

Forum Plug-in: Documentation

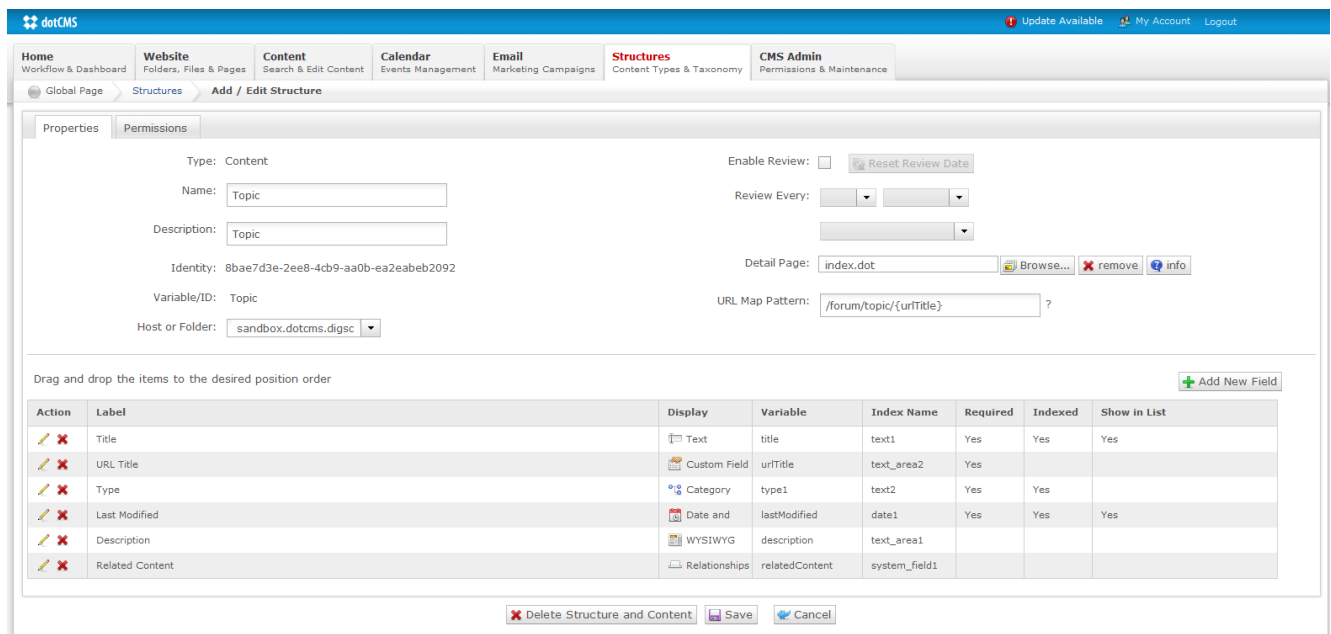
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1. Overview

The forum plug-in allows logged-in users to view and contribute to discussions exclusively from the front-end. Logged-in users can create threads and replies, and can also subscribe to topics and threads to be notified by email of any updates.

There are three content structures that make up the forum functionality: Topics, Threads, and Replies.

Topic



The screenshot shows the dotCMS CMS Admin interface for configuring a 'Topic' content structure. The interface includes a navigation menu at the top with options like Home, Website, Content, Calendar, Email, Structures, and CMS Admin. The main content area is titled 'Add / Edit Structure' and contains several configuration fields:

- Type:** Content
- Name:** Topic
- Description:** Topic
- Identity:** 8bae7d3e-2ee8-4cb9-aa0b-ea2eabeb2092
- Variable/ID:** Topic
- Host or Folder:** sandbox.dotcms.digsc
- Enable Review:** (with a 'Reset Review Date' button)
- Review Every:** [Dropdown menu]
- Detail Page:** index.dot (with 'Browse...', 'remove', and 'info' buttons)
- URL Map Pattern:** /forum/topic/{urTitle} ?

