

****Preface**

Since user guides tend to be boring to write and then boring to read, we've tried to have fun writing this one and hopefully you'll have also fun reading it, in between you'll discover how Deepamehta works!

First, we will set up a story, an unimportant and trivial one, coming from daily thoughts, which will give us the excuse to explore the basic usage of DM framework, then we will set up another story, with a context that probably resemble more a user case.

****Just imagine the computer would follow your thoughts....**

Normally when we think about things, we make certain relations that for us are obvious, of course that I put the spare keys with the socks and obviously the health care card is in the fridge .. we know that we are not going to leave home without socks, so each time you pick some socks you will see where the spare keys are and since the fridge is full of healthy stuff that is the right place for the health care card to be.

We establish our own connections, full of sense to us, so once we've established these connections we don't have to make an effort to think, for example to where to look for the keys or the health care card, our brain is quite happy not to be stressed by the fact of having to search all over the place when we look for the spare keys set or the health care card, it's able to go automatically to the right place. Less stress for the brain, less stress for us, the happier we are :-)

Probably you've established your connections based on some kind of situation, the last time you could not enter the house because you forgot the keys, you thought that if they had been with the socks you would not have forgotten them, clic! connection done.

Also there is no right way of establishing the connections, we use the one that fits for us, cool!, others will find other ways, sometimes you will share habits and you may change yours for something else that you consider better. When you share a space with people you find out that those connections are created collectively.

So, up to here is just to try to reflect how Humans think, how do we daily do things. Now, comes the computer, this kind of black box that tells us how to organize things, nobody asked us if it made sense to us, so somehow we behave as peripherals of the computer. We store images in the Images folder, well some may be courageous and do it somewhere else but inside the user space, if you put them inside the configuration folders, probably at some point someone will yell at us.

If we feel annoyed because we keep seeing all sort of files with strange names all over the place, and decide to tidy up and have them all together in one single place, probably the next time the computer is restarted it won't do it, those strange files were configuration files were meant to be in the place they were, then will come the "Oh, shi***!!!".

If we, as main user of our own computer, most of the times don't know where things are, depending on the situation we've decided different ways of ordering, categorizing things, generally we remember the situation but not the way we decided to order things. Ok, you can search for things, which mean that you have to remember the name of the file, uff..a lot of work is being done for just a simple operation.

Lets for a moment imagine that we are able to establish our own connections between the files that

are in our computer. Imagine that we don't have to navigate through endless trees of folders to find things, or the names of files to do a optimized search.

Imagine

- we could relate any kind of file with any kind of other file, regardless of being an image, mail, book, bookmark, video

- we could retrieve information based on the situations that provided them

- we could define how to order things based on our own semantic relations

- we could forget about formats and just care about content and its properties

maybe then we could see what is in our mind. To visualize our mind, it sounds kind of cool, right? well that is what Deepamehta enables you to do, to forget about a working context based on applications, file formats, tree structured folders and to draw our way of thinking, well at least is on it's way to do it :-) ...

** it sounds confusing, how can I draw my mind?

Yes, maybe at first it almost sounds like science-fiction, but that is how things evolve, first imagine them, then do them, as if it were that easy :-D

But let's stop talking and begin to see what we mean by drawing our mind via understanding how DM works.

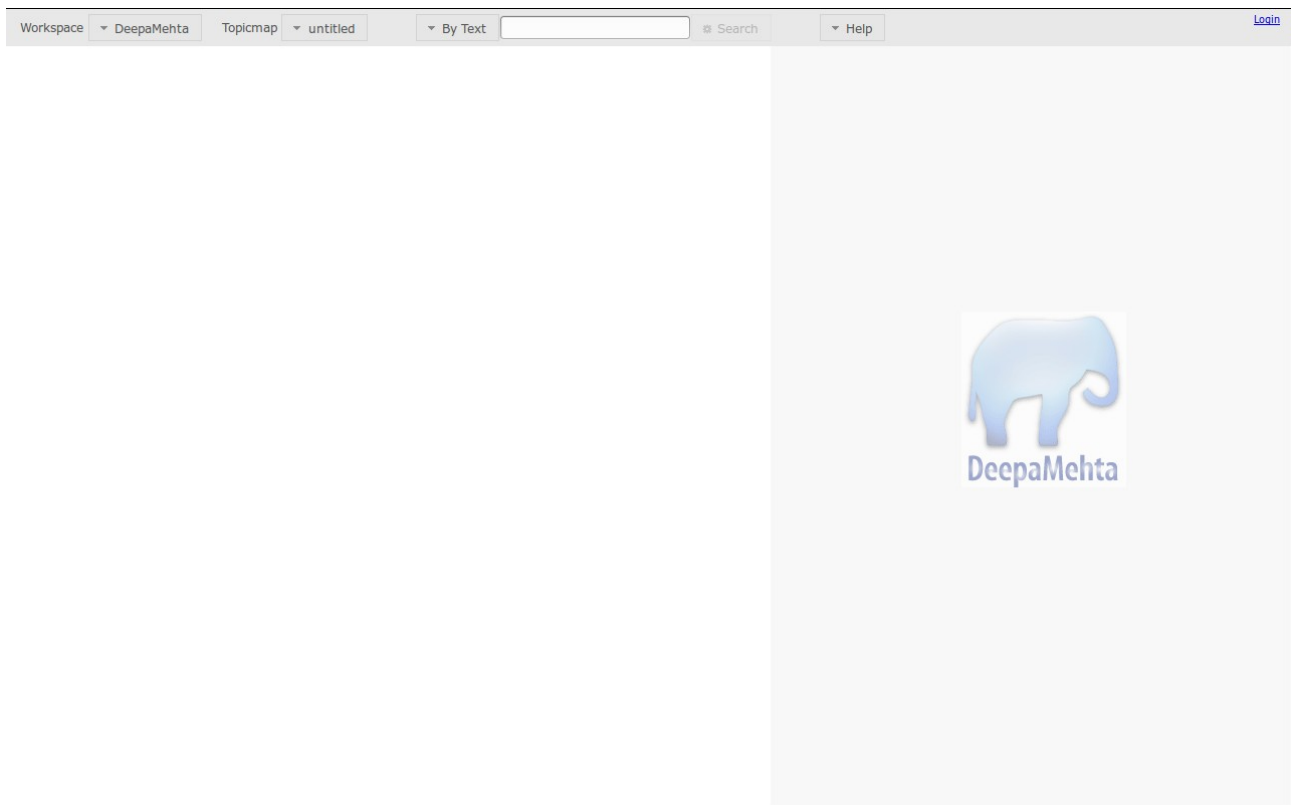
In the guide we won't cover the installation process, because that is already very good explained in the README file [<https://github.com/jri/deepamehta#readme>]. Here we will just remind you the way to start DM, it depends on your platform

deepamehta-linux.sh # if you are under a GNU/Linux system choose "Run in terminal"

deepamehta-macosx.command # if you are under MacOS double-click it

deepamehta-windows.bat # if you are under Windows double-click it

So now you should be seeing this



[dm_1.png]

Just to dive better in DM, a suggestion is to set your browser to full screen, so you enter in DM mode ;-)

We are not going to log in for the moment, so let's see what's on the screen. The screen is divided in three parts,

- a toolbar on the top,
- a right panel that is called Topic map
- a left panel that is called Detailed Panel

This screen divided in three is called the Deepamehta Webclient, and is the standard user interface for DM.

Before explaining each of them, we'll introduce a few DM concepts, the basic ones, the ones you are going to use all the time.

Workspace, which is the more general container of the information that you are going to have. You will be able to define as many Workspaces as you want, [in future releases, you will be able to share "things" between workspaces]

Topic map, is part of a Workspace and for the moment let's say is the visualization of the information that is important to you in the current moment.

So the toolbar in the top part allows you to select and perform various operations. If you are not logged in, you will be able to select a Workspace, a topic map, to search by name an item that you know or by type, access the help and the link to log in.

Summing up the panel on the left hand side will be where you will visualize topic maps and on the

right hand side, you will see the content and details of the topic map.

If you are not logged in, you will see the last topic map you were in and you will be able to switch to different topic maps or workspaces and also to search for any kind of item that is in your DM world.

Now we'll log in to do some stuff, click on the login link and introduce "admin" as user and leave the password blank

Before we have said that in DM we could see what is in our mind, let's check how can we do that.

***Our story is

Once Tina told us that she had decided to put the spare keys in a drawer that contains socks.
That reminds us of Greg, who works with Tina in the Bookshop, and who loves fancy socks.

Then for Tina the right place to put the keys is with the socks, let's transform our story in simple sentences, with subject and verb.

Tina has spare keys which are in the drawer that contains socks.

This can be turned into 3 sentences.

Tina has keys
Key are in a drawer
A drawer contains socks

So there we have 3 sentences with 3 subjects and 3 verbs.

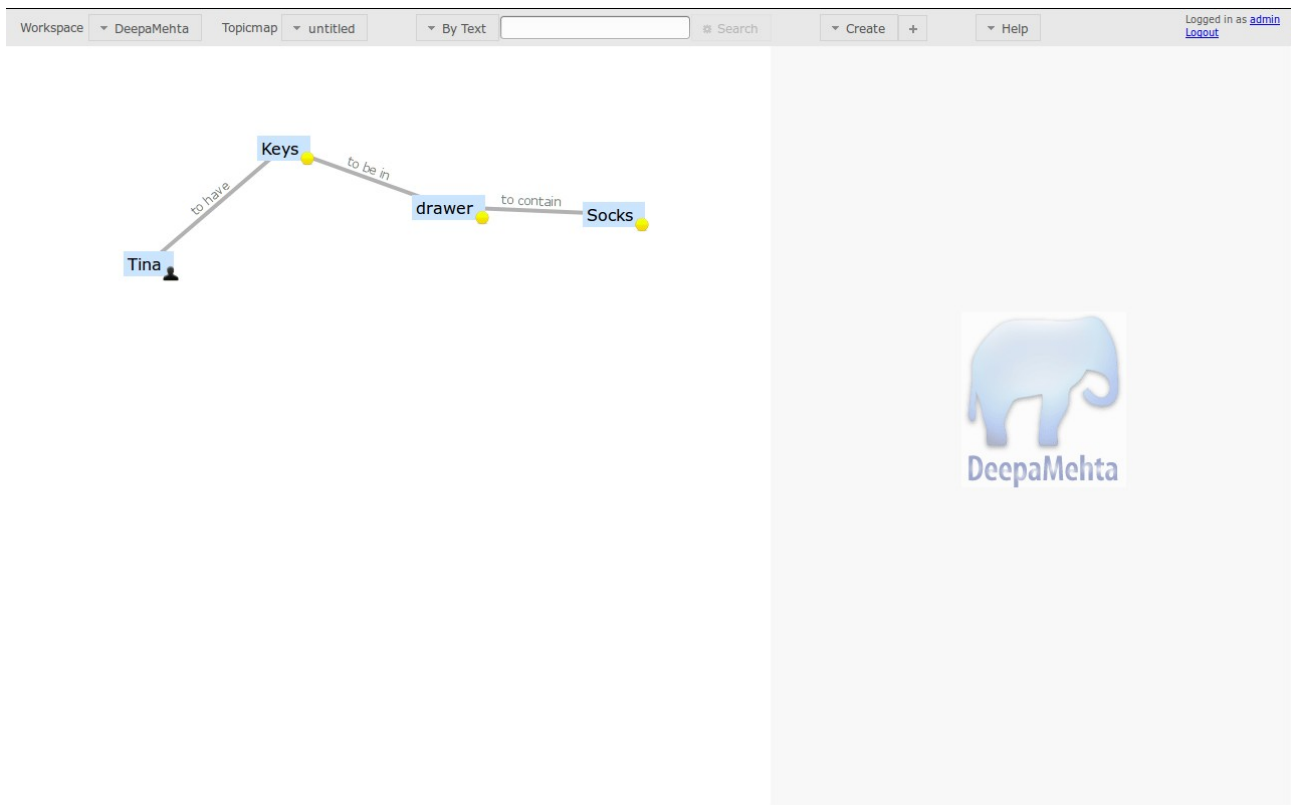
[check]In DM the subjects are called topics and the verbs are called associations.

