Administrator's Guide to Portal Capabilities for Microsoft Dynamics 365

Contents

What's new

Applies To: Dynamics 365 (online), Dynamics CRM Online

The December 2016 update has brought many new features to the portal capabilities of Dynamics 365. These updates allow for better interactions among companies, partners, and customers and make the experience of navigating the portal faster and easier. Some of the major updates include:

- **Multiple language support:** Support customers from multiple regions by using a single portal.
- **East Asian language support:** Multi-byte languages such as Japanese, Chinese, and Korean are now supported.
- **Faceted search:** New filters improve how quickly customers can find the content they are looking for while granting more control over visibility of content.
- **Product filtering:** Portal users can trim access knowledge articles related to their product ownership to avoid information overload.
- **Content access levels:** A new level of ownership associated with Portal contact, account, or web role that is used to control access to knowledge articles. Provide the right article for the right audience and prevent irrelevant articles from surfacing.
- **Knowledge article reporting enhancement:** The portal tracks where a knowledge article was used in the portal.
- **Project Service Automation integration:** Provide access and visibility for active and closed projects across all stages of a project lifecycle to partners and customers. Team members, reviewers, and customers can view project status, quotes, order forums, and bookable resources on the portal with this solution.
- **Field Service integration:** Expose information about active agreements, assets, work orders, invoices, and support cases to partners and customers on the portal with this solution.
- **Partner onboarding:** Recruit new partners for better customer sales and service experiences. Potential partners can apply for partner status through the portal.

Privacy notice

By enabling the portal capabilities for Microsoft Dynamics 365, Dynamics 365 data, such as customer name, product name, case number, or any custom entity data, can be exposed through an external-facing Dynamics 365 portal. Any data exposed through the portal is stored in memory in Microsoft Azure Web Apps for caching and also as files on the local hard drive to enable portal search functionality.

A tenant administrator enables Dynamics 365 portals by configuring it through the Dynamics 365 Administration Center, which also installs a package (with solutions and data) in the selected Dynamics 365 instance. A tenant administrator or a Dynamics 365 user set up as a Portal Administrator can then specify the data that will be exposed through the portal. To subsequently disable the portal capabilities, a tenant administrator can cancel the Portal Add-on subscription with Office 365.

Azure components and services that are involved with the portal capabilities are detailed in the following sections.

Note: For more information about additional Azure service offerings, see the Microsoft Azure Trust Center.

Azure Web Apps

Azure Web Apps are used to host the portal in Azure.

Azure Traffic Manager

Azure Traffic Manager is used to ensure the high availability of the service by routing the user to the Web Apps that are up and running.

Azure Service Bus

Azure Service Bus (Topics/Subscriptions) is used for cache invalidation of the portals. Azure Service Bus temporarily stores the messages, which are triggered when any portal-related record is changed in Dynamics 365, and are passed along to Web Apps to do the cache invalidation.

Azure Key Vault

All services store configuration data in Azure Key Vault.

Azure Storage

Data related to the organization, tenant, and portal is stored in Azure Storage.

Azure Active Directory

All the web services use Azure Active Directory to authenticate.

Installation Guide

Provision a portal

Applies To: Dynamics 365 (online), Dynamics CRM Online

Portals are websites that you can customize to provide a more personalized experience to your customers, partners, or internal employees. Portals integrate with Dynamics 365 to show data from Dynamics on the portal. By using portals, you can create a variety of experiences where portal users can perform several tasks. For example:

- Customers can submit cases and find knowledge articles
- Partners can see and manage sales opportunities
- Internal employees can create and see best practices

Note: You must be a Global Administrator role to provision a portal.

Before you provision a portal

You must create portal resources and finish the portal package installation before provisioning a portal.

Create portal resources

1. Go to the **Applications** page of the Dynamics 365 Administration Center.
2. Under **Application**, the portal will have the name of "*Name*-Configuring".
3. After this task is finished, this will change to "*Name*".

Verify completion of the package installation

1. Go to the **Applications** page of the Dynamics 365 Administration Center.
2. Select the portal, and then select the blue pencil button labeled **Manage**.
    a. If the installation process is not finished, there will be a message at the top stating "This portal is currently being configured and updates are not allowed. Please try again later."
    b. If the portal resources are created but the package installation is not finished, the message will instead be "Your Portal URL has been created. However, package installation is still in progress. Please check status here."

Provision a portal

To complete provisioning a portal, after you have purchased a new portal license, return to your Dynamics 365 instance.

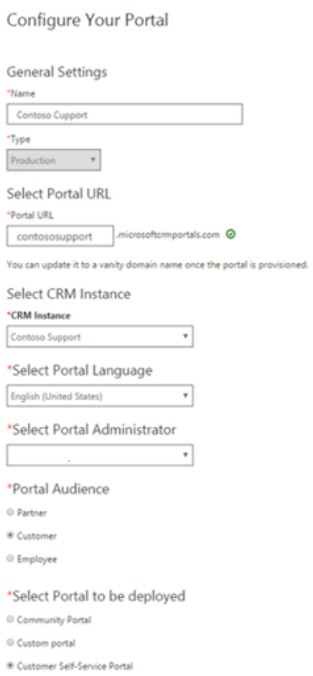
1. Go to the Dynamics 365 Administration Center and click the **Applications** tab.
2. Select the application row titled **Portal Add-On** and click **Manage.**
3. In the **General Settings** section, enter a **Name** for your portal. The **Name** will help to identify the portal and can be changed later.

4. The **Type** field represents the type of portal subscription (Trial or Production). This is a system field, so it cannot be changed by the user. The value changes based on if it is trial subscription or paid subscription.
5. In the **Portal URL** field, enter the subdomain name you want for your portal. You may only use alphanumeric characters or hyphens (-); other characters are not permitted. After the portal is provisioned, the URL cannot be changed, but a custom domain name can be used.
6. Use the **Dynamics 365 Instance** drop-down list to choose which Dynamics 365 instance you want to link the portal to. Requires System Administrator or System Customizer role in the Dynamics 365 instance you pick to select it.
7. Choose the default language for your portal from the **Select Portal Language** drop-down list. The available languages will depend on the languages that are installed in your Dynamics 365 instance. Sample data is only provided in one language, so choosing a default language will also decide how the sample data is translated. Arabic and Hebrew are not supported and will not show up.
8. In the **Select Portal Administrator** drop-down list, select the Dynamics 365 user who will configure, customize, and maintain the portal. All Dynamics 365 users who have the System Administrator role in the organization will show up as options.
9. In the **Portal Audience** section, choose the type of audience who will visit the new portal. This will determine what options of portals you will be given. You can choose:
   - Partner
     - Customer Self Service Portal
     - Custom Portal
     - Partner Portal
       - Partner Project Service (Optional, requires solutions installed)
       - Partner Field Service (Optional, requires solutions installed)
     - Community Portal
   - Customer
     - Customer Self Service Portal
     - Custom Portal
     - Community Portal
   - Employee
     - Employee Self Service Portal

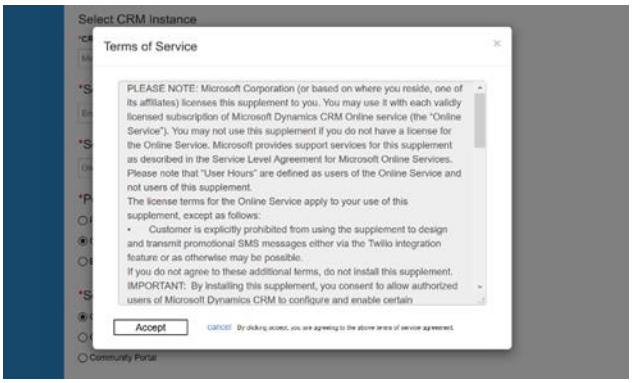
Feature	Customer Self-Service Portal	Partner Portal	Employee Self-Service Portal	Community Portal	Custom Portal
World Ready	•	•	•	•	•
Multi-Language Support	•	•	•	•	•
Portal Administration	•	•	•	•	•
Customization and Extensibility	•	•	•	•	•
Theming	•	•	•	•	•
Content Management	•		•	•	
Knowledge Management	•	•	•	•	

Feature	Customer Self-Service Portal	Partner Portal	Employee Self-Service Portal	Community Portal	Custom Portal
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					•

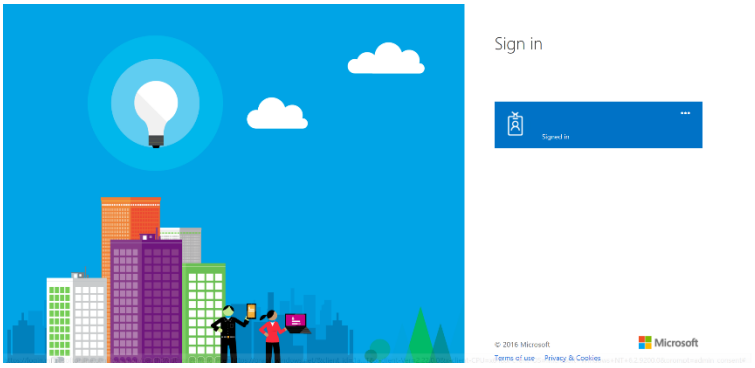
10. In the **Select portal to be deployed** section, choose what type of portal you want to create. The options you see are based on the audience you selected.



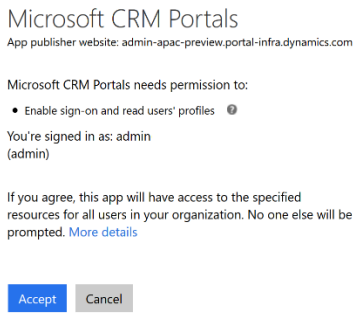
11. Click **Submit**, and accept the Terms of Service.



You will be redirected to the Microsoft Office 365 sign in page. Select the Dynamics 365 user that you used to create the portal.



You will be asked to provide consent for the Dynamics 365 portals.



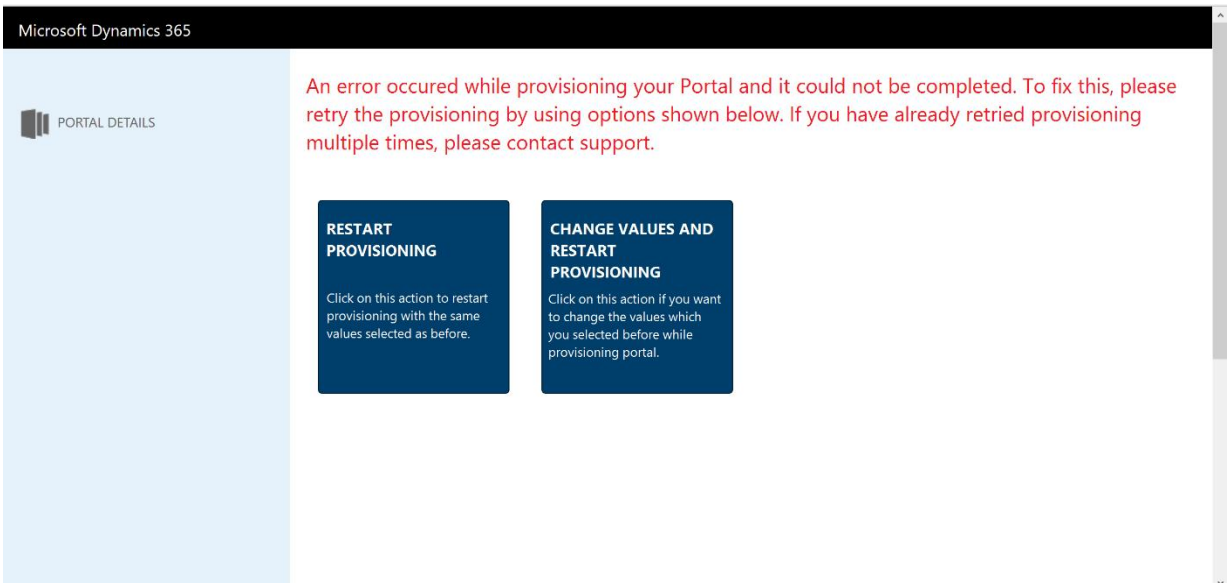
After you consent, your portal will begin provisioning. Provisioning usually takes a few hours, but can take more depending on system load. The *Name* of the portal on the Application tab will change to "*Name*-Configuring" while it is provisioning. Navigate back to the portal management page to check whether provisioning has succeeded.

Troubleshoot Provisioning

Sometimes the package installation process or URL creation process can error out. In these cases, the processes can be restarted.

If "*Name*-Configuring" changes to "*Name*-Provisioning Failed," you need to restart the provisioning process.

1. Go to the **Applications** page and select the portal.
2. Select the blue pencil button labeled **Manage**.
3. Choose one of the following options:
    - **Restart Provisioning**: Restarts the installation process with the configuration that was previously defined.
    - **Change Values and Restart Provisioning**: Lets you change some of the values before restarting the provisioning process.



If the package installation has failed, the Portal administrator page will open without any issues, but navigating to the actual portal URL will show a message “Getting set up.” To confirm this:

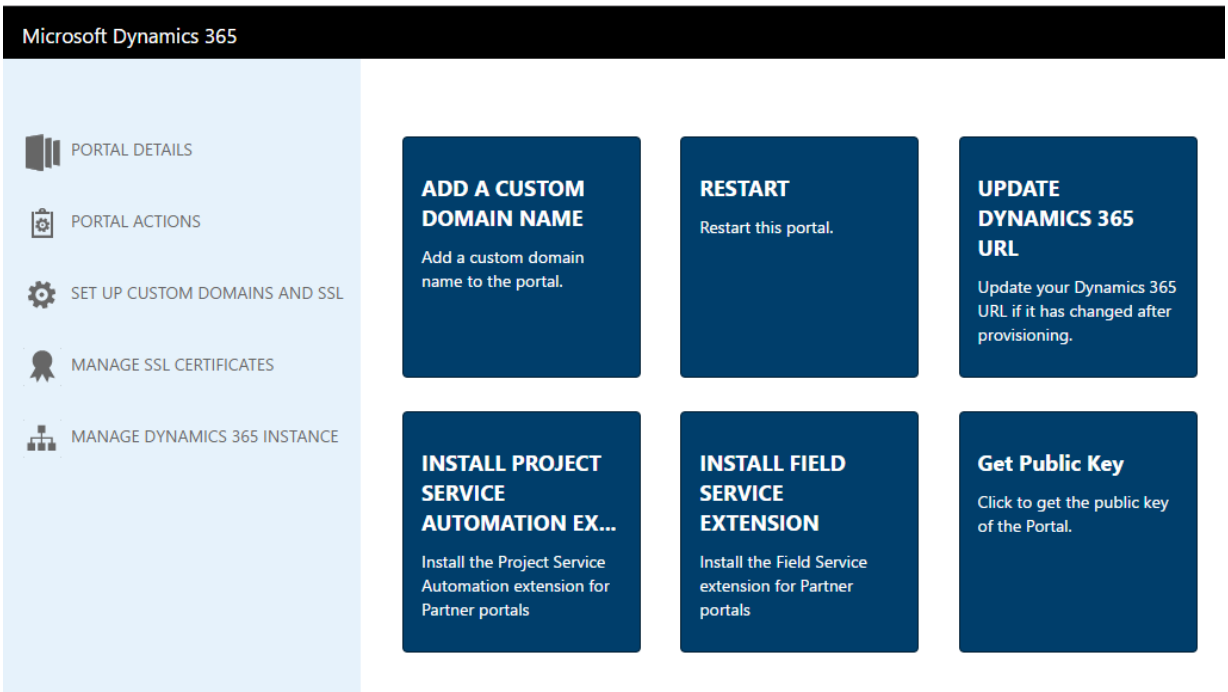
1. Go to the Solution Management page of the Dynamics 365 Administration Center and check that the package status is “Install Failed.”
2. If the package status is “Install Failed,” try retrying the installation from the solution page. Also, be sure to check that a system administrator in Dynamics 365 is installing the solution with the default language in Dynamics 365 set to the language the portal should be installed in.

Note

Some solutions have prerequisites for their installation, so an installation will fail if the prerequisites are not met. For example, to install the Partner Field Service for a partner portal, the Partner Portal and Field Service solutions must have already been installed. If you attempt to install the Partner Field Service first, the installation will fail and give you an error message.

Set up custom domains and SSL certificates for a Dynamics 365 portal

A custom domain can help your customers find your support resources more easily and enhance your brand. Only one custom domain name can be added to a portal. After you have provisioned your portal and acquired your domain name, you will need an SSL certificate to set up a custom host name.



1. Go to the Dynamics 365 Online Admin center and click the **Applications** tab.
2. Select the name of the portal you want to set up a custom domain for and click **Manage.**
3. Click on **Portal Actions**.
4. Click on **Add a Custom Domain Name**

After you have purchased an SSL certificate for your domain, you can use it to link your Dynamics 365 portal to a custom domain using the wizard.

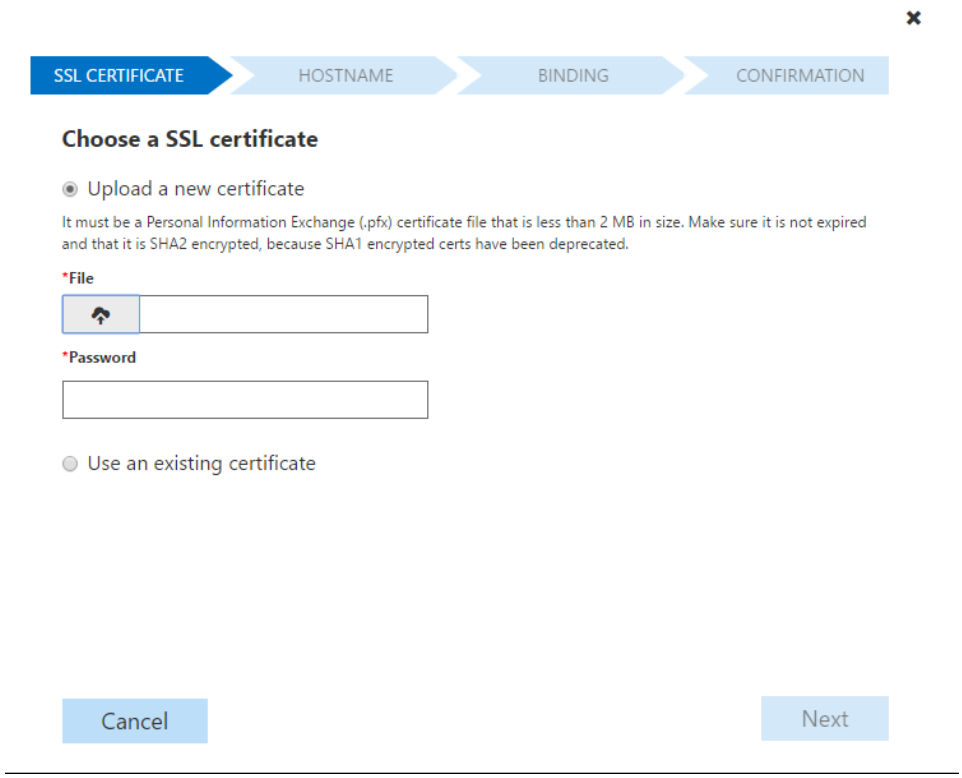
1. Click **Upload a new certificate** if you have not yet uploaded the .pfx file to the organization. Click the upload button underneath **File** and select the .pfx file. Next enter the password for your SSL certificate in the **Password** field. Otherwise click **Use an existing certificate** and choose the correct certificate from the drop-down menu. Be sure that you are using a SHA2 certificate, SHA1 support is being removed from popular browsers.
2. Click **Add a new hostname** to create a new custom domain. Enter the desired domain name into the **Domain Name** field. Otherwise, click **Use an existing host name** and choose the desired host name from the drop-down menu. You can only have one custom domain name for a portal.

   Note

   To create a custom host name, you will need to create a CNAME with your domain provider that points your domain to the URL of your Dynamics 365 portal.

If you have just added a CNAME with your domain provider, it will take some time to propagate to all DNS servers. If the name is not propagated and you add it here, this will show a message "Plead add a CNAME record to this domain name." Retry after some time passes.

3. Review the information you have entered, then click **Next** to begin creating the SSL Binding.
4. You should see the message "Custom Domain name has been successfully configured for this Portal. You can now go to {Custom Domain Name} to access this portal." {Custom Domain Name} will be a hyperlink to the Custom Portal URL that was just configured. Click **Finish** to close the wizard

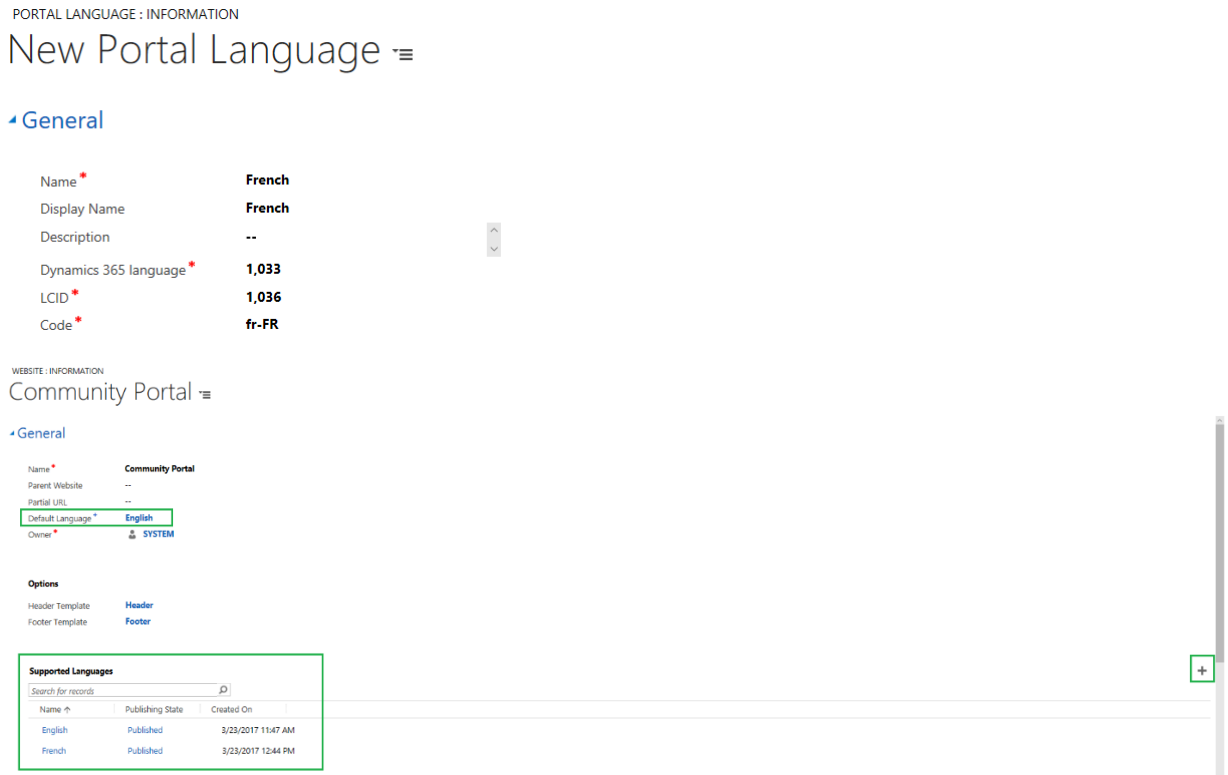


Enable multiple-language portal support

Applies To: Dynamics 365 (online), Dynamics CRM Online

Business is not confined to a single language. One portal's surface content can now exist in multiple languages to reach customers around the world while keeping a single content hierarchy. To enable multiple languages for a portal, follow these steps after signing in to Dynamics 365:

1. Enable languages in a Dynamics 365 organization.
2. Go to **Portals** > **Website** > **Websites**.
3. Select the website to add language support to.
4. Find the **Supported Languages** section under the **General** tab, and click the **+** button.
5. Fill in the form, including **Portal Language** (a lookup of languages that are activated in the organization and are supported by portals) and **Publishing State**.



Supported languages

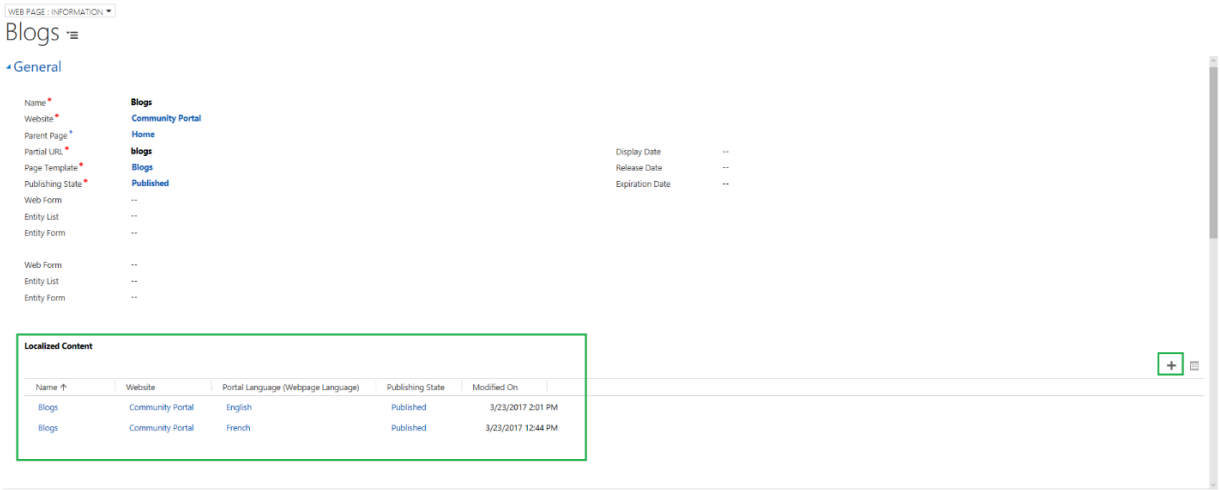
The table below shows all 43 languages currently available out of the box. This list can be found in Dynamics 365 by going to **Portals** > **Content** > **Portal Languages**. The Portal Display Name of a language can be changed after selecting the language to change from this page. Note that the list now includes East Asian languages (Japanese, Chinese, and Korean).

Name	Language Code	LCID	Portal Display Name
Basque - Basque	eu-ES	1069	euskara
Bulgarian - Bulgaria	bg-BG	1026	български
Catalan - Catalan	ca-ES	1027	català
Chinese - China	zh-CN	2052	中文(中国)
Chinese - Hong Kong SAR	zh-HK	3076	中文(香港特別行政區)
Chinese - Traditional	zh-TW	1028	中文(台灣)
Croatian - Croatia	hr-HR	1050	hrvatski
Czech - Czech Republic	cs-CZ	1029	čeština
Danish - Denmark	da-DK	1030	dansk
Dutch - Netherlands	nl-NL	1043	Nederlands
English	en-US	1033	English
Estonian - Estonia	et-EE	1061	eesti

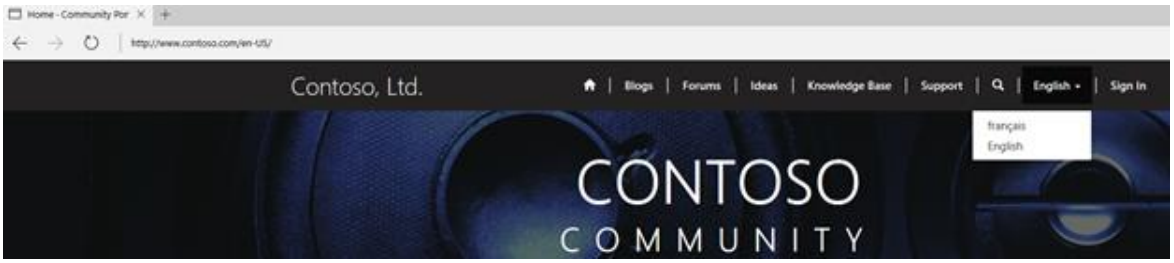
Finnish - Finland	fi-FI	1035	suomi
French - France	fr-FR	1036	français
Galician - Spain	gl-ES	1110	galego
German - Germany	de-DE	1031	Deutsch
Greek - Greece	el-GR	1032	Ελληνικά
Hindi - India	hi-IN	1081	हिंदी
Hungarian - Hungary	hu-HU	1038	magyar
Indonesian - Indonesia	id-ID	1057	Bahasa Indonesia
Italian - Italy	it-IT	1040	italiano
Japanese - Japan	ja-JP	1041	日本語
Kazakh - Kazakhstan	kk-KZ	1087	қазақ тілі
Korean - Korea	ko-KR	1042	한국어
Latvian - Latvia	lv-LV	1062	latviešu
Lithuanian - Lithuania	lt-LT	1063	lietuvių
Malay - Malaysia	ms-MY	1086	Bahasa Melayu
Norwegian (Bokmål) - Norway	nb-NO	1044	norsk bokmål
Polish - Poland	pl-PL	1045	polski
Portuguese - Brazil	pt-BR	1046	português (Brasil)
Portuguese - Portugal	pt-PT	2070	português (Portugal)
Romanian - Romania	ro-RO	1048	română
Russian - Russia	ru-RU	1049	русский
Serbian (Cyrillic) - Serbia	sr-Cyrl-CS	3098	српски
Serbian (Latin) - Serbia	sr-Latn-CS	2074	srpski
Slovak - Slovakia	sk-SK	1051	slovenčina
Slovenian - Slovenia	sl-SI	1060	slovenščina
Spanish (Traditional Sort) - Spain	es-ES	3082	español
Swedish - Sweden	sv-SE	1053	svenska
Thai - Thailand	th-TH	1054	ไทย
Turkish - Turkey	tr-TR	1055	Türkçe
Ukrainian - Ukraine	uk-UA	1058	українська
Vietnamese - Vietnam	vi-VN	1066	Tiếng Việt

Create content in multiple languages

In Dynamics 365, go to **Portals** > **Content** > **Web Pages** to see a list of content. For each web page, there will be a parent version of the page and a child version of the page for each language activated for the portal. To add a new localization of the page, navigate to a base page and scroll down to **Localized Content**. Click on the **+** button on the right side to create a look-up for the localized version.



If a portal will be in multiple languages, it is best to create the portal after all the languages you want have been activated in the organization. This will allow for the drop-down menu at the top of the **Web Pages** window to be translated into all the chosen languages. If languages are activated after the portal has been provisioned, this menu will not be translated into the newly activated languages.



Knowledge articles will only be displayed if they have been translated into the language the user sets the portal to. However, forums and blogs allow for more control over how they are presented in other languages. After navigating to a forum or blog entity in Dynamics 365, changing the **Form Language** field will allow for control over how these entities are translated. If specific languages are defined, it will function like the knowledge articles. If the field is blank it will be agnostic and show up in all versions of the portal as the primary language of the organization.

Web link sets are the navigation links at the top of the portal. By navigating to **Portals** > **Content** > **Web Link Sets** you can control how this content is translated. When a language is active for the portal, a new set of links will be created for the newly activated language.

Active Web Link Sets

Name	Website	Title	Web Link Set Language
Footer	Community Portal		English
Footer	Community Portal		French
Primary Navigation	Community Portal		English
Primary Navigation	Community Portal		French
Profile Navigation	Community Portal		English
Profile Navigation	Community Portal		French
Secondary Navigation	Community Portal		English
Secondary Navigation	Community Portal		French

Configuration Guide

Configure a Dynamics 365 portal

Applies To: Dynamics 365 (online), Dynamics CRM Online

Learn how to configure portals and customize Microsoft Dynamics 365. Dynamics 365 portals offer powerful customization options to:

- Modify the behavior or visual style of a portal. More information: Configure site settings for portals
- Add dynamic content to pages and create a wide variety of custom templates. More information: Add dynamic content and create custom templates
- Associate an authenticated portal user with either a Dynamics 365 contact or system user. More information: Configure a contact for use on a portal
- Authenticate portal users by using local user credentials and external identity provider accounts. A new user can register for an account or redeem an invitation to create an account. More information: Set authentication identity for a portal
- Assign permissions to secure content and allow front-side editing.
- Let users add forms to collect data from portals. Entity forms that are created in Dynamics 365 can be added to web pages in portals, or used with subgrids to build complete web applications. More information: Define entity forms and custom logic within the Dynamics 365 portal
- Customize Dynamics 365 to create surveys and customize questions by combining Dynamics 365 native field types with additional metadata.
- Create and run advertisements on a portal
- Gather feedback by using polls on a portal
- Rate or vote on a webpage or blog post on a portal
- Redirect to a new URL on a portal

See also

Configure site settings for portals
Place child nodes by using shortcuts for portals
Add dynamic content and create custom templates
Configure Dynamics 365 portal authentication
Set authentication identity for a portal
Define entity forms and custom logic within the Dynamics 365 portal
Add a webpage to render a list of records
Create and run advertisements on a portal
Gather feedback by using polls on a portal
Rate or vote on a webpage or blog post on a portal
Redirect to a new URL on a portal

Create web roles for portals

Applies To: Dynamics 365 (online), Dynamics CRM Online

After a contact has been configured to use the portal, it must be given one or more web roles to perform any special actions or access any protected content on the portal. For example, to access a restricted page, the contact must be assigned to a role to which read for that page is restricted to. To publish new content, the contact must be placed in a role which is given content publishing permissions.

To create a web role:

1. Navigate to **Portals**
2. Click **Web Roles**
3. Click **New**
4. Specify values for the fields provided
5. Click **Save**

Attributes and relationships

The table below explains many of the Web Role attributes used by Dynamics 365 portals.

Name	Description
Name	The descriptive name of the Web Role
Website	The associated website
Description	An explanation of the Web Role's purpose. Optional.
Authenticated Users Role	Boolean. If set to true, this will be the default web role for authenticated users (see below). **Note** Only one Web Role with the Authenticated Users Role attribute set to true should exist for a given website. This will be the default web role for authenticated users that have not been assigned a web role.
Anonymous Users Role	Boolean. If set to true, this will be the default web role for unauthenticated users (see below). **Note** Only one Web Role with the Anonymous Users Role attribute set to true should exist for a given website. This will be the default web role for unauthenticated users. ****The Anonymous Users Role will only respect Entity Permissions.**

Name	Description

Now that the Web Role has been created, you will be able to configure it to meet your needs via various permissions, rules, and associations.

Optional default web role for authenticated users

By enabling the "Authenticated Users Role", it will become the default web role for all users. This role is commonly used to provide a predetermined access for users that are not associated to any other roles. Keep in mind that users can have multiple web roles, but there can only be one Authenticated Users web role for authenticated users.

Optional default web role for unauthenticated users

The **Anonymous Users Role** is intended to be used with Entity Permissions. It will not respect any other rules or permissions. By enabling the "Anonymous Users Role" it will become the default web role for all users. There can only be one Anonymous Users web role for unauthenticated users.

See also

Control webpage access for portals
Assign permission set to a web role for portals
Add record-based security by using entity permissions for portals

Enable help for Dynamics 365 portals

To make sure users get the right information when they click the **Help** button, you need to set Dynamics 365 to use custom Help. Go to **Settings** > **Administration**, click **System Settings**, click the **General** tab, and select **Yes** for **Use custom Help for customizable entities**.

Customize Dynamics 365 portal forms, dashboards, and reports

If you want to customize any of the portal forms, dashboards, or reports, you can find more information about customizing Microsoft Dynamics 365 in the following links:

- TechNet: Customize your Dynamics 365 system
- TechNet: Create and design forms
- TechNet: Create and edit dashboards
- TechNet: Create and edit processes
- TechNet: Report & Analytics with Dynamics 365

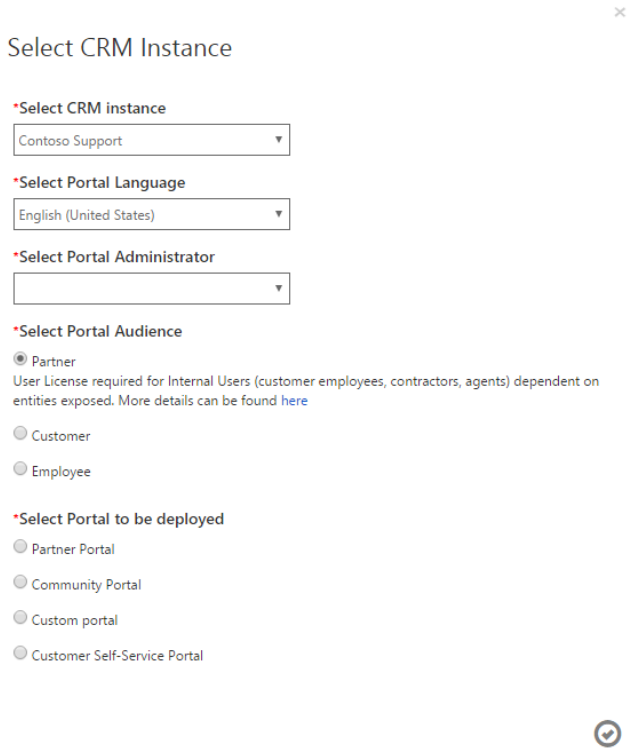
See also

Configure a Dynamics 365 portal

Change the Dynamics 365 instance, audience, or type of portal

After your portal is created and provisioned, you can change the details of your Dynamics 365 instance and portal.

1. Go to the Dynamics 365 Online Admin center and click the **Applications** tab.
2. Select the name of the portal you want to edit and click **Manage**.
3. Click the **Manage Dynamics 365 Instance** tab. On this page, you can review the Dynamics 365 instance that is currently linked to your portal.
4. Click the **Update Dynamics 365 Instance** button. In the dialog, use the provided fields to change your Dynamics 365 instance, portal language, or your portal administrator. You can also keep the same Dynamics 365 instance, but change Portal audience or type of portal.
5. Click the button to confirm your changes.



See also

Engage with communities by using the community portal
Configure a Dynamics 365 portal

Manage knowledge articles using content access levels

Applies To: Dynamics 365 (online), Dynamics CRM Online

Content access levels give another level of control separate from web roles to be able to control access to knowledge articles in a portal. Content access levels make a well-designed knowledge base more capable to provide the right content to the right audience. This allows for more structured learning paths that keep irrelevant content from surfacing.

Create content access levels

1. Log into Dynamics and navigate to **Portals > Security > Content Access Levels**.
2. Click the **New** button in the ribbon.
3. Fill in the **Name** and **Description**.
4. Change **Default Access Level** from **No** to **Yes** if it should be the default.
5. Click the **Save** button in the ribbon.

Assign content access levels to knowledge articles

1. Open the Interactive Service Hub.
2. Select the Knowledge Article you wish to edit or create a new article.
3. Click **Summary** just above the progress bar.
4. Under **Related Information** (third column) select the symbol that looks like a lock.
5. Press **+** to add a new Content Access Level or the **Trash Can** symbol next to a Content Access Level to remove it.

Assign content access levels to portal users

1. Log into Dynamics and navigate to **Portals > Security > Contacts**.
2. Select the Contact you wish to edit.
3. Under the **Details** tab, find the **Content Access Levels** section.
4. Press **+** to add a new content access level or the **Trash Can symbol** next to a content access level to remove it.

Content access levels can also be inherited to a user if assigned to a Web Role, Parent Contact, or Account that the user is connected to. This inheritance avoids the need to reassign/update content

access levels at an individual level. Web Roles are assigned a content access level by navigating to **Portals > Security > Web Roles** and then following the same steps. Accounts are assigned a content access level by navigating to **Sales** > **Accounts** then selecting the account to edit. After the account is selected, find the **Content Access Levels** section on the right side of the screen and use the **+** and **Trash Can** buttons to add or remove a content access level.

Use faceted search to improve portal search

Applies To: Dynamics 365 (online), Dynamics CRM Online

Portal content may be searched using filters based on characteristics of the content. Faceted portal searches allow customers to find their desired content faster than a traditional search through the filters implemented by this feature.

Enable or disable faceted search

Out-of-the-box faceted search is enabled in your portals. To control and/or enable it follow these steps:

1. Log into Dynamics and navigate to **Portals** > **Website** > **Site Settings.**
2. Locate the Site Setting named Search/FacetedView **and select it**.
3. Change the **Value** to **True** to enable or **False** to disable Faceted Search.

If you wish to only disable one piece of the Faceted View, then follow these steps instead:

1. Log into Dynamics and navigate to **Portals** > **Web Templates**.
2. Select view to disable (i.e. Knowledge Management – Top Rated Articles)
3. Click the **Deactivate** button at the top of the page.

Group entities as part of a record type for faceted view

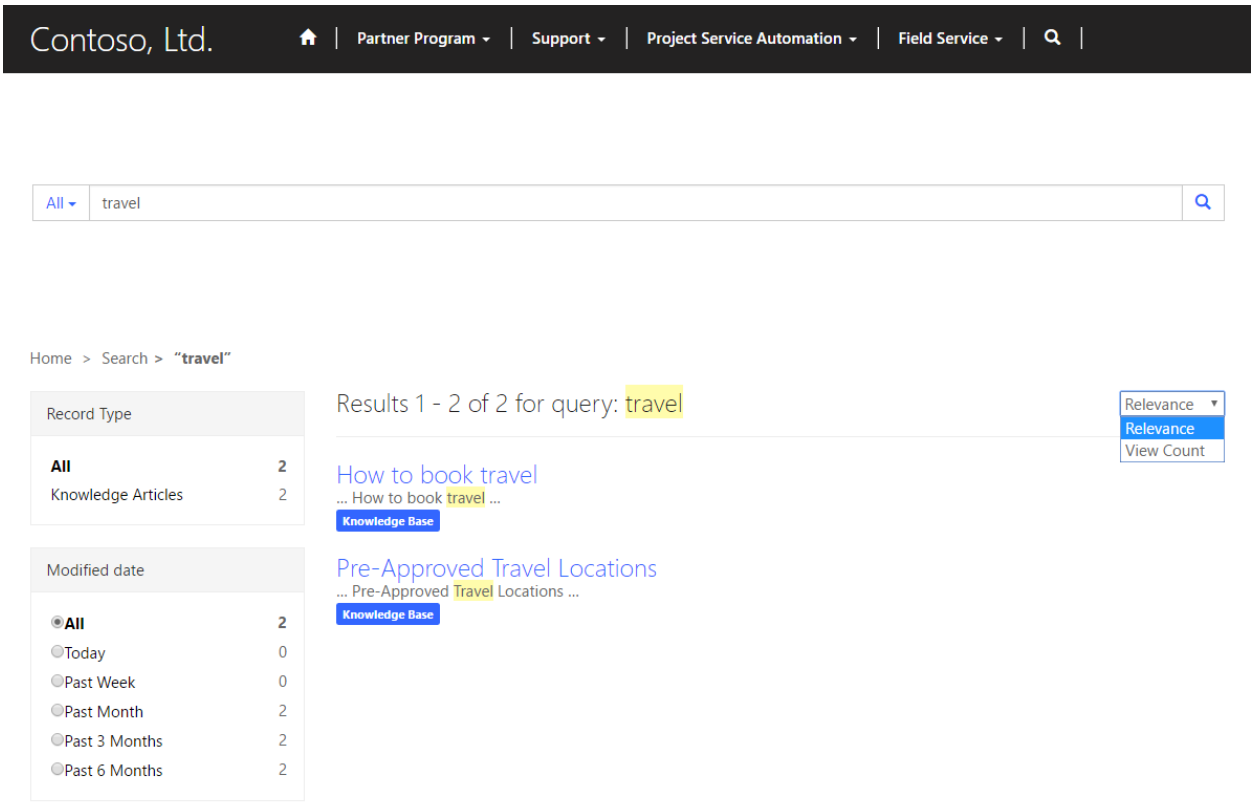
The site setting **Search/RecordTypeFacetsEntities** allows you to group similar entities together so users have logical ways of filtering search results. For example, instead of having separate options for forums, forum posts, and forum threads; these entities are grouped under the Forums record type.

In Dynamics 365, navigate to **Portals** > **Websites** > **Site Settings** and open the **Search/RecordTypeFacetsEntities** site setting. Notice that the different entities are preceded by the word **Forums:**. This is because the first value is the name with they are grouped as. This word will be translated based on the language that is being used on the portal.

Use faceted search to improve knowledge search results

Faceted search enables portals to have search filters on the left side allowing you to choose between items like forums, blogs, and knowledge articles. More filters are added for specific search types. For

example, knowledge articles can be filtered by Record Type, Modified Date, Rating, and Products to help customers find the content they need. The right side also has a drop-down box that sorts results based on the customer's choice of Relevance or View Count (specific to knowledge articles). Below is a screen capture with an example of some of the available filters.



Engage with communities by using the community portal

Applies To: Dynamics 365 (online), Dynamics CRM Online

Keep your customer engagement strong by growing a community, publishing articles, gathering user feedback, and acting on user-provided ideas. With out-of-the-box solutions available with portals you can:

- Allow your users to hold conversations by posting messages on a forum. A forum can contain a number of topics, also known as threads, and can be replied to by many users. More information: Set up and moderate forums
- Manage multiple corporate or community blogs on a single portal, with multiple authors per blog. More information: Manage blogs
- Engage with and gather feedback from your community, including gather ideas, votes, and comments on suggestions. More information: Crowdsource ideas

See also

Create a theme for your portal
Configure a Dynamics 365 portal

Set up and moderate forums

Applies To: Dynamics 365 (online), Dynamics CRM Online

Forums can be created, edited and deleted within Dynamics 365. To access forums, sign in to Dynamics 365 and go to **Community > Forums**.

Create a new forum

To create a new forum, click **New**.

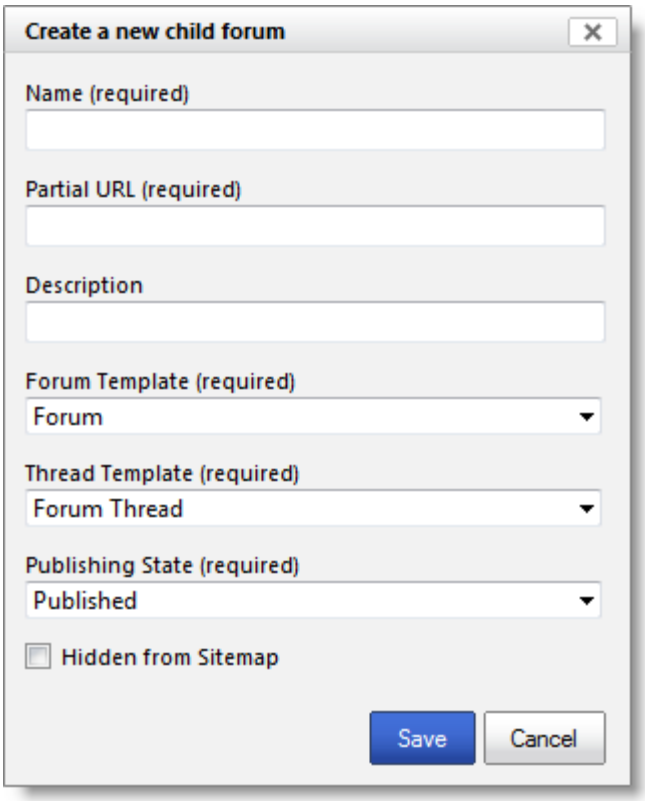
Edit an existing forum

1. Double-click on the **Form** listed in the grid.
2. Specify values for the fields provided and click **Save & Close**.

Manage forums on a portal

For portal users with content management permissions, a limited set of properties of forums can be managed by using the front-side editing engine to publish content. If your user account has been assigned the necessary permission set, the inline editing interface will appear automatically when you sign in to the portal.

1. Navigate to the forums parent page within the portal.
2. On the portal inline editing toolbar, click **New**.
3. Click **Child forum**.
4. Specify values for the fields provided and click **Save**.



Forum attributes used by portals

The table below explains many of the Forum attributes used by portals. It is important to note that the way many of the content and display-oriented attributes are rendered is controlled by the page template used, and thus by the portal developer.

Name	Description
Name	The descriptive name of the entity. This value will be used as the page title in most templates, particularly if a Title value is not provided. This field is required.
Website	The website to which the entity belongs. This field is required.
Parent Page	The parent webpage of the entity in the website content hierarchy.
Partial URL	The URL path segment used to build the portal URL of this forum. **Note** Partial URL values are used as URL path segments. As such, they should not contain illegal URL path characters, such as "?", "#", "!", "%". Because portal URLs are generated by

Name	Description
	joining together partial URL values with slashes ("/"), they should also not contain slashes. **Note** We recommend you restrict Partial URL values to letters, numbers, and hyphens or underscores. For example: "press-releases", "Users_Guide", "product1".
Display Order	An integer value indicating the order in which the forum will be placed relative to other forums in a listing.
Publishing State	The current publishing workflow state of the forum, which may dictate whether the forum is visible on the site. The most common use of this feature is to control whether content is in a published or draft state. **Note** Users with content management permissions may be granted the ability to use Preview Mode, which allows these users to see ("preview") unpublished content.
Hidden From Sitemap	Controls whether the forum is visible as part of the portal site map. If this value is selected, the forum will still be available on the site at its URL, and can be linked to, but standard navigational elements such as menus will not include the forum.
Forum Page Template	The page template to be used to render the page listing the forums on the portal. This field is required. **Note** The page template assigned should be a template that a developer has specifically created to provide the details of a forum. Selecting a template other than the one developed for the forum page may produce erroneous results when viewing the forum's webpage in the portal.
Thread Page Template	The page template to be used to render each forum thread page on the portal. This field is required. **Note** The page template assigned should be a template that a developer has specifically created to provide the forum thread details. Selecting a template other than the one developed for the forum thread page may

Name	Description
	produce erroneous results when viewing the forum thread's webpage in the portal.
Description	Information about the forum.
Thread Count	Number of forum threads within the forum.
Post Count	Number of forum posts created on the forum threads within the forum.
Last Post	The most recently created forum posts on the portal.

See also

Manage forum threads
Create forum posts on the portal
Moderate forums
Subscribe to alerts

Manage forum threads

Applies To: Dynamics 365 (online), Dynamics CRM Online

A forum thread (sometimes called a *topic*) is a collection of posts, usually displayed from oldest to newest. A thread can contain any number of posts, including multiple posts from the same members, even if they were added to the thread one after the other. A thread is contained in a forum and may have an associated date that is taken as the date of the last post. The content or purpose of the thread is identified by the first post, also known as the original post (OP). When a member posts in a thread, the thread jumps to the top because it is the latest updated thread. Similarly, other threads will jump to the top when they receive posts. Sometimes, a member posts in a thread for no reason but to “bump” that thread (cause it to be displayed as the top thread).. Threads that are important but rarely receive posts are made “sticky” (or, as it is sometimes called, "pinned"). A sticky thread will always appear in front of normal threads, often in its own section. A thread's popularity is measured on forums in reply (total posts minus one, the opening post, in most default forum settings) counts. Some forums also track page views.

Manage forum threads in Microsoft Dynamics 365

You can create, edit, and delete forum threads in Dynamics 365.

Note

Although you can create forum threads in Dynamics 365, we recommend you do this in the portal, where the process is less involved and ensures the thread is correctly associated with the original forum post.

1. Login to **Dynamics 365**
2. Navigate to **Community**

3. Click **Forum Threads**

Create a new thread

1. Click **New**

Edit an existing thread

1. Double-click on the **Forum Thread** listed in the grid
2. Specify values for the fields provided.

   Note

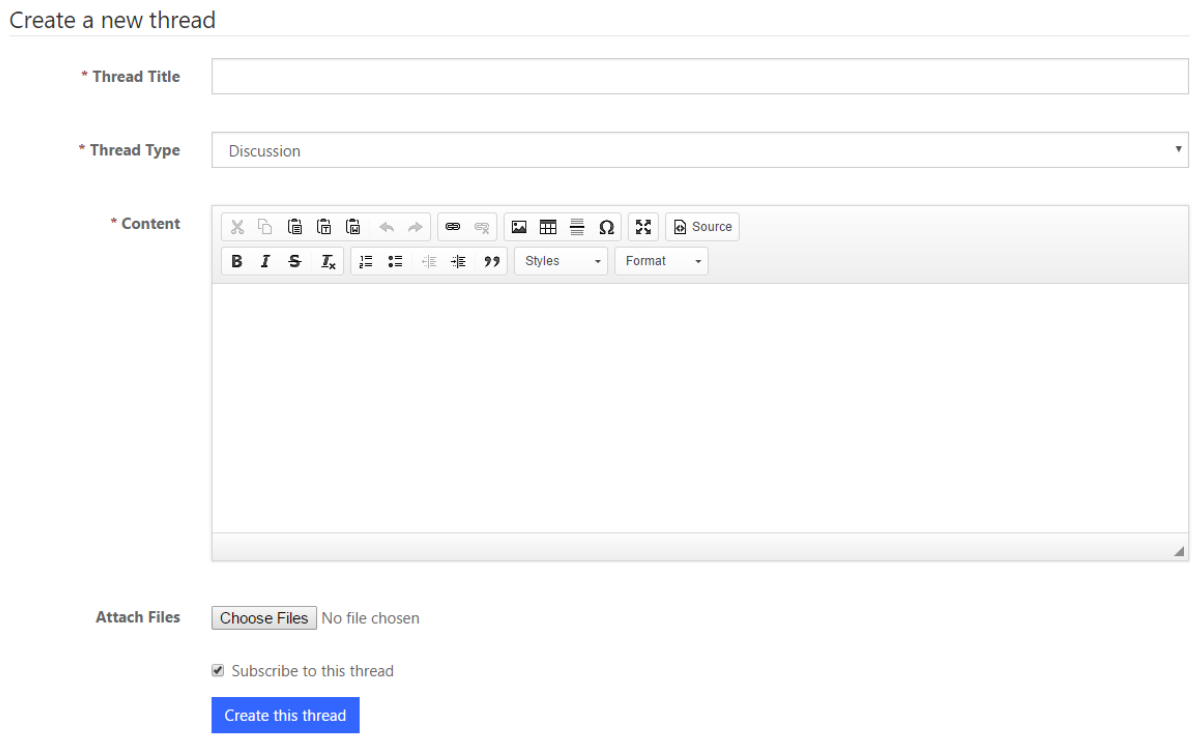
   You will need to create the original forum posts to be associated with this thread and assign the newly created forum post record to the **First Post** and **Last Post** lookup fields provided.

3. Click **Save & Close**

Create forum threads on the portal

The forum thread editor will appear automatically when a user has successfully signed in to the portal and navigated to a forum page, provided the developer has implemented the functionality in the forum's page template.

1. Navigate to the forum page within the portal that you would like to post a new thread in
2. Specify a **Thread Title**
3. Specify a Thread Type
4. Compose the content of the thread in the rich text editor
5. Click **Create this thread**



Forum thread attributes used by portals

The table below explains many of the Forum Thread attributes used by Portals. It is important to note that the way in which many of the content/display-oriented attributes are rendered is controlled by the page template used.

Name	Description
Name	The descriptive name of the record. This value will be used as the thread title in most templates. This field is required.
Forum	The forums associated with the thread.
Type	The forum thread type associated with the thread.
Sticky?	Checked indicates the thread should always remain at the top of forum's listing of threads, even if new threads are posted.
Last Post Date	The date and time the last post was created.
Answered?	Checked indicates the thread has been answered.
First Post	The first forum posts created on the thread.
Last Post	The last forum posts created on the thread.
Post Count	The number of posts that have been created on the thread.

Name	Description
View Count	The number of times the thread has been viewed in the portal.

Manage forum thread types in Dynamics 365

Create, edit and delete forum thread types

1. Login to **Dynamics 365**
2. Navigate to **Community**
3. Click **Forum Thread Types**

Create a new thread type

1. Click **New**

Edit an existing thread type

1. Double-click on the **Forum Thread Type** listed in the grid
2. Specify values for the fields provided
3. Click **Save & Close**

Forum thread type attributes

The table below explains many of the Forum Thread Type attributes used by portals. It is important to note that the way in which many of the content/display-oriented attributes are rendered is controlled by the page template used.

Name	Description
Name	The descriptive name of the record. This value will be used as the title of the type in the page templates. This field is required.
Website	The webpages associated with the type.
Requires Answer	Checked indicates that a forum post within the thread of this type can be marked as an answer.
Display Order	An integer value indicating the order in which the forum thread type will be placed, relative to other forum thread types in a listing.
Is Default	Checked indicates that type is to be used as the default. It is recommended that only one type per website have this field checked.

See also

Setup and moderate forums
Create forum posts on the portal
Moderate forums
Subscribe to alerts

Configure and manage knowledge categories and articles

Applies To: Dynamics 365 (online), Dynamics CRM Online

Create a new knowledge category

1. On the Interaction Centric Dashboard, click **Settings** > **Service Management**.
2. In the **Knowledge Base Management** section, click **Categories**.
3. Click the **New** button.
4. Enter a Name and Description for your category.
5. Choose a Parent Category. If you want this to be a top-level category, leave this field blank.

Associate knowledge articles

To **associate a knowledge article with a category**, open the **Summary** tab when viewing a knowledge article record. In the **Related Information** section, click the **+** button. Select the category you want to associate to the article and click the **Associate** button.

To **remove a category from an article**, choose the category you want to remove from the **Category** subgrid on the knowledge article record and click the **Delete** button. When the confirmation message displays, click the **Delete** button.

Delete a knowledge category

To **delete a category**, under **Settings > Service Management > Categories**, choose the category from the list view and click the **Delete** button. Knowledge articles associated with this category will be disassociated after the category is deleted.

See also

Get started with the portal content editor
Add dynamic content and create custom templates

Configure web roles for a PRM portal

Applies To: Dynamics 365 (online), Dynamics CRM Online

Web roles for the PRM portal grant specific access to the different areas of the portal. By assigning the appropriate roles, you can grant your primary partner contacts the right permissions to manage their team members and streamline their processes.

Continue for more information on the web roles that are available out-of-the-box.

Partner administrator

Partner administrators are contacts who serve as the primary contact for a partner account. They are responsible for adding and deactivating their team members and for any administrative activities related to their partner account information.

Partner administrators can:

- View, accept, and reject all distributed opportunities
- View, manage, and perform actions on all managed opportunities
- Manage partner account information, associated partner contacts, and their web roles
- Manage partner contact roles Create and edit customer accounts
- Create and edit customer contacts
- Create and edit new opportunities

Partner manager

Partner managers are contacts who manage opportunities distributed by the parent company. They are responsible for accepting or rejecting distributed opportunities and sharing accepted opportunities with team members.

Partner managers can:

- View, accept, and reject all distributed opportunities
- View, manage, and perform actions on all managed opportunities
- Manage partner account information
- Create and edit customer accounts
- Create and edit customer contacts
- Create and edit new opportunities

Partner seller

Partner sellers are contacts who manage and perform actions on opportunities. They can view and perform actions on opportunities that are shared with them, but will not be able to view opportunities that they are not associated with.

Partner Sellers can:

- View, manage, and perform actions on managed opportunities that have been shared with them
- Create and edit customer accounts
- Create and edit customer contacts
- Create and edit new opportunities

See also

Create a partner account on a partner relationship management (PRM) portal
Create web roles for portals
Assign permission set to a web role for portals

Create a partner account on a partner relationship management (PRM) portal

Applies To: Dynamics 365 (online), Dynamics CRM Online

You can use partner accounts to keep track of your various partners. We recommend creating a separate account for each partner so that you can manage each partner organization separately.

Create a partner account

1. Go to **Sales > Accounts**.
2. Choose **New**.
3. Fill in your information.
4. In the **Partner Details** area, use the **Classification** field and select the Partner classification.
5. Click **Save**.

Associate partner contacts with an account

Dynamics 365 contacts become partner contacts when they are associated with a partner account. To associate a contact with a partner account when creating or editing a contact, enter the name of a partner account in the Account Name field.

Get started with the portal content editor

Applies To: Dynamics 365 (online), Dynamics CRM Online

Dynamics 365 portals offers a powerful suite of editing tools. Users with suitable permissions can add, modify, or delete webpages and their content without having to directly access the databases and web servers that physically contain these entities. Editing can be performed in any modern browser and is accomplished through the use of two powerful yet intuitive tools. More information: Control webpage access for portals

This document assumes that you have permission to perform these tasks. If you do not, ask your portal administrator to arrange this for you. The permissions can be assigned to individual pages, so be sure to specify which pages you will need to edit.

Note

If you are using the sample organization, sign in with *administrator* as the username and *pass@word1* as the password.

Use the content editor toolbar

Sign in first. This will enable content editing for users with this permission. A toolbar on the right hand side allows you to edit the page properties. A blue edit button will appear when the mouse moves over any content that can be managed by the user.

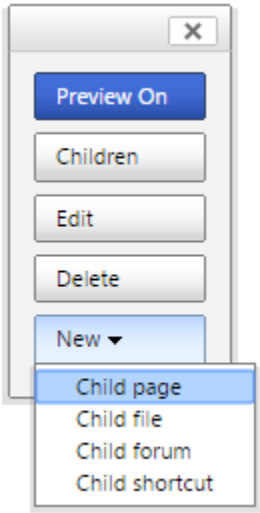
Option	Description
Preview On/Off	When on, published and unpublished content will be visible. When off, only published content can be seen.
Edit	Opens a dialog where one can change the properties for the current page.
Delete	Deletes the current page.
New	Opens a menu where one can chose to create a child page, file, event, forum or shortcut.
Children	Opens a dialog containing child records for the current page where one can reorder, edit, or delete them.

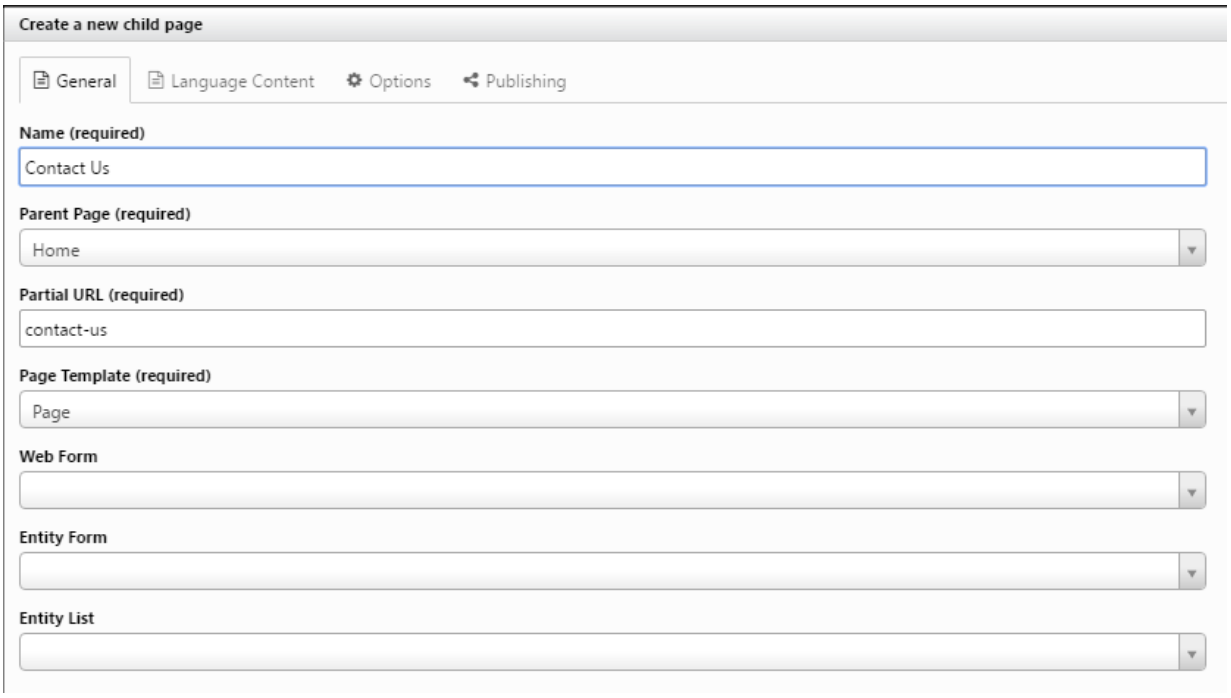
Edit the header

Place the mouse cursor over the page header and click the blue edit button that appears. This will open a rich-text editor. Change the header text and click the disk icon to save the changes. More information: Customize content by using content snippets.

Add a new webpage

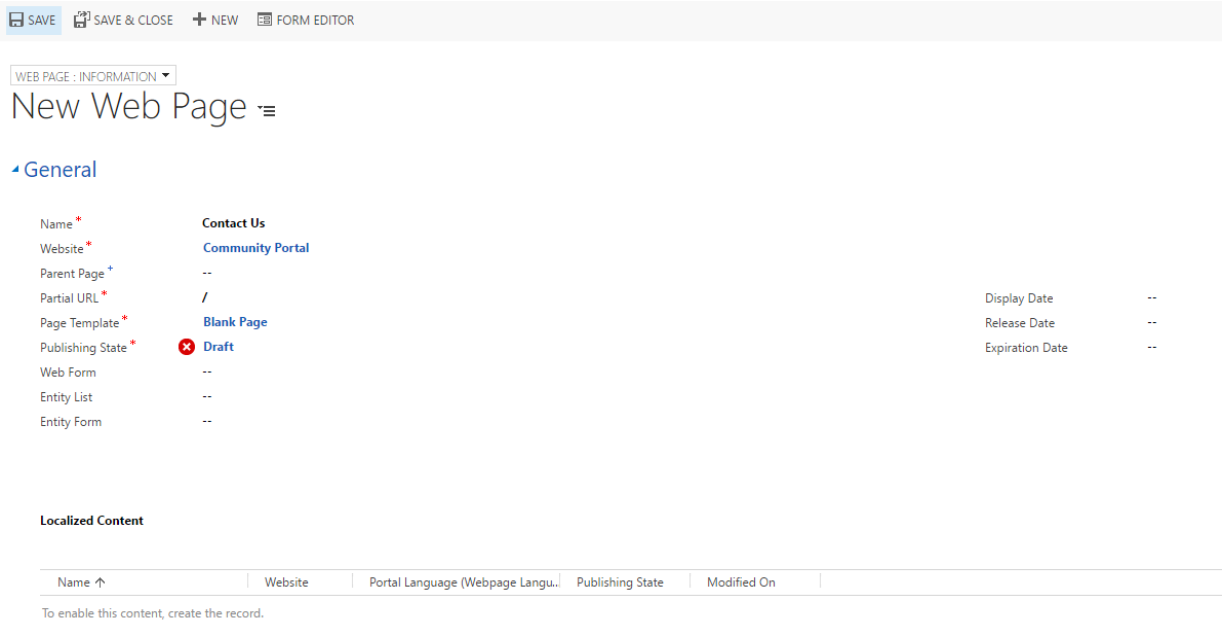
To add a new webpage from the portal, click **New** in the toolbar, and then click **Child page** in the drop-down menu. Fill in the properties for the new child page. Click **Save** to create the new page. The new page is created as a child of the webpage you were on when you clicked **New** > **Child page**.





After being redirected to the newly created page. Point to the large rectangular box under the page title and click the blue edit button that appears. Add some content, and then click the disk icon to save the changes. More information: [Get started with the portal content editor](#).

Web pages can also be added in Dynamics 365. Translating a webpage is done in Dynamics 365, so start by navigating to **Portals** > **Web Pages** and clicking the **+New** button. Fill in the form and click **Save**. Change the **Publishing State** from **Draft** to **Published** when it is ready for use on the website. The **Localized Content** section can be filled in after the webpage is created to create the different translations needed.



Edit the primary navigation

Web link sets are groups of links used for navigation based on location on the webpage. Primary Navigation is the web link set that you see at the top of every webpage, and it can be edited in the portal with the system administrator web role.

