

Sitecore CMP guide

December 13, 2019



Table of Contents

1. Introducing Sitecore Connect for Sitecore CMP	3
1.1. The CMP architecture	3
1.2. The CMP process	4
2. The CMP items in the Content Editor	5
2.1. The CMP content items	5
2.2. The CMP configuration items	6
2.3. The CMP templates	7
3. The CMP pipelines	9
3.1. The <initialize> pipeline	9
3.2. The <cmp.importEntity> pipeline	10
4. Publish a CMP item from an item bucket	12
5. Add a field type converter	14

1. Introducing Sitecore Connect for Sitecore CMP

Use CMP to sync content created in the Sitecore Content Hub to Sitecore XP.

The Sitecore Content Management Platform (CMP) connector lets you synchronize content created in Sitecore Content Hub to Sitecore Experience Platform (XP).

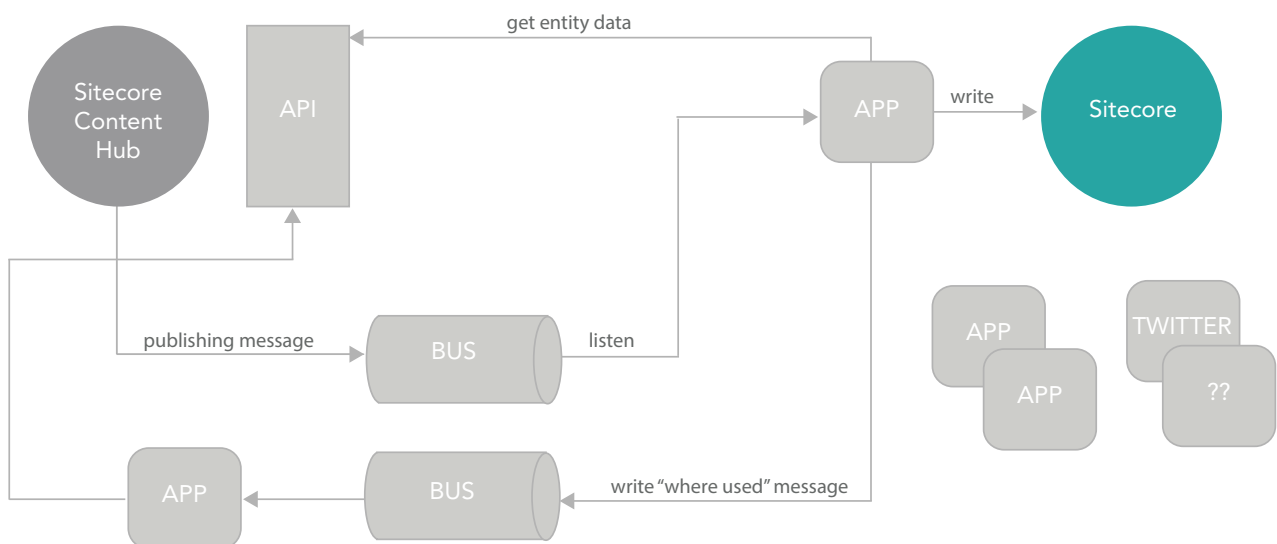
With the module, you can:

- Map Sitecore Content Hub fields to Sitecore fields.
- Create a language version based on the relationship in the Sitecore Content Hub.
- Update items automatically.
- Set the publication date.
- Create content items in buckets.

1.1. The CMP architecture

The key architecture components in the Sitecore CMP module are: the Azure Service bus, the Sitecore Content Hub, and Sitecore.

