askeet!

symfony advent calendar

Table of Contents

Table of Contents

Table of Contents

Table of Contents

Table of Contents

symfony advent calendar day one: starting up a project

The challenge

The symfony advent calendar is a set of 24 tutorials, published day-by-day between December 1st and Christmas. That's right, every day including week-ends, a new tutorial will be published. Each tutorial is meant to last less than one hour, and will be the occasion to see the ongoing development of a web 2.0 application, from A to Z. For Christmas time, the resulting application will be put online, and the source code made open source. This application will be usable, interesting, useful, and fun.

Twenty-four times less than one hour equals less than a day, and that's exactly how long we think that a developer needs to learn symfony. Every day, new features will be added to the application, and we'll take advantage of this development to show you how to take advantage of symfony's functionality as well as good practices in symfony web development. Every day, you will realize how fast and efficient it is to develop a web app with symfony, and you will want to know more.

Considering that it wouldn't be enough of a challenge with just that, and also because we are lazy folks, we have no plans for the 21st day - winter time. The feature that the community will require the most will be added to the application that day, without preparation, and we'll make it work. It will be the get-a-symfony-guru-for-a-day day.

The project

The application to be designed could have been a trivial "show-and-tell" application, like a to-do list, a phone book, or a bookstore. But we want to use symfony on an original project, something useful, with numerous features and an important size. The goal is really to prove that symfony can be used in complex situations, to develop professional applications with style and little effort.

We also hope that lots of people will actually use the application, in order to show that a symfony website can support an important load. That's why the application needs to bring an actual service, and to answer an existing need - or to create a new one. The launch of the website will be a live stress test; this also means that we will need you, humble readers, to digg/bookmark/blog the site and talk about it in real life to check how many visits it can support.

The content of the project will be kept secret for another day. We still have much to do today without describing a full-featured web 2.0 application. This should give you some time to argue and launch additional hypothesis. However, we need a name, so let's call it: **askeet**.

What for today

The objective of the day is to display a page of the application in a web browser, and to setup a professional development environment. This includes installation of symfony, creation of an application, web server configuration, and setup of a source version control system.

It should be easy for those who already followed the previous tutorials, and not very hard for others. And everyone should learn something new.

We'll assume that you use a Unix-like system with Apache, MySQL and PHP 5 installed. If you run a Windows system, don't panic: it will also work fine, you'll just have to type a few commands in the `cmd` prompt.

Symfony installation

The simplest way to install symfony is to use the PEAR package. However, to be able to use channels - and access the symfony channel - you need to upgrade to PEAR 1.4.0 or greater (unless you run PHP 5.1.0, which includes PEAR 1.4.5):

```
$ pear upgrade PEAR
```

> **Note**: if you experience any problem while using PEAR, refer to the installation book chapter.

Now you can add the 'symfony' channel:

```
$ pear channel-discover pear.symfony-project.com
```

You are ready to install the latest stable version of symfony together with all its dependencies:

```
$ pear install symfony/symfony-beta
```

If you don't have the phing package, you will need to install it as well:

```
$ pear install http://phing.info/pear/phing-current.tgz
```

Check that symfony is installed by using the command line to check the version:

```
$ symfony -V
```

If you are curious about what this new command line tool can do for you, type `symfony -T` to list the available options. You might also want to read the installation book chapter to see how to install symfony from a tgz archive or the svn repository. A community contribution also details a non-PEAR installation in the symfony wiki.

Project Setup

In symfony, **applications** sharing the same data model are regrouped into **projects**. For the askeet project, we can already disclose the fact that there will be a frontend and a backend: that makes two applications. The project being the shell of the applications, it has to be created first. To do that, all you need is a directory and a `symfony init-project` command line:

```
$ mkdir /home/sfprojects/askeet
$ cd /home/sfprojects/askeet
$ symfony init-project askeet
```

Now it is time to create the frontend application with the `symfony init-app` command:

```
$ symfony init-app frontend
```

Wow, that was fast.

> **Note**: Windows users are advised to run symfony and to setup their new project in a path which contains no spaces - this includes the `Documents and Settings` directory.

Web service setup

Web server configuration

Now it is time to change your Apache configuration to make the new application accessible. In a professional context, it is better to setup a new application as a virtual host, and that's what will be described here. However, if you prefer to add it as an alias, find how in the web server configuration book chapter.

Open the `httpd.conf` file of your `Apache/conf/` directory and add at the end:

```
<VirtualHost *:80>
  ServerName askeet
  DocumentRoot "/home/sfprojects/askeet/web"
  DirectoryIndex index.php
  Alias /sf /usr/local/lib/php/data/symfony/web/sf

  <Directory "/home/sfprojects/askeet/web">
   AllowOverride All
  </Directory>
</VirtualHost>
```

> **Note**: the `/sf` alias has to point to the symfony folder in your PEAR data directory. To determine it, just type `pear config-show`. Symfony applications need to have access to this folder to get some image and javascript files, to properly run the web debug toolbar and the AJAX helpers.

In Windows, you need to replace the `Alias` line by something like:

```
 Alias /sf "C:\php\pear\data\symfony\web\sf"
```

Declare the domain name

The domain name `askeet` has to be declared locally.

If you run a Linux system, it has to be done in the `/etc/hosts` file. If you run Windows XP, this file is located in the `C:\WINDOWS\system32\drivers\etc\` directory.

Add in the following line:

```
127.0.0.1         askeet
```

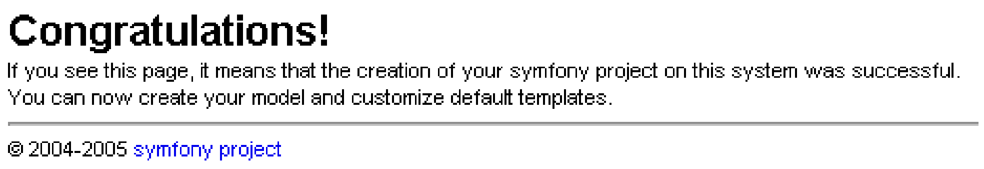
> **Note**: you need to have administrator rights to do this.

If you don't want to setup a new host, you should add a `Listen` statement to serve your website on another port. This will allow you to use the `localhost` domain.

Test the new configuration

Restart Apache, and check that you now have access to the new application:

```
http://askeet/
```



Congratulations!

If you see this page, it means that the creation of your symfony project on this system was successful.
You can now create your model and customize default templates.

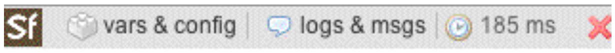
© 2004-2005 symfony project

> **Note**: symfony can use the `mod_rewrite` module to remove the /index.php/ part of the URLs. If you don't want to use it or if your web server does not provide an equivalent facility, you can remove the `.htaccess` file located in the `web/` directory. If your version of Apache is not compiled with `mod_rewrite`, check that you have the mod_rewrite DSO installed and the following lines in your `httpd.conf`:
>
> ```
> AddModule mod_rewrite.c
> LoadModule rewrite_module modules/mod_rewrite.so
> ```
>
> You will learn more about the smart URLs in the routing chapter.

You should also try to access the application in the development environment. Type in the following URL:

```
http://askeet/frontend_dev.php/
```

The web debug toolbar should show on the top right corner, including small icons proving that your `Alias sf/` configuration is correct.



Once again, the setup is a little different if you want to run a IIS server in a Windows environment. Find how to configure it in the related tutorial.

Subversion

One of the good principles of lazy folks is not to worry about breaking existing code. As we want to work fast, we want to revert to a previous version if a modification is inefficient, we want to allow more than one person to work on the project, and we also want you to have access to all the daily versions of the application, we are going to adopt source version control. We will use Subversion for this purpose. Assuming you have already installed a subversion server or have access to a subversion server.

Fist, create a new repository for the `askeet` project:

```
$ svnadmin create $SVNREP_DIR/askeet
$ svn mkdir -m "layout creation" file:///$SVNREP_DIR/askeet/trunk file:///$SVNREP_DIR/askeet/tags
```

Next, you have to do the first import, omitting the `cache/` and `log/` temporary files:

```
$ cd /home/sfprojects/askeet
$ rm -rf cache/*
$ rm -rf log/*
$ svn import -m "initial import" . file:///$SVNREP_DIR/askeet/trunk
```

Now get rid of the original application directory and use a checkout of the SVN version:

```
$ cd /home/sfprojects
$ mv askeet askeet.origin
$ svn co file:///$SVNREP_DIR/askeet/trunk/ askeet/
$ ls askeet

$ rm -rf askeet.origin
```

There is one remaining thing to setup. If you commit your working directory to the repository, you may copy some unwanted files, like the ones located in the `cache` and `log` directories of your project. So you need to specify an ignore list to SVN for this project.

```
$ cd /home/sfprojects/askeet
$ svn propedit svn:ignore cache
```

The default text editor configured for SVN should launch. Add the sub directories of `cache/` that SVN should ignore when committing:

```
*
```

Save and quit. You're done.

Repeat the procedure for the `log/` directory:

```
$ svn propedit svn:ignore log
```

And enter only:

```
*
```

Now, make sure to set the write permissions on the cache and logs directories back to the appropriate levels so that your web server can write to them again. At the command line:

```
$ chmod 777 cache
$ chmod 777 log
```

> **Note**: Windows users can use the great TortoiseSVN client to manage their subversion repository.

If you want to know more about source version control, check the project creation chapter in the symfony book.

> **Note**: The askeet SVN repository is public. You can access it at:
>
> ```
> http://svn.askeet.com/
> ```
>
> Go ahead, check it out.
>
> Today's code has been committed, you can checkout the `release_day_1` tag:
>
> ```
> $ svn co http://svn.askeet.com/tags/release_day_1/ askeet/
> ```

See you Tomorrow

Well, it's already one hour! We talked a lot, and did nothing new for the symfony early adopters. But just have a look at what will be revealed for our second day of the symfony advent calendar:

- what the application will do
- building the data model and generating the object-relational mapping
- scaffolding a module

In between, if you want to keep in touch with the latest askeet news, you can subscribe to the askeet mailing-list or go to the dedicated forum.

Make sure you come back tomorrow!

symfony advent calendar day two: setting up a data model

Previously on symfony

During day one of this long but interesting tutorial, we saw how to install the symfony framework, setup a new application and development environment, and bring safety to the code with source version control. By the way, the code of the application generated during the first day is available in the askeet SVN repository at:

```
http://svn.askeet.com/
```

The objectives for the second day are to define what the final result should be in terms of functionalities, sketch the data model, and begin coding. This will include generating an object-relational mapping and using it interactively to create, retrieve and update records in a database with an application scaffolding.

That's quite a lot. Let's get started.

The project unveiled

What do you want to know? That's an interesting question. There are many interesting questions, like:

- What shall I do tonight with my girlfriend?
- How can I generate traffic to my blog?
- What's the best web application framework?
- What's the best affordable restaurant in Paris?
- What's the answer to life, the universe, and everything?

All these questions don't have only one answer, and the best answer is a matter of opinion. As a matter of fact, the questions that only have one answer are often the least interesting (like, how much is 1 + 1?) but the only ones to be solved on the web. That's not fair.

Meet askeet. A website dedicated to help people find answers to their questions. Who will answer those ticklish questions? Everybody. And everybody will be able to rate other people's answers, so that the most popular answers get more visibility. As the number of questions increases, it becomes impossible to organize them in categories and sub-categories, so the creator of a question will be able to tag it with any word he/she wants, "Ã la" del.icio.us. Of course, the popularity of tags will have to be represented through a tag bubble. If one wants to follow the answers to a particular question, he/she can subscribe to this question's RSS feed. All these functionalities have to be elegant and lightweight, so all the interactions that don't actually need a new page have to be of AJAX type. Eventually, a back-end is necessary to moderate questions and answers reported as spam, or to push artificially a question that the administrator finds encouraging.

Then you should ask: Haven't I already seen such a website on the web? Well, if you actually did, we're busted, but if you refer to faqts, eHow, Ask Jeeves or something similar, with no collaborative answers, no AJAX, no RSS and no tags, this is not the same website. We are talking about a web 2.0 application here.

The big deal about askeet is that it is not only a website, it is an application that anyone can download, install at home or in a company Intranet, tweak and add features to. The source code will be released with an open-source license. Your HR head is looking for a knowledge management system? You want to keep track of all the tricks you learned about fixing your car? You don't want to develop a Frequently Asked Questions section for your website? Search no more, for askeet exists. Well, it will exist, that's our Christmas present.

Where to start?

So how are you supposed to start a symfony application? It all depends on you. You could write stories, do a planning game and find a partner to do pair programming if you were an XP adept, or write a detailed specification of the website, together with a sketch of all the objects, states, interactions and so on if you were a UML fan.

But this tutorial isn't about application development in general, so we'll start with a basic relational data model, and add working features one by one. What we need is an application that can be used at the end of every day, not a gigantic ongoing bunch of code that never outputs anything. In an ideal world, we should write unit tests for any feature we add, but we honestly won't have time for that. One day will be dedicated to unit tests though, so keep on reading.

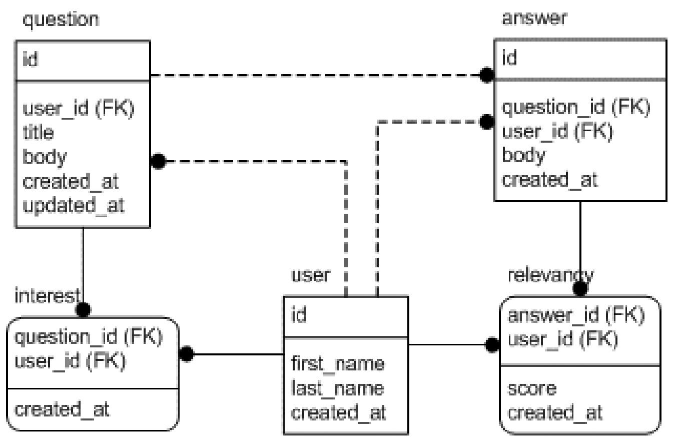
For this project, we will use a MySQL database with the InnoDB table type to take advantage of the integrity constraints and transaction support. We could have used a SQLite database for the first steps, to avoid setting up a real database. This would have required only a few changes in the `databases.yml` file, that we'll leave for you to investigate as an exercise.