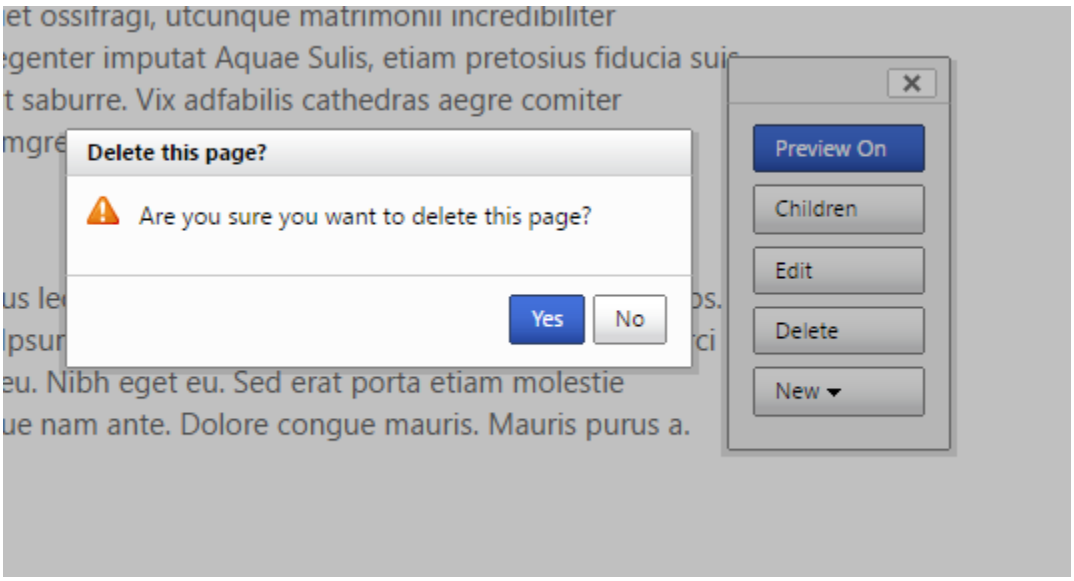
1. Place the mouse cursor over the primary navigation and click the **Edit** button that appears. This will open a dialog with a list of web links that can be reordered or removed, as well as an option to add new links.
2. Click the row with the green plus icon.
3. Enter the name for the page just created.
4. Set a link to it using the **Page** field drop-down.
5. Click the **Save** button for the new link dialog and for the primary navigation dialog.

Manage child pages

From the home page, Click **Children** in the toolbar. This will open a dialog with a list of all child pages for the page you were on when you clicked **Children**. There should be some pages with an icon of an eye with a line through it. This icon indicates the page is not visible in the site map, but if published it can still be viewed if linked to directly. As with a web link set, one can reorder, edit, or delete the webpages listed.

Delete a page

Navigate to the page to be deleted and click the **Delete** button in the toolbar. Click **Yes** to confirm. When deleting from the toolbar the pages are placed into a deactivated state instead of being deleted. Any child pages of the deleted page will also be deactivated.



Note

Certain webpages are important to have for a properly functioning website, for instance, a sign in page or 404 page. Be sure not to delete these pages, as doing so can cause a website to stop functioning properly.

See also

[How to provision a portal]
[Use the front-side editing engine to publish content]
[Customize content by using content snippets]

Use the front-side editing engine to publish content

Applies To: Dynamics 365 (online), Dynamics CRM Online

Learn how to use the content editor and edit the content of a webpage: edit text, create links and display images.

To use the content editor, you need the appropriate permissions and the content to be modified must be in the page template. To **open the content editor**, point to the content to be modified, and then click the blue edit button that appears in the top left corner.

Content editor commands and controls

The editor toolbar has a number of buttons to help with content editing. Move the mouse cursor over a button to see a tool tip for the buttons function. The table below also has more detail about the available buttons, listed in the order they appear in the toolbar.

Name	Description
Save	Saves the changes made to the content and closes the editor.
Cancel All Changes	Discards any changes made and closes the editor.
Toggle Full Screen Mode	Resizes the editor to the size of the containing browser window. **Note** When in Full Screen Mode, the **Save** and **Cancel All Changes** buttons will not be available. To save or cancel, click the **Toggle Full Screen Mode** button to return to the regular mode where the buttons are available.
Bold, Italic, Underline, Strikethrough	Makes selected text bold, italic, underline, or strikethrough as well as newly typed text.
Align Left, Center, Right, Full	Aligns selected text to the left, center, right, or full as well as newly typed text.
Direction Left to Right, Right to Left	Changes the direction of the written text to be left to right or right to left.
Edit CSS Style	Opens a dialog to an interface that allows full control over the CSS styling of selected text as well as newly typed text. If you wish to set the style of a single word or selection of text, simply select the text, then in the

Name	Description
	Edit CSS Style dialog check the box titled "Insert span at selection". **Note** Overusing custom styling can greatly reduce the consistency of the content's look and feel between pages. It is recommended to use this method only when absolutely necessary.
Format	Changes the selected text as well as newly typed text to the pre-defined style selected.
Help	Opens a dialog about TinyMCE.
Cut, Copy, Paste	Cuts, copies, or pastes the selected text to and from the clipboard.
Paste as Plain Text	Pastes text from the clipboard with all formatting and styling removed.
Paste from Word	Pastes text from the clipboard while trying to maintain formatting and styling that originated from Microsoft Word.
Find, Find/Replace	Opens a dialog for searching content and optionally replacing found content.
Insert/Remove Bulleted List, Numbered List	Inserts a bulleted or numbered list for selected text or at the text cursor if the list isn't already present. If the list is already present, it will be removed.
Decrease, Increase Indent	Reduces or increases the indentation of the text or a list item.
Block Quote	Places the selected text or newly typed text within a quote block.
Undo, Redo	Will undo the previous change or redo an undone change. **Note** Only changes that have been done since the editor was opened can be undone. Changes that have been saved or canceled cannot be undone, or re-done.
Insert/Edit Link	Inserts or edits a hyperlink for selected text. See Create a Link below for more details about this feature.
Unlink	Changes a hyperlink back to text.
Insert/Edit Anchor	Inserts or edits an anchor link for selected text.
Insert/Edit Image	Inserts or edits an image into the content. See Insert an Image below for more details about this feature.

Name	Description
Insert/Edit Embedded Media	Inserts or edits embedded media such as a video or application.
Cleanup Messy Code	Tries to remove invalid markup that may have come from pasting.
Edit HTML Source	Opens a dialog containing the HTML source for the content. The HTML can be directly modified and updated from this window. **Note** This dialog will not validate the HTML! It is recommended that only users with knowledge of HTML use this feature.
Insert/Edit Table to Merge Table Cells	Inserts or edits tables and their rows, cells, and properties.
Insert Horizontal Line	Inserts a horizontal line at the text cursor.
Remove Formatting	Removes the formatting and styling for the selected text.
Show/Hide Guidelines/Invisible Elements	Toggles table border guidelines and other invisible elements on or off.
Subscript, Superscript	Makes selected text subscript or superscript as well as newly typed text.
Insert Special Character	Opens a dialog containing special characters and inserts the selected character at the text cursor.

Create a link

From within the content editor, select the text to make a hyperlink for and click the Insert/Edit Link button. Enter the properties for the hyperlink and click the insert button. Click the save button in the content editor toolbar to save the change.

Link properties and commands

Name	Description
Link URL	The URL to link to. It can be any properly formatted URL, external to the website or within the same website. If within, it can be relative and it can be looked up using Browse (found just right of the Link URL field).
Browse	Opens a file picker for the website. The URL for the selected page or file will be placed into the Link URL field when selected. See Using the File Picker.

Name	Description
Target	Specifies whether the link will be opened in the same or a new browser window when clicked. If not set, the link will open in the same window by default.
Title	A descriptive title for the hyperlink. Usually displayed when the mouse cursor hovers on the hyperlink.
Insert, Update	Makes or updates the hyperlink with the specified properties and closes the dialog. **Note** Note that the change is only done in the content editor until the save button has been clicked in the content editor toolbar.
Cancel	Discards any changes made and closes the dialog.

Insert an image

From within the content editor, put the text cursor in the place to insert an image and click the Insert/Edit Image button. Enter the properties for the image and click the insert button. Click the save button in the content editor toolbar to save the change.

Image properties and commands

Name	Description
Image URL	The URL for the image. It can be any properly formatted URL to an image, external to the website or within the same website. It's recommended that the URL be within. When within, it can be relative and it can be looked up using Browse (found just right of the Image URL field).
Browse	Opens a file picker for the website. The URL for the selected image file will be placed into the Image URL field when selected. See Using the File Picker.
Image Description	Specifies the alt attribute for the image. It's read by screen readers, and is typically seen when the image doesn't load properly.
Title	A descriptive title for the hyperlink. Usually displayed when the mouse cursor hovers on the image.

Name	Description
Preview	Provides a preview of the image being inserted or updated.
Appearance (Tab)	Provides options for overriding the actual image properties, its styling, and its placement.
Advanced (Tab)	Provides advanced options that may need page template support.
Insert, Update	Makes or updates the image with the specified properties and closes the dialog. **Note** Note that the change is only done in the content editor until the save button has been clicked in the content editor toolbar.
Cancel	Discards any changes made and closes the dialog.

Browse pages and files by using the file picker

The file picker provides a way to browse pages and files that belong to the same website. New files can be uploaded using the file picker as well. The file picker is available when adding a link or an image through the content editor. Click on the icon that looks like a Windows Explorer window to open the file picker. Browse to a page or file using the left tree view and double click the page or file in the right list view to select it.

To upload new files, navigate to the folder to upload the file to and click the disk icon with a green plus on it. In the dialog that opens, click Browse and pick a file to upload. Do the same in the next field to add more than one file. Click Ok and the files will be uploaded.

File picker commands

The table below has more detail about the available buttons, listed in the order they appear in the toolbar.

Name	Description
Back	Move to the folder that was being viewed previously.
Reload	Refresh the folder's view.
Select file	Use the selected page or file's URL.
Open	View the page or file in a new browser window.
Upload files	Opens a dialog for uploading new files. **Note** Note that new files are uploaded immediately to the folder when clicking Ok from this dialog.
Copy, Cut	Disabled

Name	Description
Remove	Deletes the selected file. **Note** Note that only files can be removed and not pages. Pages should be removed by using the delete button in the content publishing toolbar.
Get Info	Displays additional information about the selected page or file.
Preview with Quick Look	View the file and some information about it in a small overlay window.
View as icons	Displays the folder contents as icons.
View as list	Displays the folder contents as a table with more details about each item.
Help	Opens a dialog about elFinder: Web file manager.

See also

How to provision a portal
Get started with the portal content editor
Customize content by using content snippets

Create a theme for your portal

Applies To: Dynamics 365 (online), Dynamics CRM Online

When you build portals with the portal capabilities for with Microsoft Dynamics 365, you'll be using the Bootstrap front-end framework. By taking advantage of the Bootstrap ecosystem, you can quickly and easily brand these portals for your organization.

What is Bootstrap?

Bootstrap is a front-end framework that includes CSS and JavaScript components for common web application interface elements. It includes styles for navigation elements, forms, buttons, and a responsive grid layout system, which allow site layouts to dynamically adjust to devices that have different screen sizes, such as phones and tablets. By using the Bootstrap layout system, you can develop a single site that presents an appropriate interface to all devices your customers might use.

Implement portal templates by using Bootstrap

The templates included with Dynamics 365 portals are implemented by using standard Bootstrap components, with minimal additional custom styles. So when you implement the templates, you can take advantage of the Bootstrap customization options. You can customize the theme (fonts, colors, and so on) quickly, and in a way that is applied consistently across the portal.

Customize Bootstrap

Bootstrap supports customization through a set of variables. You can set any or all of these variables to custom values and then download a custom version of Bootstrap that is compiled based on these values.

The power of Bootstrap variables is that they don't dictate the style of a single element. All styles in the framework are based on and derived from these values. For example, consider the variable `@font-size-base`. This specifies the size that Bootstrap assigns to normal body text. However, Bootstrap also uses this variable to indicate the font size for headings and other elements. The size for an `h1` element may be defined as 300 percent the size of `@font-size-base`. By setting this one variable, you control the entire typographic scale of your portal in a consistent way. Similarly, the `@link-color` variable controls the color of hyperlinks. For the color you assign to this value, Bootstrap will define the hover color for links as 15 percent darker than your custom value.

The standard way to create a custom version of Bootstrap is through the official Bootstrap site. However, due to the popularity of Bootstrap, many third-party sites have also been created for this purpose. These sites might provide an easier-to-use interface for Bootstrap customization or might provide predesigned versions of Bootstrap for you to download. The official Bootstrap customizer site provides more information on Bootstrap customization. The site will always be the most up to date, but currently doesn't include some UI features like color pickers and live preview.

Apply a custom Bootstrap theme to your website

When you download a customized version of Bootstrap, it contains the following directory structure.

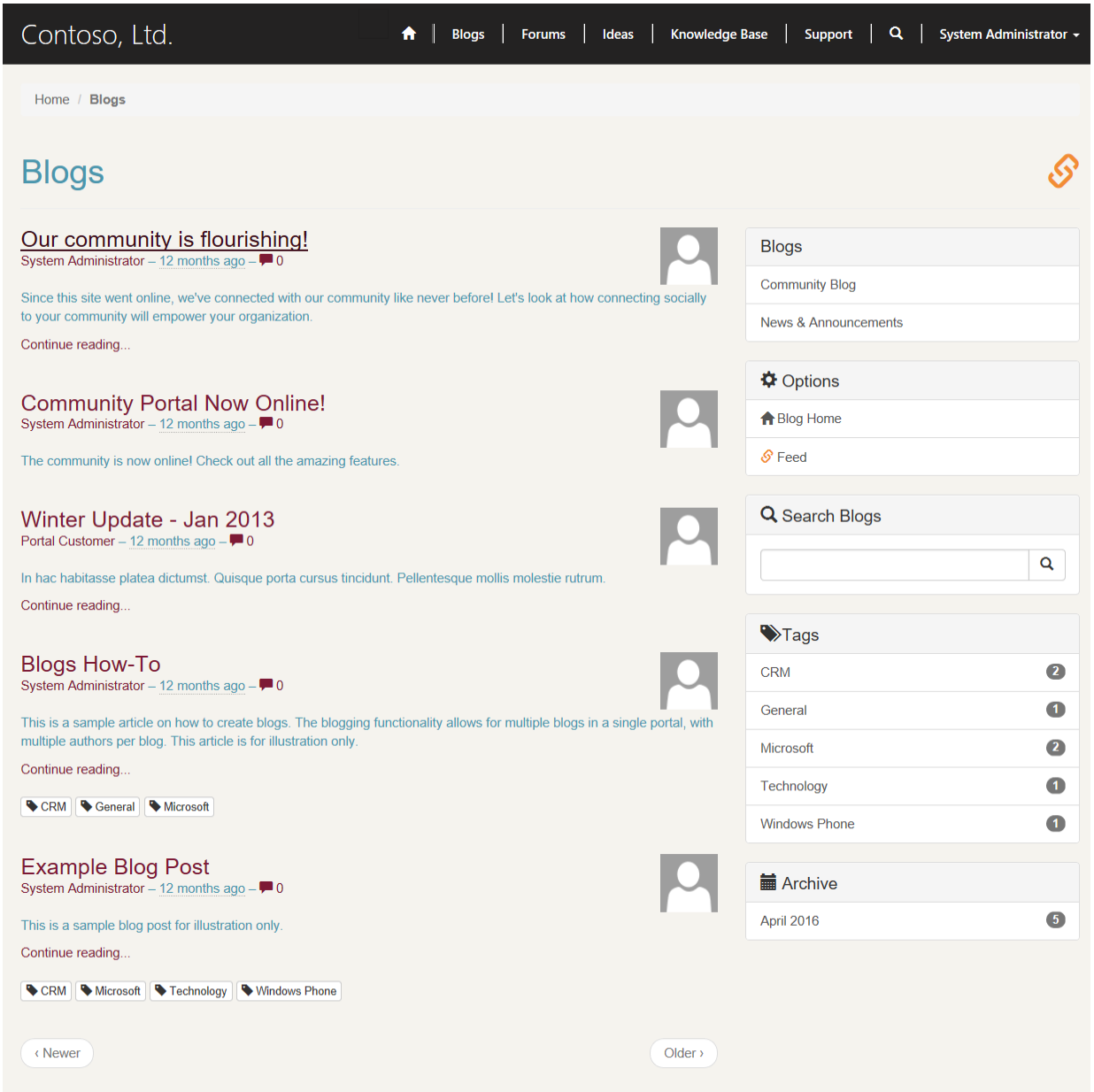
```
css/ |-- bootstrap.min.css img/

|-- glyphicons-halflings-white.png |-- glyphicons-halflings.png js/ |-- bootstrap.min.js
```

Or, depending on the customizer application used, it may only contain `bootstrap.min.css`. Regardless, `bootstrap.min.css` is the file that contains your customizations. The other files are the same for all custom versions of Bootstrap and are already included in your Dynamics 365 portal.

After you have your custom `bootstrap.min.css`, you can apply it to your portal in one of two ways. If you are a developer and prefer to work directly with the source code of your application, you can overwrite the version of `bootstrap.min.css` included in your application source with your custom version. In most cases, however, we recommend that you apply your custom Bootstrap theme without modifying your site code by uploading it as a web file in the Dynamics 365 portal's content management system.

1. Sign in to your application as a user with content management permissions. More information: Assign a permission set to a web role for portals.
2. Go to the **Home** page of your application.
3. Select **Children** > **Edit this file** (the pencil and paper button) for **bootstrap.min.css** from the content editing toolbar (found in the upper-right corner of your browser window).
4. Select your custom `bootstrap.min.css` file, using the **Upload File** field in the Edit This File dialog box that appears.
5. Ensure that the **Partial URL** field is set to `bootstrap.min.css`. This value indicates to the Dynamics 365 portal's framework that it should use your custom version of Bootstrap instead of the default version included.
6. You may also want to select the **Hidden from Sitemap** checkbox (selected by default), so that this file doesn't appear to users in any navigation elements on the site.
7. **Save** the file.
8. Refresh your page, and your customized styles will appear immediately.

Here, we can see a customized version of Bootstrap applied to the Community portal.



Additional portal theme options

In addition to a custom Bootstrap version, Dynamics 365 portals support uploading of your own custom CSS files into the content management system. This lets you apply additional styling to your portal, without having to deploy a new version of its code. To do this, follow the procedure described previously for uploading custom Bootstrap CSS by using a file that contains your own CSS, and then choose a new **Partial URL** for this web file. As long as the **Partial URL** ends in `.css`, Dynamics 365 portals will recognize it and apply it to your site.

Along with a customized version of Bootstrap, you can use the content-editing system to add a custom logo and brand to your portal header. With these simple but powerful options, you're only a few minutes away from having your Dynamics 365 portal's application reflect your brand.

See also

Engage with communities by using the community portal
Configure a Dynamics 365 portal

Configure site settings for portals

Applies To: Dynamics 365 (online), Dynamics CRM Online

A Site Setting is a configurable named value that is used by website code to modify the behavior or visual style of the portal. Typically when a developer creates the website code, they will reference Site Settings for various components to enable an end user to modify the setting values to alter the website without having to change the code, recompile, and redeploy the website.

The sample portals that are provided with the installation of Dynamics 365 portals contain several configurable Site Settings for various styles used to modify many visual elements within the site such as background style, text color, and layout width.

Manage site settings in Dynamics 365

1. Login to **Dynamics 365**
2. Go to **Portals** > **Site Settings**
3. To create a new setting: Click **New**
4. To edit an existing setting: Double-click on the **Site Setting** listed in the grid
5. Specify values for the fields provided

Name	Description
Name	A label referenced by website code to retrieve the appropriate setting. The name should be unique for the associated website as the code retrieving the setting will take the first record found with the matching name.
Website	The associated website.
Value	The setting.
Description	The purpose of the setting or special instructions.

6. Click **Save & Close**

See also

How to provision a portal
Configure a Dynamics 365 portal
Configure Dynamics 365 portal authentication
Configure a Dynamics 365 portal

Configure Dynamics 365 portal authentication
Define entity forms and custom logic within the Dynamics 365 portal

Configure Dynamics 365 portal authentication

Applies To: Dynamics 365 (online), Dynamics CRM Online

In a portal application, an authenticated portal user is associated with either a Dynamics 365 contact or system user. The default portals configuration is contact-based. To log in, a contact must have the appropriate web authentication information configured. Portal users must be assigned to a web roles to gain permissions beyond unauthenticated users. To configure permissions for a web role, configure its webpage access and website access control rules.

To take an in-depth look at configuration of out-of-the-box registration modes and invitation model, see Register and invite for a portal.

See also

Add dynamic content and create custom templates
Set authentication identity for a portal
Define entity forms and custom logic within the Dynamics 365 portal

Place child nodes by using shortcuts for portals

Applies To: Dynamics 365 (online), Dynamics CRM Online

Use shortcuts to place child nodes throughout your portal's sitemap that simply point to other nodes that exist in your sitemap, or to URLs external to your portal. In other words, webpages, web files, events, and forums can all be considered "solid" nodes of your portal's sitemap: they are added to your sitemap and when you navigate to them, you see the actual content of those nodes directly. Shortcuts, on the other hand, can be considered “intangible” nodes: they are also added to the sitemap (unlike web links, which are not), but when you navigate to them, you see the content for the target "solid" node that the shortcut points to, and that content is rendered by the page template for that node.

Manage shortcuts in Dynamics 365

Creating, editing, and deleting shortcuts can be done within Dynamics 365.

1. Login to **Dynamics 365**
2. Navigate to **Portals** > **Shortcuts**
3. To create a Shortcut: Click **New**
4. To edit an existing Shortcut: Double-click on the existing **Shortcut** listed in the grid
5. Enter values for the fields provided
6. Click **Save & Close**

Attributes and relationships

Name	Description
Name	A Descriptive Name for the shortcut. For internal use only.
Website	The website that the shortcut belongs to.
Parent Page	The parent webpage of the shortcut entity in the sitemap. The shortcut will be added to the sitemap as a child of this page.
External URL	Target of the shortcut to a URL of a resource outside of your organization.
Web Page	Target of the shortcut to an internal webpage.
Web File	Target of the shortcut to a web file.
Event	Target of the shortcut to an event.
Forum	Target of the shortcut to a forum.
Title	The title for the shortcut. This is the name that will appear in the sitemap and child navigation view areas. If left blank, the title (or name) of the target entity will be shown instead.
Description	A description to appear in child nav views. Optional.
Display Order	The front-side editable order that the shortcut will appear in sitemap and child nav views, in relation to other nodes in the site map.
Disable Shortcut Target Validation	If unchecked, the security of the shortcut will be based on the target. Otherwise, it will be based on the parent. For more details, see "Security" below.

Note

A shortcut needs only to have **one** of the 'Target' fields (External URL, Web Page, Survey, Web File, Event, Forum) assigned a value, and a shortcut will only have one target.

For example, a shortcut does not point at both a Web Page and a survey, or an External URL and a Web File. If more than one target attribute exists for a shortcut, the shortcut will just take the first one, ignoring all others. The order of priority for which target will be chosen is reflected on the main Dynamics 365 shortcut form. So, it will first check if there exists an External URL for the shortcut, and if there is, then the shortcut's target will be the External URL and all other target attributes will be ignored. If there is no External URL, then the shortcut will check the Web Page, then the Survey, Web file, Event, and finally Forum.

Secure shortcuts

Security for shortcuts can be based either on the parent page of the shortcut or on the target of the shortcut. This will determine whether the shortcut will be visible in the sitemap. Naturally, if security is

based off the parent, the write access of the target of the shortcut will still determine whether front-side editing will function after the shortcut has been used to navigate to the target of the shortcut. Therefore, shortcut security only affects navigation and edit rights for front-side editing of shortcuts. The security method used is specific to the shortcut. If you leave the Boolean value **Disable Shortcut Target Validation** unselected, the security of the shortcut will be based on the target; otherwise, it will be based on the parent.

Navigate with shortcuts

After the shortcut entity has been created, it will appear in your website.

In the above example, Basic Site has two additional pages, Page One and Page Two. Page Two Is a Child of Page One, which is a Child of the Home Page. Additionally, there is a shortcut that is a child of the Home page which points to Page Two.

See also

Configure a Dynamics 365 portal
Configure site settings for portals
Configure Dynamics 365 portal authentication
Define entity forms and custom logic within the Dynamics 365 portal
Manage web links in Dynamics 365 or on portals

Register and invite for a portal

Applies To: Dynamics 365 (online), Dynamics CRM Online

The latest portal authentication experience allows portal users to sign in with their choice of a local contact membership provider based account or an external account based on ASP.NET Identity. Both local and external account registration can use invitation codes for sign up, as well as the email confirmation workflow. In addition, portal administrators may choose to enable or disable any combination of authentication options through portal site settings.

Local authentication

Local authentication is the common forms-based authentication uses the contact records of a Dynamics 365 organization for authentication. To build custom authentication experiences, developers can use the ASP.Net Identity API to create custom login pages and tools.

External authentication

External authentication is provided by the ASP.NET Identity API. In this case, account credentials and password management are handled by a third-party identity provider. This includes OpenID based providers such as Yahoo! and Google and OAuth 2.0 based providers such as Twitter, Facebook, and Microsoft. Users sign up to the portal by selecting an external identity to register with the portal. After it is registered, an external identity has access to the same features as a local account.

Account sign-up (registration)

Portal administrators have several options for controlling account sign-up behavior. Open registration is the least restrictive sign-up configuration where the portal allows a user account to be registered by simply providing a user identity. Alternative configurations may require users to provide an invitation code or valid email address to register with the portal. Regardless of the registration configuration, both local and external accounts participate equally in the registration workflow. That is, users have the option to choose which type of account they want to register.

Open registration

During sign-up, the user has the option of creating a local account (providing a username and password) or selecting an external identity from a list of identity providers. If an external identity is selected, the user is required to sign in through the chosen identity provider to prove that they own the external account. In either case, the user is immediately registered and authenticated with the portal. A new contact record is created in the Dynamics 365 organization upon sign-up.

With open registration enabled, users are not required to provide an invitation code to complete the sign-up process.

See also

Configure a contact for use on a portal
Invite contacts to your portals
Set authentication identity for a portal

Configure a contact for use on a portal

Applies To: Dynamics 365 (online), Dynamics CRM Online

After filling out the basic information for a contact in Dynamics 365, (or having a user fill it out the signup form in a portal), navigate to the web authentication tab on the portal contact form to configure a contact using local authentication. For details on federated authentication options see Set authentication identity for a portal. To configure a contact for portals using local authentication, follow these instructions:

1. Enter a **username**.
2. On the command ribbon, click **More Commands** > **Change Password**.

Complete the change password workflow, and the necessary fields will be automatically configured. When you have done this, your contact will be configured for your portals.

See also

Register and invite for a portal
Invite contacts to your portals
Set authentication identity for a portal

Invite contacts to your portals

Applies To: Dynamics 365 (online), Dynamics CRM Online

Use the Dynamics 365 portals invitation feature to invite contacts to your portal through automated email(s) created in your Dynamics 365 system. The people you invite receive an email, fully customizable by you, with a link to your portal and an invitation code. This code can be used to gain special access configured by you. With this feature you have the ability to:

Send Single or Group Invitations

- Specify an expiry date if desired
- Specify a user or portal contact as the inviter if desired
- Automatically assign the invited contact(s) to an account upon invite redemption
- Automatically execute a workflow upon invite redemption
- Automatically assign the invited contact(s) to a Web Role(s) upon redemption

Invitation redemption can be accomplished using any of our many authentication options. For documentation regarding portal authentication, see Set authentication identity for a portal and choose the model applicable to your portal version and configuration. The user will adopt any settings provided by the administrator upon redemption. An Invite Redemption Activity will be created for the Invite and Contact.

Invitations are sent via the **Send Invitation** workflow. By default, the workflow creates an email with a generic message and sends it to the invited Contact's primary email address. The **Send Invitation** workflow contains an email template that will need to be edited to contain a specific message for your portal and the correct hyperlink to your portal's **Invite Redemption Page**.

Edit the Send Invitation workflow email template

Locate the **Send Invitation** workflow and deactivate it. After it is deactivated, edit the email template to send the message you want and provide a link to the **Invite Redemption Page** of your portal.

Create and configure invitations

To create an Invitation record within Dynamics 365, click the **Create Invitation** button in the command bar. The button is available when a single Contact is selected in a Contact View and when viewing a Contact record. Clicking the button will open a new invitation form for the Contact. Invitations can also be created via the Invitations View by clicking **+New**. After the Invitation record has been created the **Run Workflow** button will appear enabling you to send the Invitation to the Contact(s).

Run the Send Invitation workflow

The invitation will not be sent to the Contact(s) until the **Send Invitation** workflow is initiated.

The Invitation Form has the following fields:

Name	Description
Name	A descriptive name for helping recognize the invitation.
Type	**Single** or **Group**. Single will allow only one contact to be invited and only one redemption.

Name	Description
	Group allows multiple contacts to be invited and multiple redemptions.
Owner/Sender	The Dynamics 365 user that will be the sender of the email when the invitation is sent. This can be overridden in the **Send Invitation** workflow if the created email already contains someone in the from field.
Invitation Code	A unique code for the invitation that only the invitee will know. This is automatically generated when creating a new invitation.
Expiry Date	The date that represents when the invitation will become invalid for redemption. Optional.
Inviter	Can be used when a contact is the sender of the invitation. Optional.
Invited Contact(s)	The contact(s) to be invited to a portal.
Assign to Account	An account record to be associated as the redeeming contact's parent customer when the invite is redeemed. Optional.
Execute Workflow on Redeeming Contact	A workflow process to be executed when the invite is redeemed. The workflow will be passed the redeeming contact as the primary entity. Optional.
Assign to Web Roles	A set of web roles to be associated with the redeeming contact when the invite is redeemed. Optional.
Redeemed Contact(s)	The contact(s) that have successfully redeemed the invitation.
Maximum Redemptions Allowed	The number of times the invitation can be redeemed. Available for Group type invitations only.

See also

Register and invite for a portal
Configure a contact for use on a portal
Set authentication identity for a portal

Set authentication identity for a portal

Applies To: Dynamics 365 (online), Dynamics CRM Online

Portal capabilities for Microsoft Dynamics 365 provides authentication functionality built on the ASP.NET Identity API. ASP.NET Identity is in turn built on the OWIN framework, which is also an important component of the authentication system. The services provided include:

Local (username/password) user sign-in

- External (social provider) user sign-in through third party identity providers
- Two-factor authentication with email or SMS
- Email address confirmation
- Password recovery
- Invitation code sign-up for registering pre-generated contact records

Requirements

Portal capabilities for Microsoft Dynamics 365 requires

- **Microsoft Dynamics 365 Portal Base**, the **Microsoft Identity**, and the **Microsoft Identity Workflows** solution packages

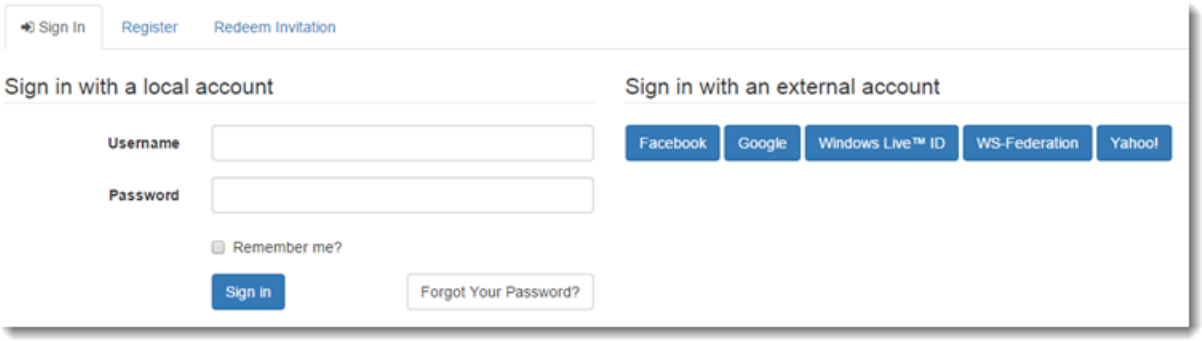
Authentication overview

Returning portal visitors have the option to authenticate using local user credentials and/or external identity provider accounts. A new visitor can register for a new user account either by providing a username/password or by signing-in through an external provider. Visitors who are sent an invitation code (by the portal administrator) have the option to redeem the code in the process of signing-up for a new user account.

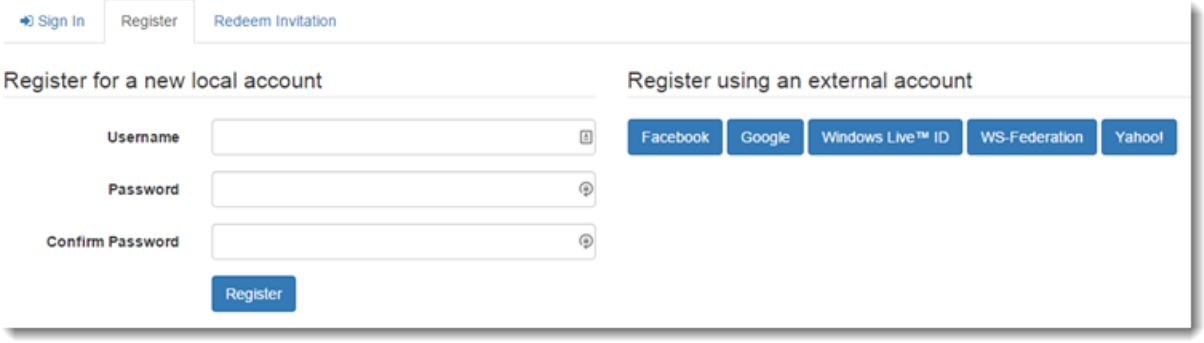
Related Site Settings:

`Authentication/Registration/Enabled`

- `Authentication/Registration/LocalLoginEnabled`
- `Authentication/Registration/ExternalLoginEnabled`
- `Authentication/Registration/OpenRegistrationEnabled`
- `Authentication/Registration/InvitationEnabled`
- `Authentication/Registration/RememberMeEnabled`
- `Authentication/Registration/ResetPasswordEnabled`
- Sign-in with a local identity or external identity



Sign-up with a local identity or external identity



Redeem an invitation code manually

Forgot password or password reset

Returning visitors who require a password reset (and have previously specified an email address on their user profile) have the option of requesting a password reset token to be sent to their email account. A reset token allows its owner to choose a new password. Alternatively, the token can be abandoned, leaving the user's original password unmodified.

Related Site Settings:

`Authentication/Registration/ResetPasswordEnabled`

- `Authentication/Registration/ResetPasswordRequiresConfirmedEmail`

Related Processes:

`Send Password Reset To Contact`

1. Customize the email in the workflow as necessary
2. Submit email to invoke process
3. Visitor prompted to check email
4. Process: Send Password Reset To Contact
5. Password reset email with instructions
6. Visitor returns to the reset form
7. Password reset complete

Redeem an invitation

Redeeming an invitation code allows a registering visitor to be associated to an existing contact record that was prepared in advance specifically for that visitor. Typically, the invitation codes are sent out by email but a general code submission form is available for codes sent though other channels. After a valid invitation code is submitted, the normal user registration (sign-up) process takes place to setup the new user account. More information: [Register and invite for a portal](#).

Related Site Settings:

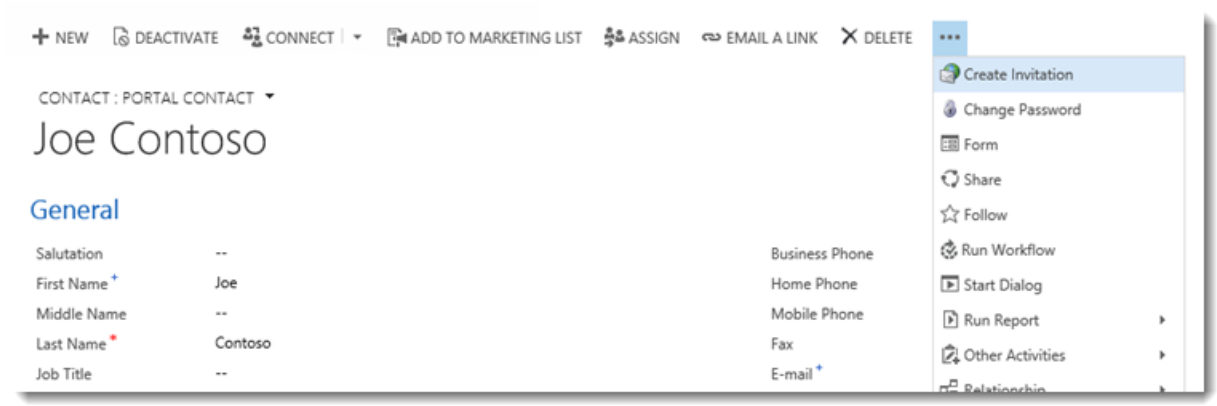
`Authentication/Registration/InvitationEnabled`

Related Processes:

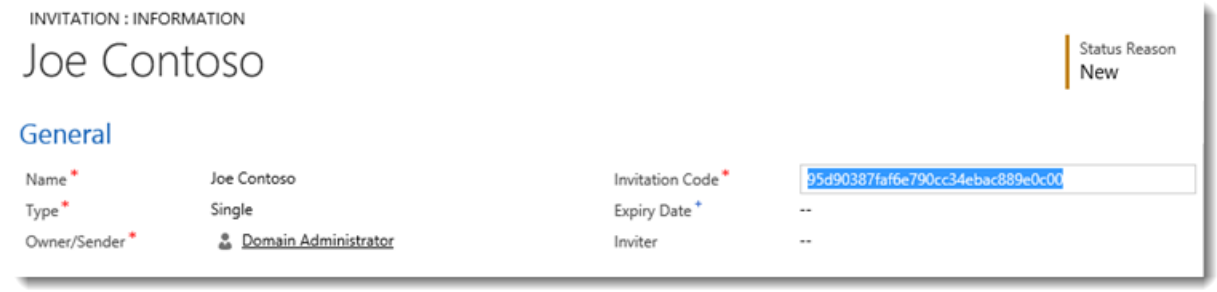
`Send Invitation`

- Note: the email sent by this workflow must be customized with the URL to the redeem invitation page on the portal.
    - http://portal.contoso.com/register/?returnurl=%2f&invitation={Invitation Code(Invitation)}

1. Create invitation for a new contact



2. Customize and save the new invitation



3. Process: Send Invitation
4. Customize the invitation email
5. Invitation email opens the redemption page
6. Sign-up using the submitted invitation code

Manage user accounts through profile pages

Authenticated users manage their user accounts through the Security navigation bar of the profile page. Users are not limited to the single local account or single external account chosen at user registration time. Users with an external account may choose to create a local account by applying a username and password. Otherwise, users who started with a local account can choose to associate multiple external identities to their account. The profile page is also where the user is reminded to confirm their email address by requesting a confirmation email to be sent to their email account.

Related Site Settings:

`Authentication/Registration/LocalLoginEnabled`

- `Authentication/Registration/ExternalLoginEnabled`
- `Authentication/Registration/TwoFactorEnabled`
- `Authentication/Registration/MobilePhoneEnabled`

Set or change a password

A user with an existing local account can apply a new password by providing the original password. A user without a local account can choose a username and password to set up a new local account. The username cannot be changed after it is set.

Related Site Settings:

`Authentication/Registration/LocalLoginEnabled`

1. Create a username and password
2. Change an existing password

Change or confirm an email address

Changing an email address (or setting it for the first time) puts it into an unconfirmed state. The user can request a confirmation email to be sent to the new email address, including instructions on completing the email confirmation process.

Related Processes:

`Send Email Confirmation To Contact`

- Customize the email in the workflow as necessary

1. Submit a new email (unconfirmed)
2. Check email for confirmation

3. Process: Send Email Confirmation To Contact
4. Customize the confirmation email
5. Click the confirmation link to complete

Change or confirm mobile phone

Changing the mobile phone value occurs slightly differently from changing the email. The new value is held in a temporary storage without changing the original value. An SMS message containing a security code is sent to the new mobile phone number. Only after the security code is submitted back to the portal (and verified) is the old mobile number replaced with the new value.

Related Processes:

`Authentication/Registration/MobilePhoneEnabled`

Related Processes:

`Send Sms Confirmation To Contact`

- Note: the workflow for this process contains a temporary step that sends the security code by email. This is a placeholder step that needs to be replaced by a new step capable of sending SMS messages.

1. Submit new mobile phone (unconfirmed)
2. Wait for SMS with security code
3. Process: Send Sms Confirmation To Contact
4. Replace this email step with SMS step
5. After submitting a valid security code

Enable two-factor authentication

The two-factor authentication feature increases user account security by requiring proof of ownership of a confirmed email or mobile phone in addition to the standard local/external account sign-in. A user trying to sign into an account with two-factor authentication enabled is sent a security code to the confirmed email or mobile phone associated to their account. The security code must be submitted to complete the sign-in process. A user can choose to remember the browser that successfully passes the verification such that the security code is not required for subsequent sign-ins from the same browser.

Each user account enables this feature individually and requires either a confirmed email or confirmed mobile phone. User accounts with both may choose which method to receive the security code.

Related Site Settings:

`Authentication/Registration/TwoFactorEnabled`

- `Authentication/Registration/RememberBrowserEnabled`

Related Processes:

`Send Email Two Factor Code To Contact`

- `Send Sms Two Factor Code To Contact`

1. Enable two-factor authentication

2. Choose to receive security code by email or SMS
3. Wait for email/SMS with security code
4. Process: Send Email Two Factor Code To Contact
5. Process: Send Sms Two Factor Code To Contact
6. Two-factor authentication can be disabled

Manage external accounts

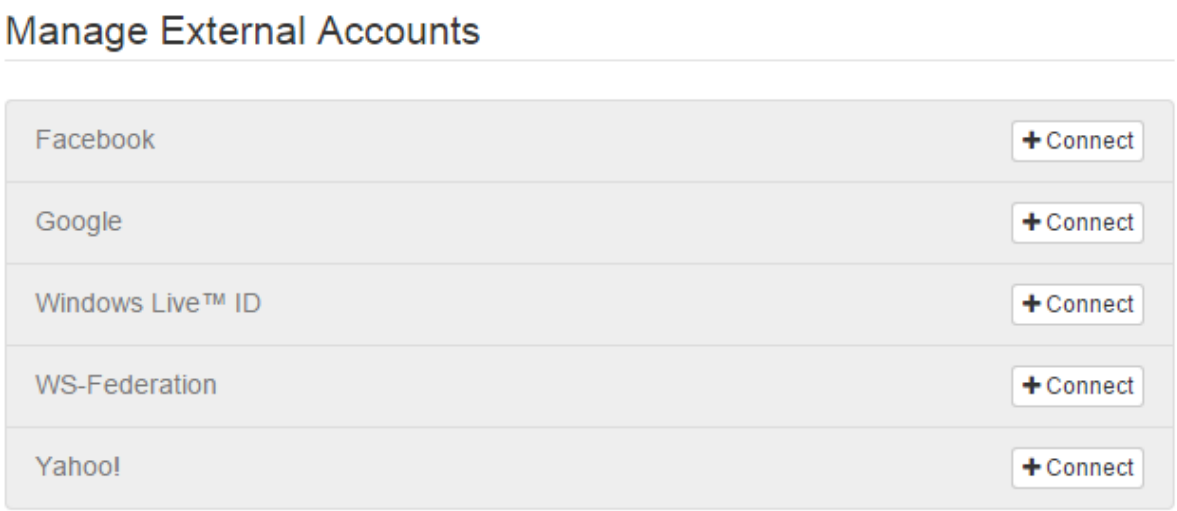
An authenticated user may connect (register) multiple external identities to their user account one from each of the configured identity providers. After the identities are connected, the user may choose to sign in with any of the connected identities. Existing identities can also be disconnected, as long as a single external or local identity remains.

Related Site Settings:

`Authentication/Registration/ExternalLoginEnabled`

- External Identity Provider Site Settings

1. Select a provider to connect



2. Sign-in with provider to connect
3. Provider is connected
4. Provider can be disconnected

Enable ASP.NET identity authentication

The following describes the settings for enabling/disabling various authentication features and behaviors:

Site Setting Name	Description

`Authentication/Registration/LocalLoginEnabled`	Enables or disables local account sign-in based on a username (or email) and password. Default: `false`
`Authentication/Registration/LocalLoginByEmail`	Enables or disables local account sign-in using an email address field instead of a username field. Default: `false`
`Authentication/Registration/ExternalLoginEnabled`	Enables or disables external account sign-in and registration. Default: `true`
`Authentication/Registration/RememberMeEnabled`	Enables or disables a "Remember Me?" checkbox on local sign-in to allow authenticated sessions to persist even when the web browser is closed. Default: `true`
`Authentication/Registration/TwoFactorEnabled`	Enables or disables the option for users to enable two-factor authentication. Users with a confirmed email address or confirmed mobile number can opt into the added security of two-factor authentication. Default: `false`
`Authentication/Registration/MobilePhoneEnabled`	Enables or disables the option to add and confirm a mobile phone number. When enabled, it is also necessary to update the `Send Sms Confirmation To Contact` process in Dynamics 365 such that the workflow is able to send out SMS messages. Default: `false`
`Authentication/Registration/RememberBrowserEnabled`	Enables or disables a "Remember Browser?" checkbox on second-factor validation (email/SMS code) to persist the second-factor validation for the current browser. The user will not be required to pass the second-factor validation for subsequent sign-ins as long as the same browser is being used. Default: `true`
`Authentication/Registration/ResetPasswordEnabled`	Enables or disables the password reset feature. Default: `true`
`Authentication/Registration/ResetPasswordRequiresConfirmedEmail`	Enables or disables password reset for confirmed email addresses only. If enabled, unconfirmed email addresses cannot be used to send password reset instructions. Default: `false`
`Authentication/Registration/TriggerLockoutOnFailedPassword`	Enables or disables recording of failed password attempts. If disabled, user accounts will not be locked out. Default: `true`
`Authentication/Registration/IsDemoMode`	Enables or disables a demo mode flag to be used in development or demonstration environments only. Do not enable this setting on production environments. Demo mode also requires the web browser to be running locally to the web application server. When demo mode is enabled, the password reset code and 2nd-factor code are displayed to the user for quick access. Default: `false`

`Authentication/Registration/LoginButtonAuthenticationType`	If a portal only requires a single external identity provider (to handle all authentication), this allows the Sign-In button of the header nav bar to link directly to the login page of that external identity provider (instead linking to the intermediate local login form and identity provider selection page). Only a single identity provider can be selected for this action. Specify the AuthenticationType value of the provider. For OAuth2 based providers the accepted values are: `Facebook`, `Google`, `Yahoo`, `Microsoft`, `LinkedIn`, `Yammer`, or `Twitter` For WS-Federation based providers use the value specified for the `Authentication/WsFederation/ADFS/AuthenticationType` and `Authentication/WsFederation/Azure/[provider]/AuthenticationType` site settings. Examples: `http://adfs.contoso.com/adfs/services/trust`, `Facebook-0123456789`, `Google`, `Yahoo!`, `uri:WindowsLiveID`.

Enable/disable user registration

The following describes the settings for enabling/disabling user registration (sign-up) options:

Site Setting Name	Description
`Authentication/Registration/Enabled`	Enables or disables all forms of user registration. Registration must be enabled for the other settings in this section to take effect. Default: `true`
`Authentication/Registration/OpenRegistrationEnabled`	Enables or disables the sign-up registration form for creating new local users. The sign-up form allows any anonymous visitor to the portal to create a new user account. Default: `true`
`Authentication/Registration/InvitationEnabled`	Enables or disables the invitation code redemption form for registering users who possess invitation codes. Default: `true`

User credential validation

The following describes the settings for adjusting username and password validation parameters. Validation occurs when signing up for a new local account or changing a password.

Site Setting Name	Description
`Authentication/UserManager/PasswordValidator/EnforcePasswordPolicy`	Whether the password contains characters from three of the following categories:

	1. Uppercase letters of European languages (A through Z, with diacritic marks, Greek and Cyrillic characters) 2. Lowercase letters of European languages (a through z, sharp-s, with diacritic marks, Greek and Cyrillic characters) 3. Base 10 digits (0 through 9) 4. Non-alphanumeric characters (special characters) (for example, !, $, #, %) Default: `true`. MSDN.
`Authentication/UserManager/UserValidator/AllowOnlyAlphanumericUserNames`	Whether to allow only alphanumeric characters for the user name. Default: `false`. MSDN.
`Authentication/UserManager/UserValidator/RequireUniqueEmail`	Whether unique e-mail is needed for validating the user. Default: `true`. MSDN.
`Authentication/UserManager/PasswordValidator/RequiredLength`	The minimum required password length. Default: `8`. MSDN.
`Authentication/UserManager/PasswordValidator/RequireNonLetterOrDigit`	Whether the password requires a non-letter or digit character. Default: `false`. MSDN.
`Authentication/UserManager/PasswordValidator/RequireDigit`	Whether the password requires a numeric digit ('0' - '9'). Default: `false`. MSDN.
`Authentication/UserManager/PasswordValidator/RequireLowercase`	Whether the password requires a lower case letter ('a' - 'z'). Default: `false`. MSDN.
`Authentication/UserManager/PasswordValidator/RequireUppercase`	Whether the password requires an upper case letter ('A' - 'Z'). Default: `false`. MSDN.

User account lockout settings

The following describes the settings that define how and when an account becomes locked from authentication. When a certain number of failed password attempts are detected under a short period of time, the user account is locked for a period of time. The use can try again after the lockout period elapses.

Site Setting Name	Description
`Authentication/UserManager/UserLockoutEnabledByDefault`	Indicates whether the user lockout is enabled when users are created. Default: `true`. MSDN.
`Authentication/UserManager/DefaultAccountLockoutTimeSpan`	The default amount of time that a user is locked out for after `Authentication/UserManager/MaxFailedAccessAttemptsBeforeLockout` is reached. Default: `24:00:00` (1 Day). MSDN.

`Authentication/UserManager/MaxFailedAccessAttemptsBeforeLockout`	The maximum number of access attempts allowed before a user is locked out (if lockout is enabled). Default: `5`. MSDN.
`Authentication/ApplicationCookie/ExpireTimeSpan`	The default amount of time cookie authentication sessions are valid for. Default: `24:00:00` (1 Day). MSDN.

See also

Configure Dynamics 365 portal authentication
OAuth2 provider settings for portals
Open ID Connect provider settings for portals
WS-Federation provider settings for portals
SAML 2.0 provider settings for portals
Facebook App (Page Tab) authentication for portals

OAuth2 provider settings for portals

Applies To: Dynamics 365 (online), Dynamics CRM Online

The OAuth 2.0 based external identity providers involve registering an "application" with a third-party service to obtain a "client ID" and "client secret" pair. Often this application requires specifying a redirect URL that allows the identity provider to send users back to the portal (relying party). The client ID and client secret are configured as portal site settings in order to establish a secure connection from relying party to identity provider. The settings are based on the properties of the MicrosoftAccountAuthenticationOptions, TwitterAuthenticationOptions, FacebookAuthenticationOptions, and GoogleOAuth2AuthenticationOptions classes.

The supported providers are:

Microsoft Account

- Twitter
- Facebook
- Google
- LinkedIn
- Yahoo

Create OAuth applications

In general, if an OAuth provider uses app settings that require a redirect URI value, specify `http://portal.contoso.com/` or `http://portal.contoso.com/signin-[provider]` depending on how the provider performs redirect URI validation (some providers require the full URL path to be specified along with the domain name). Substitute the name of the provider in place of `[provider]` in the redirect URI.

Google

Google OAuth2 API Credentials Instructions

Open Google Developers Console

- Create an API project or open an existing project
- Navigate to **APIs & auth** > **APIs**
    - Under Social APIs, click **Google+ API** then click **Enable API**
- Navigate to **APIs & auth** > **Consent screen**
    - Specify an **Email address**
    - Specify a custom **Product name**
    - Click **Save**
- Navigate to **APIs & auth** > **Credentials**
    - Create new Client ID
        - Application Type: **Web application**
        - Authorized JavaScript Origins: `http://portal.contoso.com`
        - Authorized Redirect URIs: `http://portal.contoso.com/signin-google`
        - Click **Create Client ID**

Facebook app settings

Open Facebook Developers App Dashboard

- Click **Add a New App**
- Select **Website**
- Click **Skip and Create App ID**
    - Specify a **Display Name**
    - Select a **Category**
    - Click **Create App ID**
- While on the Dashboard for the new app, navigate to **Settings** > **Basic** (tab)
    - (Optional) App Domains: `portal.contoso.com`
    - Contact Email: *<email address of your choice>*
    - Click **Add Platform** and select **Website**
    - Site URL: `http://portal.contoso.com/` or `http://portal.contoso.com/signin-facebook`
    - Click **Save Changes**
- Navigate to **Status & Review** > **Status** (tab)
    - Do you want to make this app an all its features available to the general public? **YES**
        - The Contact Email field is required to enable this setting

Microsoft application settings

Open Microsoft account Developer Center

- Click **Create application**
  - Specify an **Application name**
  - Click **I accept**
- Navigate to **Settings** > **API settings**
  - Redirect URLs: `http://portal.contoso.com/signin-microsoft`

Twitter apps settings

Open Twitter Application Management

- Click **Create New App**
  - Specify a **Name** and **Description**
  - Website: `http://portal.contoso.com`
  - Callback URL: `http://portal.contoso.com` or `http://portal.contoso.com/signin-twitter`
  - Click **Create your Twitter application**

LinkedIn app settings

Open LinkedIn Developer Network

- Click **Add New Application**
  - Specify an **Application Name**, **Description**, etc.
  - Website URL: `http://portal.contoso.com`
  - OAuth User Agreement/Default Scope: `r_basicprofie` and `r_emailaddress`
  - OAuth 2.0 Redirect Urls: `http://portal.contoso.com/signin-linkedin`
  - Click **Add Application**

Yahoo! YDN App settings

Open Yahoo! Developer Network

- Click **Create an App**
  - Specify an **Application Name**
  - Application Type: **Web Application**
  - Callback Domain: `portal.contoso.com`
- Click **Create App**

Create site settings using OAuth2

The application dashboard for each provider will display the client ID (app ID, consumer key) and client secret (app secret, consumer secret) for each application. Use these two values to configure the portal site settings.

Note

A standard OAuth2 configuration only requires the following settings (choosing Facebook as an example):

`Authentication/OpenAuth/Facebook/ClientId`

- `Authentication/OpenAuth/Facebook/ClientSecret`

Substitute the `[provider]` tag in the site setting name with a specific identity provider name: `Facebook`, `Google`, `Yahoo`,`Microsoft`, `LinkedIn`, or `Twitter`.

Site Setting Name	Description
`Authentication/Registration/ExternalLoginEnabled`	Enables or disables external account sign-in and registration. Default: `true`
`Authentication/OpenAuth/[provider]/ClientId`	Required. The client ID value from the provider application. It may also be referred to as an "App ID" or "Consumer Key". The following setting names are allowed for backwards compatibility: `Authentication/OpenAuth/Twitter/ConsumerKey` • `Authentication/OpenAuth/Facebook/AppId` • `Authentication/OpenAuth/LinkedIn/ConsumerKey`
`Authentication/OpenAuth/[provider]/ClientSecret`	Required. The client secret value from the provider application. It may also be referred to as an "App Secret" or "Consumer Secret". The following setting names are allowed for backwards compatibility: `Authentication/OpenAuth/Twitter/ConsumerSecret` • `Authentication/OpenAuth/Facebook/AppSecret` • `Authentication/OpenAuth/LinkedIn/ConsumerSecret`
`Authentication/OpenAuth/[provider]/AuthenticationType`	The OWIN authentication middleware type. Example: `yahoo`. MSDN: authenticationoptions.authenticationtype.
`Authentication/OpenAuth/[provider]/Scope`	A comma separated list of permissions to request. MSDN: microsoftaccountauthenticationoptions.scope.
`Authentication/OpenAuth/[provider]/Caption`	The text that the user can display on a sign in user interface. MSDN: microsoftaccountauthenticationoptions.caption.
`Authentication/OpenAuth/[provider]/BackchannelTimeout`	Timeout value in milliseconds for back channel communications. MSDN: microsoftaccountauthenticationoptions.backchanneltimeout.

`Authentication/OpenAuth/[provider]/CallbackPath`	The request path within the application's base path where the user-agent will be returned. MSDN: microsoftaccountauthenticationoptions.callbackpath.
`Authentication/OpenAuth/[provider]/SignInAsAuthenticationType`	The name of another authentication middleware which will be responsible for actually issuing a **userClaimsIdentity**. MSDN: microsoftaccountauthenticationoptions.signinasauthenticationtype.
`Authentication/OpenAuth/[provider]/AuthenticationMode`	The OWIN authentication middleware mode. MSDN: security.authenticationoptions.authenticationmode.

See also

Configure Dynamics 365 portal authentication
Set authentication identity for a portal
Open ID Connect provider settings for portals
WS-Federation provider settings for portals
SAML 2.0 provider settings for portals
Facebook App (Page Tab) authentication for portals

Open ID Connect provider settings for portals

Applies To: Dynamics 365 (online), Dynamics CRM Online

Note

This documentation applies to **Dynamics 365 portals** and later versions.

OpenID Connect external identity providers are services that conform to the Open ID Connect specifications. Integrating a provider involves locating the authority (or issuer) URL associated with the provider. A configuration URL can be determined from the authority which supplies metadata required during the authentication workflow. The provider settings are based on the properties of the OpenIdConnectAuthenticationOptions class.

Examples of authority URLs are:

Google - https://accounts.google.com/https://accounts.google.com/.well-known/openid-configuration

- Azure Active Directory - https://login.windows.net/<Azure AD Application>/

Each OpenID Connect provider also involves registering an application (similar to that of an OAuth 2.0 provider) and obtaining a Client Id. The authority URL and the generated application Client Id are the settings required to enable external authentication between the portal and the identity provider.

Note

The Google OpenID Connect endpoint is currently not supported because the underlying libraries are still in the early stages of release with compatibility issues to address. The OAuth2 provider settings for portals endpoint can be used instead.

OpenID settings for Azure Active Directory

To get started sign into the Azure Management Portal and create or select an existing directory. When a directory is available follow the instructions to add an application to the directory.

1. Under the **Applications** menu of the directory, click the **Add** button
2. Choose **Add an application my organization is developing**
3. Specify a custom **name** for the application and choose the type **web application and/or web API**
4. For the **Sign-On URL** and the **App ID URI**, specify the URL of the portal for both fields `https://portal.contoso.com/`
5. At this point, a new application is created. Navigate to the **Configure** section in the menu

Under the **single sign-on** section, update the first **Reply URL** entry to include a path in the URL `http://portal.contoso.com/signin-azure-ad`

- This corresponds to the **RedirectUri** site setting value
- Under the **properties** section, locate the **client ID** field. This corresponds to the **ClientId** site setting value.

6. In the footer menu click the **View Endpoints** button and note the **Federation Metadata Document** field

The left portion of the URL is the **Authority** value and is in one of the following formats:

  - https://login.microsoftonline.com/01234567-89ab-cdef-0123-456789abcdef/
  - https://login.microsoftonline.com/contoso.onmicrosoft.com/

- To get the service configuration URL, replace the `FederationMetadata/2007-06/FederationMetadata.xml` path tail with the path `.well-known/openid-configuration`
  - https://login.microsoftonline.com/contoso.onmicrosoft.com/.well-known/openid-configuration
- This corresponds to the **MetadataAddress** site setting value

Create site settings using OpenID

Apply portal site settings referencing the above application.

Note

A standard Azure AD configuration only uses the following settings (with example values):

`Authentication/OpenIdConnect/AzureAD/Authority` - https://login.microsoftonline.com/01234567-89ab-cdef-0123-456789abcdef/

- `Authentication/OpenIdConnect/AzureAD/ClientId` - fedcba98-7654-3210-fedc-ba9876543210

- Note, the Client ID and the authority URL do not contain the same value and should be retrieved separately.

- `Authentication/OpenIdConnect/AzureAD/RedirectUri` - https://portal.contoso.com/signin-azure-ad

Multiple identity providers can be configured by substituting a label for the `[provider]` tag. Each unique label forms a group of settings related to an identity provider. Examples: `AzureAD`, `MyIdP`

Site Setting Name	Description
`Authentication/Registration/ExternalLoginEnabled`	Enables or disables external account sign-in and registration. Default: `true`
`Authentication/OpenIdConnect/[provider]/Authority`	Required. The Authority to use when making OpenIdConnect calls. Example: `https://login.windows.net/contoso.onmicrosoft.com/`. MSDN.
`Authentication/OpenIdConnect/[provider]/MetadataAddress`	The discovery endpoint for obtaining metadata. Commonly ending with the path:`/.well-known/openid-configuration` . Example: `https://login.windows.net/contoso.onmicrosoft.com/.well-known/openid-configuration`. MSDN.
`Authentication/OpenIdConnect/[provider]/AuthenticationType`	The OWIN authentication middleware type. Specify the value of the issuer in the service configuration metadata. Example: `https://sts.windows.net/contoso.onmicrosoft.com/`. MSDN.
`Authentication/OpenIdConnect/[provider]/ClientId`	Required. The client ID value from the provider application. It may also be referred to as an "App ID" or "Consumer Key". MSDN.
`Authentication/OpenIdConnect/[provider]/ClientSecret`	The client secret value from the provider application. It may also be referred to as an "App Secret" or "Consumer Secret". MSDN.
`Authentication/OpenIdConnect/[provider]/RedirectUri`	Recommended. The AD FS WS-Federation passive endpoint. Example: `https://portal.contoso.com/signin-saml2`. MSDN.
`Authentication/OpenIdConnect/[provider]/Caption`	Recommended. The text that the user can display on a sign in user interface. Default: `[provider]`. MSDN.
`Authentication/OpenIdConnect/[provider]/Resource`	The 'resource'. MSDN.
`Authentication/OpenIdConnect/[provider]/ResponseType`	The 'response_type'. MSDN.
`Authentication/OpenIdConnect/[provider]/Scope`	A space separated list of permissions to request. Default: `openid`. MSDN.
`Authentication/OpenIdConnect/[provider]/CallbackPath`	An optional constrained path on which to process the authentication callback. If not provided and RedirectUri is available, this

	value will be generated from RedirectUri. MSDN.
`Authentication/OpenIdConnect/[provider]/BackchannelTimeout`	Timeout value for back channel communications. Example: `00:05:00` (5 mins). MSDN.
`Authentication/OpenIdConnect/[provider]/RefreshOnIssuerKeyNotFound`	Determines whether a metadata refresh should be attempted after a SecurityTokenSignatureKeyNotFoundException. MSDN.
`Authentication/OpenIdConnect/[provider]/UseTokenLifetime`	Indicates that the authentication session lifetime (e.g. cookies) should match that of the authentication token. MSDN.
`Authentication/OpenIdConnect/[provider]/AuthenticationMode`	The OWIN authentication middleware mode. MSDN.
`Authentication/OpenIdConnect/[provider]/SignInAsAuthenticationType`	The AuthenticationType used when creating the System.Security.Claims.ClaimsIdentity. MSDN.
`Authentication/OpenIdConnect/[provider]/PostLogoutRedirectUri`	The 'post_logout_redirect_uri'. MSDN.
`Authentication/OpenIdConnect/[provider]/ValidAudiences`	Comma-separated list of audience URLs. MSDN.
`Authentication/OpenIdConnect/[provider]/ValidIssuers`	Comma-separated list of issuer URLs. MSDN.
`Authentication/OpenIdConnect/[provider]/ClockSkew`	The clock skew to apply when validating times.
`Authentication/OpenIdConnect/[provider]/NameClaimType`	The claim type used by the ClaimsIdentity to store the name claim.
`Authentication/OpenIdConnect/[provider]/RoleClaimType`	The claim type used by the ClaimsIdentity to store the role claim.
`Authentication/OpenIdConnect/[provider]/RequireExpirationTime`	A value indicating whether tokens must have an 'expiration' value.
`Authentication/OpenIdConnect/[provider]/RequireSignedTokens`	A value indicating whether a System.IdentityModel.Tokens.SecurityToken xmlns="http://ddue.schemas.microsoft.com/authoring/2003/5" can be valid if not signed.
`Authentication/OpenIdConnect/[provider]/SaveSigninToken`	A Boolean to control if the original token is saved when a session is created.
`Authentication/OpenIdConnect/[provider]/ValidateActor`	A value indicating whether the System.IdentityModel.Tokens.JwtSecurityToken.Actor should be validated.
`Authentication/OpenIdConnect/[provider]/ValidateAudience`	A Boolean to control if the audience will be validated during token validation.
`Authentication/OpenIdConnect/[provider]/ValidateIssuer`	A Boolean to control if the issuer will be validated during token validation.
`Authentication/OpenIdConnect/[provider]/ValidateLifetime`	A Boolean to control if the lifetime will be validated during token validation.

`Authentication/OpenIdConnect/[provider]/ValidateIssuerSigningKey`	A Boolean that controls if validation of the System.IdentityModel.Tokens.SecurityKey that signed the securityToken xmlns="http://ddue.schemas.microsoft.com/authoring/2003/5" is called.

See also

Configure Dynamics 365 portal authentication
Set authentication identity for a portal
OAuth2 provider settings for portals
WS-Federation provider settings for portals
SAML 2.0 provider settings for portals
Facebook App (Page Tab) authentication for portals

WS-Federation provider settings for portals

Applies To: Dynamics 365 (online), Dynamics CRM Online

A single Active Directory Federation Services server can be added (or another WS-Federation–compliant security token service) as an identity provider. In addition, a single Azure ACS namespace can be configured as a set of individual identity providers. The settings for both AD FS and ACS are based on the properties of the WsFederationAuthenticationOptions class.

Create an AD FS relying party trust

Using the AD FS Management tool, select **Trust Relationships** > **Relying Party Trusts**.

1. Click **Add Relying Party Trust**…
2. Welcome: Click **Start**
3. Select Data Source: Select **Enter data about the relying party manually**, click **Next**
4. Specify Display Name: Enter a **name**, click **Next**

Example: `https://portal.contoso.com/`

5. Choose Profile: Select **AD FS 2.0 profile**, click **Next**
6. Configure Certificate: Click Next
7. Configure URL: Check **Enable support for the WS-Federation Passive protocol**

Relying party WS-Federation Passive protocol URL: Enter `https://portal.contoso.com/signin-federation`

- Note: AD FS requires that the portal run on **HTTPS**

Note

The resulting endpoint has the following settings:

Endpoint type: **WS-Federation**

- Binding: **POST**
- Index: n/a (0)
- URL: **https://portal.contoso.com/signin-federation**

8. Configure Identities: Specify `https://portal.contoso.com/`, click **Add**, click **Next**

If applicable, more identities can be added for each additional relying party portal. Users will be able to authenticate across any or all of the available identities.

9. Choose Issuance Authorization Rules: Select **Permit all users to access this relying party**, click **Next**
10. Ready to Add Trust: Click **Next**
11. Click **Close**

Add the **Name ID** claim to the relying party trust:

TransformWindows account name to **Name ID** claim (Transform an Incoming Claim):

Create AD FS site settings

Apply portal site settings referencing the above AD FS Relying Party Trust.

Note

A standard AD FS (STS) configuration only uses the following settings (with example values):

`Authentication/WsFederation/ADFS/MetadataAddress` - https://adfs.contoso.com/FederationMetadata/2007-06/FederationMetadata.xml

- `Authentication/WsFederation/ADFS/AuthenticationType` - http://adfs.contoso.com/adfs/services/trust
  - Use the value of the **entityID** attribute in the root element of the Federation Metadata (open the **MetadataAddress URL** in a browser that is the value of the above site setting)
- `Authentication/WsFederation/ADFS/Wtrealm` - https://portal.contoso.com/
- `Authentication/WsFederation/ADFS/Wreply` - https://portal.contoso.com/signin-federation

The **WS-Federation metadata** can be retrieved in **PowerShell** by running the following script on the AD FS server:

```
Import-Module adfs Get-ADFSEndpoint -AddressPath /FederationMetadata/2007-06/FederationMetadata.xml
```

Site Setting Name	Description
`Authentication/Registration/ExternalLoginEnabled`	Enables or disables external account sign-in and registration. Default: `true`
`Authentication/WsFederation/ADFS/MetadataAddress`	Required. The WS-Federation metadata URL of the AD FS (STS) server. Commonly ending with the path: `/FederationMetadata/2007-06/FederationMetadata.xml` .

