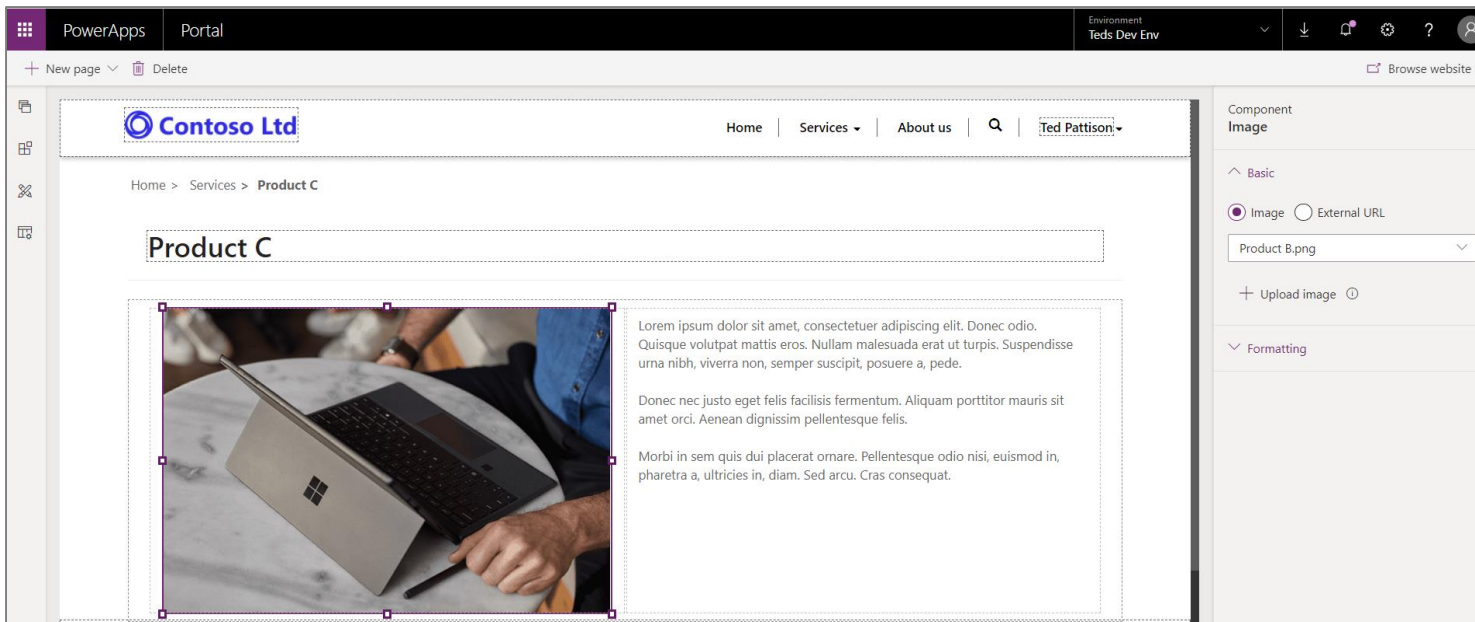
Page Hierarchy

- ## Web Page can have one or more child pages
  - ### Provides foundation for building page hierarchy
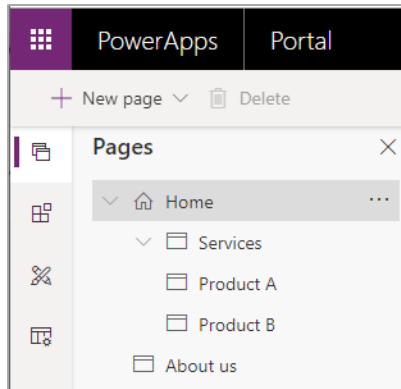
  - ### Page hierarchy used to build navigation menu