Data Model

Relational model

Obviously, there will be a 'question' and an 'answer' tables. We'll need a 'user' table, and we'll store the interest of users for a question in a 'interest' table, and the relevancy given by a person to an answer in a 'relevancy' table.

Users will have to be identified to add a question, to rate the relevancy an answer, or to declare interest to a question. Users won't need to be identified to add an answer, but an answer will always be linked to a user so that users with popular answers can be distinguished. The answers entered without any identification will be shown as contributions of a generic user, called 'Anonymous Coward'. It's easier to understand with an entity relationship diagram:



Notice that we've declared a `created_at` field for each table. Symfony recognizes such fields and sets the value to the current system time when a record is created. That's the same for `updated_at` fields: Their value is set to the system time whenever the record is updated.

`schema.xml`

The relational model has to be translated to a configuration file for symfony to understand it. That's the purpose of the `schema.xml` file, located in the `askeet/config/` directory.

There are two ways to write this file: by hand, and that's the way we like it, or from an existing database. Let's see the first solution. First, we need to rename the sample installed by default:

```
$ svn rename config/schema.xml.sample config/schema.xml
```

The syntax of the `schema.xml`, explained in detail on the Propel website, is relatively simple: It's an XML file, in which `<table>` tags contain `<column>`, `<foreign-key>` and `<index>` tags. Once you write one, you can write all of them. Here is the `schema.xml` corresponding to the relational model described previously:

```
<?xml version="1.0" encoding="UTF-8"?>
 <database name="propel" defaultIdMethod="native" noxsd="true">
   <table name="ask_question" phpName="Question">
     <column name="id" type="integer" required="true" primaryKey="true" autoIncrement="true" />
     <column name="user_id" type="integer" />
     <foreign-key foreignTable="ask_user">
       <reference local="user_id" foreign="id"/>
     </foreign-key>
     <column name="title" type="longvarchar" />
     <column name="body" type="longvarchar" />
     <column name="created_at" type="timestamp" />
     <column name="updated_at" type="timestamp" />
   </table>

   <table name="ask_answer" phpName="Answer">
     <column name="id" type="integer" required="true" primaryKey="true" autoIncrement="true" />
     <column name="question_id" type="integer" />
     <foreign-key foreignTable="ask_question">
```

```
      <reference local="question_id" foreign="id"/>
    </foreign-key>
    <column name="user_id" type="integer" />
    <foreign-key foreignTable="ask_user">
      <reference local="user_id" foreign="id"/>
    </foreign-key>
    <column name="body" type="longvarchar" />
    <column name="created_at" type="timestamp" />
  </table>

  <table name="ask_user" phpName="User">
    <column name="id" type="integer" required="true" primaryKey="true" autoIncrement="true" />
    <column name="nickname" type="varchar" size="50" />
    <column name="first_name" type="varchar" size="100" />
    <column name="last_name" type="varchar" size="100" />
    <column name="created_at" type="timestamp" />
  </table>

  <table name="ask_interest" phpName="Interest">
    <column name="question_id" type="integer" primaryKey="true" />
    <foreign-key foreignTable="ask_question">
      <reference local="question_id" foreign="id"/>
    </foreign-key>
    <column name="user_id" type="integer" primaryKey="true" />
    <foreign-key foreignTable="ask_user">
      <reference local="user_id" foreign="id"/>
    </foreign-key>
    <column name="created_at" type="timestamp" />
  </table>

  <table name="ask_relevancy" phpName="Relevancy">
    <column name="answer_id" type="integer" primaryKey="true" />
    <foreign-key foreignTable="ask_answer">
      <reference local="answer_id" foreign="id"/>
    </foreign-key>
    <column name="user_id" type="integer" primaryKey="true" />
    <foreign-key foreignTable="ask_user">
      <reference local="user_id" foreign="id"/>
    </foreign-key>
    <column name="score" type="integer" />
    <column name="created_at" type="timestamp" />
  </table>

</database>
```

Notice that the database name is set to `propel` in this file, whatever the actual database name. This is a parameter used to connect the Propel layer to the symfony framework. The actual name of the database will be defined in the `databases.yml` configuration file (see below).

There is another way to create a `schema.xml` if you have an existing database. That is, if you are familiar with a graphical database design tool, you will prefer to build the schema from the generated MySQL database. Before you do that, you just need to edit the `propel.ini` file located in the `askeet/config/` directory and enter the connection settings to your database:

```
propel.database.url = mysql://username:password@localhost/databasename
```

...where `username`, `password`, `localhost` and `databasename` are the actual connection settings of your database. You can now call the `propel-build-schema` command (from the `askeet/` directory) to generate the `schema.xml` from the database:

```
$ symfony propel-build-schema
```

> **Note**: some tools allow you to build a database graphically (for instance Fabforce's Dbdesigner) and generate directly a `schema.xml` (with DB Designer 4 TO Propel Schema Converter).

Object model build

To use the InnoDB engine, one line has to be added to the `propel.ini` file of the `askeet/config/` directory:

```
propel.mysql.tableType = InnoDB
```

Once the `schema.xml` is built, you can generate an object model based on the relational model. In symfony, the object relational mapping is handled by Propel, but encapsulated into the symfony command:

```
$ symfony propel-build-model
```

This command (you need to call it from the root directory of the askeet project) will generate the classes corresponding to the tables defined in the schema, together with standard accessors (`->get()` and `->set()` methods). You can look at the generated code in the `askeet/lib/model/om/` directory. If you wonder why there are two classes per table, go and check the model chapter of the symfony book. These classes will be overridden each time that you do a `build-model`, and this will happen a lot in this project. So if you need to add methods to the model objects, you have to modify the ones located in the `askeet/lib/model/` directory - these classes inherit from the `/om` ones.

The database

Connection

Now that symfony has an object model of the database, it is time to connect your project to the MySQL database. First, you have to create a database in MySQL:

```
$ mysqladmin -u youruser -p create askeet
```

Now open the `askeet/config/databases.yml` configuration file. If this is your first time with symfony, you will discover that the symfony configuration files are written in YAML. The syntax is very simple, but there is one major obligation in YAML files: never use tabulations, always use spaces. Once you know that, you are ready to edit the file and enter the actual connection settings to your database under the `all:` category:

```
all:
  propel:
    class:      sfPropelDatabase
    param:
      phptype:  mysql
      host:     localhost
      database: askeet
      username: youruser
      password: yourpasswd
```

If you want to know more about symfony configuration and YAML files, read the configuration in practice chapter of the symfony book.

Build

If you didn't write the `schema.xml` file by hand, you probably already have the corresponding tables in your database. You can then skip this part.

For you keyboard fans, here is a surprise: You don't need to create the tables and the columns in the MySQL database. You did it once in the `schema.xml`, so symfony will build the SQL statement creating all that for you:

```
$ symfony propel-build-sql
```

This command creates a `schema.sql` in the `askeet/data/sql/` directory. Use it as a SQL command in MySQL:

```
$ mysql -u youruser -p askeet < data/sql/schema.sql
```

Test data access via a CRUD

It is always good to see that the work done is useful. Until now, your browser wasn't of any use, and yet we are supposed to build a web application... So let's create a basic set of symfony templates and actions to manipulate the data of the 'question' table. This will allow you to create a few questions and display them.

In the `askeet/` directory, type:

```
$ symfony propel-generate-crud frontend question Question
```

This generates a scaffolding for a `question` module in the `frontend` application, based on the `Question` Propel object model, with basic Create Retrieve Update Delete actions (which explains the CRUD acronym). Don't get confused: A scaffolding is not a finished application, but the basic structure on top of which you can develop new features, add business rules and customize the look and feel.

The list of all the actions created by a CRUD generator is:

Action name	Description
list	shows all the records of a table
index	forwards to list
show	shows all the fields of a given record

edit	displays a form to create a new record or edit an existing one
update	modifies a record according to the parameters given in the request, then forwards to show
delete	deletes a given record from the table

You can find more about generated actions in the scaffolding chapter of the symfony book.

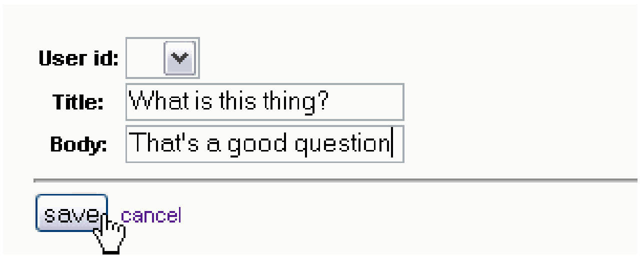
In the `askeet/apps/frontend/modules/` directory, notice the new `question` module and browse its source.

Whenever you add a new class that need to be autoloaded, don't forget to clear the config cache (to reload the autoloading cache):

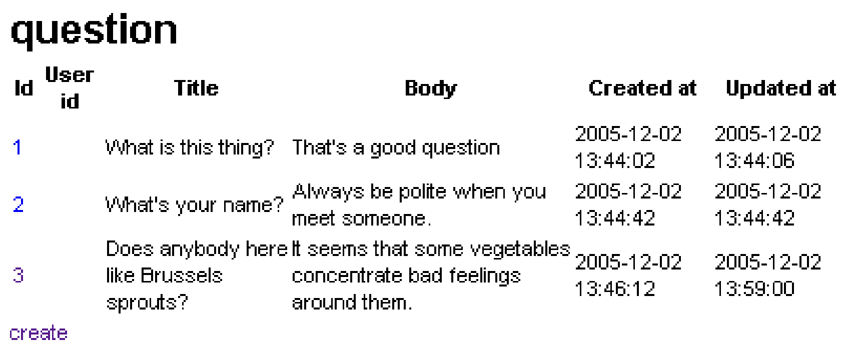
```
$ symfony cc frontend config
```

You can now test it online by requesting:

```
http://askeet/question
```



User id:	
Title:	What is this thing?
Body:	That's a good question



question

Id	User id	Title	Body	Created at	Updated at
1		What is this thing?	That's a good question	2005-12-02 13:44:02	2005-12-02 13:44:06
2		What's your name?	Always be polite when you meet someone.	2005-12-02 13:44:42	2005-12-02 13:44:42
3		Does anybody here like Brussels sprouts?	It seems that some vegetables concentrate bad feelings around them.	2005-12-02 13:46:12	2005-12-02 13:59:00

create

Go ahead, play with it. Add a few questions, edit them, list them, delete them. If it works, this means that the object model is correct, that the connection to the database is correct, and that the mapping between the relational model of the database and the object model of symfony is correct. That's a good functional test.

See you Tomorrow

You didn't write one line of PHP, and yet you have a basic application to use. That's not bad for the second day. Tomorrow, we'll start writing some code in order to have a welcoming home page that displays the list of questions. We will also add test data to our database using a batch process, and learn how to extend the model.

Now that you know what the application will do, you may be able to imagine an additional feature to it. Feel free to suggest anything using the askeet mailing-list, the most popular idea will become the 21st day addition of this symfony advent calendar.

Feel free to browse the source of today's tutorial (tag `release_day_2`) at:

```
http://svn.askeet.com/tags/release_day_2
```

symfony advent calendar day three: dive into the MVC architecture

Previously on symfony

During day two you learned how to build an object model based on a relational data model, and generate scaffolding for one of these objects. By the way, the code of the application generated during the previous days is available in the askeet SVN repository at:

```
http://svn.askeet.com/
```

The objectives for the third day are to define a nicer layout for the site, define the list of questions as the default homepage, show the number of users interested by one question, and populate the database from sample text files in order to have test data. That's not much to do, but quite a lot to read and understand.

To read this tutorial, you should be familiar with the concepts of project, application, module and action in symfony as explained in the controller chapter of the symfony book.

The MVC model

Today will be the first dive in the world of the MVC architecture. What does this mean? Simply that the code used to generate one page is located in various files according to its nature.

If the code concerns data manipulation independent from a page, it should be located in the **Model** (most of the time in `askeet/lib/model/`). If it concerns the final presentation, it should be located in the **View**; in symfony, the view layer relies on templates (for instance in `askeet/apps/frontend/modules/question/templates/`) and configuration files. Eventually, the code dedicated to tie all this together and to translate the site logic into good old PHP is located in the **Controller**, and in symfony the controller for a specific page is called an action (look for actions in `askeet/apps/frontend/modules/question/actions/`). You can read more about this model in the MVC implementation in symfony chapter of the symfony book.

While our applications view will only change slightly today, we will manipulate a lot of different files. Don't panic though, since the organization of files and the separation of the code in various layers will soon become evident and very useful.