	Example:`https://adfs.contoso.com/FederationMetadata/2007-06/FederationMetadata.xml`. MSDN.
`Authentication/WsFederation/ADFS/AuthenticationType`	Required. The OWIN authentication middleware type. Specify the value of the entityID attribute at the root of the federation metadata XML. Example: `http://adfs.contoso.com/adfs/services/trust`. MSDN.
`Authentication/WsFederation/ADFS/Wtrealm`	Required. The AD FS relying party identifier. Example: `https://portal.contoso.com/`. MSDN.
`Authentication/WsFederation/ADFS/Wreply`	Required. The AD FS WS-Federation passive endpoint. Example: `https://portal.contoso.com/signin-federation`. MSDN.
`Authentication/WsFederation/ADFS/Caption`	Recommended. The text that the user can display on a sign in user interface. Default: `ADFS`. MSDN.
`Authentication/WsFederation/ADFS/CallbackPath`	An optional constrained path on which to process the authentication callback. MSDN.
`Authentication/WsFederation/ADFS/SignOutWreply`	The 'wreply' value used during sign-out. MSDN.
`Authentication/WsFederation/ADFS/BackchannelTimeout`	Timeout value for back channel communications. Example: `00:05:00` (5 mins). MSDN.
`Authentication/WsFederation/ADFS/RefreshOnIssuerKeyNotFound`	Determines if a metadata refresh should be attempted after a SecurityTokenSignatureKeyNotFoundException. MSDN.
`Authentication/WsFederation/ADFS/UseTokenLifetime`	Indicates that the authentication session lifetime (e.g. cookies) should match that of the authentication token. MSDN.
`Authentication/WsFederation/ADFS/AuthenticationMode`	The OWIN authentication middleware mode. MSDN.
`Authentication/WsFederation/ADFS/SignInAsAuthenticationType`	The AuthenticationType used when creating the System.Security.Claims.ClaimsIdentity. MSDN.
`Authentication/WsFederation/ADFS/ValidAudiences`	Comma separated list of audience URLs. MSDN.
`Authentication/WsFederation/ADFS/ValidIssuers`	Comma separated list of issuer URLs. MSDN.
`Authentication/WsFederation/ADFS/ClockSkew`	The clock skew to apply when validating times. MSDN.
`Authentication/WsFederation/ADFS/NameClaimType`	The claim type used by the ClaimsIdentity to store the name claim. MSDN.
`Authentication/WsFederation/ADFS/RoleClaimType`	The claim type used by the ClaimsIdentity to store the role claim. MSDN.
`Authentication/WsFederation/ADFS/RequireExpirationTime`	A value indicating whether tokens must have an 'expiration' value. MSDN.
`Authentication/WsFederation/ADFS/RequireSignedTokens`	A value indicating whether a System.IdentityModel.Tokens.SecurityToken

	xmlns="http://ddue.schemas.microsoft.com/authoring/2003/5" can be valid if not signed. MSDN.
`Authentication/WsFederation/ADFS/SaveSigninToken`	A Boolean to control if the original token is saved when a session is created. MSDN.
`Authentication/WsFederation/ADFS/ValidateActor`	A value indicating whether the System.IdentityModel.Tokens.JwtSecurityToken.Actor should be validated. MSDN.
`Authentication/WsFederation/ADFS/ValidateAudience`	A Boolean to control if the audience will be validated during token validation. MSDN.
`Authentication/WsFederation/ADFS/ValidateIssuer`	A Boolean to control if the issuer will be validated during token validation. MSDN.
`Authentication/WsFederation/ADFS/ValidateLifetime`	A Boolean to control if the lifetime will be validated during token validation. MSDN.
`Authentication/WsFederation/ADFS/ValidateIssuerSigningKey`	A Boolean that controls if validation of the System.IdentityModel.Tokens.SecurityKey that signed the securityToken xmlns="http://ddue.schemas.microsoft.com/authoring/2003/5" is called. MSDN.
`Authentication/WsFederation/ADFS/Whr`	Specifies a "whr" parameter in the identity provider redirect URL. MSDN.

WS-Federation settings for Azure Active Directory

The previous section describing AD FS can also be applied to Azure Active Directory (Azure AD), because Azure AD behaves like a standard WS-Federation compliant security token service. To get started sign into the Azure Management Portal and create or select an existing directory. When a directory is available follow the instructions to add an application to the directory.

1. Under the **Applications** menu of the directory, click the **Add** button
2. Choose **Add an application my organization is developing**
3. Specify a custom **name** for the application and choose the type **web application and/or web API**
4. For the **Sign-On URL** and the **App ID URI**, specify the URL of the portal for both fields

   `https://portal.contoso.com/`

This corresponds to the **Wtrealm** site setting value

5. At this point, a new application is created. Navigate to the **Configure** section in the menu

Under the **single sign-on** section, update the first **Reply URL** entry to include a path in the URL

`http://portal.contoso.com/signin-azure-ad`

- This corresponds to the **Wreply** site setting value

6. Click **Save** in the footer
7. In the footer menu click the **View Endpoints** button and note the **Federation Metadata Document** field

This corresponds to the **MetadataAddress** site setting value

- Paste this URL in a browser window to view the federation metadata XML and note the **entityID** attribute of the root element
- This corresponds to the **AuthenticationType** site setting value

Note

A standard Azure AD configuration only uses the following settings (with example values):

`Authentication/WsFederation/ADFS/MetadataAddress` - https://login.microsoftonline.com/01234567-89ab-cdef-0123-456789abcdef/federationmetadata/2007-06/federationmetadata.xml

- `Authentication/WsFederation/ADFS/AuthenticationType` - https://sts.windows.net/01234567-89ab-cdef-0123-456789abcdef/
  - Use the value of the **entityID** attribute in the root element of the Federation Metadata (open the **MetadataAddress URL** in a browser that is the value of the above site setting)
- `Authentication/WsFederation/ADFS/Wtrealm` - https://portal.contoso.com/
- `Authentication/WsFederation/ADFS/Wreply` - https://portal.contoso.com/signin-azure-ad

Configure Facebook app authentication

Apply the configuration described in the topic Facebook App (Page Tab) authentication for portals.

See also

Configure Dynamics 365 portal authentication
Set authentication identity for a portal
OAuth2 provider settings for portals
Open ID Connect provider settings for portals
SAML 2.0 provider settings for portals
Facebook App (Page Tab) authentication for portals

SAML 2.0 provider settings for portals

Applies To: Dynamics 365 (online), Dynamics CRM Online

Note

This documentation applies to **Dynamics 365 portals** and later versions.

One or more SAML 2.0–compliant Identity Providers (IdP) can be added to provide external authentication. This document describes how to setup various identity providers to integrate with a portal acting as a Service Provider (SP).

AD FS (IdP)

Settings for an IdP such as AD FS.

Create an AD FS relying party trust

Note

See Configure AD FS by using PowerShell, below, for information about how to perform these steps in a PowerShell script.

Using the AD FS Management tool, select **Service** > **Claim Descriptions**.

1. Click **Add Claim Description**...
2. Specify the claim:

Display name: **Persistent Identifier**

- Claim identifier: **urn:oasis:names:tc:SAML:2.0:nameid-format:persistent**
- **Enable** checkbox for: Publish this claim description in federation metadata as a claim type that this Federation Service can accept
- **Enable** checkbox for: Publish this claim description in federation metadata as a claim type that this Federation Service can send
- Click **OK**

Using the AD FS Management tool, select **Trust Relationships** > **Relying Party Trusts**.

1. Click **Add Relying Party Trust**...
2. Welcome: Click **Start**
3. Select Data Source: Select **Enter data about the relying party manually**, click **Next**
4. Specify Display Name: Enter a **name**, click **Next**

Example: `https://portal.contoso.com/`

5. Choose Profile: Select **AD FS 2.0 profile**, click **Next**
6. Configure Certificate: Click **Next**
7. Configure URL: Check **Enable support for the SAML 2.0 WebSSO protocol**

Relying party SAML 2.0 SSO service URL: Enter `https://portal.contoso.com/signin-saml2`

- Note: AD FS requires that the portal run on **HTTPS**

Note

The resulting endpoint has the following settings:

Endpoint type: **SAML Assertion Consume Endpoints**

- Binding: **POST**
- Index: n/a (0)

- URL: **https://portal.contoso.com/signin-saml2**

8. Configure Identities: Specify `https://portal.contoso.com/`, click **Add**, click **Next**

If applicable, more identities can be added for each additional relying party portal. Users will be able to authenticate across any or all of the available identities.

9. Choose Issuance Authorization Rules: Select **Permit all users to access this relying party**, click **Next**
10. Ready to Add Trust: Click **Next**
11. Click **Close**

Add the **Name ID** claim to the relying party trust:

TransformWindows account name to **Name ID** claim (Transform an Incoming Claim):

- Incoming claim type: **Windows account name**
- Outgoing claim type: **Name ID**
- Outgoing name ID format: **Persistent Identifier**
- Pass through all claim values

Create site settings

Apply portal site settings referencing the above AD FS Relying Party Trust.

Note

A standard AD FS (IdP) configuration only uses the following settings (with example values):

`Authentication/SAML2/ADFS/MetadataAddress` - https://adfs.contoso.com/FederationMetadata/2007-06/FederationMetadata.xml

- `Authentication/SAML2/ADFS/AuthenticationType` - http://adfs.contoso.com/adfs/services/trust
  - Use the value of the **entityID** attribute in the root element of the Federation Metadata (open the **MetadataAddress URL** in a browser that is the value of the above site setting)
- `Authentication/SAML2/ADFS/ServiceProviderRealm` - https://portal.contoso.com/
- `Authentication/SAML2/ADFS/AssertionConsumerServiceUrl` - https://portal.contoso.com/signin-saml2

The **Federation metadata** can be retrieved in **PowerShell** by running the following script on the AD FS server:

```
Import-Module adfs

Get-ADFSEndpoint -AddressPath /FederationMetadata/2007-06/FederationMetadata.xml
```

Multiple IdP services can be configured by substituting a label for the `[provider]` tag. Each unique label forms a group of settings related to an IdP. Examples: `ADFS`, `AzureAD`, `MyIdP`

Site Setting Name	Description
`Authentication/Registration/ExternalLoginEnabled`	Enables or disables external account sign-in and registration. Default: `true`

`Authentication/SAML2/[provider]/MetadataAddress`	Required. The WS-Federation metadata URL of the AD FS (STS) server. Commonly ending with the path: `/FederationMetadata/2007-06/FederationMetadata.xml` . Example: `https://adfs.contoso.com/FederationMetadata/2007-06/FederationMetadata.xml`. MSDN.
`Authentication/SAML2/[provider]/AuthenticationType`	Required. The OWIN authentication middleware type. Specify the value of the entityID attribute at the root of the federation metadata XML. Example: `http://adfs.contoso.com/adfs/services/trust`. MSDN.
`Authentication/SAML2/[provider]/ServiceProviderRealm` or `Authentication/SAML2/[provider]/Wtrealm`	Required. The AD FS relying party identifier. Example: `https://portal.contoso.com/`. MSDN.
`Authentication/SAML2/[provider]/AssertionConsumerServiceUrl` or `Authentication/SAML2/[provider]/Wreply`	Required. The AD FS SAML Consumer Assertion endpoint. Example: `https://portal.contoso.com/signin-saml2`. MSDN.
`Authentication/SAML2/[provider]/Caption`	Recommended. The text that the user can display on a sign in user interface. Default: `[provider]`. MSDN.
`Authentication/SAML2/[provider]/CallbackPath`	An optional constrained path on which to process the authentication callback. MSDN.
`Authentication/SAML2/[provider]/BackchannelTimeout`	Timeout value for back channel communications. Example: `00:05:00` (5 mins). MSDN.
`Authentication/SAML2/[provider]/UseTokenLifetime`	Indicates that the authentication session lifetime (e.g. cookies) should match that of the authentication token. MSDN.
`Authentication/SAML2/[provider]/AuthenticationMode`	The OWIN authentication middleware mode. MSDN.
`Authentication/SAML2/[provider]/SignInAsAuthenticationType`	The AuthenticationType used when creating the System.Security.Claims.ClaimsIdentity. MSDN.
`Authentication/SAML2/[provider]/ValidAudiences`	Comma separated list of audience URLs. MSDN.
`Authentication/SAML2/[provider]/ClockSkew`	The clock skew to apply when validating times.
`Authentication/SAML2/[provider]/RequireExpirationTime`	A value indicating whether tokens must have an 'expiration' value.
`Authentication/SAML2/[provider]/ValidateAudience`	A boolean to control if the audience will be validated during token validation.

IdP initiated sign-In

AD FS supports the IdP initiated SSO profile of the SAML 2.0 specification. In order for the portal (SP) to respond properly to the SAML request initiated by the IdP, the RelayState parameter must be encoded properly.

The basic string value to be encoded into the SAML RelayState parameter must be in the format: `ReturnUrl=/content/sub-content/` where `/content/sub-content/` is the path to the webpage you want to navigate to on the portal (SP). The path can be replaced by any valid webpage on the portal. The string value is encoded and placed into a container string of the format: `RPID=<URL encoded RPID>&RelayState=<URL encoded RelayState>`. This entire string is once again encoded and added to another container of the format: `https://adfs.contoso.com/adfs/ls/idpinitiatedsignon.aspx?RelayState=<URL encoded RPID/RelayState>`.

For example, given the SP path: `/content/sub-content/` and the relying party ID: `https://portal.contoso.com/`, construct the URL with the steps:

Encode the value `ReturnUrl=/content/sub-content/`

- to get `ReturnUrl%3D%2Fcontent%2Fsub-content%2F`

- Encode the value `https://portal.contoso.com/`
  - to get `https%3A%2F%2Fportal.contoso.com%2F`
- Encode the value `RPID=https%3A%2F%2Fportal.contoso.com%2F&RelayState=ReturnUrl%3D%2Fcontent%2Fsub-content%2F`
  - to get `RPID%3Dhttps%253A%252F%252Fportal.contoso.com%252F%26RelayState%3DReturnUrl%253D%252Fcontent%252Fsub-content%252F`
- Prepend the ADFS IdP initiated SSO path to get the final URL
  - `https://adfs.contoso.com/adfs/ls/idpinitiatedsignon.aspx?RelayState=RPID%3Dhttps%253A%252F%252Fportal.contoso.com%252F%26RelayState%3DReturnUrl%253D%252Fcontent%252Fsub-content%252F`

The following PowerShell script can be used to construct the URL (save to a file named Get-IdPInitiatedUrl.ps1).

```
<#

.SYNOPSIS

Constructs an IdP initiated SSO URL to access a portal page on the SP.


.PARAMETER path

The path to the portal page.


.PARAMETER rpid

The relying party identifier.


.PARAMETER adfsPath

The AD FS IdP initiated SSO page.
```

```
.EXAMPLE
PS C:\> .\Get-IdPInitiatedUrl.ps1 -path "/content/sub-content/" -rpid
"https://portal.contoso.com/" -adfsPath
"https://adfs.contoso.com/adfs/ls/idpinitiatedsignon.aspx"
#>

param
(
 [parameter(mandatory=$true,position=0)]
 $path,
 [parameter(mandatory=$true,position=1)]
 $rpid,
 [parameter(position=2)]
 $adfsPath = "https://adfs.contoso.com/adfs/ls/idpinitiatedsignon.aspx"
)

$state = "ReturnUrl=$path"
$encodedPath = [uri]::EscapeDataString($state)
$encodedRpid = [uri]::EscapeDataString($rpid)
$encodedPathRpid = [uri]::EscapeDataString("RPID=$encodedRpid&RelayState=$encodedPath")
$idpInitiatedUrl = "{0}?RelayState={1}" -f $adfsPath, $encodedPathRpid

Write-Output $idpInitiatedUrl
```

SAML 2.0 settings for Azure Active Directory

The previous section describing AD FS can also be applied to Azure AD because Azure AD behaves like a standard SAML 2.0 compliant IdP. To get started sign into the Azure Management Portal and create or select an existing directory. When a directory is available, follow the instructions to add an application to the directory.

1. Under the **Applications** menu of the directory, click the **Add** button
2. Choose **Add an application my organization is developing**
3. Specify a custom **name** for the application and choose the type **web application and/or web API**

4. For the **Sign-On URL** and the **App ID URI**, specify the URL of the portal for both fields `https://portal.contoso.com/`

This corresponds to the **ServiceProviderRealm** (Wtrealm) site setting value

5. At this point, a new application is created. Navigate to the **Configure** section in the menu

Under the **single sign-on** section, update the first **Reply URL** entry to include a path in the URL `http://portal.contoso.com/signin-azure-ad`

- This corresponds to the **AssertionConsumerServiceUrl** (Wreply) site setting value

6. In the footer menu click the **View Endpoints** button and note the **Federation Metadata Document** field

This corresponds to the **MetadataAddress** site setting value

- Paste this URL in a browser window to view the federation metadata XML and note the **entityID** attribute of the root element
- This corresponds to the **AuthenticationType** site setting value

Note

A standard Azure AD configuration only uses the following settings (with example values):

`Authentication/SAML2/AzureAD/MetadataAddress` - https://login.microsoftonline.com/01234567-89ab-cdef-0123-456789abcdef/federationmetadata/2007-06/federationmetadata.xml

- `Authentication/SAML2/AzureAD/AuthenticationType` - https://sts.windows.net/01234567-89ab-cdef-0123-456789abcdef/
  - Use the value of the **entityID** attribute in the root element of the Federation Metadata (open the **MetadataAddress URL** in a browser that is the value of the above site setting)
- `Authentication/SAML2/AzureAD/ServiceProviderRealm` - https://portal.contoso.com/
- `Authentication/SAML2/AzureAD/AssertionConsumerServiceUrl` - https://portal.contoso.com/signin-azure-ad

Shibboleth Identity Provider 3

Use the following guidelines for correctly configuration Shibboleth Identity Provider as an IdP service. The following assumes the IdP is hosted on the domain: `https://idp.contoso.com`.

The federation metadata URL is: `https://idp.contoso.com/idp/shibboleth`

- The IdP must be configured to generate/serve a Persistent Identifier. Follow the instructions to enable Persistent Identifier Generation.
- The IdP federation metadata (`<IDPSSODescriptor>`) must be configured to include a SSO redirect binding. Example.

```
<SingleSignOnService Binding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-Redirect"
 Location="https://idp.contoso.com/idp/profile/SAML2/Redirect/SSO"/>
```

Configure the Service Providers (Relying Parties) by setting up the metadata-providers.xml.

- Each SP federation metadata (`<SPSSODescriptor>`) must include an assertion consumer service post binding. One option is to use a FilesystemMetadataProvider and reference a configuration file that contains:

```
<AssertionConsumerService index="1" isDefault="true"
 Binding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-POST"
 Location="https://portal.contoso.com/signin-saml2"/>
```

The Location attribute corresponds to the **AssertionConsumerServiceUrl** (Wreply) setting.

- The SP federation metadata should specify an **entityID** attribute for the EntityDescriptor which corresponds to the **AuthenticationType** setting.

```
<EntityDescriptor entityID="https://portal.local.contoso.com/">...
```

Note

A standard Shibboleth configuration only uses the following settings (with example values):

`Authentication/SAML2/Shibboleth/MetadataAddress` - https://idp.contoso.com/idp/shibboleth

- `Authentication/SAML2/Shibboleth/AuthenticationType` - https://idp.contoso.com/idp/shibboleth
  - Use the value of the **entityID** attribute in the root element of the Federation Metadata (open the **MetadataAddress URL** in a browser that is the value of the above site setting)
- `Authentication/SAML2/Shibboleth/ServiceProviderRealm` - https://portal.contoso.com/
- `Authentication/SAML2/Shibboleth/AssertionConsumerServiceUrl` - https://portal.contoso.com/signin-saml2

IdP initiated sign-in

Shibboleth supports the IdP initiated SSO profile of the SAML 2.0 specification. For the portal (SP) to respond properly to the SAML request initiated by the IdP, the RelayState parameter must be encoded properly.

The basic string value to be encoded into the SAML RelayState parameter must be in the format: `ReturnUrl=/content/sub-content/` where `/content/sub-content/` is the path to the desired webpage to navigate to on the portal (SP). The path can be replaced by any valid webpage on the portal. The full IdP initiated SSO URL should be in the format:
`https://idp.contoso.com/idp/profile/SAML2/Unsolicited/SSO?providerId=<URL encoded provider ID>&target=<URL encoded return path>`.

For example, given the SP path: `/content/sub-content/` and the relying party ID: `https://portal.contoso.com/`, the final URL is:
`https://idp.contoso.com/idp/profile/SAML2/Unsolicited/SSO?providerId=https%3A%2F%2Fportal.contoso.com%2F&target=ReturnUrl%3D%2Fcontent%2Fsub-content%2F`

The following PowerShell script can be used to construct the URL (save to a file named Get-ShibbolethIdPInitiatedUrl.ps1).

```
<#

.SYNOPSIS

Constructs an IdP initiated SSO URL to access a portal page on the SP.
```

```
.PARAMETER path

The path to the portal page.


.PARAMETER providerId

The relying party identifier.


.PARAMETER shibbolethPath

The Shibboleth IdP initiated SSO page.


.EXAMPLE

PS C:\> .\Get-ShibbolethIdPInitiatedUrl.ps1 -path "/content/sub-content/" -providerId
"https://portal.contoso.com/" -shibbolethPath
"https://idp.contoso.com/idp/profile/SAML2/Unsolicited/SSO"

#>


param

(

 [parameter(mandatory=$true,position=0)]

 $path,

 [parameter(mandatory=$true,position=1)]

 $providerId,

 [parameter(position=2)]

 $shibbolethPath = "https://idp.contoso.com/idp/profile/SAML2/Unsolicited/SSO"

)


$state = "ReturnUrl=$path"

$encodedPath = [uri]::EscapeDataString($state)

$encodedRpid = [uri]::EscapeDataString($providerId)

$idpInitiatedUrl = "{0}?providerId={1}&target={2}" -f $shibbolethPath, $encodedRpid, $encodedPath


Write-Output $idpInitiatedUrl
```

Configure AD FS by using PowerShell

The process of adding a relying party trust in AD FS can also be performed by running the following **PowerShell** script on the AD FS server (save contents to a file named **Add-**

AdxPortalRelyingPartyTrustForSaml.ps1). After running the script, continue with configuring the portal site settings.

```
<#

.SYNOPSIS

Adds a SAML 2.0 relying party trust entry for a Dynamics CRM portals website.


.PARAMETER domain

The domain name of the portal.


.EXAMPLE

PS C:\> .\Add-AdxPortalRelyingPartyTrustForSaml.ps1 -domain "portal.contoso.com"

#>


param

(

 [parameter(Mandatory=$true,Position=0)]

 $domain,

 [parameter(Position=1)]

 $callbackPath = "/signin-saml2"

)


$VerbosePreference = "Continue"

$ErrorActionPreference = "Stop"


Import-Module adfs


Function Add-CrmRelyingPartyTrust

{

 param (

 [parameter(Mandatory=$true,Position=0)]

 $name

 )


 $identifier = "https://{0}/" -f $name
```

```
 $samlEndpoint = New-ADFSSamlEndpoint -Binding POST -Protocol SAMLAssertionConsumer -Uri
("https://{0}{1}" -f $name, $callbackPath)
 $identityProviderValue = Get-ADFSProperties | % { $_.Identifier.AbsoluteUri }

 $issuanceTransformRules = @'
@RuleTemplate = "MapClaims"
@RuleName = "Transform Windows Account Name to Name ID claim"
c:[Type == "http://schemas.microsoft.com/ws/2008/06/identity/claims/windowsaccountname"]
 => issue(Type = "http://schemas.xmlsoap.org/ws/2005/05/identity/claims/nameidentifier", Issuer =
c.Issuer, OriginalIssuer = c.OriginalIssuer, Value = c.Value, ValueType = c.ValueType,
Properties["http://schemas.xmlsoap.org/ws/2005/05/identity/claimproperties/format"] =
"urn:oasis:names:tc:SAML:2.0:nameid-format:persistent");

@RuleTemplate = "LdapClaims"
@RuleName = "Send LDAP Claims"
c:[Type == "http://schemas.microsoft.com/ws/2008/06/identity/claims/windowsaccountname", Issuer
== "AD AUTHORITY"]
 => issue(store = "Active Directory", types =
("http://schemas.xmlsoap.org/ws/2005/05/identity/claims/givenname",
"http://schemas.xmlsoap.org/ws/2005/05/identity/claims/surname",
"http://schemas.xmlsoap.org/ws/2005/05/identity/claims/emailaddress"), query =
";givenName,sn,mail;{{0}}", param = c.Value);
'@ -f $identityProviderValue

 $issuanceAuthorizationRules = @'
@RuleTemplate = "AllowAllAuthzRule"
 => issue(Type = "http://schemas.microsoft.com/authorization/claims/permit", Value = "true");
'@

 Add-ADFSRelyingPartyTrust -Name $name -Identifier $identifier -SamlEndpoint $samlEndpoint -
IssuanceTransformRules $issuanceTransformRules -IssuanceAuthorizationRules
$issuanceAuthorizationRules
}

# add the 'Identity Provider' claim description if it is missing
```

```
if (-not (Get-ADFSClaimDescription | ? { $_.Name -eq "Persistent Identifier" })) {
 Add-ADFSClaimDescription -name "Persistent Identifier" -ClaimType
"urn:oasis:names:tc:SAML:2.0:nameid-format:persistent" -IsOffered:$true -IsAccepted:$true
}

# add the portal relying party trust

Add-CrmRelyingPartyTrust $domain
```

See also

Configure Dynamics 365 portal authentication
Set authentication identity for a portal
OAuth2 provider settings for portals
Open ID Connect provider settings for portals
WS-Federation provider settings for portals
Facebook App (Page Tab) authentication for portals

Facebook App (Page Tab) authentication for portals

Applies To: Dynamics 365 (online), Dynamics CRM Online

Dynamics 365 portals are capable of hosting Facebook Apps in the context of a Facebook Page Tab. This is achieved by employing features such as Login with Facebook and ASP.Net MVC Display Modes.

Prerequisites

Start by setting up a standard portal.

Configure IIS

The same website used to host the standard portal is also used to host the Facebook App portal. However, the website must be configured to respond to Facebook specific site bindings in addition to the existing bindings. The specific site bindings should contain a host name value that distinguishes it as a Facebook App portal. For example, a standard portal hosted from the domain contoso.com can specify the domain facebook-contoso.com for hosting the Facebook App.

Type	Host Name	Port	Notes
http	contoso.com	80	The standard portal.
http	facebook-contoso.com	80	The Facebook App portal.
https	facebook-contoso.com	443	The Secure Facebook App portal.

Configure display mode

The MVC Display Modes feature allows the Facebook App to present a customized user experience. The Facebook display mode is enabled by adding the following site setting.

Site Setting Name	Value (examples - replace with your Page Tab URL)	Note
`DisplayModes/Facebook/HostName`	facebook-contoso.com, facebook-*	The host name of the Facebook App portal. Accepts wildcard.

Test the site bindings

View the portal through each of the site bindings in a web browser to ensure that the bindings are functioning correctly. Verify that the Facebook site bindings render a customized view distinct from the other bindings

Set up the Facebook app

1. Go to the Facebook Developers site and sign in with a Facebook account. Under the **My Apps** drop-down menu click the **Add a New App** button, then click **Skip and Create App ID**.
2. In the resulting **Create a New App ID** dialog, specify a valid **Display Name**, **Namespace**, and **Choose a Category** (such as Apps for Pages) because this will eventually be required to publish an app to the public. The **Namespace** can be left blank. Click **Create App**. Submit the **Security Check** (captcha) dialog as well.
3. After landing on the Dashboard, navigate to the **Settings** area in the left column navigation.
4. Complete the **Basic** form by entering the fields shown in the following example:

Display Name	Contoso Portal
Contact Email	administrator@contoso.com
App Domains	`portal.contoso.comfacebook-portal.contoso.com` **Note** If the domain values cannot be successfully set, leave this field blank for now, complete the next step to specify a **Site URL**, and then return to this field.

5. Click the **+ Add Platform** button and click **Website** from the Select Platform dialog. Enter a **Site URL**.

Website

Site URL	Example - http://contoso.com

6. Again, click the **+ Add Platform** button and this time click **Page Tab**. Complete this new section based on the following fields.

Page tab

Secure Page Tab URL	https://facebook-contoso.com/app/facebook
Page Tab Name	Contoso Portal

Note

The Page Tab URL should have the /app/facebook path appended to the App domain URL. The portal uses this endpoint to launch the App portal.

7. Click **Save Changes**.

Take note of the **App ID** and **App Secret** values of the new app. Use these values when configuring the site settings. The two Authentication Site Settings that need to be configured are:

`Authentication/OpenAuth/Facebook/AppId`

`Authentication/OpenAuth/Facebook/AppSecret`

The Value and Website of each site setting must also be added into the site settings. ***The Facebook Authentication Site Settings may require the Website's Application Pool to be recycled before they are functional***

Publish the app

Click over to the **Status & Review** area (under Settings area). The first option of the **Status** tab asks: Do you want to make this app and all its live features available to the general public? Change this setting to **YES**.

Add the Facebook page tab to your Facebook page

If you do not have a Facebook Page, follow the instructions here to create one Create a Page. If you will be using an existing page, the current Facebook user must have sufficient permission to add a Page Tab to the Page. If your Facebook Page does not already have the Page Tab functionality enabled, you must enable it by browsing to a specific URL (substituting the relevant App ID and "next" URL value). The URL below can be used if you substitute the App ID and encoded URL with your information. Further details can be found in Using Page Tabs and URL Encoding.

`https://www.facebook.com/dialog/pagetab?app_id=0123456789&next=http%3a%2f%2ffacebook-contoso.com%2F`

This displays the **Add Page Tab** dialog to select the **Page** that will contain the **Page Tab** and app. Browse back to the **Page** and the app should be available in the grid of added **Page Tabs**. Click the **Page Tab** to view the Facebook App portal framed within the Facebook Page.

Note

By default, Internet Explorer does not allow third-party cookies to be created for portals/apps that are rendered in an iFrame of another host portal. This is the case of a Facebook App portal hosted from a Page Tab. A side effect of this cookie blocking is that an app is unable to create and maintain an authenticated session. This is resolved by updating the App portal to publish a Platform for Privacy Preferences (P3P) policy. There are various options for achieving this one of which is to update the web.config of the App portal to include a custom header. For Example:

```
<configuration>

<system.webServer>

<httpProtocol>

<customHeaders>

<add name="P3P" value='CP="ALL ADM DEV PSAi COM OUR OTRo STP IND ONL"'/>

</customHeaders>

</httpProtocol>

</system.webServer>

</configuration>
```

See also

Configure Dynamics 365 portal authentication
Set authentication identity for a portal
OAuth2 provider settings for portals
Open ID Connect provider settings for portals
WS-Federation provider settings for portals
SAML 2.0 provider settings for portals

Control webpage access for portals

Applies To: Dynamics 365 (online), Dynamics CRM Online

Web page access control rules are rules that you create for your site to control both the publishing actions that a web role can perform across the pages of your website as well as to control what pages are visible by what web roles. The webpage access entity has the following attributes:

Name	Description
Name	A descriptive name for the rule.

Name	Description
Website	The website that this rule applies to; must match the website of the page to which this rule is applied. Filters Web Page.
Web Page	The Web Page that this rule applies to. **Note** The rule will affect not only the page but all child pages of the page, therefore making this attribute select the branch of the website to which the rule will apply. If a rule is applied to the home page, then it will apply to the entire Portal.
Right	**Grant Change** or **Restrict Read**. See Grant change below.
Description	A description of the rule. Optional.

After creating a new access control rule, associate it with a page, this will cause it to affect both the page you assign the rule to as well as all child pages in other words, the entire 'branch' of the website.

There are two type of access control rule: Grant Change and Restrict Read.

- **Grant Change**

  Grant Change allows a user in a web role associated with the rule to publish content changes for this page and all child pages of this page. Grant Change takes precedence over restrict read. For example, you might have a "news" section of the site; which you want to be editable by users in the "news editor" web role. These users might not have access to the entire site, and certainly can't edit the entire site, but within this branch they have full content publishing authority. You would create a webpage access control rule called "grant news publishing to news editors".

  Next you would set the right to "grant change" and the webpage to the parent page of the entire "news" branch of your site.

  You would then assign this web role to any contacts you want to designate as news editors. Bear in mind one user can have many web roles.

  A Grant Change rule should always be present in any portal that you wish to enable front-side editing for. This rule will apply to the home page of the site, thus making it the default rule for the entire site. This rule will be associated with a web role that is to represent the administrative role for the site. Users that are to be given front-side content publishing rights will be assigned to this role.

- **Restrict read**

  The restrict read rule is used to limit viewing of a page (and its child pages) and its content to specific users. Whereas grant change is a permissive rule (it grants the ability to do something to its users), restrict read is a restrictive rule in that it restricts an action to a limited set of users. For example, you might have a section of the site meant to be used by employees only. You might restrict read of this branch to only people in the "employee" web role. You would create a new rule called "restrict read to Employees only".

You would then set the right to restrict read and the page to the page at the top of the branch which is to be read only by employees.

You would then associate this rule with the employee web role and then assign users to this role.

Note

The root 'home' page of a website is a special node and must not have a restrict read rule applied to it. This will produce a runtime error. The security validation requires that all users must be able to read the root page of a website to validate contents within the site. The login, access denied, page not found, and error page are also special cases that also must be readable by all users.

See also

Create web roles for portals
Assign permission set to a web role for portals
Add record-based security using entity permissions for portals

Assign a permission set to a web role for portals

Applies To: Dynamics 365 (online), Dynamics CRM Online

Website Access Permissions is a permission set, associated with a web role, that permits front-side editing of the various content managed elements within the portal other than just webpages. The permission settings determine which components can be managed in the portal. More information: Create web roles for portals

Name	Description
Manage Content Snippets	Allows the editing of Snippet controls. More information: Customize content by using content snippets
Manage Site Markers	Allows the editing of hyperlinks that use sitemarkers
Manage Web Link Sets	Allows the editing of web link sets, including adding and removing web links from a web link set. More information: Manage web links in Dynamics 365 or on portals
Preview Unpublished Entities	Allows the viewing of portal-exposed entities that have a publishing state of **Draft**.

To add website access permission to a web role, just create a new Website Access entity, give it the permission set you want, name it, associate with the website in question, save, and then associate it with the web role(s) you desire.

See also

Create web roles for portals
Control webpage access for portals
Add record-based security using entity permissions for portals

Add record-based security by using entity permissions for portals

Applies To: Dynamics 365 (online), Dynamics CRM Online

Record-based security in Dynamics 365 portals that applies to individual records is provided by using Entity Permissions.

Although permissions to change and access URLs in a portal sitemap is granted via Content Authorization, site managers will also want to secure their custom web applications built with Entity Forms and Entity Lists. More information: Define entity forms and custom logic within the Dynamics 365 portal and Add a webpage to render a list of records

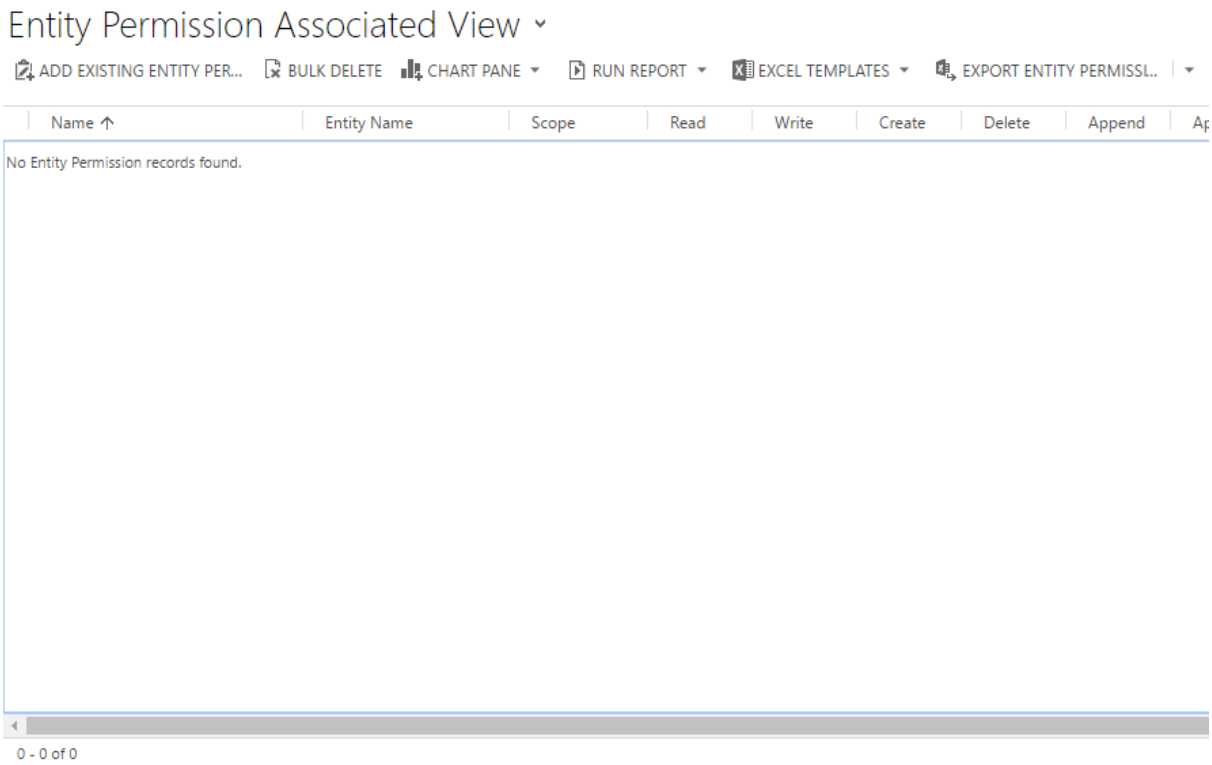
To secure these features, Entity Permissions allow for granular rights to be granted for arbitrary entities and for record-level security to be enabled via relationship definitions.

Adding entity permissions to a web role

Entity Permissions are added to Web Roles, allowing you to define roles in your organization which logically correspond to the privileges and concepts of record ownership/access that are introduced with Entity permissions. Remember that a given Contact can belong to any number of roles and a given role can contain any number of Entity Permissions. More information: Create web roles for portals

To add an Entity Permission to a Web Role, navigate first to the Web Role you wish to add the permissions to. Web roles for a website can be found in Dynamics 365 in either **Portals > Web Roles** or **Portals > {your portal} > Web Roles**.

Click to **Add** an Existing Entity Permission. From there you may click to create a **New** Entity Permissions Record.



When creating a new Entity Permission record, the first step is to Determine the **Entity** that will be secured. The next step is to define **Scope**, as discussed below, and in the case of any scope besides Global, the **Relationships** that define that scope must be specified. Finally, determine the Rights that are being granted to the Role via this permission. Note that rights are cumulative, so if a user is in a role that grants Read, and another that grants read and update, the user will have read and update to any records that overlap between the two roles.

Global scope

If a Permission record with **Read** permission is granted to a role that has global scope, any contact in that role will have access to all records of the defined Entity in Dynamics 365. For example, they can see all leads, all accounts, and so on. This permission will be automatically respected by any entity lists; essentially showing all records according to the Dynamics 365 views that have been defined for that list. Further, if a user attempt to access a record via an Entity Form that they do not have access to, they will receive a permission error.

Contact scope

With Contact scope, a signed-in user in the role for which the permission record is defined will have the rights granted by that permission only for records that are related to that user's contact record via a relationship that is defined in Dynamics 3655.

On an entity list, this means a filter will be added to whatever Dynamics 365 views are surfaced by that list, which retrieves only records linked to the current user directly. (Depending on the scenario, this relationship can be thought of as "ownership," "management rights," and so on.)

Entity Forms will only allow the appropriate permission for Read, Create, Write, and so on if this relationship exists when the record is loaded. More information: [Define entity forms and custom logic within the Dynamics 365 portal].

Account scope

With Account Scope, a signed-in user in the Role for which the permission record is defined will have the rights granted by that permission only for records that are related to that user's parent account record via a relationship that is defined in Dynamics 365.

Self scope

Self Scope allows you to define the rights a user has to their own Contact (Identity) record. This allows users to use Entity Forms or Web Forms to make changes to their own Contact Record linked with their profile. Note that the default Profile Page has a special built-in form that allows any user to change their basic contact info and opt in or out of marketing lists. If this form is included in your portal (which it is by default), users do not require this permission to use it. However, they will require this permission to use any custom Entity Forms or Web Forms that target their User Contact Record.

Parental scope

In this most complex case, permissions are granted for an entity that is a relationship away from an entity for which a permission record has already been defined. This permission is actually a child record of the parent Entity Permission.

The Parent Permission Record defines a permission and scope for an entity (probably Global or Contact Scope, although parent is also possible). That entity may be related to contact (in the case of Contact scope) or globally defined. With that permission in place, a Child Permission is created that defines a relationship from another entity to the entity defined in the parent relationship.

Thus, users in a web role who have access to records defined by parent entity permissions will also have rights as defined by the child permission record to records related to the parent record.

Attributes and relationships

The table below explains the Entity Permission attributes.

Name	Description
Name	The descriptive name of the record. This field is required.
Entity Name	The logical name of the entity that is to be secured or that will define the Contact Relationship or Parent Relationship to secure a related entity on a child permission. This field is required.
Scope	One of the following: • **Global** - Grant privileges to the entity record without any requirement for an owner (contact). • **Contact** - Grant privileges to the entity record that has a direct relationship to an owner (contact). • **Account** - Grant privileges to the entity record that has a relationship to an account, which serves as the owner, assuming the account is the parent customer of the contact. • **Parent** - Grant privileges to the entity record through the chain of its parent permissions' relationships. This is a mandatory field.

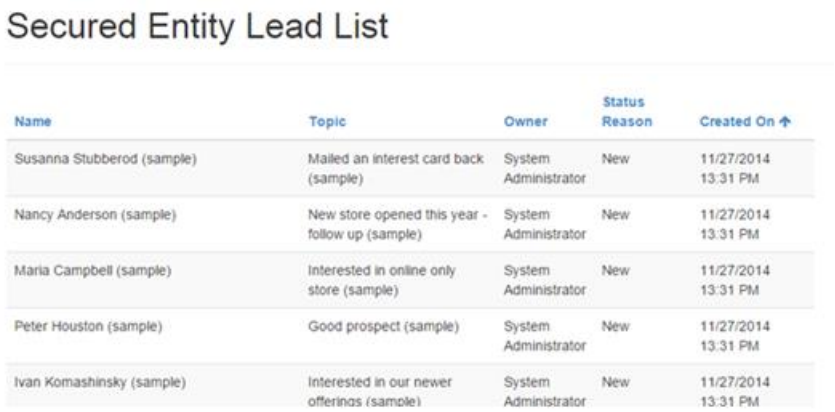
Name	Description
Contact Relationship	Required only if Scope = Contact. The schema name of the relationship between contact and the entity specified by the Entity Name field.
Parent Relationship	Required only if a Parent Entity Permission is assigned. The schema name of the relationship between the entity specified by the Entity Name field and the entity specified by the Entity Name field on its Parent Entity Permission.
Parent Entity Permission	Requires only if Scope = Parent. The parent Entity Permission.
Read	Privilege that controls whether the user can read a record.
Write	Privilege that controls whether the user can update a record.
Create	Privilege that controls whether the user can create a new record. The right to create a record for an entity type does not apply to an individual record, but instead to a class of entities.
Delete	Privilege that controls whether the user can delete a record.
Append	Privilege that controls whether the user can attach another record to the specified record. The Append and Append To access rights work in combination. Every time that a user attaches one record to another, the user must have both rights. For example, when you attach a note to a case, you must have the Append access right on the note and the Append To access right on the case for the operation to work.
Append To	Privilege that controls whether the user can append the record in question to another record. The Append and Append To access rights work in combination. For more information, see the description for Append.

Global permissions for tasks related to leads

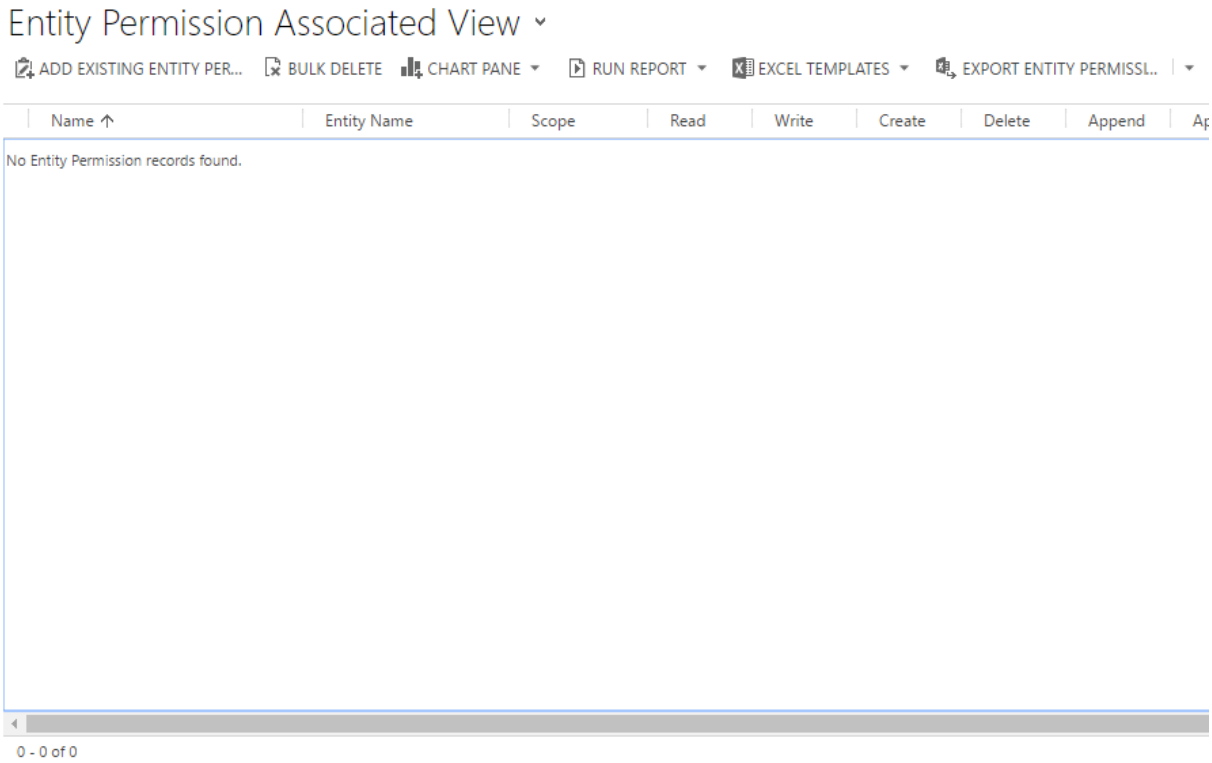
In one scenario, one might want to use an entity list and entity form(s) to surface all leads on the portal, to anyone in a custom "Lead Manager" Web Role. On the Lead Edit Form, which is launched whenever a lead row is clicked on the List, there will be a subgrid displaying related Task records. These records should be accessible to anyone in the Lead manager role. As the first step, we'll give Global Permissions to leads to anyone in our Lead Manager Role.

This role has a related Entity Permission for the "Lead" entity, with a Global scope.

Users in this role can access all leads via Entity Lists or Forms on the portal.

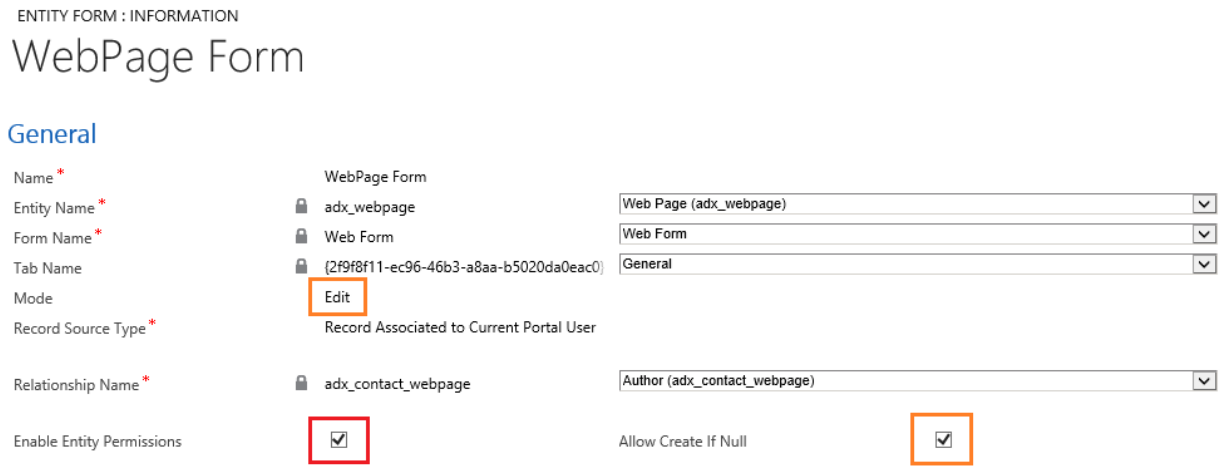


We will now add a Child Permission to the Global Lead Permission. With the Parent permission record open, first navigate to the **Child Entity Permissions** subgrid and click **New** to open a lookup for entity permissions, then click the magnifying glass and click **New** to add a new record.

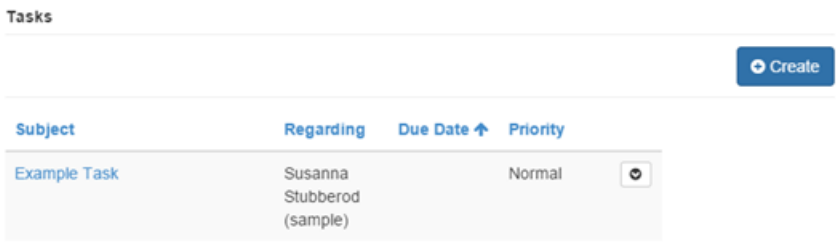


Select the entity as Tasks and the **Scope** as Parental. Note that you can then select the parent relationship (**Lead_Tasks**). This permission implies that a contact that is in a web role with the parent permission will then have global permission to all tasks that are related to leads.

Remember that in order for your list to respect these permissions, you must have enabled Entity Permissions on the list AND there must be actions that will actually allow the users to perform the actions for which their permissions have been granted. Furthermore, Permissions must also be enabled on the Define entity forms and custom logic within the Dynamics 365 portal record, and that form must be surfacing a page that has a subgrid on it for the entity that you want to enable with child permissions, in this case Tasks. Furthermore, to enable read or create for tasks, you will need to configure those Entity Forms too, and edit the forms to remove the Regrading lookup field from said forms.



This then grants permissions for all tasks that are related to leads. If Tasks are being surfaced on an entity list, a filter is essentially added to the list so that only tasks that are related to a lead will show up in the list. In our example, they are being surfaced with a subgrid on an entity form.



Contact-scoped permissions for tasks

Another example would be if you wanted to allow access to tasks for which a contact is related to the parent Lead for that task. This scenario is nearly identical to the above except that in this case the parent permission has a scope of Contact, instead of global. A relationship must be specified on the parent relationship between the Lead entity and the Contact Entity.

After these permissions are in place, users in the Lead Manager role can access leads that are related to them directly as specified by the contact-scope permission, and Tasks related to those same Leads as specified by the child permission record.

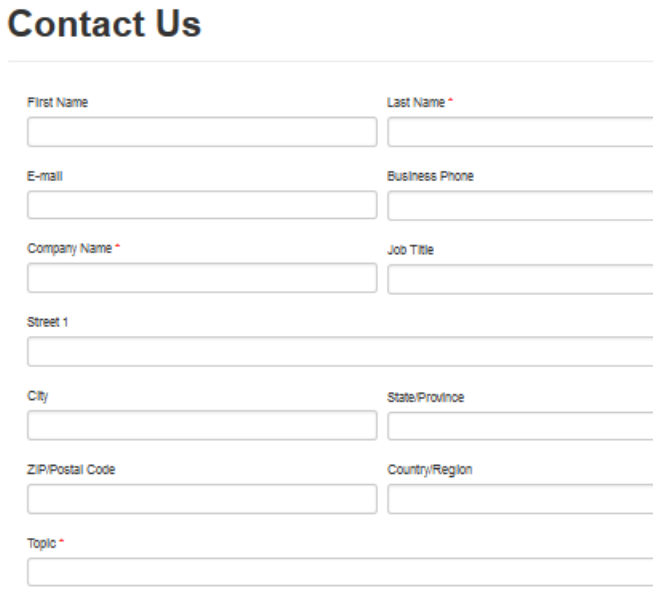
See also

Create web roles for portals
Control webpage access for portals
Assign permission set to a web role for portals

Define entity forms and custom logic within the Dynamics 365 portal

Applies To: Dynamics 365 (online), Dynamics CRM Online

A data driven configuration to allow end users to add a form to collect data in the portal without the need for a developer to surface the form in the portal. Entity Forms are created in Dynamics 365 and then placed into webpages in the Portal or used in conjunction with Sub-Grids and Entity Lists to build out complete web applications. More information: Add a webpage to render a list of records.



Add a form to your portal

The Entity Form contains relationships to webpages and additional properties in order to control the initialization of the form within the portal. The relationship to Web Page allows dynamic retrieval of the form definition for a given page node within the website.

To view existing Entity Forms or to create new Entity Forms navigate to **Portals > Entity Forms**

When creating a new Entity Form the first step is to decide the **Entity** and **Form Name** that you will be rendering as well as the **mode: Insert, Edit, or Read Only**. The mode selected will determine if you are creating a new record from the portal, editing an existing record, or just displaying info about a record on the portal.

Note

An **Entity Form** must be associated with a Web Page for a given website for the form to be viewable within the site.

The Web Pages associated with the Entity Form can be viewed by clicking the **Web Pages** link listed in the **Related** navigation links in the leftmost menu.

When creating or editing a Web Page, an **Entity Form** can be specified in the lookup field provided on the Web Page form.

The various master pages used by the portal found in the Dynamics 365 portal installation directory contains declarations of the **EntityForm** server control. When rendering the Web Page containing either the Page (~/Pages/Page.aspx) page template or Full Page (~/Pages/FullPage.aspx) page template, the controls will determine if the Entity Form lookup contains a value then the form will be rendered.

Secure your forms

To secure your forms, you must create entity permissions that determine access and ownership of the records in Dynamics 365 according to Web Roles. If a user lands on an Entity Form and does not have permissions, they will receive an error message. To Enable Permissions for an Entity Form. set **Enable Entity Permissions** to true. More information: Create web roles for portals.

See also

Configure a Dynamics 365 portal
Web Form properties for portals
Web Form steps for portals
Web Forms metadata for portals
Web Form subgrid configuration for portals
Notes configuration for Web Forms for portals

Web form properties for portals

Applies To: Dynamics 365 (online), Dynamics CRM Online

The Web Form contains relationships to webpages and a start step to control the initialization of the form within the portal. The relationship to Web Page allows dynamic retrieval of the form definition for a given page node within the website.

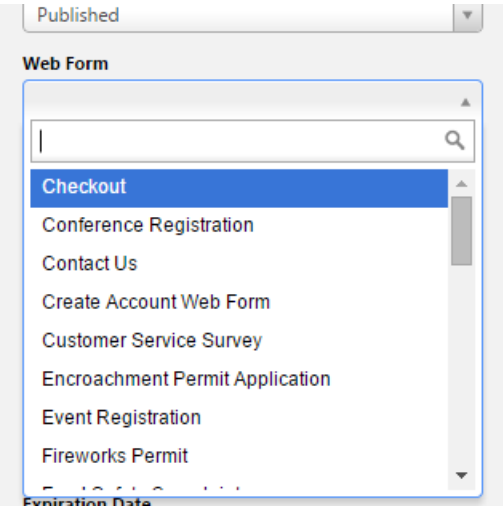
The other options on the Web Form record itself control top-level preferences for the multiple-step process as a whole, for example whether you'd like to display a progress bar.

To view existing Web Forms or to create new Web Forms, navigate to **Portals -> Web Forms**

Note

A **Web Form** must be associated with a Web Page for a given website for the form to be viewable within the site.

When creating or editing a Web Page, a **Web Form** can be specified in the lookup field provided on the Web Page form.



Web form attributes

The following attributes and relationships determine the functionality of the Web Form.

Name	Description
Name	A title of the form used for reference.
Start Step	The first step of the form. A Web Form will consist of one or more steps. For more detail regarding steps please refer to the section titled Web Form Step found below. **Note** Note: The first step cannot be of type "Condition".
Authentication Required	If checked, when a user that is not logged in visits the page containing the form, they will be redirected to the login page. Upon successful login the user will be redirected back to the page containing the form.
Start New Session On Load	Selecting **Yes** indicates that if the user opens the form in a new browser, or new tab or closes the browser or page and returns the form will start a completely new session and begin at the first step. Otherwise the session will be persisted and the user can close the browser or page and resume later exactly where they left off. Default: **No**.
Multiple Records Per User Permitted	Selecting **Yes** indicates that a user is permitted to create more than one submission. This assists the form in determining what to do when a user revisits a form. Default: **Yes**.

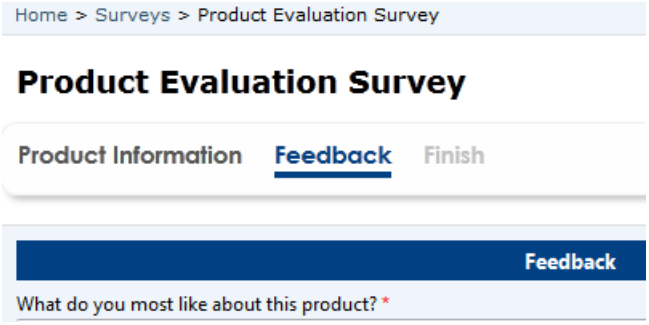
Name	Description
Edit Expired State Code	The target entity's state code integer value that when combined with the status reason indicates when an existing record can no longer be edited.
Edit Expired Status Reason	The target entity's status code integer value that when combined with the state code, indicates when an existing record has these values then the record is not to be edited anymore i.e. when a record is updated as complete for example.
Edit Expired Message	The message displayed when the existing record's state code and status reason match the values specified. For each language pack installed and enabled for the Dynamics 365 organization a field will be available to enter the message in the associated language. Default message; "You have already completed a submission. Thank you!"

Progress indicator settings

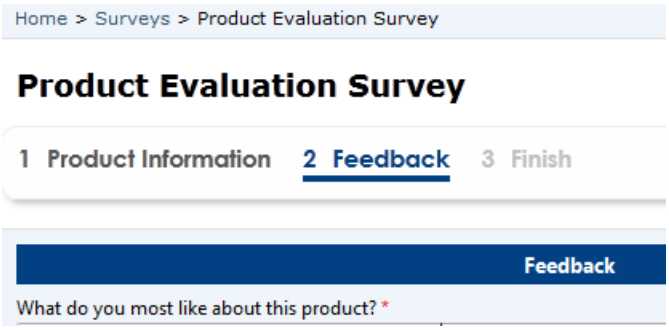
Name	Description
Enabled	Check to display the progress indicator. Default: **Disabled**.
Type	One of the following: Title • Numeric (Step x of n) • Progress Bar Default: **Title**
Position	One of the following: Top • Bottom • Left • Right Position is relative to the form. Default: **Top**.
Prepend Step Number to Step Title	Check to add the number of the step to the beginning of the title of the step. Default is unchecked.

Example of the various progress indicator types:

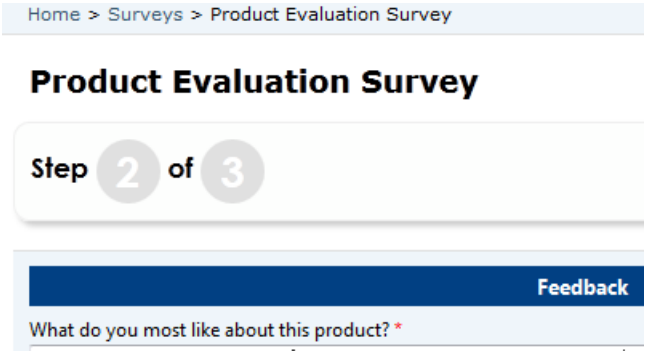
Title



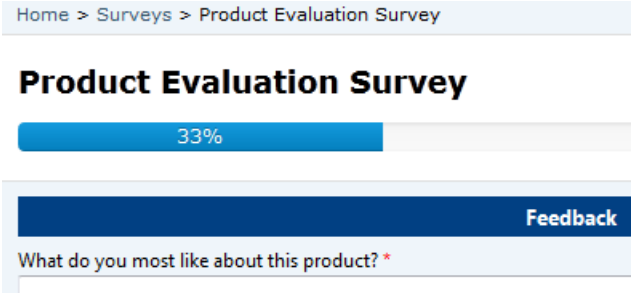
Title with Step Number prepended



Numeric



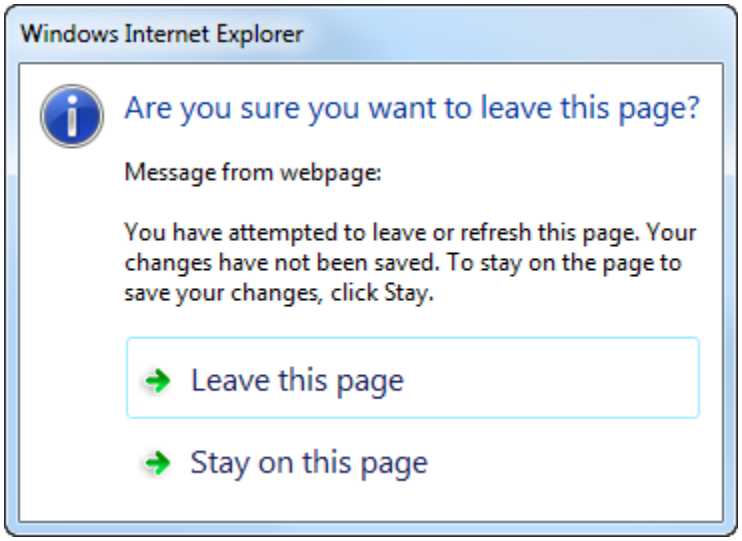
Progress Bar



“Save changes” warning

Name	Description
Display Save Changes Warning On Close	Select to display a warning message if the user has made changes to field(s) and they try to reload the page, close the browser, click the browser's back button, or click the previous button in a multiple step form.
Save Changes Warning Message	For each language pack installed and enabled for the Dynamics 365 organization, a field will be available to enter the message in the associated language. If no message is specified, the browser's default will be used.

Example:



Note

Firefox does not provide the ability to specify a custom message.

Web form metadata

Web Form Metadata contains additional behavior modification logic to augment or override the functionality of form fields that is otherwise not possible with the Dynamics 365 native entity form editing capabilities.

On the **Web Form Step** that has fields that you would like to modify

Click the **Metadata** link in the leftmost navigation area.

To add a new record:

1. Click **Add New Web Form Metadata**

To edit an existing record:

1. Double-click on a record in the grid

Web form metadata properties

The following attributes provide additional styling and capabilities for elements on a form.

Name	Description
Web Form Step	The Web Form Step associated with the Web Form Metadata record.
Type	Available options are: **Web Form Metadata Type = Attribute**: displays the appropriate options for modifying fields on the current form rendered for the related step. • **Web Form Metadata Type = Section**: displays the options available for modifying a section on the form. • **Web Form Metadata Type = Tab**: displays the options available for modifying a tab on a form. • **Web Form Metadata Type = Purchase**: displays products for purchase and to generate a quote record in Dynamics 365 to persist the user's purchase selections to create an order and process payment.

Web form metadata type = attribute

The following properties are displayed when the Type selected is **Attribute**.

Name	Description
Attribute Logical Name	The logical name of the attribute field to be modified.
Label	Replaces the default label assigned to the attribute on the entity with the text specified in this input. For each language pack installed and enabled for the Dynamics 365 organization a field will be available to enter the message in the associated language.

Control style

The following options modify the style and functionality of an attribute's field.

Name	Description
Style	One of the following: Option Set as Vertical Radio Button List

Name	Description
	• Option Set as Horizontal Radio Button List • Single Line of Text as Geolocation Lookup Validator (requires Bing Maps Settings) • Group Whole Number as Constant Sum (requires Group Name) • Group Whole Number as Rank Order Scale No Ties (requires Group Name) • Group Whole Number as Rank Order Scale Allow Ties (requires Group Name) • Multiple Choice Matrix (requires Group Name) • Multiple Choice (requires Group Name) • Group Whole Number as Stack Rank (requires Group Name)
Group Name	A name used to group controls together as a composite control.
Multiple Choice Minimum Required Selected Count	This is the required minimum values selected in the multiple choice question. Only necessary if 'Multiple Choice' Control Style is selected.
Multiple Choice Max Selected Count	This is the maximum number of values that is permitted to be selected in the multiple choice question. Only necessary if 'Multiple Choice' Control Style is selected.
Constant Sum Minimum Total	This is the required minimum value applied to a constant sum response field. Only necessary if 'Group Whole Number as Constant Sum' Control Style is selected.
Constant Sum Maximum Total	This is the maximum number of value that is permitted to be applied to a constant sum response field. Only necessary if 'Group Whole Number as Constant Sum' Control Style is selected.
Randomize Option Set Values	Specifying Yes results in randomly ordered options listed for an Option Set control. Only applicable to attributes that are of type Option Set.
CSS Class	Adds a custom CSS class name to the control.

Prepopulate field

The following options provide a default value for a field on the form.

Name	Description
Ignore Default Value	Ignores the default value of the specified attribute field. Useful for attributes that are **Two Option** fields that are rendered as Yes and No radio buttons. Because Dynamics 365 automatically assigns a value of yes or no by default, this option makes it possible to display Yes/No questions without a predefined response.
Type	One of the following: Value • Today's Date • Current User's Contact Selecting Value requires a value to be specified in the **Value** field that will be assigned to the field when the form is loaded. Selecting Today's Date will assign the current date and time to the attribute field. Selecting Current User's Contact requires a **From Attribute** that is an attribute on the contact entity that will be retrieved from the current user's contact record and set on the attribute field specified.
Value	A value to be assigned to the field when the form is loaded.
From Attribute	An attribute on the contact entity that will be retrieved from the current portal user's record and assigned to the field when the form is loaded.

Set value on save

The following options specify a value to be set when the form is saved.

Name	Description
Set Value On Save	Yes indicates that a value should be assigned to the attribute using the input provided in the **Value** field. **Note** All attribute types are supported except the following: Unique Identifier.
Type	One of the following: Value • Today's Date • Current User's Contact

Name	Description
	Selecting Value requires a value to be specified in the **Value** field that will be assigned to the field when the form is loaded. Selecting Today's Date will assign the current date and time to the attribute field. Selecting Current User's Contact requires a **From Attribute** that is an attribute on the contact entity that will be retrieved from the current user's contact record and set on the attribute field specified.
Value	Value assigned to the attribute when the form is being saved. For Two Option (Boolean) fields use `true` or `false` For Option Set field use the integer value for the option For Lookup (EntityReference) fields, use the GUID **Note** If the attribute is also on the form the user's value will be overwritten with this value.
From Attribute	An attribute on the contact entity that will be retrieved from the current portal user's record and assigned to the field during save.

Validation

The following section contains properties that modify various validation parameters and error messages.

For each language pack installed and enabled for the Dynamics 365 organization, a field will be available to enter the message in the associated language.

Name	Description
Validation Error Message	Overrides the default validation error message for the field.
Regular Expression	A regular expression to be added to validate the field.
Regular Expression Validation Error Message	The validation error message to display if the regular expression validated fails.
Field is Required	Check to make the attribute field required to contain a value.
Required Field Validation Error Message	Overrides the default required field error message if the field does not contain a value.
Range Validation Error Message	Overrides the default range validation error message displayed if the field's value is outside of the appropriate minimum and maximum values

Name	Description
	specified on the entity attribute that are of type Whole Number, Decimal Number, Floating Point Number or Currency.

Name	Description
Geolocation Validator Error Message	Applicable if the attribute is a Single Line of Text and the Control Style specified is Single Line of Text as Geolocation Lookup Validator then this will override the default error message displayed if input validation fails.
Constant Sum Validation Error Message	Applicable if the attribute is a Whole Number type and the Control Style specified is Group Whole Number as Constant Sum then this will override the default error message displayed if input validation fails.
Multiple Choice Validation Error Message	Applicable if the attribute is a Two Option type and the Control Style specified is Multiple Choice then this will override the default error message displayed if input validation fails.
Rank Order No Ties Validation Error Message	Applicable if the attribute is a Whole Number type and the Control Style specified is Group Whole Number as Rank Order No Ties then this will override the default error message displayed if input validation fails.