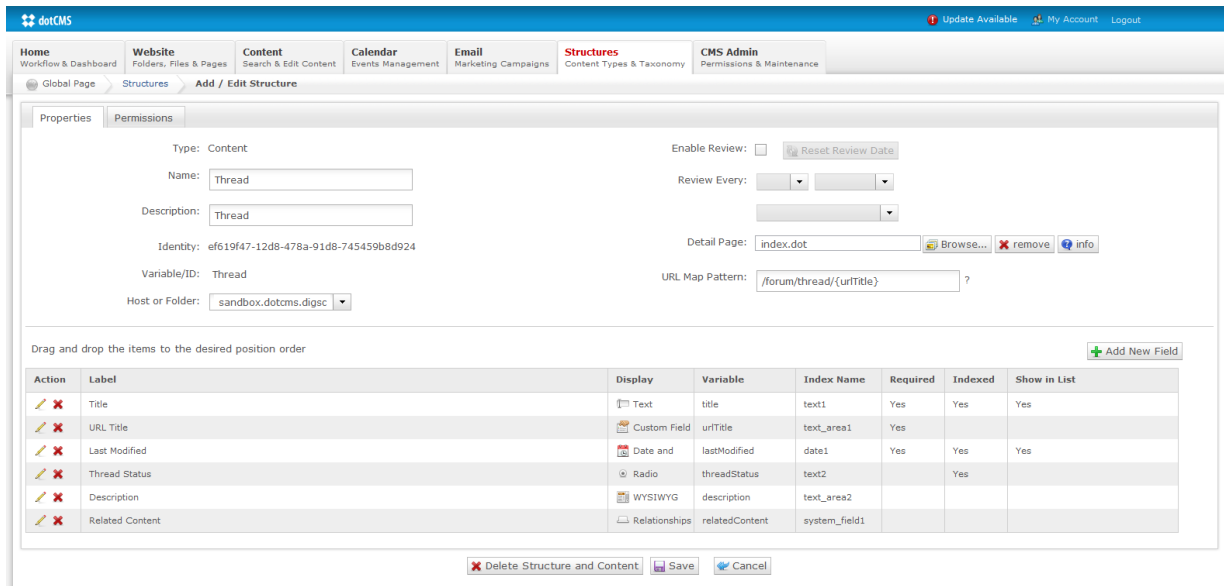
Below the configuration fields is a table for defining the structure's fields. The table has columns for Action, Label, Display, Variable, Index Name, Required, Indexed, and Show in List. The fields are:

Action	Label	Display	Variable	Index Name	Required	Indexed	Show in List
	Title	Text	title	text1	Yes	Yes	Yes
	URL Title	Custom Field	urTitle	text_area2	Yes		
	Type	Category	type1	text2	Yes	Yes	
	Last Modified	Date and	lastModified	date1	Yes	Yes	Yes
	Description	WYSIWYG	description	text_area1			
	Related Content	Relationships	relatedContent	system_field1			

At the bottom of the interface, there are buttons for 'Delete Structure and Content', 'Save', and 'Cancel'.

Thread

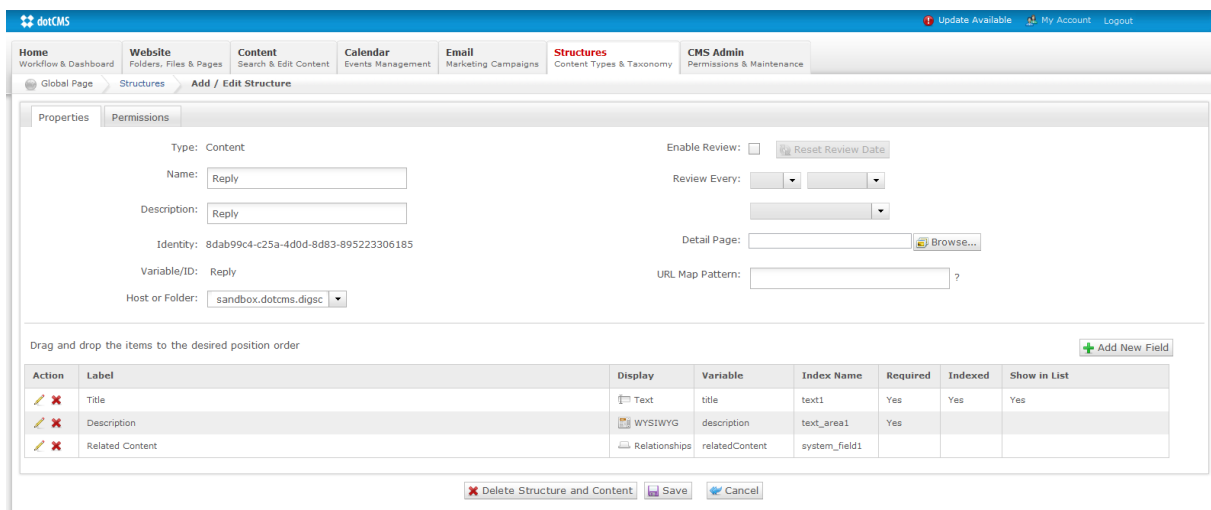
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The screenshot shows the 'Add / Edit Structure' form for a 'Thread' content type. The form includes fields for Name, Description, Identity, Variable/ID, and Host or Folder. It also has checkboxes for 'Enable Review' and 'Review Every', a 'Detail Page' field, and a 'URL Map Pattern' field. Below the form is a table of fields with columns for Action, Label, Display, Variable, Index Name, Required, Indexed, and Show in List.