The following diagram shows a simplified version of the architecture:



1.2. The CMP process

The following describes the CMP connector process:

1. The CMP connector listens to the Azure Service Bus topic's subscription for new messages. Sitecore Content Hub listens to certain changes, which triggers an action that sends a message to the Azure Service Bus topic.
2. When a message is received, the CMP connector expects an identifier. If it exists, the connector gets a content type from the Sitecore Content Hub.
3. The CMP connector creates a new item (or updates an existing item) in one of the preconfigured item buckets (or a new (language) version of an existing item).
4. The CMP connector saves fields from the Sitecore Content Hub content type into the item's fields. You can specify which fields to save in the configuration.
5. The CMP connector checks for localization and localization parents of the source:
If the content type has a `LocalizationToContent` relation, it is used to decide in which language the item (version) must be created.
If the content type has a `ContentToContentLocalization` relation, the entity is considered as a localization of another entity and instead of creating an item, the connector will look for another item that is linked to the `ContentToContentLocalization` parent.
6. The CMP connector sends a message to the Azure Service Bus topic with information about the item that was just created or updated in Sitecore.
7. Any exceptions are added to the Service Bus message. All exceptions are written to Sitecore log files.

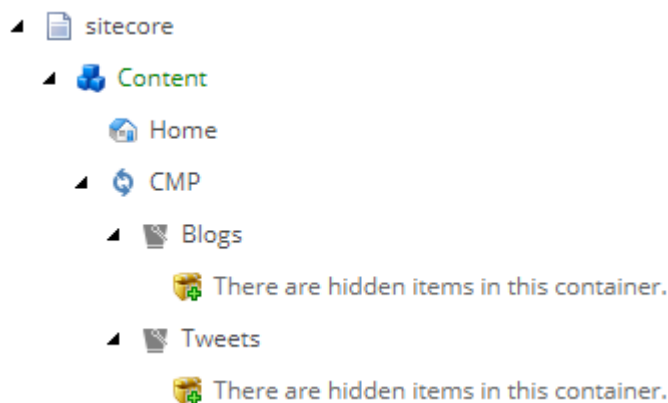
2. The CMP items in the Content Editor

Learn more about CMP content items, configuration items, and templates.

The Sitecore Content Management Platform (CMP) connector writes Sitecore Content Hub items into Sitecore and stores them in the Master database in a default folder named *CMP*.

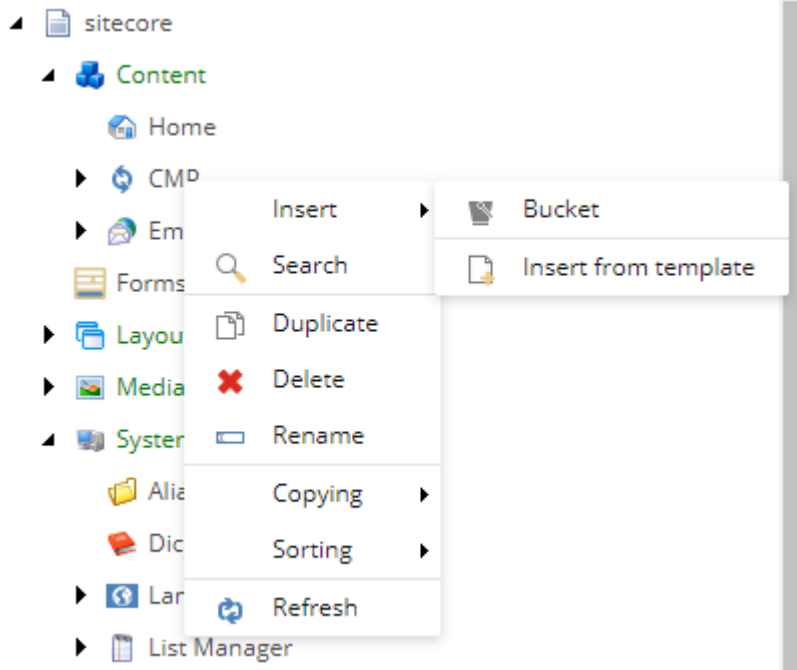
2.1. The CMP content items

The parent item that contains the preconfigured item buckets is located in `/sitecore/content/CMP`. Every bucket keeps items linked to a content type in the Sitecore Content Hub. For example, buckets for Blogs and Tweets:






















To create a new bucket:

- Navigate to `/sitecore/templates/Branches/CMP`, right-click **Buckets**, click **Insert**, and click **Bucket**.










2.2. The CMP configuration items

The configuration items that contain all necessary connection strings and mapping details are located in `/sitecore/system/Modules/CMP/Config`.