Description and instructions

The following properties specify the location and content of custom description or instructions.

Name	Description
Add Description	Yes results in custom text being displayed on the form in the position specified.
Position	One of the following: Above the field • Below the field • Above the label
Use Attribute's Description Property	Select **Yes** to use the description assigned to the attribute metadata on the entity. Select 'No' to provide a custom description. Default: **No**.
Description	Custom text to be displayed on the form. Used in conjunction when Use Attribute's Description Property is set to **No**. For each language pack installed and enabled for the Dynamics 365

Name	Description
	organization a field will be available to enter the message in the associated language.

Web form metadata type = section

The following properties are displayed when the Type selected equals **Section**.

Name	Description
Section Name	The name of the section on the entity's form in Dynamics 365 to be modified.
Label	Replaces the default label assigned to the section on the entity with the text specified in this input. For each language pack installed and enabled for the Dynamics 365 organization a field will be available to enter the message in the associated language.

Web form metadata type = tab

The following properties are displayed when the Type selected equals **Tab**

Name	Description
Tab Name	The name of the tab on the entity's form in Dynamics 365 to be modified.
Label	Replaces the default label assigned to the tab on the entity with the text specified in this input. For each language pack installed and enabled for the Dynamics 365 organization a field will be available to enter the message in the associated language.

Web form metadata type = purchase

The following properties are displayed when the Type selected equals **Purchase**. These options provide the necessary details for a Web Form to be able to display products for purchase and to generate a quote record in Dynamics 365 to persist the user's purchase selections to create an order and process payment.

Name	Description
Target Entity Relationship Name	Relationship from the web form step target entity to the purchase entity, if the step target is not the purchase entity.
Required Products Relationship Name	Relationship from the purchase entity for products to be purchased that are a required part of the purchase.

Name	Description
Optional Products Relationship Name	Relationship from the purchase entity for products to be purchased that are optional (the user must opt in to purchase these items).
Line Item Relationship Name	Relationship from the purchase entity that defines purchase line items.
Line Item Product Attribute Name	Purchase line item entity attribute name for Product lookup. If this value is not present and set, the corresponding line item will be excluded from the purchase.
Line Item Description Attribute Name	Purchase line item entity attribute name for description.
Line Item Quantity Attribute Name	Purchase line item entity attribute name for item quantity. (Should be a decimal attribute.)
Line Item UoM Attribute Name	Purchase line item entity attribute name for Unit of Measure lookup.
Line Item Required Attribute Name	Purchase line item entity attribute name for whether a line item is required.
Line Item Order Attribute Name	Purchase line item entity attribute name for the order in which a line item should be displayed.
Line Item Instructions Attribute Name	Purchase line item entity attribute name for instructions.
Quote Name	The name to be used for all purchase quotes generated by this step.
Requires Shipping	A Boolean value. When checked, forces the purchase process to collect shipping information. Note: If a product has a freight weight value then shipping will be required regardless of this setting.
Fulfill Order on Payment	A Boolean value. Checked indicates that the order state should be set to **Fulfilled** when the payment is verified. Requires **Target Entity Order Relationship Name.** If the target entity is **adx_shoppingcart**, an order will be created automatically upon successful payment and Target Entity Order Relationship Name is not required.
Create Invoice on Payment	A Boolean value. Checked indicates that an invoice should be created when the payment is verified. Requires **Target Entity Invoice Relationship Name**, unless the target entity is adx_shoppingcart, in which case this relationship is not needed.
Target Entity Order Relationship Name	Relationship from the web form step target entity to the order entity.

Name	Description
Target Entity Invoice Relationship Name	Relationship from the web form step target entity to the invoice entity.

See also

Configure a Dynamics 365 portal
Define entity forms and custom logic within the Dynamics 365 portal
Web Form steps for portals
Web Forms metadata for portals
Web Form subgrid configuration for portals
Notes configuration for Web Forms for portals

Web form steps for portals

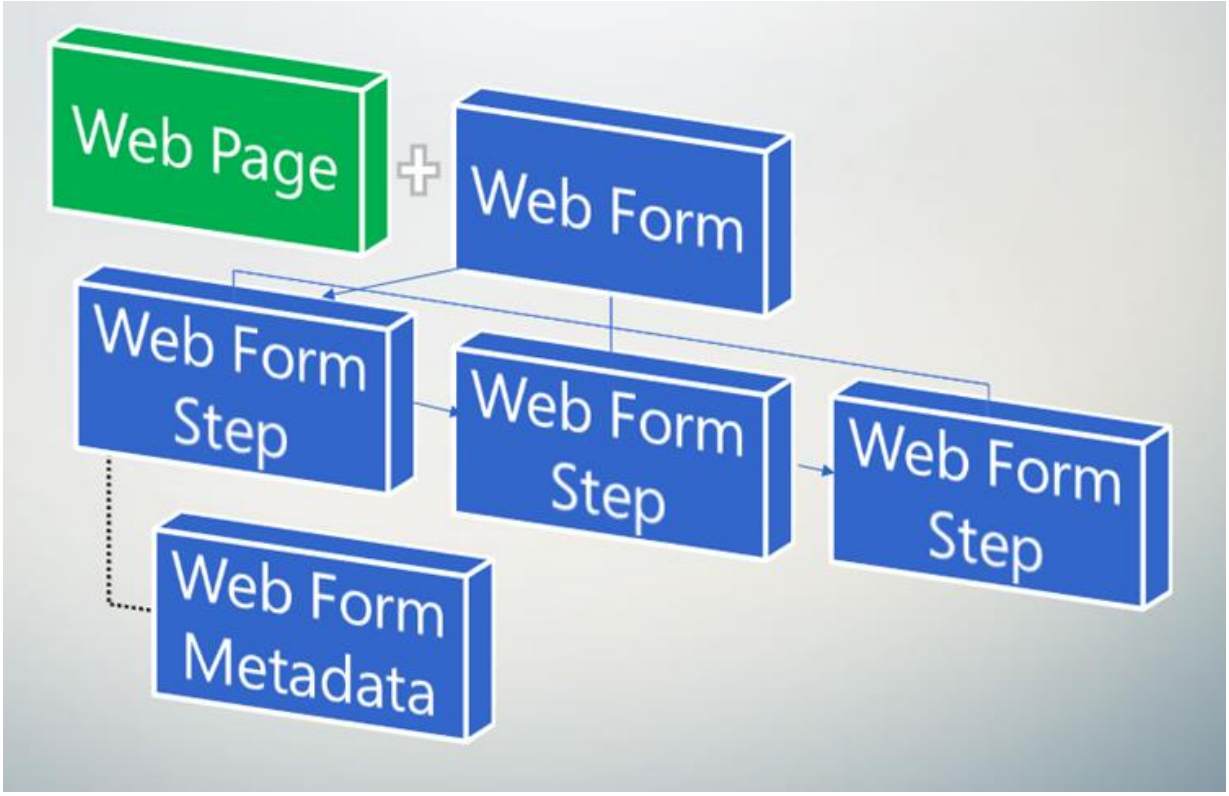
Applies To: Dynamics 365 (online), Dynamics CRM Online

The Web Form Step provides the flow logic of the form's user experience such as steps and conditional branching. It also provided details regarding the rendering of a form and additional behavior.

Note

Web Forms persists the history of the steps a user has visited in an object on a Web Form Session entity. If a Web Form's steps have been modified, previously created history data could now be stale. Anytime steps are changed, it is recommended that you delete all Web Form Session records to eliminate miss match between sequence of steps logged in history and the current sequence.

Each Web Form will be presented on the portal has one or more steps. These steps share some common properties, outlined below. Each Step contains a pointer (a lookup) to the next step, with the exception of terminal steps. Terminal steps do not have a next time, and are thus the last step of the Web Form (due to conditional branching, there can be multiple terminal steps)



Name	Description
Name	A title used for reference.
Web Form	The Web Form associated with the current step.
Type	One of the following: Load Form/Load Tab step type: displays properties of forms. • Load Form/Load Tab step type: displays properties of tabs. • Conditional step type: displays properties for specifying expressions to be evaluated for conditional branching. • Redirect step type: displays the settings appropriate for configuring a website redirection. For further details on the settings for these web form step types, please refer to their corresponding sections below. **Note:** The first step cannot be of type "Condition".

Next Step	The step that will follow the current step. This will be blank for single step single form.
Target Entity Logical Name	The logical name of the entity associated with the form.
Move Previous Permitted	Indicates whether the user is given an option to navigate to the previous step in a multiple step web form. Default is true. Uncheck to prevent the user from being able to move to the previous step.

See also

Configure a Dynamics 365 portal
Define entity forms and custom logic within the Dynamics 365 portal
Load Form/Load Tab step type
Redirect step type
Conditional step type
Custom JavaScript

Load form and load tab step type

Applies To: Dynamics 365 (online), Dynamics CRM Online

This step type allows the web form step to act as an entity form within the overall web form process. It loads a form from Dynamics 365 with a similar set of options available as an Entity Form.

In this topic

Settings

Name	Description
Name	The descriptive name of the record. Required
Entity Name	The name of the entity from which the form will be loaded from. Required
Form Name	The name of the Form on the target entity that is to be rendered. Required

Name	Description
Tab Name	The name of a Tab on a Form for a specified entity that is to be rendered. Optional
Mode	One of the following values: Insert • Edit • ReadOnly Selecting Insert indicates the form should insert a new record upon submission. Specifying Edit indicates the form should edit an existing record. Selecting ReadOnly indicates the form should display an existing record's noneditable form. Edit and ReadOnly requires that a source record exist and parameters specified in the 'Record Source Type' and 'Record ID Query String Parameter Name' fields to select the appropriate record when the form is loaded in the portal.
Auto Generate Steps From Tabs	Checked indicates that multiple tabs on an entity form will be displayed with each tab as a sequential step starting with the first tab and continue until all tabs have been navigated to and upon final submission a record is inserted. Unchecked is the default behavior. Unchecked value indicates that only one tab or form is to be rendered for the current step. If the Tab Name is not specified, the first tab is displayed.
Record Source Type	One of the following values: Query String • Current Portal User • Result From Previous Step Selecting Query String requires a parameter name that must be provided in the query string of the URL to the form. This can be specified in the 'Record ID Query String Parameter Name' field. Selecting Current Portal User will retrieve the portal user record for the current authenticated user. Selecting Result from previous step will retrieve the record that was the record source for a previous step of the web form.
Record ID Query String Parameter Name	A parameter name provided in the query string of the URL to the Web Page containing this Entity Form.
Relationship Name	Required when Record Source Type is Record Associated to Current Portal User. The logical name of the relationship between the current portal user record and the target record. This must

Name	Description
	return the same entity type specified by the Entity Name field.
Allow Create If Null	An optional Boolean value available when Record Source Type is Record Associated to Current Portal User. Checked indicates that if the related record does not exist, allow the user to create it the first time, otherwise an exception will be thrown if the record does not already exist because the form needs a record to data-bind to.
Enable Entity Permissions	Will cause the form to respect Entity Permissions. The default is false for backwards compatibility reasons. If set to true, explicit permissions are REQUIRED for any user wanting to access the form. Note that this only applies to the FIRST step of a form.

Additional settings

Name	Description
Render Web Resources Inline	Eliminates the iFrame that encompasses a web resource in a Dynamics 365 entity form.
ToolTips Enabled	The tooltip is set using the description of the attribute on the target entity.
Show Unsupported Fields	All fields are currently supported. This is reserved for potential changes Dynamics 365 may make to field types.
Set Recommended Fields as Required	Makes all attributes required that have the field requirement level set to 'Business Recommended'.
Make All Fields Required	Makes all fields required regardless of the field requirement level.
Validation Summary CSS Class	CSS Class name assigned to the validation summary. Default: 'validation-summary alert alert-error alert-block'
Enable Validation Summary Links	A Boolean value of true or false that indicates whether anchor links should be rendered in the validation summary to scroll to the field containing an error. Default: true
Validation Summary Link Text	The label assigned to the validation summary links. Default: click here
Instructions	Display a block of text at the top of the form.
Record Not Found Message	Message displayed when the source record cannot be loaded. Default: "The record you are looking for could not be found."

Form options

Name	Description
Add Captcha	reCAPTCHA is a free CAPTCHA service used by the portal to prevent malicious spam attacks. The service requires a unique key to authenticate requests for your portal application.
Validation Group	The group name assigned to input controls for evaluating valid input of named groups.
Previous Button CSS Class	CSS Class name assigned to the Previous button.
Previous Button Text	Label on the previous button.
Next Button CSS Class	CSS Class name assigned to the next button.
Submit Button Text	Label on the next button.
Submit Button CSS Class	CSS Class name assigned to the submit button. Default: button submit
Submit Button Text	Label on the submit button. Default is 'Submit'
Submit Button Busy Text	Label on the submit button during the running process. Default: Processing...

Associate the current portal user with the creation of a record

These options are used to keep track of which portal contact creates a record through the portal UI

Name	Description
Associate Current Portal User	Checked indicates the currently logged in user's record should be associated with the target entity record.
Target Entity Portal User Lookup Attribute	The logical name of the attribute on the target entity that stores the portal user.
Is Activity Party	Boolean value indicating whether the Target Entity Portal User Lookup Attribute is an Activity Party type. See ActivityParty entity

Entity reference

The following parameters pertain to setting an entity reference when the form is saved.

This provides a way to associate the current record being created or updated by the form with another target record. This is useful if you have multiple steps with multiple entity types and wish to relate the

resulting records or if the page is passed a query string of a record ID that you would like associated. For example we have a careers page that lists job postings, each with a link to an application for the job that contains the id of the job posting to the application form so that when the application is created the job posting is associated with the record.

Name	Description
Set Entity Reference On Save	Yes or No. A value of yes indicates that an entity reference should be assigned when the form is saved, otherwise none will be set.
Relationship Name	The Relationship Definition Name for a given relationship between two entity types. **Note** Do not specify a relationship name if you specify a Target Lookup Attribute Logical Name.
Entity Logical Name	The logical name of the reference entity.
Target Lookup Attribute Logical Name	Logical name of the lookup attribute on the target entity being created or updated. **Note** Do not specify a relationship name if you specify a Target Lookup Attribute Logical Name.
Populate Lookup Field	If the lookup regarding the reference entity is on the form, checking this value will populate the field on the form with the value retrieved using the setting below.
Source Type	One of the following values: Query String • Current Portal User • Result From Previous Step Selecting Query String requires a parameter name that must be provided in the query string of the URL to the form. This can be specified in the **Query String Name** field. If this parameter is the primary key then select Yes for the **Query String Is Primary Key**, otherwise select No and provide the logical name of the attribute on the target entity to query by specified in the **Query Attribute Logical Name** field. Selecting Current Portal User will retrieve the contact record for the current authenticated user. Selecting Result From Previous Step will retrieve the record created as a

Name	Description
	result of the step prior to the current step or from a specific step based on the step associated with the Entity Source Step.
Reference Entity Step	The Web Form Step record of a previous step to retrieve the entity created or edited in that step to associate it with the record for this current step.
Query String Name	Parameter name provided in the Query String of the URL to the Web Page containing the Web Form.
Query String Is Primary Key	Yes indicates the Query String value is the Primary Key value. No indicates the Query String value is an attribute type other than the Primary Key.
Query Attribute Logical Name	Logical name of the attribute to query the record.
Show ReadOnly Details	Checked indicates that a form should be rendered at the top of the page displaying read-only information pertaining to the reference record. Requires a Form Name.
Form Name	The name of the form on the reference entity that should be used to display read-only details.

Additional functionality

Name	Description
Attach File	Check to have the form include a file upload control to the bottom of the form to allow a file to be attached to the record.
Allow Multiple Files	A Boolean value that indicates whether the user can upload more than one file.
Accept	The accept attribute specifies the MIME types of files that the server accepts through file upload. To specify more than one value, separate the values with a comma (for example, audio/*,video/*,image/*).
Label	The text displayed next to the file upload control. For each language pack installed and enabled for the Dynamics 365 organization a field will be available to enter the message in the associated language.
Is Required	Checked makes the attachment of a file required to proceed.
Required Error Message	The message displayed during form validation if Is Required is true and the user has not attached a file. For each language pack installed and enabled for the

Name	Description
	Dynamics 365 organization a field will be available to enter the message in the associated language.

Custom JavaScript	A custom block of JavaScript that will added to the bottom of the page just before the closing form tag element. The HTML input id of an entity field is set to the logical name of the attribute. This makes selecting a field, setting values, or other client side manipulation easy with jQuery.
	`$(document).ready(function() {`
	
	`$("#address1_stateorprovince").val("Saskatchewan");`
	`});`

See also

Configure a Dynamics 365 portal
Define entity forms and custom logic within the Dynamics 365 portal
Web Form steps for portals
Redirect step type
Conditional step type
Custom JavaScript

Redirect step type

Applies To: Dynamics 365 (online), Dynamics CRM Online

The Redirect Step Type allow for a redirect of the User's browser session to another page in the portal or to an external URL. This is useful for seamlessly directing flow.

Name	Description
External URL	Requires On Success set to Redirect. Specify a URL to an external resource on the web.
or Web Page	Requires On Success set to Redirect. Select a Web Page from the current website.
Append Existing Query String	Requires On Success set to Redirect. When checked the existing query string parameters will be added to the target URL prior to redirection.
Append Record ID To Query String	Requires On Success set to Redirect. When checked the ID of the record created is appended to the query string of the URL being redirected to.

Name	Description
Record ID Query String Parameter Name	Requires On Success set to Redirect. The name of the ID parameter in the query string of the URL being redirected to.
Append Custom Query String	Requires On Success set to Redirect. A custom string that can be appended to the existing Query String of the redirect URL.
Append Attribute Value to Query String - Parameter Name	Requires On Success set to Redirect. A name to give to the parameter that correlates to the attribute value on the target entity that gets appended to the Query String of the redirect URL.
Append Attribute Value to Query String - Attribute Logical Name	Requires On Success set to Redirect. A logical name of an attribute on the target entity to get the value to be appended to the Query String of the redirect URL.

See also

Configure a Dynamics 365 portal
Define entity forms and custom logic within the Dynamics 365 portal
Web Form steps for portals
Load Form/Load Tab step type
Conditional step type
Custom JavaScript

Conditional step type

Applies To: Dynamics 365 (online), Dynamics CRM Online

A Web Form Step can be a 'Condition' type that indicates the step should evaluate an expression. If the expression evaluates to true then the next step is displayed. If the expression evaluates to false and if the 'Next Step If Condition Fails' has been specified, that step will be displayed. The current entity is the target used to evaluate the expression against. Record Source defaults to the Record Source of the previous step.

Attributes

Name	Description
Condition	The Conditional expression to be evaluated
Next Step if Condition Fails	The Conditional Step Type, unlike all others, has two Next Step lookups. The default Next Step lookup will be respected if the condition evaluates to true. This property sets the next step should the condition evaluate to false.

The available operands are as follows:

Operand(s)	Type
=, ==	Equals
!=	Not Equals
>	Greater Than
<	Less Than
>=	Greater Than or Equals
<=	Less Than or Equals
&	And
|	Or
!	Not
=*, ==*, -=	Like
!=*	Not Like

Format

The format of the expression is as follows:

[entity attribute logical name] [operand] [value]

Example:

```
new_categorycode = 750101
```

A condition can have multiple expressions. You can use parentheses to group nested expressions, for example:

```
new_categorycode = 750101 & gendercode = 2
```

- `new_categorycode = 750101 & (gendercode = 2 | gendercode = 3)`
- `new_name = Jane Doe`
- `new_twooptionfield = true`
- `new_twooptionfield = false`

See also

Configure a Dynamics 365 portal
Define entity forms and custom logic within the Dynamics 365 portal
Web Form steps for portals
Load Form/Load Tab step type
Redirect step type
Custom JavaScript

Custom JavaScript

Applies To: Dynamics 365 (online), Dynamics CRM Online

The Web Form Step record contains a field named **Custom JavaScript** that can be used to store JavaScript code to allow you to extend or modify the form's visual display or function.

The custom block of JavaScript will added to the bottom of the page just before the closing form tag element.

Form fields

The HTML input id of an entity field is set to the logical name of the attribute. This makes selecting a field, setting values, or other client side manipulation easy with jQuery.

```
$(document).ready(function() {

   $("#address1_stateorprovince").val("Saskatchewan");

});
```

Additional client-side field validation

Sometimes you may need to customize the validation of fields on the form. The following example demonstrates adding a custom validator. This particular example forces the user to specify an email only if the another field for preferred method of contact is set to 'Email'.

```
if (window.jQuery) {

   (function ($) {

      $(document).ready(function () {

         if (typeof (Page_Validators) == 'undefined') return;

         // Create new validator

         var newValidator = document.createElement('span');

         newValidator.style.display = "none";

         newValidator.id = "emailaddress1Validator";

         newValidator.controltovalidate = "emailaddress1";

         newValidator.errormessage = "<a href='#emailaddress1_label'>Email is a required
field.</a>";

         newValidator.validationGroup = ""; // Set this if you have set ValidationGroup on the
form

         newValidator.initialvalue = "";

         newValidator.evaluationfunction = function () {

            var contactMethod = $("#preferredcontactmethodcode").val();

            if (contactMethod != 2) return true; // check if contact method is not 'Email'.

            // only require email address if preferred contact method is email.
```

```
            var value = $("#emailaddress1").val();
            if (value == null || value == "") {
            return false;
            } else {
               return true;
            }
         };

         // Add the new validator to the page validators array:
         Page_Validators.push(newValidator);

         // Wire-up the click event handler of the validation summary link
         $("a[href='#emailaddress1_label']").on("click", function () {
scrollToAndFocus('emailaddress1_label','emailaddress1'); });
      });
   }(window.jQuery));
}
```

General validation

On click of the next/submit button a function named **webFormClientValidate** is executed. You can extend this method to add custom validation logic.

```
if (window.jQuery) {
   (function ($) {
      if (typeof (webFormClientValidate) != 'undefined') {
         var originalValidationFunction = webFormClientValidate;
         if (originalValidationFunction && typeof (originalValidationFunction) == "function") {
            webFormClientValidate = function() {
               originalValidationFunction.apply(this, arguments);
               // do your custom validation here
               // return false; // to prevent the form submit you need to return false
               // end custom validation.
               return true;
            };
         }
      }
```

```
    }(window.jQuery));

}
```

See also

Configure a Dynamics 365 portal
Define entity forms and custom logic within the Dynamics 365 portal
Web Form steps for portals
Load Form/Load Tab step type
Redirect step type
Conditional step type

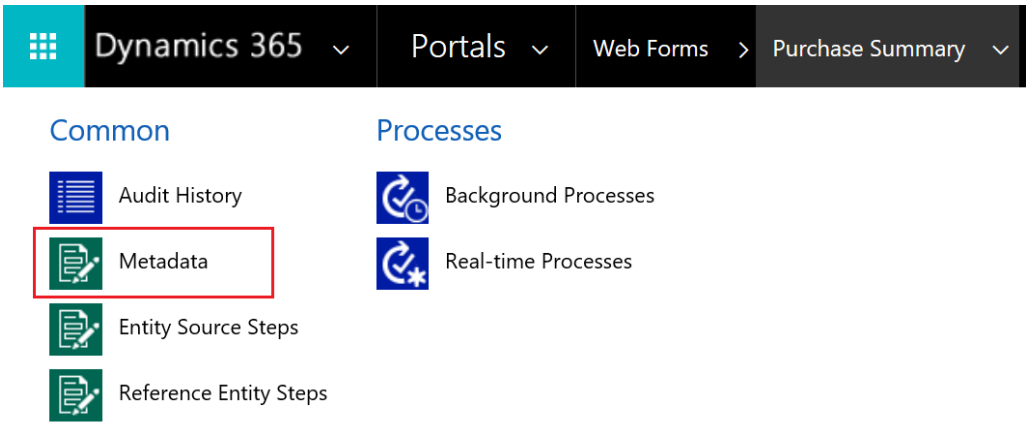
Web form metadata for portals

Applies To: Dynamics 365 (online), Dynamics CRM Online

The Web Form Metadata contains additional behavior modification logic to augment or override the functionality of form fields that is otherwise not possible with Dynamics 365's native entity form editing capabilities.

On the Web Form Step that has fields that you would like to modify

Click the **Metadata** link in the top navigation



To add a new record

Click **Add New Web Form Metadata**

Web form metadata properties

The following attributes provide additional styling and capabilities for elements on a form.

Name	Description
Web Form Step	The Web Form Step associated with the Web Form Metadata record.
Type	Available options are: Attribute • Section • Tab Selecting Attribute as the Type value displays the appropriate options for modifying fields on the current form rendered for the related step. Selecting Section as the Type value displays the options available for modifying a section on the form. Selecting Tab as the Type value displays the options available for modifying a tab on a form.

Web form metadata type = Attribute

The following properties are displayed when the Type selected is 'Attribute'.

Name	Description
Attribute Logical Name	The logical name of the attribute field to be modified.
Label	Replaces the default label assigned to the attribute on the entity with the text specified in this input. For each language pack installed and enabled for the Dynamics 365 organization a field will be available to enter the message in the associated language.

Control style

The following options modify the style and functionality of an attribute's field.

Name	Description
Style	One of the following: Option Set as Vertical Radio Button List • Option Set as Horizontal Radio Button List • Single Line of Text as Geolocation Lookup Validator (requires Bing Maps Settings - details found here)

Name	Description
	• Group Whole Number as Constant Sum (requires Group Name) • Group Whole Number as Rank Order Scale No Ties (requires Group Name) • Group Whole Number as Rank Order Scale Allow Ties (requires Group Name) • Multiple Choice Matrix (requires Group Name) • Multiple Choice (requires Group Name) • Group Whole Number as Stack Rank (requires Group Name)
Group Name	A name used to group controls together as a composite control.
Multiple Choice Minimum Required Selected Count	This is the required minimum values selected in the multiple choice question. Only necessary if 'Multiple Choice' Control Style is selected.
Multiple Choice Max Selected Count	This is the maximum number of values that is permitted to be selected in the multiple choice question. Only necessary if 'Multiple Choice' Control Style is selected.
Constant Sum Minimum Total	This is the required minimum value applied to a constant sum response field. Only necessary if 'Group Whole Number as Constant Sum' Control Style is selected.
Constant Sum Maximum Total	This is the maximum number of value that is permitted to be applied to a constant sum response field. Only necessary if 'Group Whole Number as Constant Sum' Control Style is selected.
Randomize Option Set Values	Specifying Yes results in randomly ordered options listed for an Option Set control. Only applicable to attributes that are of type Option Set.
CSS Class	Adds a custom CSS class name to the control.

Prepopulate field

The following options provide a default value for fields on the form.

Name	Description
Ignore Default Value	Ignores the default value of the specified attribute field. Useful for attributes that are Two Option fields that are rendered as Yes and No radio buttons. Because Dynamics 365 automatically

Name	Description
	assigns a value of yes or no by default, this option makes it possible to display Yes/No questions without a predefined response.
Type	One of the following: Value • Today's Date • Current User's Contact Selecting Value requires a value to be specified in the **Value** field that will be assigned to the field when the form is loaded. Selecting Today's Date will assign the current date and time to the attribute field. Selecting Current User's Contact requires a **From Attribute** that is an attribute on the contact entity that will be retrieved from the current user's contact record and set on the attribute field specified.
Value	A value to be assigned to the field when the form is loaded.
From Attribute	An attribute on the contact entity that will be retrieved from the current portal user's record and assigned to the field when the form is loaded.

Set Value On Save

The following options specify a value to be set when the form is saved.

Name	Description
Set Value On Save	Yes indicates that a value should be assigned to the attribute using the input provided in the **Value** field. **Note** All attribute types are supported except the following: Unique Identifier.
Type	One of the following: Value • Today's Date • Current User's Contact Selecting Value requires a value to be specified in the **Value** field that will be assigned to the field when the form is loaded. Selecting Today's Date will assign the current date and time to the

Name	Description
	attribute field. Selecting Current User's Contact requires a **From Attribute** that is an attribute on the contact entity that will be retrieved from the current user's contact record and set on the attribute field specified.
Value	Value assigned to the attribute when the form is being saved. For Two Option (Boolean) fields use `true` or `false` For Option Set field use the integer value for the option For Lookup (EntityReference) fields, use the GUID **Note** If the attribute is also on the form the user's value will be overwritten with this value.
From Attribute	An attribute on the contact entity that will be retrieved from the current portal user's record and assigned to the field during save.

Validation

The following section contains properties that modify various validation parameters and error messages.

For each language pack installed and enabled for the Dynamics 365 organization, a field will be available to enter the message in the associated language.

Name	Description
Validation Error Message	Overrides the default validation error message for the field.
Regular Expression	A regular expression to be added to validate the field.
Regular Expression Validation Error Message	The validation error message to display if the regular expression validated fails.
Field is Required	Check to make the attribute field required to contain a value.
Required Field Validation Error Message	Overrides the default required field error message if the field does not contain a value.
Range Validation Error Message	Overrides the default range validation error message displayed if the field's value is outside of the appropriate minimum and maximum values specified on the entity attribute that are of type

Name	Description
	Whole Number, Decimal Number, Floating Point Number or Currency.

Name	Description
Geolocation Validator Error Message	Applicable if the attribute is a Single Line of Text and the Control Style specified is Single Line of Text as Geolocation Lookup Validator then this will override the default error message displayed if input validation fails.
Constant Sum Validation Error Message	Applicable if the attribute is a Whole Number type and the Control Style specified is Group Whole Number as Constant Sum then this will override the default error message displayed if input validation fails.
Multiple Choice Validation Error Message	Applicable if the attribute is a Two Option type and the Control Style specified is Multiple Choice then this will override the default error message displayed if input validation fails.
Rank Order No Ties Validation Error Message	Applicable if the attribute is a Whole Number type and the Control Style specified is Group Whole Number as Rank Order No Ties then this will override the default error message displayed if input validation fails.

Description and instructions

The following properties specify the location and content of custom description or instructions.

Name	Description
Add Description	Yes results in custom text being displayed on the form in the position specified.
Position	One of the following: Above the field • Below the field • Above the label
Use Attribute's Description Property	Select 'Yes' to use the description assigned to the attribute metadata on the entity. Select 'No' to provide a custom description. Default is 'No'.
Description	Custom text to be displayed on the form. Used in conjunction when Use Attribute's Description Property is set to 'No'. For each language pack installed and enabled for the Dynamics 365

Name	Description
	organization a field will be available to enter the message in the associated language.

Web Form metadata type = Section

The following properties are displayed when the Type selected equals 'Section'.

Name	Description
Section Name	The name of the section on the entity's form in Dynamics 365 to be modified.
Label	Replaces the default label assigned to the section on the entity with the text specified in this input. For each language pack installed and enabled for the Dynamics 365 organization a field will be available to enter the message in the associated language.

Web Form metadata type = Tab

The following properties are displayed when the Type selected equals 'Tab'

Name	Description
Tab Name	The name of the tab on the entity's form in Dynamics 365 to be modified.
Label	Replaces the default label assigned to the tab on the entity with the text specified in this input. For each language pack installed and enabled for the Dynamics 365 organization a field will be available to enter the message in the associated language.

See also

Configure a Dynamics 365 portal
Define entity forms and custom logic within the Dynamics 365 portal
Web Form properties for portals
Web Form steps for portals
Web Form subgrid configuration for portals
Notes configuration for Web Forms for portals

Web Form subgrid configuration for portals

Applies To: Dynamics 365 (online), Dynamics CRM Online

Web Form Subgrids are configured in an identical fashion to Entity Form Subgrids. First, Create a Metadata record for the Web Form Step that has a subgrid, and add configuration metadata.

Adding Subgrids to your Managed forms on the portal is easy—just add the subgrid to the Dynamics 365 form that you are managing by using the out-of-the-box Dynamics 365 form designer and you're done. The grid will use the view that is specified in the Dynamics 365 form designer, show only related records if that option was chosen in Dynamics 365, optionally show a search bar, and even respect entity permissions for portals It doesn't get any simpler to display a read-only list of records. To enable actions for the grid— Create, Update, Delete, and so on—you must configure those actions by using metadata configurations.

Adding subgrid metadata to your form

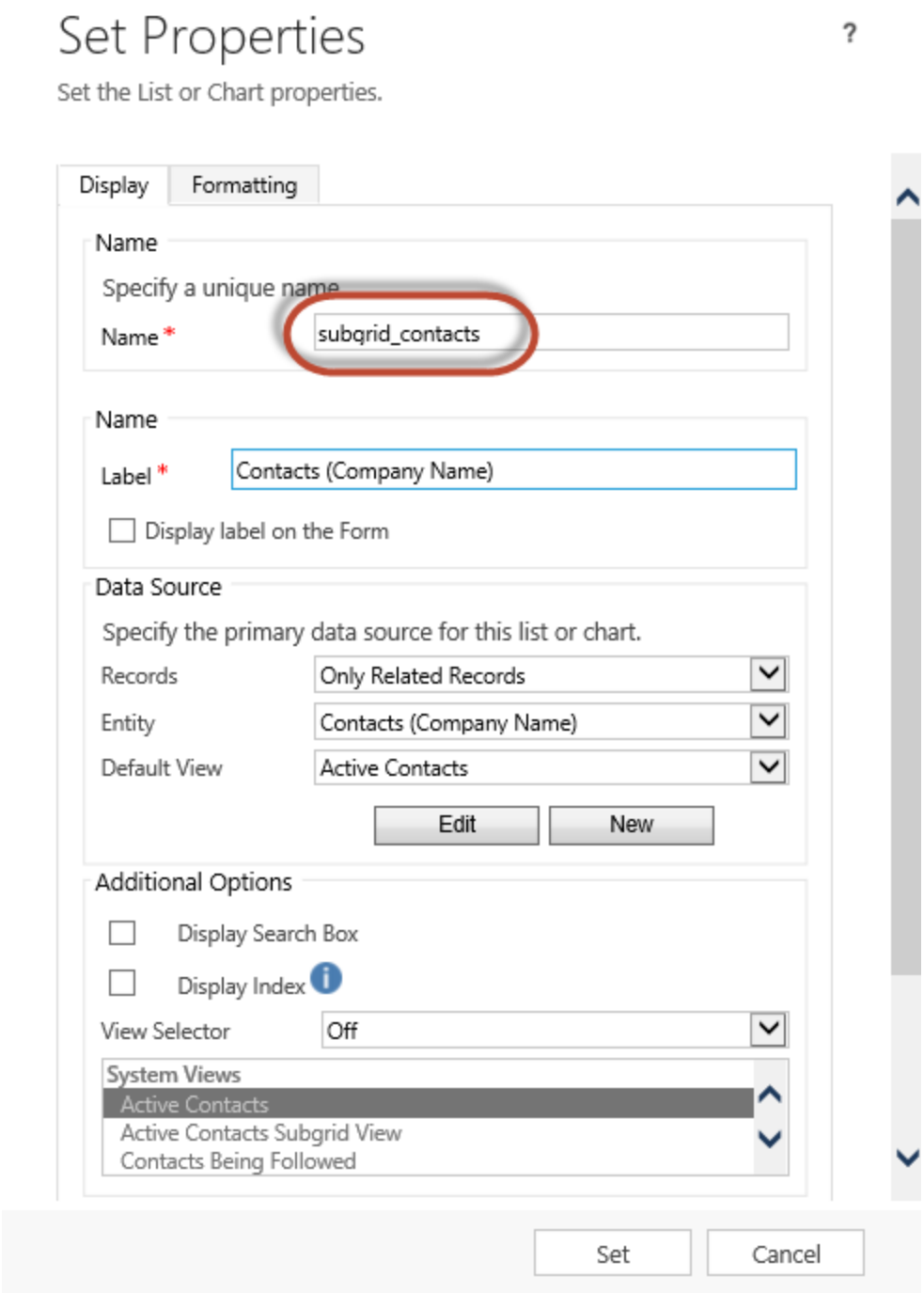
To add Subgrid Metadata to an Entity Form, navigate to **Entity Form Metadata** by using either the top drop-down or the subgrid right on the main form of the Define entity forms and custom logic within the Dynamics 365 portal record that you are working with.

To add a new record**,** Click **Add New Entity Form Metadata**

To edit an existing record, double-click on a record in the grid. Selecting Subgrid as the Type value displays another attribute, "Subgrid Name".

Name	Description
Subgrid Name	The unique name of the subgrid on the entity's related Dynamics 365 form.

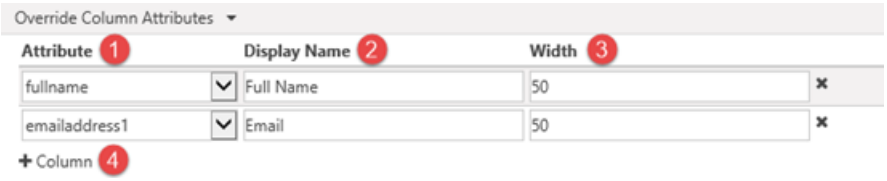
Double clicking on the Sub-Grid in the form editor will display a properties window. This contains a Name field that should be used to assign to the Subgrid Name field on the Entity Form Metadata record.



Specifying a valid subgrid name will display the subgrid configuration settings. By default, only **Basic Settings** are shown. Select **Advanced Settings** to show additional settings.

By default, most settings are shown collapsed to save space. Click "" to expand a section and see additional options. Click "" to collapse a section.

Attributes

Name	Description
Basic Settings	
View Actions	Allows you to add action buttons for actions that are applicable for the entity set and will appear above the subgrid. The available actions are: Create Action • Download Action • Associate Action Clicking on one of these options displays a configuration area for that action. See below for details about each action.
Item Actions	Allows you to add action buttons for actions that are applicable for an individual record and will appear in each row in the subgrid provided the associated privilege has been granted by the Add record-based security using entity permissions for portals procedure. The available actions are: Details Action • Edit Action • Delete Action • Workflow Action • Disassociate Action Clicking on one of these options displays a configuration area for that action. See below for details about each action.
Override Column Attributes	Allows you to override display settings for individual columns in the grid.  1. Attribute - the logical name of the column you wish to override 2. Display Name - a new column title to override the default 3. Width - the width (in either percent or pixels) of the column to override the default. See also Grid Column Width Style To override settings on a column, click " Column" (4) and fill in the details.
Advanced Settings	
Loading Message	Overrides the default HTML message that appears while the subgrid is loading.
Error Message	Overrides the default HTML message that appears when an error occurs while loading the subgrid.

Name	Description
Access Denied Message	Overrides the default HTML message that appears when a user does not have sufficient permissions to read the entity type associated with the subgrid. For information on permissions, see
Empty Message	Overrides the HTML message that appears when the associated subgrid contains no data.
Lookup Dialog	Controls the settings for the dialog that appears when a user activates the Associate Action.
Details Form Dialog	Controls the settings for the dialog that appears when a user activates the Details Action
Edit Form Dialog	Controls the settings for the dialog that appears when a user activates the Edit Action
Create Form Dialog	Controls the settings for the dialog that appears when a user activates the Create Action
Delete Dialog	Controls the settings for the dialog that appears when a user activates the Delete Action
Error Dialog	Controls the settings for the dialog that appears when an error occurs during any action.
CSS Class	Specify a CSS class or classes that will be applied to the HTML element that contains the entire subgrid area, including the grid and action buttons.
Grid CSS Class	Specify a CSS class or classes that will be applied to the Subgrid's HTML `<table>` element.
Grid Column Width Style	Configures whether the **Width** values in the Override Column Attributes are specified in Pixels or Percent.

Create action

Enabling a **Create Action** renders a button above the Subgrid that, when clicked, pops up a dialog with an entity form that allows a user to create a new record.

Create Action Settings

Name	Description
Basic Settings	
Entity Form	Specifies the entity forms and custom logic that will be used to create the new record. The drop-down will list all Entity Forms that are configured for the Subgrid's entity type. Note: If the Subgrid's entity type has no Entity Forms, the drop-down will appear empty. If no Entity Form is supplied for the Create Action it will be ignored, and the button will not render on the Subgrid's Entity Form.

Name	Description
Advanced Settings	
Button Label	Overrides the HTML label displayed in the Create Action button above the subgrid.
Button Tooltip	Overrides the tooltip text that appears when the mouse is hovered over the Create Action button.

Create form dialog (advanced) settings

Name	Description
Loading Message	Overrides the message that appears while the dialog is loading
Title	Overrides the HTML that appears in the title bar of the dialog
Dismiss Button Sr Text	Overrides the screen reader text associated with the dialog's dismiss button.
Size	Specifies the size of the Create Form dialog. The Options are Default, Large, and Small. For the Create Form dialog, the default size is Large.
CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog.
Title CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog's title bar.

Download action

Enabling a **Download Action** renders a button above the Subgrid that, when clicked, downloads the data from the subgrid to an Excel (.xlsx) file.

Download action settings

Name	Description
Basic Settings	
None	
Advanced Settings	
Button Label	Overrides the HTML label displayed in the Download Action button above the subgrid.
Button Tooltip	Overrides the tooltip text that appears when the mouse is hovered over the Download Action button.

Associate action

Enabling an **Associate Action** displays a button above the subgrid that, when selected, opens a table of entities that the user can choose to associate to the entity record currently being displayed by the Define entity forms and custom logic within the Dynamics 365 portal provided the 'Append' and 'AppendTo' privilege has been granted by Add record-based security using entity permissions for portals for the applicable entity types.

Associate action settings

Name	Description
Basic Settings	
View	Specifies the View (Saved Query) that will be used to find and display the list of eligible entities. Note: If the Subgrid's entity type has no Saved Queries, the drop-down will appear empty. If no View is supplied for the Associate Action it will be ignored, and the button will not render on the Subgrid's Entity Form.
Advanced Settings	
Button Label	Overrides the HTML label displayed in the Associate Action button above the subgrid.
Button Tooltip	Overrides the tooltip text that appears when the mouse is hovered over the Associate Action button.

Lookup dialog (advanced) settings

Name	Description
Title	Overrides the HTML that appears in the title bar of the dialog
Primary Button Text	Overrides the HTML that appears in the Primary ("Add") button on the dialog.
Close Button Text	Overrides the HTML that appears in the Close ("Cancel") button on the dialog.
Dismiss Button Sr Text	Overrides the screen reader text associated with the dialog's dismiss button.
Size	Specifies the size of the Associate dialog. The Options are Default, Large, and Small. For the Associate dialog, the default size is Large.
CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog.
Title CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog's title bar.

Name	Description
Primary Button CSS Class	Specify a CSS class or classes that will be applied to the dialog's Primary ("Add") button.
Close Button CSS Class	Specify a CSS class or classes that will be applied to the dialog's Close ("Cancel") button.
Select Records Title	Overrides the HTML that appears in the title of the Record Selection area.
Default Error Message	Overrides the message that appears when an error occurs while associating the selected entity or entities.
Grid Options	Specify settings for the appearance of the entity grid. See below for options.

Lookup dialog (advanced) grid options settings

Name	Description
Loading Message	Overrides the message that appears while the grid of entities is loading.
Error Message	Overrides the message that appears when an error occurs while loading the grid of entities
Access Denied Message	Overrides the message that appears when a user does not have sufficient entity permissions to view the grid of entities.
Empty Message	Overrides the message that appears when there are no entities that can be associated with the current Entity Form.
CSS Class	Specify a CSS class or classes that will be applied to the associate grid area.
Grid CSS Class	Specify a CSS class or classes that will be applied to the associate grid's `<table>` element.

Details action

Enabling a **Details Action** allows a user to view a read-only entity form that is data-bound to the record of the subgrid's selected row.

Details Action settings

Name	Description
Basic Settings	
Entity Form	Specifies the entity form that will be used to view the details of the selected record. The drop-down

Name	Description
	will list all Entity Forms that are configured for the Subgrid's entity type. Note: If the Subgrid's entity type has no Entity Forms, the drop-down will appear empty. If no Entity Form is supplied for the Details Action it will be ignored, and the button will not render in the Subgrid.
Advanced Settings	
Record ID Query String Parameter Name	Specifies the name of the query string parameter that will be used to select the entity to view in the selected Entity Form. This should match the value in that Entity Form's Record ID Query String Parameter Name. The default value for this field, both here and in Entity Form configuration, is "id".
Button Label	Overrides the HTML label for this action displayed in the Subgrid row.
Button Tooltip	Overrides the tooltip text that appears when the mouse is hovered over the button for this action displayed in the Subgrid row.

Details form dialog (advanced) settings

Name	Description
Loading Message	Overrides the HTML that appears when the dialog is loading.
Title	Overrides the HTML that appears in the title bar of the dialog.
Dismiss Button Sr Text	Overrides the screen reader text associated with the dialog's dismiss button.
Size	Specifies the size of the Details dialog. The Options are Default, Large, and Small. For the Details dialog, the default size is Large.
CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog.
Title CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog's title bar.

Edit action

Enabling an **Edit Action** allows a user to view an editable entity form that is data-bound to the record of the subgrid's selected row, if the 'Write' privilege has been granted by Add record-based security using entity permissions for portals.

Edit action settings

Name	Description
Basic Settings	
Entity Form	Specifies the entity form that will be used to edit the selected record. The drop-down will list all Entity Forms that are configured for the Subgrid's entity type. Note: If the Subgrid's entity type has no Entity Forms, the drop-down will appear empty. If no Entity Form is supplied for the Edit Action it will be ignored, and the button will not render in the Subgrid.
Advanced Settings	
Record ID Query String Parameter Name	Specifies the name of the query string parameter that will be used to select the entity to edit in the selected Entity Form. This should match the value in that Entity Form's Record ID Query String Parameter Name. The default value for this field, both here and in Entity Form configuration, is "id".
Button Label	Overrides the HTML label for this action displayed in the Subgrid row.
Button Tooltip	Overrides the tooltip text that appears when the mouse is hovered over the button for this action displayed in the Subgrid row.

Edit form dialog (advanced) settings

Name	Description
Loading Message	Overrides the HTML that appears when the dialog is loading.
Title	Overrides the HTML that appears in the title bar of the dialog.
Dismiss Button Sr Text	Overrides the screen reader text associated with the dialog's dismiss button.
Size	Specifies the size of the Edit dialog. The Options are Default, Large, and Small. For the Edit dialog, the default size is Large.
CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog.
Title CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog's title bar.

Delete action

Enabling a **Delete Action** allows a user to permanently delete the entity represented by a row in the subgrid, if the Delete privilege has been granted by Add record-based security using entity permissions for portals.

Delete action settings

Name	Description
Basic Settings	
none	
Advanced Settings	
Confirmation	Overrides the confirmation HTML message displayed when the user activates the Delete Action.
Button Label	Overrides the HTML label for this action displayed in the Subgrid row.
Button Tooltip	Overrides the tooltip text that appears when the mouse is hovered over the button for this action displayed in the Subgrid row.

Delete dialog (advanced) settings

Name	Description
Title	Overrides the HTML that appears in the title bar of the dialog.
Primary Button Text	Overrides the HTML that appears in the Primary ("Delete") button on the dialog.
Close Button Text	Overrides the HTML that appears in the Close ("Cancel") button on the dialog.
Dismiss Button Sr Text	Overrides the screen reader text associated with the dialog's dismiss button.
Size	Specifies the size of the Delete Dialog. The Options are Default, Large, and Small. For the Delete dialog, the default size is Default.
CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog.
Title CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog's title bar.
Primary Button CSS Class	Specify a CSS class or classes that will be applied to the dialog's Primary ("Delete") button.

Name	Description
Close Button CSS Class	Specify a CSS class or classes that will be applied to the dialog's Close ("Cancel") button.

Workflow action

Enabling a **Workflow Action** allows a user to run an On-Demand Workflow against the selected record in the subgrid. You may add any number of Workflow Actions to the Subgrid Metadata.

Workflow action settings

Name	Description
Basic Settings	
Workflow	Specifies the On-Demand Workflow that will run when the user activates this action. **Note:** If the Subgrid's entity type has no Workflows, the drop-down will appear empty. If no Workflow is supplied for the Workflow Action it will be ignored, and the button will not render in the subgrid.
Button Label	Sets the HTML label for this action displayed in the Subgrid row. This setting is required.
Advanced Settings	
Button Tooltip	Overrides the tooltip text that appears when the mouse is hovered over the button for this action displayed in the subgrid row.

Disassociate action

Enabling a **Disassociate Action** allows a user to remove the link between the record represented by the currently viewed Define entity forms and custom logic within the Dynamics 365 portal and the record represented by the selected row in the subgrid, as long as the 'Append' and 'AppendTo' privileges have been granted by Add record-based security using entity permissions for portals for the applicable entity types.

Disassociate action settings

Name	Description
Basic Settings	
None	
Advanced Settings	

Name	Description
Button Label	Overrides the HTML label for this action displayed in the Subgrid row.
Button Tooltip	Overrides the tooltip text that appears when the mouse is hovered over the button for this action displayed in the subgrid row.

See also

Configure a Dynamics 365 portal
Define entity forms and custom logic within the Dynamics 365 portal
Web Form properties for portals
Web Form steps for portals
Web Forms metadata for portals
Notes configuration for Web Forms for portals

Notes configuration for web forms for portals

Applies To: Dynamics 365 (online), Dynamics CRM Online

Web Form Notes are configured in an identical fashion to Entity Form Notes. First, Create a Metadata record for the Web Form Step that has notes, and add configuration metadata. This process is described here.

Just like with Subgrids, adding notes to your Managed forms on the portal is easy - just add the notes control to the Dynamics 365 form through the out-of-the-box Dynamics 365 form designer and you're done. You can configure the behavior of the notes control by using metadata.

Note

Explicit Add record-based security using entity permissions for portals are **required** for any notes to appear on the portal. For read and edit, the 'Read' and 'Write' privileges must be granted. For create, two permissions must exist, a permission with the 'Create' and 'Append' privileges must be granted for the note (annotation) entity, the second permission must be assigned to the entity type the note is being attached to with the 'Append To' privilege granted.

To Edit or Add notes, among other things, you must configure the control using a metadata record.

To add Metadata to an Entity form, navigate to **Entity Form Metadata** either using the top drop-down or the subgrid right on the main form of the Entity Form record that you are working with. Then click to add a new record.

When Creating your record, select Type of Notes. You will then be able to add Note configuration:

Upon adding the Configuration, the Note control will render with the appropriate options enabled on the portal.

Most settings are shown collapsed to save space by default. Click "" to expand a section and see additional options. Click "" to collapse a section.

Attributes

Name	Description
Basic Settings	
Create Enabled	Enables the ability to add new Notes to the entity.
Create Dialog Options	Contains settings for configuring the dialog when **Create Enabled** is true. See Create Dialog Options for more details.
Edit Enabled	Enables the ability to edit existing Notes on the entity.
Edit Dialog Options	Contains settings for configuring the dialog when **EditEnabled** is true. See Edit Dialog Options for more details.
Delete Enabled	Enables the ability to delete Notes from the entity.
Delete Dialog Options	Contains settings for configuring the dialog when **DeleteEnabled** is true. See Delete Dialog Options for more details.
Advanced Settings	
List Title	Overrides the title over the Notes area.
Add Note Button Label	Overrides the label in the Add Notes button.
Note Privacy Label	Overrides the label denoting that a note is Private.
Loading Message	Overrides the message shown while the list of notes is loading.
Error Message	Overrides the message shown when an error occurs while trying to load the list of notes.

Name	Description
Access Denied Message	Overrides the message shown when the user does not have sufficient permissions to view the list of notes.
Empty Message	Overrides the message shown when the current entity does not have any notes that can be viewed.
List Orders	Allows you to set the order in which notes will be displayed.  • Attribute - the logical name of the column by which you wish to sort • Alias - the alias for the attribute in the query • Direction - Choose Ascending (smallest to largest, or first to last), or Descending (largest to smallest, or last to first). To add a sorting rule, click " Column" (4) and fill in the details. List Orders will be processed in order from the top of the list having highest priority.

Create dialog options

Name	Description
Basic Settings	
Display Privacy Options Field	Enables a checkbox in the Add Note dialog that allows the user to mark a note as Private.
Privacy Option Field Default Value	Specifies the default value for the Display Privacy Options Field checkbox. The default value of this field is "false".
Display Attach File	Enables a file upload field in the Add Note dialog, allowing a user to attach a file to a note.
Attach File Accept	The MIME type accepted by the file upload input.
Advanced Settings	
Note Field Label	Overrides the label for the Note field in the Add Note dialog.
Note Field Columns	Sets the `cols` value in the Note `<textarea>`
Note Field Rows	Sets the `rows` value in the Note `<textarea>`

Name	Description
Privacy Option Field Label	Overrides the label for the Privacy Option field (if enabled).
Attach File Label	Overrides the label for the Attach File field (if enabled)
Left Column CSS Class	Adds the CSS class or classes to the left column containing labels on the Add Note dialog.
Right Column CSS Class	Adds the CSS class or classes to the right column containing field inputs on the Add Note dialog.
Title	Overrides the HTML text in the header of the Add Note dialog.
Primary Button Text	Overrides the HTML that appears in the Primary ("Add Note") button on the dialog.
Dismiss Button SR Text	Overrides the screen reader text associated with the dialog's dismiss button.
Close Button Text	Overrides the HTML that appears in the Close ("Cancel") button on the dialog.
Size	Specifies the size of the Add Note dialog. The Options are Default, Large, and Small. For the Add Note dialog, the default size is Default.
CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog.
Title CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog's title bar.
Primary Button CSS Class	Specify a CSS class or classes that will be applied to the dialog's Primary ("Add Note") button.
Close Button CSS Class	Specify a CSS class or classes that will be applied to the dialog's Close ("Cancel") button.

Edit dialog options

Name	Description
Basic Settings	
Display Privacy Options Field	Enables a checkbox in the Edit Note dialog that allows the user to mark a note as Private.
Privacy Option Field Default Value	Specifies the default value for the Display Privacy Options Field checkbox. The default value of this field is "false".
Display Attach File	Enables a file upload field in the Edit Note dialog, allowing a user to attach a file to a note.

Name	Description
Attach File Accept	The MIME type accepted by the file upload input.
Advanced Settings	
Note Field Label	Overrides the label for the Note field in the Edit Note dialog.
Note Field Columns	Sets the `cols` value in the Note `<textarea>`
Note Field Rows	Sets the `rows` value in the Note `<textarea>`
Privacy Option Field Label	Overrides the label for the Privacy Option field (if enabled).
Attach File Label	Overrides the label for the Attach File field (if enabled)
Left Column CSS Class	Adds the CSS class or classes to the left column containing labels on the Edit Note dialog.
Right Column CSS Class	Adds the CSS class or classes to the right column containing field inputs on the Edit Note dialog.
Title	Overrides the HTML text in the header of the Edit Note dialog.
Primary Button Text	Overrides the HTML that appears in the Primary ("Update Note") button on the dialog.
Dismiss Button SR Text	Overrides the screen reader text associated with the dialog's dismiss button.
Close Button Text	Overrides the HTML that appears in the Close ("Cancel") button on the dialog.
Size	Specifies the size of the Edit Note dialog. The Options are Default, Large, and Small. For the Edit Note dialog, the default size is Default.
CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog.
Title CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog's title bar.
Primary Button CSS Class	Specify a CSS class or classes that will be applied to the dialog's Primary ("Update Note") button.
Close Button CSS Class	Specify a CSS class or classes that will be applied to the dialog's Close ("Cancel") button.

Delete dialog options

Name	Description
Basic Settings	

Name	Description
Confirmation	Override the confirmation message to delete the note.
Advanced Settings	
Title	Overrides the HTML text in the header of the Delete Note dialog.
Primary Button Text	Overrides the HTML that appears in the Primary ("Delete") button on the dialog.
Dismiss Button SR Text	Overrides the screen reader text associated with the dialog's dismiss button.
Close Button Text	Overrides the HTML that appears in the Close ("Cancel") button on the dialog.
Size	Specifies the size of the Delete Note dialog. The Options are Default, Large, and Small. For the Delete Note dialog, the default size is Default.
CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog.
Title CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog's title bar.
Primary Button CSS Class	Specify a CSS class or classes that will be applied to the dialog's Primary ("Delete") button.
Close Button CSS Class	Specify a CSS class or classes that will be applied to the dialog's Close ("Cancel") button.

See also

Configure a Dynamics 365 portal
Define entity forms and custom logic within the Dynamics 365 portal
Web Form properties for portals
Web Form steps for portals
Web Forms metadata for portals
Web Form subgrid configuration for portals

Add a webpage to render a list of records

Applies To: Dynamics 365 (online), Dynamics CRM Online

Entity List is a data-driven configuration that provides you with the ability to add a webpage that will render a list of records without the need for a developer to surface the grid in the portal. Using Entity List, you can expose Dynamics 365 records for display on portals.

The grid supports sorting and will be paginated if the number of records is larger than the Page Size specified. If the Web Page for Details View has been specified, each record will contain a link to the page and the ID of the record will be appended to the Query String along with the ID Query String Parameter Name. The Entity List also supports multiple views. If more than one view has been specified, a drop-down will rendered to allow the user to toggle between the various views.

The data can also be filtered by the current portal user, the current portal user's Parent Customer, and the current portal website. If a value exists for both filter conditions Portal User Attribute and Account Attribute, the portal will render a drop-down to allow the user to view 'My' data or his/her Parent Customer account's data.

Add an entity list to your portal

The Entity List contains relationships to webpages and various properties in order to control the initialization of the list of records within the portal. The relationship to Web Page allows dynamic retrieval of the list definition for a given page node within the website. To view existing Entity Views or to create new Entity Views, navigate to **Portals** > **Entity Lists**

Note

A Entity List must be associated with a Web Page for a given website for the list to be viewable within the site.

The Web Pages associated with the Entity List can be viewed by clicking the **Web Pages** link listed in the **Related** navigation links in the leftmost menu. When Creating your Entity List, the first step is to choose the Entity for which you want to render a list on the portal. You'll then choose one or more Dynamics 365 Views to render.

When creating or editing a Web Page, an Entity List can be specified in the lookup field provided on the Web Page form. The Page Template typically will be the "Page" template but can be one of several other templates designed for content as the master templates contain the necessary logic to determine if an Entity List should be rendered.

Entity list attributes and relationships

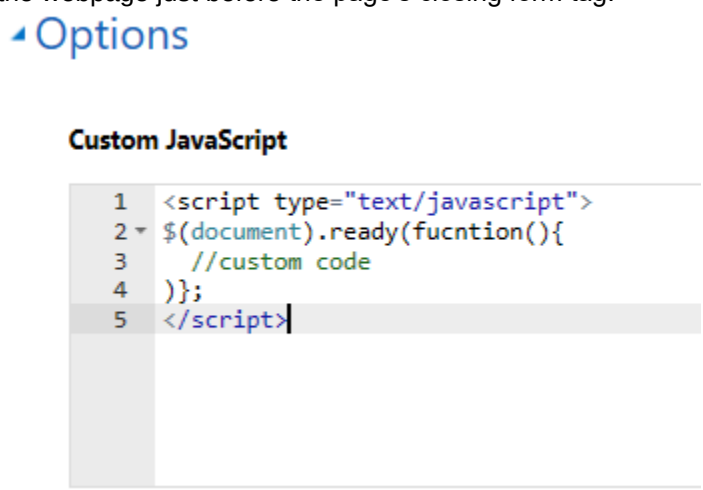
Name	Description
Name	The descriptive name of the record. This field is required.
Entity Name	The name of the entity from which the Saved Query View will be loaded from. This field is required.
View	The Saved Query View(s) of the target entity that is to be rendered. This field is required. If more than one view has been specified, the webpage will contain a drop-down to allow the user to toggle between the various views.
Page Size	An integer value that specifies the number of records per page. This field is required. Default: 10

Web Page for Details View	An optional Web Page that can be linked to for each record. The ID Query String Parameter Name and record ID will be appended to the Query String of the URL to this Web Page.
Details Button Label	The text displayed for the details view button if Web Page for Details View has been specified. Default: View details *For each language pack installed and enabled for the Dynamics 365 organization, a field will be available to enter the message in the associated language.*
Web Page for Create	An optional Web Page that will be the target of the create button.
Create Button Label	The text displayed for the create button if Web Page for Create has been specified. Default: Create *For each language pack installed and enabled for the Dynamics 365 organization a field will be available to enter the message in the associated language.*
ID Query String Parameter Name	A parameter name provided in the query string of the URL to the Web Page for Details View. Default: id
Empty List Text	The message displayed when there are no records. *For each language pack installed and enabled for the Dynamics 365 organization a field will be available to enter the message in the associated language.*
Portal User Attribute	An optional lookup attribute on the primary entity that represents the portal user record, either contact or system user that the current user's ID can be applied to filter the data rendered in the list.
Account Attribute	An optional lookup attribute on the primary entity that represents an account record that the current user contact's Parent Customer value can be applied to filter the data rendered in the list.
Website Attribute	An optional lookup attribute on the primary entity that represents the website that the current website's ID can be applied to filter the data rendered in the list.
Search Enabled	An optional Boolean value indicating if search should be enabled or not. A textbox will be rendered to allow users to do a quick search for records. Use asterisk (*) wildcard character to search on partial text. The search appends 'or' condition filters for each column in the view to the view's existing predefined filter conditions to query and return the resulting records.
Search Placeholder Text	An optional string used as the label displayed in the textbox on initial load.

Search Tooltip Text	An optional string used as the tooltip displayed when the mouse moves over the search textbox.

Add custom Javascript

The Options tab on the form contains a text area that you can enter custom JavaScript and if your page includes jQuery library then you can use that here as well. The script block will be added at the bottom of the webpage just before the page's closing form tag.



The list gets its data asynchronously and when it is complete it will trigger an event "loaded" that your custom JavaScript can listen for and do something with items in the grid. The following is a trivial example:

```
$(document).ready(function (){
  $(".entitylist.entity-grid").on("loaded", function () {
     $(this).children(".view-grid").find("tr").each(function (){
        // do something with each row
        $(this).css("background-color", "yellow");
     });
  });
});
```

Find a particular attribute field and get its value to possibly modify the rendering of the value. The following gets each cell that is for the attribute named 'accountnumber'. Replace 'accountnumber' with attribute appropriate for your entity and view.

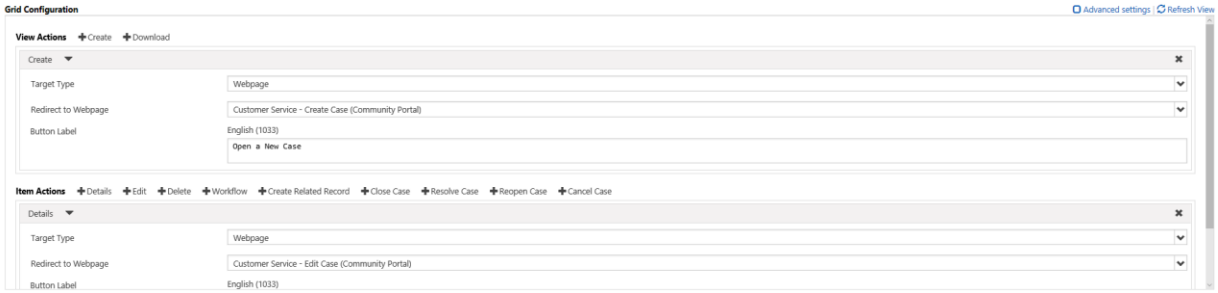
```
$(document).ready(function (){
   $(".entitylist.entity-grid").on("loaded", function () {
       $(this).children(".view-grid").find("td[data-attribute='accountnumber']").each(function
(i, e){
         var value = $(this).data("value");
         // now that you have the value you can do something to the value
      });
```

```
    });
});
```

Entity list configuration

You can easily enable and configure actions for records in an Entity List (Create, Edit, Delete, and so on). It is also possible to override default labels, sizes, and other attributes so that the Entity List will be displayed exactly the way you want.

These settings are found in the Configuration section of the Entity List form. By default, only **Basic Settings** are shown. Select **Advanced Settings** to see additional settings.



Attributes

Name	Description
Basic Settings	
View Actions	Allows you to add action buttons for actions that are applicable for the entity set and will appear above the grid. The available actions are: • Create Action • Download Action Selecting one of these options displays a configuration area for that action. See below for details about each action.
Items Actions	Allows you to add action buttons for actions that are applicable for an individual record and will appear for each row in the grid, provided the appropriate privilege has been granted by Entity Permissions. The actions generally available are: • Details Action • Edit Action • Delete Action • Workflow Action • Activate Action

	• Deactivate Action Selecting one of these options displays a configuration area for that action. See below for details about each action. Furthermore, certain entities have special actions that are available to them on a per-entity basis: • Calculate Value of Opportunity (opportunity) • Cancel Case Action (incident) • Close (resolve) Case Action (incident) • Convert Quote to Order (quote) • Convert Order to Invoice (salesorder) • Generate Quote from Opportunity (opportunity) • Lose Opportunity Action (opportunity) • Win Opportunity Action (opportunity) • Reopen Case Action (incident) • Set Opportunity on Hold (opportunity)
Override Column Attributes	Allows you to override display settings for individual columns in the grid. 1. Attribute - the logical name of the column you wish to override 2. Display Name - a new column title to override the default 3. Width - the width (in either percent or pixels) of the column to override the default. See also Grid Column Width Style To override settings on a column, click " + Column" and fill in the details.
Advanced Settings	
Loading Message	Overrides the default HTML message that appears while the grid is loading.
Error Message	Overrides the default HTML message that appears when an error occurs while loading the grid.
Access Denied Message	Overrides the default HTML message that appears when a user does not have sufficient Entity Permissions to view the Entity List.
Empty Message	Overrides the HTML message that appears when the grid contains no data.
Details Form Dialog	Controls the settings for the dialog that appears when a user activates the Details Action
Edit Form Dialog	Controls the settings for the dialog that appears when a user activates the Edit Action
Create Form Dialog	Controls the settings for the dialog that appears when a user activates the Create Action
Delete Dialog	Controls the settings for the dialog that appears when a user activates the Delete Action

Error Dialog	Controls the settings for the dialog that appears when an error occurs during any action.
CSS Class	Specify a CSS class or classes that will be applied to the HTML element that contains the entire grid area, including the grid and action buttons.
Grid CSS Class	Specify a CSS class or classes that will be applied to the Entity List's HTML <table> element.
Grid Column Width Style	Configures whether the **Width** values in the Override Column Attributes are specified in Pixels or Percent.

General action settings

In general, Entity Actions have settings that can be configured. In all cases, this is to give you more options in terms of customization, and the fields are not required. Simply adding the action will allow the action to be taken on the portal, provided the appropriate privilege has been granted by Entity Permissions.

Generally, you can configure the corresponding dialog for each action, which will appear only if you select **Confirmation Required**.

Name	**Description**
Basic Settings	
Confirmation Required?	Determines whether a confirmation will prompt the user to confirm when the action is clicked.
Advanced Settings	
Confirmation	Overrides the confirmation HTML message displayed when the user activates the Action.
Button Label	Overrides the HTML label for this action displayed in the Entity List row.
Button Tooltip	Overrides the tooltip text that appears when the mouse is hovered over the button for this action displayed in the Entity List row.
Button CSS Class	Adds a CSS class to the Button. Designed to be used in conjunction with
Redirect to Webpage	Some actions (not all) allow a redirect upon the completion of the action. Highly Recommended for the delete action, optional in most other cases. This allows you to choose a webpage to redirect to upon action completion.
Redirect URL	An alternative to the Redirect to Webpage option - allows to redirecting to a specific URL.

General dialog (advanced) settings

Name	**Description**
Title	Overrides the HTML that appears in the title bar of the dialog.
Primary Button Text	Overrides the HTML that appears in the Primary ("Delete") button on the dialog.

Closer Button Text	Overrides the HTML that appears in the Close ("Cancel") button on the dialog.
Dismiss Button Sr Text	Overrides the screen reader text associated with the dialog's dismiss button.
Size	Specifies the size of the Delete Dialog. The Options are Default, Large, and Small. For the Delete dialog, the default size is Default.
CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog.
Tile CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog's title bar.
Primary Button CSS Class	Specify a CSS class or classes that will be applied to the dialog's Primary ("Delete") button.
Close Button CSS Class	Specify a CSS class or classes that will be applied to the dialog's Close ("Cancel") button.

Create action settings

Enabling a **Create Action** renders a button above the Entity List that, when clicked, pops up a dialog with an Entity Form that allows a user to create a new record provided the 'Create' privilege has been granted by Entity Permissions.