Action	Label	Display	Variable	Index Name	Required	Indexed	Show in List
	Title	Text	title	text1	Yes	Yes	Yes
	URL Title	Custom Field	urlTitle	text_area1	Yes		
	Last Modified	Date and	lastModified	date1	Yes	Yes	Yes
	Thread Status	Radio	threadStatus	text2		Yes	
	Description	WYSIWYG	description	text_area2			
	Related Content	Relationships	relatedContent	system_field1			

Reply



The screenshot shows the 'Add / Edit Structure' form for a 'Reply' content type. The form includes fields for Name, Description, Identity, Variable/ID, and Host or Folder. It also has checkboxes for 'Enable Review' and 'Review Every', a 'Detail Page' field, and a 'URL Map Pattern' field. Below the form is a table of fields with columns for Action, Label, Display, Variable, Index Name, Required, Indexed, and Show in List.

Action	Label	Display	Variable	Index Name	Required	Indexed	Show in List
	Title	Text	title	text1	Yes	Yes	Yes
	Description	WYSIWYG	description	text_area1	Yes		
	Related Content	Relationships	relatedContent	system_field1			

In terms of hierarchy, threads belong to topics, and replies belong to threads. The relationships are:

- 1 Topic -> Many Threads. (1:N relationship).
- 1 Thread -> Many Replies. (1:N relationship).

This functionality is possible thanks to a plug-in named **org.dotcms.forum.plugin**. It contains the main classes that handle the forum content submission on front-end and other functionalities, such as deleting inconsistencies on forum structures and sending emails to forum subscribers.

The plug-in contains a lot of the functionality (such as VTLs and Java code) but to fully implement this piece users will need to manually create the content and widgets structures, and upload the JS/CSS files provided.

2. Subscriptions

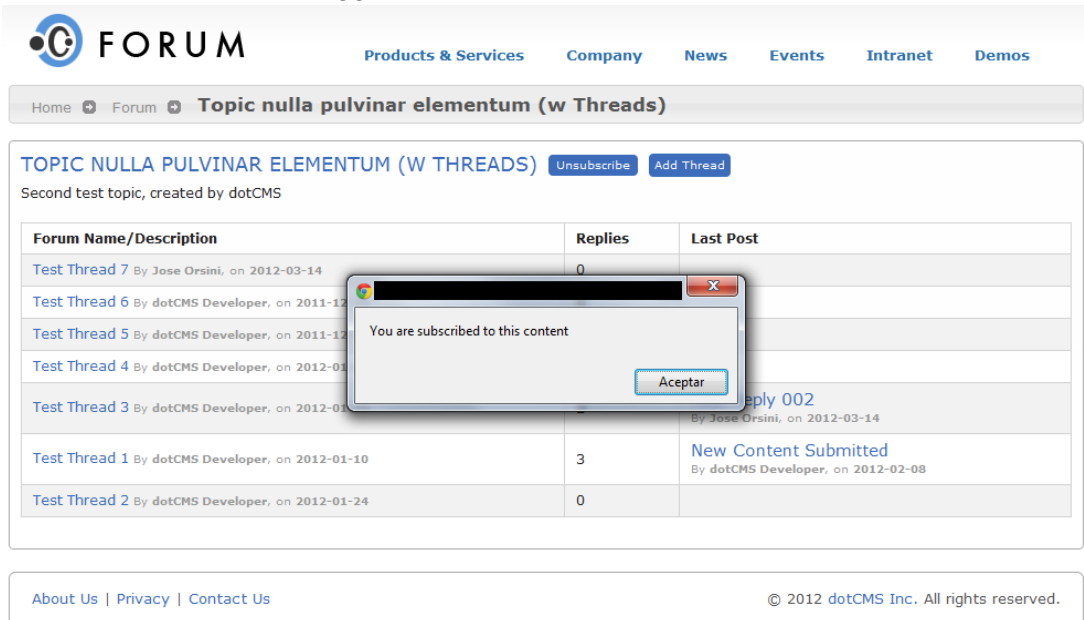
Any logged in user can subscribe to Topics and Threads. Once subscribed, users will receive email notifications following any updates.

An “update” is triggered when a child relationship is created. For Topics, this means that a new thread has been added, and for thread, this is when a reply has been added.

A new Reply has been added to Thread "Test Thread"

Name:	Test Reply
Description:	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.
Date Added	2012-01-21 00:00:00
Content Creator	dotCMS User
URL	http://domain.com/forum/thread/test-thread

In the front-end, you can subscribe to a topic or thread by clicking on the “Subscribe” button. A pop up message will confirm your subscription. If you’re already subscribed to a content, the “Subscribe” button will be toggled and will offer the user the option to “Unsubscribe”.