Remember

Topics represent any concept, people, countries, organizations, software modules, individual files, events.

Associations represent relationships between topics

Maybe it could look something like this



[dm_example01.png]

****How to do it**

Go to the toolbar and click on the "Create" drop down list, where you'll see 4 default Topic Types:

- Institution
- Note
- Person
- Web resource

Oh wait, we didn't talk about Topic Types yet!!

We've said that Topics are concepts, and we group concepts by types.

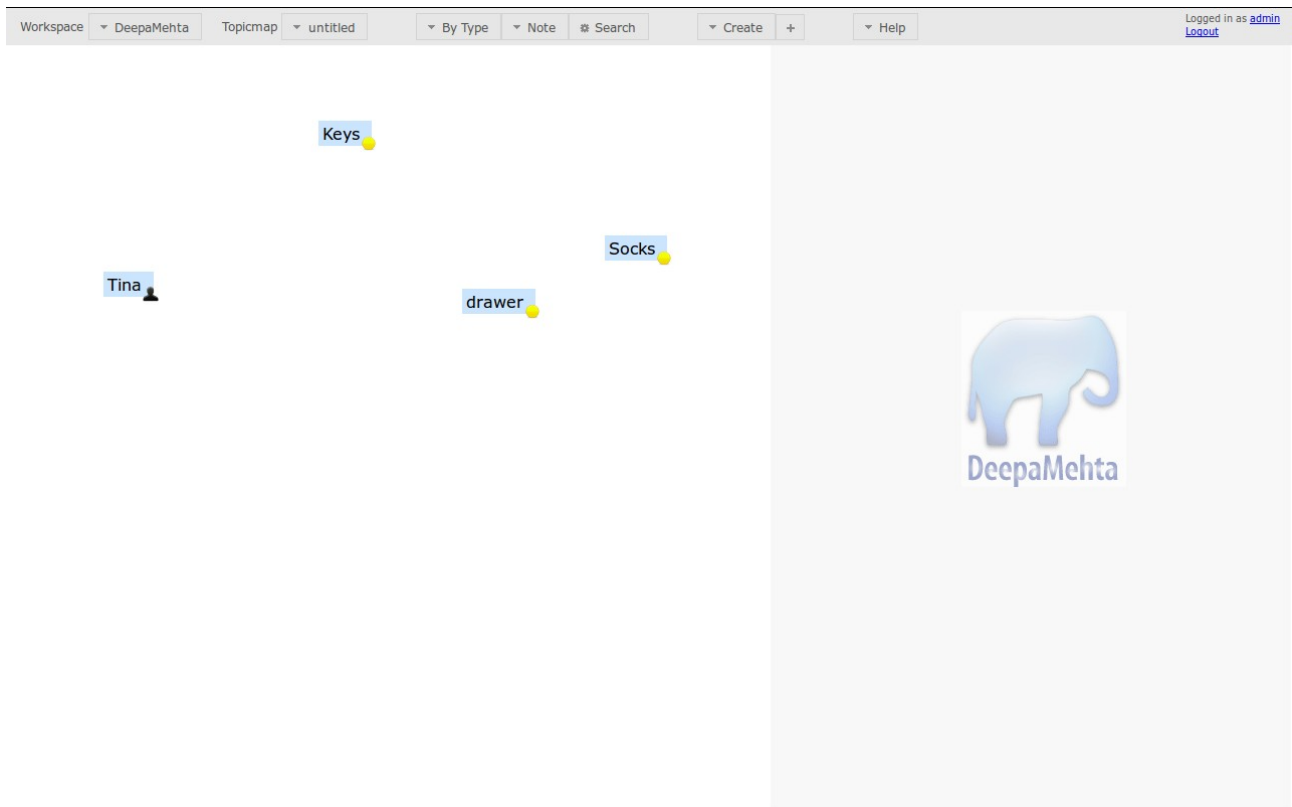
Topic Types are topics grouped by type.

So when we say that a Topic Type is "Institution" we are managing the general concept of Institution, that is a place or organization founded for a specific purpose. We can think that a hospital is an institution, a school is an institution, a theater is an institution. All of those places have a certain number of common features that define them, so in DM when you select the Topic Type "Institution" you'll see those common default features (a name, an address, a mail, a url). The same happens with the rest of Topic Types.

In our example we've created one Topic Type "Person", which is Tina. Tina is a person so it has certain common features with the rest of Humanity, a name, a last name, a phone, an email, a URL, an address (all optional). We will say that Tina is an instance of a Person, that is she is a specific Person.

Then we've created 3 Topic Types "Note", which we are going to use as a kind of a wildcard, simple topics with a name and a description. Later we will improve this, but for a start we will do it this way.

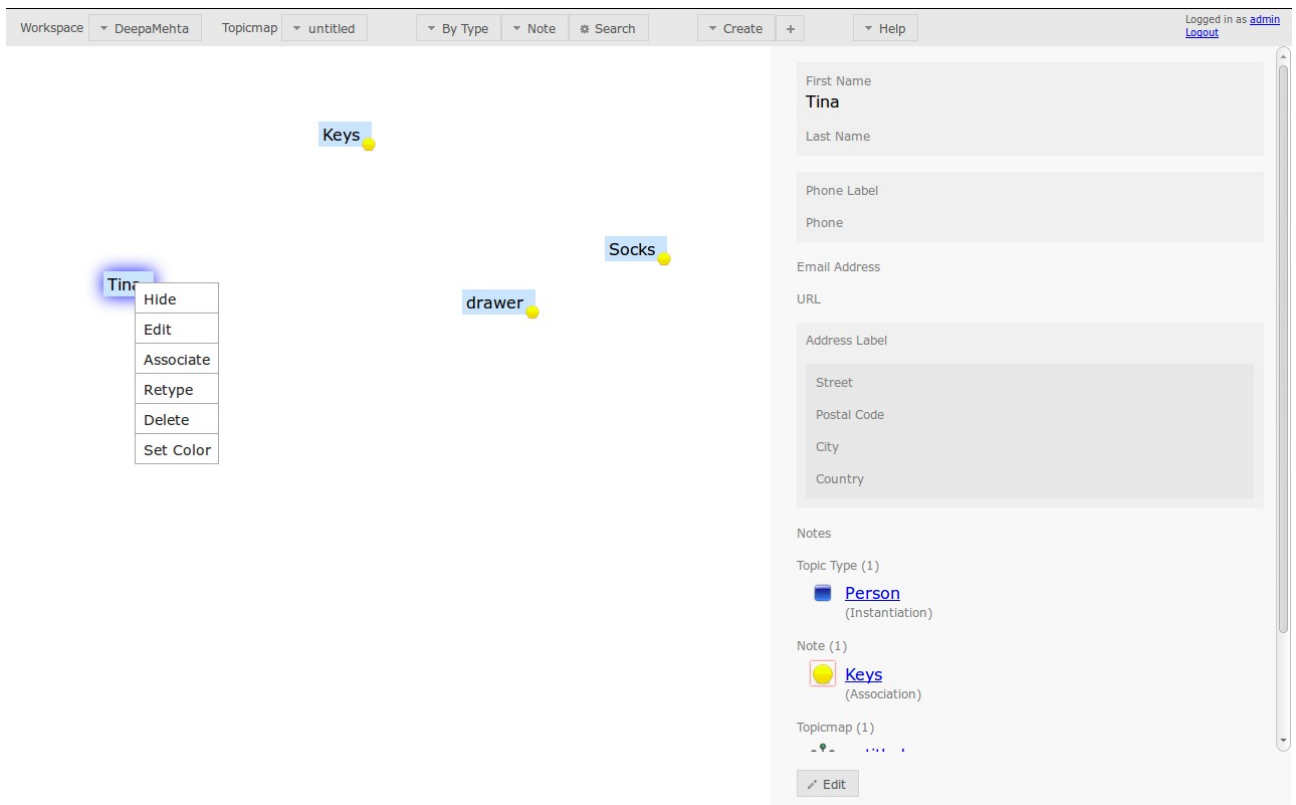
This means that we have 4 isolated Topic Types



[dm_example03.png]

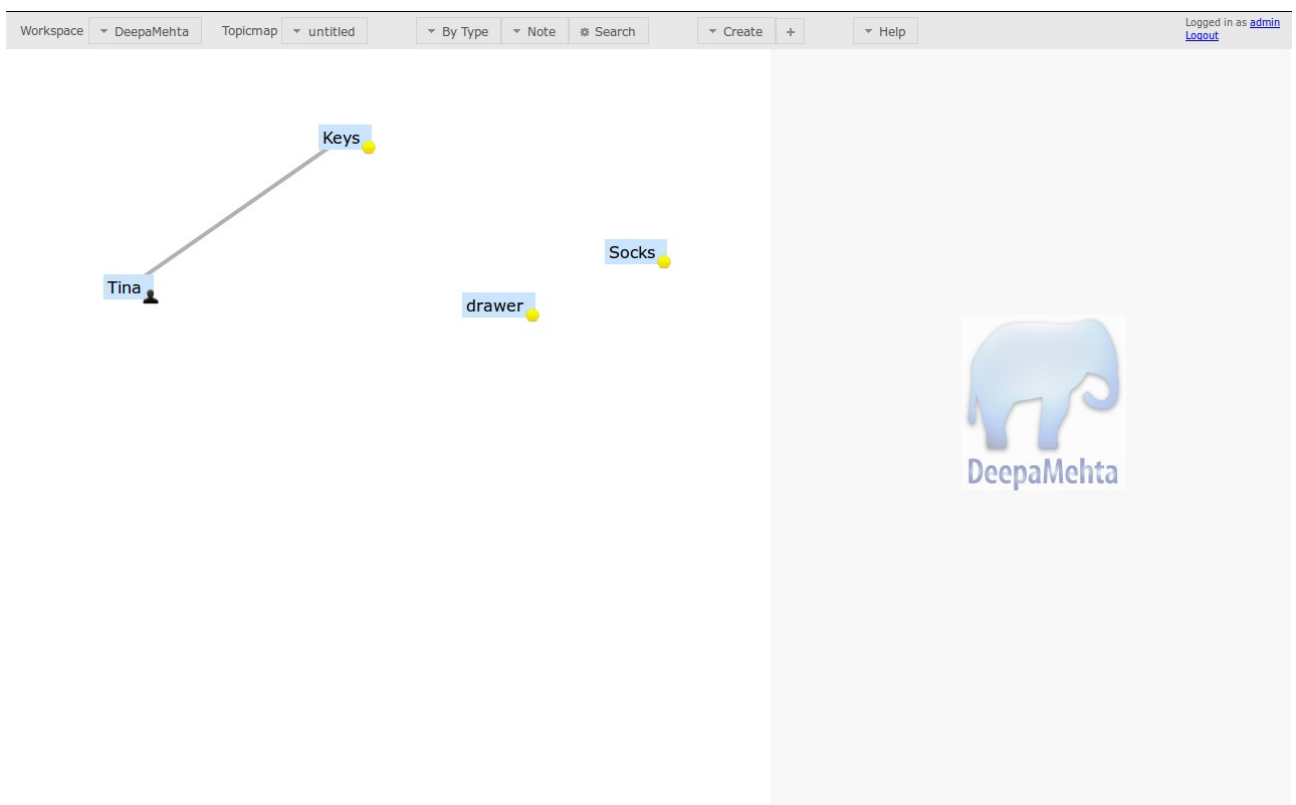
Isolated Topic Types don't make much sense, so we need to create the Associations, that is how Topic Types related.

