

# Thread Subscriptions for Forum Module

## Preamble:

Its been a long time coming. Concerns had been raised about the need to permit subscribing to discussion threads rather than entire forums in Moodle at least by 2004. Several solutions have been offered or mooted but have fallen by the wayside for a variety of reasons, including the fact that moodle version development moves on and naturally leaves such solutions behind unless they achieve integration and maintenance. The solution off here is designed to integrate easily and need little ongoing maintenance.

Throughout this document the terms 'discussion' and 'thread' are used as synonymous, in line with Martin Dougiamas' own comments in MDL-1626; but the term thread subscribing is used intentionally used to highlight the fact the the user is subscribing to a specific portion of a forum, rather than the whole, since the English term 'discussion' is very fluid and non-specific.

No account has been taken of the technical use of 'thread' to mean a branch within a forum discussion as (1) this would be far too granular to implement, and (2) would have no intuitive meaning to most users!

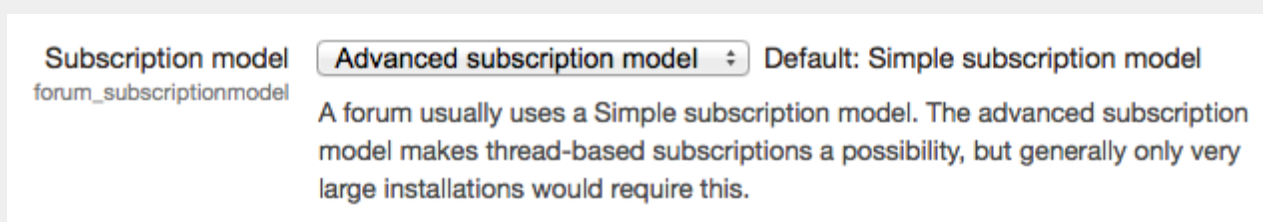
## Goal:

Its not enough to say that we can provide subscriptions to threads, we also need to provide a variety of ways in which these can be controlled within the Forum administration. We also need to make the experience of using thread subscribing as intuitive and simple as possible; and simultaneously create the least additional load, whilst being able to turn off and ignore thread subscriptions altogether in most installation of moodle.

## Flow structure:

### 1. Choosing your model and subscription mode:

A new setting appears in **Activity modules -> Forum**



The screenshot shows a Moodle configuration page for the Forum module. It features a dropdown menu for 'Subscription model' currently set to 'Advanced subscription model'. To the right, it says 'Default: Simple subscription model'. Below the dropdown is a descriptive text: 'A forum usually uses a Simple subscription model. The advanced subscription model makes thread-based subscriptions a possibility, but generally only very large installations would require this.'

With the subscription model set to 'Simple' only the standard subscription options are available:

So the goal of leaving the forum largely untouched in the simple subscriptions model has been met.

But with the model set to 'Advanced' three new options appear in both the forum setup and the navigator, with the following meanings:

- ▼ Subscription mode
  - Subscription disabled
  - Optional subscription
  - Forced subscription
  - Auto subscription

Optional thread subscription

(all can choose threads to subscribe to)

Auto thread subscription

(as above, but posting subscribes you)

Auto / Initial thread subscription

(as above, but the first post in a new discussion is also emailed to the user)

The user's own profile setting of **autosubscribe** also modifies the effect of these.

## 2. The forums index:

For any potential subscriber to the forum(s) in a course, index.php shows whether a user is subscribed or not, but where permitted it also previously gave an action button to subscribe or unsubscribe. This Yes/No button was counter-intuitive, since it required you click the **Yes** button to become **unsubscribed** and the **No** to **subscribe**. At the same time, a tri-state system to also handle the thread subscription option was needed, so the button has been replaced with a selector so that Yes means Yes, and No means No. This permits a consistent and intuitive interface. With the Simple subscription model, or without any thread-subscribing forums, this appears as:

Learning forums				
Topic	Forum	Description	Discussions	Subscribed
Topic 1	Test forum	Forum for testing subscriptions	18	Yes ⇅
	Test forum 2	Test forum 2	1	No ⇅
	Special new forum	Special new forum	4	No ⇅

But with the Advanced model in play and some threads subscribed to, this may appear as:

Topic	Forum	Description	Discussions	Subscribed
Topic 1	Test forum	Forum for testing subscriptions	18	Yes ⇅
	Test forum 2	Test forum 2	1	No ⇅
	Special new forum	Special new forum	4	To threads ⇅

## 3. The forum view:

Inside a conventional forum the discussions show as normal and the subscribe link in navigation is simply **Subscribe to this forum** (or its converse as appropriate):

- Edit settings
- Locally assigned roles
- Permissions
- Check permissions
- Filters
- Logs
- Backup
- Restore
- ▶ Subscription mode
- **Subscribe to this forum**

Discussion	Started by	Replies	Last post
My second post	Simon Student	2	Simon Student Fri, 19 Jul 2013, 2:24 pm

But switch the forum to thread-based subscriptions and selectors appear in view.php...