The subscribe/unsubscribe feature is handled via AJAX, so the user doesn’t need to leave the page. It’s an automatic process that follows the next steps:

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- a) If a user is not logged in to front-end, it will prompt for log-in and return to the main forum page.
- b) If a user is logged in to front-end, it will check user Id saved on session.
- c) If the user clicks on “Subscribe” or “Unsubscribe” button, it will check for user Id and the content (topic or thread) identifier. If these are not null, it will call AJAX and the subscription methods.
- d) The relationship between the content and the user (subscription) will be created on a separate structure, called “Topic Subscription” or “Thread Subscription” (depending on the content the user wants to subscribe). These structures will only save the content identifier and the user id. In case the user decides to unsubscribe, the relationship on any of these structures will be dropped.
- e) For both cases, the pop up message will display the current user status regarding to the content displayed on screen: if he’s subscribed or unsubscribed.

“Topic Subscription” and “Thread Subscription” structures can be accessed from back-end and each content from them can be edited or deleted, but we strongly recommend that the user handles its subscriptions via front-end, since it’s more user-friendly.

3. Submitting Content

3.1. Topics

Topics are the top contents on a forum. A single topic can have multiple threads, and each thread can have multiple replies. Topics can be sorted according to a specific category. e.g., in a Smartphones Forum, you can sort topics by platform/OS, like “Android”, “iOS” or “Windows Phone”.

Topics can be created only by authorized users on backend. Mostly, admin users are able to create topics, but if the site has custom permissions for each functionality, the best practice for this is to create a “Topic Administrator” role and assign it to structure and to some forum manager users.

FORUM - INDEX

Page 1 of 1

Forum Name/Description	Threads	Last Post
Solutions To Problems By Jim Mangione, on 2012-03-13 This discussion forum concentrates on solutions to problems within the Second Manhood program. You may post threads or respond to other users in your situation.	3	Test Forum User Permissions By forumtest, on 2012-03-16
Prevention By Jim Mangione, on 2012-03-13	1	My first prevention post By jim, on 2012-03-14
Knowledge By Jim Mangione, on 2012-03-13	2	ryan testing By ryan, on 2012-03-21
Friends and Family By Jim Mangione, on 2012-03-13 Friends and family discussion forums.	1	\$^& Thread for Testing * (_)@ By ryan, on 2012-03-21
Test Topic By dotCMS Developer, on 2012-03-13	0	
General Discussions By Jim Mangione, on 2012-03-10 General information or comments between study participants.	0	
Topic accumsan gravida By dotCMS Developer, on 2012-01-13 Integer tempor vestibulum commodo. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Ut ultricies nisi non dolor rhoncus consectetur. Morbi egestas felis auctor dolor tincidunt eu venenatis dui ...	1	Test Front-End By arnaud, on 2012-03-02
Topic accumsan gravida By dotCMS Developer, on 2012-01-02 Integer tempor vestibulum commodo. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Ut ultricies nisi non dolor rhoncus consectetur. Morbi egestas felis auctor dolor tincidunt eu venenatis dui ...	1	Too much greek text By craig, on 2012-03-14
Topic nulla pulvinar elementum (w Threads) By dotCMS Developer, on 2012-01-01 Second test topic, created by dotCMS	7	Test Thread 7 By jose_orsini, on 2012-03-14

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In front-end, the Topics are listed and paginated, with links to each Topic and its threads. Also, each topic is displayed with its creator (the user who created it), its date of creation and the last thread created for each topic.

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The listing is managed by the “Topic Listing Page” widget structure.

Home | Workflow & Dashboard | Website | Folders, Files & Pages | Content | Search & Edit Content | Calendar | Events Management | Email | Marketing Campaigns | Structures | Content Types & Taxonomy | CMS Admin | Permissions & Maintenance

Global Page > Structures > Add / Edit Structure

Properties | Permissions

Type: Widget

Name:

Description:

Identity: a4a30caa-132a-4f08-81ed-3a71ceec06ce

Variable/ID: TopicListingWidget

Host or Folder:

Getting Started with Widgets

After saving your widget, you will see four system fields. The first field is the **Widget Title**, which cms users will see when selecting what widget to place on their page. The second field is **Widget Usage**, which is shown as help to a user creating a new widget of this type. The third field is **Widget Code** where you place velocity code to execute when this widget is called. The last field is **Pre-execute code**, which is velocity code that will execute before the page is rendered (meaning you can do controller type actions, redirects, etc.)

Drag and drop the items to the desired position order + Add New Field

Action	Label	Display	Variable	Index Name	Required	Indexed	Show in List
	Widget Title	<input type="text"/>	widgetTitle	text1	Yes	Yes	Yes
	Widget Usage	<input type="text"/>	widgetUsage	constant		Yes	
	Widget Code	<input type="text"/>	widgetCode	constant		Yes	
	Widget Pre-Execute	<input type="text"/>	widgetPreexecute	constant		Yes	
	Listing Header	<input type="text"/>	listingHeader	text5	Yes	Yes	
	Max Topics Per Page	<input type="text"/>	maxTopicsPerPage	integer1	Yes		
	Order By Date	<input type="radio"/>	orderByDate	text2	Yes		
	Forum Categories	<input type="text"/>	forumCategories	text3	Yes	Yes	
	Thread Listing Page URL	<input type="text"/>	threadListingPageUrl	text4	Yes		

3.2. Threads

Threads are the children content of Topics. A thread as a single Topic as parent content.