Adding and Navigating Pages

- **Pages** tab provides navigation across pages
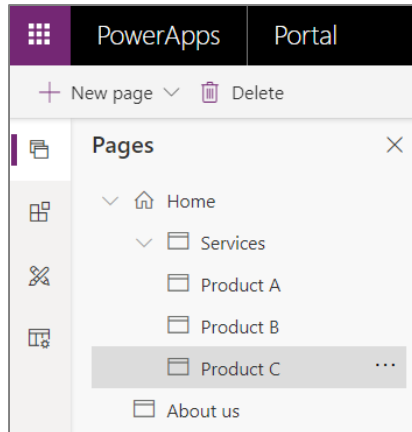
- Pages added using **New page** menu button
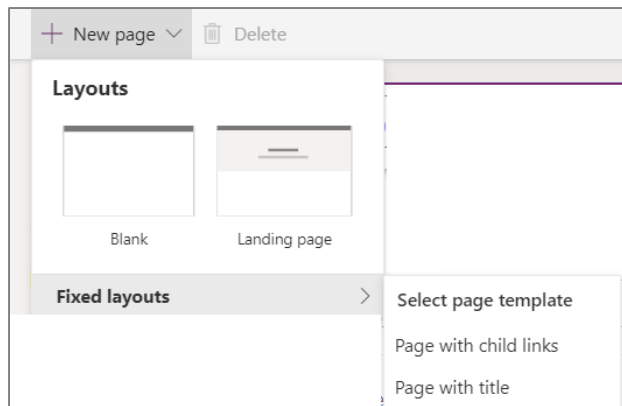
Adding Page Content using Components

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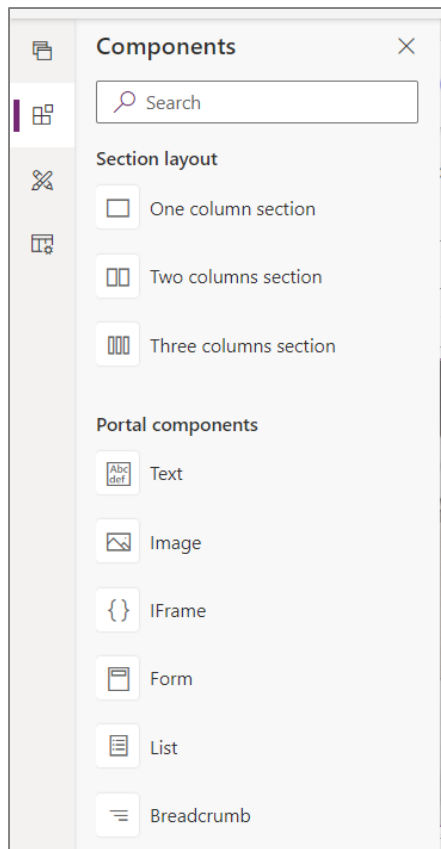
Themes

- 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
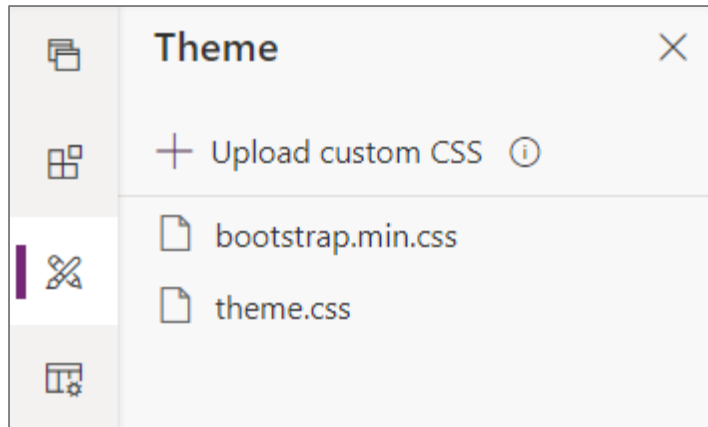
Seeing Your Changes in the Portal