First we wanted to say that Tina has keys (specifically a spare set of keys), for that we have to right clic on Topic Type "Person" Tina, where a menu will display and we will see the "Associate" option, we click on it



[dm_example04.png]

A line will appear, drag it to the Topic Type with which is related, so an association is created. In our case Topic Type Person Tina has to be associated with Topic Type "Note" Keys



[dm_example05.png]

another cool thing we can do, is to name the association, because associations are also editable,

The screenshot shows the DeepaMehta Topicmap editor interface. On the left, a canvas displays a topicmap with nodes: 'Tina' (represented by a person icon), 'Keys' (represented by a yellow dot), 'drawer' (represented by a yellow dot), and 'Socks' (represented by a yellow dot). A line connects 'Tina' and 'Keys', representing an association. A context menu is open over the 'Keys' node, showing options: 'Hide', 'Edit', and 'Delete'. On the right, a panel displays the details of the selected association. It shows the 'Association Type' as 'Association'. Under 'Topics', it lists 'Person: "Tina"' with 'Role Type' set to 'Default'. Under 'Note', it lists 'Note: "Keys"' with 'Role Type' set to 'Default'. Below this, it shows the 'Association' as 'Association (Instantiation)' with a red square icon. It also shows the 'Topicmap (1)' as 'untitled (Association Mapcontext)' with a green star icon. Finally, it shows the 'Workspace (1)' as 'DeepaMehta (Aggregation)' with a yellow star icon. At the bottom of the right panel is an 'Edit' button.

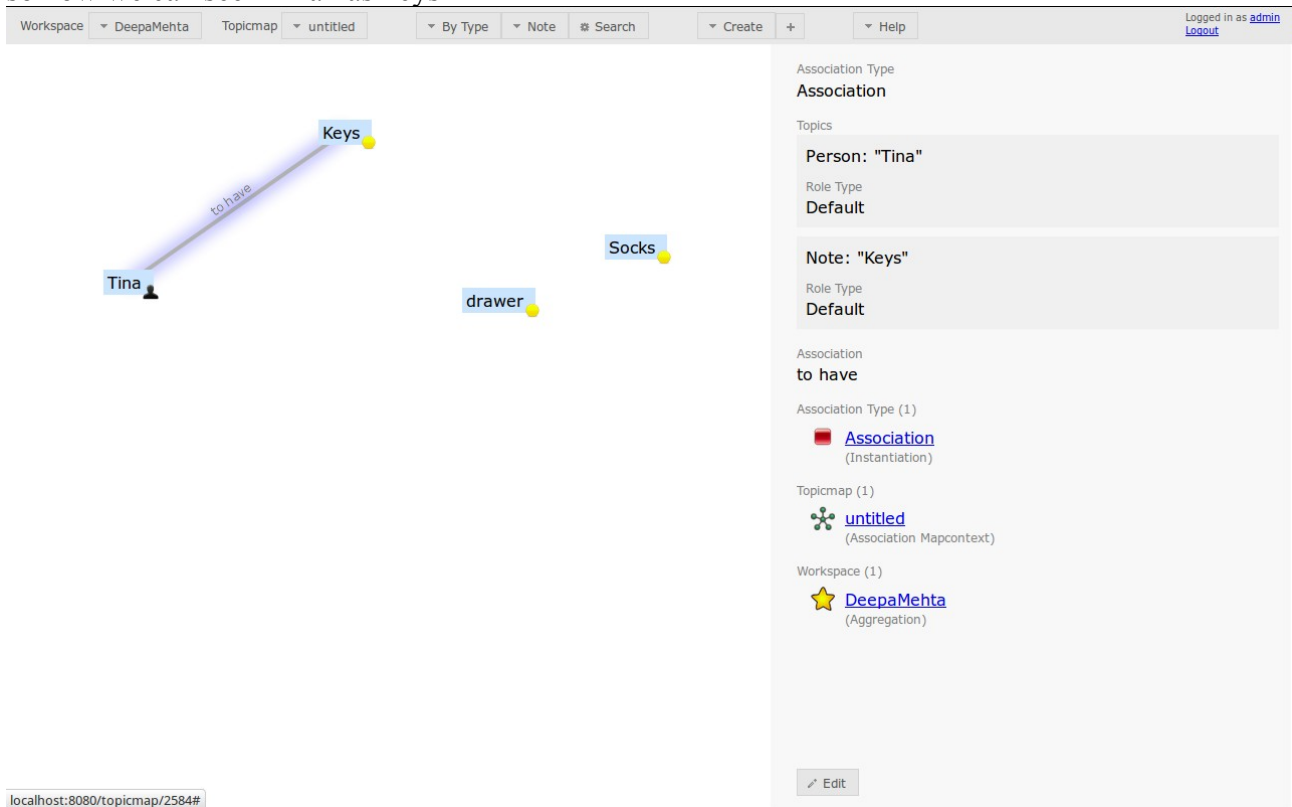
[dm_example06.png]

so that we can actually read the sentence that we have in our mind. As a practice, we will use verbs in infinitive, so that is general, in our case we name this association "to have".

This screenshot shows the same DeepaMehta Topicmap editor interface as the previous one, but with the association between 'Tina' and 'Keys' named. The canvas on the left is identical. The right panel shows the same details for the association, but the 'Association' field at the bottom now contains the text 'to have' in a text input box. The 'Edit' button at the bottom of the right panel is now labeled 'OK'.

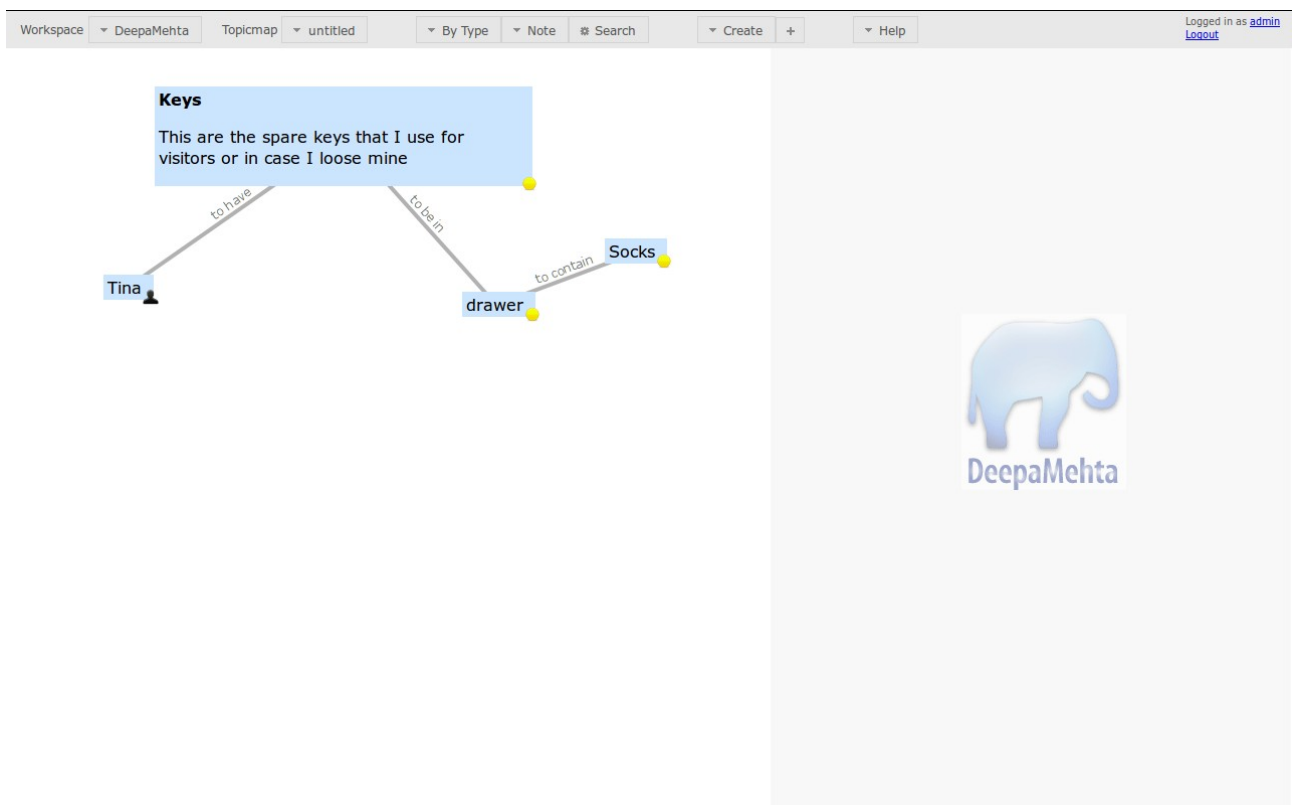
[dm_example07.png]

so now we can see "Tina has keys"



[dm_example08.png]

We proceed in the same way with the other Topic Types, we create the association between keys and drawer, and then between drawer and socks. So at the end we will have



[dm_example02.png]

so you are now creating your first topic map, cool!!!

Remember

[Check] Topic Types are topics grouped by type.