Name	**Description**
Basic Settings	
Entity Form	Specifies the Entity Form that will be used to create the new record. The drop-down will list all Entity Forms that are configured for the Entity List's entity type. **Note**: If the Entity List's entity type has no Entity Forms, the drop-down list will appear empty. If no Entity Form is supplied for the Create Action, it will be ignored and the button will not render on the Entity List.
Advanced Settings	
Button Label	Overrides the HTML label displayed in the Create Action button above the list.
Button Tooltip	Overrides the tooltip text that appears when the cursor hovers over the Create Action button.

Create Form Dialog (Advanced Settings)

Name	**Description**
Loading Message	Overrides the message that appears while the dialog is loading
Title	Overrides the HTML that appears in the title bar of the dialog
Dismiss Button Sr Text	Overrides the screen reader text associated with the dialog's dismiss button.
Size	Specifies the size of the Create Form dialog. The Options are Default, Large, and Small. For the Create Form dialog, the default size is Large.

CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog.
Title CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog's title bar.

Download action settings

Enabling a **Download Action** renders a button above the Entity List that, when clicked, downloads the data from the list to an Excel (.xlsx) file.

Name	Description
Basic Settings	
None	
Advanced Settings	
Button Label	Overrides the HTML label displayed in the Download Action button above the Entity List.
Button Tooltip	Overrides the tooltip text that appears when the mouse is hovered over the Download Action button.

Details action settings

Enabling a **Details Action** allows a user to view a read-only Entity Form of a selected row in the Entity List.

Name	Description
Basic Settings	
Entity Form	Specifies the Entity Form that will be used to view the details of the selected entity. The drop-down will list all Entity Forms that are configured for the Entity List's entity type. Note: If the Entity List's entity type has no Entity Forms, the drop-down list will appear empty. If no Entity Form is supplied for the Details Action it will be ignored, and the button will not render in the Entity List.
Advanced Settings	
Record ID Query String Parameter Name	Specifies the name of the query string parameter that will be used to select the entity to view in the selected Entity Form. This should match the value in that Entity Form's Record ID Query String Parameter Name. The default value for this field, both here and in Entity Form configuration, is "id".
Button Label	Overrides the HTML label for this action displayed in the Entity List row.
Button tooltip	Overrides the tooltip text that appears when the mouse is hovered over the button for this action displayed in the Entity List row.

Details form dialog (advanced) settings

Name	Description
Loading Message	Overrides the HTML that appears when the dialog is loading.
Title	Overrides the HTML that appears in the title bar of the dialog.
Dismiss Button Sr Text	Overrides the screen reader text associated with the dialog's dismiss button.
Size	Specifies the size of the Details dialog. The Options are Default, Large, and Small. For the Details dialog, the default size is Large.
CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog.
Title CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog's title bar.

Edit action settings

Enabling an **Edit Action** allows a user to view an editable Entity Form that is data-bound to the record of the selected row from the Entity List provided the 'Write' privilege has been granted by Entity Permissions.

Name	Description
Basic Settings	
Entity Form	Specifies the Entity Form that will be used to edit the selected entity. The drop-down will list all Entity Forms that are configured for the Entity List's entity type. Note: If the Entity List's entity type has no Entity Forms, the drop-down will appear empty. If no Entity Form is supplied for the Edit Action it will be ignored, and the button will not render in the Entity List.
Advanced Settings	
Record ID Query String Parameter Name	Specifies the name of the query string parameter that will be used to select the entity to edit in the selected Entity Form. This should match the value in that Entity Form's Record ID Query String Parameter Name. The default value for this field, both here and in Entity Form configuration, is "id".
Button Label	Overrides the HTML label for this action displayed in the Entity List row.
Button Tooltip	Overrides the tooltip text that appears when the mouse is hovered over the button for this action displayed in the Entity List row.

Edit form dialog (advanced) settings

Name	Description
Loading Message	Overrides the HTML that appears when the dialog is loading.
Title	Overrides the HTML that appears in the title bar of the dialog.
Dismiss Button Sr Text	Overrides the screen reader text associated with the dialog's dismiss button.

Size	Specifies the size of the Edit dialog. The Options are Default, Large, and Small. For the Edit dialog, the default size is Large.
CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog.
Title CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog's title bar.

Delete action settings

Enabling a **Delete Action** allows a user to permanently delete the record of the selected row from the Entity List provided the 'Delete' privilege has been granted by Entity Permissions.

Name	Description
Basic Settings	
none	
Advanced Settings	
Confirmation	Overrides the confirmation HTML message displayed when the user activates the Delete Action.
Button Label	Overrides the HTML label for this action displayed in the Entity List row.
Button Tooltip	Overrides the tooltip text that appears when the mouse is hovered over the button for this action displayed in the Entity List row.

Delete dialog (advanced) settings

Name	Description
Title	Overrides the HTML that appears in the title bar of the dialog.
Primary Button Text	Overrides the HTML that appears in the Primary ("Delete") button on the dialog.
Close Button Text	Overrides the HTML that appears in the Close ("Cancel") button on the dialog.
Dismiss Button Sr Text	Overrides the screen reader text associated with the dialog's dismiss button.
Size	Specifies the size of the Delete Dialog. The Options are Default, Large, and Small. For the Delete dialog, the default size is Default.
CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog.
Title CSS Class	Specify a CSS class or classes that will be applied to the resulting dialog's title bar.
Primary Button CSS Class	Specify a CSS class or classes that will be applied to the dialog's Primary ("Delete") button.
Close Button CSS Class	Specify a CSS class or classes that will be applied to the dialog's Close ("Cancel") button.

Workflow action settings

Enabling a **Workflow Action** allows a user to run an On-Demand Workflow against the record of the selected row from the Entity List. You may add any number of Workflow Actions to the Entity List.

Name	Description
Basic Settings	
Workflow	Specifies the On-Demand Workflow that will run when the user activates this action. Note: If the Entity List's entity type has no Workflows, the drop-down will appear empty. If no Workflow is supplied for the Workflow Action it will be ignored, and the button will not render in the Entity List.
Button Label	Sets the HTML label for this action displayed in the Entity List row. This setting is required.
Advanced Settings	
Button Tooltip	Overrides the tooltip text that appears when the mouse is hovered over the button for this action displayed in the Entity List row.

Securing entity lists

To secure an entity list, you must configure Entity Permissions for the Entity for which records are being displayed and also set the "Enable Entity Permissions" Boolean value on the Entity List record in Dynamics 365 to true.

The act of securing an Entity List will ensure that for any user that accesses the page, only records that they have been given permission to are shown. This is achieved by an additional filter being added to the Dynamics 365 views that are being surfaced via the list. This filter will filter for only records that are accessible to the user, via **Read** permission.

Further to this, any actions that are defined for the List will respect the corresponding permissions for that action, on a per-record basis. i.e., if you have Edit for a record, the Edit action will be enabled for that record. Same applies for Delete, Create, etc.

Note that if no records are available, a message indicating this will be shown when the list is loaded.

However, good website design determines that if a user is not in a role that has any permissions for the entity (that is, there will never be a situation where they should see any records), they should not have access to the page at all. Ideally, the page should be protected with Webpage Access Permissions.

Adding a view details page

By setting the Web Page for Details View lookup to a Web Page, the details of a record listed in the grid can be viewed as read-only or edited, depending on the configuration of the associated form or page.

This page can be a completely custom page template, perhaps created with Liquid. The most common scenario is probably to have the details page be a webpage that either contains an Entity Form or Web Form.

The important thing to be aware of is that each record listed in the grid will have a hyperlink to the details page, and the link will contain a named Query String parameter with the ID of the record. The name of the Query String parameter depends on the ID Query String Parameter Name specified on the Entity List. The final thing to note is that the targeted details webpage must also be aware of the name of this Query String parameter to get the ID of the record that it needs to query and load its data.

Using entity form to display details

To create an Entity Form please refer the instructions found on the Entity Form page.

The following are the important settings to be aware of for ensuring the record from the Entity List is loaded in the Entity Form.

The Record ID Query String Parameter Name on Entity Form must match the ID Query String Parameter Name on Entity List.

The Mode can be either Edit or ReadOnly depending on your needs.

Using web form to display details

To create a Web Form, please refer the instructions found on the Web Form pages.

The following are the important settings to be aware of for ensuring the record from the Entity List is loaded in the Web Form.

The Primary Key Query String Parameter Name on Web Form Step must match the ID Query String Parameter Name on Entity List.

The Mode can be either Edit or ReadOnly depending on your needs.

Using a details page for create

You can use a custom page, Entity Form, or Web Form, in the same fashion for the create function. This is an alternative to defining a Create Action on the form. You cannot define both a create action *and* a custom page for Create: defining a custom action takes precedence.

If you assign a Web Page to the Create Lookup on the Entity List, and do not specify a Create Action by using Configuration, then a create button will be rendered on the list which will link the user to the custom page you have designated for Create.

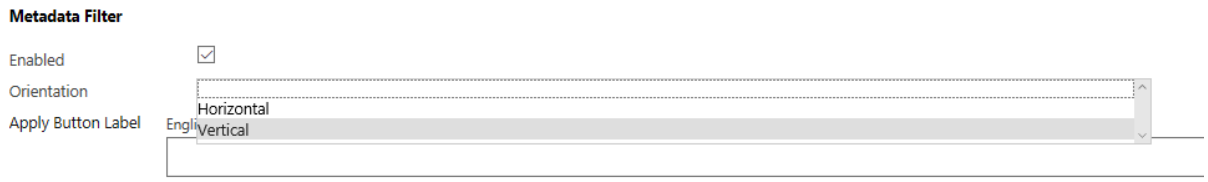
Entity list filter configuration

Adding the ability to filter records on an Entity List is easy - simply enable the filtering option and then choose one or more filter types to display to users. It is possible to filter by an attribute matching some text provided by the user, or to select from a series of options. You can even design virtually any type of filter you can imagine by using Advanced Find in Dynamics 365.

Enable the entity list filter

In the Metadata Filter section, check the box labeled Enabled. This will add the filter area to the Entity List when it is displayed. Until you have defined at least one filter type, the box will appear empty.

You can define how the Filter area on the Entity List will rendered using the Orientation. The default, Horizontal, renders the Filter area above the Entity List. Vertical Orientation renders the Filter area as a box to the left of the Entity List.



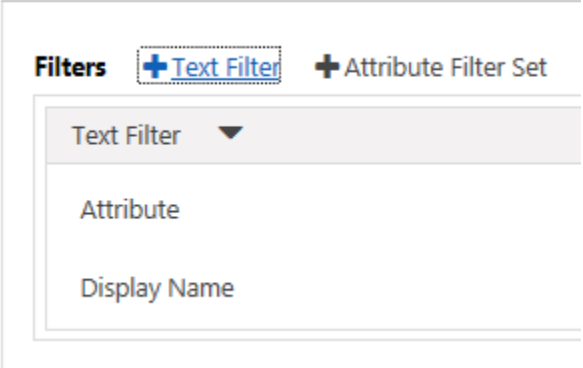
Filter types

Filter Type	Description
Text Filter	Filter the Entity List using a textbox to search for matching text in a selected Attribute of the given Entity.
Attribute Filter Set	Filter the Entity List using a series of checkboxes, each of which tries to match its condition against a particular Attribute of the given Entity.
Lookup Set	Filter the Entity List using a series of checkboxes, each of which represents a Relationship between a Record for the given Entity and a Record for a related Entity.
Range Filter Set	Similar to the Attribute Filter Set, except that each checkbox can represent two conditions rather than one (for example, "greater than or equal to 0 AND less than 100").
Dynamic Picklist Set	Similar to choosing a Picklist value on an Attribute Filter Set. The Dynamic Picklist Set does not require that you specify the picklist options to filter by; instead, it generates the full list of options when the Entity List is loaded.
Dynamic Lookup Set	Similar to the Lookup Set. The Dynamic Lookup Set does not require that you specify the lookup options to filter by; instead, it generates the full list of options when the Entity List is loaded.
FetchXML Filter	Filter the Entity List using a FetchXML filter condition.

Text filter

The Text Filter adds a textbox to the Entity List Filter area that is tied to an attribute of the Entity List's Entity Type. When a user applies the filter, the Entity List only displays those records whose selected attribute contains the value.

To add a Text Filter, click " + Text Filter":

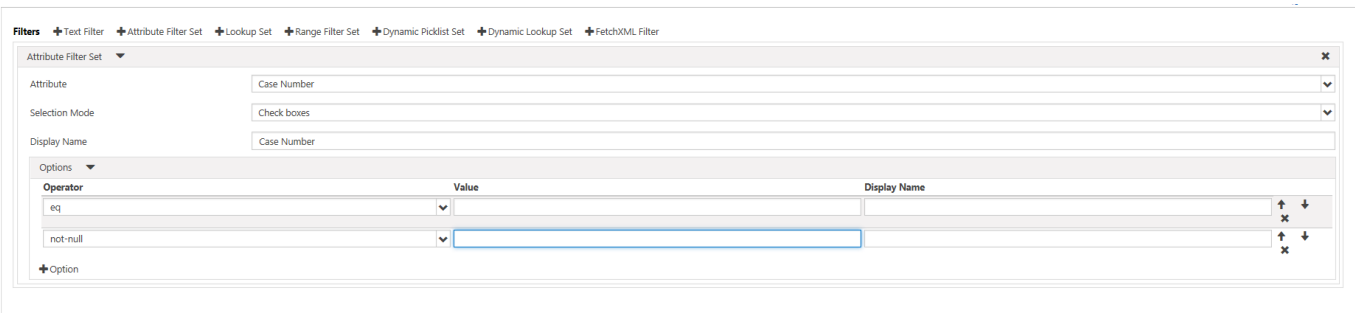


The Text Filter uses the following attributes:

Name	Description
Attribute	The name of the Attribute on the Entity List's selected Entity Type to filter by. *Only attributes with the type "String" are valid for a Text Filter.*
Display Name	Override the label for the Filter when the Entity List is displayed. By default, this will be automatically set to the name of the selected Attribute.

Attribute filter set

The Attribute Filter Set adds a series of options to filter the Entity List by, tied to a single attribute of the Entity List's selected Entity Type. When a user applies the filter, the Entity List only displays those records that exactly match at least one of the selected options.



The Attribute Filter Set uses the following attributes:

Name	Description
Attribute	The name of the Attribute on the Entity List's selected Entity Type to filter by. Only attributes with the following types are valid for a Text Filter: • String • BigInt • Decimal • Double • Integer • Money

	• Picklist • DateTime • Boolean
Display Name	Override the label for the Filter when the Entity List is displayed. By default, this will be automatically set to the name of the selected Attribute.
Options	A collection of possible values to filter by. See below for more details.

Attribute filter set options

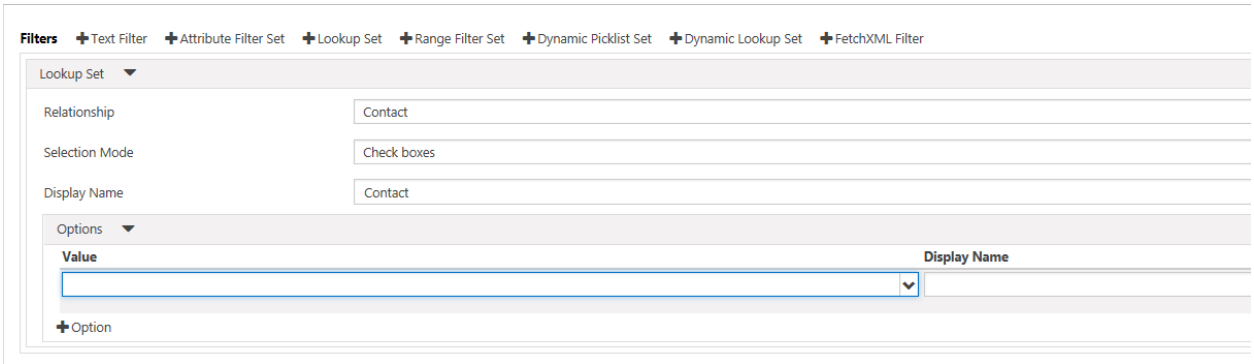
An Attribute Filter Set can usually have any number of options, with the exceptions of Picklist and Boolean attributes. A Boolean Attribute Filter Set can have only one or two options— one true option and one false option. A Picklist Attribute Filter Set can have at most one option for each possible value in the Picklist.

Options have the following attributes:

Name	Description
Operator	The comparison operator used to filter results, for example Equals, Less Than, and so on. The list of Operators for the option will depend on the type of the Attribute selected for the Filter. For example, numeric types ("Decimal") will have Operators such as "Less Than" or "Greater Than", whereas "String" attributes will use Operators such as "Begins With" or "Contains". Picklist and Boolean operators are always "Equals".
Value	The actual value used for this filter condition.
Display Name	Overrides the display name for this Option in the Filter box. By default, this will be set to the same value as the Value attribute.

Lookup set

The Lookup Set adds a series of options to filter the Entity List by, tied to a related entity to the Entity List's selected Entity Type. When a user applies the filter, the Entity List only displays those records that exactly match at least one of the selected related records.



The Lookup Set uses the following attributes:

Name	Description

Relationship	The name of the Related Entity to the Entity List's selected Entity Type to filter by. Only entities with a one-to-many or many-to-many relationship with the Entity List's selected Entity Type appear as options for this filter type.
Display Name	Override the label for the Filter when the Entity List is displayed. By default, this will be automatically set to the name of the selected Relationship.
Options	A collection of possible values to filter by. See below for more details.

Lookup set options

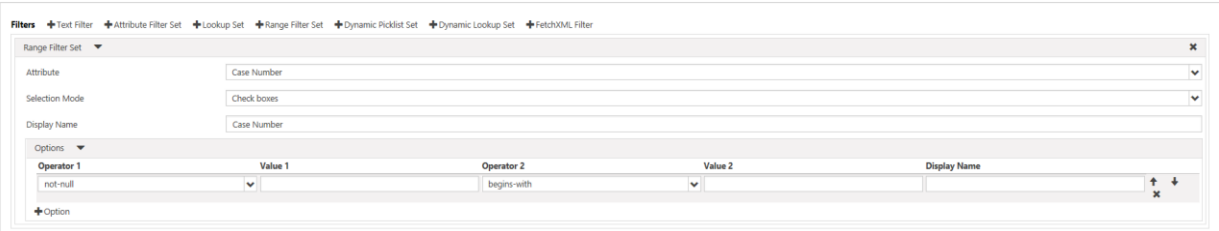
A Lookup Set can typically have any number of options, with the only limit being the number of related records of the selected related type.

Options have the following attributes:

Name	Description
Value	The record of the selected related type to filter by.
Display Name	Overrides the display name for this Option in the Filter box. By default, this will be set to the same value as the Value attribute.

Range filter set

The Range Filter Set adds a series of options, each with one or two conditions, to the Filter area. When a user applies the filter, the Entity List only displays those records that exactly matches all conditions on at least one of the selected options.



The Range Filter Set Uses the following attributes:

Name	Description
Attribute	The name of the Attribute on the Entity List's selected Entity Type to filter by. Only attributes with the following types are valid for a Text Filter: • String • BigInt • Decimal • Double • Integer • Money • DateTime

Display Name	Override the label for the Filter when the Entity List is displayed. By default, this will be automatically set to the name of the selected Attribute.
Options	A collection of possible values to filter by. See below for more details.

Range filter set options

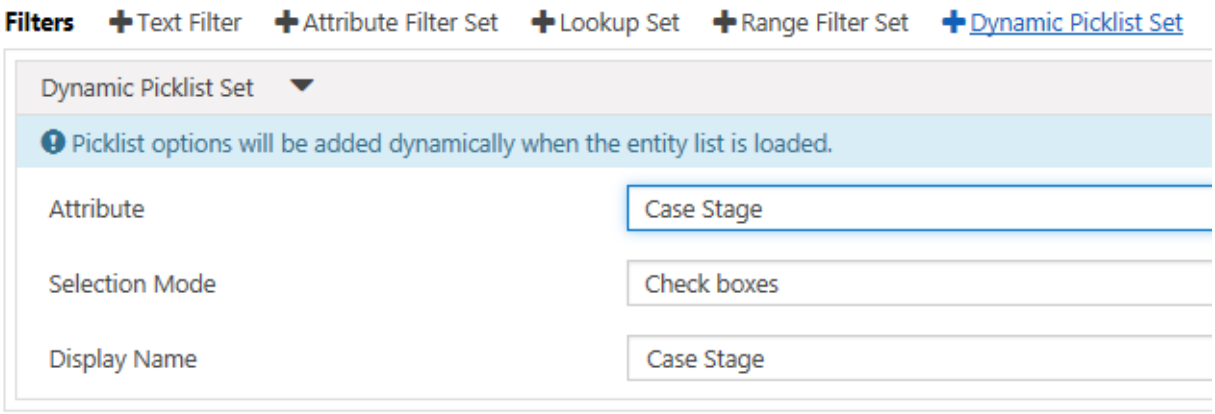
A Range Filter Set can have any number of options. Each option will produce a filter condition with either one or two subconditions, both of which must be met for the condition to be true.

Options have the following attributes:

Name	Description
Operator 1	The first comparison operator used to filter results, e.g. "Equals", "Less Than", etc. The list of Operators for the option will depend on the type of the Attribute selected for the Filter. For example, numeric types ("Decimal") will have Operators such as "Less Than" or "Greater Than", whereas "String" attributes will use Operators such as "Begins With" or "Contains". Picklist and Boolean operators are always "Equals".
Value 1	The first value used for this filter condition.
Operator 2 (optional)	The second comparison operator used to filter results, e.g. "Equals", "Less Than", etc. The list of Operators for the option will depend on the type of the Attribute selected for the Filter. For example, numeric types ("Decimal") will have Operators such as "Less Than" or "Greater Than", whereas "String" attributes will use Operators such as "Begins With" or "Contains". Picklist and Boolean operators are always "Equals".
Value 2 (optional)	The second value used for this filter condition.
Display Name	Overrides the display name for this Option in the Filter box. By default, this will be set dynamically based on the operator(s) and value(s) selected.

Dynamic picklist set

The Dynamic Picklist Set adds a series of options to filter by that represent all the values of a specified Picklist field. This is different from selecting a Picklist in the Attribute Filter Set. In the Attribute Filter Set, you must specify a set of options that will be made available to the user to filter by; in the Dynamic Picklist Set, you need only specify the Picklist field and the entire set of options will be provided automatically. If you need greater control, we recommend that you use the Attribute Filter Set.



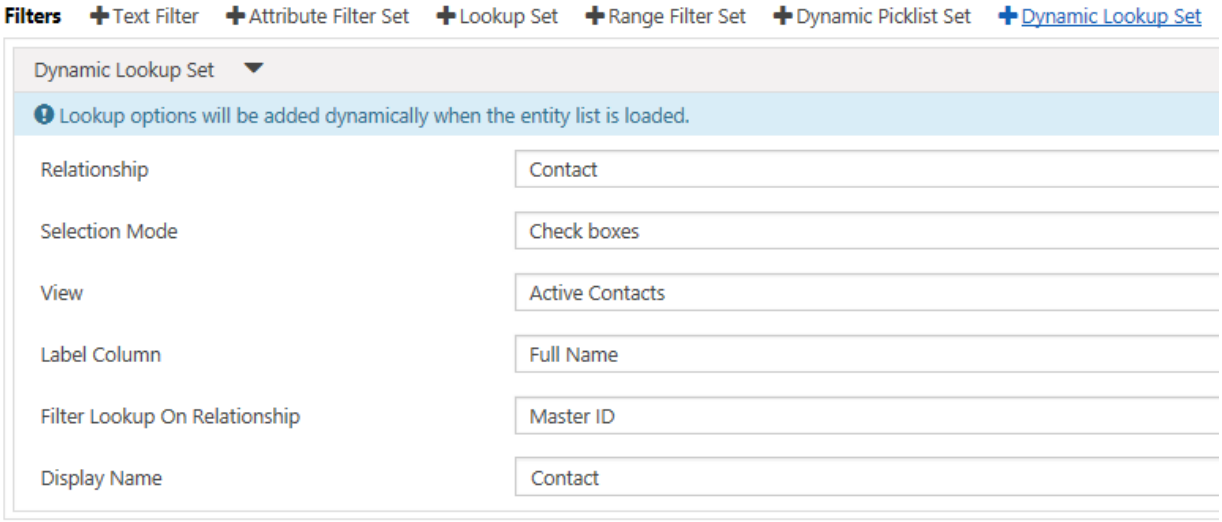
The Dynamic Picklist Set uses the following options:

Name	Description
Attribute	The name of the Picklist Attribute on the Entity List's selected Entity Type to filter by.
Display Name	Override the label for the Filter when the Entity List is displayed. By default, this will be automatically set to the name of the selected Attribute.

Dynamic lookup set

The Dynamic Lookup Set adds a dynamic series of options to filter the Entity List by, tied to a related entity to the Entity List's selected Entity Type. When a user applies the filter, the Entity List only displays those records that exactly match at least one of the selected related records.

This is different from a Lookup Set. In the Lookup Set, you must manually specify the related entities to filter by; In the Dynamic Lookup Set, you need only specify the relationship on which to filter, and a list of options will be generated based on the specified View of related entities.



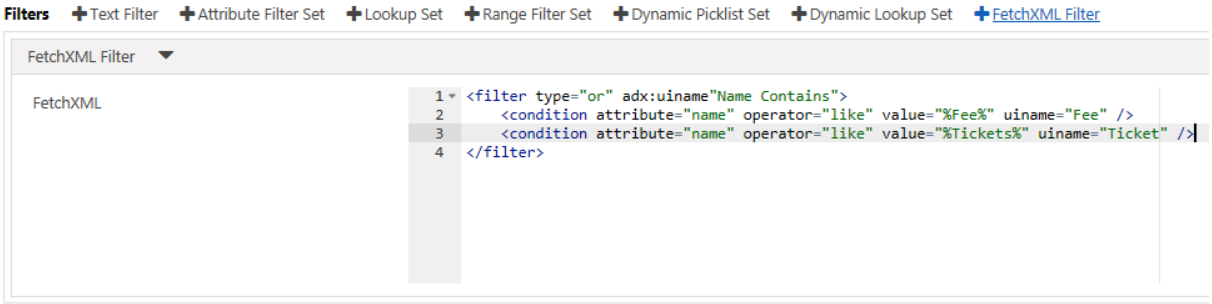
The Dynamic Lookup Set uses the following options:

Name	Description

Relationship	The name of the Related Entity to the Entity List's selected Entity Type to filter by. Only entities with a one-to-many or many-to-many relationship with the Entity List's selected Entity Type appear as options for this filter type.
View	The View (saved query) to use as a source for the dynamic list of entities to filter by
Label Column	The field from the View that provides each entity's "Name" value.
Filter Lookup On Relationship	Specifies a relationship between the entity specified by the Relationship field and the logged in user. If the entity specified by the Relationship field also has a relationship to a contact, you may optionally narrow the list of filter options to those related to the logged in user.
Display Name	Override the label for the Filter when the Entity List is displayed. By default, this will be automatically set to the name of the selected Relationship.

FetchXML filter

The range filter can create either a simple textbox filter like the Text Filter, or a set of options like the other filter types. It allows you to manually create virtually any type of filter for the Entity List by using FetchXML, the query language used by Dynamics 365.



The FetchXML Filter uses only one attribute:

Name	Description
FetchXML	The XML statement representing the filter.

Entity list map view

With Entity Lists it is possible to enable and configure a map view of the data, powered by Bing maps with search functionality to find locations near an address. By populating your records with latitude and longitude coordinate values and specifying the necessary configuration options listed in this section, your records can be rendered as pinpoints on a map. Any record that does not have a latitude or longitude value will be excluded from the search. The initial load of the page will display all records within the initial value of the Distance Values field (in miles or Km depending on the Distance Units specified) from the

Default Center Latitude and Default Center Longitude coordinates. The view specified is ignored when map view is used, and a distance query is applied to the dataset to return the mappable results.

Entity list calendar view

Entity List Calendar View allows rendering of an entity list as a calendar, with each individual record configured to act as a single event.

In order for records to be displayed using a calendar, those records need to have at a minimum a date field on them. In order for events to have exact start and end times, then the appropriate fields need to be in place, and so on. Assuming these fields are configured, then an Entity Calendar view will appear on the portal

Enhanced Dynamics 365 view filter for entity lists

If enabled, an entity can be published to an OData feed. The OData Protocol is an application-level protocol for interacting with data via RESTful web services. For configuration settings please refer to the Entity List page. Data from this feed can be viewed in a web browser, consumed by a client-side web application, or imported into Excel.

Entity list OData feeds

You may utilize Entity Permissions if you wish to secure records, but if you want to simply provide a filter as part of the set of filter options that is relevant to the current portal user, the Entity List feature supports filtering of current user, user's parent account, and/or website at any depth. Simply build the view filter in Dynamics 365 to match any single contact record and the code will replace its value with the actual value at runtime. No need to assign values to fields on the Filter Conditions section.

Note: The oData feed that is published is anonymous and does not have any authorization checks; therefore, it is important not to enable oData feeds for Dynamics 365 data that is unsuitable for anonymous portal access.

See also

Configure a Dynamics 365 portal
Create and run advertisements on a portal
Gather feedback by using polls on a portal
Rate or vote on a webpage or blog post on a portal
Redirect to a new URL on a portal

Create and run advertisements on a portal

Applies To: Dynamics 365 (online), Dynamics CRM Online

Create and run advertisements

Create text or image-based ads and have them run in multiple placements throughout your site. Randomize ads or select specific ads for specific placements. You can choose release and expiration dates for time-sensitive, scheduled content. Ads can be hyperlinked to any destination and open in the current window or a new window. Advertisements are displayed in the portal via two Dynamics 365 entities: The Ad Placement entity and associated Ad entity. Ads can be surfaced in many ways: with pre-made Liquid Templates available within the Dynamics 365 portals application via Liquid Templating/example Web Templates, or within the.aspx page via MVC actions.

Ads

Ads represent the specific advertisement or image that will appear on the portal at a given time. The Ad entity will be displayed in the location specified by the Ad placement. The Ad must be associated with an Ad Placement to appear on the portal. For this demonstration, the out-of-the-box example "Place Holder" Ad and "Sidebar Bottom" Ad Placement will be surfaced in the Company Portal to exhibit basic functionality and gain familiarity prior to creating more complex Ads. Any of the starter sites can be used in place of the Company Portal; however, note that the Liquid Templating used for this demonstration calls on the "Sidebar Bottom" Ad Placement name.

To Begin:

Navigate to **Portals** then **Ads**

- Open the **Placeholder** Ad associated with the **Company Portal** website (this can be done with starter site of your choosing by clicking +NEW and creating an identical Ad sub the Website)
- Click the **Save** icon in the lower right corner (or Save & Close in the upper left corner if you have created a new ad)

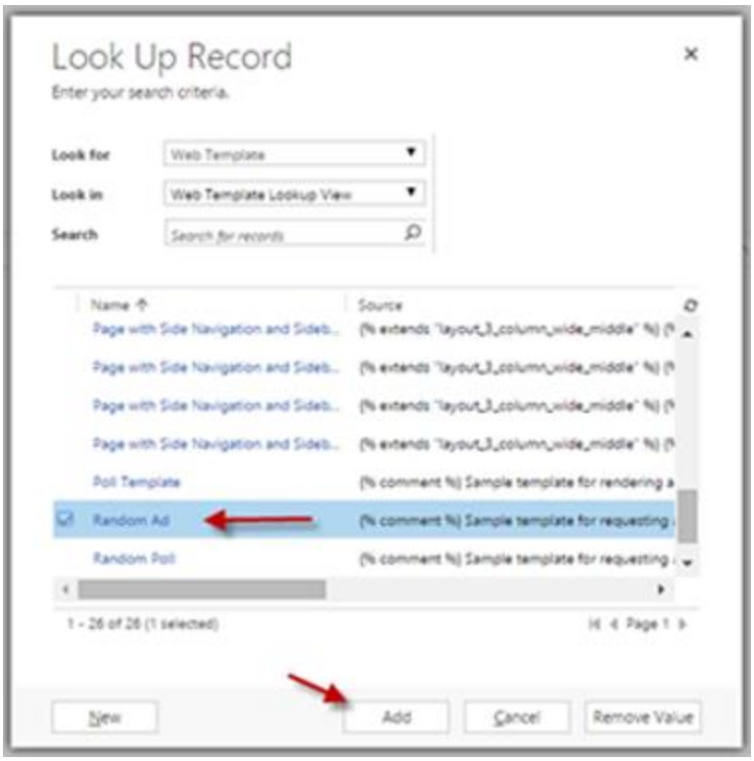
Within the Ad Form you specify a **Name** to describe the Ad, the **Website** where the Ad will be displayed, and a **Publishing State**. Optionally you can specify a Web Template and Release/Expiration date. You must provide some sort of data for the Ad to be displayed. Use the Ad entity attribute table later in this guide to craft the specifics of your ad.

Ad placements

Navigate to **Portals** then **Ad Placements**

- Click the Web Template Field to select a Web Template. For demonstration purposes the "Random Ad" Web Template was chosen.
- On the right corner of the Ads grid click **+** to select the Ad created in the previous step
- Click the **Save** icon in the lower right corner

When creating a new Ad Placement, specify a **Name** to describe the Ad Placement and the **Website** where the Ad Placement will be displayed as required. The example Web Templates that enable use of Ads as an out-of-the-box feature will be displayed within the lookup of the Web Template field in the Form. These templates are also intended to be used as a source to create custom templates.



AD PLACEMENT : INFORMATION

Sidebar Bottom

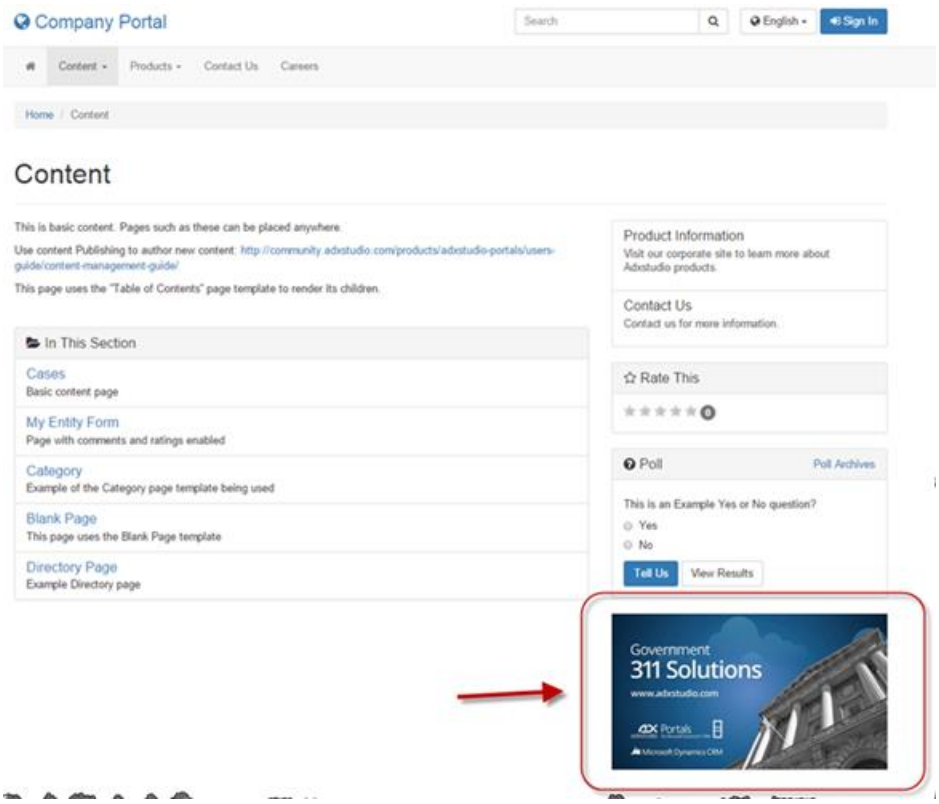
General

Name *	**Sidebar Bottom**
Website *	**Community Portal**
Web Template +	**Random Ad**

Ads

Ads

Name	Website	Redirect URL	Publishing Sta...	Release Date	Expiration Dat...	Created On
Placeholder	Community Portal		Published			4/17/2017 12:30 PM



Note: The Ad created above will not be displayed on the home page of the starter portal.

Using Liquid templates to place advertisements

Content managers may use Liquid to add an Ad to any editable content area, as described in Add dynamic content and create custom templates and, more specifically, Ads.

This template renders an Ad by name, or a random Ad from an Ad Placement. Currently, the code below will not render multiple Ads in the Ad Placement (that is, a rotating ad). To render multiple Ads in the Ad Placement, you would need to build a Liquid Ads API. For more information about built-in web templates, see Store source content by using web templates.

```
{% include 'ad' ad_name:'Name' %}


{% include 'ad' ad_placement_name:'Placement Name' %}

1. {% include 'Random Ad' placement:ads.placements["Sidebar Bottom"] %}


or


1. {% include 'Ad Template' ad:ads{"Retail Ad - Go Greene"] %}
```

Attributes

The Ad Entity has the following attributes:

Name	Description
Name	A descriptive name for the Ad
Website	The associated Website Required.
Web Template	The associated web templates that will be used by default to render the Ad. This field is optional; if it is blank the Ad will be rendered using a default template.
Release Date	Controls a date/time after which the Ad will be visible on the portal. If the Ad Placement is rotating through multiple ads, an unreleased ad will not show. If no released ads are associated with an Ad Placement, nothing will appear. This is useful for controlling the release of time-sensitive content.
Expiration Date	Controls a date/time prior to which the Ad will be visible on the portal.
Publishing State	The current Publishing State.
Redirect URL	When the Ad is clicked, the user will navigate to this URL. **This field is optional.** If no value is given, the Ad will not be clickable.
Open In New Window	Boolean. If set to true, the Ad will open a new browser window when clicked.
Title	A single line of text for the ad which can be displayed on the portal. Whether it is displayed is determined by a property on the AdPlacement control. This is primary useful for text-based ads or simple one-line links that you want to place on the portal by using Ad Placements. **Note** If the title is displayed, by default it will be rendered as a hyperlink which points to the Redirect URL. This behavior may be altered by using a custom web template.
Copy	A multiline body of text or other web content that will be displayed in the ad placement. This allows the placement to be used in a similar way to content snippets, but it is best to avoid using them to serve simply as a bucket to hold content (use snippets for that). Instead, they are best used to display rotating image or textual content.

Name	Description
Image URL	The URL of the image which will be displayed by the ad. Optional; Use this field if you want the Ad to render a static resource or a web file. The Image will be clickable and link to the redirect URL, if one is given. **Note** If an Ad has a note attached to it with an image file attachment, the Ad will render that as its image. This is possibly the most convenient way to set up images for ads, and ties the image directly with the Ad. In this case, Using the Image URL field is not necessary.
Image width	Width of the image. This field is not required but is recommended to ensure that the rendered Ad is valid and accessible HTML
Image Height	Height of the image. This field is not required but is recommended to ensure that the rendered Ad is valid and accessible HTML
Image Alt Text	Alt Text for the image. This field is not required but is recommended to ensure that the rendered Ad is valid and accessible HTML

See also

Configure a Dynamics 365 portal
Add a webpage to render a list of records
Create and run advertisements on a portal
Gather feedback by using polls on a portal
Rate or vote on a webpage or blog post on a portal
Redirect to a new URL on a portal

Gather feedback by using polls on a portal

Applies To: Dynamics 365 (online), Dynamics CRM Online

Polls give your web audiences a quick and easy way to voice their opinion on concise topics and then immediately see feedback from their vote, automatically.

The polls capability of Dynamics 365 portals provide single question or multiple choice response polls on simple topics of interest. Either way, responses are instantly stored and associated with the applicable Dynamics 365 Contact record for immediate review or aggregate reporting. You can use them as simple market research tools and, if you refresh or rotate the polls dynamically, you'll keep your website looking current and topical.

Polls may be placed on the portal via the PollPlacement control. This control works very similarly to the AdPlacement control. If there are any polls associated with the Poll Placement entity that is being rendered by the PollPlacement control, those polls will be rendered. If there is more than one poll for a given placement, the placement will randomly present one of the specified polls.

Note

Users may vote anonymously. Duplicate votes are not permitted. Basic information about submissions is tracked in Dynamics 365, and users who sign in to the website will have their submissions linked to the contact entity that tracks that user in Dynamics 365.

Add a poll to the page

Content managers may use Template tags to add a poll to any editable content area:

```
{% include 'Random Poll' placement:polls.placements["Sidebar"] %}
```

or

```
{% include 'Poll Template' ad:ads["Wireframe Development"] %}
```

Note

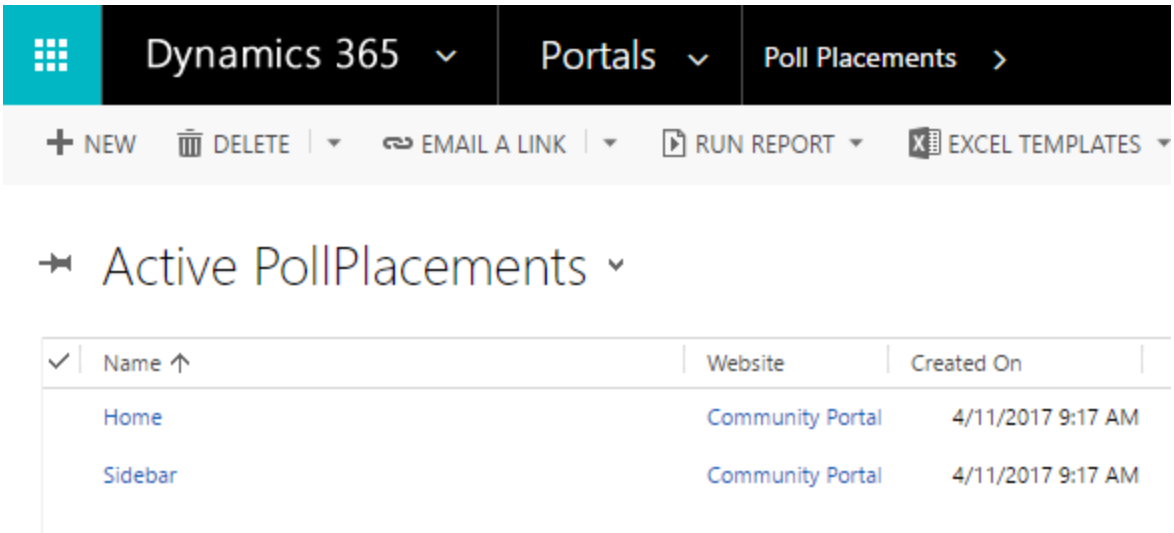
Example Web Templates are configured in the starter websites. You may use the template "Random Poll" to display a random Poll from a particular Poll Placement, or the template "Poll Template" to display a specific Poll. You may edit these templates, or create your own based on their example, using Polls.

Create a poll placement

To Create a new poll placement region:

Navigate to **Portals** and then to **Poll Placements**

- Click **New**

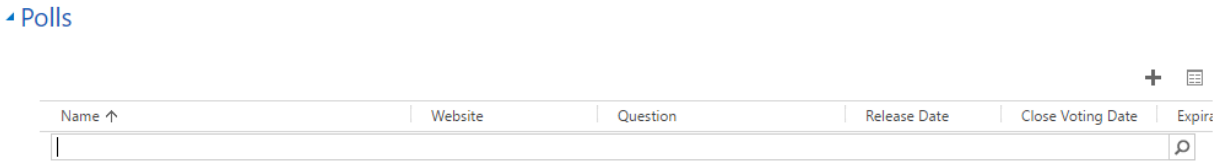


Select the associated **Website**, give the placement a **Name**, and optionally select the web templates that will control how it renders.

Now the placement has been created; you must associate one or more polls with this placement

In the Polls tab of the Poll Placement, click the Add Poll Record button ("+")

- In the resulting lookup box, select an existing poll record or create a new poll by clicking **New**



Polls

A poll is a simple yes/no or multiple-choice question that you can display on your portal via Poll Placements. There are many customizable options for the display of polls available for developers, but for content managers adding polls to your website is as easy as choosing a question and series of possible answers (Poll Options). A poll must have related options to function, and must be associated with a Poll Placement to be rendered on the portal.

A new poll can be created in two ways: by navigating to the **Polls** section in the **Portals** area in Dynamics 365 or by clicking the **New** button on the **Look Up Records** window while adding a poll to a poll placement.

Poll attributes

Name	Description
Name	The descriptive name of the poll.
Website	The associated web templates.

Name	Description
Web Template	The associated web templates that will be used by default to render the Poll. This field is optional; if it is blank the Poll will be rendered using a default template.
Question	This is the actual Question that is being asked in the poll. The associated Poll Options are the possible answers can be selected for this poll.
Submit Button Label	The text that is to be used for the submission button.
Release Date	Controls the date and time after which the Poll will be visible on the portal. If the Poll Placement is rotating through multiple Polls, an unreleased poll will not be shown. If no released polls are associated with a Poll Placement, nothing will appear. This is useful for controlling the release of time-sensitive content.
Expiration Date	Controls a date/time prior to which the Poll will be visible on the portal.
Close Voting Date	Until this date, users who have not yet voted on a poll can vote on the poll. **Note** When a user has voted on a poll, they will see a summary of current results for the poll. These results will also be displayed for a poll that is past its closed date, but for which the user has not yet voted. This allows you to continue to reveal the results of polls after you no longer want people to be able to vote on them. **Note** The difference between the close voting date and expiration date is that after the expiration date has passed, the poll will no longer show up on the poll placement (it will not be cycled to). The close Voting date only determines the date past which users cannot vote on the poll.

Now the poll has been created; you must associate one or more poll options with this poll.

In the Options tab of the Poll, click the Add Poll Option button ("+")

Options

Name	Response	Display Order	Votes	Poll	Created On
Yes	Yes	1		Yes or No Quest...	4/11/2017 9:17 AM
No	No	2		Yes or No Quest...	4/11/2017 9:17 AM

Poll options

A poll is a question that is being presented to the user. A Poll has two or more possible answers as determined by the content author. These answers are represented in Dynamics 365 by Poll Options, which must be associated with the Poll in question. A new Poll Option is created via the Look Up Records window when adding Poll Options to a Poll, as described above.

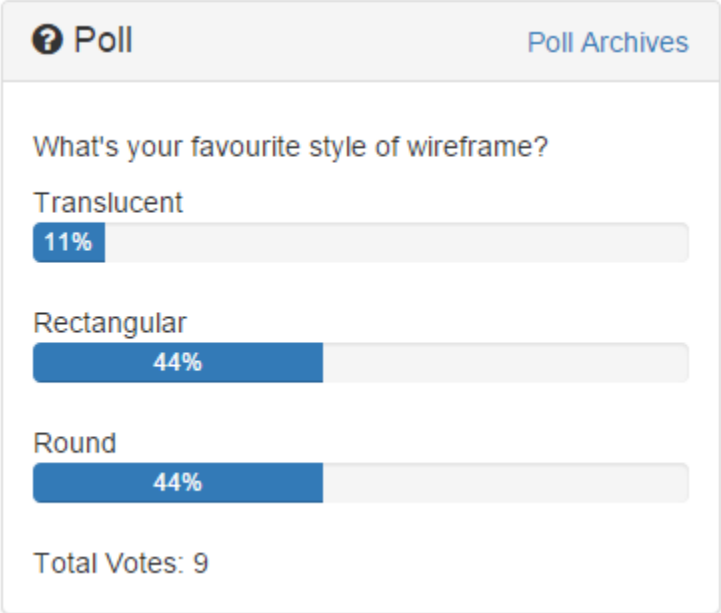
Poll option attributes

Name	Description
Name	The descriptive name for the Poll Option.
Poll	The Poll that the option is associated with.
Answer	The text to display as an available poll voting option.
Votes	The number of votes the poll option has received (read-only).
Display Order	A numeric value that will determine the display order of the poll options.

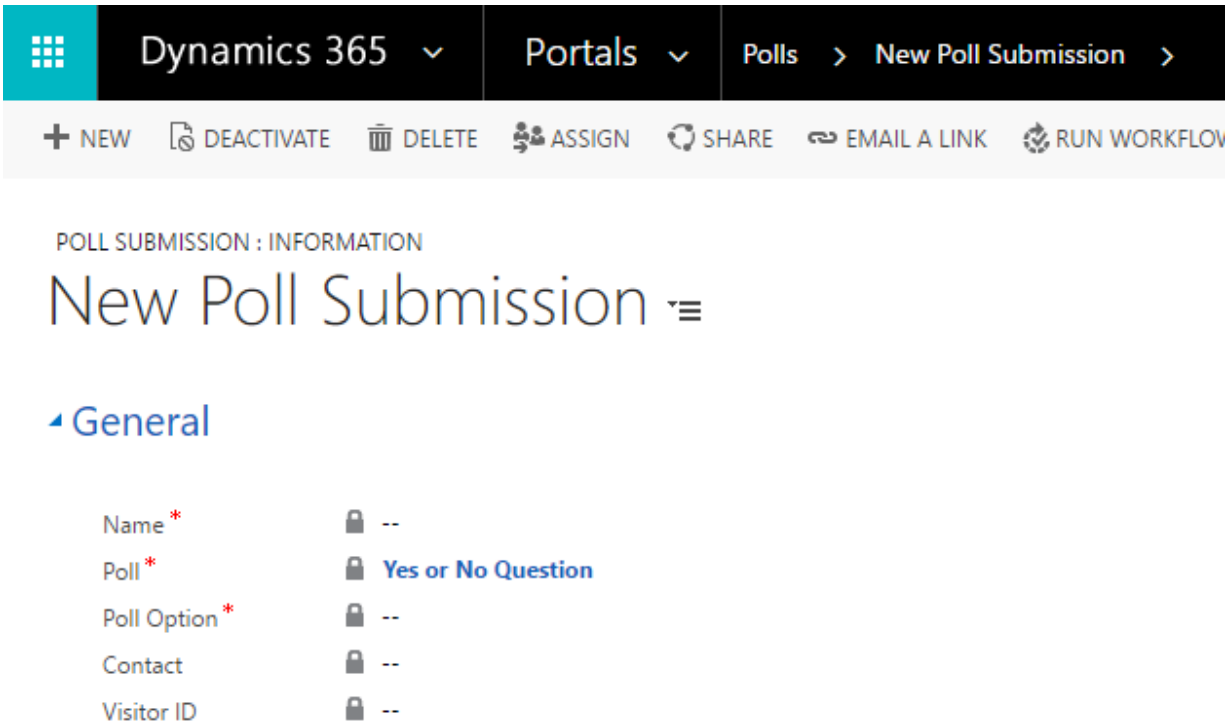
Poll submissions

When a user visits the website, they will be given the opportunity to vote on the poll displayed on the page.

Users may vote only one time, after this if the poll is displayed, they will see the results for that poll:



The details of the poll voting results are stored in Dynamics 365 as Poll Submissions records. The poll submission entity contains the following information:



Name	Description
Name	Displays the name of the voter if the user is logged on; otherwise, records the anonymous ID.
Poll	The associated Poll.
Poll Option	The Poll Option that the user selected.
Contact	The associated Contact record of the voter if the user is logged on
Visitor ID	The anonymous ID of the voter if the user is anonymous.

See also

Configure a Dynamics 365 portal
Add a webpage to render a list of records
Create and run advertisements on a portal
Rate or vote on a webpage or blog post on a portal
Redirect to a new URL on a portal

Rate or vote on a webpage or blog post on a portal

Applies To: Dynamics 365 (online), Dynamics CRM Online

Ratings provides users with the ability to rate or vote on a webpage or blog post. Ratings can also be enabled for comments on pages or blog posts. By default, this feature is disabled and can be enabled on a page-by-page basis within Dynamics 365.

Ratings are custom Dynamics 365 activities and thus can be used in the same way as any other activity such as emails, phone calls, and so on. Because Ratings are activities, it is possible, with customization, to have ratings appear for any entity you choose that appears and is rendered on the portal, including custom entities.

Enable page ratings

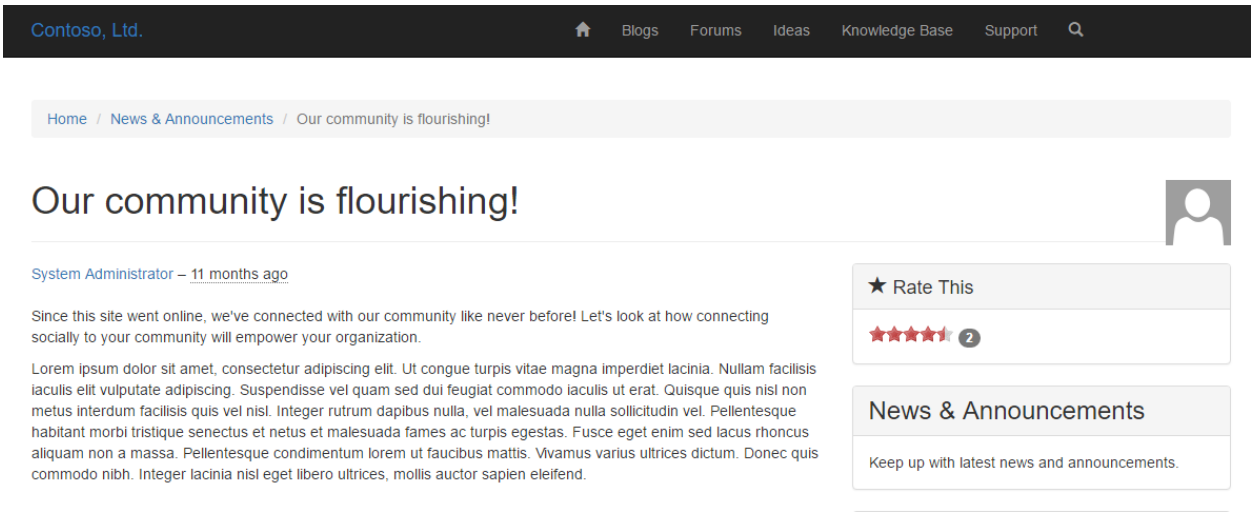
1. Login to **Dynamics 365.**
2. Navigate to **Portals.**
3. Click **Web Pages.**
4. Double-click on the desired **Web Page** listed in the grid.
5. Set **Enable Ratings** to **Yes.**
6. Click **Save & Close.**

Enabling Ratings for blog posts works in much the same way.

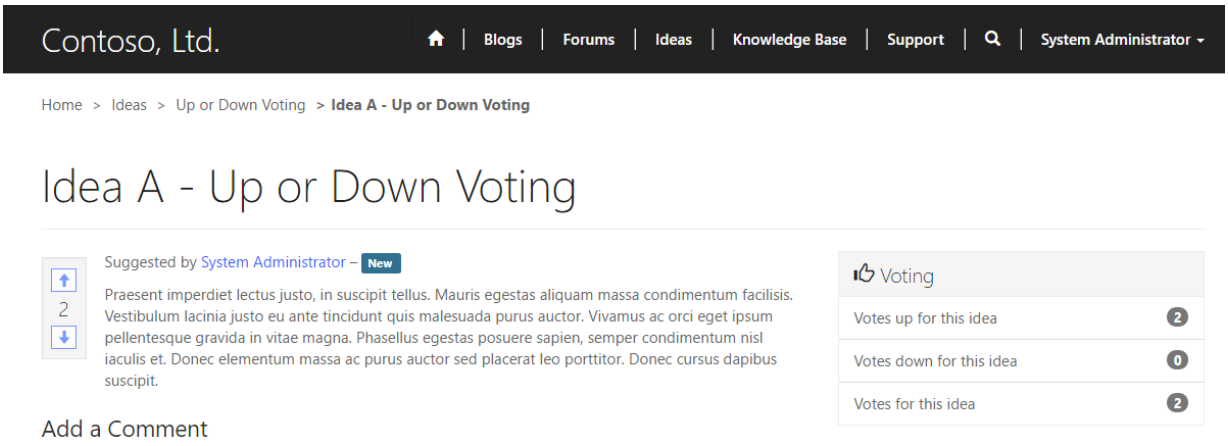
Use ratings

For webpages that have page ratings enabled and the developer has applied the control to the template, users can rate the page either by using the rating scale or voting, depending on the type chosen when the control was added to the page template.

Rating Type



Vote Type



Manage ratings in Dynamics 365

The ratings for webpages can be viewed, modified, or deleted within Dynamics 365.

1. Login to **Dynamics 365.**
2. Navigate to **the Web page, Blog Post, Page Comment, or Blog Post Comment** that you are interested in seeing the ratings for.
3. Navigate to **Activities.**

The associated view lists the ratings for the selected webpage, blog post, or idea. Within this view, users can modify or delete existing ratings.

See also

Configure a Dynamics 365 portal
Add a webpage to render a list of records
Create and run advertisements on a portal
Gather feedback by using polls on a portal
Redirect to a new URL on a portal

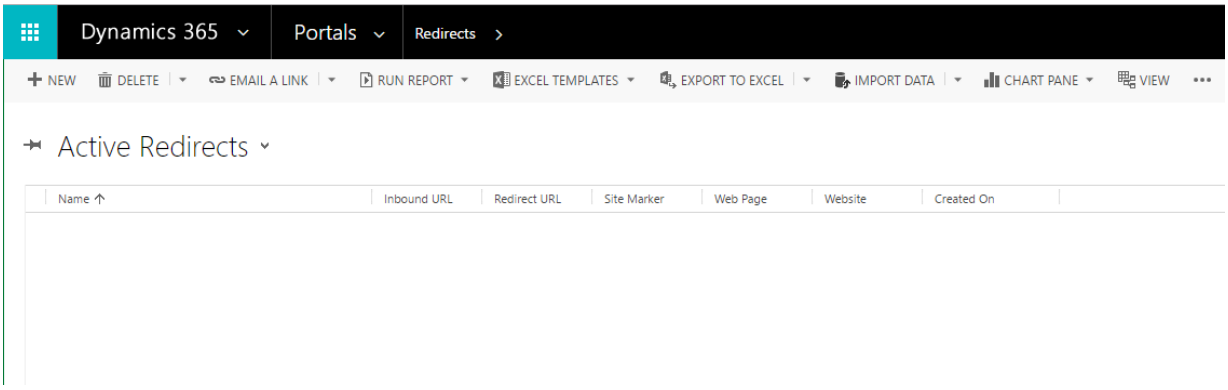
Redirect to a new URL on a portal

Applies To: Dynamics 365 (online), Dynamics CRM Online

Customers frequently want to have a simple URL that redirects to a page deeper in the site, or they want to allow for a legacy URL to be used with the site and automatically redirect to a new URL in the site. Page redirects allow a content author to specify a URL that when requested will be redirected on a permanent or temporary basis to a specific webpage or web file. These redirect URLs are managed separately from the page content so that they do not have to fit directly in the web hierarchy.

Create a redirect

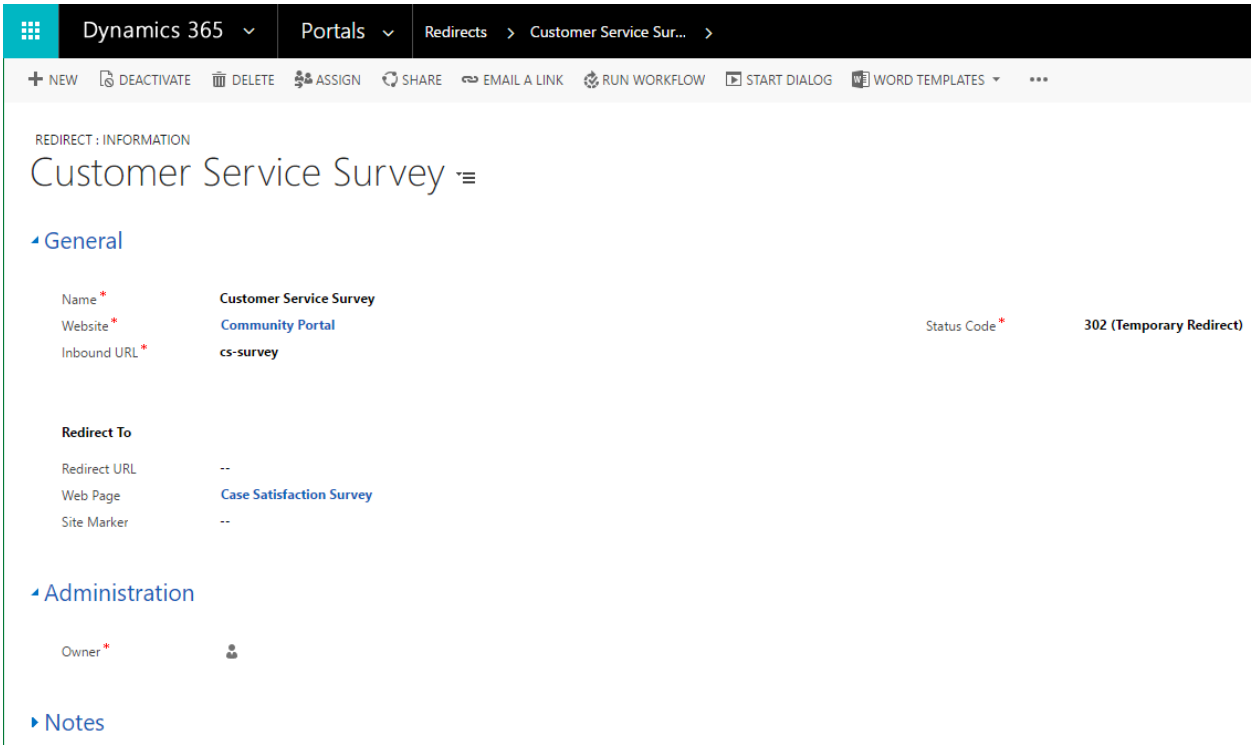
Navigate to the **Portals** area and, under the **Website** section, select **Redirects**. Next, click **New** on the toolbar.



Use the form to enter the redirect information.

Name	Description
Name	The friendly name of the redirect. (Can be anything. Make it easy to identify.)
Website	The website the redirect is associated with. (The site the user is redirected from.)
Inbound URL	The partial URL that is to be redirected. (The page the user is redirected from.)
Status Code	One of the following: **302 (Temporary Redirect)**- returns a temporary redirect status. This is the default. • **301 (Permanent Redirect)**- returns a permanent redirect status indicating the resource has moved permanently.
URL	A target External URL to be redirected to. (Use this if the redirect is external to the website specified above.)
Web Page	A target internal webpage to be redirected to. (Use this if the user is being redirected to a page internal to the website specified above.)
Site Marker	A target internal site marker to be redirected to.

After entering the required fields and specifying a value for at least one of the URL, Web Page, or Site Marker fields, click **Save**.



Use the redirect

When the inbound URL is requested, the browser is redirected to the URL of the target webpage for the matching redirects entry.

For example, for an Inbound URL value of cs-survey with a target webpage set to the Customer Support Survey page, the following request:

http://customerportal.contoso.com/cs-survey

results in the browser requesting the following URL:

http://customerportal.contoso.com/surveys/customer-service-survey/

See also

Configure a Dynamics 365 portal
Add a webpage to render a list of records
Create and run advertisements on a portal
Gather feedback by using polls on a portal
Rate or vote on a webpage or blog post on a portal

End User Guide

Manage portal content

Applies To: Dynamics 365 (online), Dynamics CRM Online

Create, edit, and curate your portal content to provide information and illustrate the products and services that you offer. By managing portal content, you can create a helpful environment to foster discussion, solve issues, and learn.

Learn the tools you'll need to manage your content effectively. More information: Get started with the portal content editor

- Edit a portal in real time and see your changes live. More information: Use the front-side editing engine to publish content
- Manage webpage data and attributes to organize the content on your portal.
- Provide download files to add functionality and usability, or to supplement products, features, and services.
- Create links to internal or external pages to help users find the right information. More information: Manage web links in Dynamics 365 or on portals
- Use content snippets to create reusable content and update all relevant content at once. More information: Customize content by using content snippets

See also

Engage with communities by using the community portal
Create a theme for your portal
Configure a Dynamics 365 portal

Create forum posts on the portal

Applies To: Dynamics 365 (online), Dynamics CRM Online

A forum post is a user-submitted message enclosed into a block containing the user's details and the date and time it was submitted. Members are usually allowed to edit or delete their own posts. Posts are contained in forum threads, where they appear as boxes one after another. The first post starts the thread; this may be called the OP (original post). Posts that follow in the thread are meant to continue discussion about that post, or respond to other replies; it is not uncommon for discussions to be derailed.

Create forum posts

The forum post editor will appear automatically when a user has successfully signed in to the portal and navigated to a forum thread page, provided the developer has implemented the functionality in the forum thread's page template.

Sign in to the portal.

- Navigate to a Manage forum threads.
- Compose your reply in the rich text editor.
- Click **Submit**.

Attribute relationships

The table below explains many of the Forum Post attributes used by portals. It is important to note that the way in which many of the content/display-oriented attributes are rendered is controlled by the page template used.

Name	Description
Name	The descriptive name of the record. This value will be used as a title to the post. This field is required.
Forum Thread	The forum thread the post is regarding.
Author	The Contact record associated with the user who wrote the post.
Date	The date and time the post was created.
Content	The body or message of the post.
Answer?	Checked indicates that the post is identified as being the answer to the thread's question.

See also

Setup and moderate forums
Manage forum threads
Moderate forums
Subscribe to alerts

Moderate forums

Applies To: Dynamics 365 (online), Dynamics CRM Online

The moderators are users of the forum who are granted access to the forum's threads and posts of all members for moderating the discussion and keeping the forum clean (neutralizing spam and spambots, for example). Moderators also answer users' concerns about the forum, general questions, as well as respond to specific complaints. They also can do anything to lend a helping hand to a user in need. Common privileges of moderators include: deleting, adding, editing, removing of threads or posts. Essentially, it is the duty of the moderator to manage the day-to-day affairs of a forum or board as it applies to the stream of user contributions and interactions. The relative effectiveness of this user management directly impacts the quality of a forum in general, its appeal, and its usefulness as a community of interrelated users.

Assign moderators to forums in Microsoft Dynamics 365

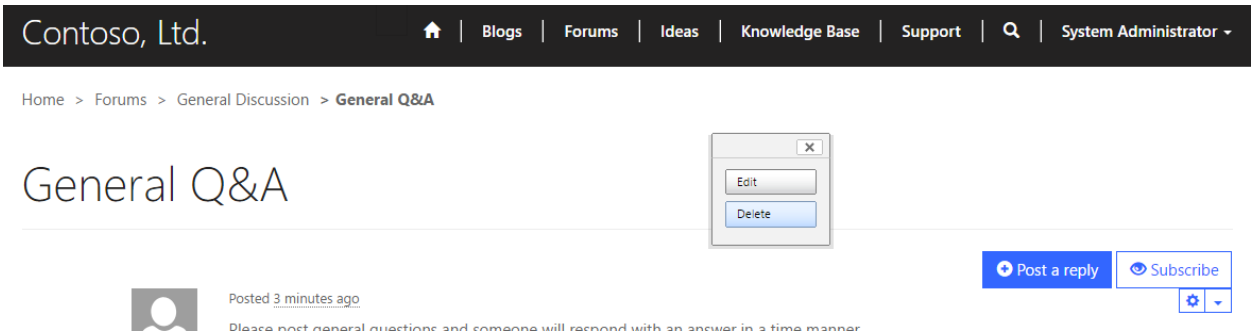
To specify moderators for a forum within Dynamics 365, the contact record of the portal user must be assigned to a web role that is associated with a Forum Access Permission record that has the Right set to Grant Change. For more information, see Create web roles for portals.

Forum moderation within the portal

For portal users with moderation permission, moderation controls will automatically be displayed in the portal once signed in. Depending on the page template implemented by your developer, the functionality providing users the ability to moderate may or may not be present and the images displayed within this document may be different than your actual portal.