- ▲  sitecore
 - ▶  Content
 - ▶  Forms
 - ▶  Layout
 - ▶  Media Library
 - ▲  System
 - ▶  Aliases
 - ▶  Dictionary
 - ▶  Languages
 - ▶  List Manager
 - ▶  Marketing Control Panel
 - ▲  Modules
 - ▲  CMP
 - ▲  Config
 - ▲  Blog
 - ▶  Title
 - ▶  Body
 - ▲  Tweet
 - ▶  Body

2.3. The CMP templates

To make the CMP configuration easier, branch templates are available in `/sitecore/templates/Branches/CMP/`:

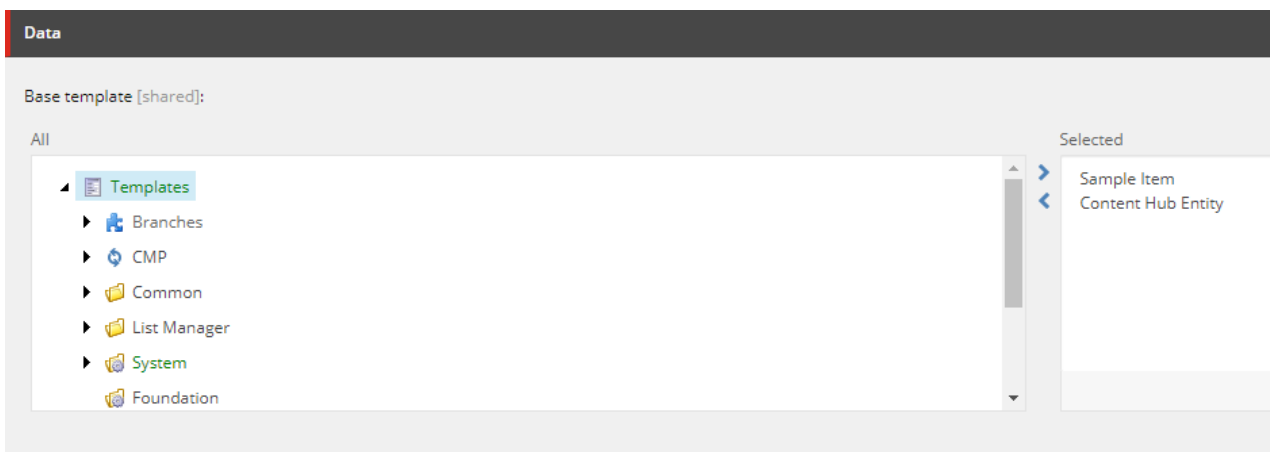
- ▲  Templates
 - ▲  Branches
 - ▶  Foundation
 - ▲  CMP
 - ▶  Bucket
 - ▶  Entity Mapping
 - ▶  Field Mapping

The branch templates let you create item buckets and entity mappings.

The CMP templates are located in `/sitecore/templates/CMP` and contain the following:

- **Config root** - for the config item.
- **Entity Mapping** - to be able to sync entities of a given content type, you need an Entity Mapping item.
- **Field Mapping** - contains the name of the field in the entity and the name of the field in Sitecore item.
- **Content Hub Entity** - each content item template created for the connector, must inherit from this template. It mixes in the `EntityIdentifier` field and in this way the connector can match entities to Sitecore items.

You can also create your own templates to create items from entities. The only requirement is that the templates inherit from the *Content Hub Entity* template:



3. The CMP pipelines

Learn more about the CMP pipelines and their processors.

The Sitecore Content Management Platform (CMP) connector adds one new processor to the `<initialize>` pipeline, and one new `<cmp.importEntity>` pipeline, including three new processors. The pipelines are defined in the

`App_Config/Modules/Sitecore.Connector.CMP/Sitecore.Connector.CMP.config` file.