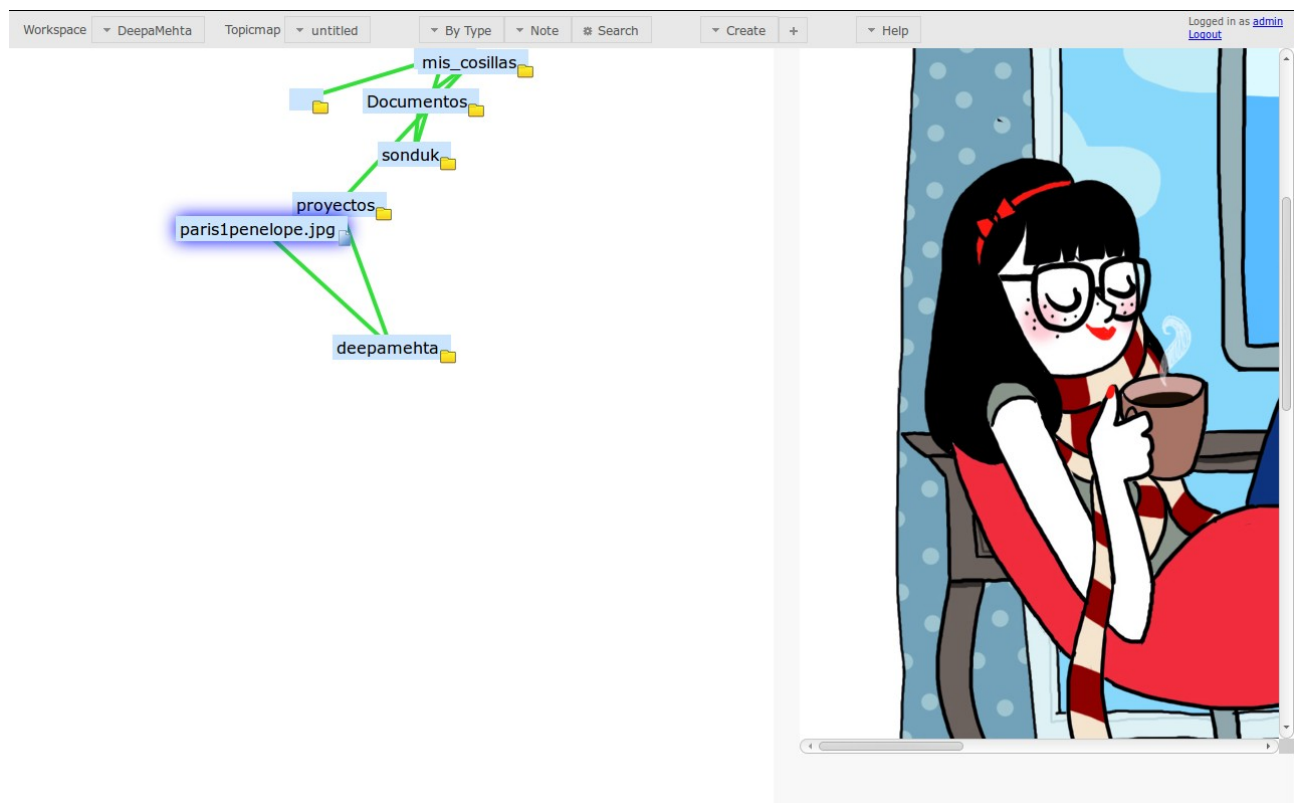
All Topic Types and Associations exist independently of Topicmaps and are stored centrally in the corporate memory (CM).

Topic maps are personalized views of extracts of the CM. Virtually every topic can be made visible in every topic map.

Now that you understand why we say that you can draw your mind, and that DM is more like a brain.

Let's continue, in our story we did not say anything, but the fact is that we have a nice photo from Tina. We want that photo to be related with Tina but is not part of the Topic Type "Person" so, we have to associate a Photo with her Topic Type "Person".

Since we already have the photo, what we want is to find it on our computer and bring it to our DM world. To do that, go to the toolbar, click on the drop-down menu "Create", then click "New File Browser", in the Detail panel, on the right side of the screen, you will see the File Browser and you'll recognize your computer's tree structure, browse until you select the photo you are looking for.



[dm_example09.png]

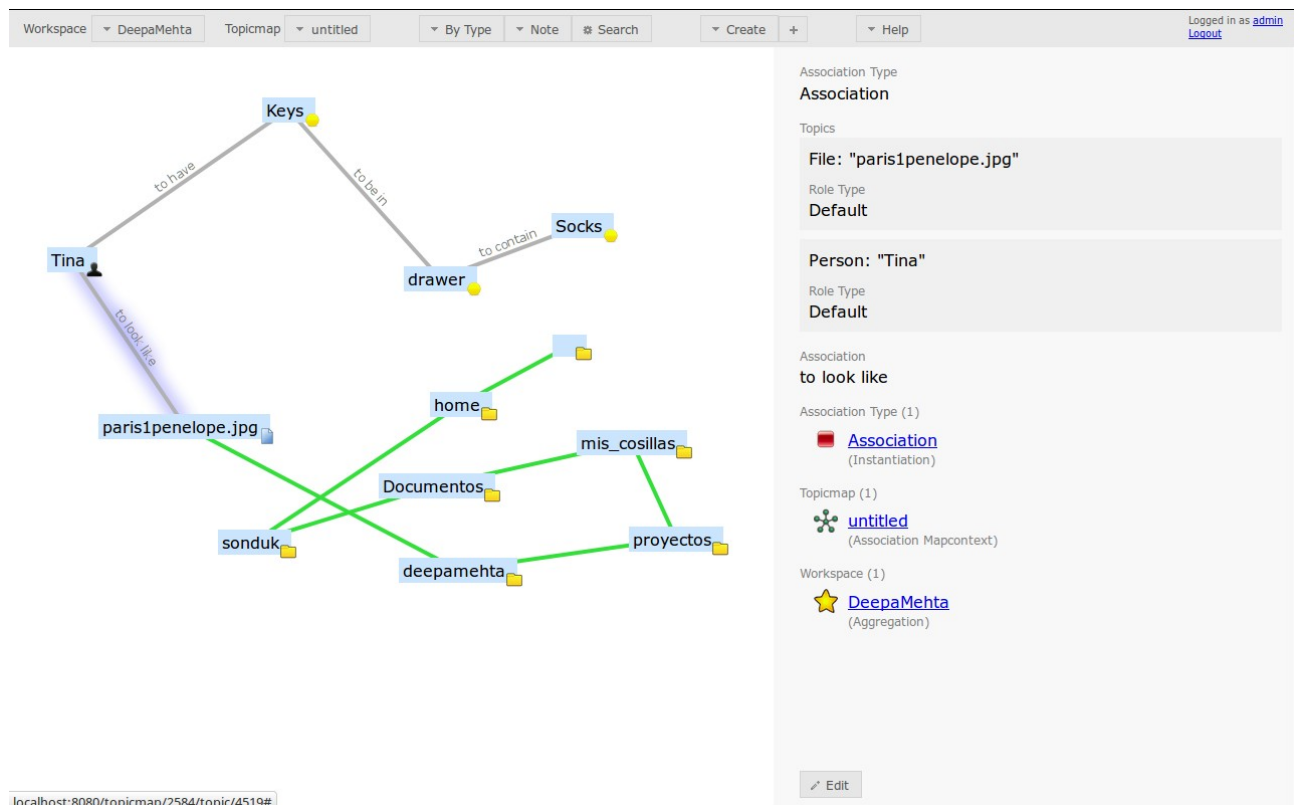
You will see that a lot of Topic Types and Associations begin to appear on each click. It's drawing the path to the file. If it's a long path, at some point, the canvas may "move down" to find space to draw everything, but since the canvas is infinite, there is no problem of space here :).

Once you've selected the photo, you'll see it on the Detail Panel :). Now you can associate it with the Topic Type Person Tina, right click on the Photo associate, and drag to Topic Type Person-Tina.

Tip

If you want to move the canvas, so that you can see better the topic map, you just have to click on the canvas and drag it until you locate the topic map where you want.

You can resize the Panels. You just need to put the mouse on the border between the two panels and when appears (put here the icon) just drag the panel to the size you want.



[dm_example12.png]

Ok, you've made the relation but now there are lot of topic and associations that you don't really want to see, so it's time to Hide things, right click on each of the Topic Type and click on Hide, hiding the topic will hide also the Association. If at some point you want to see the Topic Type but not the Association, you can right click on the association, click hide and then just the association will be hidden.

Workspace ▾ DeepaMehta Topicmap ▾ untitled ▾ By Type ▾ Note 🔍 Search ▾ Create + ▾ Help Logged in as [admin](#) [Logout](#)

The screenshot shows the DeepaMehta interface. On the left, a topic map is displayed with nodes: **Keys**, **Socks**, **drawer**, **Tina**, **sonduk**, **home**, **Documentos**, **mis_cosillas**, **proyectos**, and **deepamehta**. Associations include "to be in" (Keys to drawer), "to contain" (Socks to drawer), "to have" (Keys to Tina), "has photo" (Tina to paris1penelope.jpg), and "home" (sonduk to home). The **deepamehta** node is highlighted with a context menu open, showing options: Hide, Associate, Retype, Delete, and Set Color. On the right, the "Folder Name" pane shows the folder **deepamehta** at the path `/home/sonduk/Documentos/mis_cosillas/proyectos/deepamehta`. The "Folder Content" pane lists files: `dm_user_guide_draft0.pdf`, `./~lock.dm_user_guide_DRAFT.odt#`, `dm_user_guide.txt`, `dm_user_guide_DRAFT.odt`, `dm_user_guide_DRAFT.pdf`, `paris1penelope.jpg`, `thoughts_replacesby_images.jpg`, `penelope_ukulele_bleu.gif`, `dm_0.png`, `dm_user_guide`, `dm_user_guide~`, `sport_4.jpg`, `penelope.jpeg`, `solaire5.jpg`, and `dm_1.png`. The "Topic Type (1)" pane shows **Folder** (Instantiation) with buttons for "Create Folder" and "Upload File".

[dm_example13.png]

Repeat this operation with all the topics that you want to hide and you'll have a clearer screen :D

Workspace ▾ DeepaMehta Topicmap ▾ untitled ▾ By Type ▾ Note 🔍 Search ▾ Create + ▾ Help Logged in as [admin](#) [Logout](#)

The screenshot shows the DeepaMehta interface. On the left, the topic map is the same as in the previous image, but the **deepamehta** node is no longer visible. On the right, the "Association Type" pane shows details for the association **has photo** between the topics **File: "paris1penelope.jpg"** and **Person: "Tina"**. The "Role Type" for both is **Default**. The "Association" pane shows **has photo** with an "Association Type (1)" of **Association** (Instantiation). The "Topicmap (1)" pane shows **untitled** (Association Mapcontext). The "Workspace (1)" pane shows **DeepaMehta** (Aggregation). An "Edit" button is at the bottom.

localhost:8080/topicmap/2584/topic/4519#

[dm_example14.png]

****Remember****

Topic maps do not show all the information that is in the DM world, only the information that is relevant to you in the moment that you are working.