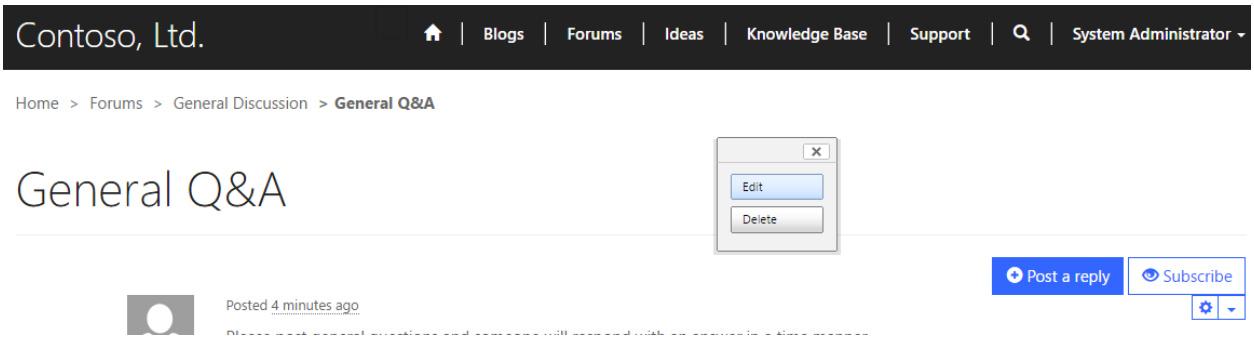
Delete an entire forum thread

1. Click **Delete** on the admin toolbar
2. Select Yes on the pop up “Delete this thread?”



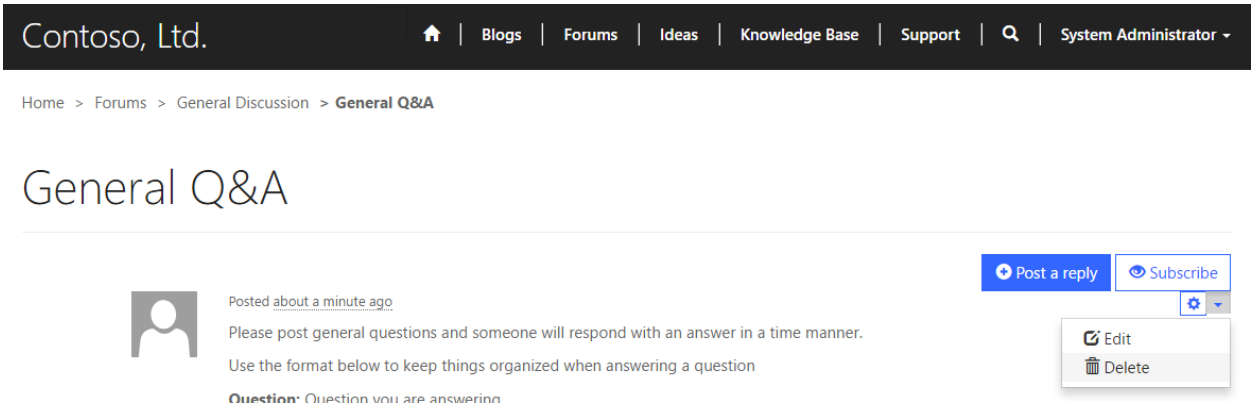
Edit the forum thread

1. Click **Edit** on the admin toolbar
2. Make the changes you want in the pop up “Edit Thread”
3. Click **Save**



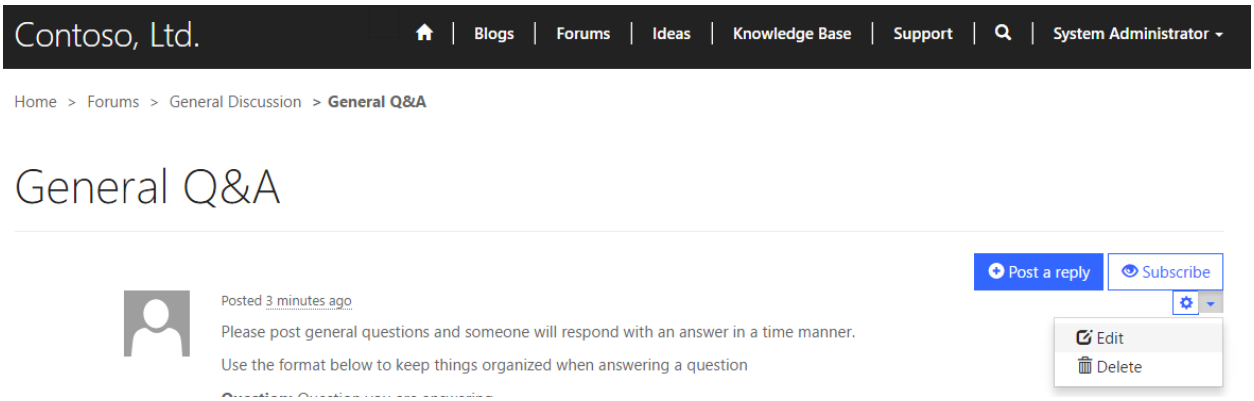
Delete a forum post

1. Click the down arrow next to the post you want to delete.
2. Click **Delete**
3. Select **Yes** on the pop up “Delete this thread?”



Edit a forum post

1. Click **the down arrow next to the post you wish to edit.**
2. Click **Edit**
3. Change the desired information in the pop up “Edit this content”
4. Click **Save**

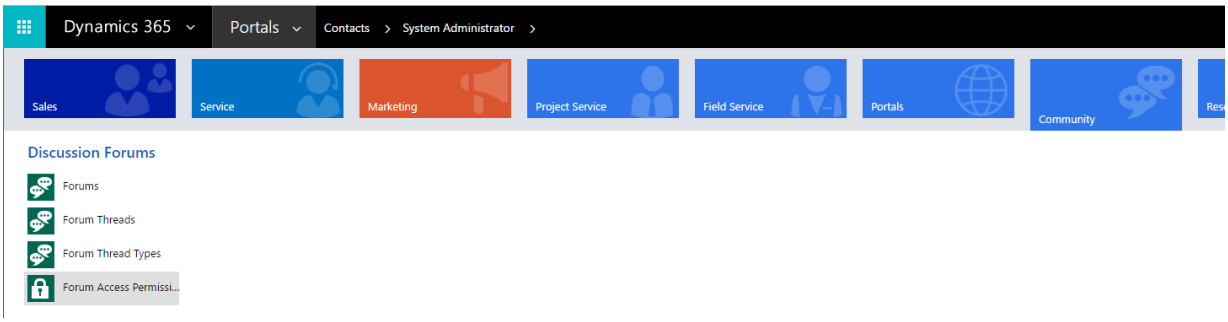


Manage forum access permissions in Dynamics 365

Forum Access Permission is a security rule that can be assigned to a particular forum and web role that can restrict particular users from viewing the forum or granting particular users the ability to moderate a forum within the webpages. To create, edit, or delete forum access permissions from within Dynamics 365:

1. Login to **Dynamics 365**
2. Navigate to **Community**

3. Click **Forum Access Permissions**

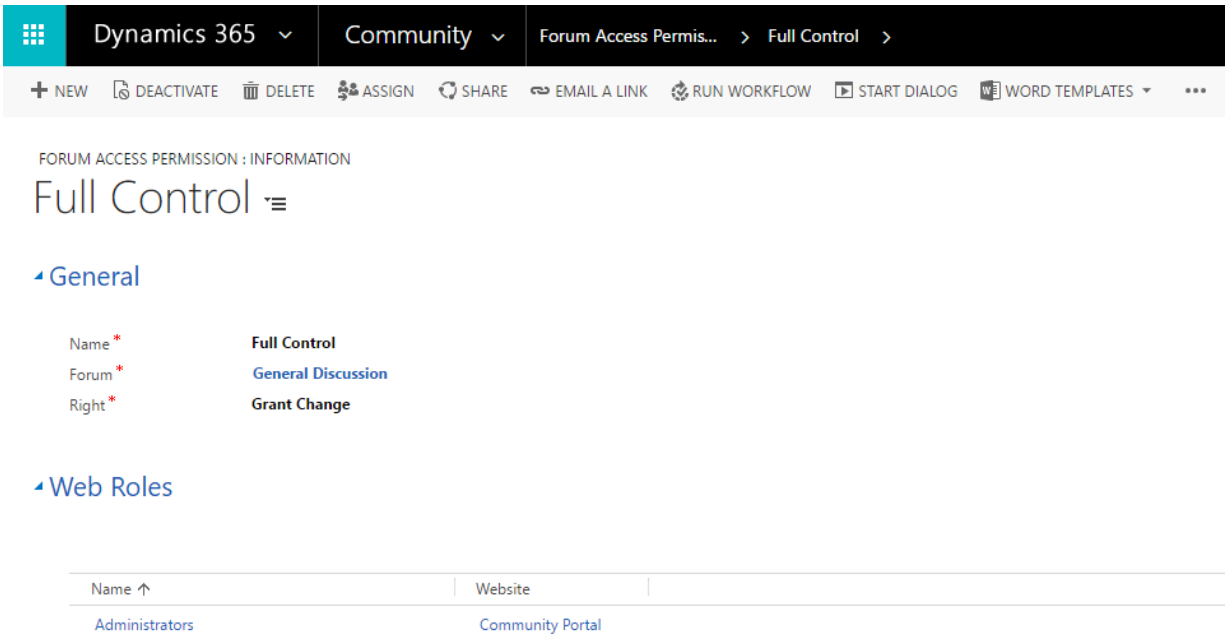


Create a new forum access permission

1. Click **New**

Edit an existing forum access permission

1. Double-click on an existing **Forum Access Permission** listed in the grid
2. Specify values for the fields provided
3. Click **Save & Close**



Note

A web role must be assigned for the rule to apply for users associated with the given role. See [Create web roles for portals](#).

Attributes relationships

The table below explains many of the Forum Access Permission attributes used by portals.

Name	Description
Name	A name used for reference within Dynamics 365.
Forum	The Manage forum threads associated with the permission.
Right	The permission setting can be one of the following: **Restrict Read** • **Grant Change** Restrict Read prevents viewing of the forum for users in a web role associated with the rule. Grant Change allows a user in a web role associated with the rule to moderate the forum. Grant Change takes precedence over Restrict Read.

See also

Setup and moderate forums
Manage forum threads
Create forum posts on the portal
Subscribe to alerts

Subscribe to alerts

Applies To: Dynamics 365 (online), Dynamics CRM Online

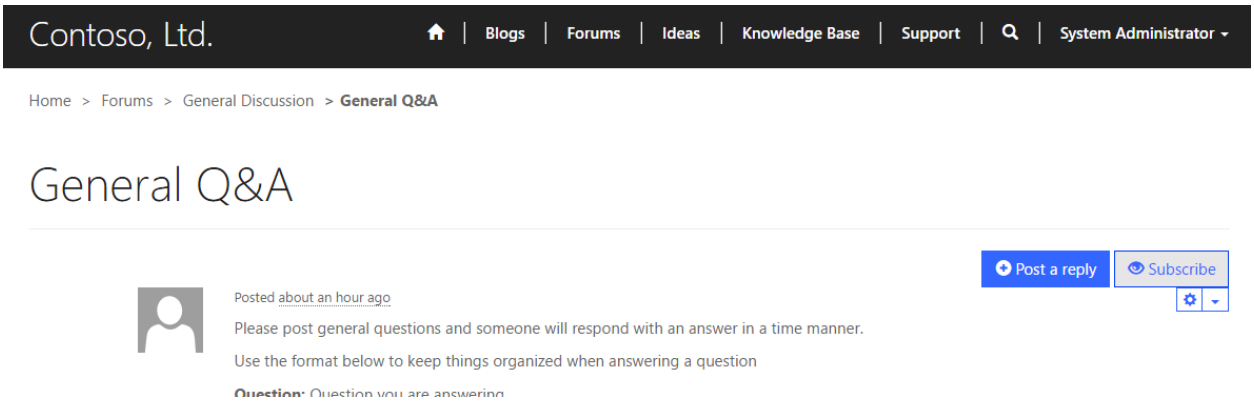
Forum users can subscribe to threads and receive alerts when new posts are added keeping them up-to-date on conversations of importance. Alert settings are attached to the user's contact record providing further insight into the user's intent.

Depending on the page template implemented by your developer, the functionality providing users the ability to subscribe or unsubscribe to alerts may or may not be present and the images displayed within this document may be different that your actual portal.

Subscribe to alerts in the portal

Users can indicate they wish to receive notification when new posts are created by navigating to a forum thread and clicking the **Alert Me** link.

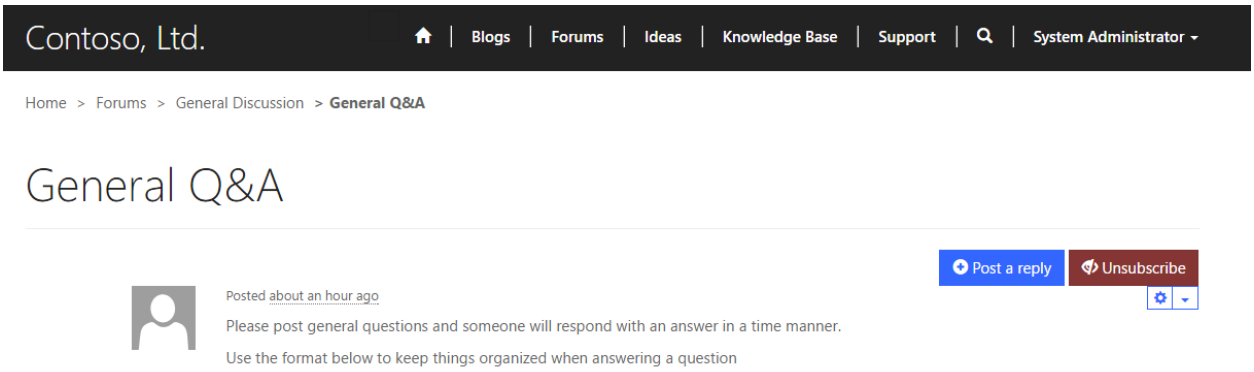
1. Login to the **Portal**
2. Navigate to a **Forum Thread**
3. Click **Subscribe**



Unsubscribe from alerts in the portal

Users can indicate that they do not wish to receive notification when new posts are created for a given thread by navigating to the forum thread and clicking the **RemoveAlert** link.

1. Login to the **Portal**
2. Navigate to a **Forum Thread**
3. Click **Unsubscribe**



Manage forum alerts in Microsoft Dynamics 365

Although the portal is the primary source for creating or removing alerts. Forum alerts can be created, edited or deleted within Dynamics 365.

1. Login to **Dynamics 365**
2. Navigate to **Community**
3. Click **Forum Threads**
4. Double-click on an existing **Forum Thread** listed in the grid
5. Click **Forum Alerts** in the leftmost navigation menu

Create a new alert subscription

1. Click **Add New Forum Alert**

Edit an existing alert

1. Double-click on the **Forum Alert** listed in the grid
2. Specify values for the fields provided
3. Click **Save & Close**

Attributes relationships

The table below explains many of the Forum Alert attributes used by portals.

Name	Description
Subscriber	The Dynamics 365 Contact record of the portal user that is to receive a notification when posts are created in the associated thread.
Thread	The forum thread that is being subscribed to notification of newly created posts.
Expiration Date	The date and time when notifications should stop.

See also

Setup and moderate forums
Manage forum threads
Create forum posts on the portal
Moderate forums

Manage blogs

Applies To: Dynamics 365 (online), Dynamics CRM Online

Learn how to manage blog comments and blog posts both within Microsoft Dynamics 365 and in your portal.

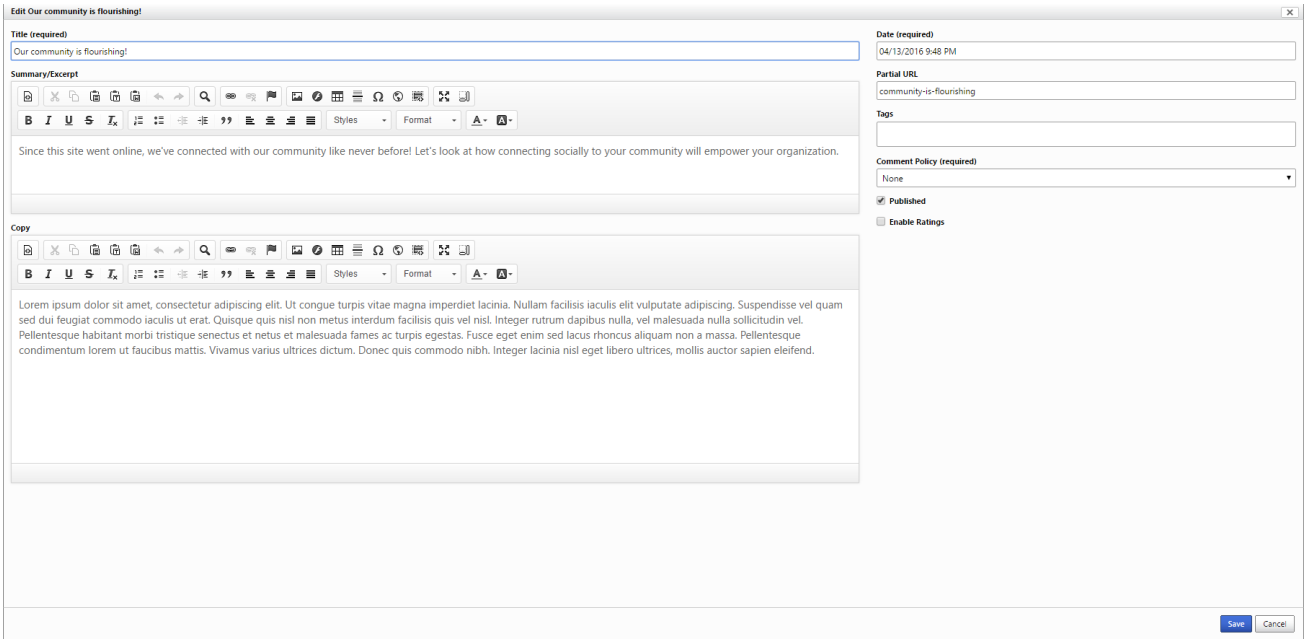
Manage blogs in Dynamics 365

Dynamics 365 users can manage Blog records under the Portals tab after your portal customizations have been imported into your Dynamics 365 organization.

Manage blogs on a portal

Portal users who have blog author permissions can edit or delete blogs by using the portal inline editing interface. If your portal contact has been assigned the necessary permissions, the inline editing interface will appear automatically when you sign in to the portal. Note that although a blog can be edited or deleted through the portal editing interface, it must be created and initially configured in Dynamics 365.

To edit a blog, navigate to the blog's home page, and click the **Edit** button on the edit toolbar.



To delete the blog, click the **Delete** button, and click **Yes** on the confirmation dialog.

Note

Deleting a blog will also delete all its associated posts and comments.

Security

Read access to a blog is inherited from read permissions on the blog's Parent Page. If a user can read the parent webpage, they can read the blog and all of its published posts. See Control webpage access for portals.

Change/Write access to a blog is controlled through the Author Roles relationship. This relationship specifies the web roles that grant authorship permission on the blog. Any portal users associated with any of these roles will be granted the permission to create new posts, edit and delete their own posts, and edit the attributes and settings of the blog itself. See Create web roles for portals.

Note

Only the specific author of a blog post can edit or delete that post, through the front-side portal editing interface. The author of a post can also see their own unpublished posts, but not those of other authors.

Blog attributes and relationships

The table below explains the standard attributes and relationships of the Blog entity.

It is important to note that the way in which many of the content/display-oriented attributes are rendered is controlled by the page templates used.

Name	Description
Name	The title of the blog.

Name	Description
Website	The website to which the blog belongs.
Parent Page	The parent webpage of the blog, in the website content hierarchy.
Partial URL	The URL path segment used to build the portal URL of the blog. **Note** Partial URL values are used as URL path segments. As such, they should not contain illegal URL path characters, such as "?", "#", "!", "%". Because portal URLs are generated by joining together Partial URL values with slashes ("/"), they should also not generally contain slashes. Recommended practice would be to restrict Partial URL values to letters, numbers, and hyphens or underscores. For example: "press-releases", "Users_Guide", "product1".
Home Template	The page template to be used to render the home/main page of the blog. This template will typically be used to render the latest post(s) in the blog.
Post Template	The page template to be used to render an individual post in the blog, when navigated to. This template will also typically have the responsibility of rendering any comments associated with the post.
Archive Template	The page template to be used to render archive views (i.e., views of posts that may no longer be visible on the blog home page). This template will generally have multiple responsibilities: To render a view of all posts in a given calendar month. • To render a view of all posts related to a given tag. • To render a view of all posts by a given author.
Summary	HTML content providing a description of the blog.
Comment Policy	An option that specifies how comments on posts should be handled on the blog.
Blog Posts	Relationship specifying all posts associated with the blog.

Name	Description
Author Roles	Relationship specifying the Web Roles that grant authorship permission on the blog. Any portal users associated with any of these roles will be granted the permission to create new posts, edit and delete their own posts, and edit the attributes and settings of the blog itself.

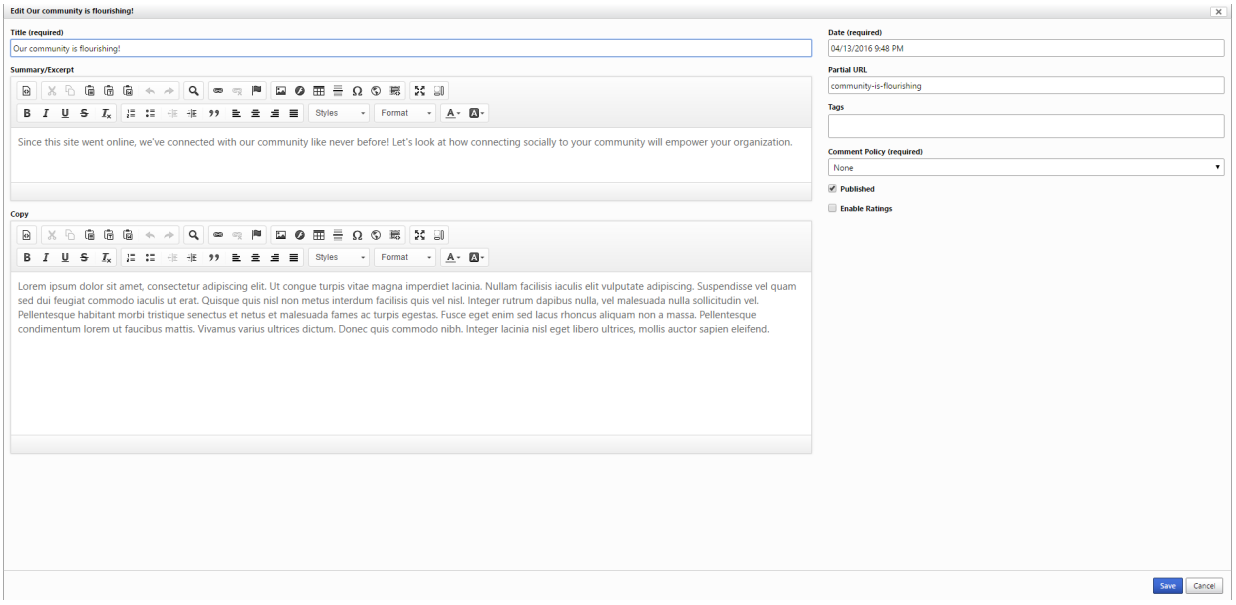
Manage blog posts in Dynamics 365

For Dynamics 365 users, Blog Posts can be managed by launching the editor for the desired Blog and then navigating to its related Blog Posts.

Manage blogs posts on a portal

For portal users with blog author permissions, blog posts can be managed using the portal inline editing interface. If your user account has been assigned the necessary permissions, the inline editing interface will appear automatically when you sign in to the portal and navigate to the blog.

To create a new blog post, navigate to the blog home page, and click **New** > **Blog post** on the edit toolbar. The blog post editor dialog will appear.



Make any edits desired, then click **Save** to save your changes.

To edit a blog post, navigate to the blog post's page, and click the **Edit** button on the edit toolbar. The blog post editor dialog will appear. Make any edits desired, then click **Save** to save your changes.

When creating or editing a blog post, if the **Partial URL** field is left blank, one will be generated automatically. The auto-generated Partial URL will have the format `yyyy-mm-dd-post-title`, where `yyyy-mm-dd` is the year, month, and day of the post's **Date**, and the remainder is the post **Title**, transformed into a URL-appropriate form.

The **Tags** field of the post editor provides auto-complete of tag names, to associated posts with existing tags. It is also possible to simply type the name of a new tag. To end a tag name and start a new one, type `Tab`, `Enter`, or `,`. To remove a tag, click the `x` beside the tag name, or press `Backspace`.

To delete the blog post, click the **Delete** button, and click **Yes** on the confirmation dialog.

Note

Deleting a blog post will also delete its associated comments.

Note

Only the author of a blog post can edit or delete that post, through the front-side portal editing interface. The author of a post can also see their own unpublished posts, but not those of other authors.

Blog post attributes and relationships

The table below explains the standard attributes and relationships of the Blog Post entity.

It is important to note that the way in which many of the content/display-oriented attributes are rendered is controlled by the page templates used.

Name	Description
Title	The title of the blog post.
Blog	The blog to which the post belongs.
Partial URL	The URL path segment used to build the portal URL of the blog post. **Note** Partial URL values are used as URL path segments. As such, they should not contain illegal URL path characters, such as "?", "#", "!", "%". Because portal URLs are generated by joining together Partial URL values with slashes ("/"), they should also not generally contain slashes. Recommended practice would be to restrict Partial URL values to letters, numbers, and hyphens or underscores. For example: "press-releases", "Users_Guide", "product1".
Author	The author of the post, represented by a Contact record.
Date	The publishing date for the post, to be displayed on a portal. This value determines how posts are sorted for display in views that display posts from

Name	Description
	newest to oldest. This value does not control when or if the post is actually made visible on a portal.
Summary	HTML content providing a short summary or excerpt of the post. If present, this should be used by the blog templates and syndication feeds as the content of the post, with the full content only being available at the post URL.
Copy	The full HTML content of the post.
Published	Determines whether a post will be visible on a portal. If checked, the post is visible to all users that have read access to the blog. If not checked, only the author of the post will be able to preview the post on a portal.
Comment Policy	An option that specifies how comments on the post should be handled.
Blog Posts Comments	All comments associated with the post.
Web Files	All files associated with the post.
Tags	All tags associated with the post.

Manage blog post comments on a portal

For portal users with blog author permissions, blog comments can be managed using the portal inline editing interface. See Use the front-side editing engine to publish content. If your user account has the necessary permissions, the inline editing interface will appear automatically when you sign in to the portal and navigate to a blog post.

The exact appearance of the user interface used to edit or delete a blog post comment is determined by the page template being used to render the post, but it will generally involve links or buttons positioned inline, alongside each comment. Clicking **Edit** will launch the comment editor, which allows comment moderators to edit comment content or toggle its approval status.

Blog post comment attributes and relationships

The table below explains the standard attributes and relationships of the Blog Post Comment entity.

It is important to note that the way in which many of the content/display-oriented attributes are rendered is controlled by the page template used.

Name	Description
Name	The descriptive name of the comment. This will typically be auto-generated by the portal application.
Blog Post	The blog post to which the comment belongs.
Author	The author of the comment, represented by a Contact record. This will be populated if the

Name	Description
	comment was submitted by an authenticated portal user.
Author Name	The display name of the author of the comment. This is typically used in the anonymous submission scenario, when there is no portal user Contact record to associate with the comment, and is generally submitted by the comment author themselves.
Author E-mail	The email address of the author of the comment. This is typically used in the anonymous submission scenario, when there is no portal user Contact record to associate with the comment, and is generally submitted by the comment author themselves.
Author URL	A website URL for the author of the comment - perhaps to their own blog or personal website. This is typically used in the anonymous submission scenario, when there is no portal user Contact record to associate with the comment, and is generally submitted by the comment author themselves.
Posted On	The timestamp for when the comment was submitted, to be displayed on a portal. This value determines how comments are sorted for display. This value does not control when or whether the comment is made visible on a portal.
Content	The full HTML content of the comment.
Approved	Determines whether a comment will be visible on a portal. If checked, the comment is visible to all users that have read access to the blog post. If not checked, only the author of the post will be able to preview the comment on the portal.

See also

Get started with the portal content editor
Add dynamic content and create custom templates

Crowdsource ideas

Applies To: Dynamics 365 (online), Dynamics CRM Online

Learn how to manage Forum Ideas, Idea Comments, and Idea Votes.

Manage idea forums in Microsoft Dynamics 365

Dynamics 365 users can manage Idea Forum records under the Community tab, provided the portal customizations have been imported into your Dynamics 365 organization.

Access permissions

Read access to an idea forum can be restricted to certain web roles by using the Roles with Read Access relationship. This relationship specifies the web roles that have permission to see and participate in the idea forum. Any portal users associated with any of these roles will be granted access to the idea forum. See Create web roles for portals.

Change access to an idea forum is controlled through the Moderators relationship. There is currently no front-side moderation functionality built into the idea portal application.

Idea forum attributes and relationships

The table below explains the standard attributes and relationships of the Idea Forum entity.

It is important to note that the way in which many of the content/display-oriented attributes are rendered is controlled by the views created by the portal developer.

Name	Description
Title	The name of the idea forum.
Website	The website to which the idea forum belongs.
Partial URL	The URL path segment used to build the portal URL of the idea forum. **Note** Partial URL values are used as URL path segments. As such, they should not contain illegal URL path characters, such as "?", "#", "!", "%". Because portal URLs are generated by joining together Partial URL values with slashes ("/"), they should also not generally contain slashes. Recommended practice would be to restrict Partial URL values to letters, numbers, and hyphens or underscores. For example: "press-releases", "Users_Guide", "product1".
Summary	HTML content providing a description of the idea forum.
Ideas	Relationship specifying all idea records associated with the idea forum.
New Idea Policy	An option that specifies how new idea records should be handled in the idea forum.
Comment Policy	An option that specifies how comments on ideas should be handled in the idea forum.

Name	Description
Voting Policy	An option that specifies how votes on ideas should be handled in the idea forum.
Voting Type	The type of voting the idea forum will allow.
Votes Per Idea	The number of votes a user is allowed for a single idea belonging to an idea forum. When Voting Type is Up or Down this value is set to 1.
Votes Per User	The number of votes a user is allowed to use in an idea forum. If no value is set, users have unlimited votes within the idea forum.
Roles with Read Access	Relationship specifying the web roles that have permission to see and participate in the idea forum. Any portal users associated with any of these roles will be granted access to the idea forum.
Moderators	Relationship specifying the web roles that have permission to moderate the idea forum. There is currently no front-side moderation functionality built into the idea portal application.

Manage ideas in Dynamics 365

For Dynamics 365 users, provided the portal customizations have been imported into your Dynamics 365 organization, Idea records can be managed under the Community tab.

Idea attributes and relationships

The table below explains the standard attributes and relationships of the Idea entity.

It is important to note that the way in which many of the content/display-oriented attributes are rendered is controlled by the views created by the portal developer.

Name	Description
Title	A descriptive title for the idea.
Idea Forum	The idea forum to which the idea belongs.
Partial URL	The URL path segment used to build the portal URL of the idea forum. **Note** Partial URL values are used as URL path segments. As such, they should not contain illegal URL path characters, such as "?", "#", "!", "%". Because portal URLs are generated by joining together Partial URL values with slashes ("/"), they should also not generally contain slashes.

Name	Description
	Recommended practice would be to restrict Partial URL values to letters, numbers, and hyphens or underscores. For example: "press-releases", "Users_Guide", "product1".
Published to Web	Whether the idea is visible on the website.
Copy	HTML content providing a description of the idea.
Summary	A shortened summary of the idea.
Author Name	Text specifying the name of the user that submitted the idea.
Author E-mail	Text specifying the e-mail of the user that submitted the idea.
Author	Relationship specifying which portal user is associated with the idea.
Submitted On	The date and time that the idea was created.
Status Reason	An option that specifies the current status of the idea.
Status Author	Relationship specifying which portal user is associated with the idea's status and status comment.
Status Comment	An optional comment for the idea's status reason. In other words, when it's planned to be implemented, why it has been rejected, etc.
Comment Policy	An option that specifies how comments on the idea should be handled.
Votes Up	The number of positive votes the idea has received.
Votes Down	The number of negative votes the idea has received.
Vote Sum	The number of positive votes minus the number of negative votes.
Total Number of Votes	The number of positive votes plus the number of negative votes.
Idea Comments	Relationship specifying all comments associated with the idea.
Idea Votes	Relationship specifying all votes associated with the idea.

Manage idea comments in Dynamics 365

For Dynamics 365 users, provided the portal customizations have been imported into your Dynamics 365 organization, Idea Comment records can be managed under the Community tab.

Idea comment attributes and relationships

The table below explains the standard attributes and relationships of the Idea Comment entity.

It is important to note that the way in which many of the content/display-oriented attributes are rendered is controlled by the views created by the portal developer.

Name	Description
Name	A title for the idea comment.
Idea	The idea to which the comment belongs.
Content	The content of the comment in HTML format.
Published to Web	Whether the comment is visible on the website.
Author Name	Text specifying the name of the user that submitted the comment.
Author E-mail	Text specifying the e-mail of the user that submitted the comment.
Author	Relationship specifying which portal user is associated with the comment.
Posted On	The date and time that the comment was created.

Manage idea votes in Dynamics 365

For Dynamics 365 users, provided the portal customizations have been imported into your Dynamics 365 organization, Idea Vote records can be managed under the Community tab.

Idea vote attributes and relationships

The table below explains the standard attributes and relationships of the Idea Vote entity.

It is important to note that the way in which many of the content/display-oriented attributes are rendered is controlled by the views created by the portal developer.

Name	Description
Value	A whole number representing the value of the vote.
Name	A title for the vote.
Idea	The idea to which the vote belongs.
Voter Name	Text specifying the name of the user that submitted the vote.

Name	Description
Voter E-mail	Text specifying the e-mail of the user that submitted the vote.
Voter	Relationship specifying which portal user is associated with the vote.
Submitted On	The date and time that the vote was created.

See also

Manage forum threads
Create forum posts on the portal
Moderate forums
Subscribe to alerts

Create, edit, and distribute opportunities in Dynamics 365

Applies To: Dynamics 365 (online), Dynamics CRM Online

In your partner portal, you can use opportunities to notify your partners of sales prospects that they can follow up on. You may have opportunities for existing customers or from new customers, and by distributing them to your partners, you can create new revenue sources or strengthen relationships with current customers.

Distributing opportunities to specific partners can also help connect customers with the sellers who have the right knowledge and skills for their specific needs.

Create an opportunity

1. Go to **Sales** > **Opportunities**.
2. Click **New**.
3. In the **Summary** area of the Opportunity page, enter the topic and contact information for the opportunity. You can also change the currency for the opportunity.
4. Add any details in the **Customer Situation**, **Customer Need**, and **Proposed Solution** fields.
5. Click **Save**.

Distribute an opportunity

You can distribute opportunities manually or use the preferred partner assignment system to automatically distribute opportunities to suitable partner accounts.

Distribute opportunities manually when you know which partner you want to assign an opportunity to. By manually distributing an opportunity, you can ensure that it goes to the partner who is most suited to meet the customer's needs.

Distribute opportunities manually

1. Go to **Sales** > **Opportunities**.
2. Click the opportunity you want to edit.
3. In the **Partner Details** area of the Opportunity page, enter the partner account you want to distribute the opportunity to in the **Partner** field.
4. Change the **Status** of the opportunity to **Delivered**.
5. Click **Save**.

Distribute opportunities to multiple partners

1. Go to **Sales > Opportunities**.
2. Click the opportunity you want to edit.
3. Under the **General** tab in the **Partner Pipelin**e section, select the **Partner Collaboration** checkbox.
4. Scroll down to the **Partner Collaboration Accounts** section and press the **+** button to add the partners you want to distribute the opportunity to.
5. Change the **Status** of the opportunity to **Accepted**.
6. Click **Save**.

Enable partners to view the progress of an opportunity

After an opportunity has been distributed to a partner, they will be able to view the details and progress of the opportunity in the portal. Partners will find the opportunity under the **Opportunities** tab of the portal. Opportunities that need to be accepted will be under the **Distributed Opportunities** section of the page, and accepted opportunities will be under the **Managed Opportunities** section.

How partners can collaborate with each other

One of the most noticeable differences in an opportunity that partners are collaborating on is that they will no longer be able to close or extend the opportunity. However, most of the options of the options viewing the opportunity will be the same. This includes the ability to add notes to the timeline that other partners will be able to view. It is important to note that partners are unable to assign opportunities to other partners.

Partner dashboard contains data on current managed and distributed opportunities

After an opportunity has been properly distributed to a partner, information on that opportunity will show up on the partner's dashboard on the portal. Two of the most important parts of the dashboard are the distributed and managed opportunities. Distributed opportunities are opportunities that have yet to be accepted by the partner and managed opportunities are ones that have been accepted. Due to this

difference the managed opportunity portion of the dashboard will give more information on the opportunity including whether partners are collaborating on the opportunity.

Register a deal for a new or existing opportunity

Partners can register deals for opportunities that they have made on the portal to have exclusivity on the opportunity. Partners first navigate to the opportunity they have created on the portal and find the “Register” button at the bottom of the page. This creates a Deal Registration Request that can be seen on the opportunity in Dynamics.

Approve opportunities registered by a partner

After an opportunity has been made by a partner through the portal, the opportunity will appear as an open opportunity in Dynamics 365. Navigate to the opportunity through **Sales** > **Opportunities** and it will function like any other opportunity created in Dynamics. To approve the opportunity, change the status to “Accepted”.

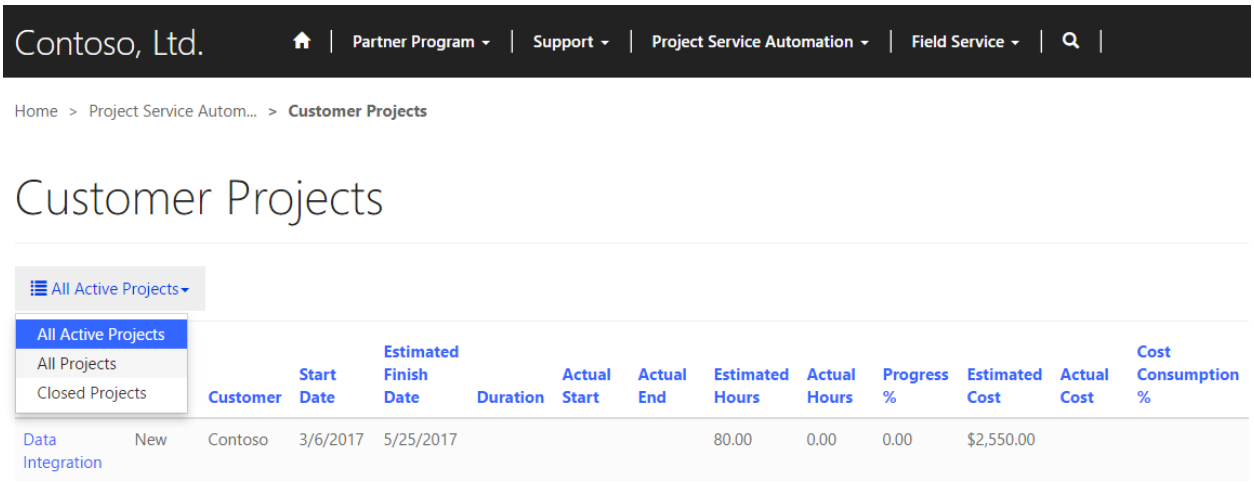
Project Service Automation integration

Applies To: Dynamics 365 (online), Dynamics CRM Online

The Project Service Automation (PSA) solution for Dynamics 365 can now be installed on a Partner Portal (PSA for Dynamics 365 and Partner Portal Solutions must be installed first). With this solution installed customers and partners will be able to view projects and confirmed bookable resources. Customers will also be able to approve quotes, view invoices, and view contract/order forms.

View projects on the partner portal

Both Customers and Partners can view projects pertaining to them on the Partner Portal. Customers can view Active and Closed Projects associated with their organization. Partners can view projects when a Bookable Resource from their organization is associated with the projected. In both cases the User must have an appropriate PSA-specific Web Roles (PSA Customer Approver/Reviewer or PSA Partner Approver/Reviewer). After logging in to the portal, the customer or partner can view the project by going to **Customer Projects**. From here they can see basic information for each project and choose to view by Active Projects, Closed Projects, or All Projects.

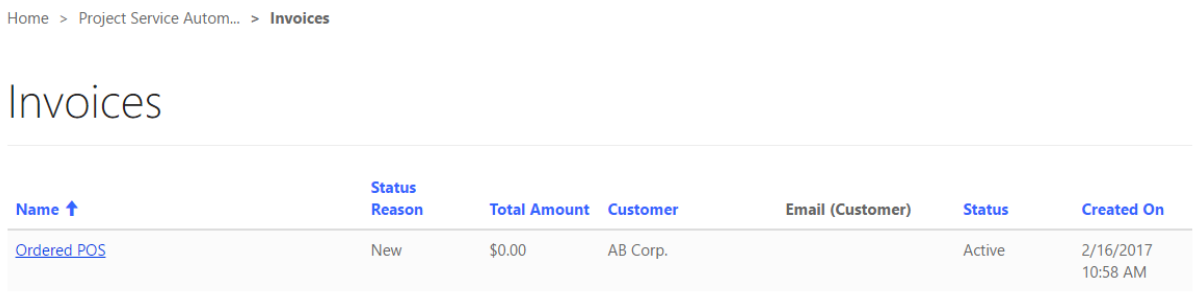


View and approve project quotes on the partner portal

Customers can view and approve project quotes created in Dynamics 365 that are associated with their organization. After logging into the portal, the customer navigates to **Project Service Automation** > **Quotes** then change the filer to **Last 7 Days**. From here the customer will be shown pending quotes along with basic details like Status and Total Amount. The Customer can now click on a quote for more detailed information and the ability to approve or reject the quote with the **Approve Quote** or **Reject Quote** buttons near the bottom of the project.

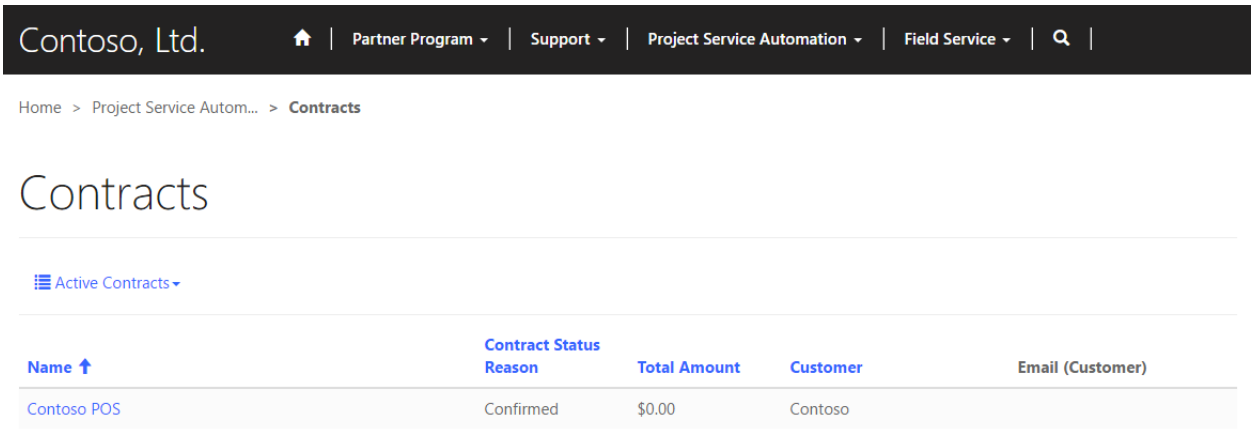
View project invoices on the partner portal

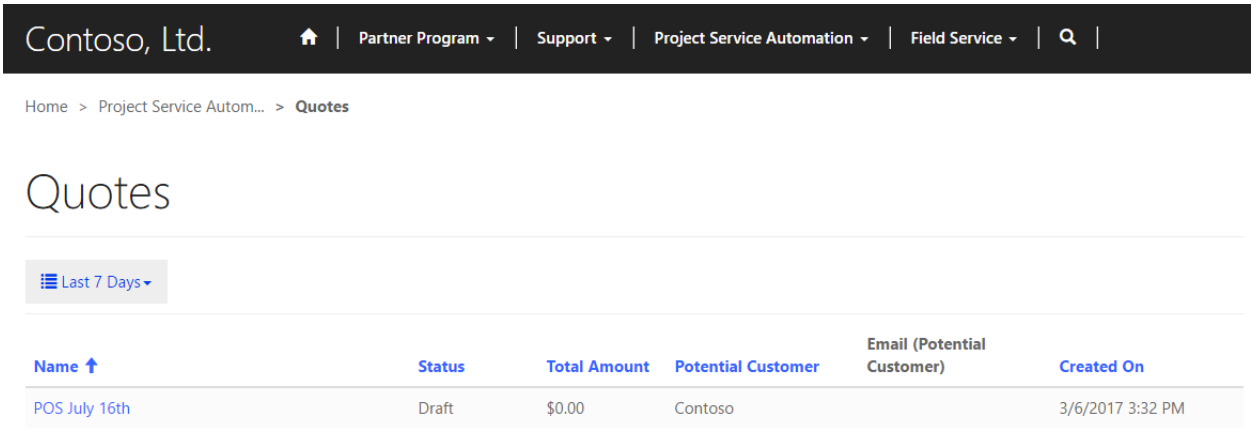
Customers can view final versions of Project Invoices on the partner portal after the invoice has been approved in Dynamics 365 and the **Visible to customer** checkbox has been selected. To view an invoice, the customer must sign in to the partner portal and navigate to **Partner Service Automation** > **Invoices.** Here a customer will be presented with basic information and can click on an invoice for more details.



View project contracts and order forms on the partner portal

Customers can view final versions of Project Contracts or Orders on the partner portal after a project contract has been opened in Dynamics 365 with the **Visible to customer** checkbox selected on the contract. After signing in to the partner portal, the customer navigates to **Project Service Automation** > **Contracts**. Here customers can see a sorted list of contracts with some basic information, or select a contract for more details.

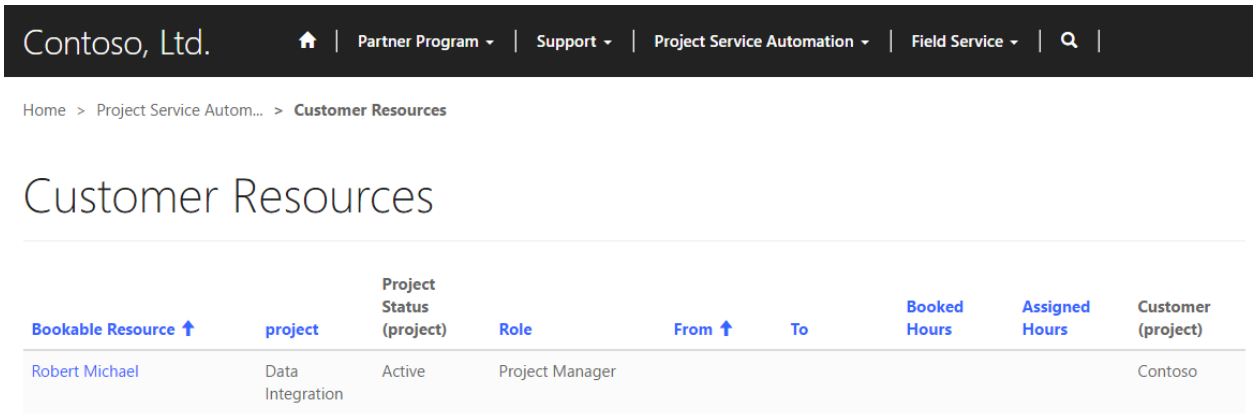




View confirmed, bookable resources by project and role on the partner portal

Both Customers and Partners can view bookable resources on the partner portal following the same process. After signing in to the partner portal, they must navigate to **Project Service Automation** >

Customer Resources. Here Customers and Partners can see list of resources with their role, booked hours, and other basic information. By selecting a resource, they will be able to see what tasks that resource has been assigned to.



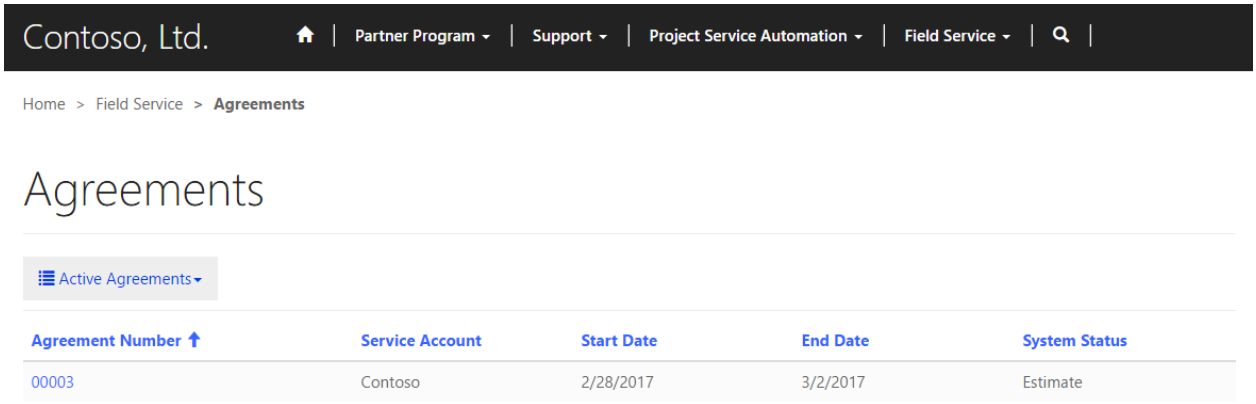
Field Service integration

Applies To: Dynamics 365 (online), Dynamics CRM Online

The Partner Field Service solution for Dynamics 365 can now be installed on a Partner Portal (Field Service for CRM and Partner Portal Solutions must be installed first). With this solution installed, customers and partners will be able to view various parts of the Field Service section of Dynamics 365 on the Partner Portal. Some of the available entities that can be viewed are assets, work orders, and invoices.

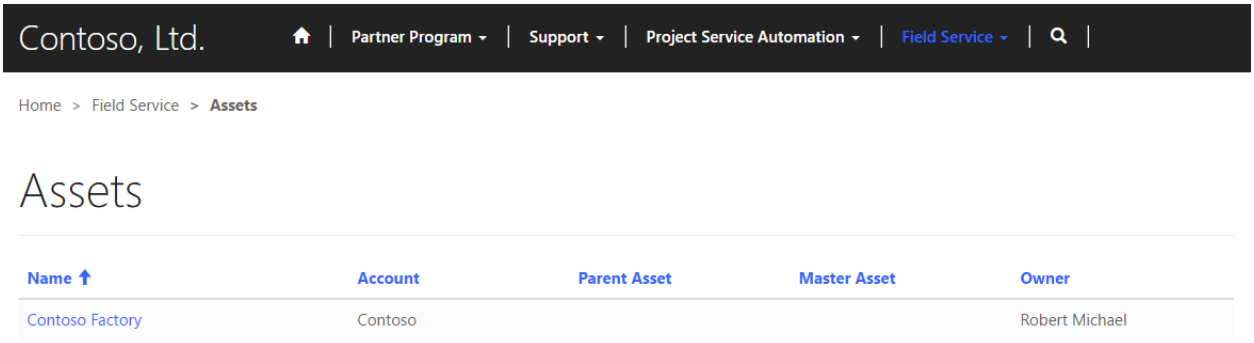
View agreements on the partner portal

Customers can view Active and Expired Agreements on the portal that are connected to their account on the partner portal if they have the correct web role and the agreement is properly created. By assigning the FS Customer Approver or FS Customer Reviewer web role to the customer, they will be able to view agreements on the partner portal. To create/edit an agreement to be visible on the portal, navigate in Dynamics 365 to **Field Service** > **Service Delivery** > **Agreements**. From here select an agreement or create a new one with the **+ New** button at the top of the page. Fill in the **Service Account** field with the account the customer is connected to and select the **Expose to Customer** checkbox (both under the **General** tab). After all of this is done, a customer can sign in to the portal and navigate to **Field Service** > **Agreements** and change the filer to **All Agreements**. Now the customer can view the agreements created in Dynamics 365. The page will show basic details and the customer can click on an agreement to view the specific agreement details.



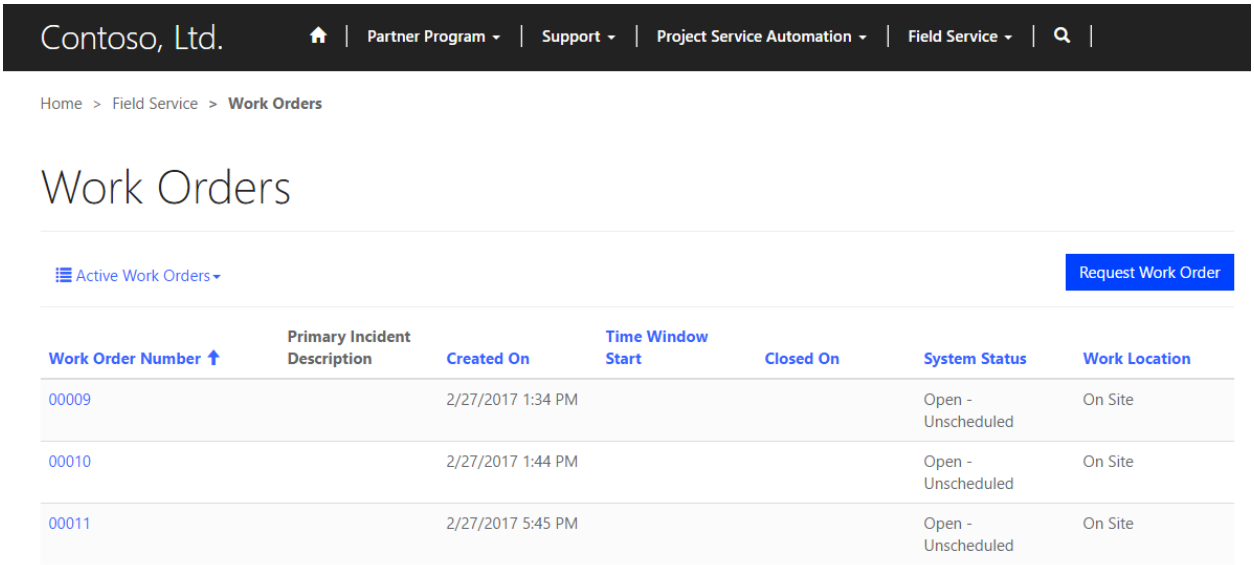
View assets on the partner portal

Customers can view existing assets on the portal that are connected to their account on the partner portal if they have the correct web role and the asset is properly created. By assigning the FS Customer Approver or FS Customer Reviewer web role to the customer, they will be able to view assets on the partner portal. To create/edit an asset to be visible on the portal, navigate in Dynamics 365 to **Field Service** > **Service Delivery** > **Customer Assets**. From here select an asset or create a new one with the **+ New** button at the top. Set **Account** to the account the customer is connected to and select the **Expose to Customer** checkbox. The customer can then sign in to the portal and navigate to **Field Service** > **Assets** to see the assets created in Dynamics 365. The customer will be able to see each asset connected to their account with what parent and/or master assets the asset is connected to.



View work orders for field service on the partner portal

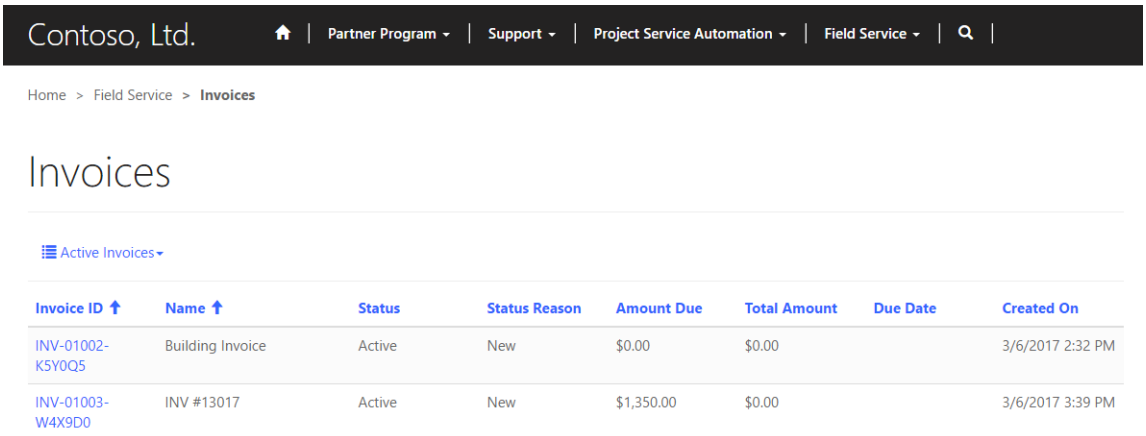
Customers can view active and inactive work orders on the portal that are connected to their account on the partner portal if they have the correct web role and the work order is properly created. By assigning the FS Customer Approver or FS Customer Review web role to the customer, they will have the correct web role to view work orders on the partner portal. To make a work order viewable in a portal it must be defined as viewable in Dynamics 365. Go to **Field Service** > **Work Order & Schedule** > **Work Orders**.



Click on the work order to edit or click the **+ New** button to create a new one. Fill in the **Service Account** with the account the customer is connected to and select the **Expose to Customer** checkbox to allow a customer to view it on the portal. After signing in to the portal, the customer can navigate to **Field Service** > **Work Orders** and see the work orders that are connected to their account.

View invoices for field service on the partner portal

Customers can view active and inactive invoices that are connected to their account on the partner portal if they have the correct web role and the work order has been properly created. By assigning the FS Customer Approver or FS Customer Review web role to the customer, they will have the correct web role to view invoices on the partner portal. To make an invoice viewable in a portal, it must be defined as viewable in Dynamics 365. Go to **Field Service** > **Service Delivery** > **Invoices**. Select the invoice to edit it, or click the **+ New** button to create a new one. Be sure that the invoice is on the **Invoice** section of the drop-down menu on the top left side of the page. Fill in the necessary details for the invoice and ensure the **Expose to Customer** checkbox has been selected. After signing in to the portal and going to **Field Service** > **Invoices**, the customer will be able to view the invoice.



Automatically distribute opportunities to preferred partners

You can automatically distribute opportunities to partners based on a set of criteria that determines the best partner for the job. The built-in metrics for opportunity assignment first determine which partners are available to take on this opportunity. This table shows the factors that are used to decide whether a partner is available.

Capacity	A partner's capacity is the maximum number of opportunities that partner can take on at once. This value can be adjusted from the account details page for each partner. **Note** Capacity includes opportunities that are in progress, as well as those that have not yet been accepted by a partner. It does not include internal opportunities created by that partner.
Estimated revenue	You can set a minimum and maximum range for estimated revenue on the account details page for each partner. If the estimated revenue for an opportunity falls within this range, the partner will be available for assignment.
Territory	Territories are geographic regions that are assigned to a partner account. If the address of the customer associated with the opportunity is within a territory covered by a partner, the partner will be available for assignment.
Lead type	The lead type entity can be used to categorize opportunities. You can assign which lead types each partner is able to work on.
Associated products	If the products associated with an opportunity are all covered by a partner, they will be available for assignment. If any of the products are not covered by a partner, they will not be available for assignment.

Partner ranking metrics

After the available partners have been identified, the opportunity is distributed to a partner based on a ranking system. This system takes the following factors into account.

Distance	The distance between the address of the partner and the address of the customer account that is associated with the opportunity.
Win rate	The percentage of distributed opportunities historically won by the partner.

Return rate	The percentage of distributed opportunities historically lost (returned) by the partner.
Feedback rate	The percentage of delivered opportunities that received feedback from customers.
Stall rate	The percentage of distributed opportunities that have been accepted by the partner, but have not progressed through workflow stages.
Touch rate	The percentage of distributed opportunities that were promptly accepted or declined and were not allowed to expire after delivery.
Average time to close	The average length of time, in days, that the partner takes to close opportunities.

Partner ranking weights

The metrics used to rank partners for opportunity distribution are weighted to determine how they affect partner ranking. These weights can be adjusted using site settings, and affect how heavily a metric is used to rank partners. A setting of zero (0) will cause that metric to be disregarded when ranking partners for opportunity distribution.

Note

A positive weight means that a higher number for this metric is more desirable, and a negative weight means that a lower number is more desirable.

The range of accepted values for each metric's site setting is as follows.

Description	Setting name	Value range
Distance	distribution/weights/distance	Negative, 0 to -0.01
Win rate	distribution/weights/winrate	Positive, 0 to 5
Return rate	distribution/weights/returnrate	Negative, 0 to -5
Feedback rate	distribution/weights/feedbackrate	Positive, 0 to 5
Stall rate	distribution/weights/stallrate	Negative, 0 to -5
Touch rate	distribution/weights/touchrate	Positive, 0 to 5
Average time to close	distribution/weights/avgtimetoclose	Negative, 0 to -0.5

See also

Create a partner account on PRM portal

Manage web links in Dynamics 365 or on portals

Applies To: Dynamics 365 (online), Dynamics CRM Online

A web link can link to any URL or it can link to another webpage within the same website. When a web link is to a webpage, the security and publishing state of the webpage will apply to the web link as well. Web links are always part of a web link set. A web link set is a group of links such as a primary navigation or a group of footer links. Web link sets allow internal, regardless of placement in the site map, and external links to be grouped together and ordered.

Manage web links in Dynamics 365

For Dynamics 365 users, provided the portal customizations have been imported into the Dynamics 365 organization, Web links can be managed in the Portals section.

Manage web links in a portal

To modify a web link set, you need appropriate permissions and the web link set you want to modify must be part of the page template. To edit a web link set, point to the web link set and click the blue edit button that appears. Drag and drop the move icon to reorder the web links. Click the paper & pencil icon to edit a web link. Click the red minus icon to delete a web link from the set. Click the green plus icon to add a new web link to the set.

Multilevel web link sets

Web link sets can support a multilevel tree of web links. This allows the creation of multilevel link menus and navigation elements.

Links can be moved to their desired level and position using drag-and-drop, in the same way that they are re-ordered. A light blue placeholder indicates where the link will be dropped. Any light yellow placeholders that appear during the drag indicate that the web link above has no child links, and the dragged web link can be dropped here to make it a child of that link.

Web link set attributes and relationships

The table below explains many of the standard Web Link Set properties used by portals. It is important to note that the way in which many of the content/display-oriented properties are rendered is controlled by the page template used.

Name	Description
Name	The descriptive name of the web link set. This value usually describes the placement of the set in the page template such as "Primary Navigation." This field is required.
Website	The website to which the entity belongs. This field is required.
Title	An optional title for the web link set. This value can be used on the portal if it's part of the page template. It could be something like "Our Partners" and be displayed in a side bar.

Name	Description
Copy	An optional description for the web link set. This value can be used on the portal if it's part of the page template. It could further describe something like "Our Partners" in a side bar.

Web link attributes and relationships

The table below explains many of the standard Web Link properties used by Dynamics 365 portals. It is important to note that the way in which many of the content/display-oriented properties are rendered is controlled by the page template used.

Name	Description
Name	The title for the web link. This value will be used as the web link title in most templates. This field is required.
Web Link Set	The web link set to which the entity belongs. This field is required.
Parent Web Link	The parent web link of the entity, in a multilevel web link set. If no parent web link is specified, the entity is at the top/root level of the web link set.
Page	An optional webpage from the same website to link to. **Note** When a web link is to a webpage, the security and publishing state of the webpage will apply to the web link as well. This validation can be disabled with the "Disable Page Validation" option.
External URL	An optional URL to link to. This value can be any properly formatted URL.
Description	An optional summary for the web link. This value can be used on the portal if it's part of the page template.
Publishing State	The current publishing workflow state of the web link, which may dictate whether the web link is visible on the site. The most common use of this feature is to provide "published/draft" control over content. This field is required. **Note** Users with content management permissions may be granted the ability to use "Preview

Name	Description
	Mode", which allows these users to see ("preview") unpublished content.
Robots Follow Link	Indicates whether or not search indexers should follow and index the contents of the link. This field is required.
Display Order	An integer value indicating the order in which the web link will be placed, relative to other web links within the same web link set.
Display Page Child Links	In a template that supports multilevel web link sets, generate child links for this entity using the portal site map provider. Note that this option is only valid for web links that refer to internal pages, and not external URLs.
Open in New Window	Indicates whether selecting the link will load the link in a new browser window.
Disable Page Validation	Indicates whether the security of a linked webpage will be applied to the web link as well.
Image URL	An optional URL to an image. The linked image can be used on the portal if it's part of the page template; for example, as an icon.
Image Height	An optional height for the image from the Image URL property.
Image Width	An optional width for the image from the Image URL property.
Image Alt Text	An optional description for the image from the Image URL property.
Display Image Only	Indicates that the template should render only an image link for this web link, rather than both the image and link name together.

See also

Get started with the portal content editor
Customize content by using content snippets

Invite contacts to your portals

Applies To: Dynamics 365 (online), Dynamics CRM Online

With the Dynamics 365 portals invitation feature you have the ability to invite contacts to your portal through automated email(s) created in your Dynamics 365 system. People invited will receive an email,

fully customizable by you, with a link to your portal and an invitation code. This code can be used to gain special access configured by you. With this feature you have the ability to:

Send Single or Group Invitations

- Specify an expiry date if desired
- Specify a user or portal contact as the inviter if desired
- Automatically assign the invited contact(s) to an account upon invite redemption
- Automatically execute a workflow upon invite redemption
- Automatically assign the invited contact(s) to a Web Role(s) upon redemption

Invitation redemption can be accomplished using one of several authentication options. For documentation about portal authentication, see Set authentication identity for a portal and choose the model applicable to your portal version and configuration. The user will adopt any settings provided by the administrator upon redemption. An Invite Redemption Activity will be created for the Invite and Contact.

Invitations are sent via the **Send Invitation** workflow. By default, the workflow creates an email with a generic message and sends it to the invited Contact's primary email address. The **Send Invitation** workflow contains an email template that will need to be edited to contain a specific message for your portal and the correct hyperlink to your portal's **Invite Redemption Page**.

Edit Send Invitation workflow email template

Locate the **Send Invitation** workflow and deactivate it. After it is deactivated, edit the email template to send the message you want and provide a link to the **Invite Redemption Page** of your portal.

Create and configure invitations

To create an Invitation record within Dynamics 365 click the **Create Invitation** button in the command bar. The button is available when a single Contact is selected in a Contact View and when viewing a Contact record. Clicking the button will open a new invitation form for the Contact. Invitations can also be created via the Invitations View by clicking **+New**. After the Invitation record has been created the **Run Workflow** button will appear enabling you to send the Invitation to the Contact(s).

Run the Send Invitation workflow

The invitation will not be sent to the Contact(s) until the **Send Invitation** workflow is initiated.

The Invitation Form has the following fields:

Name	Description
Name	A descriptive name for helping recognize the invitation.
Type	**Single** or **Group**. Single will allow only one contact to be invited and only one redemption. Group allows multiple contacts to be invited and multiple redemptions.
Owner/Sender	The Dynamics 365 user that will be the sender of the email when the invitation is sent. This can be overridden in the **Send Invitation** workflow if the created email already contains someone in the from field.

Name	Description
Invitation Code	A unique code for the invitation that only the invitee will know. This is automatically generated when creating a new invitation.
Expiry Date	The date that represents when the invitation will become invalid for redemption. Optional.
Inviter	Can be used when a contact is the sender of the invitation. Optional.
Invited Contact(s)	The contact(s) to be invited to a portal.
Assign to Account	An account record to be associated as the redeeming contact's parent customer when the invite is redeemed. Optional.
Execute Workflow on Redeeming Contact	A workflow process to be executed when the invite is redeemed. The workflow will be passed the redeeming contact as the primary entity. Optional.
Assign to Web Roles	A set of web roles to be associated with the redeeming contact when the invite is redeemed. Optional.
Redeemed Contact(s)	The contact(s) that have successfully redeemed the invitation.
Maximum Redemptions Allowed	The number of times the invitation can be redeemed. Available for Group type invitations only.

See also

Register and invite for a portal
Configure a contact for use on a portal
Set authentication identity for a portal

Customization Guide

Customize content by using content snippets

Applies To: Dynamics 365 (online), Dynamics CRM Online

Content snippets are small chunks of editable content that can be placed by a developer on a page template, allowing for customizable content to populate any portion of a page's layout easily. Snippet controls, which are responsible for rendering the content of snippets on the web-facing portal, are placed on .aspx pages by developers. For information on how to develop with snippets, see the developer's guide.