3.1. The `<initialize>` pipeline

The `<initialize>` pipeline is used to initialize the Azure Service Bus listener. For CMP, the following processor is added:

Processor	Description
InitializeServiceBus	<p>Initializes the Azure Service Bus listener that runs the <code><cmp.importEntity></code> pipeline when a new message appears in the topic's subscription.</p> <p>The <code>InitializeServiceBus</code> processor does the following:</p> <ol style="list-style-type: none"> Gets the config item, reads the connection information, and initializes a topic and a subscription clients. If a message is triggered, the <code>ProcessMessagesAsync</code> is executed: <ul style="list-style-type: none"> It runs the <code><cmp.importEntity></code> pipeline. Then, it checks the <code>ImportEntityPipelineArgs</code> pipeline and sends a message back to the Bus. For example: <pre> { "input_message_id": "1174", "item_id": "{D071EDAF-55A4-4CB0-9ED3-6AAB6288ECA5}", "target_id": 10436, "target_identifier": "Iqa356VYWEE-PsBiEcAgPg" "inputMessageId": "2446", "itemId": "{CD41DE03-1169-493C-A138-B7DD4722EBB8}" } </pre> Writes to the log file. For example: <pre> 17580 11:48:16 INFO Sitecore Connect for Sitecore CMP: Sending a message: { "input_message_id": "1174", "item_id": "{D071EDAF-55A4-4CB0-9ED3-6AAB6288ECA5}", "target_id": 10436, "target_identifier": "Iqa356VYWEE-PsBiEcAgPg" } 24428 14:49:58 INFO Sitecore Connect for Sitecore CMP: Sending a message: { "inputMessageId": "2446", "itemId": "{CD41DE03-1169-493C-A138-B7DD4722EBB8}" } </pre>

3.2. The `<cmp.importEntity>` pipeline

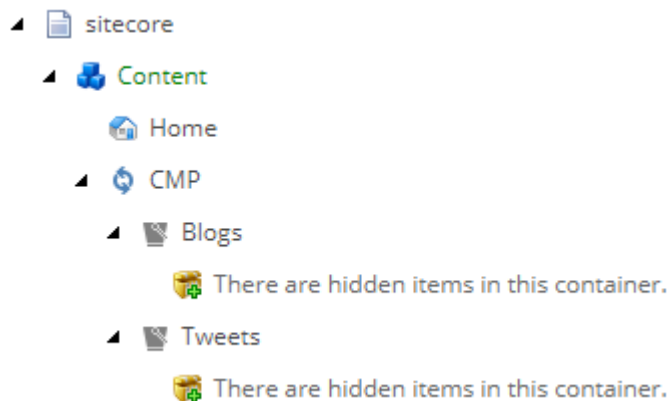
The `<cmp.importEntity>` pipeline is used to import entities. It includes the following processors:

Processor	Description
<code>FetchEntity</code>	<p>Gets an entity by ID.</p> <p>The <code>FetchEntity</code> processor does the following:</p> <ol style="list-style-type: none"> 1. Creates the Content Hub client and gets the entity by ID (the <code>target_id</code> in the bus message) and puts it in the args to make it available to the next processors. 2. Checks for the <code>ContentToContentLocalization</code> relation. If there is a parent entity, its identifier will be used, otherwise, the current entity's identifier will be added to the args. 3. Checks for the <code>LocalizationToContent</code> relation. If there is a parent entity, the processor will try to parse the parent's <code>ValueName</code> property to a language. If there is no parent, the default language will be used. The language will be added to args to be available for the next processors. An exception is thrown if the processor fails to parse the language. If there is no <code>LocalizationToContent</code> parent, the exception will not be thrown. 4. Checks for the <code>ContentTypeToContent</code> parent and puts its identifier to the args.
<code>EnsureItem</code>	<p>Gets the entity mapping item and finds the <code>EntityIdentifier</code> field.</p> <p>The <code>EnsureItem</code> processor does the following:</p> <ol style="list-style-type: none"> 1. Enumerates the children of the config item to find the entity mapping item that matches the content type identifier from the args. 2. If the entity mapping item is found, it gets the corresponding item bucket item (it is configured in the entity mapping item). 3. Tries to find an item that contains the <code>EntityIdentifier</code> field (Content Hub template) equal to the <code>EntityIdentifier</code> in the args (it could be either the current M-entity identifier or its <code>ContentToContentLocalization</code> parent's identifier). If there is already an item with such an <code>EntityIdentifier</code>, the processor gets it (a language version based on the <code>args.Language</code>) and put it into the args. If there is no such item, the processor creates it with a version in a given language (<code>args.Language</code>) and puts the item in the args.
<code>SaveItem</code>	<p>Saves the item to Sitecore.</p> <p>The <code>SaveItem</code> processor does the following:</p> <ol style="list-style-type: none"> 1. In a given language context (<code>args.Language</code>), it goes through field mapping items of the entity mapping item, and for each field mapping it gets a property value from the Content Hub entity and sets the value to the Sitecore item. 2. Sets the publish date on a current version (if the date is not null).