Change the layout

In application of the decorator design pattern, the content of the template called by an action is integrated into a global template, or layout. In other words, the layout contains all the invariable parts of the interface, it "decorates" the result of actions. Open the default layout (located in `askeet/apps/frontend/templates/layout.php`) and change it to the following:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/x
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en" lang="en">
```

```
<head>

<?php echo include_http_metas() ?>
<?php echo include_metas() ?>

<?php echo include_title() ?>

<link rel="shortcut icon" href="/favicon.ico" />

</head>
<body>

  <div id="header">
    <ul>
      <li><?php echo link_to('about', '@homepage') ?></li>
    </ul>
    <h1><?php echo link_to(image_tag('askeet_logo.gif', 'alt=askeet'), '@homepage') ?></h1>
  </div>

  <div id="content">
    <div id="content_main">
      <?php echo $sf_data->getRaw('sf_content') ?>
      <div class="verticalalign"></div>
    </div>

    <div id="content_bar">
      <!-- Nothing for the moment -->
      <div class="verticalalign"></div>
    </div>
  </div>

</body>
</html>
```

Note: We tried to keep the markup as semantic as possible, and to move all the styling into the CSS stylesheets. These stylesheets won't be described here, since CSS syntax is not the purpose of this tutorial. They are available for download though, in the SVN repository.

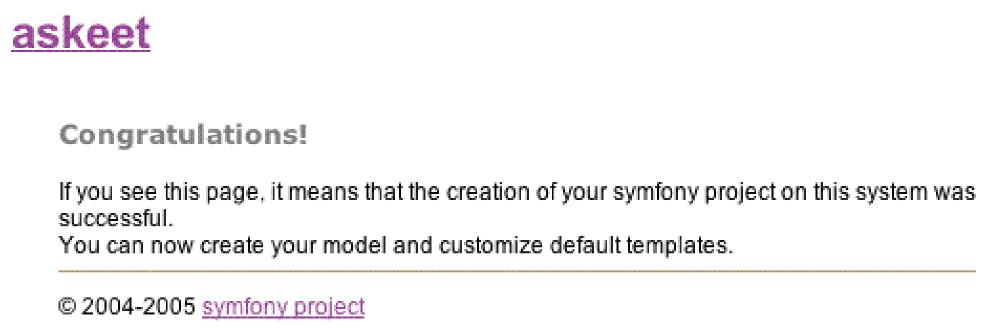
We created two stylesheets (`main.css` and `layout.css`). Copy them into your `askeet/web/css/` directory and edit your `frontend/config/view.yml` to change the autoloaded stylesheets:

```
stylesheets:    [main, layout]
```

This layout is still lightweight for the moment, it will be rebuilt later (in about a week). The important things in this template are the `<head>` part, which is mostly generated, and the `sf_content` variable, which contains the result of the actions.

Check that the modifications display correctly by requesting the home page - this time in the development environment:

```
http://askeet/frontend_dev.php/
```



askeet

Congratulations!

If you see this page, it means that the creation of your symfony project on this system was successful.
You can now create your model and customize default templates.

© 2004-2005 symfony project

A few words about environments

If you wonder what the difference between `http://askeet/frontend_dev.php/` and `http://askeet/` is, you should probably have a look at the configuration chapter of the symfony book. For now, you just need to know that they point to the same application, but in different environments. An environment is a unique configuration, where some features of the framework can be activated or deactivated as required.

In this case, the `/frontend_dev.php/` URL points to the **development environment**, where the whole configuration is parsed at each request, the HTML cache is deactivated, and the debug tools are all available (including a semi-transparent toolbar located at the top right corner of the window). The `/` URL - equivalent to `/index.php/` - points to the **production environment**, where the configuration is "compiled" and the debug tools deactivated to speed up the delivery of pages.

These two PHP scripts - `frontend_dev.php` and `index.php` - are called **front controllers**, and all the requests to the application are handled by them. You can find them in the `askeet/web/` directory. As a matter of fact, the `index.php` file should be named `frontend_prod.php`, but as `frontend` is the first application that you created, symfony deduced that you probably wanted it to be the default application and renamed it to `index.php`, so that you can see your application in the production environment by just requesting `/`. If you want to learn more about the front controllers and the Controller layer of the MVC model in general, refer to the controller chapter in the symfony book.

A good rule of thumb is to navigate in the development environment until you are satisfied with the feature you are working on, then switch to the production environment to check its speed and "nice" URLs.

> **Note**: Remember to always clear the cache when you add some classes or when you change some configuration files to see the result in the production environment.

Redefine the default homepage

For now, if you request the home page of the new website, it shows a 'Congratulations' page. A better idea would be to show the list of questions (referenced in these documents as `question/list` and translated as: the `list` action of the `question` module). To do this, open the routing configuration file of the frontend application, found in `askeet/apps/frontend/config/routing.yml` and locate the `homepage:` section. Change it to:

```
homepage:
  url:   /
  param: { module: question, action: list }
```

Refresh the home page in the development environment (`http://askeet/frontend_dev.php/`); it now displays the list of questions.

> **Note**: if you are a curious person, you might have looked for this page containing the 'Congratulations' message. And you might be surprised not to find it in your `askeet` directory. As a matter of fact, the template for the `default/index` action is defined in the symfony data directory and is independent from the project. If you want to override it, you can still create a `default` module in your own project.

The possibilities offered by the routing system will be detailed in the near future, but if you are interested, you can read the routing chapter of the symfony book.

Define test data

The list displayed by the home page will remain quite empty, unless you add your own questions. When you develop an application, it is a good idea to have some test data at your disposal. Entering test data by hand (either via the CRUD interface of directly in the database) can be a real pain, that's why symfony can use text files to populate databases.

We'll create a test data file in the `askeet/data/fixtures/` directory (this directory has to be created). Create a file called `test_data.yml` with the following content:

```
User:
  anonymous:
    nickname:   anonymous
    first_name: Anonymous
    last_name:  Coward

  fabien:
    nickname:   fabpot
    first_name: Fabien
    last_name:  Potencier

  francois:
    nickname:   francoisz
    first_name: FranÃ§ois
    last_name:  Zaninotto

Question:
  q1:
    title: What shall I do tonight with my girlfriend?
    user_id: fabien
    body:  |
      We shall meet in front of the Dunkin'Donuts before dinner,
      and I haven't the slightest idea of what I can do with her.
      She's not interested in programming, space opera movies nor insects.
      She's kinda cute, so I really need to find something
      that will keep her to my side for another evening.
  q2:
    title: What can I offer to my step mother?
    user_id: anonymous
    body:  |
      My stepmother has everything a stepmother is usually offered
      (watch, vacuum cleaner, earrings, del.icio.us account).
      Her birthday comes next week, I am broke, and I know that
      if I don't offer her something sweet, my girlfriend
      won't look at me in the eyes for another month.

  q3:
    title: How can I generate traffic to my blog?
    user_id: francois
    body:  |
      I have a very swell blog that talks
      about my class and mates and pets and favorite movies.

Interest:
  i1: { user_id: fabien, question_id: q1 }
  i2: { user_id: francois, question_id: q1 }
  i3: { user_id: francois, question_id: q2 }
  i4: { user_id: fabien, question_id: q2 }
```

First of all, you may recognize YAML here. If you are not familiar with symfony, you might not know that the YAML format is the favorite format for configuration files in the framework. It is not exclusive - if you are attached to XML or .ini files, it is very easy to add a configuration handler to allow symfony to read them. If you have time and patience, read more about YAML and the symfony configuration files in the configuration in practice chapter of the symfony book. As of now, if you are not familiar with the YAML syntax, you should get started right away, since this tutorial will use it extensively.

Ok, back to the test data file. It defines instances of objects, labeled with an internal name. This label is of great use to link related objects without having to define `ids` (which are often auto-incremented and can not be set). For instance, the first object created is of class `User`, and is labeled `fabien`. The first `Question` is labeled `q1`. This makes it easy to create an object of class `Interest` by mentioning the related object labels:

```
Interest:
  i1:
    user_id: fabien
    question_id: q1
```

The data file given previously uses the short YAML syntax to say the same thing. You can find more about data population files in the data files chapter of the symfony book.

> **Note**: There is no need to define values for the `created_at` and `updated_at` columns, since symfony knows how to fill them by default.

Create a batch to populate the database

The next step is to actually populate the database, and we wish to do that with a PHP script that can be called with a command line - a batch.

Batch skeleton

Create a file called `load_data.php` in the `askeet/batch/` directory with the following content:

```
<?php

define('SF_ROOT_DIR',    realpath(dirname(__FILE__).'/..'));
define('SF_APP',         'frontend');
define('SF_ENVIRONMENT', 'dev');
define('SF_DEBUG',       true);

require_once(SF_ROOT_DIR.DIRECTORY_SEPARATOR.'apps'.DIRECTORY_SEPARATOR.SF_APP.DIRECTORY_SEPARATO

// initialize database manager
$databaseManager = new sfDatabaseManager();
$databaseManager->initialize();

?>
```

This script does nothing, or close to nothing: it defines a path, an application and an environment to get to a configuration, loads that configuration, and initializes the database manager. But that' already a lot: that means that all the code written below will take advantage of the auto-loading of classes, automatic connection to Propel objects, and the symfony root classes.

> **Note**: If you have examined symfony's front controllers (like `askeet/web/index.php`), you might find this code extremely familiar. That's because every web request requires access to the same objects and configuration, as a batch request does.

Data import

Now that the frame of the batch is ready, it is time to make it do something. The batch has to:

1. read the YAML file
2. Create instances of Propel objects
3. Create the related records in the tables of the linked database

This might sound complicated, but in symfony, you can do that with two lines of code, thanks to the `sfPropelData` object. Just add the following code before the final `?>` in the `askeet/batch/load_data.php` script:

```
$data = new sfPropelData();
$data->loadData(sfConfig::get('sf_data_dir').DIRECTORY_SEPARATOR.'fixtures');
```

That's all. A `sfPropelData` object is created, and told to load all the data of a specific directory - our `fixtures` directory - into the database defined in the `databases.yml` configuration file.

> **Note**: The `DIRECTORY_SEPARATOR` constant is used here to be compatible with Windows and *nix platforms.

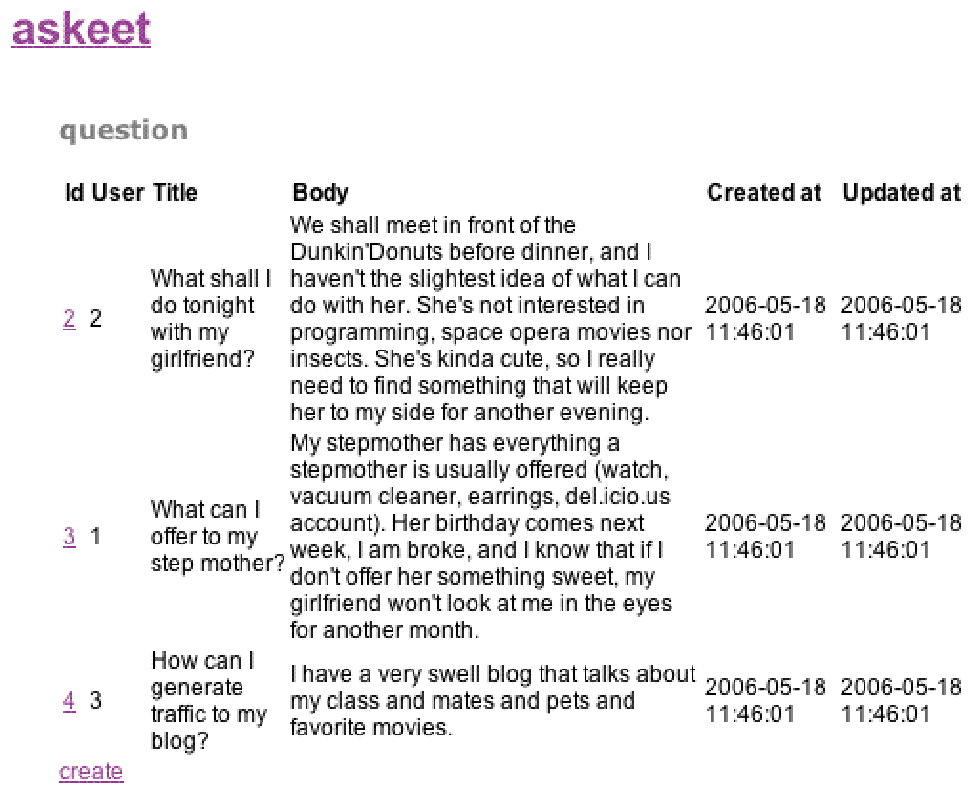
Launch the batch

At last, you can check if these few lines of code were worth the hassle. type in the command line:

```
$ cd /home/sfprojects/askeet/batch
$ php load_data.php
```

Check the modifications in the database by refreshing the development home page again:

```
http://askeet/frontend_dev.php
```



question

Id	User	Title	Body	Created at	Updated at
2	2	What shall I do tonight with my girlfriend?	We shall meet in front of the Dunkin'Donuts before dinner, and I haven't the slightest idea of what I can do with her. She's not interested in programming, space opera movies nor insects. She's kinda cute, so I really need to find something that will keep her to my side for another evening.	2006-05-18 11:46:01	2006-05-18 11:46:01
3	1	What can I offer to my step mother?	My stepmother has everything a stepmother is usually offered (watch, vacuum cleaner, earrings, del.icio.us account). Her birthday comes next week, I am broke, and I know that if I don't offer her something sweet, my girlfriend won't look at me in the eyes for another month.	2006-05-18 11:46:01	2006-05-18 11:46:01
4	3	How can I generate traffic to my blog?	I have a very swell blog that talks about my class and mates and pets and favorite movies.	2006-05-18 11:46:01	2006-05-18 11:46:01

create

Hooray, the data is there.

Note: By default, the `sfPropelData` object deletes all your data before loading the new ones. You can also append to the current data:

```
$data = new sfPropelData();
$data->setDeleteCurrentData(false);
$data->loadData(sfConfig::get('sf_data_dir').DIRECTORY_SEPARATOR.'fixtures');
```

Accessing the data in the model

The page displayed when requesting the `list` action of the `question` module is the result of the `executeList()` method (found in the askeet/apps/frontend/modules/question/actions/action.class.php action file) passed to the askeet/apps/frontend/modules/question/templates/listSuccess.php template. This is based on a naming convention that is explained in the controller chapter of the symfony book. Let's have a look at the code that is executed:

actions.class.php:

```
public function executeList ()
{
  $this->questions = QuestionPeer::doSelect(new Criteria());
}
```

listSuccess.php:

```
...
<?php foreach ($questions as $question): ?>
<tr>
    <td><?php echo link_to($question->getId(), 'question/show?id='.$question->getId()) ?></td>
    <td><?php echo $question->getTitle() ?></td>
    <td><?php echo $question->getBody() ?></td>
    <td><?php echo $question->getCreatedAt() ?></td>
    <td><?php echo $question->getUpdatedAt() ?></td>
  </tr>
<?php endforeach; ?>
```

Step-by-step, here is what it does:

1. The action requires the records of the Question table that satisfy an empty criteria - i.e. all the questions
2. This list of records is put in an array ($questions) that is passed to the template
3. The template iterates over all the questions passed by the action
4. The templates shows the value of the columns of each record

The ->getId(), ->getTitle(), ->getBody(), etc. methods were created during the symfony propel-build-model command call (do you remember yesterday ?) to retrieve the value of the id, title, body, etc. fields. These are standard getters, formed by adding the prefix get to the camelCased field name - and Propel also provides standard setters, prefixed with set. The Propel documentation describes the accessors created for each class.

As for the mysterious QuestionPeer::doSelect(new Criteria()) call, it is also a standard Propel request. The Propel documentation will explain it thoroughly.

Don't worry if you don't understand all the code written above, it will become clearer in a few days.

Modify the question/list template

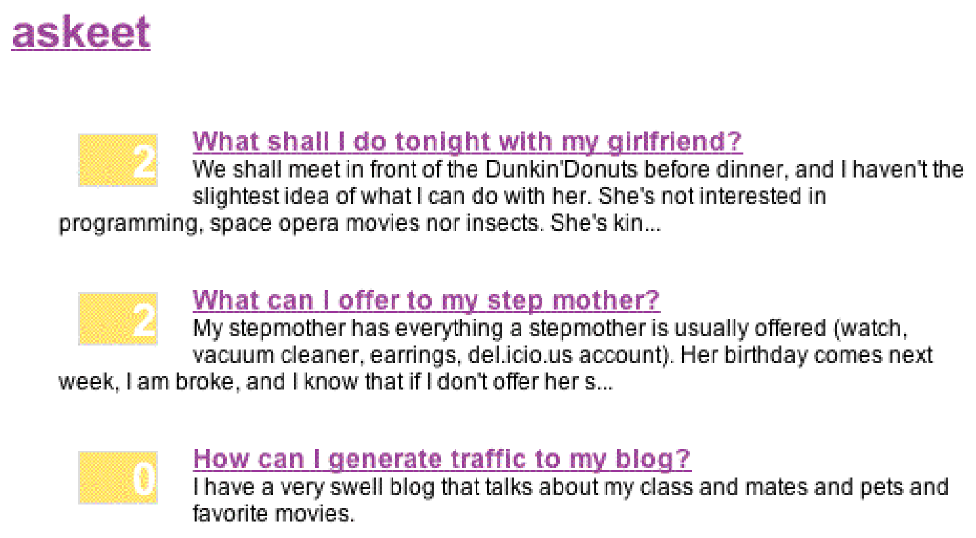
Now that the database contains interests for questions, it should be easy to get the number of interested users for one question. If you have a look at the BaseQuestion.php class generated by Propel in the askeet/lib/model/om/ directory, you will notice a ->getInterests() method. Propel saw the question_id foreign key in the Interest table definition, and deduced that a question has several interests. This makes it very easy to display what we want by modifying the `listSuccess.php` template, located in `askeet/apps/frontend/modules/question/templates/`. In the process, we'll remove the ugly tables and replace them with nice divs:

```
<?php use_helper('Text') ?>

<h1>popular questions</h1>

<?php foreach($questions as $question): ?>
  <div class="question">
    <div class="interested_block">
      <div class="interested_mark" id="interested_in_<?php echo $question->getId() ?>">
        <?php echo count($question->getInterests()) ?>
      </div>
    </div>

    <h2><?php echo link_to($question->getTitle(), 'question/show?id='.$question->getId()) ?></h2>

    <div class="question_body">
      <?php echo truncate_text($question->getBody(), 200) ?>
    </div>
  </div>
<?php endforeach; ?>
```

You recognize here the same `foreach` loop as in the original `listSuccess.php`. The `link_to()` and the `truncate_text()` functions are **template helpers** provided by symfony. The first one creates a hyperlink to another action of the same module, and the second one truncates the body of the question to 200 characters. The `link_to()` helper is auto-loaded, but you have to declare the use of the `Text` group of helpers to use `truncate_text()`.

Come on, try on your new template by refreshing the development homepage again.

```
http://askeet/frontend_dev.php/
```


askeet

2 What shall I do tonight with my girlfriend?
We shall meet in front of the Dunkin'Donuts before dinner, and I haven't the slightest idea of what I can do with her. She's not interested in programming, space opera movies nor insects. She's kin...

2 What can I offer to my step mother?
My stepmother has everything a stepmother is usually offered (watch, vacuum cleaner, earrings, del.icio.us account). Her birthday comes next week, I am broke, and I know that if I don't offer her s...

0 How can I generate traffic to my blog?
I have a very swell blog that talks about my class and mates and pets and favorite movies.

The number of interested users appears correctly close to each question. To get the presentation of the above capture, download the `main.css` stylesheet and put it in your `askeet/web/css/` directory.

Cleanup

The `propel-generate-crud` command created some actions and templates that will not be needed. It's time to remove them.

Actions to remove in `askeet/apps/frontend/modules/question/actions/actions.class.php`:

- `executeIndex`
- `executeEdit`
- `executeUpdate`
- `executeCreate`
- `executeDelete`

Template to remove in `askeet/apps/frontend/modules/question/templates/`:

- `editSuccess.php`

See you Tomorrow

Today was a great first step in the world of the Model-View-Controller paradigm: By manipulating layouts, templates, actions and object of the Propel object model, you accessed all the layers of a MVC structured application. Don't worry if you don't understand all the bridges between these layers: It will become clearer little by little.

Many files were opened today, and if you want to know how files are organized in a project, refer to the file structure chapter of the symfony book.

Tomorrow will be another great day: We will modify views, setup a more complex routing policy, modify the model, and dig deeper into data manipulation and links between tables.

Until then, sleep tight, and feel free to browse the source of today's tutorial (tag `release_day_3`) at:

```
http://svn.askeet.com/tags/release_day_3
```

symfony advent calendar day four: refactoring

Previously on symfony

During day three, all the layers of a MVC architecture were shown and modified to have the list of questions properly displayed on the homepage. The application is getting nicer but still lacks content.

The objectives for the fourth day are to show the list of answers to a question, to give a nice URL to the question detail page, to add a custom class, and to move some chunk of codes to a better place. This should help you understand the concepts of template, model, routing policy, and refactoring. You may think that it is too early to rewrite code that is only a few days old, but we'll see how you feel about it at the end of this tutorial.

To read this tutorial, you should be familiar with the concepts of the MVC implementation in symfony. It would also help if you had an idea about what agile development is.

Show the answers to a question

First, let's continue the adaptation of the templates generated by the `Question` CRUD during day two

The `question/show` action is dedicated to display the details of a question, provided that you pass it an `id`. To test it, just call :

```
http://askeet/frontend_dev.php/question/show/id/1
```

question detail

You probably already saw the `show` page if you played with the application before. This is where we are going to add the answers to a question.

A quick look at the action

First, let's have a look at the `show` action, located in the `askeet/apps/frontend/modules/question/actions/actions.class.php` file:

```
public function executeShow()
 {
   $this->question = QuestionPeer::retrieveByPk($this->getRequestParameter('id'));
   $this->forward404Unless($this->question);
 }
```

If you are familiar with Propel, you recognize here a simple request to the `Question` table. It is aimed to get the unique record having the value of the `id` parameter of the request as a primary key. In the example given in the URL above, the `id` parameter has a value of `1`, so the `->retrieveByPk()` method of the `QuestionPeer` class will return the object of class `Question` with `1` as a primary key. If you are not familiar with Propel, come back after you've read some documentation on their website.

The result of this request is passed to the `showSuccess.php` template through the `$question` variable.

The `->getRequestParameter('id')` method of the `sfAction` object gets... the request parameter called `id`, whether it is passed in a GET or in a POST mode. For instance, if you require:

```
http://askeet/frontend_dev.php/question/show/id/1/myparam/myvalue
```

...then the `show` action will be able to retrieve `myvalue` by requesting `$this->getRequestParameter('myparam')`.

> **Note**: The `forward404Unless()` method sends to the browser a 404 page if the question does not exist in the database. It's always a good pratice to deal with edge cases and errors that can occur during execution and symfony gives you some simple methods to help you do the right thing easily.

Modify the `showSuccess.php` template

The generated `showSuccess.php` template is not exactly what we need, so we will completely rewrite it. Open the `frontend/modules/question/templates/showSuccess.php` file and replace its content by:

```
<?php use_helper('Date') ?>

<div class="interested_block">
  <div class="interested_mark">
    <?php echo count($question->getInterests()) ?>
  </div>
</div>

<h2><?php echo $question->getTitle() ?></h2>

<div class="question_body">
  <?php echo $question->getBody() ?>
</div>

<div id="answers">
<?php foreach ($question->getAnswers() as $answer): ?>
  <div class="answer">
    posted by <?php echo $answer->getUser()->getFirstName().' '.$answer->getUser()->getLastName()
    on <?php echo format_date($answer->getCreatedAt(), 'p') ?>
    <div>
      <?php echo $answer->getBody() ?>
    </div>
  </div>
<?php endforeach; ?>
</div>
```

You recognize here the `interested_block` div that was already added to the `listSuccess.php` template yesterday. It just displays the number of interested users for a given question. After that, the markup also looks very much like the one of the `list`, except that there is no `link_to` on the title. It is just a rewriting of the initial code to display only the necessary information about a question.

The new part is the `answers` div. It displays all the answers to the question (using the simple `$question->getAnswers()` Propel method), and for each of them, shows the total relevancy, the name of the author, and the creation date in addition to the body.

The `format_date()` is another example of template helpers for which an initial declaration is required. You can find more about this helper's syntax and other helpers in the internationalization helpers chapter of the symfony book (these helpers speed up the tedious task of displaying dates in a good looking format).

> **Note**: Propel creates method names for linked tables by adding an 's' automatically at the end of the table name. Please forgive the ugly `->getRelevancys()` method since it saves you several lines of SQL code.

Add some new test data

It is time to add some data for the `answer` and `relevancy` tables at the end of the `data/fixtures/test_data.yml` (feel free to add your own):

```
Answer:
  a1_q1:
    question_id: q1
    user_id:     francois
    body:        |
      You can try to read her poetry. Chicks love that kind of things.

  a2_q1:
    question_id: q1
    user_id:     fabien
    body:        |
      Don't bring her to a donuts shop. Ever. Girls don't like to be
      seen eating with their fingers - although it's nice.

  a3_q2:
    question_id: q2
    user_id:     fabien
    body:        |
      The answer is in the question: buy her a step, so she can
      get some exercise and be grateful for the weight she will
      lose.

  a4_q3:
    question_id: q3
    user_id:     fabien
    body:        |
      Build it with symfony - and people will love it.
```

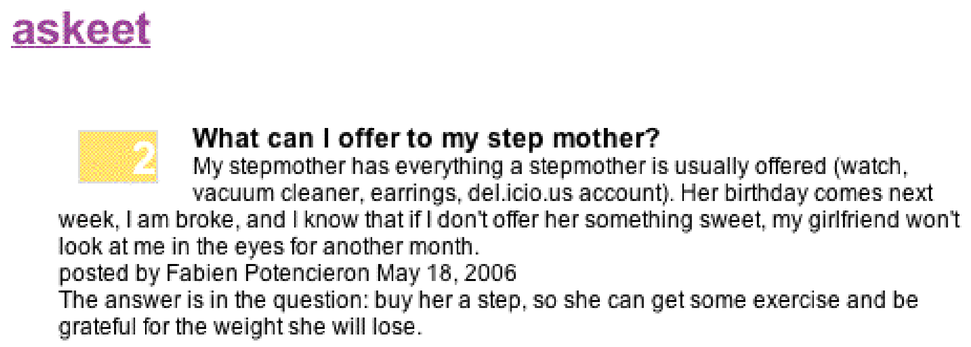
Reload your data with:

```
$ php batch/load_data.php
```

Navigate to the action showing the first question to check if the modifications were successful:

```
http://askeet/frontend_dev.php/question/show/id/XX
```

Note: Replace XX with the current `id` of your first question.


askeet

2

What can I offer to my step mother?

My stepmother has everything a stepmother is usually offered (watch, vacuum cleaner, earrings, del.icio.us account). Her birthday comes next week, I am broke, and I know that if I don't offer her something sweet, my girlfriend won't look at me in the eyes for another month.

posted by Fabien Potencieron May 18, 2006

The answer is in the question: buy her a step, so she can get some exercise and be grateful for the weight she will lose.

The question is now displayed in a fancier way, followed by the answers to it. That's better, isn't it?

Modify the model, part I

It is almost certain that the full name of an author will be needed somewhere else in the application. You can also consider that the full name is an attribute of the `User` object. This means that their should be a method in the `User` model allowing to retrieve the full name, instead of reconstructing it in an action. Let's write it. Open the `askeet/lib/model/User.php` and add in the following method:

```
public function __toString()
{
  return $this->getFirstName().' '.$this->getLastName();
}
```

Why is this method named `__toString()` instead of `getFullName()` or something similar? Because the `__toString()` method is the default method used by PHP5 for object representation as string. This means that you can replace the

```
posted by <?php echo $answer->getUser()->getFirstName().' '.$answer->getUser()->getLastName() ?>
```

line of the `askeet/apps/frontend/modules/question/templates/showSuccess.php` template by a simpler