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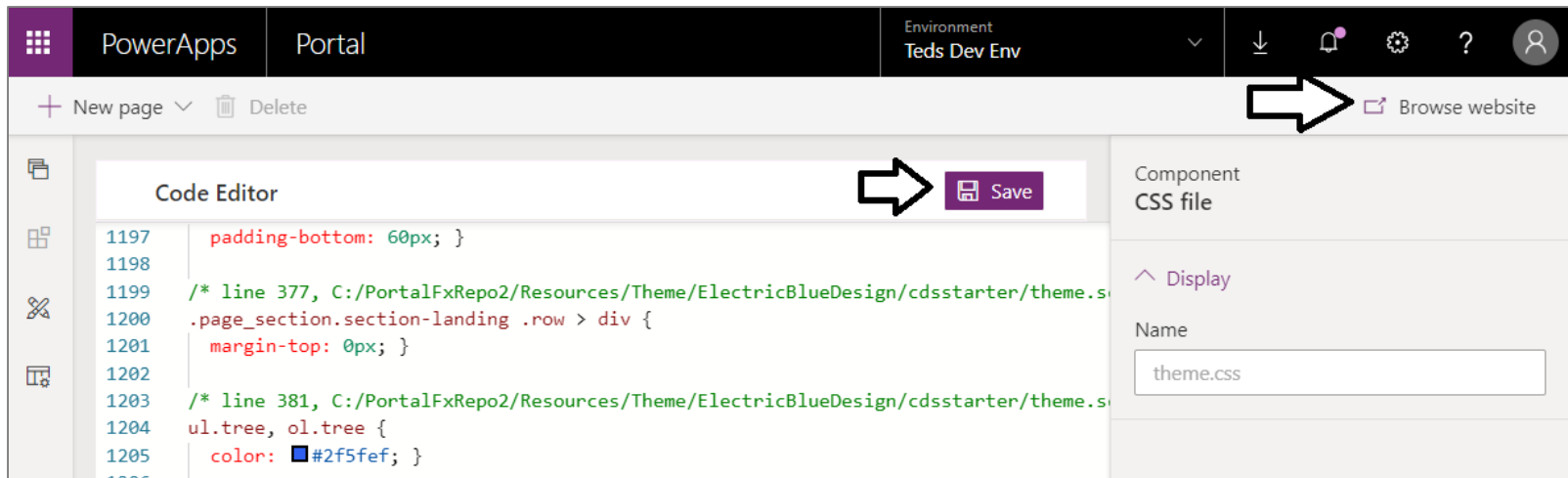
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✓ Portal Editor

➢ Portal Management App

• Portal Configuration

• Developing Web Templates

Portal Management App
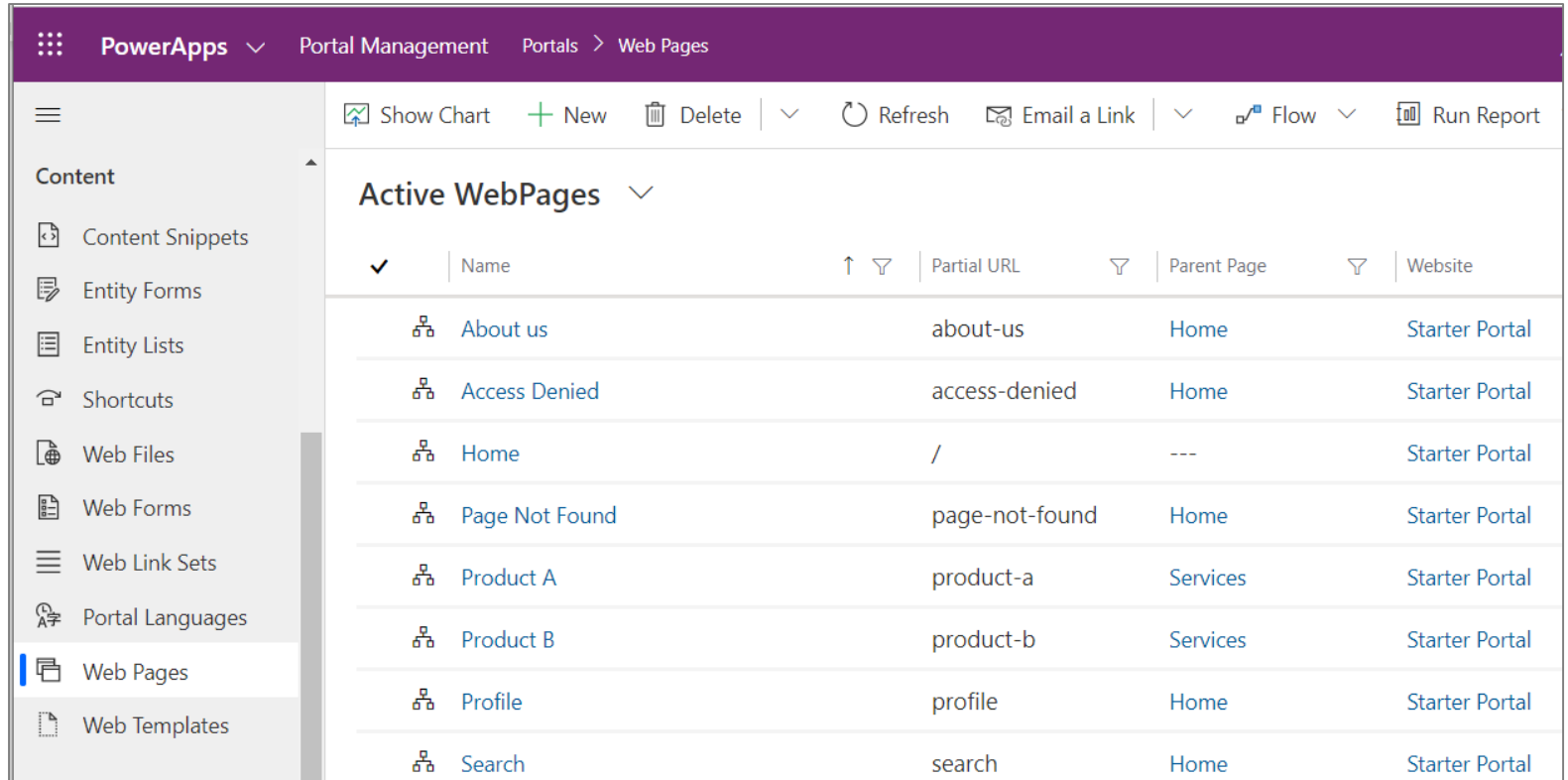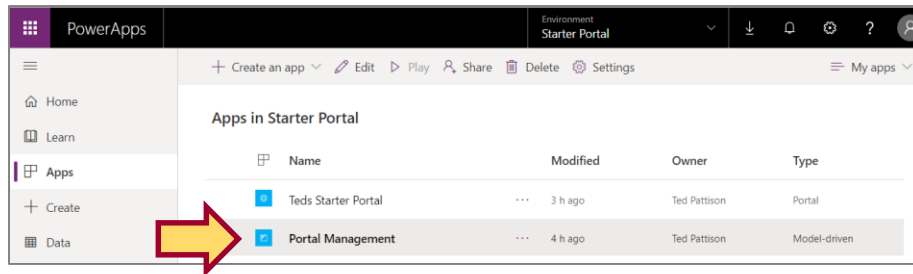
Portal Management App Entities