Tea time!!! It's always good to let everything settle down, why not take a break, get a cup of tea and back in a few minutes



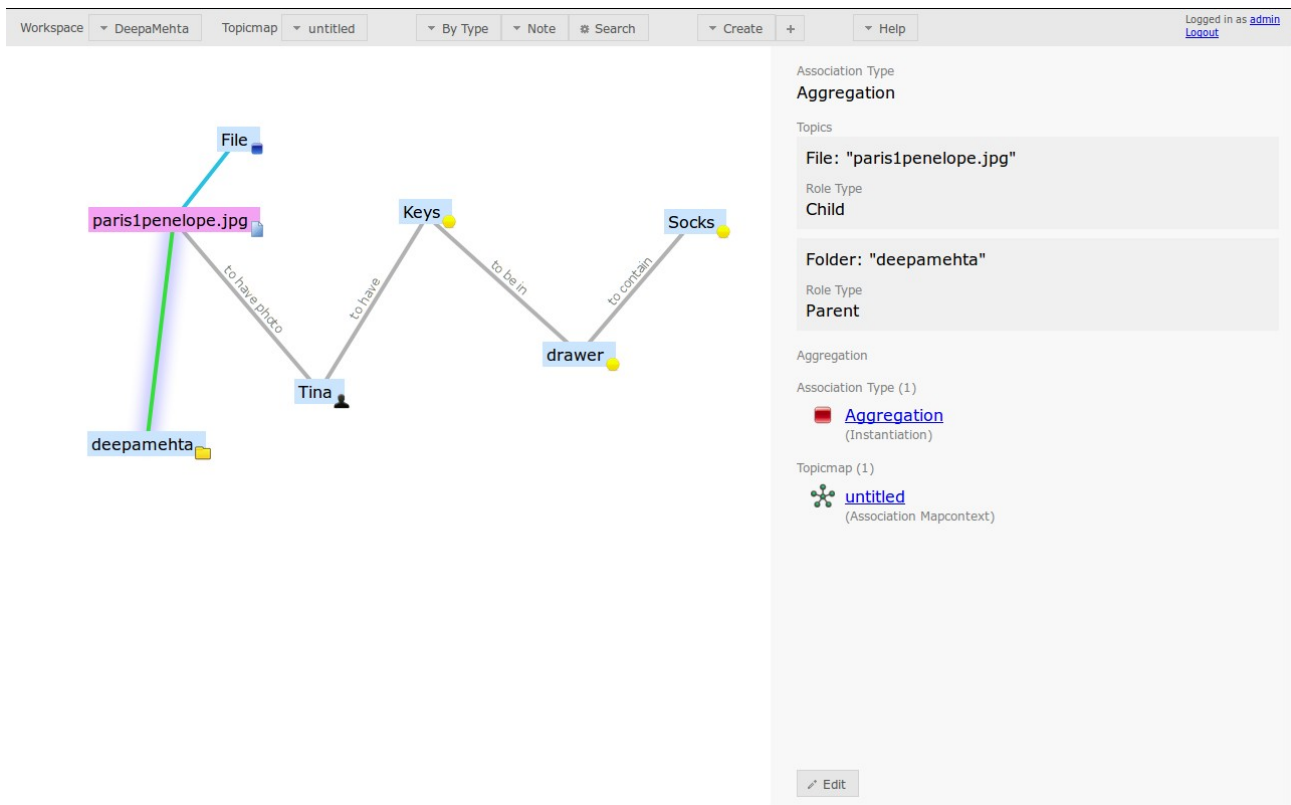
[cup_of_tea_bagieu-bio.jpg]

Now, after a break, let's go back a bit, and check a couple of things before continuing.

We've said that our Topicmap shows only what we want to see depending on the moment, so let's make visible again the Topic Types and Associations that appeared when we added Tina's photo to the Topicmap. The photo was inside a Folder, true? so click on the photo, then move your eyes to the Detail Panel, there we have quite a lot of information, that we are going to be understanding little by little.

On the Detail Panel scroll down (if necessary) until you see a folder icon which is called like the folder where your photo was stored.

In our case the name of the folder where we stored the images is "Deepamehta", click on the folder, and aha!!! now it becomes visible what was hidden, the folder and its relation with the photo file of Tina.



[dm_example15.png]

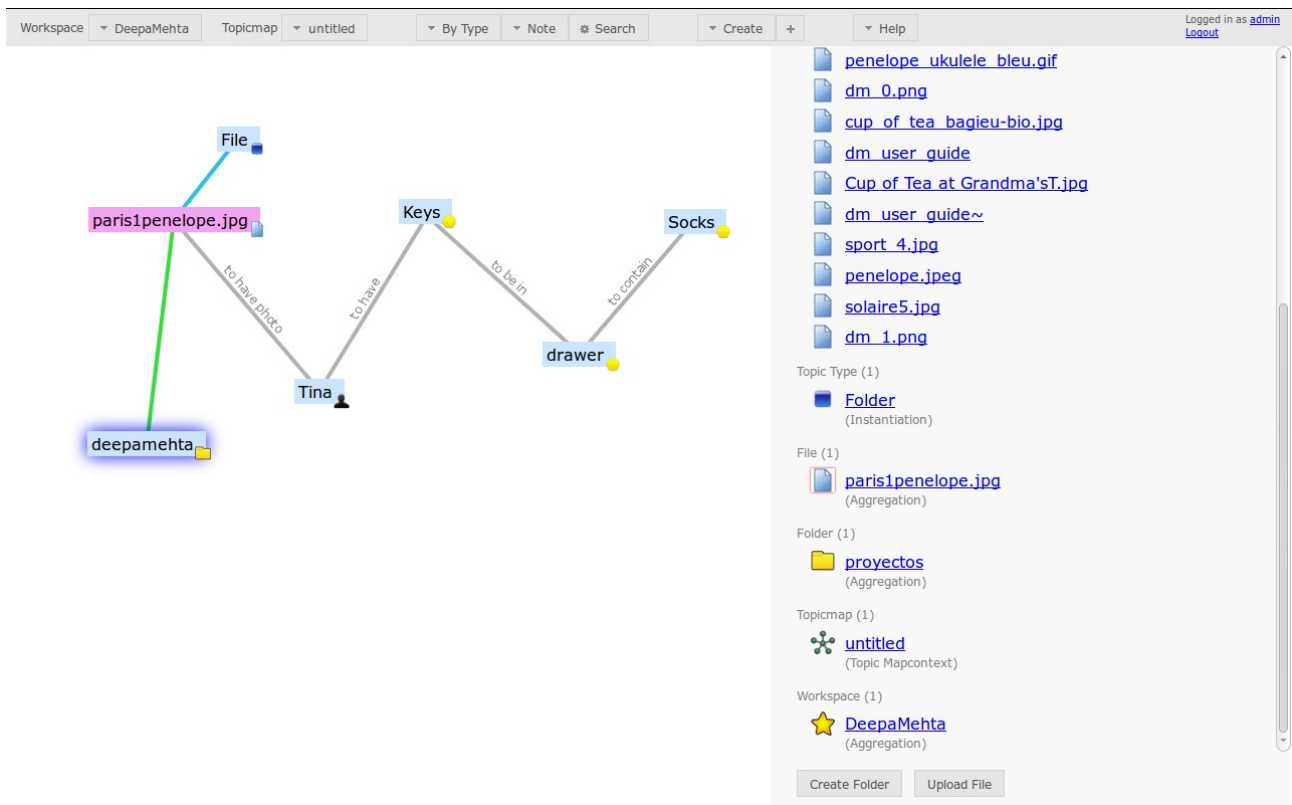
Maybe you've already noticed that the association has a different color, now is green, while the other ones that we've been creating were grey. Apart from aesthetic reasons, it means that is a different type of Association, if you click on the association, you'll see the Association Type is Aggregation, while the others the Association Type was Association.

Remember

Association Type Aggregation establishes an association so that Topic Type B is associated with Topic Type A, but that when Topic Type A is deleted, Topic Type B is **not** deleted.

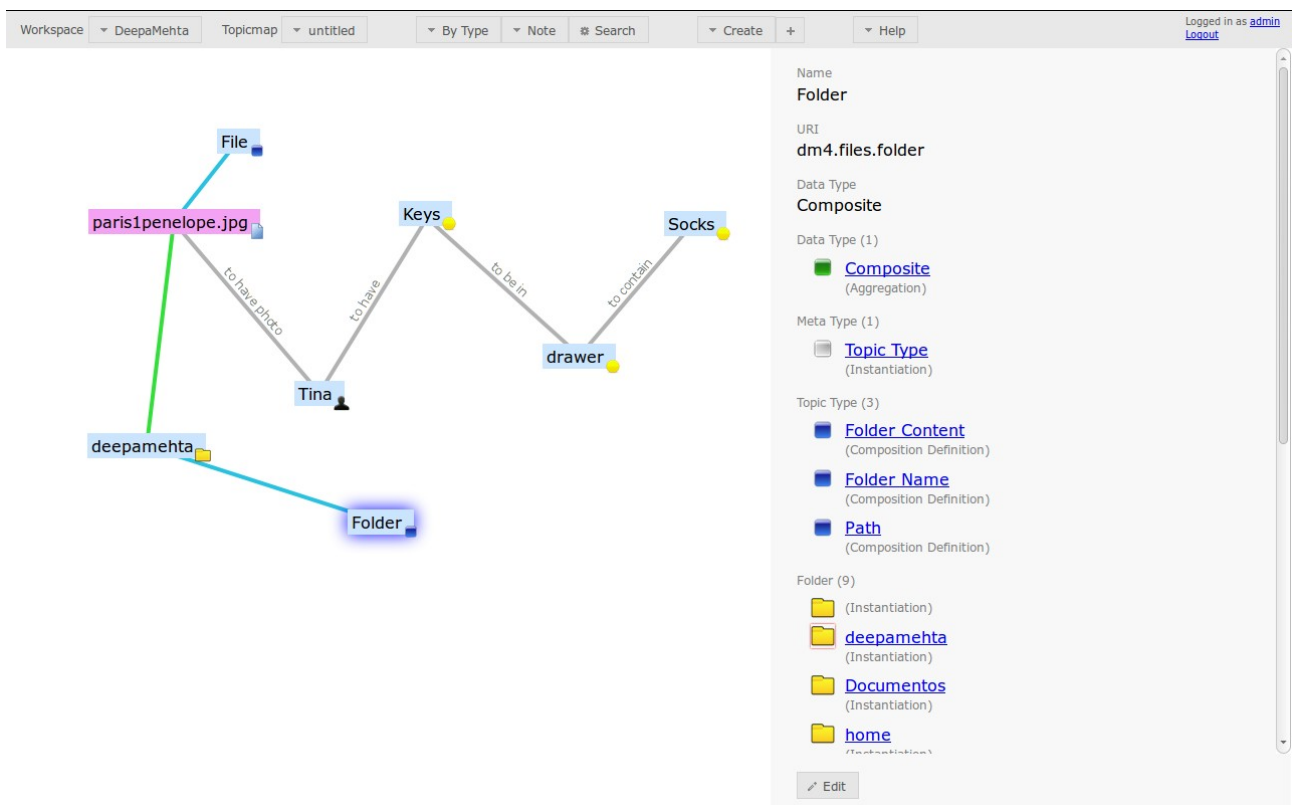
Looking closer the Detail Panel, we can see the Role Types, the photo has as Role Type "Child" and the folder has as Role Type "Parent", so in our case Aggregation would mean that if we delete our photo from the folder, the folder won't be deleted.

Next thing, if you click on the folder itself, and you scroll down until you see Topic Type, you'll see it's a Folder and the Association Type that has been created is called "Instantiation". In case someone is not familiar with the term instantiation, it means that is a specific folder, there is the concept "Folder" and then there is the specific folder that you create with a specific name.



[dm_example16.png]

If you click on Folder, you will see that it's Data Type is Composite, which means that is something composed of other items. In the case of "Folder" is a Topic Type composed of "Folder content"+"Folder name"+"Path", so each Folder Topic Type will have a name, a content and a path.