FORUM | Products & Services | Company | News | Events | Intranet | Demos

Home > Forum > **Topic nulla pulvinar elementum (w Threads)**

TOPIC NULLA PULVINAR ELEMENTUM (W THREADS) [Unsubscribe](#) [Add Thread](#)

Second test topic, created by dotCMS

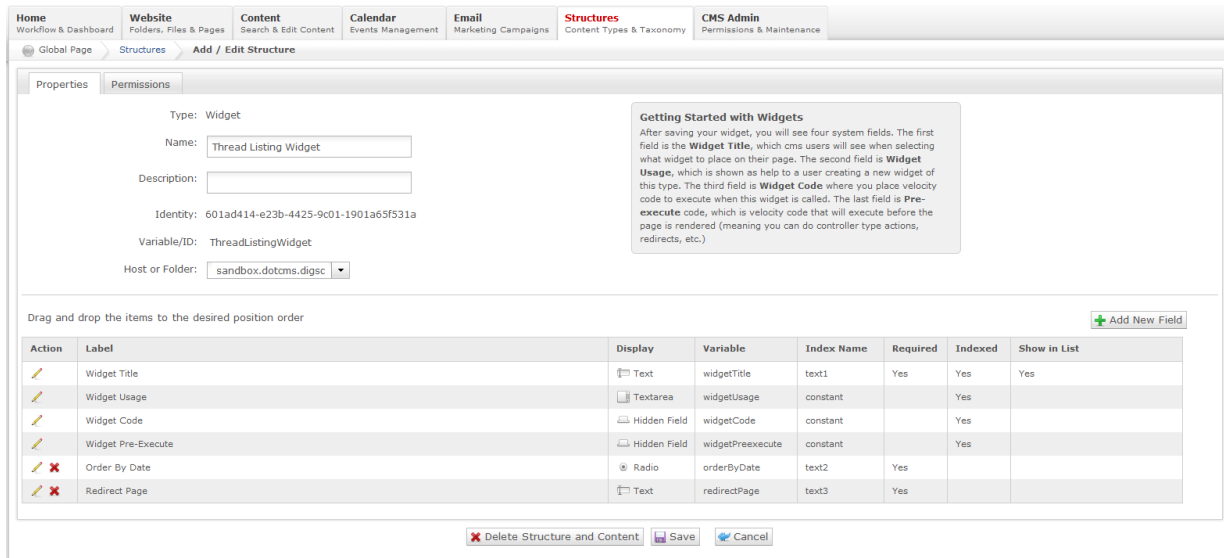
Forum Name/Description	Replies	Last Post
Test Thread 7 By Jose Orsini, on 2012-03-14	0	
Test Thread 6 By dotCMS Developer, on 2011-12-22	0	
Test Thread 5 By dotCMS Developer, on 2011-12-14	0	
Test Thread 4 By dotCMS Developer, on 2012-01-22	0	
Test Thread 3 By dotCMS Developer, on 2012-01-03	2	Test Reply 002 By Jose Orsini, on 2012-03-14
Test Thread 1 By dotCMS Developer, on 2012-01-10	3	New Content Submitted By dotCMS Developer, on 2012-02-08
Test Thread 2 By dotCMS Developer, on 2012-01-24	0	

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Threads on front-end are pulled with links that redirect to a Thread detail page. Like Topics Listing, each thread is displayed with its author (the user who created it), its date of creation and

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the last reply added for each thread. This thread listing is managed by “Thread Listing Widget” Structure.

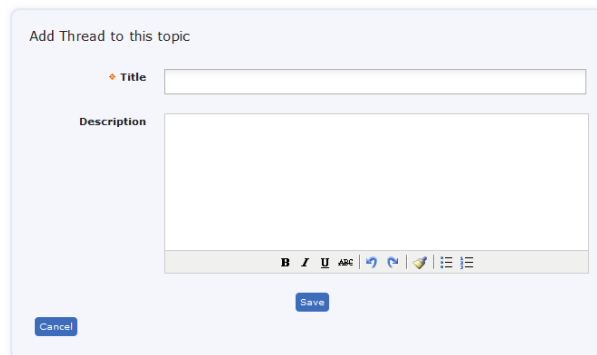


The screenshot shows the 'Add / Edit Structure' interface for a 'Thread Listing Widget'. It includes a navigation menu at the top with options like Home, Website, Content, Calendar, Email, Structures, and CMS Admin. The main content area has tabs for 'Properties' and 'Permissions'. Under 'Properties', there are fields for Name (Thread Listing Widget), Description, Identity (601ad414-e23b-4425-9c01-1901a65f531a), Variable/ID (ThreadListingWidget), and Host or Folder (sandbox.dotcms.digsc). A 'Getting Started with Widgets' help box is also present. Below these fields is a table for defining widget fields:

Action	Label	Display	Variable	Index Name	Required	Indexed	Show in List
	Widget Title		widgetTitle	text1	Yes	Yes	Yes
	Widget Usage		widgetUsage	constant		Yes	
	Widget Code		widgetCode	constant		Yes	
	Widget Pre-Execute		widgetPreexecute	constant		Yes	
	Order By Date		orderByDate	text2	Yes		
	Redirect Page		redirectPage	text3	Yes		

Buttons at the bottom include 'Delete Structure and Content', 'Save', and 'Cancel'.