- 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

Content
- Content Snippets
- Entity Forms
- Entity Lists
- Shortcuts
- Web Files
- Web Forms
- Web Link Sets
- Portal Languages
- Web Pages
- Web Templates

Security
- Contacts
- Entity Permissions
- Invitations
- Publishing State Tr...
- Web Page Access ...
- Web Roles
- Website Access Pe...

Ads
- Ad Placements
- Ads

Polls
- Poll Placements
- Polls

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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
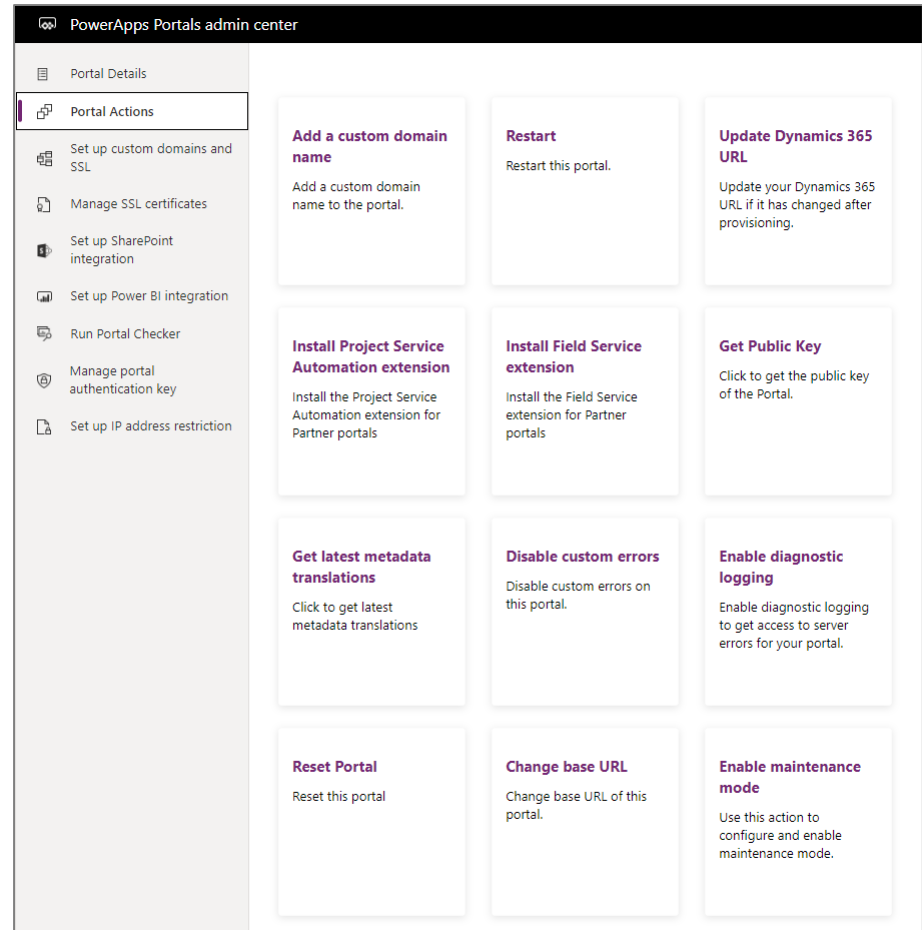
Integrating External Authentication Providers