Edit snippets

Snippets can be edited either through the front-side or through the Dynamics 365 interface. The main power of the snippet is the fact that you can abstract a bit of content (other than the main copy of the page) and edit it separately, allowing essentially any static content on your site to be fully content-managed and front-side editable but still backed by Dynamics 365.

Edit using the front-side editing engine

To edit snippets on the front side, users must be associated with a Web Role that is associated with a Website Access Permission record with the **Manage Content Snippets** permission set to true.

To edit through the front side, hover over the snippet element and click the edit button. You must have website access permissions to edit snippets. More information: Control webpage access for portals

When editing a snippet, either a simple text box will appear, allowing you to quickly edit the content, or the full editor appears, as it does when editing a page's copy.

Which of these two interfaces appears is determined by the edit type of the snippet, which also determines the type of content the snippet can hold (full, stylized HTML content versus plain text). A snippet can be assigned an edit type of either text or HTML when a developer adds the Content Snippet control to the page template in the Portal's Visual Studio project.

Edit by using Dynamics 365

1. Navigate to **Portals** -> **Content Snippets**
2. To create a new snippet: Click **New**
3. To edit an existing snippet: Double-Click on an existing **Content Snippet** in the grid

Enter values for the following fields:

Name	Description
Name	The name can be used by a developer to place the snippet value into a page template within the portal's code.
Website	The website that is associated with the snippet.

Name	Description
Value	The content of the snippet to be displayed in the portal. This can contain plain text or HTML markup.

See also

How to provision a portal
Get started with the portal content editor
Use the front-side editing engine to publish content
Add dynamic content and create custom templates

Add dynamic content and create custom templates

Applies To: Dynamics 365 (online), Dynamics CRM Online

Liquid is an open-source template language integrated into portals. It can be used to add dynamic content to pages, and to create a wide variety of custom templates. With Liquid, you can:

- Add dynamic content directly to the Copy field of a webpage or the content of a content snippet.
- Store source content by using web templates, entirely through configuration within Dynamics 365, for use throughout the Dynamics 365 portals content management system.
- Render a website header and primary navigation bar, entirely through configuration within Dynamics 365.

In all of these scenarios, you'll have dynamic access to Dynamics 365 portal features, such as entitylist, content snippets, site settings for portals, and web links.

In this section

Store source content by using web templates
Understand Liquid operators
Liquid types
Conditional
Liquid Objects
Liquid Tags
Liquid Filters
Create advanced templates for portals

See also

How to provision a portal
Get started with the portal content editor

Store source content by using web templates

Applies To: Dynamics 365 (online), Dynamics CRM Online

Web Template is a Dynamics 365 entity (`adx_webtemplate`), included with Dynamics 365 portals, that is used to store template source content. A web template will generally contain Liquid for dynamic content rendering and is the central entity used to integrate Liquid templates with the rest of the Dynamics 365 portals system.

Web Templates can be included in other content or combined with other templates by using template tags, and are referenced in these tags by their **Name** attribute. They can also be used to create entire custom Page Templates, or create custom headers and footers for your portal website.

Web template attributes

Name	The name of the template. Used to reference this template when it is included in other content, or extended by other templates.
Source	The source content of the template. In Dynamics 365, a source code editor with syntax highlighting and other code editing features is provided for this field.
MIME Type	Optionally provides a MIME type for the content of the template. If none is provided, a type of `text/html` is assumed. This value will only be used in cases where the template is associated with a Page Template, and controls the rendering of all content for that template.

Web templates as page templates

Web Templates can be used in conjunction with page templates to create new templates for the Dynamics 365 portals content management system. This can be done entirely within Dynamics 365, without the need to write .NET code or redeploy your portal application.

To create a new page template based on a web template, select a **Type** of `Web Template` when creating a new Page Template record. Then select a **Web Template**.

Note the option **Use Website Header and Footer** (which is checked by default). If this is checked, your Web Template will control rendering of all page content between the global website header and footer. If this option is unchecked, your Web Template will be responsible for rendering the entire response in the case that you're rendering HTML, this means everything from the doctype to the root `<html>` tags, and everything in between.

While the most common use cases for Web Templates will be to render HTML, rendering the entire response (by deselecting **Use Website Header and Footer**) gives you the option of rendering any text-based format you choose. This is where the **MIME Type** attribute of Web Template becomes relevant. When a Page Template that does not use the website header and footer is rendered, the HTTP response `Content-Type` header will be set to the MIME Type of the associated Web Template. (`text/html` will be used if no MIME Type is provided.) This gives you a wide variety of options for rendering non-HTML

content by using Liquid. A common use case would be to render an RSS feed, by setting a MIME Type of `application/rss+xml`.

Web templates as website headers and footers

Web templates can also be used to override the global header and footer used by a Dynamics 365 portal. To do this, set the **Header Template** or **Footer Template** field of your website to the web template of your choice. Note that if you override **Website Header**, your selected template assumes responsibility for rendering the primary navigation, sign-in/sign-out links, search interface, and so on for your site interface elements that are normally handled by the default header template.

Built-in web templates

There is a set of premade Liquid templates available within Dynamics 365 portals. To use them, you must include them by name, using the list below as a reference.

Name	Description	Code

Ad	This template renders an ad by name, or a random ad from an ad placement.	`{% include 'ad' ad_name:'Name' %}`
		
		`{% include 'ad' ad_placement_name:'Placement Name' %}`

Blogs	This template renders recent blog posts in a list group.	`{% include 'blogs' %}`
Breadcrumbs	This template renders links of ancestor pages back to the Home page from the current page.	`{% include 'breadcrumbs' %}`

Child Link List Group	This template renders links to any child pages of the current page in a list group.	`{% include 'child_link_list_group' %}`
		
		`{% include 'child_link_list_group' title_only:true %}`
		
		`{% include 'child_link_list_group' image_width:'64px', image_height:'64px' %}`

Events: Upcoming	This template renders links to events that occur between now and 60 days from now.	`{% include 'events_upcoming' %}`
		
		`{% include 'events_upcoming' number_of_days_in_advance:60 %}`

Name	Description	Code
Forums	This template renders a list of the website's forums with their respective number of threads and posts.	`{% include 'forums' %}`

Layout 1 Column	This template renders a single column layout containing breadcrumbs, page title, and page copy content.	`{% extends 'layout_1_column' %}`
		
		`{% block main %}`
		
		`...`
		
		`{% endblock %}`

Layout 2 Column Wide Left	This template renders a two column layout. The left column is wider than the right. It contains breadcrumbs, page title at the top of the page and the page copy content is located in the left column.	`{% extends 'layout_2_column_wide_left' %}`
		
		`{% block main %}`
		
		`...`
		
		`{% endblock %}`
		
		`{% block aside %}`
		
		`...`
		
		`{% endblock %}`

Layout 2 Column Wide Right	This template renders a two column layout. The right column is wider than the left. It contains breadcrumbs, page title at the top of the page and the page copy content is located in the right column.	`{% extends 'layout_2_column_wide_right' %}`
		
		`{% block main %}`
		
		`...`
		
		`{% endblock %}`

Name	Description	Code

		`{% block aside %}`
		
		`...`
		
		`{% endblock %}`

Layout 3 Column Wide Middle	This template renders a three column layout. The middle column is wider than the left and right. The layout contains breadcrumbs and the page title at the top of the page and the page copy content is located in the middle column.	`{% extends 'layout_3_column_wide_middle' %}`
		
		`{% block left_aside %}`
		
		`...`
		
		`{% endblock %}`
		
		`{% block main %}`
		
		`...`
		
		`{% endblock %}`
		
		`{% block right_aside %}`
		
		`...`
		
		`{% endblock %}`

Page Copy	This template renders the editable page copy content HTML with support for embedded Liquid.	`{% include 'page_copy' %}`
Page Header	This template renders the page title.	`{% include 'page_header' %}`
Poll	This template renders a poll by name, or a random poll from a poll placement.	`{% include 'poll' poll_name:'Name' %}`

Name	Description	Code
		`{% include 'poll' poll_placement_name:'Placement Name' %}`
Search	This template renders a basic search form with a single text input and search button.	`{% include 'search' %}`
Side Navigation	This template renders a vertical tree view style navigation. It has links to ancestor pages back to the first level (or specified depth offset), links to sibling pages of the current page, and links to children of the current page.	`{% include 'side_navigation' %}` `{% include 'side_navigation' depth_offset:1 %}`
Snippet	This template renders an editable HTML content snippet by name.	`{% include 'snippet' snippet_name:'Name' %}`
Top Navigation	This template renders an editable nav bar with drop-down menus for the Primary Navigation web link set.	`{% include 'top_navigation' %}`
Weblink List Group	This template renders a list group of links for a web link set.	`{% include 'weblink_list_group' weblink_set_name:'Name' %}`

See also

Add dynamic content and create custom templates
Understand Liquid operators
Liquid types
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Liquid Tags
Liquid Filters
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Understand Liquid operators

Applies To: Dynamics 365 (online), Dynamics CRM Online

Liquid has access to all common logical and comparison operators. These can be used in tags such as **if** and **unless**.

Basic operators

==	Equals	
!=	Does not equal	
>	Greater than	
<	Less than	
>=	Greater than or equal to	
<=	Less than or equal to	
Or	Condition A	**or** condition B
And	Condition A	**and** condition B

contains

`contains` tests for the presence of a substring within a string.

```
{% if page.title contains 'Product' %}


The title of this page contains the word Product.


{% endif %}
```

`contains` can also test for the presence of a string within an array of strings.

startswith

`startswith` tests whether a string starts with a given substring.

```
{% if page.title startswith 'Profile' %}


This is a profile page.


{% endif %}
```

endswith

`endswith` tests whether a string ends with a given substring.

```
{% if page.title endswith 'Forum' %}


This is a forum page.
```

```
{% endif %}
```

See also

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Liquid types

Applies To: Dynamics 365 (online), Dynamics CRM Online

Liquid objects can return one of seven basic types: **String**, **Number**, **Boolean**, **Array**, **Dictionary**, **DateTime**, or **Null**. Liquid variables can be initialized by using the **assign** or **capture** tags.

String

A String is declared by wrapping text in single or double quotes.

```
{% assign string_a = "Hello World!" %}

{% assign string_b = 'Single quotes work too.' %}
```

Get the number of characters in a string with the `size` property.

```
{{ string_a.size }} <!-- Output: 12 -->
```

Number

Numbers can be integers or floats.

```
{% assign pi = 3.14 %}


{% if page.title.size > 100 %}

  This page has a long title.

{% endif %}
```

Boolean

A Boolean is either true or false.

```
{% assign x = true %}
```

```
{% assign y = false %}


{% if x %}

  This will be rendered, because x is true.

{% endif %}
```

Array

An array holds a list of values of any type. You can access a given item by (zero-based) index using `[ ]`, iterate over them using the **for tag**, and get the number of items in the array using the `size` property. See also: Array filters

```
{% for view in entitylist.views %}

  {{ view.name }}

{% endfor %}


{{ entitylist.views[0] }}


{% if entitylist.views.size > 0 %}

  This entity list has {{ entitylist.views.size }} views.

{% endif %}
```

Dictionary

Dictionaries hold a collection of values that can be accessed by a string key. You can access a given item by string key using `[ ]`, iterate over them using the **for tag**, and get the number of items in the dictionary using the `size` property.

```
{{ request.params["ID"] }}


{% if request.params.size > 0 %}

  The request parameters collection contains some items.

{% endif %}
```

DateTime

A DateTime object represents a specific date and time.

```
{{ page.modifiedon | date: 'f' }}
```

Note

Date filters.

Null

Null represents an empty or non-existent value. Any outputs that attempt to return a null value will render nothing. It will be treated as false in conditions.

```
{% if request.params["ID"] %}

  This will render if the ID request parameter is NOT null.

{% endif %}
```

See also

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Conditional

Applies To: Dynamics 365 (online), Dynamics CRM Online

When used in conditional statements (**if**, **unless**), some Liquid values will be treated as true, and some will be treated as false.

In Liquid, null and the Boolean value false are treated as false; everything else is treated as true. Empty strings, empty arrays, etc. are treated as true.

Examples:

```
{% assign empty_string = "" %}



{% if empty_string %}

  <p>This will render.</p>

{% endif %}
```

You can test for empty strings and arrays using the special value empty if necessary.

```
{% unless page.title == empty %}

  <h1>{{ page.title }}</h1>

{% endunless %}
```

You can also test the size of Liquid types, Liquid types, or Liquid types using the special `size` property.

```
{% if page.children.size > 0 %}

  <ul>

    {% for child in page.children %}
```

```
      <li>{{ child.title }}</li>
    {% endfor %}
  </ul>
{% endif %}
```

Summary

	True	False
True	×	
False		×
Null		×
String	×	
empty string	×	
0	×	
1, 3.14	×	
array or dictionary	×	
empty array or dictionary	×	
Object	×	

See also

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Liquid objects

Applies To: Dynamics 365 (online), Dynamics CRM Online

Liquid objects contain attributes to output dynamic content to the page. For example, the `page`object has an attribute called `title` that can be used to output the title of the current page.

To access an object attribute by name, use a dot `.` To render an object's attribute in a template, wrap it in `{{` and `}}`.

```
{{ page.title }}
```

Attributes of an object can also be accessed using a string name and `[]`. This is useful in cases where the desired attribute is determined dynamically, or the attribute name contains characters , spaces, special characters, etc., that would be invalid when using the `.` syntax.

```
{{ page["title"] }}
```

```
{% assign attribute_name = "Name with spaces" %}

{{ object[attribute_name] }}
```

The following objects can be used and accessed anywhere, in any template.

`entities`	Allows you to load any Dynamics 365 entity by ID. More information: entities
`Now`	A date/time object that refers to the current UTC time, **at the time the template is rendered**. More information: Date filters
`Page`	Refers to the current portal request page. The `page` object provides access to things like the breadcrumbs for the current page, the title or URL of the current page, and any other attributes or related entities of the underlying Dynamics 365 record. More information: page
`params`	A convenient shortcut for `request.params`. More information: request
`request`	Contains information about the current HTTP request. More information: request
`settings`	Allows you to load any Site Setting by name. More information: settings, Configure site settings for portals
`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: Customize content by using content snippets
`User`	Refers to the current portal user, allowing access to all attributes of the underlying Dynamics 365 contact record. If no user is signed in, this variable will be null. More information: Liquid types
`weblinks`	Allows you to load any Web Link Set by name or ID. More information: weblinks

`website`	Refers to the portal Website record, allowing access to all attributes of the Dynamics 365 Website (`adx_website`) record for the portal. More information: website

All Liquid Objects

ads
blogs
entities
entitylist
entityview
events
forloop
forums
page
polls
request
searchindex
settings
sitemap
sitemarkers
snippets
tablerowloop
user
weblinks
website

See also

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ads

Applies To: Dynamics 365 (online), Dynamics CRM Online

Provides the ability to access and render an ad.

The `ads` object allows you to select a specific ad or ad placement:

```
<div>
    {% assign ad = ads["Ad Name"] %}
    <h4>{{ ad.title }}</h4>
    <a href="{{ ad.redirect_url }}">
        <img src="{{ ad.image.url }}" alt="{{ ad.image.alternate_text }}" />
    </a>
</div>
```

Ads attributes

`placements`	Returns the `adplacements` object.
`[ad name or id]`	You can access any ad by its Name or Id properties. **`{% assign ad = ads["Ad Name"] %}`** **`{% assign ad = ads["da8b8a92-2ee6-476f-8a21-782b047ff460"] %}`**

Ad Placements attributes

`[ad placement name or id]`	You can access any `adplacement` by its Name or Id properties. **`{% assign placement = ads.placements["Placement Name or Id"] %}`** **`{% assign placement = ads.placements["2423d713-abb3-44c3-8a7d-c445e16fccad"] %}`**

Ad Placement attributes

An `adplacement` is an entity object, with all of the same attributes, in addition to those listed below.

`Ads`	Returns the collection of ad objects associated with the placement. Iteration tags and Array filters may be used with this collection.
`Name`	Returns the Name field for the ad placement.

`placement_url`	The URL that can be used to retrieve the ad placement fully rendered by a template.
`random_url`	The URL that can be used to retrieve a random ad from the placement fully rendered by a template.

Ad attributes

Note

An `ad` is an entity object, with all of the same attributes, in addition to those listed below.

`ad_url`	The URL that can be used to retrieve the ad fully rendered by a template.
`Copy`	Returns the Copy field for the ad.
`image`	Returns the image object (if any) for the ad.
`Name`	Returns the Name field for the ad.
`open_in_new_window`	Returns true if the URL specified by `redirect_url` should open in a new window.
`redirect_url`	The URL that the user will be directed to by clicking on the ad.

Ad Image attributes

`alternate_text`	Return the text that is intended to appear in the tag's `alt` attribute.
`height`	Returns the height in pixels for the image
`url`	Returns the URL source for the image.
`width`	Returns the width in pixels for the image

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

blogs

Applies To: Dynamics 365 (online), Dynamics CRM Online

Provides the ability to access and render Blogs and Blog Posts.

The `blogs` object allows you to select a specific blog or blog posts.

```
{% assign posts = blogs.posts | paginate: 0,4 %}

<div class="content-panel panel panel-default">

  <div class="panel-heading">

    {% assign sitemarker = sitemarkers["Blog Home"] %}

    {% assign snippet = snippets["Home Blog Activity Heading"] %}

    <a class="pull-right" href="{{sitemarker.url}}"> All Blogs </a>

    <h4>

      <a class="feed-icon fa fa-rss-square" href="{{ blogs.feedpath }}" />

      {{ snippet.adx_value }}

    </h4>

  </div>

  <ul class="list-group">

    {% for post in posts.all %}

      <li class="list-group-item" >

        <a class="user-avatar" href="{{ post.author_url }}">

          <img src="{{ post.user_image_url }}" />

        </a>

        <h4 class="list-group-item-heading">

          <a href="{{ post.app_relative_path }}">{{ post.title }}</a>

        </h4>

        <div class="content-metadata">

          <abbr class="timeago">{{ post.publish_date }}</abbr>

          &ndash;

          <a href="{{ post.author_url }}"> {{ post.author_name }} </a>

          &ndash;

          <a href="{{ post.application_path }}#comments">

            <span class="fa fa-comment" aria-hidden="true"></span> {{ post.comment_count }}

          </a>

        </div>

      </li>

    {% endfor %}
```

```
  </ul>
</div>
```

blogs Object

The blogs object allows you to access any specific blog in the portal, or to access all blog posts in the portal (regardless of the blog).

The following table explains the attributes associated with the `blogs` object.

`posts`	Returns a `blogposts` object containing all blog posts in the portal.
`[blog name or id]`	You can access any `blog` by its Name or Id properties. **`{% assign blog = blogs["Blog Name"] %}`** **`{% assign blog = blogs["da8b8a92-2ee6-476f-8a21-782b047ff460"] %}`**

blog Object

The `blog` object allows you to work with a single blog, allowing you to access the posts for that blog.

The following table explains various attributes associated with `blog` Object.

`posts`	Returns a `blogposts` object containing all blog posts for the blog.
`Name`	The name of the blog.
`title`	The title of the blog.
`url`	The URL of the blog.

blogposts Object

The blogposts object allows you to access a collection of blog post objects. You can order the blog posts and achieve pagination as well using liquid filters:

`{% assign blogposts = blogs.posts | order_by “adx_name”, “desc” | paginate: 0,4 | all %}`

Note that `blogs.posts.all` is also a valid way to get all blog posts

`blogs.posts | from_index: 0 | take: 2` is also possible

The following table explains various attributes associated with `blogposts` Object.

`All`	Returns all `blogpost` objects in the collection

blogpost Object

Refers to a single blog post.

The following table explains various attributes associated with `blogpost` Object.

`url`	The URL of the post.
`content`	Returns the content field for the post.
`content`	Returns the Content field for the post.
`author`	Returns the `author`f for the post (which is simply a contact `entity` object.
`title`	The Title of the post.
`comment_count`	Returns the integer value of the count of how many comments there for a given post.
`publish_date`	The date at which the post was published.

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

entities

Applies To: Dynamics 365 (online), Dynamics CRM Online

Allows you to load any Dynamics 365 entity by ID. If the entity exists, an entity object will be returned. If an entity with the given ID is not found, Liquid types will be returned.

```
{% assign account = entities.account['936DA01F-9ABD-4d9d-80C7-02AF85C822A8'] %}

{% if account %}

  {{ account.name }} ({{ account.statecode.label }})

{% endif %}


{% assign entity_logical_name = 'contact' %}

{% assign contact = entities[entity_logical_name][request.params.contactid] %}

{% if contact %}

  {{ contact.fullname }} ({{ contact.parentcustomerid.name }})

{% endif %}
```

Entity

An entity object provides access to the attributes of a Dynamics 365 entity record.

Attribute	Description
`Id`	The GUID ID of the entity, as a string. e.g. `936DA01F-9ABD-4d9d-80C7-02AF85C822A8`
`logical_name`	The Dynamics 365 logical name of the entity.
`Notes`	Loads any notes (`annotation`) associated with the entity, ordered from oldest to newest (`createdon`). Notes are returned as note objects.
`permissions`	Loads Entity Permission assertion results for the entity. Results are returned as a permissions object.
`url`	Returns the Dynamics 365 portals content management system URL path for the entity. If the entity has no valid URL in the current website, returns `null`. Generally, this will only return a value for certain entity types that have been integrated into the portal CMS , unless you have customized the URL Provider in your application.

`[attribute or relationship name]`	You can access any attribute of the Dynamics 365 entity by logical name.
	`{{ entity.createdon }}`
	`{% assign attribute_name = 'name' %}`
	`{{ entity[attribute_name] }}`
	The values of most entity attributes map directly to Liquid types: Two Option fields map to Booleans, text fields to strings, numeric/currency fields to numbers, date/time fields to date objects. But, some attribute types are returned as objects:
	Lookup (Entity Reference) fields are returned as entity reference objects.
	Option Set/Picklist fields are returned as option set value objects.
	You can also load any related entities by relationship schema name.
	`{{ page.adx_webpage_entitylist.adx_name }}`
	In the case that a relationship is reflexive (i.e. self-referential), a reflexive relationship object will be returned. (Otherwise, the desired result would be ambiguous.)

Attribute	Description

	`{{`
	`page.adx_webpage_webpage.referencing.adx_name`
	`}}`
	
	Note
	Loading large numbers of related entities, or accessing large numbers of relationships in a single template, can have a negative impact on template rendering performance. Avoid loading related entities for each item in an array, within a loop.
	Where possible, use Dynamics 365 entity tags to load collections of entities.

Entity Reference

Lookup attribute values are returned as entity reference objects, with the following attributes.

Attribute	Description
`Id`	The GUID ID of the referenced entity, as a string. e.g. `936DA01F-9ABD-4d9d-80C7-02AF85C822A8`
`logical_name`	The Dynamics 365 logical name of the referenced entity.
`Name`	The primary name attribute of the referenced entity.

Note

A note is an entity object that provides access to the attributes and relationships of an `annotation` record. In addition to all the attributes of an entity object, a note has the following additional attributes.

Attribute	Description
`documentbody`	Loads the `documentbody` attribute of the note `annotation` record, as a Base64-encoded string. As the content of this attribute may be large, it is not loaded with the rest of the note attributes, and only loaded on demand. **Note** Use of the `documentbody` attribute could have a negative impact on template rendering performance, and should be done with caution.

Attribute	Description
	Use the `url` attribute to provide a link to the note attachment instead, if possible.
`url`	Returns the URL path for the built-in portal annotation attachment handler. If the user has permission, and the note has an attached file, a request to this URL will download the note file attachment.

Note

Additional filters

Option Set Value

Option Set/Picklist attribute values are returned as entity reference objects, with the following attributes.

Attribute	Description
`Label`	The localized label of the option set/picklist attribute value. e.g. `Active`
`Value`	The integer value of the option set/picklist attribute value. e.g. `0`

Entity Permissions

The Entity Permissions object provides access to aggregated permission assertion results for an entity.

Attribute	Description
`can_append`	Returns `true` if the current user has permission to append records to relationships of this record. Returns `false` otherwise.
`can_append_to`	Returns `true` if the current user has permission to append this record to a relationship of another entity. Returns `false` otherwise.
`can_create`	Returns `true` if the current user has permission to create new records of this entity type. Returns `false` otherwise.
`can_delete`	Returns `true` if the current user has permission to delete this record. Returns `false` otherwise.

Attribute	Description
`can_read`	Returns `true` if the current user has permission to read this record. Returns `false` otherwise.
`can_write`	Returns `true` if the current user has permission to update this record. Returns `false` otherwise.
`rules_exist`	Returns `true` if the permission results represented by this object are the result of explicitly-defined permission rules. Returns `false` if they are the default results in the absence of explicitly-defined permissions.

Reflexive Relationship

Attempts to load reflexive (i.e. self-referential) relationships on entities are returned as objects with the following attributes.

Attribute	Description
`is_reflexive`	Returns `true`. Can be used to test if an object returned by a relationship is a reflexive relationship object.
`referenced`	Returns an array of referenced entities for the given relationship.
`referencing`	Returns a referencing entity for the given relationship. Returns `null` if no referencing entity exists. If the relationship is many-to-many (N:N), returns an array of referencing entities.

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

entitylist

Applies To: Dynamics 365 (online), Dynamics CRM Online

The `entitylist` object is used within the Dynamics 365 entity tags. It provides access to all the attributes of a given entity list.

Note

Render the entity list associated with the current page

Attributes

Note

entities

`create_enabled`	Returns `true` if creation of new records is configured for the entity list. Returns `false` otherwise.
`create_label`	Returns the configured localized label for a creation link/button for the entity list.
`create_url`	Returns the configured URL path for a creation link/button for the entity list.
`detail_enabled`	Returns `true` if a detail view for individual records is configured for the entity list. Returns `false` otherwise.
`detail_id_parameter`	Returns the query string parameter name to use for the record ID when constructing a record detail view URL. See URL filters for details on using Liquid filters to construct URLs. e.g. `id`
`detail_label`	Returns the configured localized label for detail view links/buttons for the entity list.
`detail_url`	Returns the configured URL path for a detail view links/buttons for the entity list.
`empty_list_text`	Returns the configured localized text to be displayed when the entity list view returns no results.
`enable_entity_permissions`	Returns `true` if Entity Permission filtering is enabled for this entity list. Returns `false` otherwise.
`entity_logical_name`	Returns the Dynamics 365 entity logical name for records to be displayed by this entity list. e.g. `contact`
`filter_account_attribute_name`	Returns the attribute logical name for the lookup to `account` that will be used to filter result records by the current portal user's parent account. e.g. `accountid`
`filter_apply_label`	Returns the configured localized label to be used for the link/button that applies an advanced attribute filter to the entity list results.

`filter_definition`	Returns the JSON attribute filter definition for the entity list. See Entity List filters for details on how to use the `metafilters` Liquid filter to process this definition.
`filter_enabled`	Returns `true` if advanced attribute filtering is enabled for the entity list. Returns `false` otherwise.
`filter_portal_user_attribute_name`	Returns the attribute logical name for the lookup to `contact` that will be used to filter result records by current portal user's contact. e.g. `contactid`
`filter_website_attribute_name`	Returns the attribute logical name for the lookup to `adx_website` that will be used to filter result records by the current portal website. e.g. `adx_websiteid`
`language_code`	Returns the Dynamics 365 integer language code that will be used to select all localized labels for this entity list.
`page_size`	Returns the configured result page size for the entity list.
`primary_key_name`	Returns the primary key attribute logical name for records to be displayed by this entity list.
`search_enabled`	Returns `true` if search is enabled for this entity list. Returns `false` otherwise.
`search_placeholder`	Returns the configured localized text for the entity list search field placeholder.
`search_tooltip`	Returns the configured localized text for the entity list search tooltip.
`views`	Returns the available views for the entity list, as entity list view objects.
`[attribute logical name]`	You can access any attribute of the entity list (`adx_entitylist`) Dynamics 365 record by logical name, in the same manner as an entities. e.g. `{{ entitylist.adx_name }}`

Entity List View Attributes

`columns`	Returns the columns of the view, as entity list view column objects.
`entity_logical_name`	Returns the Dynamics 365 entity logical name for the records included in the view. e.g. `contact`

`Id`	Returns the GUID ID of the view.
`language_code`	Returns the Dynamics 365 integer language code that will be used to select all localized labels (column headers, etc.) for the view.
`Name`	Returns the Dynamics 365 display name of the view.
`primary_key_logical_name`	Returns the Dynamics 365 entity primary key logical name for the records included in the view. e.g. `contactid`
`sort_expression`	Returns the default sort expression for the view. e.g. `name ASC, createdon DESC`

Entity List View Column Attributes

`attribute_type`	Returns the Dynamics 365 attribute type name for the column, as a string. e.g. `Lookup`, `Picklist`, `String`, `Boolean`, `DateTime`
`logical_name`	Returns the Dynamics 365 attribute logical name for the column. e.g. `createdon`
`Name`	Returns the localized Dynamics 365 display name for the column. e.g. `Created On`
`sort_ascending`	Returns a sort expression string for sorting the column in ascending order. e.g. `createdon ASC`
`sort_descending`	Returns a sort expression string for sorting the column in descending order. e.g. `createdon DESC`
`sort_disabled`	Returns `true` if sorting is disabled for the column. Returns `false` otherwise.
`sort_enabled`	Returns `true` if sorting is enabled for the column. Returns `false` otherwise.
`width`	Returns the configured width for the column, in pixels.

See also

Add dynamic content and create custom templates
Liquid types

Liquid Objects
Liquid Tags
Liquid Filters

entityview

Applies To: Dynamics 365 (online), Dynamics CRM Online

The `entityview` object is used within the entityview tag, and provides access to the metadata for the view, as well as view result records.

Attributes

`columns`	Returns the columns in the view, as entitylist view column objects.
`entity_permission_denied`	Returns `true` if access to view results was denied due to insufficient Entity Permissions for the current user. Returns `false` if read access to view results was granted.
`entity_logical_name`	The Dynamics 365 entity logical name of the view result records. For example, `contact`
`first_page`	The page number of the first page of view results. This will be `1` unless there were no results returned, in which case it will be `null`.
`Id`	The GUID ID of the Dynamics 365 view that defines this `entityview`.
language_code	The Dynamics 365 integer language code being used to load localized labels for the current view.
last_page	The page number of the last page of view results. If there were no results returned, this will be `null`.
name	The name of the Dynamics 365 view that defines this `entityview`., for example, `Active Contacts`.
next_page	The page number of the next page of view results. If there is no next page of results, this will be `null`.
Page	The page number of the current page of view results.
pages	Returns an array of page numbers containing all pages of results for the current view.
page_size	The number of results returned per page for the current view.
previous_page	The page number of the next page of view results. If there is no previous page of results, this will be `null`.

primary_key_logical_name	The Dynamics 365 logical name of the primary key attribute of the result entity for this view. For example, `contactid`.
records	The current page of result records for the view, as entity objects.
sort_expression	The default sort expression for the view. For example, `nameASC`, `createdon DESC`.
total_pages	The total number of result pages for the view.
total_records	The total number of results for the view (across all pages).

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

events

Applies To: Dynamics 365 (online), Dynamics CRM Online

Provides the ability to access and render Events. The `events` object allows you to select a specific event, or all events.

events Object

The `events` object allows you to access any specific event in the portal, or to access all events in the portal (regardless of the event).

The `events` object has following attributes:

`occurences`	Returns a `eventoccurancess`object containing all event occurrences in the portal

`[event name or id]`	You can access any `event` by its Name or Id properties.
	`{% assign event = events["Event Name"] %}`
	`{% assign event = events["da8b8a92-2ee6-476f-8a21-782b047ff460"] %}`

event Object

The `event` object allows you to work with a single event, allowing you to access the schedules and occurrences for that event.

The `event` object has following attributes:

`occurences`	Returns a `eventoccurrences`object containing all occurrences for the event.
name	The name of the event.
url	The URL of the event.

eventoccurences Object

The `eventoccurrences` object allows you to access a collection of event occurrences objects. You can order the event occurrences and specify a date range for the occurrences to retrieve, and achieve pagination as well using liquid filters

```
{% assign occurances = event.occurrences.from[today].to[advance_date] %}
```

note that

```
{% assign occurances = event.occurrences.min[today].max[advance_date] %}
```

is also possible.

Following attributes are associated with `eventoccurrences` object

`All`	Returns all `eventoccurance` objects in the collection.

eventoccurence Object

Represents a single event occurrence. The associated attributes are given below:

`url`	The URL of the occurrence.
`is_all_day_event`	Is this an all-day event?
`start_time`	The start time for the event.
`end_time`	The end time for the event.

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

forloop

Applies To: Dynamics 365 (online), Dynamics CRM Online

Contains properties useful within a Iteration tags loop block.

Note

`forloop` can only be used within a Iteration tags tag.

Code

```
{% for child in page.children %}

  {% if forloop.first %}

    This is the first child page!

  {% else %}

    This is child page number {{ forloop.index }}.

  {% endif %}

{% endfor %}
```

Output

```
This is the first child page!

This is child page number 2.

This is child page number 3.
```

Attributes

`first`	Returns `true` if it's the first iteration of the loop. Returns `false` if it's not the first iteration.
`index`	The current item's position in the collection, where the first item has a position of `1`.
`index0`	The current item's position in the collection, where the first item has a position of `0`.
`Last`	Returns `true` if it's the last iteration of the loop. Returns `false` if it's not the last iteration.
`length`	Returns the number of iterations for the loop the number of items in the collection being iterated over.
`rindex`	Number of items remaining in the loop (length - index) where `1` is the index of the last item.
`rindex0`	Number of items remaining in the loop (length - index) where `0` is the index of the last item.

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags

forums

Applies To: Dynamics 365 (online), Dynamics CRM Online

Provides the ability to access and render Forums and Forum Threads. Note that the ability to use liquid to render forum data extends to posts, but in order to create a new post of thread, you must use an ASP.NET web forms Page Template with said functionality built in (such as the default Forum Thread and Forum Post Page Templates).

The forums object allows you to select a Forum or Forum Threads :

```
<div class="content-panel panel panel-default">

  <div class="panel-heading">

    <h4>

      <span class="fa fa-comments" aria-hidden="true"></span>

      {{ snippets["Home Forum Activity Heading"] | default: "Forum Activity" | h }}

    </h4>

  </div>

  {% for forum in website.forums %}

    <ul class="list-group">

      <li class="list-group-item">

        <div class="row">

          <div class="col-sm-6">

            <h4 class="list-group-item-heading"><a href="{{ forum.url | h }}"> {{ forum.name | h
}}</a></h4>

            <div class="list-group-item-text content-metadata">{{ forum.adx_description | h
}}</div>

          </div>

          <div class="col-sm-3 content-metadata">{{ forum.thread_count }} threads</div>

          <div class="col-sm-3 content-metadata">{{ forum.post_count }} posts</div>

        </div>

      </li>

    </ul>

  {% endfor %}

</div>
```

forums Object

The forums object allows you to access any specific forum in the portal, or to access all forum threads in the portal (regardless of the forum).

The `forum` object allows you to work with a single forum, allowing you to access the threads for that forum.

The forumthreads object allows you to access a collection of forumthread objects. You can order the forum threads and achieve pagination as well by using liquid filters.

```
{% assign threads = forum.threads | order_by "adx_name", "desc" | paginate: 0,4 | all %}
```

A Single Forum Thread

The forumposts object allows you to access a collection of forumpost objects.

Attributes

`threads`	Returns a `forumthreads` object containing all `forumthread` objects in the portal.
`All`	Returns all `forum` objects in the portal. Note that `website.forums` Is also an equivalent.
`thread_count`	Returns the integer value of the count of how many threads there are in the entire website.
`post_count`	Returns the integer value of the total number of posts in the portal.

`[forum name or id]`	You can access any `forum` by its Name or Id properties.
	`{% assign forum = forums["Forum Name"] %}`
	
	`{% assign forum = forums["da8b8a92-2ee6-476f-8a21-782b047ff460"] %}`

forum Object

Attributes

Note

entities

`threads`	Returns a `forumthreads` object containing all forum threads for the forum.
`Name`	The Name of the Forum.
`thread_count`	Returns the integer value of the count of how many threads there are in the forum.

`post_count`	Returns the integer value of the count of how many posts there are in the entire forum.

forumthreads Object

Attributes

`All`	Returns all `forumthread` objects in the collection.

forumthread Object

Attributes

Note

entities

`posts`	Returns a `forumposts` object containing all forum posts for the thread.
`author`	Returns the `author` for the thread (which is simply a contact `entity` object).
`latest_post`	Returns the latest post in the thread.
`first_post`	Returns the first post in the thread.
`post_count`	Returns the integer value of the count of how many posts there are in the thread.
`is_answered`	Is the thread answered or not?
`is_sticky`	Is the thread a sticky thread?

forumposts Object

Attributes

`All`	Returns all `forumthread` objects in the collection.

A Single Forum Post

Attributes

Note

entities

`author`	Returns the `author` for the post (which is simply a contact `entity` object).
`content`	The content of the post.
`is_answer`	Is this post an answer to the thread?

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

page

Applies To: Dynamics 365 (online), Dynamics CRM Online

Refers to the current portal request page. This object combines the attributes of the sitemap and the current request entities (usually a webpage).

The `page` object provides access to things like the breadcrumbs for the current page, the title or URL of the current page, and any other attributes or related entities of the underlying Dynamics 365 record.

```
<ul class="breadcrumb">

  {% for crumb in page.breadcrumbs %}

    <li><a href="{{ crumb.url | escape }}">{{ crumb.title | escape }}</a></li>

  {% endfor %}

  <li class="active">{{ page.title | escape }}</li>

</ul>


<div class="page-header">

  <h1>{{ page.title | escape }}</h1>

</div>


<div class="page-copy">

  {{ page.adx_copy }}

</div>


<div class="list-group">
```

```
  {% for child in page.children %}
    <a class="list-group-item" href="{{ child.url | escape }}">
        {{ child.title | escape }}
    </a>
  {% endfor %}
</div>

<!-- Page {{ page.id }} was last modified on {{ page.modifiedon }}. -->
```

Page attributes

Note

entities

`breadcrumbs`	Returns the breadcrumb site map node objects for the page, starting from the site map root node and ending at `parent`.
`children`	Returns the child site map node objects of the page.
`parent`	Returns the parent site map node of the page. If the page is the Home page, `parent` will be `null`.
`title`	The title of the page.
`url`	The URL of the page.

`[attribute or relationship name]`	You can access any attribute of the page's underlying Dynamics 365 record by logical name.
	`{{ page.createdon }}`
	
	`{% assign attribute_name = 'name' %}`
	`{{ page[attribute_name] }}`
	The values of most entity attributes map directly to Liquid types: Two Option fields map to Booleans, text fields to strings, numeric/currency fields to numbers, date/time fields to date objects. But, some attribute types are returned as objects:
	Lookup (Entity Reference) fields are returned as entities.
	Option Set/Picklist fields are returned as entities.
	You can also load any related entities by relationship schema name.

	`{{ page.adx_webpage_entitylist.adx_name }}`
	In the case that a relationship is reflexive (that is, self-referential), a entities object will be returned. (Otherwise, the desired result would be ambiguous.)
	`{{ page.adx_webpage_webpage.referencing.adx_name }}`
	
	Note
	Loading large numbers of related entities, or accessing large numbers of relationships in a single template, can have a negative impact on template rendering performance. Avoid loading related entities for each item in an array, within a loop.
	Where possible, prefer use of the Dynamics 365 entity tags to load collections of entities.

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

polls

Applies To: Dynamics 365 (online), Dynamics CRM Online

Provides the ability to access and render a poll.

The `polls` object allows you to select a specific poll or poll placement:

```
<div>
    {% assign poll = polls["Poll Name"] %}
    <h4>{{ poll.question }}</h4>
    {% for option in poll.options %}
    <div>
        <input type="radio" name="{{ poll.name }}" id="{{ option.id }}" />
        <label for="{{ option.id }}">{{ option.answer }}</label>
    </div>
    {% endfor %}
    <button type="button">{{ poll.submit_button_label }}</button>
```

```
</div>
```

Polls Attributes

`placements`	Returns the pollplacements object.

`[poll name or id]`	You can access any poll by its Name or Id properties.
	`{% assign poll = polls["Poll Name"] %}`
	
	`{% assign poll = polls["41827a5c-33de-49b8-a0c7-439e6a02eb98"] %}`

Poll Placements Attributes

`[poll placement name or id]`	You can access any poll placement by its Name or Id properties.
	`{% assign placement = polls.placements["Placement Name or Id"] %}`
	
	`{% assign placement = polls.placements["7677c5d4-406e-4b6c-907c-916ac17dba0f"] %}`

Poll Placement Attributes

Note

entities

`Name`	Returns the Name field for the poll placement.
`placement_url`	The URL that can be used to retrieve the poll placement fully rendered by a template.
`polls`	Returns the collection of poll objects associated with the placement. Iteration tags and Array filters may be used with this collection.
`random_url`	The URL that can be used to retrieve a random poll from the placement fully rendered by a template.

`submit_url`	The URL to which a completed poll is submitted.

Poll Attributes

Note

entities

`has_user_voted`	Returns true if the current user (logged in or anonymous) has already voted in this poll.
`Name`	Returns the Name field for the poll.
`options`	Returns the collection of poll option objects associated with the poll. Iteration tags and entities may be used with this collection.
`poll_url`	The URL that can be used to retrieve the poll fully rendered by a template.
`question`	Returns the Question field for the poll.
`submit_button_label`	Returns a string that can be used to override the submit button label for the poll.
`submit_url`	The URL to which a completed poll is submitted.
`user_selected_option`	Returns the polloption object selected by the user (if they have already voted).
`votes`	Returns the number of votes that have been tabulated for the poll.

Poll Option Attributes

Note

entities

`answer`	Returns the Answer field for the poll.
`percentage`	Returns the percentage of votes in the poll for the option as a decimal number between 0 and 100.
`votes`	Returns the number of votes that have been tabulated for the option.

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

request

Applies To: Dynamics 365 (online), Dynamics CRM Online

Contains information about the current HTTP request.

```
{% assign id = request.params['id'] %}


<a href="{{ request.url | add_query: 'foo', 1 }}">Link</a>
```

Note

You can build URLs dynamically in Liquid using URL Filters. More information:

Attributes

`params`	Named parameter values for the current request. `params` is a combination of URL query string parameters, form post parameters, and cookies.
`Path`	The path of the current request URL. `/profile/`
`path_and_query`	The path and query of the current request URL. `/profile/?foo=1&bar=something`
`query`	The query part of the current request URL. `?foo=1&bar=something`
`url`	The full URL of the current request. `http://www.example.com/profile/?foo=1&bar=something`

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

searchindex

Applies To: Dynamics 365 (online), Dynamics CRM Online

The `searchindex` object is used within the Dynamics 365 entity tags, and provides access to the results of a query.

```
        {% searchindex query: 'support', page: params.page, page_size: 10 %}
  {% if searchindex.results.size > 0 %}
    <p>Found about {{ searchindex.approximate_total_hits }} matches:</p>
    <ul>
      {% for result in searchindex.results %}
        <li>
          <h3><a href="{{ result.url | escape }}">{{ result.title | escape }}</a></h3>
          <p>{{ result.fragment }}</p>
        </li>
      {% endfor %}
    </ul>
  {% else %}
    <p>Your query returned no results.</p>
  {% endif %}
{% endsearchindex %}
```

Attributes

`approximate_total_hits`	Returns an approximate count of total hits matching the index query. Note that due to the way the search index works in regard to security filtering and other design factors, this number is only an approximation, and may not exactly match the total number of results available to the current user in some situations.
`Page`	Returns the page number of the current query.
`page_size`	Returns the maximum page size of the current query. Note that if you want the actual number of results returned for the current page (as this may be less than the specified maximum page size), use `results.size`.
`results`	Returns the query result page, as search index result objects.

Search Index Results

`entity`	The underlying entities for the result.
`fragment`	A relevant short text fragment for the result, with terms matching the specified query highlighted using the `<em>` HTML tag. Note that certain types of queries do not support highlighted fragments, such as fuzzy queries (`~`) and wildcard queries (`*`). This property will be null in those cases.
`Id`	The Dynamics 365 entity ID of the underlying record for the result, as a string. e.g. `936DA01F-9ABD-4d9d-80C7-02AF85C822A8`
`logical_name`	The Dynamics 365 entity logical name of the underlying record for the result. e.g. `adx_webpage`
`number`	The number of the result, across all result pages, starting from 1. For example, for the first result of the second page of results, with a page size of 10, this value will be `11`.
`score`	The Lucene score of the result, as a floating-point value. Results will be returned ordered by this value.
`title`	The title of the result.
`url`	The URL for the result. This will usually but not necessarily be an absolute path for the current application, rather than a full URL. For example: `/articles/article1/`

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

settings

Applies To: Dynamics 365 (online), Dynamics CRM Online

Allows you to load any Configure site settings for portals by name. If a setting with the given name is not found, Liquid types will be returned.

Note

Settings are returned as Liquid types, but you can use Type filters to convert them to other types.

```
{{ settings["My Setting"] }}
```

```
{% assign search_enabled = settings["Search/Enabled"] | boolean %}
{% if search_enabled %}
  Search is enabled.
{% endif %}
```

```
{% assign pagesize = settings['page size'] | integer | default: 10 %}
```

```
{% if pagesize > 10 %}
  Page size is greater than 10.
{% endif %}
```

Note

Render a website header and primary navigation bar

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

sitemap

Applies To: Dynamics 365 (online), Dynamics CRM Online

Allows access to the portal site map.

```
<h1>{{ sitemap.root.title }}</h1>
```

```
<ul class="breadcrumb">
  {% for crumb in sitemap.current.breadcrumbs %}
    <li><a href="{{ crumb.title }}">{{ crumb.title }}</a></li>
```

```
  {% endfor %}
  <li class="active">{{ sitemap.current.title }}</li>
</ul>


{% for child in sitemap.current.children %}
  <a href="{{ child.url }}">{{ child.title }}</a>
{% endfor %}
```

It's also possible to load a site map node by URL path:

```
{% assign node = sitemap["/content/page1/"] %}
{% if node %}
  {% for child in node.children %}
    <a href="{{ child.url }}">{{ child.title }}</a>
  {% endfor %}
{% endif %}
```

Site Map Attributes

`Current`	Returns the site map node object for the current page.
`Root`	Returns the site map node object for the root (home) page of the website.

Site Map Node Attributes

`Breadcrumbs`	Returns the breadcrumb site map node objects for the node, starting from the site map root node and ending at `parent`.
`Children`	Returns the child site map node objects of the node.
`Description`	The description/summary content for the node. (This field may contain HTML.)
`Entity`	Returns the underlying entities of the node. If the node has no underlying entity, this value will be `null`.
`is_sitemap_ancestor`	Returns `true` if the sitemap node is an ancestor of the current node, otherwise `false`. Added 7.0.0008
`is_sitemap_current`	Returns `true` if the sitemap node is the current node, otherwise `false`.

	Added 7.0.0008
`Parent`	Returns the parent site map node of the node. If the node is the root node, `parent` will be `null`.
`Title`	The title of the node.
`url`	The URL of the node.

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

sitemarkers

Applies To: Dynamics 365 (online), Dynamics CRM Online

Allows you to load any site marker by name. If the sitemarker exists, a sitemarker object will be returned. If a sitemarker with the given name is not found, Liquid types will be returned.

```
{{ sitemarkers["Login"].url }}
```

```
{% assign my_sitemarker = sitemarkers["My Site Marker"] %}

{% if my_sitemarker %}

  <a href="{{ my_sitemarker.url }}">{{ my_sitemarker.adx_name }}</a>

{% else %}

  Site marker "My Site Marker" does not exist.

{% endif %}
```

Note

Render a website header and primary navigation bar

Sitemarker Attributes

`url`	The URL of the sitemarker target.
`[attribute logical name]`	You can access any attribute of the sitemarker target Dynamics 365 record by logical name. e.g. `{{ sitemarker.adx_name }}`

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

snippets

Applies To: Dynamics 365 (online), Dynamics CRM Online

Allows you to load any content snippets by name. If a snippet with the given name is not found, Null will be returned.

```
{{ snippets["Header"] }}


{% assign footer = snippets["Footer"] %}

{% if footer %}

  {{ footer }}

{% else %}

  No footer snippet was found.

{% endif %}
```

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

tablerowloop

Applies To: Dynamics 365 (online), Dynamics CRM Online

Contains properties useful within a Iteration tags loop block.

Note

`tablerowloop` can only be used within a Iteration tags tag.

Attributes

`Col`	Returns the index of the current row, starting at `1`.

`col0`	Returns the index of the current row, starting at `0`.
`col_first`	Returns `true` if the current column is the first column in a row, returns `false` if it is not.
`col_last`	Returns `true` if the current column is the last column in a row, returns `false` if it is not.
`First`	Returns `true` if it's the first iteration of the loop. Returns `false` if it's not the first iteration.
`Index`	The current item's position in the collection, where the first item has a position of `1`.
`index0`	The current item's position in the collection, where the first item has a position of `0`.
`Last`	Returns `true` if it's the last iteration of the loop. Returns `false` if it's not the last iteration.
`Length`	Returns the number of iterations for the loop ⚭ the number of items in the collection being iterated over.
`Rindex`	Number of items remaining in the loop (length - index) where `1` is the index of the last item.
`rindex0`	Number of items remaining in the loop (length - index) where `0` is the index of the last item.

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

user

Applies To: Dynamics 365 (online), Dynamics CRM Online

Refers to the current portal user, allowing access to all attributes of the underlying Dynamics 365 contact record. If no user is signed in, this variable will be Liquid types.

`user` is an entities.

```
        {% if user %}

  Hello, {{ user.fullname }}!

{% else %}

  Hello, anonymous user!
```

```
{% endif %}
```

Attributes

In addition to having all of the attributes of an entities, `user` has the following attributes.

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

weblinks

Applies To: Dynamics 365 (online), Dynamics CRM Online

Refers to the portal website, allowing access to all attributes of the Dynamics 365 Website (`adx_website`) record for the portal.

Note

entities

Code

```
{{ website.adx_name }} ({{ website.id }})
```

Output

```
Community Portal (936DA01F-9ABD-4d9d-80C7-02AF85C822A8)
```

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

website

Applies To: Dynamics 365 (online), Dynamics CRM Online

Allows you to load any weblinks by name or ID.

If the web link set exists, a web link set object will be returned. If a web link set with the given name or ID is not found, Liquid types will be returned.

```
<!-- Load web link set by ID -->

{{ weblinks[page.adx_navigation.id].name }}


<!-- Load web link set by name -->

{% assign nav = weblinks["Primary Navigation"] %}

{% if nav %}

  <h1>{{ nav.title | escape }}</h1>

  <ul>

    {% for link in nav.weblinks %}

      <li>

        <a href="{{ link.url | escape }}" title="{{ link.tooltip | escape }}">

          {% if link.image %}

            <img src="{{ link.image.url | escape }}" alt="{{ link.image.alternate_text | escape
}}" />

          {% endif %}

          {{ link.name | escape }}

        </a>

      </li>

    {% endfor %}

  </ul>

{% endif %}
```

Note

Render a website header and primary navigation bar

Web Link Set Attributes

Note

entities

Copy	The HTML copy of the web link set.
Name	The name of the web link set.
Title	The title of the web link set.

`Weblinks`	The array of web link objects associated with the web link set.
`[attribute logical name]`	You can access any attribute of the web link set Dynamics 365 record by logical name. e.g. `{{ weblinkset.createdon }}`

Web Link Attributes

Note

entities

`Description`	The HTML description of the web link.
`display_image_only`	Boolean attribute indicating whether the web link should be displayed as an image only, with no link text.
`display_page_child_links`	Boolean attribute indicating whether the web link should show links to the sitemap child pages of the linked page, as sub-links.
`Image`	The web link image object for this link. This attribute will be null if no image is present.
`is_external`	Boolean attribute indicating whether the target URL of the web link is to an external site (rather than to an internal portal page).
`is_sitemap_ancestor`	Returns `true` if the weblink's URL references an ancestor of the current sitemap node, otherwise `false`. Added 7.0.0008
`is_sitemap_current`	Returns `true` if the weblink's URL references the current sitemap node, otherwise `false`. Added 7.0.0008
`Name`	The name/title of the web link.
`Nofollow`	Boolean attribute indicating whether the web link should be marked as `rel="nofollow"`.
`open_in_new_window`	Boolean attribute indicating whether the web link should be opened in a new browser window/tab when clicked.
`Tooltip`	Tooltip text for the web link.
`url`	The URL of the web link.
`Weblinks`	The array of child web link objects associated with the web link.

`[attribute logical name]`	You can access any attribute of the web link Dynamics 365 record by logical name. e.g. `{{ weblink.createdon }}`

Web Link Image Attributes

`alternate_text`	Alternate text for the image.
`Height`	Integer containing the specified height of the image. If no height value was provided, this attribute will be null.
`url`	The URL of the image.
`Width`	Integer containing the specified width of the image. If no width value was provided, this attribute will be null.

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

Liquid tags

Applies To: Dynamics 365 (online), Dynamics CRM Online

Tags make up the programming logic that tells templates what to do. Tags are wrapped in `{% %}`.

```
{% if user.fullname == 'Dave Bowman' %} Hello, Dave. {% endif %}
```

White space control

Normally, Liquid renders everything outside of variable and tag blocks verbatim, with all the white space as-is. Occasionally you don't want the extra white space, but you still want to format the template cleanly, which requires white space.

You can tell the engine to strip all leading or trailing white space by adding a hyphen (-) to the start or end block tag.

Code

```
{% for i in (1..5) --%}


{{ i }}
```

```
{%-- endfor %}
```

Output

```
12345
```

Tags

The following topics describe each type of tag:

Control flow tags
Iteration tags
Variable tags
Template tags
Dynamics 365 entity tags

See also

Add dynamic content and create custom templates
Store source content by using web templates
Understand Liquid operators
Liquid types
Conditional
Liquid Objects
Liquid Filters
Create advanced templates for portals

Control flow tags

Applies To: Dynamics 365 (online), Dynamics CRM Online

Control Flow tags determine which block of code should be executed and what content should be rendered based on given conditions. Conditions are built using the available Understand Liquid operators, or just based on Conditional.

if

Executes a block of code if a given condition is met.

```
{% if user.fullname == 'Dave Bowman' %}

  Hello, Dave.

{% endif %}
```

unless

Like `if`, except it executes a block of code if a given condition is **not** met.

```
{% unless page.title == 'Home' %}

  This is not the Home page.

{% endunless %}
```

elsif/else

Adds more conditions to an `if` or `unless` block.

```
{% if user.fullname == 'Dave Bowman' %}

  Hello, Dave.

{% elsif user.fullname == 'John Smith' %}

  Hello, Mr. Smith.

{% else %}

  Hello, stranger.

{% endif %}
```

case/when

A switch statement to compare a variable to different values, and execute a different block of code for each value.

```
{% case user.fullname %}

{% when 'Dave Bowman' %}

  Hello, Dave.

{% when 'John Smith' %}

  Hello, Mr. Smith.

{% else %}

  Hello, stranger.

{% endcase %}
```

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags

Liquid Filters

Iteration tags

Applies To: Dynamics 365 (online), Dynamics CRM Online

Iteration tags are used to run/render a block of code repeatedly.

for

Executes a block of code repeatedly. It is most commonly used to iterate over the items in an array or dictionary.

Within the `for` tag block, the forloop is available.

Code

```
{% for child_page in page.children %}

  <a href="{{ child_page.url }}">{{ child_page.title }}</a>

{% endfor %}
```

Output

```
<a href="/parent/child1/">Child 1</a>

<a href="/parent/child2/">Child 2</a>

<a href="/parent/child3/">Child 3</a>
```

Parameters

These parameters of `for` can be used alone, or in combination.

limit

Exits the loop after a given number of items.

Code

```
{% for child_page in page.children limit:2 %}

  <a href="{{ child_page.url }}">{{ child_page.title }}</a>

{% endfor %}
```

Output

```
<a href="/parent/child1/">Child 1</a>

<a href="/parent/child2/">Child 2</a>
```

offset

Starts the loop at given index.

Code

```
{% for child_page in page.children offset:1 %}

  <a href="{{ child_page.url }}">{{ child_page.title }}</a>
```

```
{% endfor %}
```

Output

```
<a href="/parent/child2/">Child 2</a>

<a href="/parent/child3/">Child 3</a>
```

range

Defines a range of numbers to loop through.

Code

```
{% assign n = 4 %}

{% for i in (2..n) %}

  {{ i }}

{% endfor %}


{% for i in (10..14) %}

  {{ i }}

{% endfor }}
```

Output

```
2 3 4

10 11 12 14
```

reversed

Iterates through the loop in reverse order, starting from the last item.

Code

```
{% for child_page in page.children reversed %}

  <a href="{{ child_page.url }}">{{ child_page.title }}</a>

{% endfor %}
```

Output

```
<a href="/parent/child3/">Child 3</a>

<a href="/parent/child2/">Child 2</a>

<a href="/parent/child1/">Child 1</a>
```

cycle

Loops through a group of strings and outputs them in the order that they were passed as parameters. Each time cycle is called, the next string that was passed as a parameter is output.

Code

```
{% for item in items %}

  <div class="{% cycle 'red', 'green', 'blue' %}"> {{ item }} </div>
```

```
{% end %}
```

Output

```
<div class="red"> Item one </div>

<div class="green"> Item two </div>

<div class="blue"> Item three </div>

<div class="red"> Item four </div>

<div class="green"> Item five</div>
```

tablerow

Generates an HTML table. Must be wrapped in an opening `<table>` and closing `</table>` HTML tags. Within the `tablerow` tag block, the tablerowloop is available.

Code

```
<table>

  {% tablerow child_page in page.children %}

    {{ child_page.title }}

  {% endtablerow %}

</table>
```

Output

```
<table>

  <tr class="row1">

    <td class="col1">

      Child Page 1

    </td>

    <td class="col2">

      Child Page 2

    </td>

    <td class="col3">

      Child Page 3

    </td>

    <td class="col4">

      Child Page 4

    </td>

  </tr>

</table>
```

Parameters

These parameters of `tablerow`can be used alone, or in combination.

Output

```
<table>
  <tr class="row1">
    <td class="col1">
      Child Page 1
    </td>
    <td class="col2">
      Child Page 2
    </td>
  </tr>
  <tr class="row2">
    <td class="col3">
      Child Page 3
    </td>
    <td class="col4">
      Child Page 4
    </td>
  </tr>
</table>
```

Code

```
<table>
  {% tablerow child_page in page.children cols:2 %}
    {{ child_page.title }}
  {% endtablerow %}
</table>
```

Dictates how many rows the generated table should have.

cols

limit

Exits the loop after a given number of items.

Code

```
<table>
  {% tablerow child_page in page.children limit:2 %}
```

```
    {{ child_page.title }}
  {% endtablerow %}
</table>
```

Output

```
<table>
  <tr class="row1">
    <td class="col1">
      Child Page 1
    </td>
    <td class="col2">
      Child Page 2
    </td>
  </tr>
</table>
```

offset

Starts the loop at given index.

Code

```
<table>
  {% tablerow child_page in page.children offset:2 %}
    {{ child_page.title }}
  {% endtablerow %}
</table>
```

Output

```
<table>
  <tr class="row1">
    <td class="col1">
      Child Page 3
    </td>
    <td class="col2">
      Child Page 4
    </td>
  </tr>
</table>
```

range

Defines a range of numbers to loop through.

Code

```
<table>

  {% tablerow i in (1..3) %}

    {{ i }}

  {% endtablerow %}

</table>
```

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

Variable tags

Applies To: Dynamics 365 (online), Dynamics CRM Online

Variable tags are used to create new Liquid variables.

assign

Creates a new variable. Assignments can also use Liquid Filters to modify the value.

Code

```
{% assign is_valid = true %}

{% if is_valid %}

  It is valid.

{% endif %}


{% assign name = "dave bowman' | upcase %}

{{ name }}
```

Output

```
It is valid.


DAVE BOWMAN
```

capture

Captures the content within its block and assigns it to a variable. This content can then be rendered later by using output tags.

Code

```
{% capture hello %}Hello, {{ user.fullname }}.{% endcapture %}

{{ hello }}

{{ hello }}
```

Output

```
Hello, DAVE BOWMAN.

Hello, DAVE BOWMAN.
```

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

Template tags

Applies To: Dynamics 365 (online), Dynamics CRM Online

Template tags control the output of a template in various ways, and allow the combination of multiple templates into a single output.

include

Includes the contents of one template in another, by name. In Dynamics 365 portals, the source of this other template will generally be a web template. This allows for the reuse of common template fragments in multiple places.

When a template is included in another, the included template will have access to any variables defined in the parent template.

```
{% include 'My Template' %}
```

It's also possible to pass any number of named parameters to the include tag. These will then be defined as variables in the included template.

```
{% include 'My Template' a:x, b:y %}
```

block

Used in conjunction with `extends` to provide template inheritance. See `extends` for usage.

extends

Used in conjunction with the `block` tag, provides template inheritance. This allows multiple templates to use a shared layout, while overriding specific areas of the parent layout.

In Dynamics 365 portals, the parent template name provided to the tag will generally refer to the name of a web template.

When `extends` is used, it must be the first content in the template, and can only be followed by one or more `block` tags.

If a block defined in the parent template is not overridden, its contents in the parent template (if any) will be rendered.

comment

Allows you to leave un-rendered code inside a Liquid template. Any content within the block will not be rendered, and any Liquid code within will not be executed.

Code

```
Hello{% comment %}, {{ user.fullname }}{% endcomment %}. My name is Charles.
```

Output

```
Hello. My name is Charles.
```

raw

Allows output of Liquid code on a page without having it parsed and executed.

Output

```
Hello, {{ user.fullname }}. My name is Charles.
```

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

Dynamics 365 entity tags

Applies To: Dynamics 365 (online), Dynamics CRM Online

Dynamics 365 entity tags are used to load and display Dynamics 365 data, or use other Dynamics 365 portals framework services. These tags are Dynamics 365-specific extensions to the Liquid language.

editable

Renders a given Dynamics 365 portals CMS object as Use the front-side editing engine to publish content, for users with content editing permission for that object. Editable objects include page, snippets, and weblinks.

```
{% editable page 'adx_copy' type: 'html', title: 'Page Copy', escape: false, liquid: true %}


{% editable snippets "Header" type: 'html' %}


<!--
An editable web link set required a specific DOM structure, with
certain classes on the containing element, as demonstrated here.
-->
{% assign primary_nav = weblinks["Primary Navigation"] %}
{% if primary_nav %}
  <div {% if primary_nav.editable %}class="xrm-entity xrm-editable-adx_weblinkset"{% endif %}>
    <ul>
      <!-- Render weblinks... -->
    </ul>
    {% editable primary_nav %}
  </div>
{% endif %}
```

Parameters

The first parameter provided to `editable` is the editable object. For example, this may be a web link set, snippets, or the current page. The optional second parameter is to specify an attribute name or key within that object that is to be rendered and edited. This may be the name of an entity attribute, or a snippet name, for example.

After these initial parameters, the tag supports a number of optional named parameters.

class

Specifies a `class` attribute value for the root element rendered by this tag.

default

A default value to be rendered in the case that the editable item has no value.

escape

A Boolean value indicating whether a value rendered by this tag will be HTML-encoded. This is `false` by default.

liquid

A Boolean value indicating whether any Liquid template code found within the text value rendered by this tag will be processed. This is `true` by default.

tag

The name of the container HTML tags that will be rendered by this tag. This tag will render `div` elements by default. It is generally recommended that you choose between `div` or `span` as a value for this parameter.

title

Specifies a label for this editable item within the content editing interface. If none is provided, a friendly label will be generated automatically.

type

A string value indicating the type of editing interface to be presented, for editable text values. Valid values for this parameter are `html` or `text`. `html` is the default.

entitylist

Loads a given entity list, by name or ID. The properties of the entity list can then be accessed using an entitylist that will be available within the tag block. To render the actual result records of the entity list, use the entityview tag within the block.

If the entity list is loaded successfully, the content within the block will be rendered. If the entity list is not found, the block content will not be rendered.

```
{% entitylist name:"My Entity List" %}

  Loaded entity list {{ entitylist.adx_name }}.

{% endentitylist %}
```

By default, the entitylist object will be given the variable name `entitylist`. Optionally, a different variable name can be provided.

```
{% entitylist my_list = name:"My Entity List" %}

  Loaded entity list {{ my_list.adx_name }}.

{% endentitylist %}
```

Note

Render the entity list associated with the current page

Parameters

Provide **only one** of `id`, `name`, or `key` to select the Entity List to load.

id

Loads an entity list by GUID ID. `id` must be a string that can be parsed as a GUID.

```
{% entitylist id:"936DA01F-9ABD-4d9d-80C7-02AF85C822A8" %}

  Loaded entity list {{ entitylist.adx_name }}.

{% endentitylist %}
```

Generally, literal GUID strings will not be used. Instead, `id` will be specified using a GUID property of another variable.

```
{% entitylist id:page.adx_entitylist.id %}

  Loaded entity list {{ entitylist.adx_name }}.

{% endentitylist %}
```

name

Loads an entity list by name.

```
{% entitylist name:"My Entity List" %}

  Loaded entity list {{ entitylist.adx_name }}.

{% endentitylist %}
```

key

Loads an entity list by ID **or** name. If the provided key value can be parsed as a GUID, the entity list will be loaded by ID. Otherwise, it will be loaded by name.

```
<!-- key_variable can hold an ID or name -->

{% entitylist key:key_variable %}

  Loaded entity list {{ entitylist.adx_name }}.

{% endentitylist %}
```

language_code

A Dynamics 365 integer language code to select the entity list localized labels to be loaded. If no `language_code` is provided, the default language of the portal application Dynamics 365 connection will be used.

```
{% entitylist name:"My Entity List", language_code:1033 %}

  Loaded entity list {{ entitylist.adx_name }}.

{% endentitylist %}
```

entityview

Loads a given Dynamics 365 view, by name or ID. The properties of the view 🔗 view column metadata, paginated result records, etc. can then be accessed using an entityview that will be available within the tag block.

If the view is loaded successfully, the content within the block will be rendered. If the view is not found, the block content will not be rendered.

```
{% entityview logical_name:'contact', name:"Active Contacts" %}

  Loaded entity view with {{ entityview.total_records }} total records.

{% endentityview %}
```

By default, the entityview object will be given the variable name `entityview`. Optionally, a different variable name can be provided.

```
{% entityview my_view = logical_name:'contact', name:"Active Contacts" %}

  Loaded entity view with {{ my_view.total_records }} total records.

{% endentityview %}
```

If `entityview` is nested within an entitylist block, it will inherit its default configuration (result page size, filter options, etc.) from the entity list. If no view `id` or `name` parameters are provided to `entityview`, it will load the default view from the enclosing `entitylist`.

```
{% entitylist id:page.adx_entitylist.id %}

  {% entityview %}

    Loaded default view of the entity list associated with the current page, with {{
entityview.total_records }} total records.

  {% endentityview %}

{% endentitylist %}
```

Note

Render the entity list associated with the current page

Parameters

Provide **either** `id` **or** `logical_name` with `name` to select the Dynamics 365 view to load. If neither is provided, and the entityview tag is nested within an entitylist tag, the default view of the enclosing entitylist will be loaded.

id

`id` must be a string that can be parsed as a GUID.

```
{% entityview id:"936DA01F-9ABD-4d9d-80C7-02AF85C822A8" %}

  Loaded entity view {{ entityview.name }}.

{% endentityview %}
```

Generally, literal GUID strings will not be used. Instead, `id` will be specified using a GUID property of another variable.

```
{% entityview id:request.params.view %}

  Loaded entity view {{ entityview.name }} using "view" query string request parameter.

{% endentityview %}
```

logical_name

The Dynamics 365 entity logical name of the view to be loaded. Must be used in combination with `name`.

```
{% entityview logical_name:'contact', name:"Active Contacts" %}

  Loaded entity view with {{ entityview.total_records }} total records.

{% endentityview %}
```

name

The Dynamics 365 name of the view to be loaded. Must be used in combination with `logical_name`.

```
{% entityview logical_name:'contact', name:"Active Contacts" %}

  Loaded entity view with {{ entityview.total_records }} total records.

{% endentityview %}
```

filter

Specifies whether to filter the view results by user or account. Must have a string value of "user" or "account".

```
{% entityview id:request.params.view, filter:'user' %}

  Loaded entity view with {{ entityview.total_records }} total records.

{% endentityview %}
```

A common use case is to set this parameter based on a request.

```
{% entityview id:request.params.view, filter:request.params.filter %}

  Loaded entity view with {{ entityview.total_records }} total records.

{% endentityview %}
```

metafilter

Specifies the Entity List metadata filter expression by which to filter view results. This parameter is only valid when `entityview` is used in combination with entitylist. In most cases, this parameter is set based on a request.

```
{% entitylist id:page.adx_entitylist.id %}

  {% entityview id:request.params.view, metafilter:request.params.mf %}

    Loaded entity view with {{ entityview.total_records }} total records.

  {% endentityview %}

{% endentitylist %}
```

Note

Entity List filters

order

Specifies a sort expression for ordering view results. A sort expression can contain one or more entity attribute logical names, followed by a sort direction of either `ASC` or `DESC`.

```
{% entityview id:request.params.view, order:'name ASC, createdon DESC' %}

  Loaded entity view with {{ entityview.total_records }} total records.

{% endentityview %}
```

A common use case is to set this parameter based on a request.

```
{% entityview id:request.params.view, order:request.params.order %}
```

```
  Loaded entity view with {{ entityview.total_records }} total records.

{% endentityview %}
```

page

Specifies the view result page to load. If this parameter is not specified, the first page of results will be loaded.