- Edit settings
- Locally assigned roles
- Permissions
- Check permissions
- Filters
- Logs
- Backup
- Restore
- ▶ Subscription mode
- **Subscribe to this forum**
- Show/edit current subscribers

Discussion	Started by	Replies	Last post	Thread subscribe
Second special discussion	Teacher User	1	Teacher User Tue, 30 Jul 2013, 9:00 pm	Yes ▾
New discussion No. 9	Teacher User	0	Teacher User Mon, 29 Jul 2013, 10:09 pm	Yes ▾
Special new discussion	Teacher User	0	Teacher User Sun, 28 Jul 2013, 12:29 am	No ▾

The option to subscribe to (or unsubscribe from) each thread now exists; but it is still possible to subscribe to the whole forum via the **Subscribe to this forum** link in the settings panel, as before.

However, if the user clicks to subscribe to the entire forum, the **Thread subscribe** column disappears as it's now irrelevant, but the navigation subscribing options also change to...

- Unsubscribe from this forum
- **Subscribe to threads only**

This permits the user to unsubscribe from the forum (which removes both thread and forum subscriptions) or to re-subscribe to threads only - in fact removing only the forum subscription. The latter option works because *subscribing* to the whole forum does not remove individual thread-subscriptions, so that the process can be reversed. Plainly once fully *unsubscribed* from a forum, thread subscriptions can only be added back in manually, one thread at a time, so the thread-subscribing selectors reappear - but they are then all set to **No**. This gives considerable flexibility, the user (teacher or student) can subscribe to threads, to the forum, or neither. Naturally, the overall control of this is given by the choice of thread subscription mode.

Thread subscribe
No ▾
No ▾
No ▾

To facilitate the above a new column **thread** is added to the table forum\_subscriptions in an upgrade. This carries the thread id or defaults to zero for forum subscriptions.

#### 4. The discussion view:

The discussion view (discuss.php) behaves in much the same way whether thread subscription is and option or not. The key difference is in the subscribe and unsubscribe links in the discussion's settings panel. These can be...

*if you are not subscribed to the forum or the current thread:*

- ▼ Forum administration
  - Optional thread subscription
  - **Subscribe to this forum**
  - **Subscribe to this thread**

*if you are currently subscribed to the forum but not the current thread:*

- ▼ Forum administration
  - Optional thread subscription
  - **Unsubscribe from this forum**
  - **Subscribe to this thread**

*if you are subscribed to this thread, but not subscribed to the forum:*

- ▼ Forum administration
  - Optional thread subscription
  - **Subscribe to this forum**
  - **Unsubscribe from this thread**

*if you are currently subscribed to the forum and you have a subscription to this thread:*

- ▼ Forum administration
  - Optional thread subscription
  - **Unsubscribe from this forum**
  - **Subscribe to threads only**

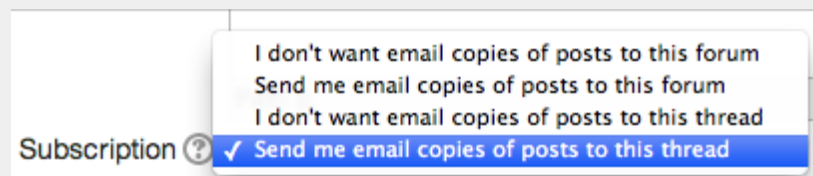
We note that in each case subscribing / unsubscribing to the forum overrules thread subscriptions; but subscribing to a thread switches off a forum subscription!

## 5. The thread subscription modes... posting to a forum:

In a similar manner, posting to a thread-subscribing forum has options or switches for selecting the appropriate subscription. The three new modes (outlined in Section 1) permit a level of control over how these thread subscriptions will perform.