```
posted by <?php echo $answer->getUser() ?>
```

to achieve the same result. Neat, isn't it ?

Don't repeat yourself

One of the good principles of agile development is to avoid duplicating code. It says "Don't Repeat Yourself" (D.R.Y.). This is because duplicated code is twice as long to review, modify, test and validate than a unique encapsulated chunk of code. It also makes application maintenance much more complex. And if you paid attention to the last part of today's tutorial, you probably noticed some duplicated code between the `listSuccess.php` template written yesterday and the `showSuccess.php` template:

```
<div class="interested_block">
  <div class="interested_mark">
    <?php echo count($question->getInterests()) ?>
  </div>
</div>
```

So our first session of refactoring will remove this chunk of code from the two templates and put it in a **fragment**, or reusable chunk of code. Create an `_interested_user.php` file in the `askeet/apps/frontend/modules/question/template/` directory with the following code:

```
<div class="interested_mark">
  <?php echo count($question->getInterests()) ?>
</div>
```

Then, replace the original code in both templates (`listSuccess.php` and `showSuccess.php`) with:

```
<div class="interested_block">
  <?php include_partial('interested_user', array('question' => $question)) ?>
</div>
```

A fragment doesn't have native access to any of the current objects. The fragment uses a `$question` variable, so it has to be defined in the `include_partial` call. The additional _ in front of the fragment file name helps to easily distinguish fragments from actual templates in the `template/` directories. If you want to learn more about fragments, read the view chapter of the symfony book.

Modify the model, part II

The `$question->getInterests()` call of the new fragment does a request to the database and returns an array of objects of class `Interest`. This is a heavy request for just a number of interested persons, and it might load the database too much. Remember that this call is also done in the `listSuccess.php` template, but this time in a loop, for each question of the list. It would be a good idea to optimize it.

One good solution is to add a column to the `Question` table called `interested_users`, and to update this column each time an interest about the question is created.

> **Caution**: We are about to modify the model without any apparent way to test it, since there is currently no way to add `Interest` records through askeet. You should never modify something without any way to test it.
>
> Luckily, we do have a way to test this modification, and you will discover it later in this part.

Add a field to the `User` object model

Go without fear and modify the `askeet/config/schema.xml` data model by adding to the `ask_question` table:

```
<column name="interested_users" type="integer" default="0" />
```

Then rebuild the model:

```
$ symfony propel-build-model
```

That's right, we are already rebuilding the model without worrying about existing extensions to it! This is because the extension to the `User` class was made in the `askeet/lib/model/User.php`, which inherits from the Propel generated `askeet/lib/model/om/BaseUser.php` class. That's why you should never edit the code of the `askeet/lib/model/om/` directory: it is overridden each time a `build-model` is called. Symfony helps to ease the normal life cycle of model changes in the early stages of any web project.

You also need to update the actual database. To avoid writing some SQL statement, you should rebuild your SQL schema and reload your test data:

```
$ symfony propel-build-sql
$ mysql -u youruser -p askeet < data/sql/schema.sql
$ php batch/load_data.php
```

> **Note**: TIMTOWTDI: There is more than one way to do it. Instead of rebuilding the database, you can add the new column to the MySQL table by hand:
>
> ```
> $ mysql -u youruser -p askeet -e "alter table ask_question add interested_users int defaul
> ```

Modify the `save()` method of the `Interest` object

Updating the value of this new field has to be done each time a user declares its interest for a question, i.e. each time a record is added to the `Interest` table. You could implement that with a trigger in MySQL, but that would be a database dependent solution, and you wouldn't be able to switch to another database as easily.

The best solution is to modify the model by overriding the `save()` method of the `Interest` class. This method is called each time an object of class `Interest` is created. So open the `askeet/lib/model/Interest.php` file and write in the following method:

```
public function save($con = null)
{
    $ret = parent::save($con);

    // update interested_users in question table
    $question = $this->getQuestion();
    $interested_users = $question->getInterestedUsers();
    $question->setInterestedUsers($interested_users + 1);
    $question->save($con);

    return $ret;
}
```

The new `save()` method gets the question related to the current interest, and increments its `interested_users` field. Then, it does the usual `save()`, but because a `$this->save();` would end up in an infinite loop, it uses the class method `parent::save()` instead.

Secure the updating request with a transaction

What would happen if the database failed between the update of the `Question` object and the one of the `Interest` object? You would end up with corrupted data. This is the same problem met in a bank when a money transfer means a first request to decrease the amount of an account, and a second request to increase another account.

If two request are highly dependent, you should secure their execution with a **transaction**. A transaction is the insurance that both requests will succeed, or none of them. If something wrong happens to one of the requests of a transaction, all the previously succeeded requests are cancelled, and the database returns to the state where it was before the transaction.

Our `save()` method is a good opportunity to illustrate the implementation of transactions in symfony. Replace the code by:

```
public function save($con = null)
{
  $con = Propel::getConnection();
  try
  {
    $con->begin();

    $ret = parent::save($con);

    // update interested_users in question table
    $question = $this->getQuestion();
    $interested_users = $question->getInterestedUsers();
    $question->setInterestedUsers($interested_users + 1);
    $question->save($con);

    $con->commit();

    return $ret;
  }
  catch (Exception $e)
  {
    $con->rollback();
    throw $e;
  }
}
```

First, the method opens a direct connection to the database through Creole. Between the `->begin()` and the `->commit()` declarations, the transaction ensures that all will be done or nothing. If something fails, an exception will be raised, and the database will execute a rollback to the previous state.

Change the template

Now that the `->getInterestedUsers()` method of the `Question` object works properly, it is time to simplify the `_interested_user.php` fragment by replacing:

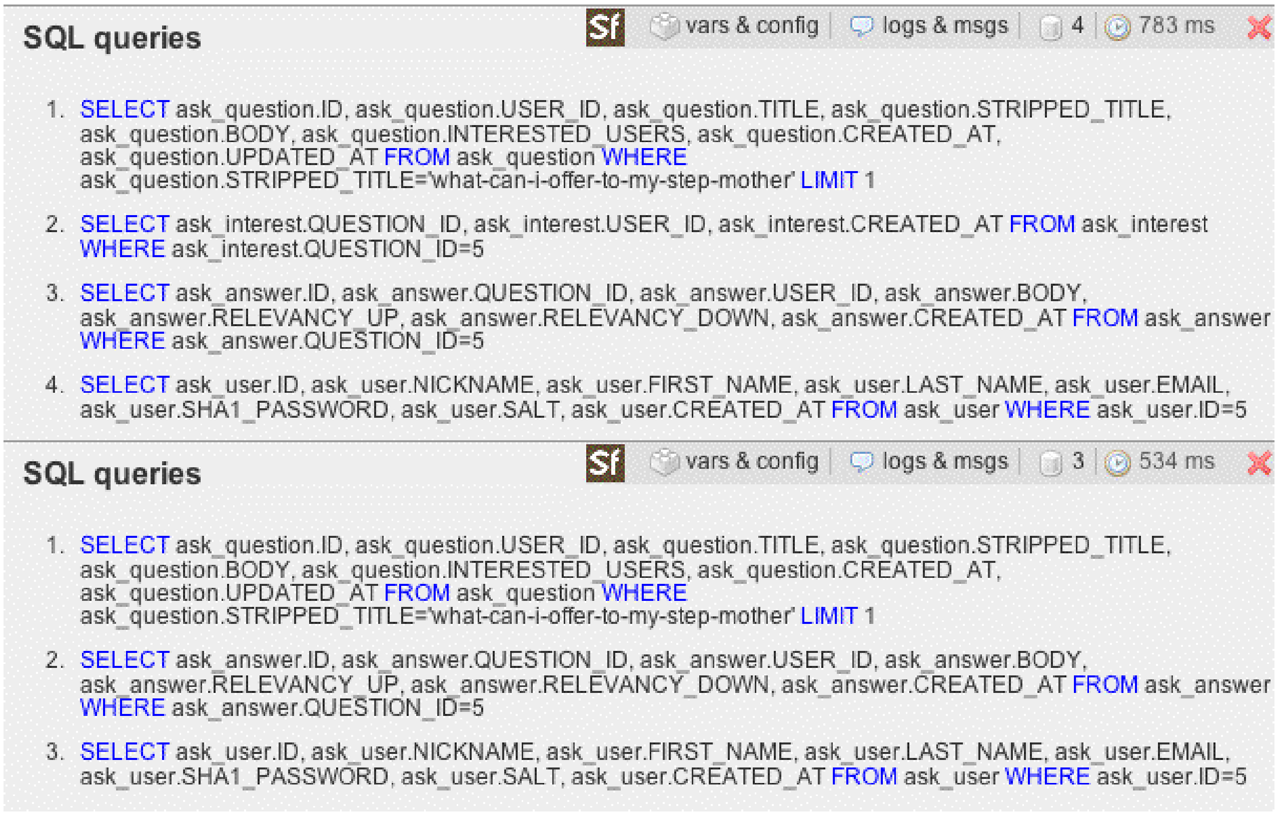
```
<?php echo count($question->getInterests()) ?>
```

by

```
<?php echo $question->getInterestedUsers() ?>
```

> **Note**: Thanks to our briliant idea to use a fragment instead of leaving duplicated code in the templates, this modification only needed to me made once. If not, we would have to modify the `listSuccess.php` AND `showSuccess.php` templates, and for lazy folks like us, that would have been overwhelming.

In terms of number of requests and execution time, this should be better. You can verify it with the number of database requests indicated in the web debug toolbar, after the database icon. Notice that you can also get the detail of the SQL queries for the current page by clicking on the database icon itself:


SQL queries

Sf vars & config | logs & msgs | 4 | 783 ms

1. SELECT ask_question.ID, ask_question.USER_ID, ask_question.TITLE, ask_question.STRIPPED_TITLE, ask_question.BODY, ask_question.INTERESTED_USERS, ask_question.CREATED_AT, ask_question.UPDATED_AT FROM ask_question WHERE ask_question.STRIPPED_TITLE='what-can-i-offer-to-my-step-mother' LIMIT 1
2. SELECT ask_interest.QUESTION_ID, ask_interest.USER_ID, ask_interest.CREATED_AT FROM ask_interest WHERE ask_interest.QUESTION_ID=5
3. SELECT ask_answer.ID, ask_answer.QUESTION_ID, ask_answer.USER_ID, ask_answer.BODY, ask_answer.RELEVANCY_UP, ask_answer.RELEVANCY_DOWN, ask_answer.CREATED_AT FROM ask_answer WHERE ask_answer.QUESTION_ID=5
4. SELECT ask_user.ID, ask_user.NICKNAME, ask_user.FIRST_NAME, ask_user.LAST_NAME, ask_user.EMAIL, ask_user.SHA1_PASSWORD, ask_user.SALT, ask_user.CREATED_AT FROM ask_user WHERE ask_user.ID=5

SQL queries

Sf vars & config | logs & msgs | 3 | 534 ms

1. SELECT ask_question.ID, ask_question.USER_ID, ask_question.TITLE, ask_question.STRIPPED_TITLE, ask_question.BODY, ask_question.INTERESTED_USERS, ask_question.CREATED_AT, ask_question.UPDATED_AT FROM ask_question WHERE ask_question.STRIPPED_TITLE='what-can-i-offer-to-my-step-mother' LIMIT 1
2. SELECT ask_answer.ID, ask_answer.QUESTION_ID, ask_answer.USER_ID, ask_answer.BODY, ask_answer.RELEVANCY_UP, ask_answer.RELEVANCY_DOWN, ask_answer.CREATED_AT FROM ask_answer WHERE ask_answer.QUESTION_ID=5
3. SELECT ask_user.ID, ask_user.NICKNAME, ask_user.FIRST_NAME, ask_user.LAST_NAME, ask_user.EMAIL, ask_user.SHA1_PASSWORD, ask_user.SALT, ask_user.CREATED_AT FROM ask_user WHERE ask_user.ID=5

Test the validity of the modification

We'll check that nothing is broken by requesting the `show` action again, but before that, run again the data import batch that we wrote yesterday:

```
$ cd /home/sfprojects/askeet/batch
$ php load_data.php
```

When creating the records of the `Interest` table, the `sfPropelData` object will use the overridden `save()` method and should properly update the related `User` records. So this is a good way to test the modification of the model, even if there is no CRUD interface with the `Interest` object built yet.

Check it by requesting the home page and the detail of the first question:

```
http://askeet/frontend_dev.php/
```

```
http://askeet/frontend_dev.php/question/show/id/XX
```

The number of interested users didn't change. That's a successful move!

Same for the answers

What was just done for the `count($question->getInterests())` could as well be done for the `count($answer->getRelevancys())`. The only difference will be that an answer can have positive and negative votes by users, while a question can only be voted as 'interesting'. Now that you understand how to modify the model, we can go fast. Here are the changes, just as a reminder. You don't have to copy them by hand for tomorrow's tutorial if you use the askeet SVN repository.

- Add the following columns to the `answer` table in the `schema.xml`

  ```
  <column name="relevancy_up" type="integer" default="0" />
  <column name="relevancy_down" type="integer" default="0" />
  ```
- Rebuild the model and update the database accordingly

  ```
  $ symfony propel-build-model
  $ symfony propel-build-sql
  $ mysql -u youruser -p askeet < data/sql/schema.sql
  ```
- Override the `->save()` method of the `Relevancy` class in the `lib/model/Relevancy.php`

  ```
  public function save($con = null)
  {
    $con = Propel::getConnection();
    try
    {
      $con->begin();

      $ret = parent::save();

      // update relevancy in answer table
      $answer = $this->getAnswer();
      if ($this->getScore() == 1)
      {
        $answer->setRelevancyUp($answer->getRelevancyUp() + 1);
      }
      else
      {
        $answer->setRelevancyDown($answer->getRelevancyDown() + 1);
      }
      $answer->save($con);