- 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=egfnaXIqpwU

Demo Portal at www.TedPattison.net

Public Class Schedule · CPT Portal

🔒 tedpattison.net/schedule/

Apps | M365 Admin | Power BI | PowerApps | Azure Portal | Tutorial 1 | CS in Power BI | Portal Dev | SPO | Dig web interface

CriticalPath TRAINING

PowerApps Portals ▾   Training Courses ▾   Schedule   About   🔍   Sign in

Home > Public Class Schedule

Public Class Schedule

| Start	Class	Audience	Instructor	Location	Length	Online	Action
Nov 25	Day of Building Business Solutions with PowerApps (DOPAP)	Citizen developers	Christina Wheeler	Online	1 Day	Yes	Register
Nov 26	Day of Building Business Solutions with Microsoft Flow (DOFLO)	Citizen developers	Christina Wheeler	Online	1 Day	Yes	Register
Dec 3	Building Business Solutions with PowerApps and Flow (BBSPA)	Citizen developers	Ted Pattison	Tampa, FL	3 Days	No	Register
Dec 9	Modern SharePoint and Office 365 Development (MSD365)	Professional developers	Ted Pattison	Tampa, FL	4 Days	Yes	Register
Dec 16	Power BI Certification Bootcamp (PBI365)	Citizen developers	Ted Pattison	Tampa, FL	3 Days	Yes	Register
Jan 13	Power BI Developer Bootcamp (PBD365)	Professional developers	Ted Pattison	Tampa, FL	4 Days	Yes	Register
Jan 20	Building Business Solutions with PowerApps and Flow (BBSPA)	Citizen developers	Ted Pattison	Tampa, FL	3 Days	Yes	Register
Feb 3	Modern SharePoint and Office 365 Development (MSD365)	Professional developers	Ted Pattison	Tampa, FL	4 Days	Yes	Register