4. Publish a CMP item from an item bucket

Find and publish CMP items.

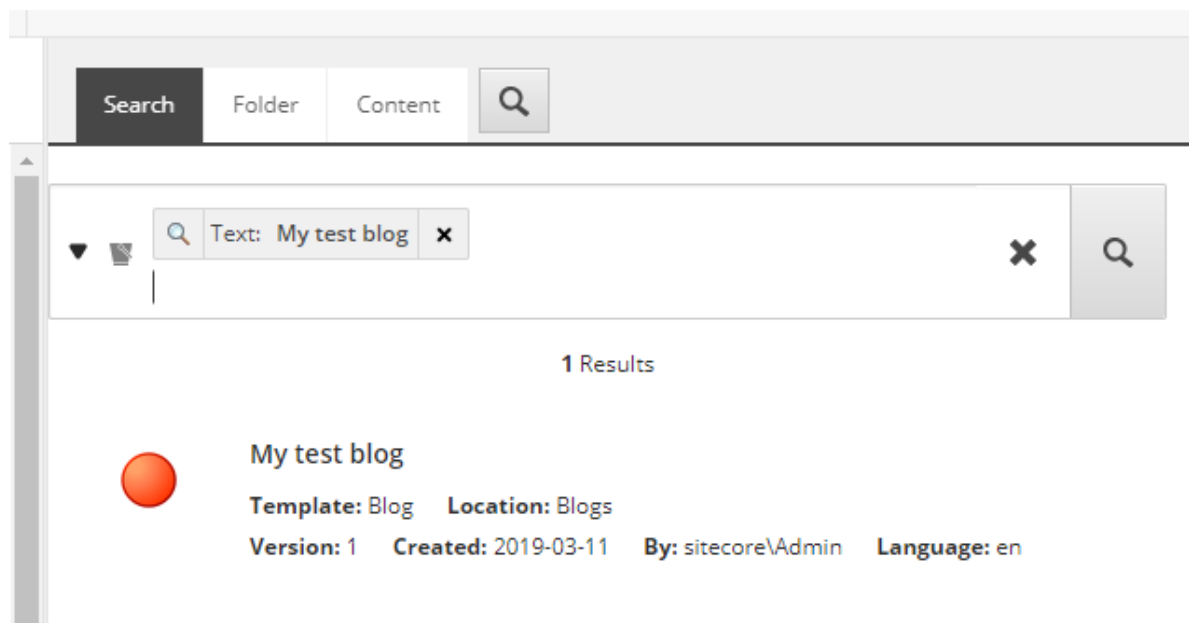
Sitecore Content Management Platform (CMP) items are stored in item buckets. Item buckets let you manage large numbers of items in the content tree. An item bucket is a container that you can use to hide innumerable items and still easily retrieve and work with these items.