To submit a thread on front-end, click on the “Add Thread” button. The following form will be displayed:



The screenshot shows the 'Add Thread to this topic' form. It has a 'Title' field (required) and a 'Description' field (optional). The description field includes a rich text editor with formatting options like bold, italic, underline, and text color. There are 'Save' and 'Cancel' buttons at the bottom.

The “Title” is a required field, while “Description” is an optional field. Both will identify the created thread, along with the “URL Title” field, which is hidden from this form and it’s auto-generated in this functionality logic. The URL Title, used to access the created content via URL, is based on the values entered on “Title” field, parsed as an URL friendly string.

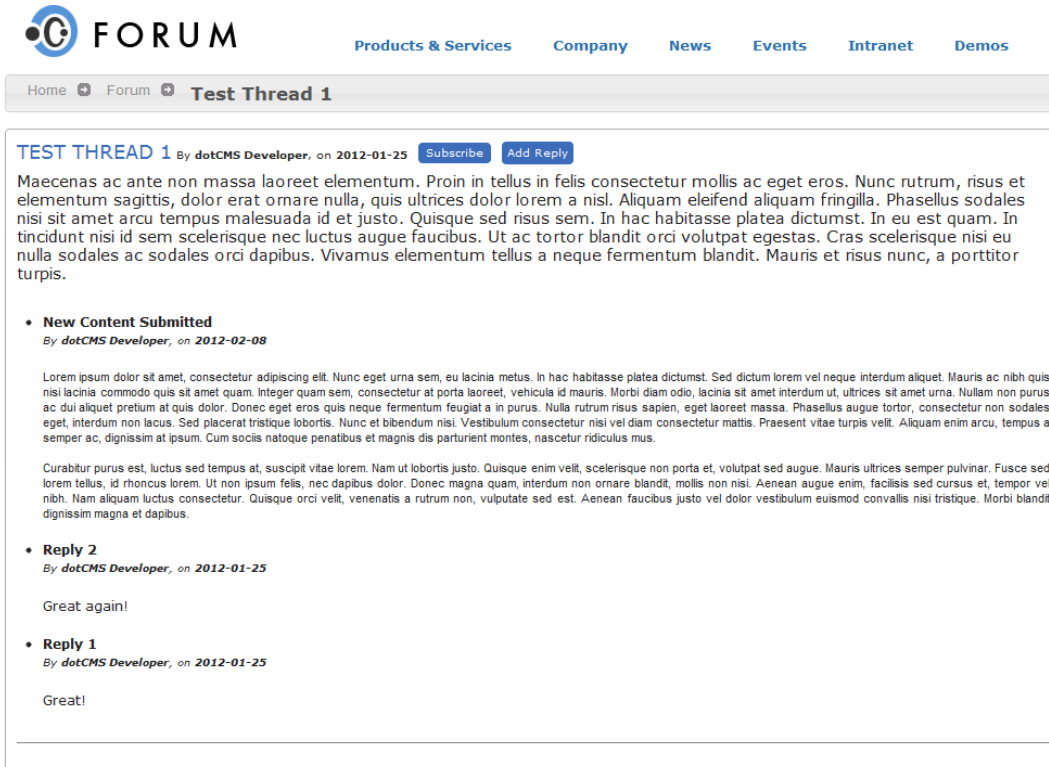
- Example: Title: “Test Thread” -> URL Title: “test-thread”

The “Description” Field is a custom WYSIWYG editor, and it will allow to give some format to the values within it. After entering the required values, click on the “Save” button to save the new thread.