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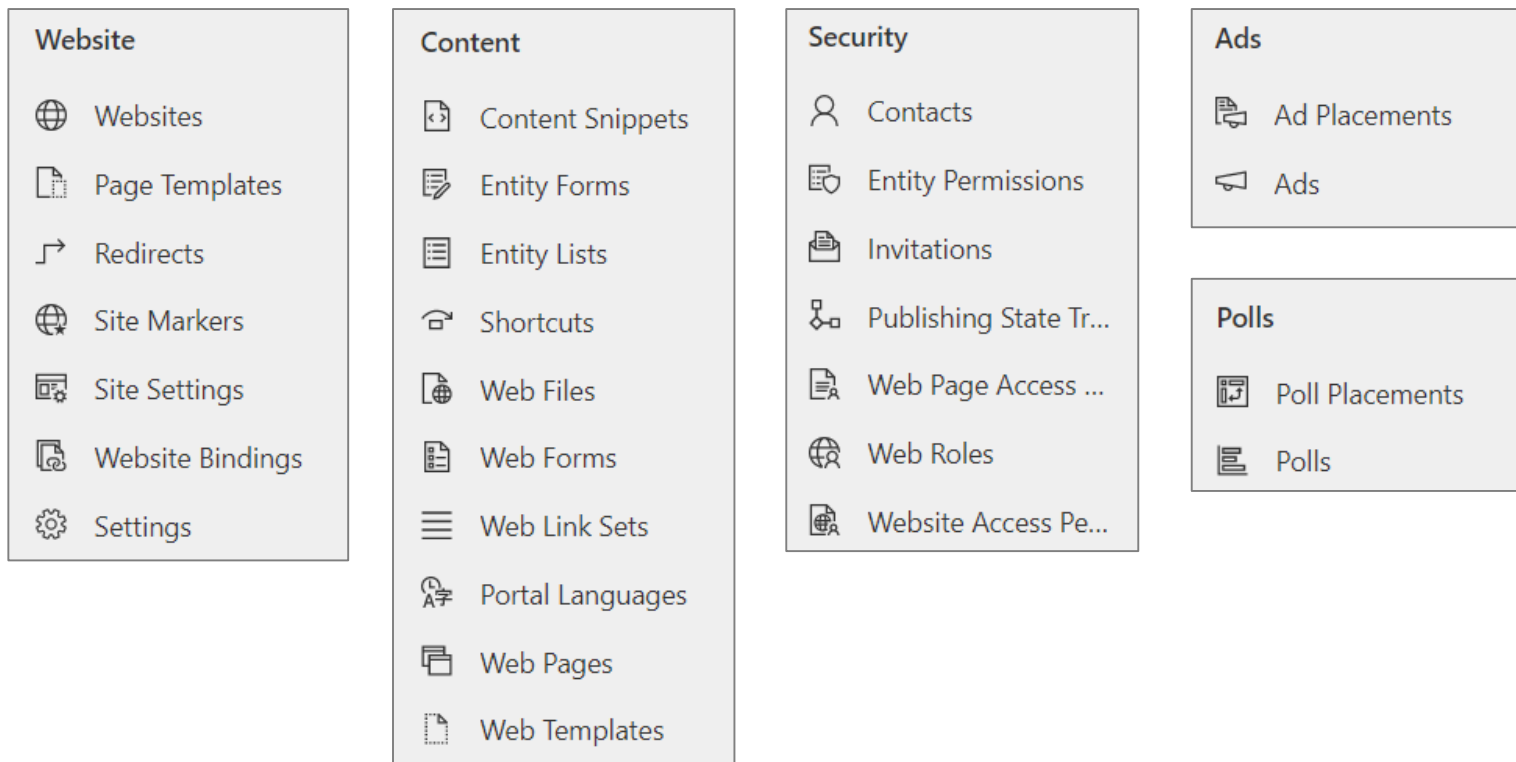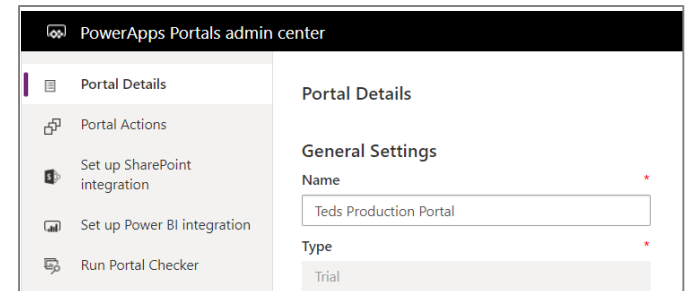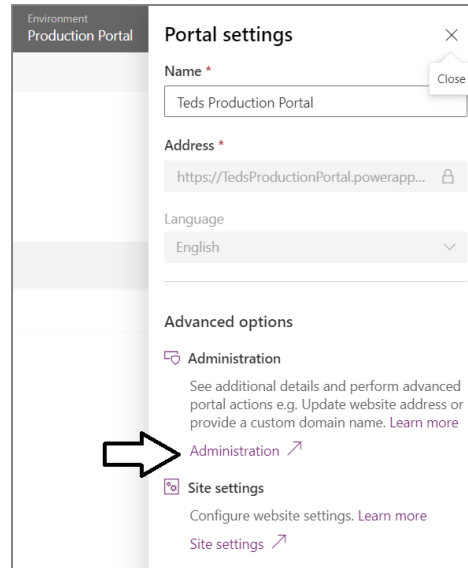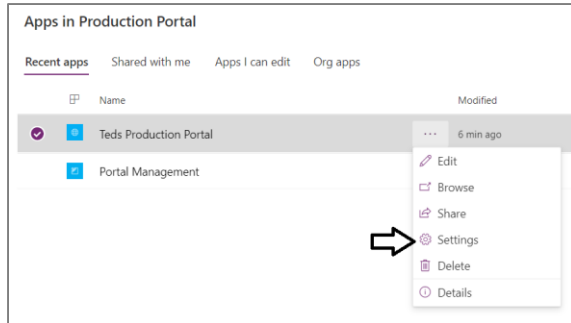- ✓ Portal Configuration
- ➢ Developing Web Templates