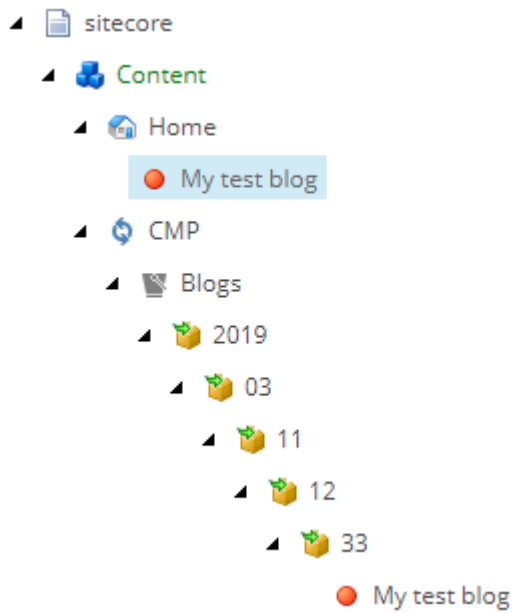
You can only find bucket items using the Sitecore search engine.

To find a CMP item:

1. Navigate to `sitecore/content/CMP`.
2. On the **Search** tab, enter a search term and click **Search**.



3. On the **Configure** ribbon, click **Clone** and locate the clone under the site root item:



IMPORTANT

It is important that you clone the item because a clone is an item that inherits the field values from the original item and is not just a copy. If you copy or duplicate the item instead, the item is not synced.

4. Now you can check the workflow and publish the item. Check whether the item is available on the website.

5. Add a field type converter

Map new attribute type by configuring a field type converter

Sitecore CMP uses mappings to map items between Sitecore Content Hub and Sitecore. The conversion works together with field mapping Items that [map Entity fields to the Sitecore Item Fields](#) by their names.

By default, the mapping conversion is configured for the following property types:

- strings: syncs text fields to text fields in Sitecore
- DateTime: syncs date/time to date/time fields in Sitecore.
- DateTimeOffset: includes a DateTime value, together with an Offset property that defines the difference between the current DateTimeOffset instance's date and time and Coordinated Universal Time (UTC).

The attribute type defined in the `Sitecore.Connector.CMP.config` file implements `Sitecore.Connector.CMP.Conversion.ICmpConverterMapper` interface, which is injected by DI in the `cmp.importEntity` pipeline on the last step `SaveFieldValues`.

You may want to map a different field. For example, a title field or a subject field. For this purpose, Sitecore CMP lets you configure new field type converters.

To add a field type converter:

1. Open the `Sitecore.Connector.CMP.config` file.
2. Add your custom field type converter. The field type converter must contain:
 - `propertyDefinitionType` attribute: can contain only inheritors of `Stylelabs.M.Sdk.Contracts.Base.IPropertyDefinition` interface
 - `type`: can only contain type names that inherit `Sitecore.Connector.CMP.Conversion.IPropertyValueConverter` interface.

For example:

```
<cmp.fieldConverterMapper type="Sitecore.Connector.CMP.Conversion.CmpConverterMapper,
Sitecore.Connector.CMP" resolve="true">
<converters hint="raw:AddConverter">
<!--
propertyDefinitionType - can only contain type names that inherit
Stylelabs.M.Sdk.Contracts.Base.IPropertyDefinition interface.
type - can only contain type names that inherit
Sitecore.Connector.CMP.Conversion.IPropertyValueConverter interface.
-->

<add
propertyDefinitionType="Stylelabs.M.Sdk.Models.Base.PropertyDefinitions.StringPropertyDefin
ition, Stylelabs.M.Sdk"
type="Sitecore.Connector.CMP.Conversion.StringPropertyValueConverter,
Sitecore.Connector.CMP"/>
<add
propertyDefinitionType="Stylelabs.M.Sdk.Models.Base.PropertyDefinitions.DateTimePropertyDef
inition, Stylelabs.M.Sdk"
type="Sitecore.Connector.CMP.Conversion.NullableDateTimePropertyValueConverter,
Sitecore.Connector.CMP"/>
```

```
<add  
propertyDefinitionType="Stylelabs.M.Sdk.Models.Base.PropertyDefinitions.DateTimeOffsetProp  
ertyDefinition, Stylelabs.M.Sdk"  
type="Sitecore.Connector.CMP.Conversion.NullableDateTimeOffsetPropertyValueConverter,  
Sitecore.Connector.CMP"/>  
</converters>  
</cmp.fieldConverterMapper>
```