[dm_example17.png]

Remember

Data Type Composite is a Topic Type composed by other Topic Types

Association Type Aggregation establishes an association so that Topic Type B is associated with Topic Type A, but that when Topic Type A is deleted, Topic Type B is **not** deleted.

Association Type Instantiation is a specific Topic Type



[cup_of_tea_bagieu-bio.jpg] Now take another sip of tea and let's continue.

Ok, until now, we've just drawn the first part of our story, but we had the second part

"That reminds us of Greg, who works with Tina in the Bookshop, and who loves fancy socks."

So we let's do the same thing that we did in the beginning

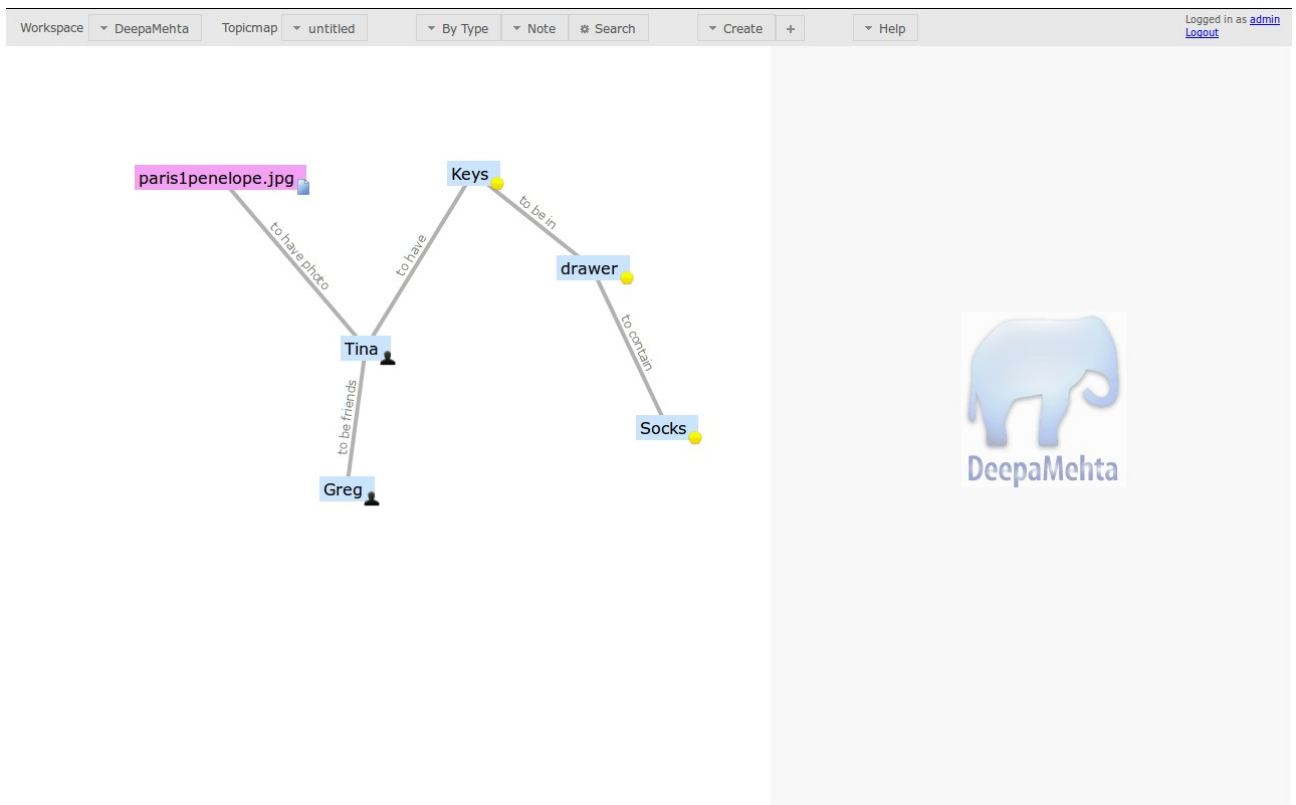
Greg is a friend of Tina

Greg has fancy socks

Greg works in a Bookshop

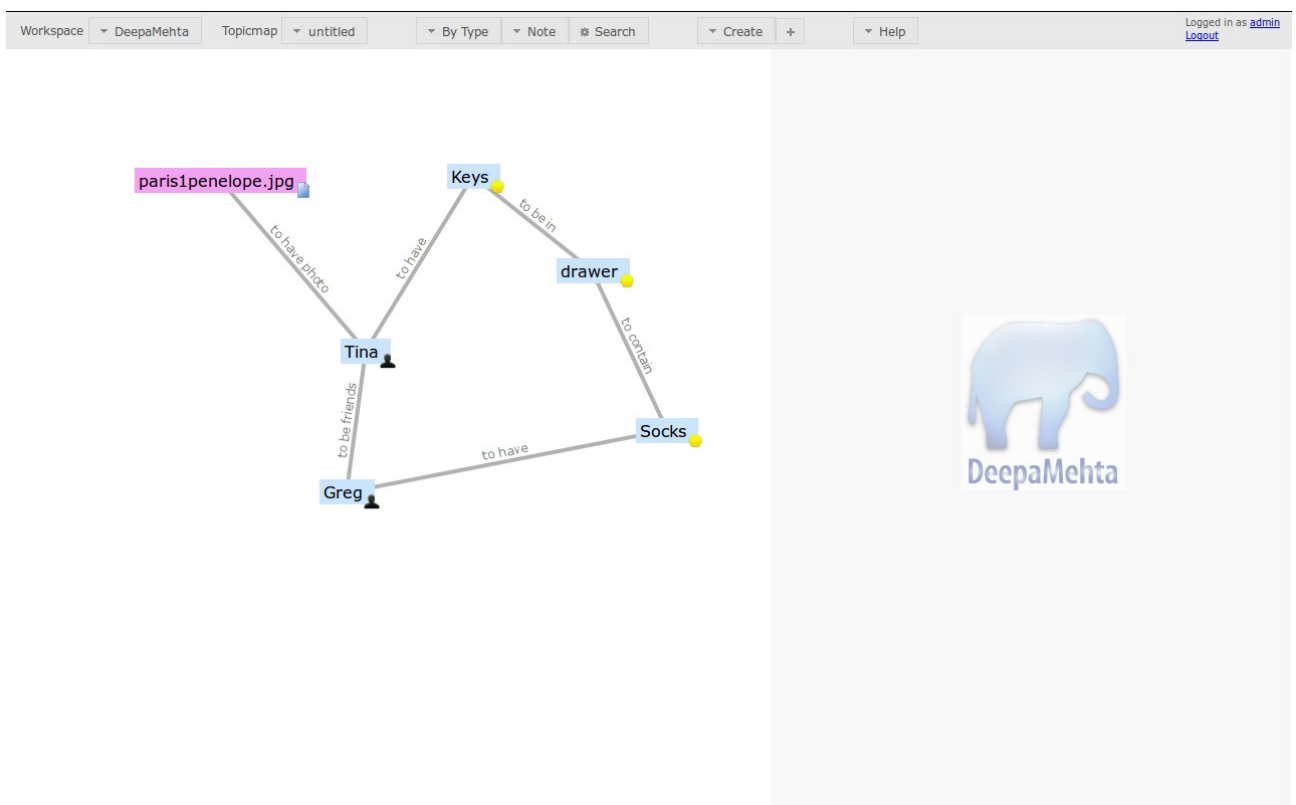
Let's just define that info in our topic map.

Go to the toolbar, create Person, there you can fill in the Name with Greg and any other info that you may consider interesting. Then right click on Greg and create the association by dragging the line to Tina. As you know if you want to can name the association, we've named it "to be friends".



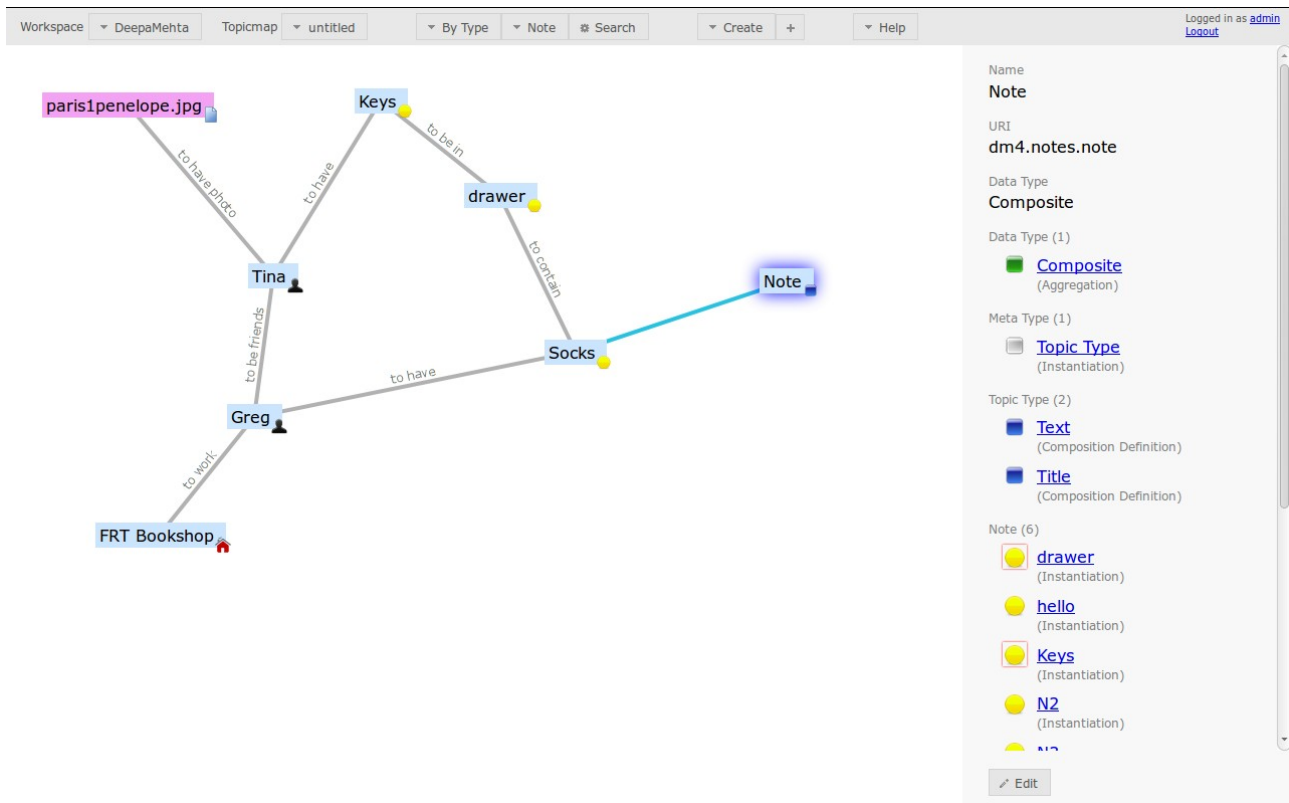
[dm_example18.png]

We were thinking about Greg because he had fancy socks, so let's put that in our topic map. Ohh, yes we've already have socks in our topic map, so we just need to create a new association. Right click on Greg, click associate, drag to socks.