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/
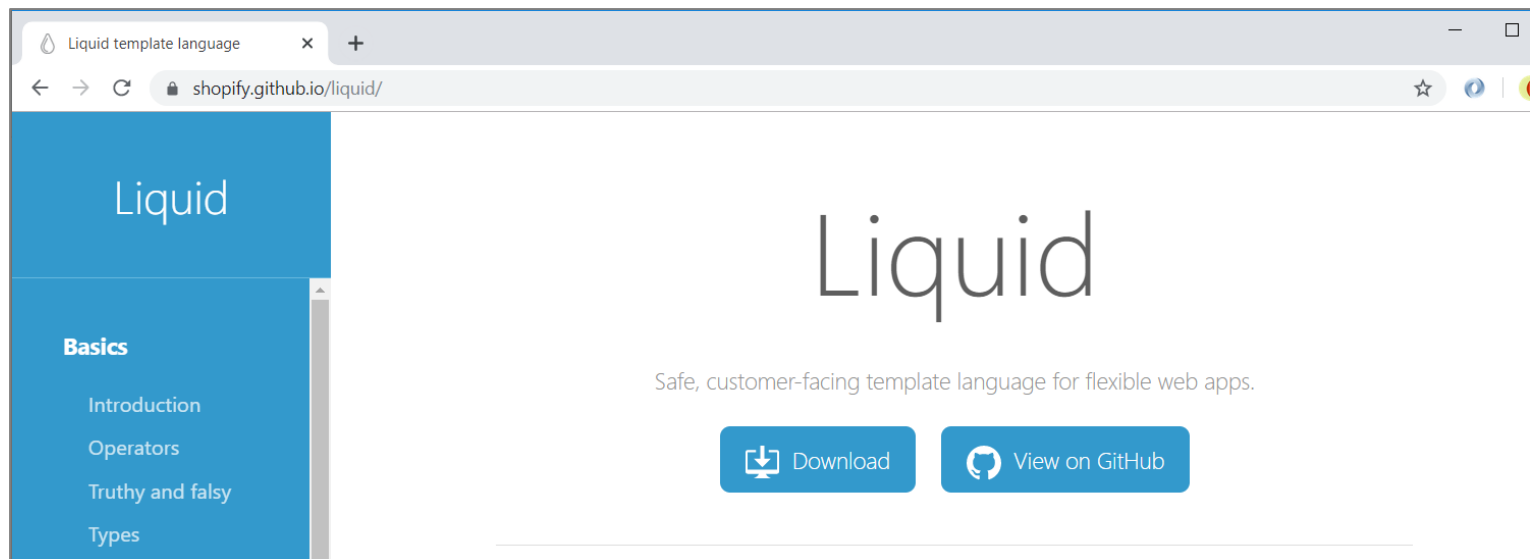
Liquid 101 – Objects and Tags

- **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	Allows you to load any Site Setting by name. More information: settings
sitemap	Allows access to the portal site map. More information: sitemap
sitemarkers	Allows you to load any Site Markers by name. More information: sitemarkers
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	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

Fields   Relationships   Business rules   Views   Forms   Dashboards   Charts   Keys   Data

Display name ↑ ∨		Name ∨	Data type ∨
Audience	⋯	cpt_audience	☰ Option ...
Course Code	⋯	cpt_coursecode	🔤 Text
Currency	⋯	transactioncurrencyid	▦ Lookup
Description	⋯	cpt_description	🔤 Text Area
Description URL	⋯	cpt_descriptionurl	🔤 URL
Exchange Rate	⋯	exchangerate	x_2 Decimal...
Length	⋯	cpt_length	☰ Option ...
List Price	⋯	cpt_listprice	💵 Currency
List Price (Base)	⋯	cpt_listprice_base	💵 Currency
Name Primary Field	⋯	cpt_name	🔤 Text

The Class Entity

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	🔤 Text Area
End	⋯	cpt_end	📅 Date and Time
EventbriteID	⋯	cpt_eventbriteid	🔤 Text
Instructor	⋯	cpt_instructor	▦ Lookup
Location	⋯	cpt_location	▦ Lookup
Name Primary Field	⋯	cpt_name	🔤 Text
Resgistration Url	⋯	cpt_resgistrationurl	🔤 URL
Start	⋯	cpt_start	📅 Date and Time