3.3 Replies

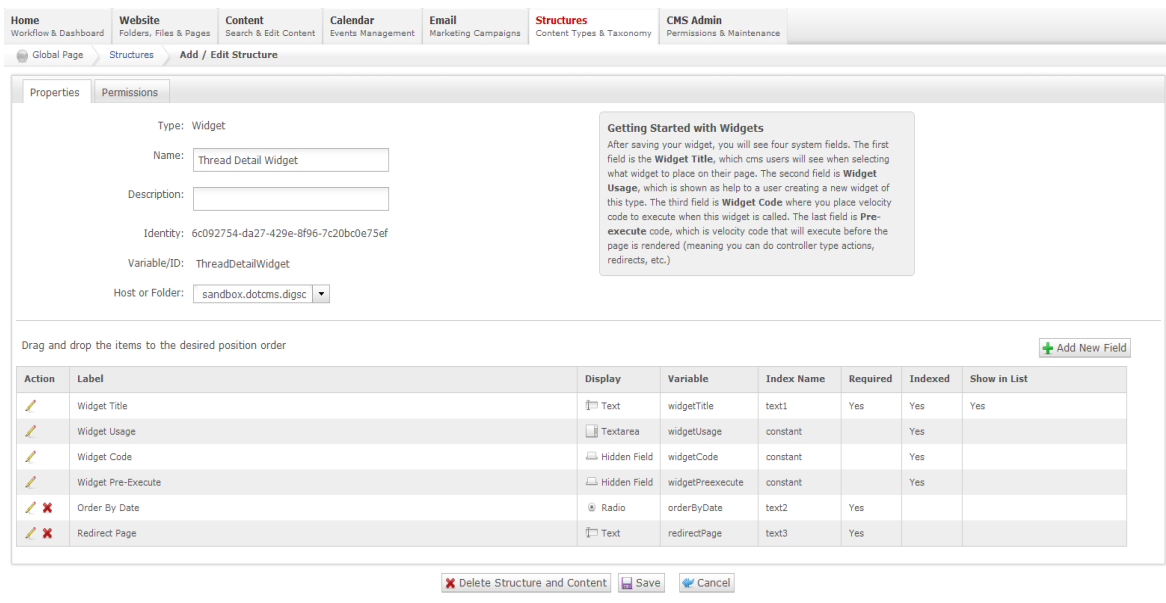
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Replies are the last elements in the chain of Forum contents. These are created as children of a thread.



The screenshot shows a forum interface with a navigation bar containing 'Home', 'Forum', and 'Test Thread 1'. The main content area displays a thread titled 'TEST THREAD 1' by 'dotCMS Developer' on '2012-01-25'. The thread includes a main post with placeholder text and two replies: 'Reply 2' and 'Reply 1', both by 'dotCMS Developer' on '2012-01-25'.

Each “Thread Detail Page” displays all of the related replies to it. Newest replies are listed first, and each one includes its author and creation date. This listing is managed by the “Thread Detail Widget” structure.



The screenshot shows the 'Add / Edit Structure' configuration page for the 'Thread Detail Widget'. It includes a 'Properties' tab with fields for Name, Description, Identity, Variable/ID, and Host or Folder. A 'Getting Started with Widgets' help box is visible. Below the form is a table for widget fields:

Action	Label	Display	Variable	Index Name	Required	Indexed	Show in List
	Widget Title	Text	widgetTitle	text1	Yes	Yes	Yes
	Widget Usage	Textarea	widgetUsage	constant		Yes	
	Widget Code	Hidden Field	widgetCode	constant		Yes	
	Widget Pre-Execute	Hidden Field	widgetPreexecute	constant		Yes	
	Order By Date	Radio	orderByDate	text2	Yes		
	Redirect Page	Text	redirectPage	text3	Yes		

To submit a reply, a logged-in user clicks on the “Add Reply” form. The procedure to submit a Reply is the same designed for submitting threads. The relationship between the new reply and

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the parent thread is set automatically. Unlike Threads, Replies don't require a URL Title.

Add Reply to this thread

◆ Title

◆ Description

B *I* U ABC | ↺ ↻ | 📌 | ☰ ☷

To save the new Reply, click on the “Save” button.

4. How the content submission works

1. The form is generated using the “submitContent” macro. This macro creates a front-end form and the logged in user can submit a Thread or Reply. This macro usually works with the servlet “/dotCMS/submitContent”, which forwards all requests to a java class named SubmitContentAction.java.
In this case, for Forum Functionality, the “submitContent” macro works with a custom servlet, named “/dotCMS/submitForumContent”, which forwards all requests to the SubmitForumContentAction.java class. The SubmitForumContentAction.java class is a custom class that belongs to org.dotcms.forum.plugin plug-in, created specially for Forum Functionality.
Since the “submitContent” macro is part of dotCMS functionality, we can’t overwrite the core code for this macro. So, to change the action for the form created by the macro, a Javascript function was written to rewrite the action from “/dotCMS/submitContent” to “/dotCMS/submitForumContent”.
2. After filling out the form, when the “Save” button is clicked, the thread/reply is verified to see if there’s any empty required field. After that, the form’s action redirects all form’s info to “/dotCMS/submitForumContent” servlet, where the forum content submission is managed.
3. Before saving the content, the URL Title (for submitted threads) is generated and stored in the content’s form. This URL Title is a URL-friendly string that is used with the URL Map Pattern in Thread Structure.
4. The content is saved in the database and indexed. The relationships between the content and its parent are saved as well.
5. Two separate threads are executed.
 - a. Cleaning Subscription Thread: This thread will look for each content’s parent structure and look for Topic or Thread Subscription to see if there’s any inconsistency on its contents (user missing, content no longer exists, etc.)
 - b. Email to Subscribers Thread: This thread will create an email object with the recently created content data (Thread or Reply) and send it to the subscribers to the parent content (Topic or Thread). The notification email format is explained in Article 2 of this document.
6. After the content is saved, the servlet will redirect to a “thank you page”, that will show a message when the content is successfully submitted.