[dm_example19.png]

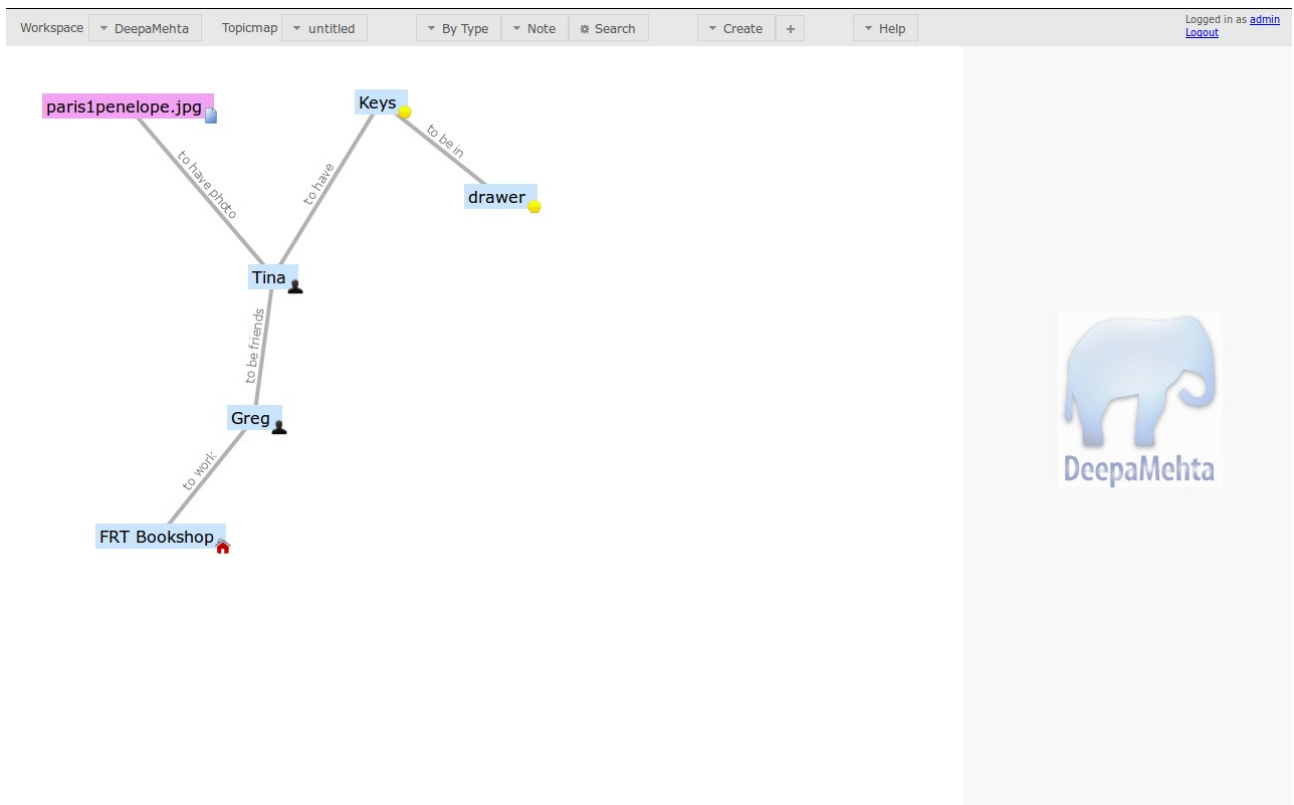
Ok, but I must say that till now we've been cheating a bit, just a bit. We've said that we used Topic Type Note, as a kind of wildcard, but well that is not 100% fair because a Note is a note, that has a title and a text, if you are thinking of a Note it won't have the form of a sock, it would be confusing.



[dm_example21.png]

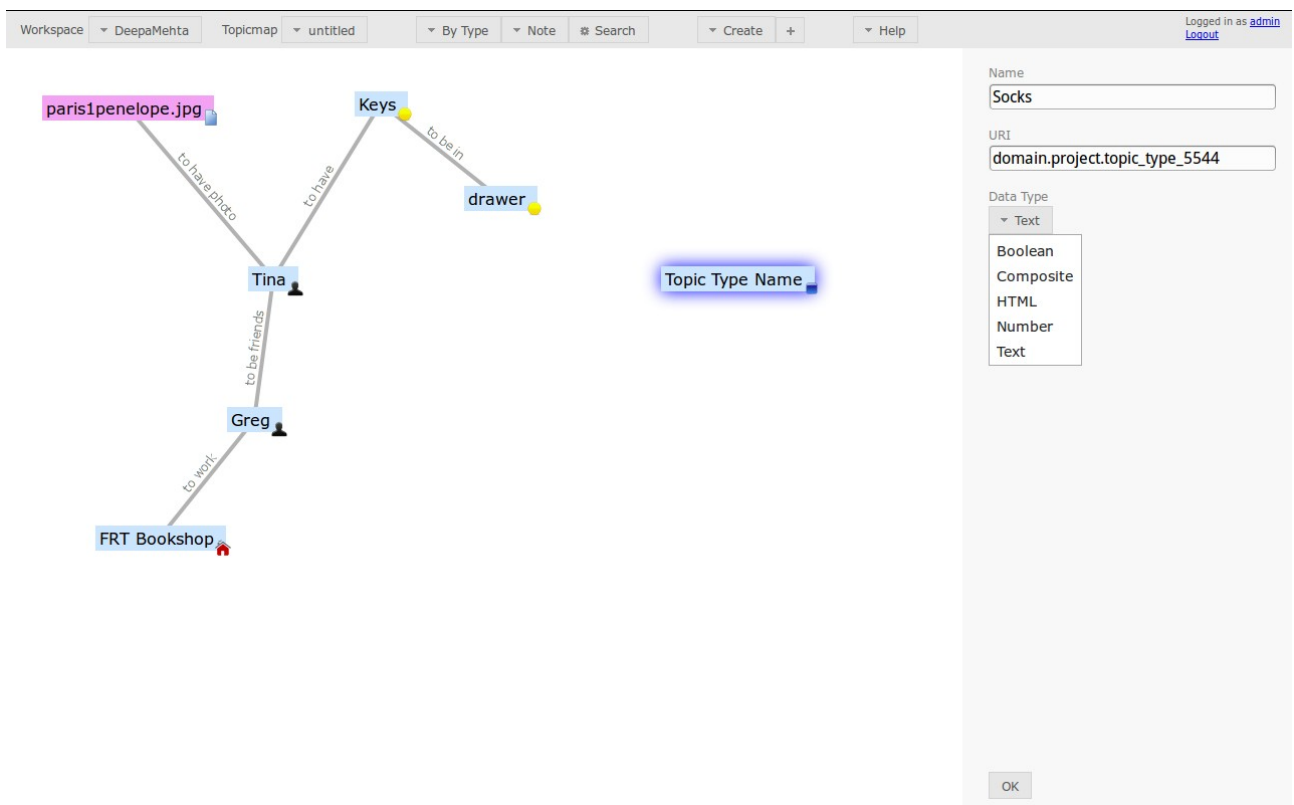
So time to create our own Topic Type "Socks" and redo things :)

First delete your current "socks", right click on the Topic Type and click on delete, this means you will delete this instance from the *whole* of your DM world, you are getting rid of all the socks and their relations, so in general be careful when deleting, but sure you know the dangers of "delete" :D



[dm_example23.png]

Go to the toolbar menu, down to where it says "New Topic Type", name it Socks, choose a Data Type, for the moment we'll use Text, done!!



[dm_example24.png]

now you have your Type "Socks", remember that the Type is the abstract concept, so now you have defined the idea "Socks", so if you check Create drop down menu, you will see the new Type that you just created "Socks", so if you click on it you will get an instance of socks, this are your specific fancy socks :)

The screenshot shows the Topicmap application interface. The main workspace displays a network diagram with nodes: 'paris1penelope.jpg', 'Keys', 'Tina', 'Greg', 'FRT Bookshop', and 'drawer'. Edges connect these nodes with labels: 'to have photo' (Tina to photo), 'to have' (Tina to Keys), 'to be in' (Keys to drawer), 'to be friends' (Tina to Greg), and 'to work' (Greg to FRT Bookshop). The 'Create' dropdown menu is open, showing options: Event, Institution, Note, Person, Socks (highlighted), Topic Type Name, Topic Type Name, Topic Type Name, Web Resource, sock, sock, New Topic Type, New Association Type, New File Browser, and New User Account. The sidebar on the right shows the 'Socks' type details: Name: Socks, URI: domain.project.topic_type_5544, Data Type: Text, Data Type (1): Text (Aggregation), Index Mode (1): Fulltext (Aggregation), Meta Type (1): Topic Type (Instantiation), Topicmap (1): untitled (Topic Mapcontext), View Configuration (1): View Configuration (Aggregation), and Workspace (1): DeepaMehta (Aggregation). The URL bar shows 'localhost:8080/topicmap/2584/topic/5544#'.

[dm_example26.png]

We will need this instance of socks, to re-do the association between "drawer" (where Tina has her socks) and socks, and the Greg and socks.

The screenshot shows the Topicmap application interface after creating a new instance of 'socks'. The main workspace displays the updated network diagram. The 'socks' node is now present, connected to 'drawer' with the label 'to contain' and to 'Greg' with the label 'to have'. The 'Create' dropdown menu is no longer open. The sidebar on the right shows the 'socks' type details: Name: socks, Person (1): Greg (Association), Topic Type (1): Socks (Instantiation), Note (1): drawer (Association), Topicmap (1): untitled (Topic Mapcontext), and Workspace (1): DeepaMehta (Aggregation). The URL bar shows 'localhost:8080/topicmap/2584/topic/5544#'.

[dm_example28.png]

Now, everything is nicer, you brain feels happier when seen that "socks" is an instance of "Socks" instead of "Note" :-). But you don't need to see the Topic Type Socks, so hide it. Right click on the Topic Type Socks, click on hide, and it and its association will be hidden.