XrmToolbox

- Authoring Tool for PowerApps Portals
  - Provides plug-ins for authoring and managing portals
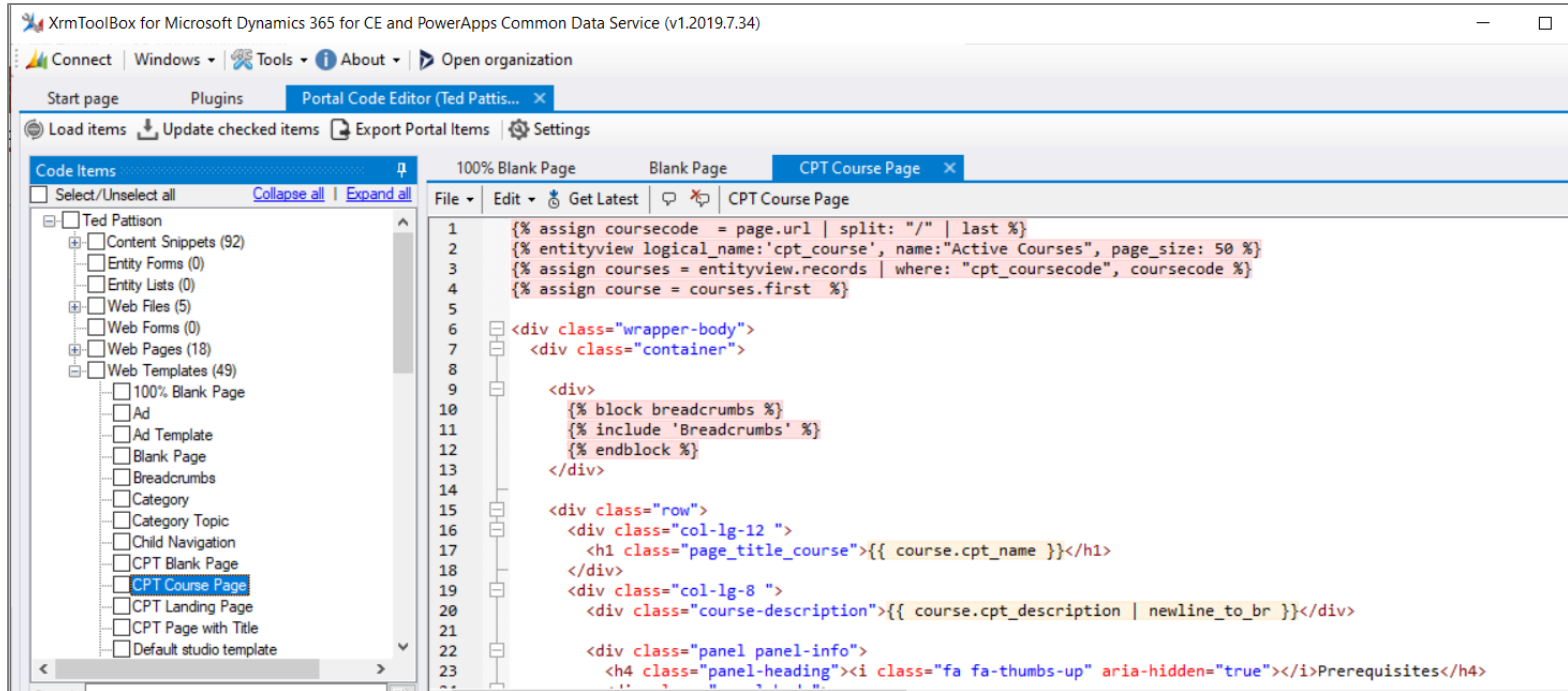
Using Liquid to Access Entity Data

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

```
<table class="table-schedule table table-bordered table-striped">
  <thead class="thead-dark">
    <tr>
      <th>Start</th>
      <th>Instructor</th>
      <th>Location</th>
      <th>Action</th>
    </tr>
  </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 %}
  <tr>
    <td>{{item.cpt_start | date: "MMM d"}}</td>
    <td>{{item.cpt_instructor.name}}</td>
    <td>{{item.cpt_location.name}}</td>
    <td><a href="{{item.cpt_registrationurl}}" target="_blank">Register</td>
  </tr>
  {% endfor %}
  {% endentityview %}
</table>
```

Summary

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