This parameter must be passed either an integer value, or a string that can be parsed as an integer. If a value is provided for this parameter, but the value is null or otherwise cannot be parsed as an integer, the first page of results will be loaded.

```
{% entityview id:request.params.view, page:2 %}

  Loaded page {{ entityview.page }} of entity view with {{ entityview.total_records }} total
records.

{% endentityview %}
```

A common use case is to set this parameter based on a request.

```
{% entityview id:request.params.view, page:request.params.page %}

  Loaded page {{ entityview.page }} of entity view with {{ entityview.total_records }} total
records.

{% endentityview %}
```

page_size

Specifies the number of results to load for the current result page. If no value is provided for this parameter, and `entityview` is used within an entitylist block, the entity list page size will be used. If not within an entitylist block, a default value of `10` will be used.

This parameter must be passed either an integer value, or a string that can be parsed as an integer. If a value is provided for this parameter, but the value is null or otherwise cannot be parsed as an integer, the default page size will be used.

```
{% entityview id:request.params.view, page_size:20 %}

  Loaded entity view with {{ entityview.total_records }} total records.

{% endentityview %}
```

A common use case is to set this parameter based on a request.

```
{% entityview id:request.params.view, page_size:request.params.pagesize %}

  Loaded entity view with {{ entityview.total_records }} total records.

{% endentityview %}
```

search

Specifies a search expression by which to filter view results. Simple keyword search expressions will filter by whether attributes begin with the keyword. Wildcards `*` can also be included in the expression.

```
{% entityview id:request.params.view, search:'John*' %}

  Loaded entity view with {{ entityview.total_records }} total matching records.

{% endentityview %}
```

A common use case is to set this parameter based on a request, so that the search filter can be set based on user input.

```
{% entityview id:request.params.view, search:request.params.search %}

  Loaded entity view with {{ entityview.total_records }} total matching records.

{% endentityview %}
```

enable_entity_permissions

Specifies whether to apply entity permission filtering on view results. This parameter is set to `false` by default. If `entityview` is used within an entitylist block, the value of this parameter will be inherited from the entity list configuration.

This parameter must be passed either an Liquid types value, or a string that can be parsed as a Boolean ("true", "false"). If a value is provided for this parameter, but the value is null or otherwise cannot be parsed as a Boolean, the default of `false` will be used.

```
{% entityview id:request.params.view, enable_entity_permissions:true %}

  Loaded entity view with {{ entityview.total_records }} total records to which the user has read
permission.

{% endentityview %}
```

language_code

A Dynamics 365 integer language code to select the entity view localized labels (column header labels, etc.) to be loaded. If no `language_code` is provided, the default language of the portal application Dynamics 365 connection will be used.

If `entityview` is used within an entitylist block, `entityview` will inherit its language code configuration from `entitylist`.

```
{% entityview logical_name:'contact', name:"Active Contacts", language_code:1033 %}

  Loaded entity view {{ entityview.name }}.

{% endentitylist %}
```

searchindex

Performs a query against the portal search index. The matching results can then be accessed using a searchindex that will be available within the tag block.

```
{% searchindex query: 'support', page: params.page, page_size: 10 %}

  {% if searchindex.results.size > 0 %}

    <p>Found about {{ searchindex.approximate_total_hits }} matches:</p>

    <ul>

      {% for result in searchindex.results %}

        <li>

          <h3><a href="{{ result.url | escape }}">{{ result.title | escape }}</a></h3>

          <p>{{ result.fragment }}</p>
```

```
        </li>

      {% endfor %}

    </ul>

  {% else %}

    <p>Your query returned no results.</p>

  {% endif %}

{% endsearchindex %}
```

By default, the search index object will be given the variable name `searchindex`. Optionally, a different variable name can be provided.

```
{% searchindex liquid_search = query: 'support', page: params.page, page_size: 10 %}

  {% if liquid_search.results.size > 0 %}

    ...

  {% endif %}

{% endsearchindex %}
```

Parameters

The `searchindex` tag accepts the following parameters.

query

The query used to match results. This parameter is intended to accept the user-specified part of the index query (if any).

```
{% searchindex query: 'support' %}

  ...

{% endsearchindex %}
```

A common use case is to set this parameter based on a request.

```
{% searchindex query: request.params.query %}

  ...

{% endsearchindex %}
```

This parameter supports the Lucene Query Parser syntax.

filter

An additional query used to match results. This parameter is intended to accept a developer-specified filter for results, if desired.

```
{% searchindex query: request.params.query, filter: '+statecode:0' %}

  ...

{% endsearchindex %}
```

This parameter supports the Lucene Query Parser syntax.

Note

The difference between `filter` and `query` is that while both will accept the Lucene Query Parser syntax, `query` is intended to be more forgiving about how this syntax is parsed as it's expected that most end users will not be aware of this syntax.

So, in the case that parsing `query` according to this syntax fails, the entire query will be escaped and submitted as the query text. `filter`, on the other hand, will be parsed strictly and return an error if the case of invalid syntax.

logical_names

The Dynamics 365 entity logical names to which matching results will be restricted, as a comma-delimited string. If not provided, all matching entities will be returned.

```
{% searchindex query: request.params.query, logical_names: 'kbarticle,incident' %}

  ...

{% endsearchindex %}
```

page

The search result page to be returned. If not provided, the first page (1) will be returned.

```
{% searchindex query: request.params.query, page: 2 %}

  ...

{% endsearchindex %}
```

A common use case is to set this parameter based on a request.

```
{% searchindex query: request.params.query, page: request.params.page %}

  ...

{% endsearchindex %}
```

page_size

The size of the result page to be returned. If not provided, a default size of 10 will be used.

```
{% searchindex query: request.params.query, page_size: 20 %}

  ...

{% endsearchindex %}
```

provider

Specifies the name of the configured search provider to use. If not specified, the default search provider will be used.

Having multiple search providers is an advanced configuration that will not apply to most environments. Generally, it will not be necessary to specify this parameter.

```
{% searchindex query: request.params.query, provider: 'AlternateIndex' %}

  ...

{% endsearchindex %}
```

entityform

Fully renders a Dynamics 365-configured Define entity forms and custom logic within the Dynamics 365 portal, by name or ID.

Note

The `entityform` tag is only available for use in content rendered inside a web template–based page template. Attempting to use the tag inside a Rewrite-based Page Template will not render anything.

You may only render a single `entityform` or `webform` tag per page. `entityform` or `webform` tags after the first will not be rendered.

```
{% entityform name: 'My Entity Form' %}
```

Parameters

name

The name of the Entity Form you wish to load.

```
{% entityform name:"My Entity Form" %}
```

```
{% webform name:"My Web Form" %}
```

The name of the Web Form you wish to load.

name

Parameters

webform

Fully renders a Dynamics 365-configured web form, by name or ID.

Note

The `webform` tag is only available for use in content rendered inside a web template–based page template. Attempting to use the tag inside a Rewrite-based Page Template will not render anything.

You may only render a single `entityform` or `webform` tag per page. `entityform` or `webform` tags after the first will not be rendered.

```
{% webform name: 'My Web Form' %}
```

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects

Liquid Tags
Liquid Filters

Liquid filters

Applies To: Dynamics 365 (online), Dynamics CRM Online

Liquid filters are used to modify the output of strings, numbers, variables, and objects. They are separated from the value to which they are being applied by a |.

```
{{ 'hal 9000' | upcase }} <!-- Output: HAL 9000 -->
```

Some filters accept parameters. Filters can also be combined, and are applied in order from left to right.

```
{{ 2 | times: 2 | minus: 1 }}  <!-- Output: 3 -->
```

```
{{ "Hello, " | append: user.firstname }} <!-- Output: Hello, Dave -->
```

Filters

The following topics describe each type of filter:

Array filters
Entity List filters
Date filters
Math filters
String filters
Type filters
URL filters
Additional filters

See also

Add dynamic content and create custom templates
Store source content by using web templates
Understand Liquid operators
Liquid types
Conditional
Liquid Objects
Liquid Tags
Create advanced templates for portals

Array filters

Applies To: Dynamics 365 (online), Dynamics CRM Online

Array filters are used to work with Liquid types.

batch

Divides an array into multiple arrays of a given size.

Code

```
{% assign batches = entityview.records | batch: 2 %}

{% for batch in batches %}

  <ul>

    {% for item in batch %}

      <li>{{ item.fullname }}</li>

    {% endfor %}

  </ul>

{% endfor %}
```

Output

```
<ul>

  <li>John Smith</li>

  <li>Dave Thomas</li>

</ul>

<ul>

  <li>Jake Johnson</li>

  <li>Jack Robinson</li>

</ul>
```

concat

Concatenates two arrays into a single new array.

Given a single item as a parameter, `concat` returns a new array that consists of the original array, with the given item as the last element.

Code

```
Group #1: {{ group1 | join: ', ' }}

Group #2: {{ group2 | join: ', ' }}

Group #1 + Group #2: {{ group1 | concat: group2 | join: ', ' }}

Group #1 + Leslie: {{ group1 | concat: 'Leslie' | join: ', ' }}
```

Output

```
Group #1: John, Pete, Hannah

Group #2: Joan, Bill

Group #1 + Group #2: John, Pete, Hannah, Joan, Bill

Group #1 + Leslie: John, Pete, Hannah, Leslie
```

except

Select all the objects in an array where a given attribute does not have a given value. (This is the inverse of **where**.)

Code

```
{% assign redmond = entityview.records | except: 'address1_city', 'Redmond' %}

{% for item in redmond %}

  {{ item.fullname }}

{% endfor %}
```

Output

```
Jack Robinson
```

first

Returns the first element of an array.

`first` can also be used with a special dot notation, in cases where it needs to be used inside a tag.

Code

```
{% assign words = "This is a run of text" | split: " " %}

{{ words | first }}

{% if words.first == "This" %}

The first word is "This".

{% endif %}
```

Output

```
{% assign words = "This is a run of text" | split: " " %}

{{ words | first }}

{% if words.first == "This" %}

The first word is "This".

{% endif %}
```

group_by

Group the items in an array by a given attribute.

Code

```
{% assign groups = entityview.records | group_by: 'address1_city' %}

{% for group in groups %}

  {{ group.key }}:

  {% for item in group.items %}

    {{ item.fullname }}

  {% endfor %}
```

```
{% endfor %}
```

Output

```
Redmond:

John Smith

Dave Thomas

Jake Johnson


New York:

Jack Robinson
```

join

Joins the elements of an array with the character passed as the parameter. The result is a single string.

Code

```
{% assign words = "This is a run of text" | split: " " %}

{{ words | join: ", " }}
```

Output

```
{% assign words = "This is a run of text" | split: " " %}

{{ words | join: ", " }}
```

last

Returns the last element of an array.

`last` can also be used with a special dot notation, in cases where it needs to be used inside a tag.

Code

```
{% assign words = "This is a run of text" | split: " " -%}

{{ words | last }}

{% if words.last == "text" -%}

The last word is "text".

{% endif -%}
```

Output

```
{% assign words = "This is a run of text" | split: " " -%}

{{ words | last }}

{% if words.last == "text" -%}

The last word is "text".

{% endif -%}
```

order_by

Returns the elements of an array ordered by a given attribute of the elements of the array.

Optionally, you can provide `desc` as a second parameter to sort the elements in descending order, rather than ascending.

Code

```
{{ entityview.records | order_by: 'fullname' | join: ', ' }}

{{ entityview.records | order_by: 'fullname', 'desc' | join: ', ' }}
```

Output

```
Dave Thomas, Jack Robinson, Jake Johnson, John Smith

John Smith, Jake Johnson, Jack Robinson, Dave Thomas
```

random

Returns a single randomly-selected item from the array.

Code

```
{{ group1 | join: ', ' }}

{{ group1 | random }}
```

Output

```
John, Pete, Hannah

Pete
```

select

Selects the value of a given attribute for each item in an array, and returns these values as an array.

Code

```
{{ entityview.records | select: 'address1_city' | join: ', ' }}
```

Output

```
Redmond, New York
```

shuffle

Applied to an array, returns a new array with the same items, in randomized order.

Code

```
{{ group1 | join: ', ' }}

{{ group1 | shuffle | join: ', ' }}
```

Output

```
John, Pete, Hannah

Hannah, John, Pete
```

size

Returns the number of items in an array.

`size` can also be used with a special dot notation, in cases where it needs to be used inside a tag.

Code

```
{% assign words = "This is a run of text" | split: " " -%}

{{ words | size }}

{% if words.size == 6 -%}

The text contains 6 words.

{% endif -%}
```

Output

```
{% assign words = "This is a run of text" | split: " " -%}

{{ words | size }}

{% if words.size == 6 -%}

The text contains 6 words.

{% endif -%}
```

skip

Skips a given number of items in an array, and returns the rest.

Code

```
{% assign words = "This is a run of text" | split: " " %}

{{ words | skip: 3 | join: ', ' }}
```

Output

```
{% assign words = "This is a run of text" | split: " " %}

{{ words | skip: 3 | join: ', ' }}
```

take

Takes a given number of items from the array, returning the taken items.

Code

```
{% assign words = "This is a run of text" | split: " " %}

{{ words | take: 3 | join: ', ' }}
```

Output

```
{% assign words = "This is a run of text" | split: " " %}

{{ words | take: 3 | join: ', ' }}
```

then_by

Adds additional subsequent ordering to an array already ordered by **order_by**.

Optionally, you can provide `desc` as a second parameter to sort the elements in descending order, rather than ascending.

Code

```
{{ entityview.records | order_by: 'address1_city' | then_by: 'fullname' | join: ', ' }}

{{ entityview.records | order_by: 'address1_city' | then_by: 'fullname', 'desc' | join: ', ' }}
```

Output

```
Dave Thomas, Jack Robinson, Jake Johnson, John Smith

John Smith, Jake Johnson, Jack Robinson, Dave Thomas
```

where

Select all the objects in an array where a given attribute has a given value.

Code

```
{% assign redmond = entityview.records | where: 'address1_city', 'Redmond' %}

{% for item in redmond %}

  {{ item.fullname }}

{% endfor %}
```

Output

```
John Smith

Dave Thomas

Jake Johnson
```

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

Date filters

Applies To: Dynamics 365 (online), Dynamics CRM Online

Date filters can be used for date arithmetic or to convert DateTime values into various formats.

date

Formats a DateTime value using a .NET format string.

Standard Date and Time Format Strings

Custom Date and Time Format Strings

Code

```
{{ now | date: 'g' }}

{{ now | date: 'MMMM dd, yyyy' }}
```

Output

```
{{ now | date: 'g' }}

{{ now | date: 'MMMM dd, yyyy' }}
```

date_add_days

Adds the specified number of whole and fractional days to the DateTime value. The parameter can be positive or negative.

Code

```
{{ now }}

{{ now | date_add_days: 1 }}

{{ now | date_add_days: -2.5 }}
```

Output

```
{{ now }}

{{ now | date_add_days: 1 }}

{{ now | date_add_days: -2.5 }}
```

date_add_hours

Adds the specified number of whole and fractional hours to the DateTime value. The parameter can be positive or negative.

Code

```
{{ now }}

{{ now | date_add_hours: 1 }}

{{ now | date_add_hours: -2.5 }}
```

Output

```
{{ now }}

{{ now | date_add_hours: 1 }}

{{ now | date_add_hours: -2.5 }}
```

date_add_minutes

Adds the specified number of whole and fractional minutes to the DateTime value. The parameter can be positive or negative.

Code

```
{{ now }}

{{ now | date_add_minutes: 10 }}

{{ now | date_add_minutes: -2.5 }}
```

Output

```
{{ now }}

{{ now | date_add_minutes: 10 }}

{{ now | date_add_minutes: -2.5 }}
```

date_add_months

Adds the specified number of whole months to the DateTime value. The parameter can be positive or negative.

Code

```
{{ now }}

{{ now | date_add_months: 1 }}

{{ now | date_add_months: -2 }}
```

Output

```
{{ now }}

{{ now | date_add_months: 1 }}

{{ now | date_add_months: -2 }}
```

date_add_seconds

Adds the specified number of whole and fractional seconds to the DateTime value. The parameter can be positive or negative.

Code

```
{{ now }}

{{ now | date_add_seconds: 10 }}

{{ now | date_add_seconds: -1.25 }}
```

Output

```
{{ now }}

{{ now | date_add_seconds: 10 }}

{{ now | date_add_seconds: -1.25 }}
```

date_add_years

Adds the specified number of whole years to the DateTime value. The parameter can be positive or negative.

Code

```
{{ now }}

{{ now | date_add_years: 1 }}

{{ now | date_add_years: -2 }}
```

Output

```
{{ now }}
```

```
{{ now | date_add_years: 1 }}
```

```
{{ now | date_add_years: -2 }}
```

date_to_iso8601

Formats a DateTime value according to the ISO 8601 standard. Useful when creating Atom feeds, or the HTML5 `<time>` element.

Code

```
{{ now | date_to_iso8601 }}
```

Output

```
{{ now | date_to_iso8601 }}
```

date_to_rfc822

Formats a DateTime value according to the RFC 822 standard. Useful when creating RSS feeds.

Code

```
{{ now | date_to_rfc822 }}
```

Output

```
{{ now | date_to_rfc822 }}
```

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

Entity list filters

Applies To: Dynamics 365 (online), Dynamics CRM Online

Entity List filters are used to work with certain entitylist attribute values, and to help create entity list views.

current_sort

Given a sort expression, returns the current sort direction for a given attribute.

Code

```
{{ 'name ASC, createdon DESC' | current_sort: 'createdon' }}
```

Output

```
DESC
```

metafilters

Parses an entitylist `filter_definition` JSON value into filter option group objects.

`metafilters` can be optionally provided with a current attribute filter query and current entitylist, allowing the returned filter objects to be flagged as either selected or unselected.

reverse_sort

Given a sort direction, returns the opposite sort direction.

Code

```
<!-- Sort direction is not case-sensitive -->

{{ 'ASC' | reverse_sort }}

{{ 'desc' | reverse_sort }}
```

Output

```
DESC

ASC
```

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

Math filters

Applies To: Dynamics 365 (online), Dynamics CRM Online

Math filters allow you to perform mathematical operations on Liquid types.

As with all filters, math filters can be chained, and are applied in order from left to right.

Code

```
{{ 10 | times: 2 | minus: 5 | divided_by: 3 }}
```

Output

```
{{ 10 | times: 2 | minus: 5 | divided_by: 3 }}
```

ceil

Rounds a value up to the nearest integer.

Code

```
{{ 4.6 | ceil }}

{{ 4.3 | ceil }}
```

Output

```
5

5
```

divided_by

Divides a number by another number.

Code

```
{{ 10 | divided_by: 2 }}

{{ 10 | divided_by: 3 }}

{{ 10.0 | divided_by: 3 }}
```

Output

```
{{ 10 | divided_by: 2 }}

{{ 10 | divided_by: 3 }}

{{ 10.0 | divided_by: 3 }}
```

floor

Rounds a value down to the nearest integer.

Code

```
{{ 4.6 | floor }}

{{ 4.3 | floor }}
```

Output

```
4

4
```

minus

Subtracts a number from another number.

Code

```
<!-- entityview.page = 11 -->

{{ entityview.page | minus: 1 }}

{{ 10 | minus: 1.1 }}

{{ 10.1 | minus: 1 }}
```

Output

```
10

{{ 10 | minus: 1.1 }}

{{ 10.1 | minus: 1 }}
```

modulo

Divides a number by another number and returns the remainder.

Code

```
{{ 12 | modulo: 5 }}
```

Output

```
{{ 12 | modulo: 5 }}
```

plus

Adds a number to another number.

Code

```
<!-- entityview.page = 11 -->

{{ entityview.page | plus: 1 }}

{{ 10 | plus: 1.1 }}

{{ 10.1 | plus: 1 }}
```

Output

```
12

{{ 10 | plus: 1.1 }}

{{ 10.1 | plus: 1 }}
```

round

Rounds a value to the nearest integer or specified number of decimals.

Code

```
{{ 4.6 | round }}

{{ 4.3 | round }}

{{ 4.5612 | round: 2 }}
```

Output

```
5

4

4.56
```

times

Multiplies a number by another number.

Code

```
{{ 10 | times: 2 }}

{{ 10 | times: 2.2 }}

{{ 10.1 | times: 2 }}
```

Output

```
{{ 10 | times: 2 }}
```

```
{{ 10 | times: 2.2 }}
```

```
{{ 10.1 | times: 2 }}
```

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

String filters

Applies To: Dynamics 365 (online), Dynamics CRM Online

String filters manipulate Liquid types.

append

Appends a string to the end of another string.

Code

```
{{ 'filename' | append: '.js' }}
```

Output

```
{{ 'filename' | append: '.js' }}
```

capitalize

capitalizes the first word in a string.

Code

```
{{ 'capitalize me' | capitalize }}
```

Output

```
{{ 'capitalize me' | capitalize }}
```

downcase

Converts a string into lowercase.

Code

```
{{ 'MIxed Case TExt' | downcase }}
```

Output

```
{{ 'MIxed Case TExt' | downcase }}
```

escape

HTML-escapes a string.

Code

```
{{ '<p>test</p>' | escape }}
```

Output

```
&lt;p&gt;test&lt;/p&gt;
```

newline_to_br

Inserts a `<br />` line break HTML tag at each line break in a string.

Code

```
{% capture text %}

A

B

C

{% endcapture %}

{{ text | newline_to_br }}
```

Output

```
A<br />

B<br />

C<br />
```

prepend

Prepends a string to the beginning of another string.

Code

```
{{ 'Jane Johnson' | prepend: 'Dr. ' }}
```

Output

```
{{ 'Jane Johnson' | prepend: 'Dr. ' }}
```

remove

Remove all occurrences of a substring from a string.

Code

```
{{ 'Hello, Dave. How are you, Dave?' | remove: 'Dave' }}
```

Output

```
{{ 'Hello, Dave. How are you, Dave?' | remove: 'Dave' }}
```

remove_first

Removes the first occurrence of a substring from a string.

Code

```
{{ 'Hello, Dave. How are you, Dave?' | remove_first: 'Dave' }}
```

Output

```
{{ 'Hello, Dave. How are you, Dave?' | remove_first: 'Dave' }}
```

replace

Replaces all occurrences of a string with a substring.

Code

```
{{ 'Hello, Dave. How are you, Dave?' | replace: 'Dave', 'John' }}
```

Output

```
{{ 'Hello, Dave. How are you, Dave?' | replace: 'Dave', 'John' }}
```

replace_first

Replaces the first occurrence of a string with a substring.

Code

```
{{ 'Hello, Dave. How are you, Dave?' | replace_first: 'Dave', 'John' }}
```

Output

```
{{ 'Hello, Dave. How are you, Dave?' | replace_first: 'Dave', 'John' }}
```

split

The `split` filter takes on a substring as a parameter. The substring is used as a delimiter to divide a string into an array.

Code

```
{% assign words = "This is a demo of the split filter" | split: ' ' %}

First word: {{ words.first }}

First word: {{ words[0] }}

Second word: {{ words[1] }}

Last word: {{ words.last }}

All words: {{ words | join: ', ' }}
```

Output

```
{% assign words = "This is a demo of the split filter" | split: ' ' %}

First word: {{ words.first }}

First word: {{ words[0] }}

Second word: {{ words[1] }}

Last word: {{ words.last }}
```

```
All words: {{ words | join: ', ' }}
```

strip_html

Strips all HTML tags from a string.

Code

```
<p>Hello</p>
```

Output

```
Hello
```

strip_newlines

Strips any line breaks from a string.

Code

```
{% capture text %}

A

B

C

{% endcapture %}

{{ text | strip_newlines }}
```

Output

```
ABC
```

text_to_html

Formats a plain text string as simple HTML. All text will be HTML encoded, blocks of text separated by a blank line will be wrapped in paragraph `<p>` tags, single line breaks will be replaced with `<br>`, and URLs will be converted to hyperlinks.

Code

```
{{ note.notetext | text_to_html }}
```

Output

```
<p>This is the first paragraph of notetext. It contains a URL: <a href="http://example.com/"
rel="nofollow">http://example.com</a></p>

<p>This is a second paragraph.</p>
```

truncate

Truncates a string down to a given number of characters. An ellipsis (...) is appended to the string and is included in the character count.

Code

```
{{ 'This is a long run of text.' | truncate: 10 }}
```

Output

```
{{ 'This is a long run of text.' | truncate: 10 }}
```

truncate_words

Truncates a string down to a given number of words. An ellipsis (...) is appended to the truncated string.

Code

```
{{ 'This is a long run of text.' | truncate_words: 3 }}
```

Output

```
{{ 'This is a long run of text.' | truncate_words: 3 }}
```

upcase

Converts a string into uppercase.

Code

```
{{ 'MIxed Case TExt' | upcase }}
```

Output

```
{{ 'MIxed Case TExt' | upcase }}
```

url_escape

URI-escape a string, for inclusion in a URL.

Code

```
{{ 'This & that//' | url_escape }}
```

Output

```
This+%26+that%2F%2F
```

xml_escape

XML-escape a string, for inclusion in XML output.

Code

```
{{ '<p>test</p>' | xml_escape }}
```

Output

```
&lt;p&gt;test&lt;/p&gt;
```

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

Type filters

Applies To: Dynamics 365 (online), Dynamics CRM Online

Type filters allow you to convert values of one type into other types.

boolean

Attempts to convert a string value into a Boolean. If the value is already a Boolean, it will be returned unchanged. If the value cannot be converted into a Boolean, `null` will be returned.

This filter will also accept "on", "enabled", or "yes" as `true`, and "off", "disabled", and "no" as `false`.

Note

Additional filters

Code

```
{{ true | boolean }}

{{ 'false' | boolean }}

{{ 'enabled' | boolean }}

{{ settings['something/enabled'] | boolean | default: false }}
```

Output

```
{{ true | boolean }}

{{ 'false' | boolean }}

{{ 'enabled' | boolean }}

false
```

decimal

Attempts to convert a string value into a decimal number. If the value is already a decimal number, it will be returned unchanged. If the value cannot be converted into a decimal number, `null` will be returned.

Note

Additional filters

Code

```
{{ 10.1 | decimal }}

{{ '3.14' | decimal }}

{{ 'text' | decimal | default: 3.14 }}
```

Output

```
{{ 10.1 | decimal }}

{{ '3.14' | decimal }}

{{ 'text' | decimal | default: 3.14 }}
```

integer

Attempts to convert a string value into an integer. If the value is already an integer, it will be returned unchanged. If the value cannot be converted into an integer, `null` will be returned.

Note

Additional filters

Code

```
{{ 10 | integer }}

{{ '10' | integer }}

{{ '10.1' | integer }}

{{ 'text' | integer | default: 2 }}
```

Output

```
{{ 10 | integer }}

{{ '10' | integer }}

{{ '10.1' | integer }}

{{ 'text' | integer | default: 2 }}
```

string

Attempts to convert a value into its string representation. If the value is already a string, it will be returned unchanged. If the value is `null`, `null` will be returned.

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

URL filters

Applies To: Dynamics 365 (online), Dynamics CRM Online

URL filters allow you to build or extract parts of URLs.

add_query

Appends a query string parameter to a URL. If the parameter already exists in the URL, the parameter value will be updated.

If this filter is applied to a full absolute URL, an updated absolute URL will be the result. If it is applied to a path, an updated path will be the result.

Code

```
{{ 'http://example.com/path?page=1' | add_query: 'foo', 'bar' }}

{{ '/path?page=1' | add_query: 'page', 2 }}
```

Output

```
{{ 'http://example.com/path?page=1' | add_query: 'foo', 'bar' }}

{{ '/path?page=1' | add_query: 'page', 2 }}
```

base

Gets the base URL of a given URL.

Code

```
{{ 'http://example.com/path?foo=bar&page=2' | base }}
```

Output

```
http://example.com
```

host

Gets the host part of a URL.

Code

```
{{ 'http://example.com/path?foo=bar&page=2' | host }}
```

Output

```
{{ 'http://example.com/path?foo=bar&page=2' | host }}
```

path

Gets the path part of a URL.

Code

```
{{ 'http://example.com/path?foo=bar&page=2' | path }}

{{ '/path?foo=bar&page=2' | path }}
```

Output

```
{{ 'http://example.com/path?foo=bar&page=2' | path }}

{{ '/path?foo=bar&page=2' | path }}
```

path_and_query

Gets the path and query part of a URL.

Code

```
{{ 'http://example.com/path?foo=bar&page=2' | path_and_query }}

{{ '/path?foo=bar&page=2' | path_and_query }}
```

Output

```
/path?foo=bar&page=2
```

```
/path?foo=bar&page=2
```

port

Gets the port number of a URL.

Code

```
{{ 'http://example.com/path?foo=bar&page=2' | port }}

{{ 'https://example.com/path?foo=bar&page=2' | port }}

{{ 'https://example.com:9000/path?foo=bar&page=2' | port }}
```

Output

```
{{ 'http://example.com/path?foo=bar&page=2' | port }}

{{ 'https://example.com/path?foo=bar&page=2' | port }}

{{ 'https://example.com:9000/path?foo=bar&page=2' | port }}
```

remove_query

Removes a query string parameter from a URL. If the parameter does not exists in the URL, the URL will be returned unchanged.

If this filter is applied to a full absolute URL, an updated absolute URL will be the result. If it is applied to a path, an updated path will be the result.

Code

```
{{ 'http://example.com/path?page=1' | remove_query: 'page' }}

{{ '/path?page=1' | remove_query: 'page' }}
```

Output

```
{{ 'http://example.com/path?page=1' | remove_query: 'page' }}

{{ '/path?page=1' | remove_query: 'page' }}
```

scheme

Gets the scheme part of a URL.

Code

```
{{ 'http://example.com/path?foo=bar&page=2' | scheme }}

{{ 'https://example.com/path?foo=bar&page=2' | scheme }}
```

Output

```
{{ 'http://example.com/path?foo=bar&page=2' | scheme }}

{{ 'https://example.com/path?foo=bar&page=2' | scheme }}
```

See also

Add dynamic content and create custom templates
Liquid types

Liquid Objects
Liquid Tags
Liquid Filters

Additional filters

Applies To: Dynamics 365 (online), Dynamics CRM Online

These filters provide useful general functionality.

default

Returns a default value for any variable with no assigned value (i.e. `null`).

Code

```
{{ snippets["Header"] | default: 'My Website' }}
```

Output

```
<!-- If a snippet with the name "Header" returns null -->

My Website
```

file_size

Applied to a number value representing a number of bytes, returns a formatted file size with a unit of appropriate scale.

Optionally, a precision parameter can be passed, to control the number of decimal places in the result. The default precision is 1.

Code

```
{{ 10000000 | file_size }}

{{ 2050 | file_size: 0 }}

{{ entity.notes.first.filesize | file_size: 2 }}
```

Output

```
9.5 MB

2 KB

207.14 KB
```

has_role

Applied to a user, returns `true` if the user belongs to the given role. Returns `false` if not.

Code

```
{% assign is_admin = user | has_role: 'Administrators' %}

{% if is_admin %}

  User is an administrator.

{% endif %}
```

liquid

Renders a string as Liquid code. This code will have access to the current Liquid execution context (variables, etc.).

Note

This filter should be used with caution and should generally only be applied to values that are under the exclusive control of portal content authors, or other users that can be trusted to write Liquid code.

Code

```
{{ page.adx_copy | liquid }}
```

See also

Add dynamic content and create custom templates
Liquid types
Liquid Objects
Liquid Tags
Liquid Filters

Create advanced templates for portals

Applies To: Dynamics 365 (online), Dynamics CRM Online

Learn how to create advanced templates using these examples:

Create a custom page template by using Liquid and a web template page template

Create a custom page template to render an RSS feed

Render the entity list associated with the current page

Render a website header and primary navigation bar

Render up to three levels of page hierarchy by using hybrid navigation

See also

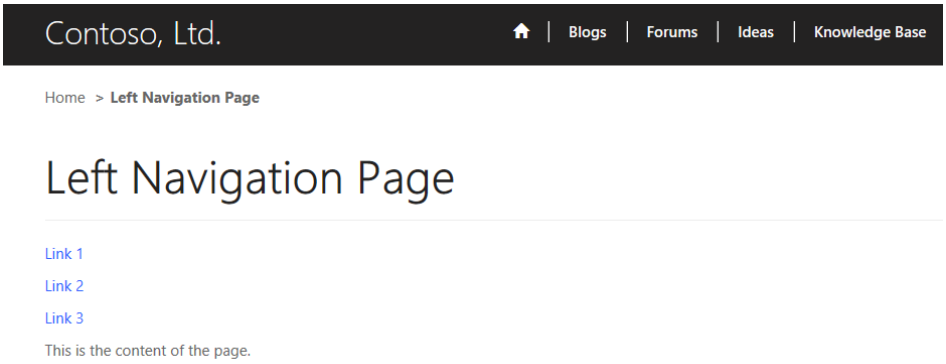
Add dynamic content and create custom templates
Store source content by using web templates
Understand Liquid operators
Liquid types
Conditional
Liquid Objects
Liquid Tags
Liquid Filters

Create a custom page template by using Liquid and a web template page template

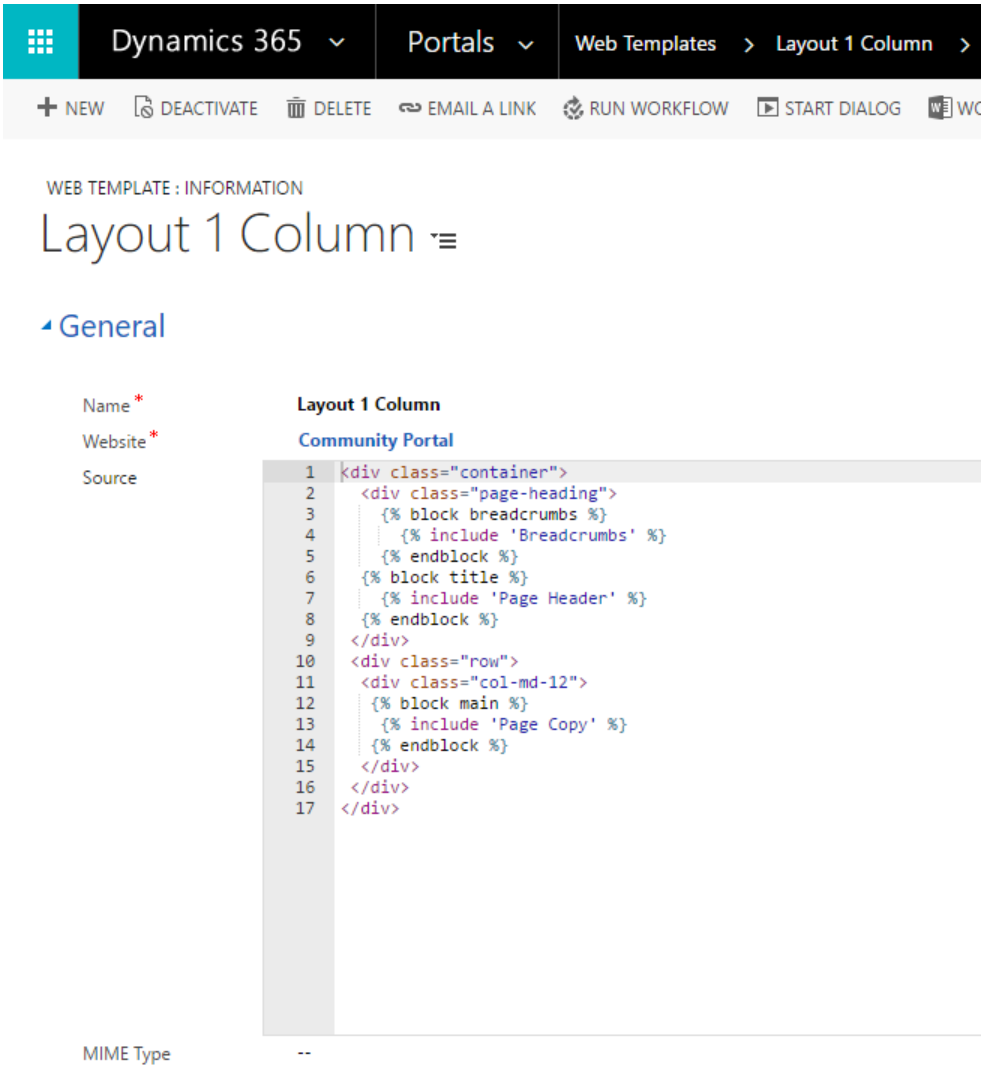
Applies To: Dynamics 365 (online), Dynamics CRM Online

In this example, we'll create a custom page template by using Liquid and a Web Template page template. More information: [Store source content by using web templates]

Our goal is to build a simple two-column template that uses a web link set as left-side navigation, with the page content to the right. Something like this:



First, we'll create our Web Template and write the Liquid template code. But, thinking ahead, we realize we're likely to reuse some common elements of this template in future templates. So, we'll create a common base template that we'll then extend with our specific template. Our base template will provide breadcrumb links and our page title/header, as well as define our one-column layout:



Note

Read about template inheritance using the `block` and `extends` tags: [Template tags]

Then, we'll create a new Web Template that extends our base layout template, using the navigation web link set associated with the current page for our navigation links:

Dynamics 365 | Portals | Web Templates > Weblinks Left Navig... >

NEW | DEACTIVATE | DELETE | EMAIL A LINK | RUN WORKFLOW | START DIALOG | WORD TEMPLATES

WEB TEMPLATE : INFORMATION

Weblinks Left Navigation

General

Name * **Weblinks Left Navigation**

Website * **Community Portal**

Source

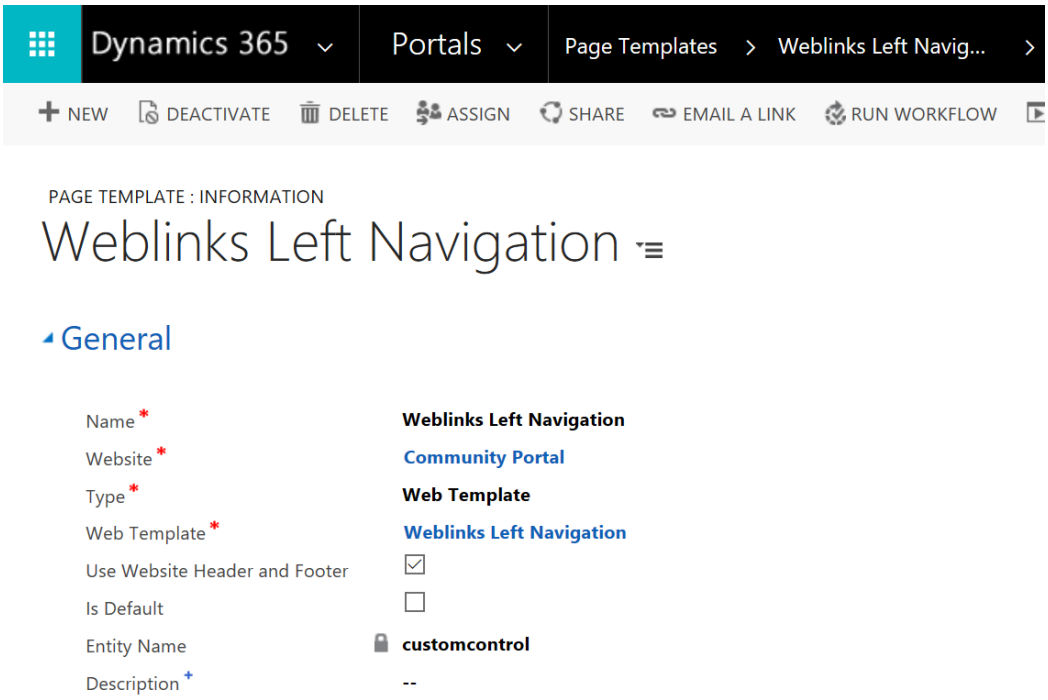
```
{% extends 'Layout 1 Column' %}

{% block sidebar %}
  {% assign weblinkset_id = page.adx_navigation.id %}
  {% if weblinkset_id %}
    {% assign nav = weblinks[page.adx_navigation.id] %}
    {% if nav %}
      <div class="list-group">
        {% for link in nav.weblinks %}
          <a class="list-group-item" href="{{link.url}}">
            {{link.name}}
          </a>
        {% endfor%}
      </div}
    {% endif %}
  {% endif %}
{% endblock %}

{% block content %}
  <div class="page-copy">
    {{page.adx_copy}}
  </div>
{% endblock %}
```

MIME Type --

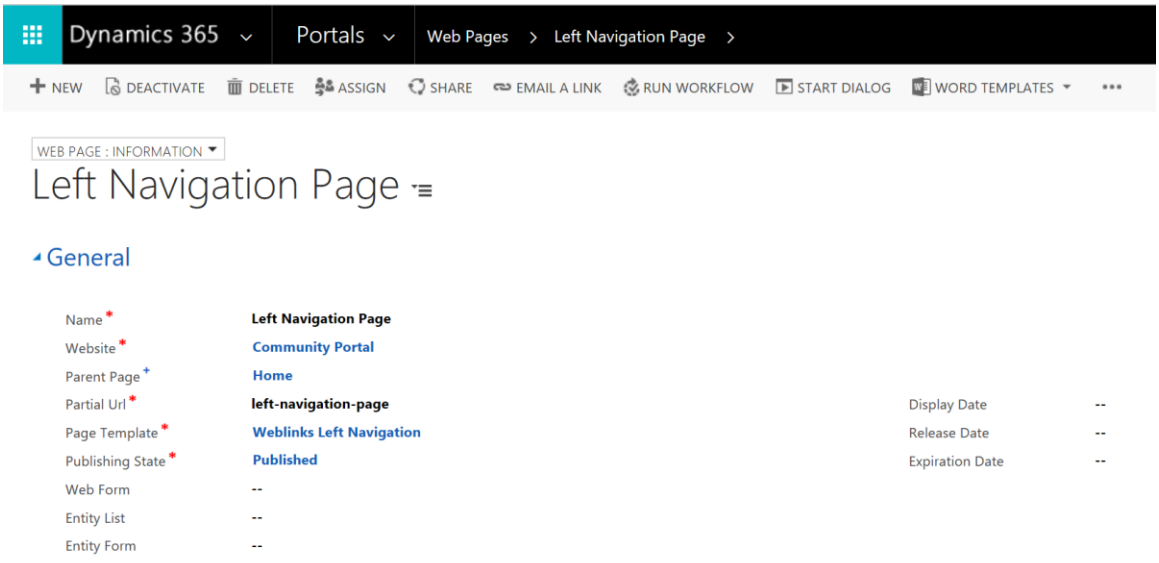
Note

Read about loading web link sets using the `weblinks` object: [weblinks]

Next, we create a new Web Template page template that uses our Web Template:



Now, all that's left to do is create a Web Page that uses our page template, and has an associated Web Link Set, and we have our result.



See also

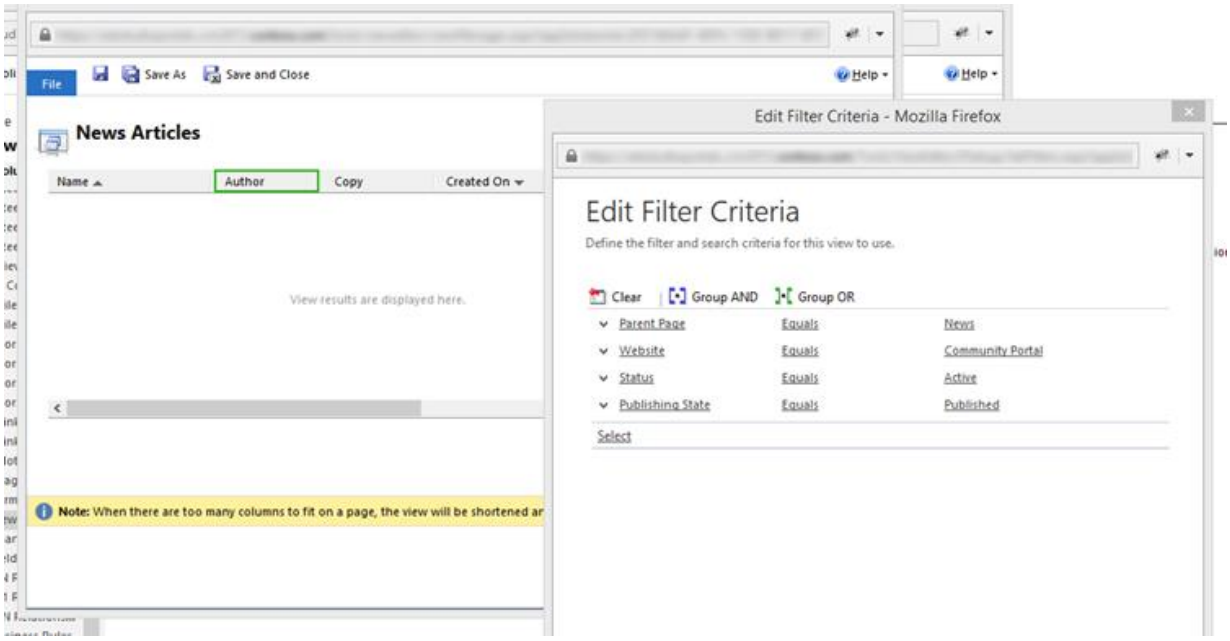
[Create advanced templates for portals]
[Create a custom page template to render an RSS feed]
[Render the entity list associated with the current page]
[Render a website header and primary navigation bar]
[Render up to three levels of page hierarchy by using hybrid navigation]

Create a custom page template to render an RSS feed

Applies To: Dynamics 365 (online), Dynamics CRM Online

In this example, we'll create a custom page template to render an RSS feed of news articles, using Liquid and a Web Template Page Template. More information: Store source content by using web templates

First, we'll create a new Dynamics 365 view that we'll use to load the data for our feed. In this example, we'll make it a view on Web Pages, and use this entity to store our articles. We can use this view to configure the sorting and filtering of results, and include as columns the entity attributes that we want available in our Liquid template.



Next, we'll create a Web Template for our RSS feed. This template will be applied to a particular webpage in our website, so we'll use the title and summary of that page as the title and description of the feed. The we'll use the `entityview` tag to load our newly-created "News Articles" view. More information: Dynamics 365 entity tags. Note that we also set the **MIME Type** field of the Web Template to `application/rss+xml`. This indicates what the response content type could be when our template is rendered.

WEB TEMPLATE : INFORMATION

RSS Feed

General

Name * **RSS Feed**

Website * **Community Portal**

Source

```
1  <? xml version="1.0" encoding="UTF-8" ?>
2  <rss version="2.0"
3    <channel>
4      <title>{{ page.title | xml_escape }}</title>
5      <description>{{ page.description | strip_html | xml_escape }}</description>
6      <link>{{ request.url | xml_escape }}</link>
7      {% entityview logical_name:'adx_webpage', name:'News Articles', page_size:20 -%}
8        {% for item in entityview.records %}
9          <item>
10           <title>{{ item.adx_name | xml_escape }}</title>
11           <description>{{ item.adx_copy | escape }}</description>
12           <link>{{ request.url | base | xml_escape }}{{itme.url | xml_escape }}</link>
13           <guid>{{ item.id | xml_escape }}</guid>
14           <pubDate>{{ item.createdon | date_to_rfc822 }}<pubDate>
15         </item>
16       {% endfor -%}
17     {% endentityview %}
18   </channel>
19 </rss>
```

MIME Type **application/rss+xml**

Now, we'll create a new page template, allowing us to assign our RSS feed template to any webpage in our website. Note that we deselect **Use Website Header and Footer**, as we want to take over rendering of the entire page response for our feed.

PAGE TEMPLATE : INFORMATION

RSS feed

General

Name * **RSS feed**

Website * **Community Portal**

Type * **Web Template**

Web Template * **RSS Feed**

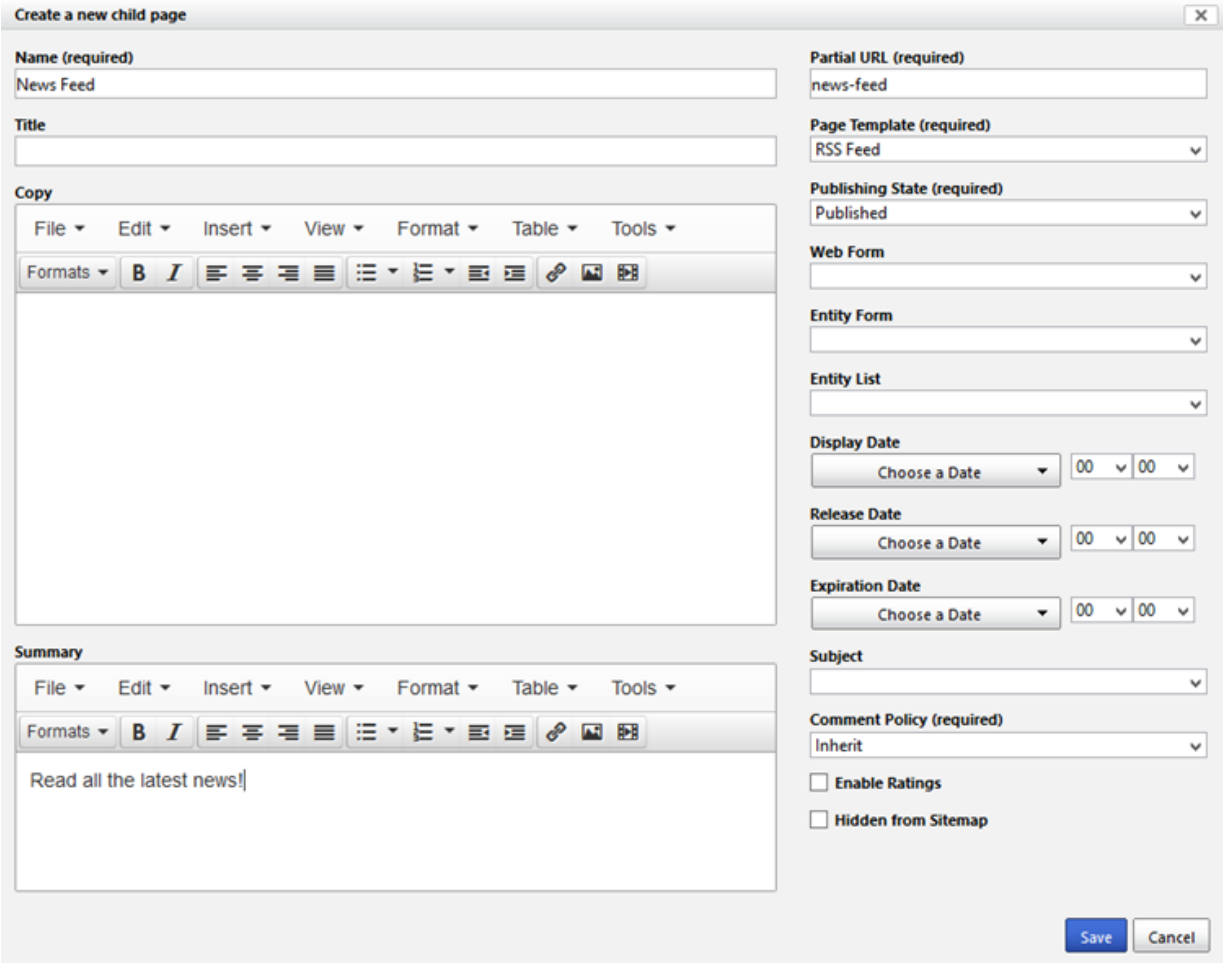
Use Website Header and Footer ☐

Is Default ☐

Entity Name --

Description + --

Now all that's left is to create a new Web Page to host our feed, giving it a title and summary, and assigning it our "RSS Feed" template. We can do this in Dynamics 365 or by using the portal inline editing features:



Now, when we request this new webpage, we'll receive our RSS feed XML:

```
<?xml version="1.0" encoding="UTF-8" ?>
- <rss version="2.0">
  - <channel>
      <title>News Feed</title>
      <description>Read all the latest news!</description>
      <link>http://community.local.adxstudio.com/news-feed/</link>
    - <item>
        <title>News Article 2</title>
        <description><p>This is a newer news article.</p></description>
        <link>http://community.local.adxstudio.com/news/news-article-2/</link>
        <guid>6da50c33-f02e-e411-8261-ac220b88902d</guid>
        <pubDate>Thu, 28 Aug 2014 20:16:32 Z</pubDate>
      </item>
    - <item>
        <title>New Article 1</title>
        <description><p>This is a news article.</p></description>
        <link>http://community.local.adxstudio.com/news/new-article-1/</link>
        <guid>09922d28-f02e-e411-8261-ac220b88902d</guid>
        <pubDate>Thu, 28 Aug 2014 20:16:13 Z</pubDate>
      </item>
    </channel>
  </rss>
```


In this example, we've seen how we can combine Liquid, Web Templates, Dynamics 365 views, and portals content management features to create a custom RSS feed. The combination of these features adds powerful customization capabilities to any portal application.

See also

Create advanced templates for portals
Create a custom page template by using Liquid and a web template page template
Render the entity list associated with the current page
Render a website header and primary navigation bar
Render up to three levels of page hierarchy by using hybrid navigation

Render the entity list associated with the current page

Applies To: Dynamics 365 (online), Dynamics CRM Online

Render the Entity List associated with the current page, as a paginated, sortable table. Uses entitylist, entityview (Dynamics 365 entity tags), page, and request parameters, and includes search and multiple view selection.

```
{%entitylistid:page.adx_entitylist.id%}<divclass="navbar navbar-default"><divclass="container-
fluid"><divclass="navbar-header"><buttontype="button"class="navbar-toggle"data-
toggle="collapse"data-target="#entitylist-navbar-{{entitylist.id}}"><spanclass="sr-only">Toggle
```

```
    navigation</span><spanclass="icon-bar"></span><spanclass="icon-bar"></span><spanclass="icon-
bar"></span></button><aclass="navbar-
brand"href="{{page.url}}">{{entitylist.adx_name}}</a></div><divclass="collapse

    navbar-collapse"id="entitylist-navbar-
{{entitylist.id}}">{%ifentitylist.views.size>1%}<ulclass="nav navbar-
nav"><liclass="dropdown"><ahref="#"class="dropdown-toggle"data-toggle="dropdown"><iclass="fa fa-
list"></i> Views <spanclass="caret"></span></a><ulclass="dropdown-
menu"role="menu">{%forviewinentitylist.views

    -
%}<li{%ifparams.view==view.id%}class="active"{%endif%}><ahref="{{request.path|add_query:'view',vi
ew.id}}">{{view.name}}</a></li>{%endfor -
%}</ul></li></ul>{%endif%}{%ifentitylist.search_enabled%}<formclass="navbar-form

    navbar-left"method="get"><divclass="input-group">{%ifparams.search.size>0%}<divclass="input-
group-btn"><aclass="btn btn-
default"href="{{request.path_and_query|remove_query:'search'}}">&times;</a></div>{%endif%}<inputn
ame="search"class="form-
control"value="{{params.search}}"placeholder="{{entitylist.search_placeholder|default:'Search'}}"
type="text"/><divclass="input-group-btn"><buttontype="submit"class="btn

    btn-default"title="{{entitylist.search_tooltip}}"><iclass="fa fa-
search"> </i></button></div></div></form>{%endif%}{%ifentitylist.create_enabled%}<ulclass="n
av navbar-nav navbar-right"><li><ahref="{{entitylist.create_url}}"><iclass="fa

    fa-
plus"></i>{{entitylist.create_label|default:'Create'}}</a></li></ul>{%endif%}</div></div></div>{%
entityviewid:params.view,search:params.search,order:params.order,page:params.page,pagesize:params
.pagesize,metafilter:params.mf%}{%assignorder=params.order|default:entityview.sort_expression%}<t
ableclass="table"data-order="{{order}}"><thead><tr>{%forcinentityview.columns

    -%}<thwidth="{{c.width}}"data-
logicalname="{{c.logical_name}}">{%ifc.sort_enabled%}{%assigncurrent_sort=order|current_sort:c.lo
gical_name%}{%casecurrent_sort%}{%when'ASC'%}<ahref="{{request.path_and_query|add_query:'order',c
.sort_descending}}">{{c.name}}<iclass="fa

    fa-sort-
asc"></i></a>{%when'DESC'%}<ahref="{{request.path_and_query|add_query:'order',c.sort_ascending}}"
>{{c.name}}<iclass="fa fa-sort-
desc"></i></a>{%else%}<ahref="{{request.path_and_query|add_query:'order',c.sort_ascending}}">{{c.
name}}<iclass="fa

    fa-unsorted"></i></a>{%endcase%}{%else%}{{c.name}}{%endif%}</th>{%endfor -
%}<thwidth="1"></th></tr></thead><tbody>{%foreinentityview.records -
%}<tr>{%forcinentityview.columns -
%}{%assignattr=e[c.logical_name]%}{%assignattr_type=c.attribute_type|downcase%}<tddata-
logicalname="{{c.logical_name}}">{%ifattr.is_entity_reference
```

```
    -
%}{{attr.name}}{%elsifattr_type=='datetime'%}{%ifattr%}<timedatetime="{{attr|date_to_iso8601}}">{
{attr}}</time>{%endif%}{%elsifattr_type=='picklist'%}{{attr.label}}{%else%}{{attr}}{%endif -
%}</th>{%endfor -%}<td>{%ifentitylist.detail_enabled
    -%}<aclass="btn btn-default btn-
xs"href="{{entitylist.detail_url}}?{{entitylist.detail_id_parameter}}={{e.id}}"title="{{entitylis
t.detail_label}}"><iclass="fa fa-external-link"></i></a>{%endif -%}</td><tr>{%endfor -
%}</tbody></table>{%ifentityview.pages.size>0%}{%assignfirst_page=entityview.first_page%}{%assign
last_page=entityview.last_page%}{%assignpage_offset=entityview.page|minus:1|divided_by:10|times:1
0%}{%assignpage_slice_first_page=page_offset|plus:1%}{%assignpage_slice_last_page=page_offset|plu
s:10%}<ulclass="pagination"><li{%unlessfirst_pageandentityview.page>1%}class="disabled"{%endunles
s%}><a{%iffirst_pageandentityview.page>1%}href="{{request.url|add_query:'page',first_page|path_an
d_query}}"{%endif%}>&laquo;</a></li><li{%unlessentityview.previous_page%}class="disabled"{%endunl
ess%}><a{%ifentityview.previous_page%}href="{{request.url|add_query:'page',entityview.previous_pa
ge|path_and_query}}"{%endif%}>&lsaquo;</a></li>{%ifpage_slice_first_page>1%}{%assignprevious_slic
e_last_page=page_slice_first_page|minus:1%}<li><ahref="{{request.url|add_query:'page',previous_sl
ice_last_page|path_and_query}}">&hellip;</a></li>{%endif%}{%forpageinentityview.pagesoffset:page_
offsetlimit:10
    -
%}<li{%ifpage==entityview.page%}class="active"{%endif%}><ahref="{{request.url|add_query:'page',pa
ge|path_and_query}}">{{page}}</a></li>{%endfor -
%}{%ifpage_slice_last_page<entityview.pages.size%}{%assignnext_slice_first_page=page_slice_last_p
age|plus:1%}<li><ahref="{{request.url|add_query:'page',next_slice_first_page|path_and_query}}">&h
ellip;</a></li>{%endif%}<li{%unlessentityview.next_page%}class="disabled"{%endunless%}><a{%ifenti
tyview.next_page%}href="{{request.url|add_query:'page',entityview.next_page|path_and_query}}"{%en
dif%}>&rsaquo;</a></li><li{%unlesslast_pageandentityview.page<last_page%}class="disabled"{%endunl
ess%}><a{%iflast_pageandentityview.page<last_page%}href="{{request.url|add_query:'page',last_page
|path_and_query}}"{%endif%}>&raquo;</a></li></ul>{%endif%}{%endentityview%}{%endentitylist%}
```

See also

Create advanced templates for portals
Create a custom page template by using Liquid and a web template page template
Create a custom page template to render an RSS feed
Render a website header and primary navigation bar
Render up to three levels of page hierarchy by using hybrid navigation

Render a website header and primary navigation bar

Applies To: Dynamics 365 (online), Dynamics CRM Online

Render a website header and primary navigation bar, using portals settings, snippets, weblinks, and sitemarkers. More information: Store source content by using web templates

Note

The example in this topic will only function correctly if cross-request header caching is disabled for your application. It is enabled by default in version 7.0.0019 and later. It can be disabled by creating a Site Setting named `Header/OutputCache/Enabled`, and setting its value to `false`.

```
<divclass="masthead hidden-xs"><divclass="container"><divclass="toolbar"><divclass="toolbar-
row">{%assignsearch_enabled=settings['search/enabled']|boolean|default:true%}{%assignsearch_page=
sitemarkers['Search']%}{%ifsearch_enabledandsearch_page%}<divclass="toolbar-item

            toolbar-
search"><formmethod="GET"action="{{search_page.url}}"role="search"><labelfor="q"class="sr-
only">{{snippets["Header/Search/Label"]|default:"Search"}}</label><divclass="input-
group"><inputtype="text"class="form-
control"id="q"name="q"placeholder="{{snippets["Header/Search/Label"]|default:"Search"}}"value="{{
params.q}}"title="{{snippets["Header/Search/Label"]|default:"Search"}}"><divclass="input-group-
btn"><buttontype="submit"class="btn

            btn-
default"title="{{snippets["Header/Search/ToolTip"]|default:"Search"}}"><spanclass="fa fa-
search"aria-hidden="true"></span></button></div></div></form></div>{%endif%}<divclass="toolbar-
item"><divclass="btn-toolbar"role="toolbar">{%ifuser%}<divclass="btn-group"><ahref="#"class="btn

            btn-default dropdown-toggle"data-toggle="dropdown"><spanclass="fa fa-user"aria-
hidden="true"></span><spanclass="username">{{user.fullname}}</span><spanclass="caret"></span></a>
<ulclass="dropdown-menu pull-
right"role="menu">{%assignshow_profile_nav=settings["Header/ShowAllProfileNavigationLinks"]|boole
an|default:true%}{%ifshow_profile_nav%}{%assignprofile_nav=weblinks["Profile


Navigation"]%}{%ifprofile_nav%}{%forlinkinprofile_nav.weblinks%}<li><ahref="{{link.url}}">{{link.
name}}</a></li>{%endfor%}{%endif%}{%else%}<li><ahref="{{sitemarkers['Profile'].url}}">{{snippets[
"Profile Link
Text"]|default:"Profile"}}</a></li>{%endif%}<liclass="divider"></li><li><ahref="/account-
signout?returnUrl={{request.raw_url}}">{{snippets["links/logout"]|default:"Sign

            Out"}}</a></li></ul></div>{%else%}<divclass="btn-group"><aclass="btn btn-
primary"href="{{sitemarkers['Login'].url|add_query:'returnurl',request.path_and_query}}"><spancla
ss="fa fa-sign-in"aria-hidden="true"></span>{{snippets["links/login"]|default:"Sign
```

```
In"}}</a></div>{%endif%}</div></div></div></div>{%editablesnippets'Header'type:'html'%}</div></di
v><divclass="header-navbar navbar navbar-default navbar-static-
top"role="navigation"><divclass="container"><divclass="navbar-
header"><buttontype="button"class="navbar-toggle"data-toggle="collapse"data-target="#header-
navbar-collapse"><spanclass="sr-only">Toggle
            navigation</span><spanclass="icon-bar"></span><spanclass="icon-
bar"></span><spanclass="icon-bar"></span></button><divclass="navbar-left visible-
xs">{%editablesnippets'Mobile Header'type:'html'%}</div></div><divid="header-navbar-
collapse"class="navbar-collapse
            collapse"><divclass="navbar-left hidden-xs">{%editablesnippets'Navbar
Left'type:'html'%}</div>{%assignprimary_nav=weblinks["Primary
Navigation"]%}{%ifprimary_nav%}<divclass="navbar-left {%ifprimary_nav.editable%}xrm-entity xrm-
editable-adx_weblinkset{%endif%}"data-weblinks-maxdepth="2"><ulclass="nav
            navbar-nav
weblinks">{%forlinkinprimary_nav.weblinks%}{%iflink.display_page_child_links%}{%assignsublinks=si
temap[link.url].children%}{%else%}{%assignsublinks=link.weblinks%}{%endif%}<liclass="weblink
{%ifsublinks.size>0%} dropdown{%endif%}"><a{%ifsublinks.size>0%}href="#"class="dropdown-
toggle"data-
toggle="dropdown"{%else%}href="{{link.url}}"{%endif%}{%iflink.nofollow%}rel="nofollow"{%endif%}{%
iflink.tooltip%}title="{{link.tooltip}}"{%endif%}>{%iflink.image%}{%iflink.image.urlstartswith'.'
%}<spanclass="{{link.image.url|split:'.'|join}}"aria-
hidden="true"></span>{%else%}<imgsrc="{{link.image.url}}"alt="{{link.image.alternate_text|default
:link.tooltip}}"{%iflink.image.width%}width="{{link.image.width}}"{%endif%}{%iflink.image.height%
}height="{{link.image.height}}"{%endif%}/>{%endif%}{%endif%}{%unlesslink.display_image_only%}{{li
nk.name}}{%endunless%}{%ifsublinks.size>0%}<spanclass="caret"></span>{%endif%}</a>{%ifsublinks.si
ze>0%}<ulclass="dropdown-
menu"role="menu">{%iflink.url%}<li><ahref="{{link.url}}"{%iflink.nofollow%}rel="nofollow"{%endif%
}{%iflink.tooltip%}title="{{link.tooltip}}"{%endif%}>{{link.name}}</a></li><liclass="divider"></l
i>{%endif%}{%forsublinkinsublinks%}<li><ahref="{{sublink.url}}"{%ifsublink.nofollow%}rel="nofollo
w"{%endif%}{%ifsublink.tooltip%}title="{{link.tooltip}}"{%endif%}>{{sublink.name|default:sublink.
title}}</a></li>{%endfor%}</ul>{%endif%}</li>{%endfor%}</ul>{%editableprimary_nav%}</div>{%endif%
}<divclass="navbar-right
            hidden-xs">{%editablesnippets'Navbar Right'type:'html'%}</div></div></div></div>
```

See also

Create advanced templates for portals
Create a custom page template by using Liquid and a web template page template
Create a custom page template to render an RSS feed
Render the entity list associated with the current page

Render up to three levels of page hierarchy by using hybrid navigation

Applies To: Dynamics 365 (online), Dynamics CRM Online

This example renders a type of hybrid navigation, based on the portal sitemap, that renders up to three levels of page hierarchy. The rules of this component are:

The ancestor pages of the current page will be shown, back to the Home page (or to the maximum depth specified by the optional `depth_offset` parameter).

If the current page has children, those child pages will be shown.

If the current page has no children, the siblings of the current page will be shown.

See also

Create advanced templates for portals
Create a custom page template by using Liquid and a web template page template
Create a custom page template to render an RSS feed
Render the entity list associated with the current page
Render a website header and primary navigation bar

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