With all three modes there are two new options in the selector on the post form, which may or may not be visible, in the following manner:


### Mode 3: Optional thread subscription



The selector will default to thread subscribing as first choice (see above) but will also respect the setting in \$USER->autosubscribe, so the user can avoid subscribing if preferred.

### Mode 4: Auto thread subscription

This mode requires that the user subscribes to any thread he/she posts to - however briefly - and is thus much more appropriate for very large installations such as moodle.org or MOOCs. It means that the user is (1) not inundated with posts from the entire forum, but (2) not likely to remain uninformed of replies to their posts! For this reason the above selector on the post form is replaced with:

Subscription  Starting a new discussion permits you to receive to emails of replies to this discussion; but you can unsubscribe from this thread or this entire forum at any time.

There is of course, nothing to stop the user from unsubscribing from the thread immediately after posting, that is their prerogative, but that is then a conscious decision not an accident. Until then the user can continue to receive emailed posts to this thread. Changing the setting of \$USER->autosubscribe has no effect when posting in this mode since the whole point is to keep the user informed of responses to their posts.

### Mode 5: Auto / Initial thread subscription

This mode operates in exactly the manner of Mode 4 except in one respect: the initial post that begins any new discussion in this forum is also emailed to the user. However in this respect setting changing the \$USER->autosubscribe setting does permit the user to switch off this *initial post* email, though, as with Mode 4 it does not block auto thread-subscribing. By this means a level of control and granularity is achieved with only three extra modes.

Technical note: To achieve all this without excessive load, especially from too many *if* statements a field is also added to the forum table, **threadsubscribe**, after the forcesubscribe field. The forcesubscribe field continues to hold the subscription mode, with the extra three options, but to aid logic, clarity, and brevity the **Subscription disabled** mode is renumbered as **-1** in upgrade.php. The threadsubscribe field is a simple boolean ( 0 or 1) to keep track of whether we are in a threading mode or not.

## 6. Splitting and moving discussions:

Whenever a discussion is split a new discussion thread is generate in the same forum and under the Advanced subscription model the same thread subscriptions are replicated with the new thread id. When a discussion is moved to a different forum its thread subscriptions are carried with it, replicating these with the same thread id but with the new forum id. When splitting the existing subscriptions must be retained for the benefit of the remaining part of the discussion, but when moving the old subscriptions are removed because they are redundant.

The only block on copying the subscriptions to a thread that has moved forums is if the new forum specifically disallows subscribing or is force subscribed. Otherwise the thread subscriptions are replicated even if the new forum doesn't yet permit their use. This prevents thread subscriptions disappearing into the ether if copied to a non-threading forum.

## 7. Switching to a thread subscription mode, or back again:

An important issue is in what happens when we switch between subscription modes. Although this will be an infrequent occurrence it will also be a critical issue when switching an existing forum with subscribers to a thread-subscribing mode. Whichever thread subscription mode is chosen, the existing forum subscriptions are replaced with thread subscriptions *to every thread in which a current subscriber has a post*. This is the nearest we can get to guessing which threads a user wishes to subscribe to - bearing in mind that the user can volunteer to subscribe to any thread, and that a key motivation is to reduce the unwanted email traffic. None of the new modes force the user to subscribe to all threads.

We should note that in a very large forum with thousands of threads, having 50,000 current users with an average of 20 posts in separate in threads we could anticipate 1,000,000 additional entries could be made to the forum\_subscriptions table just by switching to a thread-based mode!

A similar question arises in the unlikely event of a forum being switched back to **Optional subscription** mode (i.e. non-threading), and is dealt with in a similar manner: if a user has a thread subscription this is converted into a forum subscription.

## 8. Emailing out:

The emailing process is almost untouched - somewhat surprisingly - since all that is required is to provide a couple of extra get-out clauses that skip over a post if a forum allows thread subscriptions but the user is not subscribed to that thread. Additionally, if mode **Auto / Initial thread subscription** is active a sub-clause allows the post through if its the first post in a new discussion and the user's autosubscribe setting permits it - notably this mode doesn't actually create a subscription record for the new thread.

The email sent also shows an **Unsubscribe from this thread** link if the forum is thread subscribed, or a **Subscribe to this thread** link if this is appropriate in **Auto / Initial thread subscription** mode.

## 9. Further testing:

All of these features have been tested substantially, and re-tested as new functionality has been added, including testing to make certain that the existing functionality remains intact. But these features need performance testing on a much larger data set before we can be sure that it is safe to roll this out for general use.

JWC August 2013