Remember

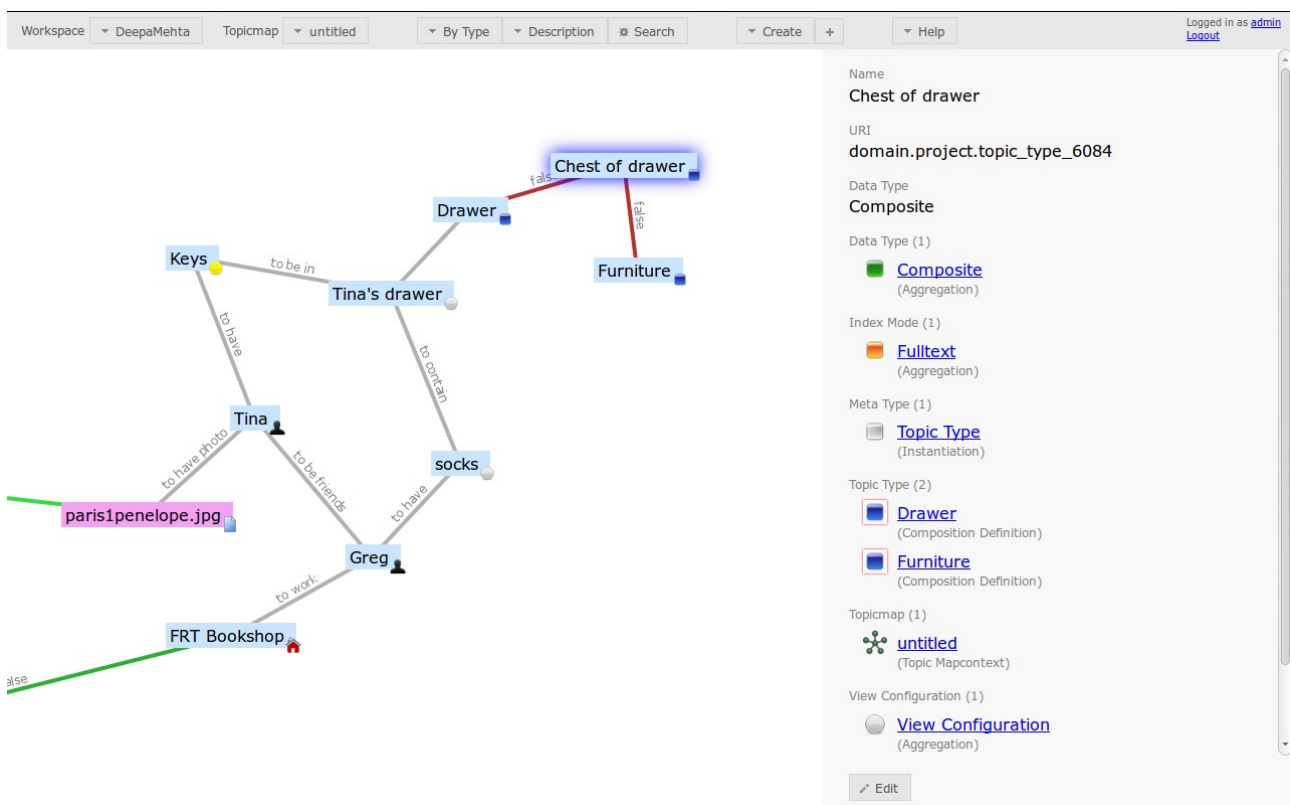
When deleting you are actually deleting your Topic Type instance from the whole DM world, not just from the topic map.

You can create New Topic Types. Your Topic Type can have one of the five following data types Boolean, Composite, HTML, Number, Text

Ok, but if we've created a new Topic Type Socks, maybe we should do the same with drawer, finally it is not a Note.

Let's think a bit what is a drawer, is "something" that is part of a chest of drawers and needs a furniture structure that can hold them. Then we need to create a new Topic Type "Chest" that is composed by two parts "Drawers" and "Furniture".

To do that you create Chest with dataType Composite (check it in the Detail Panel)

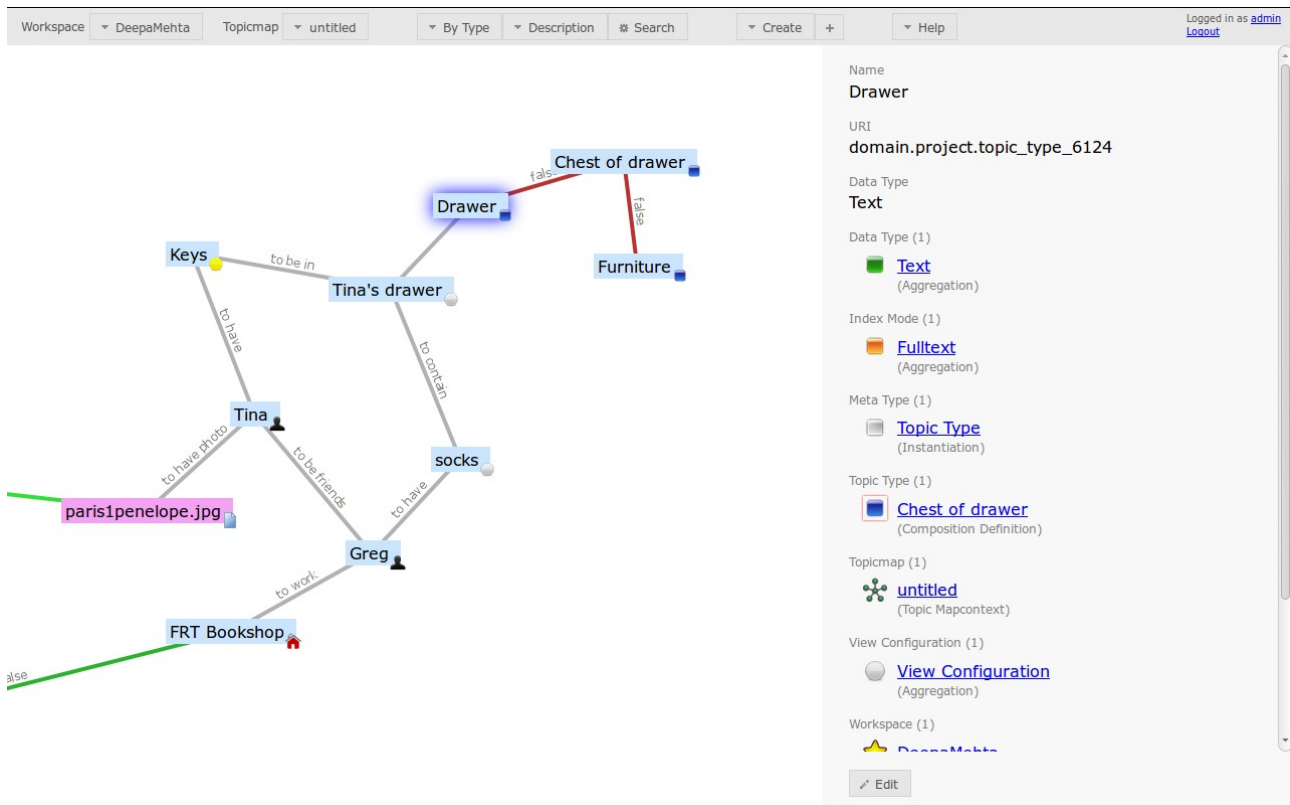


[dm_example29.png]

then you can create Drawer and Furniture as Topic Type text and create also an association with the Chest that is Composition Definition.

Association Type Composition establishes an association so that Topic Type B is associated with Topic Type A, but that when Topic Type A is deleted, Topic Type B **is** deleted.

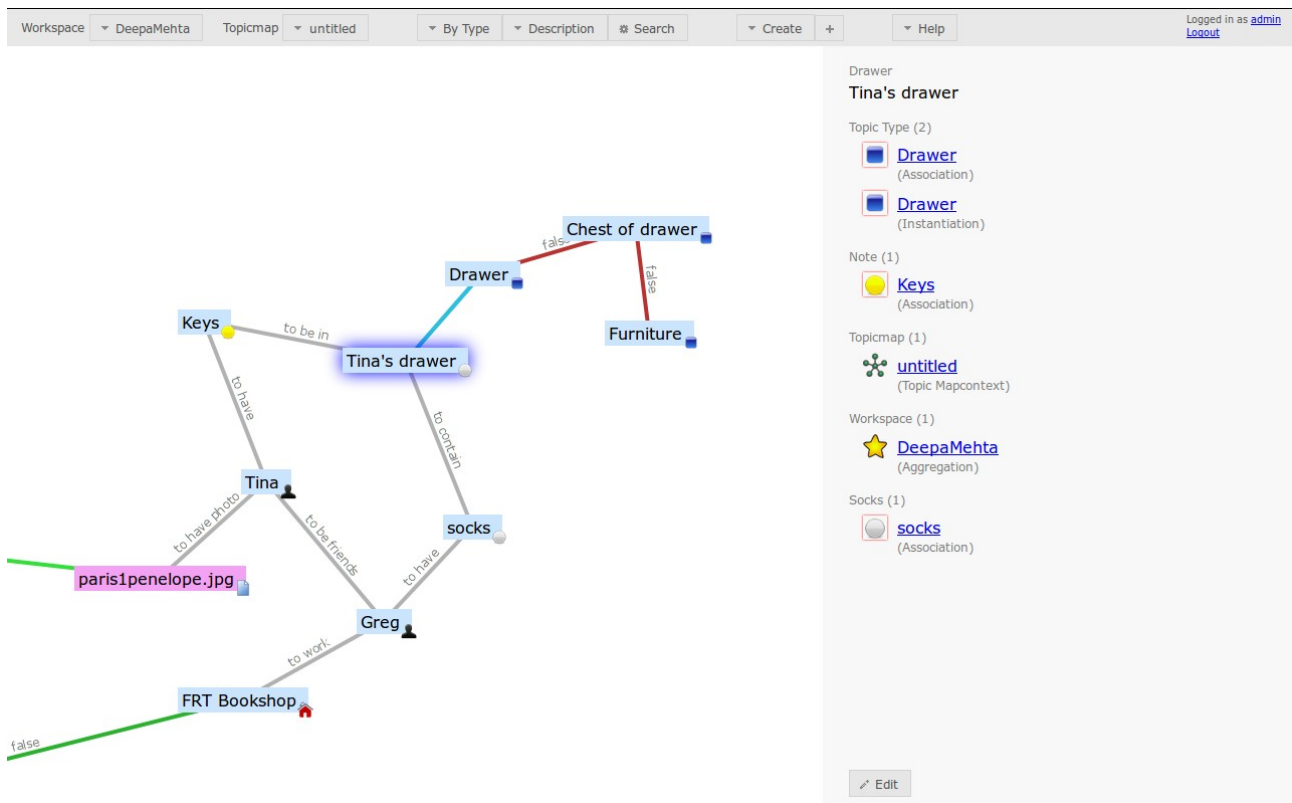
[check] so in our case, that means that if we delete the Drawer we will delete the Chest of Drawers



[dm_example30.png]

Until now, we have just defined the idea of what is a drawer as part of a chest, now we want to refer to Tina's drawer full of socks and keys. For that we need to go to the toolbar and select a Topic Type Drawer, and an instance will be generated, as you can see when looking at the Detail Panel, Tina's drawer is an instantiation of Drawer

[DOUBT] ---> why Topic Type is also an association?? what did I do???



[dm_example31.png]

Delete time!!! ... now that we have nice drawer's that are part of a chest you can delete the Note-Drawer that we had, we can rid of it and re-do the associations with our new Topic Type, Tina's drawer.

Tip

Association lines colors

Grey - Association which is the relation between two Topic Types

Light blue - Instantiation that means a **specific** Topic Type

Green - Association Type Aggregation establishes an association so that Topic Type B is associated with Topic Type A, but that when Topic Type A is deleted, Topic Type B is **not** deleted.

Red - Association Type Composition establishes an association so that Topic Type B is associated with Topic Type A, but that when Topic Type A is deleted, Topic Type B **is** deleted.

All this talking about Tina's socks, and suddenly we realize that tomorrow is her birthday, upsss!!! and you didn't get her present, though you more or less know that she likes graphic novels, so....a bookshop should be the place to go.

In the second part of the guide we will model a Bookshop, with it's book, audiobooks, workers, etc...



[cup_of_tea_bagieu-bio.jpg] But in between another sip of tea