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5. Files included in the Plugin

a) Required XML file for deploying/undeploying plugin

- /build.xml

b) Static files that contain the required code for forum structures and functionalities

- /static_velocity/thread-detail-widget-structure-widget-code.vtl
- /static_velocity/title-handling.vtl
- /static_velocity/thread-listing-widget-structure-widget-code.vtl
- /static_velocity/url_title_custom_field_code.vtl
- /static_velocity/forum-thank-you.vtl
- /static_velocity/topic-listing-widget-structure-widget-code.vtl

c) Configuration Files, also required for Forum functionality

- /conf/plugin.properties
- /conf/dwr-ext.xml
- /conf/struts-cms-ext.xml

d) Java classes that define all Forum Functionality logic.

- /src/org/dotcms/forum/action/SubmitForumContentAction.java
- /src/org/dotcms/forum/util/ForumUtils.java
- /src/org/dotcms/forum/util/CleanSubscriptionsThread.java
- /src/org/dotcms/forum/util/EmailSubscribersThread.java
- /src/org/dotcms/forum/ajax/ForumAjax.java

6. Installation Instructions

In order for the forum to function you'll need to make sure to include all parts. This involves deploying the plug-in, but also manually creating structures, pages, categories, and moving files.

All files not included in the plug-in and required for manual upload on your dotCMS instance can be found here: <http://dotcms.com/plugins/files/dotcms-19/plugin-doc/FILES-org.dotcms.forum.plugin.zip>

1. **Structures:** Create the following structures with exact field variable names
 - a. Content Structures
 - i. Topic
 - ii. Topic Subscription

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- iii. Reply
- iv. Thread
- v. Thread Subscription

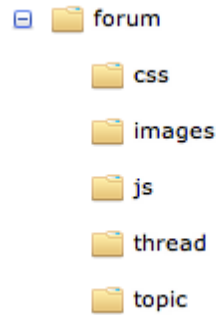
- b. Widget Structures
 - i. Thread Detail
 - ii. Thread Listing
 - iii. Topic Listing

Note: please refer to the following file document for a specific definition of each structure required: <http://dotcms.com/plugins/files/dotcms-19/plugin-doc/FILES-org.dotcms.forum.plugin.zip>

- 2. **Categories:** create the following parent category (children have no restrictions)
 - a. Topic Types
 - i. Key: topic
 - ii. Variable: topicTypes
- 3. **Pages:** create the following pages (the location and titles can be changed as desired)
 - a. Topic Listing Page (Forum Landing)
 - i. **Title:** Forum Landing Page (topic listing)
 - ii. **Purpose:** This is the landing page for the forum, listing active topics via the “Topic Listing” widget.
 - iii. **Path:** /forum/index.dot
 - iv. **Widget Used:** Topic Listing Widget content
 - b. Topic Listing Page (Forum Landing)
 - i. **Title:** Thank You
 - ii. **Purpose:** This is the redirect page which users will get to when submitting content, namely threads or replies.
 - iii. **Path:** /forum/thank-you.dot
 - iv. **Widget/Content Used:** for this page, you will need to create a piece of web page content or simple widget content with the following code:
 - `#parse('static/plugins/org.dotcms.forum.plugin/forum-thank-you.vtl')`
 - c. Thread Listing Page
 - i. **Title:** Topic Detail Page
 - ii. **Purpose:** This is the page which lists Thread content based on a Topic. This can be looked at as the Topic Detail page or Thread Listing by Topic page.
 - iii. **Path:** /forum/topic/index.dot
 - iv. **Widget/Content Used:** Thread Listing Widget
 - d. Thread Detail Page
 - i. **Title:** Thread Detail Page
 - ii. **Purpose:** This is the page which lists Reply content based on a Thread. This can be looked at as the Reply Listing page, or Thread Detail page.
 - iii. **Path:** /forum/thread/index.dot
 - iv. **Widget/Content Used:** Thread Detail Widget

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When done, your folder structure for the default set-up explained above should resemble the image below.



4. **Files:** upload the following files on your website browser
 - a. JS Files
 - i. /global/js/**forum.js**
 - ii. /global/js/**jquery-latest.js**
 - b. CSS File
 - i. global/css/**forum.css**

Note: please refer to the [“FILES-org.dotcms.forum.plugin.zip”](#) file to obtain a copy of these files.