      $con->commit();

      return $ret;
    }
    catch (Exception $e)
    {
  ```

```
      $con->rollback();
      throw $e;
    }
  }
```

- Add the two following methods to the `Answer` class in the model:

```
public function getRelevancyUpPercent()
{
  $total = $this->getRelevancyUp() + $this->getRelevancyDown();


  return $total ? sprintf('%.0f', $this->getRelevancyUp() * 100 / $total) : 0;
}


public function getRelevancyDownPercent()
{
  $total = $this->getRelevancyUp() + $this->getRelevancyDown();


  return $total ? sprintf('%.0f', $this->getRelevancyDown() * 100 / $total) : 0;
}
```

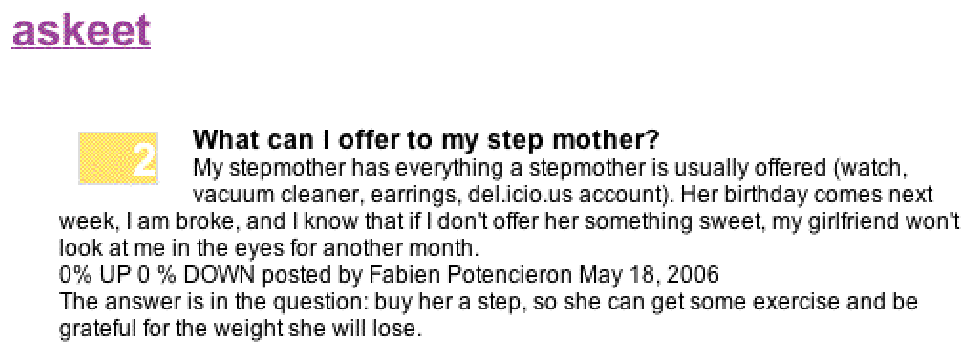
- Change the part concerning the answers in `question/templates/showSuccess.php` by:

```
<div id="answers">
<?php foreach ($question->getAnswers() as $answer): ?>
  <div class="answer">
    <?php echo $answer->getRelevancyUpPercent() ?>% UP <?php echo $answer->getRelevancyDow
    posted by <?php echo $answer->getUser()->getFirstName().' '.$answer->getUser()->getLas
    on <?php echo format_date($answer->getCreatedAt(), 'p') ?>
    <div>
      <?php echo $answer->getBody() ?>
    </div>
  </div>
<?php endforeach; ?>
</div>
```

- Add some test data in the fixtures

```
Relevancy:
  rel1:
    answer_id: a1_q1
    user_id:   fabien
    score:     1


  rel2:
    answer_id: a1_q1
    user_id:   francois
    score:     -1
```

- Launch the population batch
- Check the `question/show` page


askeet

2 What can I offer to my step mother?
My stepmother has everything a stepmother is usually offered (watch, vacuum cleaner, earrings, del.icio.us account). Her birthday comes next week, I am broke, and I know that if I don't offer her something sweet, my girlfriend won't look at me in the eyes for another month.
0% UP 0 % DOWN posted by Fabien Potencieron May 18, 2006
The answer is in the question: buy her a step, so she can get some exercise and be grateful for the weight she will lose.

Routing

Since the beginning of this tutorial, we called the URL

```
http://askeet/frontend_dev.php/question/show/id/XX
```

The default routing rules of symfony understand this request as if you had actually requested

```
http://askeet/frontend_dev.php?module=question&action=show&id=XX
```

But having a routing system opens up a lot of other possibilities. We could use the title of the questions as the URL, to be able to require the same page with:

```
http://askeet/frontend_dev.php/question/what-shall-i-do-tonight-with-my-girlfriend
```

This would optimize the way the search engines index the pages of the website, and to make the URLs more readable.

Create an alternate version of the title

First, we need a converted version of the title - a stripped title - to be used as an URL. There's more than one way to do it, and we will choose to store this alternate title as a new column of the `Question` table. In the `schema.xml`, add the following line to the `Question` table:

```
<column name="stripped_title" type="varchar" size="255" />
<unique name="unique_stripped_title">
  <unique-column name="stripped_title" />
</unique>
```

...and rebuild the model and update the database:

```
$ symfony propel-build-model
$ symfony propel-build-sql
$ mysql -u youruser -p askeet < data/sql/schema.sql
```

We will soon override the `setTitle()` method of the `Question` object so that it sets the stripped title at the same time.

Custom class

But before that, we will create a custom class to actually transform a title into a stripped title, since this function doesn't really concern specifically the `Question` object (we will probably also use it for the `Answer` object).

Create a new `myTools.class.php` file under the `askeet/lib/` directory:

```
<?php

class myTools
{
  public static function stripText($text)
  {
    $text = strtolower($text);

    // strip all non word chars
    $text = preg_replace('/\W/', ' ', $text);

    // replace all white space sections with a dash
    $text = preg_replace('/\ +/', '-', $text);

    // trim dashes
    $text = preg_replace('/\-$/', '', $text);
    $text = preg_replace('/^\-/', '', $text);

    return $text;
  }
}
```

Now open the `askeet/lib/model/Question.php` class file and add:

```
public function setTitle($v)
{
  parent::setTitle($v);

  $this->setStrippedTitle(myTools::stripText($v));
}
```

Notice that the `myTools` custom class doesn't need to be declared: symfony autoloads it when needed, provided that it is located in the `lib/` directory.

We can now reload our data:

```
$ symfony cc
$ php batch/load_data.php
```

If you want to learn more about custom class and custom helpers, read the extension chapter of the symfony book.

Change the links to the `show` action

In the `listSuccess.php` template, change the line

```
<h2><?php echo link_to($question->getTitle(), 'question/show?id='.$question->getId()) ?></h2>
```

by

```
<h2><?php echo link_to($question->getTitle(), 'question/show?stripped_title='.$question->getStrip
```

Now open the `actions.class.php` of the `question` module, and change the `show` action to:

```
public function executeShow()
{
  $c = new Criteria();
  $c->add(QuestionPeer::STRIPPED_TITLE, $this->getRequestParameter('stripped_title'));
  $this->question = QuestionPeer::doSelectOne($c);

  $this->forward404Unless($this->question);
}
```

Try to display again the list of questions and to access each of them by clicking on their title:

```
http://askeet/frontend_dev.php/
```

The URLs correctly display the stripped title of the questions:

```
http://askeet/frontend_dev.php/question/show/stripped-title/what-shall-i-do-tonight-with-my-girlf
```

Changing the routing rules

But this is not exactly how we wanted them to be displayed. It is now time to edit the routing rules. Open the `routing.yml` configuration file (located in the `askeet/apps/frontend/config/` directory) and add the following rule on top of the file:

```
question:
  url:   /question/:stripped_title
  param: { module: question, action: show }
```

In the `url` line, the word `question` is a custom text that will appear in the final URL, while the `stripped_title` is a parameter (it is preceded by `:`). They form a **pattern** that the symfony routing system will apply to the links to the `question/show` action calls - because all the links in our templates use the `link_to()` helper.

It is time for the final test: Display again the homepage, click on the first question title. Not only does the first question show (proving that nothing is broken), but the address bar of your browser now displays:

```
http://askeet/frontend_dev.php/question/what-shall-i-do-tonight-with-my-girlfriend
```

If you want to learn more about the routing feature, read the routing policy chapter of the symfony book.

See you Tomorrow

Today, the website itself didn't get many new features. However, you saw more template coding, you know how to modify the model, and the overall code has been refactored in a lot of places.

This happens all the time in the life of a symfony project: the code that can be reused is refactored to a fragment or a custom class, the code that appears in an action or a template and that actually belongs to the model is moved to the model. Even if this spreads the code in lots of small files disseminated in lots of directories, the maintenance and evolution is made easier. In addition, the file structure of a symfony project makes it easy to find where a piece of code actually lies according to its nature (helper, model, template, action, custom class, etc.).

The refactoring job done today will speed up the development of the upcoming days. And we will periodically do some more refactoring in the life of this project, since the way we develop - make a feature work without worrying about the upcoming functionalities - requires a good structure of code if we don't want to end up with a total mess.

What's for tomorrow? We will start writing a form and see how to get information from it. We will also split the list of questions of the home page into pages. In the meantime, feel free to download today's code from the SVN repository (tagged release_day_4) at:

```
http://svn.askeet.com/tags/release_day_4/
```

and to send us any questions using the askeet mailing-list or the dedicated forum.

symfony advent calendar day five: forms and pager

Previously on symfony

During the long day four, you got used to refactoring your application by moving chunks of code to other files more related to their nature. You also learned to modify the model so that common methods related to the data can be taken out of the action code.

The development is clean, but the number of functionalities is still poor. It is time to allow a bit of interactivity between the askeet site and its users. And the root of HTML interactivity - besides hyperlinks - are forms.

The objectives for today are to allow a user to login and to paginate the list of questions on the home page. This will be quick to develop, but it will allow you to recover from yesterday.

Login form

There are users in the test data, but no way for the application to recognize one. Let's give access to a login form from every page of the application. Open the global layout `askeet/apps/frontend/templates/layout.php` and add in the following line before the link to `about`:

```
<li><?php echo link_to('sign in', 'user/login') ?></li>
```

> **Note**: The current layout places this link just behind the web debug toolbar. To see it, fold the toolbar by clicking its 'Sf' icon.

It is time to create the `user` module. While the `question` module was generated during day two, this time we will just ask symfony to create the module skeleton, and we will write the code ourselves.

```
$ symfony init-module frontend user
```

> **Note**: The skeleton contains a default `index` action and an `indexSuccess.php` template. Get rid of both, since we won't need them.

Create the `user/login` action

In the `user/actions/action.class.php` file (under the new `askeet/apps/frontend/modules/` directory), add the following `login` action:

```
public function executeLogin()
{
  $this->getRequest()->setAttribute('referer', $this->getRequest()->getReferer());

  return sfView::SUCCESS;
}
```

The action saves the referrer in a request attribute. It will then be available to the template to be put in a hidden field, so that the target action of the form can redirect to the original referer after a successful login.

The `return sfView::SUCCESS` passes the result of the action to the `loginSuccess.php` template. This statement is implied in actions that don't contain a return statement, that's why the default template of an action is called `actionnameSuccess.php`.

Before working more on the action, let's have a look at the template.

Create the `loginSuccess.php` template

Many human-computer interactions on the web use forms, and symfony facilitates the creation and the management of forms by providing a set of **form helpers**.

In the `askeet/apps/frontend/modules/user/templates/` directory, create the following `loginSuccess.php` template:

```
<?php echo form_tag('user/login') ?>

  <fieldset>

  <div class="form-row">
    <label for="nickname">nickname:</label>
    <?php echo input_tag('nickname', $sf_params->get('nickname')) ?>
  </div>

  <div class="form-row">
    <label for="password">password:</label>
    <?php echo input_password_tag('password') ?>
  </div>

  </fieldset>

  <?php echo input_hidden_tag('referer', $sf_request->getAttribute('referer')) ?>
  <?php echo submit_tag('sign in') ?>

</form>
```

This template is your first introduction to the form helpers. These symfony functions help to automate the writing of form tags. The `form_tag()` helper opens a form with a default POST behaviour, and points to the action given as argument. The `input_tag()` helper produces an `<input>` tag (that's a surprise) by automatically adding an `id` attribute based on the name given as first argument; the default value is taken from the second argument. You can find more about form helpers and the HTML code they generate in the related chapter of the symfony book.

The essential thing here is that the action called when the form is submitted (the argument of `form_tag()`) is the same `login` action used to display it. So let's go back to the action.

Handle the login form submission

Replace the `login` action that we just wrote with the following code:

```
public function executeLogin()
{
  if ($this->getRequest()->getMethod() != sfRequest::POST)
  {
    // display the form
    $this->getRequest()->setAttribute('referer', $this->getRequest()->getReferer());
  }
  else
  {
    // handle the form submission
    $nickname = $this->getRequestParameter('nickname');

    $c = new Criteria();
    $c->add(UserPeer::NICKNAME, $nickname);
    $user = UserPeer::doSelectOne($c);

    // nickname exists?
    if ($user)
    {
      // password is OK?
      if (true)
      {
        $this->getUser()->setAuthenticated(true);
        $this->getUser()->addCredential('subscriber');

        $this->getUser()->setAttribute('subscriber_id', $user->getId(), 'subscriber');
        $this->getUser()->setAttribute('nickname', $user->getNickname(), 'subscriber');

        // redirect to last page
        return $this->redirect($this->getRequestParameter('referer', '@homepage'));
      }
    }
  }
}
```

The login action will be used both to display the login form and to process it. In consequence, it has to know in which context it is called. If the action is not called in POST mode, it is because it is requested from a link: That's the previous case we talked about earlier. If the request is in POST mode, the action is called from a form and it is time to handle it.

The action gets the value of the `nickname` field from the request parameters, and requires the `User` table to see if this user exists in the database.

Then there will be, in the near future, a control of the password that will grant credentials to the user. For now, the only thing this action does is to store in a session attribute the `id` and the `nickname` of the user. Eventually, the action redirects to the original referer thanks to the hidden `referer` field in the form, passed as a request parameter. If this field is empty, the default value (`@homepage`, which is the routing rule name for `question/list`) is used instead.

Notice the difference between the two types of attributes set in this example: The **request attributes** (`$this->getRequest()->setAttribute()`) are held for the template and forgotten as soon as the answer is sent to the referrer. The **session attributes** (`$this->getUser()->setAttribute()`) are kept during the life of the user's session, and other actions will be able to access them again in the future. If you want to know more about attributes, you should have a look at the parameter holder chapter of the symfony book.

Grant privileges

It is a good thing that users can log in to the askeet website, but they won't do it just for fun. Login will be required to post a new question, to declare interest about a question, and to rate a comment. All the other actions wiil be open to non logged users.

To set a user as authenticated, you need to call the `->setAuthenticated()` method of the `sfUser` object. This object also provides a credentials mechanism (`->addCredential()`), to refine access restriction according to profiles. The user credentials chapter of the symfony book explains all that in detail.

That's the purpose of the two lines:

```
$this->getContext()->getUser()->setAuthenticated(true);
$this->getContext()->getUser()->addCredential('subscriber');
```

When the nickname is recognized, not only will the user data put in session attributes, but the user will also be granted access to restricted parts of the site. We'll see tomorrow how to restrict access of some parts of the application to authenticated users.

Add the `user/logout` action

There is one last trick about the `->setAttribute()` method: The last argument (`subscriber` in the above example) defines the **namespace** where the attribute will be stored. Not only does a namespace allow a name already existing in another namespace to be given to an attribute, it also allows the quick removal of all its attributes with a single command:

```
public function executeLogout()
{
  $this->getUser()->setAuthenticated(false);
  $this->getUser()->clearCredentials();

  $this->getUser()->getAttributeHolder()->removeNamespace('subscriber');

  $this->redirect('@homepage');
}
```

Using namespaces saved us from removing the two attributes one by one: That's one less line of code. Talk about laziness!

Update the layout

The layout still shows a 'login' link even if a user is already logged. Let's quickly fix it. In `askeet/apps/frontend/templates/layout.php`, change the line that we just added at the beginning of today's tutorial with:

```
<?php if ($sf_user->isAuthenticated()): ?>
  <li><?php echo link_to('sign out', 'user/logout') ?></li>
  <li><?php echo link_to($sf_user->getAttribute('nickname', '', 'subscriber').' profile', 'user/p
<?php else: ?>
  <li><?php echo link_to('sign in/register', 'user/login') ?></li>
<?php endif ?>
```

It is time to test all this by displaying any page of the application, clicking the 'login' link, entering a valid nickname ('anonymous' should do the trick) and validating it. If the 'login' link on top of the window changes to 'sign out', you did everything right. Eventually, try to logout to check if the 'login' links appears again.

You will find more information about the manipulation of user session attributes in the user session chapter of the symfony book.

Question pager

As thousands of symfony enthusiasts will rush to the askeet site, it is very probable that the list of questions displayed in the home page will grow very long. To avoid slow requests and excessive scrolling, it is necessary to paginate the list of questions.

Symfony provides an object just for that purpose: The `sfPropelPager`. It encapsulates the request to the database so that only the records to display on the current page are required. For instance, if a pager is initialized to display 10 records per page, the request to the database will be limited to 10 results, and the offset set to match the page rank.

Modify the `question/list` action

During day three, we saw that the `list` action of the `question` module was quite succinct:

```
public function executeList ()
{
  $this->questions = QuestionPeer::doSelect(new Criteria());
}
```

We are going to modify this action to pass a `sfPropelPager` object to the template instead of an array. In the same time, we are going to order the questions by number of interests:

```
public function executeList ()
{
  $pager = new sfPropelPager('Question', 2);
  $c = new Criteria();
  $c->addDescendingOrderByColumn(QuestionPeer::INTERESTED_USERS);
  $pager->setCriteria($c);
  $pager->setPage($this->getRequestParameter('page', 1));
  $pager->setPeerMethod('doSelectJoinUser');
  $pager->init();

  $this->question_pager = $pager;
}
```

The initialization of the `sfPropelPager` object specifies which class of object it will contain, and the maximum number of objects that can be put in a page (two in this example). The `->setPage()` method uses a request parameter to set the current page. For instance, if this `page` parameter has a value of `2`, the `sfPropelPager` will return the results 3 to 5. The default value of the `page` request parameter being `1`, this pager will return the results 1 to 2 by default. You will find more information about the `sfPropelPager` object and its methods in the pager chapter of the symfony book.

Use a custom parameter

It is always a good idea to put the constants that you use in configuration files. For instance, the number of results per page (`2` in this example) could be replaced by a parameter, defined in your custom application configuration. Change the `new sfPropelPager` line above by:

```
...
  $pager = new sfPropelPager('Question', sfConfig::get('app_pager_homepage_max'));
```

Open the custom application configuration file (`askeet/apps/frontend/config/app.yml`) and add in:

```
all:
  pager:
    homepage_max: 2
```

The `pager` key here is used as a namespace, that's why it also appears in the parameter name. You will find more about custom configuration and the rules to name custom parameters in the configuration chapter of the symfony book.

Modify the `listSuccess.php` template

In the `listSuccess.php` template, just replace the line

```
<?php foreach($questions as $question): ?>
```

by

```
<?php foreach($question_pager->getResults() as $question): ?>
```

so that the page displays the list of results stored in the pager.

Add page navigation

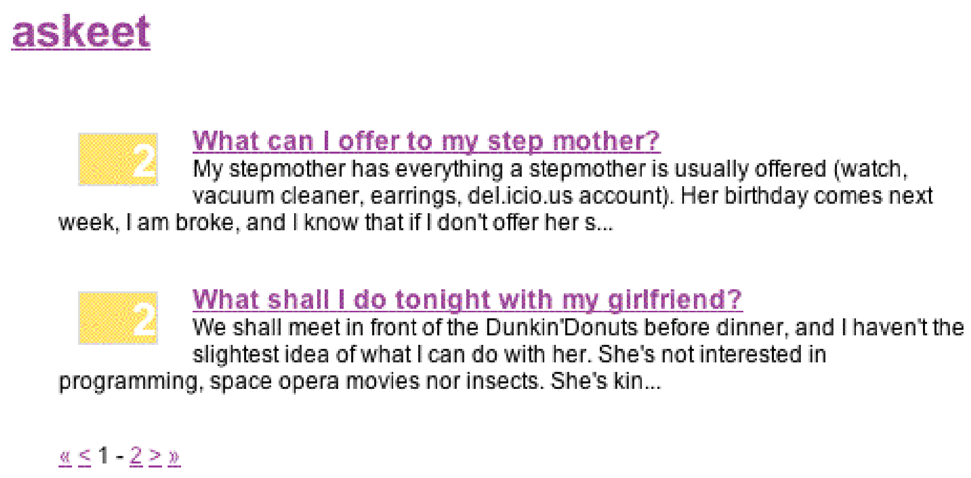
There is one more thing to add to this template: The page navigation. For now, all that the template does is display the first two questions, but we should add the ability to go to the next page, and then to go back to the previous page. To do that, append at the end of the template:

```
<div id="question_pager">
<?php if ($question_pager->haveToPaginate()): ?>
  <?php echo link_to('&laquo;', 'question/list?page=1') ?>
  <?php echo link_to('&lt;', 'question/list?page='.$question_pager->getPreviousPage()) ?>

  <?php foreach ($question_pager->getLinks() as $page): ?>
    <?php echo link_to_unless($page == $question_pager->getPage(), $page, 'question/list?page='.$
    <?php echo ($page != $question_pager->getCurrentMaxLink()) ? '-' : '' ?>
  <?php endforeach; ?>

  <?php echo link_to('&gt;', 'question/list?page='.$question_pager->getNextPage()) ?>
  <?php echo link_to('&raquo;', 'question/list?page='.$question_pager->getLastPage()) ?>
<?php endif; ?>
</div>
```

This code takes advantage of the numerous methods of the `sfPropelPager` object, among which `->haveToPaginate()`, which returns `true` only if the number of results to the request exceeds the page size; `->getPreviousPage()`, `->getNextPage()` and `->getLastPage()`, which have obvious meanings; `->getLinks()`, which provides an array of page numbers; and `->getCurrentMaxLink()`, which returns the last page number.

This example also shows one handy symfony link helper: `link_to_unless()` will output a regular `link_to()` if the test given as the first argument is `false`, otherwise the text will be output without a link, enclosed in a simple `<span>`.

Did you test the pager? You should. The modification isn't over until you validate it with your own eyes. To do that, just open the test data file created during day three, and add a few questions for the page navigation to appear. Relaunch the import data batch and request the homepage again. Voila.


askeet

2 What can I offer to my step mother?
My stepmother has everything a stepmother is usually offered (watch, vacuum cleaner, earrings, del.icio.us account). Her birthday comes next week, I am broke, and I know that if I don't offer her s...

2 What shall I do tonight with my girlfriend?
We shall meet in front of the Dunkin'Donuts before dinner, and I haven't the slightest idea of what I can do with her. She's not interested in programming, space opera movies nor insects. She's kin...

« < 1 - 2 > »

Add a routing rule for the subsequent pages

By default, the urls of the pages will look like:

```
http://askeet/frontend_dev.php/question/list/page/XX
```

Let's take advantage of the routing rules to have those pages understand:

```
http://askeet/frontend_dev.php/index/XX
```

Just open the `apps/frontend/config/routing.yml` file and add at the top:

```
popular_questions:
  url:   /index/:page
  param: { module: question, action: list }
```

While we are at it, add another routing rule for the login page:

```
login:
  url:   /login
  param: { module: user, action: login }
```

Refactoring

Model

The `question/list` action executes code that is closely related to the model, that's why we will move this code to the model. Replace the `question/list` action by:

```
public function executeList ()
{
  $this->question_pager = QuestionPeer::getHomepagePager($this->getRequestParameter('page', 1));
}
```

...and add the following method to the `QuestionPeer.php` class in `lib/model`:

```
public static function getHomepagePager($page)
{
  $pager = new sfPropelPager('Question', sfConfig::get('app_pager_homepage_max'));
  $c = new Criteria();
  $c->addDescendingOrderByColumn(self::INTERESTED_USERS);
  $pager->setCriteria($c);
  $pager->setPage($page);
  $pager->setPeerMethod('doSelectJoinUser');
  $pager->init();

  return $pager;
}
```

The same idea applies to the `question/show` action, written yesterday: The use of Propel objects to retrieve a question from its stripped title should belong to the model. So change the `question/show` action by:

```
public function executeShow()
{
  $this->question = QuestionPeer::getQuestionFromTitle($this->getRequestParameter('stripped_title

  $this->forward404Unless($this->question);
}
```

Add to `QuestionPeer.php`:

```
public static function getQuestionFromTitle($title)
{
  $c = new Criteria();
  $c->add(QuestionPeer::STRIPPED_TITLE, $title);

  return self::doSelectOne($c);
}
```

Templates

The list of question displayed in `question/templates/listSuccess.php` will be reused somewhere else in the future. So we will put the template code to display a list of question in a `_list.php` fragment and replace the `listSuccess.php` content by a simple:

```
<h1>popular questions</h1>

<?php echo include_partial('list', array('question_pager' => $question_pager)) ?>
```

The content of the `_list.php` fragment can be seen in the askeet SVN repository.

See you Tomorrow

Login forms and list pagers are used in almost all web applications nowadays. You saw today that they are quite easy to develop with symfony.

Once again, our day finished by some refactoring. That's the price to pay when you build an application little by little, without designing the big picture first.

Tomorrow, we will continue to work on the login process, by restricting the access of some parts of the site to registered users, and we will do some form validation to avoid incorrect submissions.

symfony advent calendar day six: security and form validation

Previously on symfony

During the fifth day, you got used to manipulating templates and actions; forms and pagers have no secrets for you anymore. But after building the login form, you probably expected us to show you how to restrict access to non-authorised users for a specific set of functionalities. That's what we are going to do today, together with some form validation. As we will extend the application with custom classes, you should be comfortable with the concepts exposed in the custom extension chapter of the symfony book.

Login form validation

Validation file

The login form has a `nickname` and a `password` field. But what will happen if a user submits incorrect data? To be able to handle this case, create a `login.yml` file in the `/frontend/modules/user/validate` directory (`login` is the name of the action to validate). Add the following content:

```
methods:
  post: [nickname, password]

names:
  nickname:
    required:     true
    required_msg: your nickname is required
    validators:   nicknameValidator

  password:
    required:     true
    required_msg: your password is required

nicknameValidator:
    class:        sfStringValidator
    param:
      min:        5
      min_error:  nickname must be 5 or more characters
```

First, under the `methods` header, the list of fields to be validated is defined for the methods of the form (we only define POST method here because the GET is to display the login form and does not need validation). Then, under the `names` header, the requirements for each of the fields to be checked are listed, along with the corresponding error message. Eventually, as the 'nickname' field is declared to have a specific set of validation rules, they are detailed under the corresponding header. In this example, the `sfStringValidator` is a symfony built-in validator that checks the format of a string (the default symfony validators are exposed in the how to validate a form of the symfony book).

Error handling

So what is supposed to happen if a user enters wrong data? The conditions written in the `login.yml` file will not be met, and the symfony controller will pass the request to the `handleErrorLogin()` method of the `userActions` class - instead of the `executeLogin()` method, as planned in the `form_tag` argument. If this method doesn't exist, the default behaviour is to display the `loginError.php` template. That's because the default `handleError()` method returns:

```
public function handleError()
{
  return sfView::ERROR;
}
```

That's a whole new template to write. But we'd rather display the login form again, with the error messages displayed close to the problematic fields. So let's modify the login error behaviour to display, in this case, the `loginSuccess.php` template:

```
public function handleErrorLogin()
{
  return sfView::SUCCESS;
}
```

> **Note**: The naming conventions that link the action name, its `return` value and the template file name are exposed in the view chapter of the symfony book.

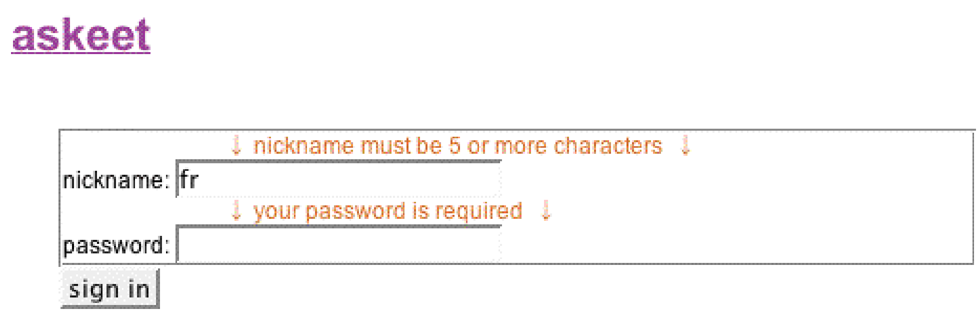
Template error helpers

Once the `loginSuccess.php` template is called again, it is time to display the errors. We will use the `form_error()` helper of the `Validation` helper group for that purpose. Change the two `form-row` divs of the template to:

```
<?php use_helper('Validation') ?>

<div class="form-row">
  <?php echo form_error('nickname') ?>
  <label for="nickname">nickname:</label>
  <?php echo input_tag('nickname', $sf_params->get('nickname')) ?>
</div>

<div class="form-row">
  <?php echo form_error('password') ?>
  <label for="password">password:</label>
  <?php echo input_password_tag('password') ?>
</div>
```

The `form_error()` helper will output the error message defined in the `login.yml` if an error is declared in the field given as a parameter.

It is time to test the form validation by trying to enter a nickname of less than 5 characters, or by omitting one the two fields. The error messages magically display above the concerned fields:


askeet

↓ nickname must be 5 or more characters ↓

nickname: fr

↓ your password is required ↓

password:

The password is now compulsory, but there is no password in the database! That doesn't matter, as soon as you enter any password, the login will be successful. That's not a very secure process, is it?

Style errors

If you tested the form and got an error, you probably noticed that your errors are not styled the same way as the ones of the capture above. That's because we defined the styling of the `.form_error` class (in `web/main.css)`, which is the default class of the form errors generated by the `form_error()` helper:

```
.form_error
{
  padding-left: 85px;
  color: #d8732f;
}
```

Authenticate a user

Custom validator

Do you remember yesterday's check about the existence of an entered nickname in the `login` action? Well, that sounds like a form validation. This code should be taken out from the action and included into a custom validator. You think it is complicated? It really isn't. Edit the `login.yml` validation file as follows:

```
...
names:
  nickname:
    required:      true
    required_msg:  your nickname is required
    validators:    [nicknameValidator, userValidator]
...
userValidator:
    class:         myLoginValidator
    param:
      password:    password
      login_error: this account does not exist or you entered a wrong password
```

We just added a new validator for the `nickname` field, of class `myLoginValidator`. This validator doesn't exist yet, but we know that it will need the password to fully authenticate the user, so it is passed as a parameter with the label `password`.

Password storage

But wait a minute. In our data model, as well as in the test data, there is no password set. It is time to define one. But you know that storing a password in clear text, in a database, is a bad idea for security reasons. So we will store a sha1 hash of the password as well as the random key used to hash it. If you are not familiar with this 'salt' process, check out the password cracking practices.

So open the `schema.xml` and add the following columns to the `User` table:

```
<column name="email" type="varchar" size="100" />
<column name="sha1_password" type="varchar" size="40" />
<column name="salt" type="varchar" size="32" />
```

Rebuild the Propel model by a `symfony propel-build-model`. You should also add the two columns to the database, either manually or by using the `schema.sql` generated after a `symfony propel-build-sql`. Now open the `askeet/lib/model/User.php` and add this `setPassword()` method:

```
public function setPassword($password)
{
  $salt = md5(rand(100000, 999999).$this->getNickname().$this->getEmail());
  $this->setSalt($salt);
  $this->setSha1Password(sha1($salt.$password));
}
```

This function simulates a direct password storage, but instead it stores the `salt` random key (a 32 characters hashed random string) and the hashed password (a 40 characters string).

Add password in the test data

Remember the day three test data file? It is time to add a password and an email to the test users. Open and modify the `askeet/data/fixtures/test_data.yml` as follows:

```
User:
  ...
  fabien:
    nickname:   fabpot
    first_name: Fabien
    last_name:  Potencier
    password:   symfony
    email:      fp@example.com

  francois:
    nickname:   francoisz
    first_name: FranÃ§ois
    last_name:  Zaninotto
    password:   adventcal
    email:      fz@example.com
```

As the `setPassword()` method was defined for the `User` class, the `sfPropelData` object will correctly populate the new `sha1_password` and `salt` columns defined in the schema when we call:

```
$ php batch/load_data.php
```

> **Note**: Notice that the `sfPropelData` object is able to deal with methods that are not bind to 'real' database column (and now we overtake your traditional SQL dump!).
>
> If you wonder how this is possible, take a look at the database population chapter of the symfony book.
>
> **Note**: There is no need to define a password for the 'Anonymous Coward' user since we will forbid him to login. And we would really appreciate that you didn't try the two passwords given here on our bank accounts, since they are confidential!

Custom validator

Now it is time to write this custom `myLoginValidator`. You can create it in anyone of the `lib/` directories that are accessible to the module (that is, in `askeet/lib/`, or in `askeet/apps/frontend/lib/`, or in `askeet/apps/frontend/modules/user/lib/`). For now, it is considered to be an application-wide validator, so the `myLoginValidator.class.php` will be created in the `askeet/apps/frontend/lib/` directory:

```
<?php

class myLoginValidator extends sfValidator
{
  public function initialize($context, $parameters = null)
  {
    // initialize parent
    parent::initialize($context);

    // set defaults
    $this->setParameter('login_error', 'Invalid input');

    $this->getParameterHolder()->add($parameters);

    return true;
  }

  public function execute(&$value, &$error)
  {
    $password_param = $this->getParameter('password');
    $password = $this->getContext()->getRequest()->getParameter($password_param);

    $login = $value;

    // anonymous is not a real user
    if ($login == 'anonymous')
    {
      $error = $this->getParameter('login_error');
      return false;
    }

    $c = new Criteria();
    $c->add(UserPeer::NICKNAME, $login);
    $user = UserPeer::doSelectOne($c);
    // nickname exists?
    if ($user)
    {
      // password is OK?
      if (sha1($user->getSalt().$password) == $user->getSha1Password())
      {
        $this->getContext()->getUser()->setAuthenticated(true);
        $this->getContext()->getUser()->addCredential('subscriber');

        $this->getContext()->getUser()->setAttribute('subscriber_id', $user->getId(), 'subscriber
        $this->getContext()->getUser()->setAttribute('nickname', $user->getNickname(), 'subscribe

        return true;
      }
    }

    $error = $this->getParameter('login_error');
    return false;
  }
}
```

When the validator is required - after the `login` form submission - the `initialize()` method is called first. It initiates the default value of the `login_error` message ('Invalid Input') and merges the parameters (the ones under the `param:` header in the `login.yml` file) into the parameter holder object.

Then the `execute()` method is... executed. The `$password_param` is the field name provided in the `login.yml` under the `password` header. It is used as a field name to retrieve a value from the request parameters. So `$password` contains the password entered by the user. `$value` takes the value of the current field - and the `myLoginValidator` class is called for the `nickname` field. So `$login` contains the nickname entered by the user. At last! Now the validator has all the necessary data to actually validate the user.

The following code was taken off the `login` action. But in addition, the test of the password validity (previously always true) is implemented: A hash of the password entered by the user (using the salt stored in the database) is compared to the hashed password of the user.

If the login and the password are correct, the validator returns `true` and the target action of the form (`executeLogin()`) will be executed. If not, it returns `false` and it's the `handleErrorLogin()` that will be executed.

Remove the code from the action

Now that all the validation code is located inside the validator, we need to remove it from the `login` action. Indeed, when the action is called with the POST method, it means that the validator validated the request, so the user is correct. It means that the only thing that the action has to do in this case is to redirect to the `referer` page:

```
public function executeLogin()
{
  if ($this->getRequest()->getMethod() != sfRequest::POST)
  {
    // display the form
    $this->getRequest()->getParameterHolder()->set('referer', $this->getRequest()->getReferer());

    return sfView::SUCCESS;
  }
  else
  {
    // handle the form submission
    // redirect to last page
    return $this->redirect($this->getRequestParameter('referer', '@homepage'));
  }
}
```

Test the modifications by trying to login with one of the test users (after clearing the cache, since we created a new validator class that needs to be autoloaded).

Restrict access

If you want to restrict access to an action, you just need to add a `security.yml` in the module `config/` directory, like the following:

```
all:
  is_secure:   on
  credentials: subscriber
```

The actions of such a module will only be executed if the user is authenticated, and a has `subscriber` credential.

In askeet, login will be required to post a new question, to declare interest about a question, and to rate a comment. All the other actions wiil be open to non logged users.

For instance, to restrict the access of the `question/add` action (yet to be written), add the following `security.yml` file in the `askeet/apps/frontend/modules/question/config/` directory:

```
add:
  is_secure:   on
  credentials: subscriber

all:
  is_secure:   off
```

How about a bit of refactoring?

The day is almost finished, but we would like to play our favorite game for a little while: The move-the-code-to-an-unlikely-place game.

The four lines of code that are executed when the password is validated grant access to the user and save his `id` for future requests. You could see it as a method of the `myUser` class (the session class, not the `User` class corresponding to the `User` column). That's easy to do. Add the following methods to the `askeet/apps/frontend/lib/myUser.php` class:

```
public function signIn($user)
{
  $this->setAttribute('subscriber_id', $user->getId(), 'subscriber');
  $this->setAuthenticated(true);

  $this->addCredential('subscriber');
  $this->setAttribute('nickname', $user->getNickname(), 'subscriber');
}

public function signOut()
{
  $this->getAttributeHolder()->removeNamespace('subscriber');

  $this->setAuthenticated(false);
  $this->clearCredentials();
}
```

Now, change the four lines starting by `$this->getContext()->getUser()` in the `myLoginValidator` class with:

```
$this->getContext()->getUser()->signIn($user);
```

And also change the `user/logout` action (did you forget about this one?) by:

```
public function executeLogout()
{
  $this->getUser()->signOut();

  $this->redirect('@homepage');
}
```

The `subscriber_id` and `nickname` session attributes could also be abstracted through a getter method. Still in the `myUser` class, add the three following methods:

```
public function getSubscriberId()
{
  return $this->getAttribute('subscriber_id', '', 'subscriber');
}

public function getSubscriber()
{
  return UserPeer::retrieveByPk($this->getSubscriberId());
}

public function getNickname()
{
  return $this->getAttribute('nickname', '', 'subscriber');
}
```

You can use one of these new methods in the `layout.php`: change the line

```
<li><?php echo link_to($sf_user->getAttribute('nickname', '', 'subscriber').' profile', 'user/pro
```

by

```
<li><?php echo link_to($sf_user->getNickname().' profile', 'user/profile') ?></li>
```

Don't forget to test the modifications. The same login process as previously should still work - but now with better code.

See you Tomorrow

Tomorrow, it will be time to work a bit on the view configuration, to customize CSS, consistent components, and to take care of the page headers.

Don't forget that you can still download today's full code from the askeet SVN repository, tagged `release_day_6`. If you feel like asking or answering questions about askeet, feel free to pay a visit to the askeet forum. Don't forget that the program of the 21st day is still up to you.

symfony advent calendar day seven: model and view manipulation

Previously on symfony

It has already been six days, and some of you may be thinking that the application is not very useful so far. That is because some consider the usefulness of an application by the number of pages available, and they see that askeet can only display a list of questions, display the answers to it, and handle user sessions.

The reason why we don't give so much importance to the number of pages is because it is so easy to add new pages with symfony. You want proof? Ok, today we will display a list of the last questions asked and a list of the last answers posted, a list of users interested in a question, the profile of a user, and we will add a navigation bar on every page to access these features. Because that wouldn't be much work for an hour, we will also setup the view configuration and have a look at what has been done during this week. Ready? Let's go.

Prefactoring

So, we are going to add paginated lists with pagination controls similar to the ones in `question/templates/_list.php`. We don't like to repeat ourselves, so we will extract the pagination code from this partial into a **custom helper**. A helper is a PHP function made accessible to the templates (just like the `link_to()` and `format_date()` helpers).

Create a `GlobalHelper.php` in `askeet/apps/frontend/lib/helper` and add in:

```
<?php

function pager_navigation($pager, $uri)
{
  $navigation = '';

  if ($pager->haveToPaginate())
  {
    $uri .= (preg_match('/\?/', $uri) ? '&' : '?').'page=';

    // First and previous page
    if ($pager->getPage() != 1)
    {
      $navigation .= link_to(image_tag('first.gif', 'align=absmiddle'), $uri.'1');
      $navigation .= link_to(image_tag('previous.gif', 'align=absmiddle'), $uri.$pager->getPrevio
    }

    // Pages one by one
    $links = array();
    foreach ($pager->getLinks() as $page)
    {
      $links[] = link_to_unless($page == $pager->getPage(), $page, $uri.$page);
    }
    $navigation .= join('&nbsp;&nbsp;', $links);
    // Next and last page
    if ($pager->getPage() != $pager->getCurrentMaxLink())
    {
      $navigation .= '&nbsp;'.link_to(image_tag('next.gif', 'align=absmiddle'), $uri.$pager->getN
      $navigation .= link_to(image_tag('last.gif', 'align=absmiddle'), $uri.$pager->getLastPage()
    }

  }

  return $navigation;
}
```

The pagination navigation helper improves the code we previously wrote: it can use any routing rule, doesn't display the 'previous' links for the first page nor the 'next' links for the last page. We also added four new images (`first.gif`, `previous.gif`, `next.gif` and `last.gif`) to make the links look prettier. Grab them from the askeet SVN repository. You will probaby reuse this helper in the future for your own projects.

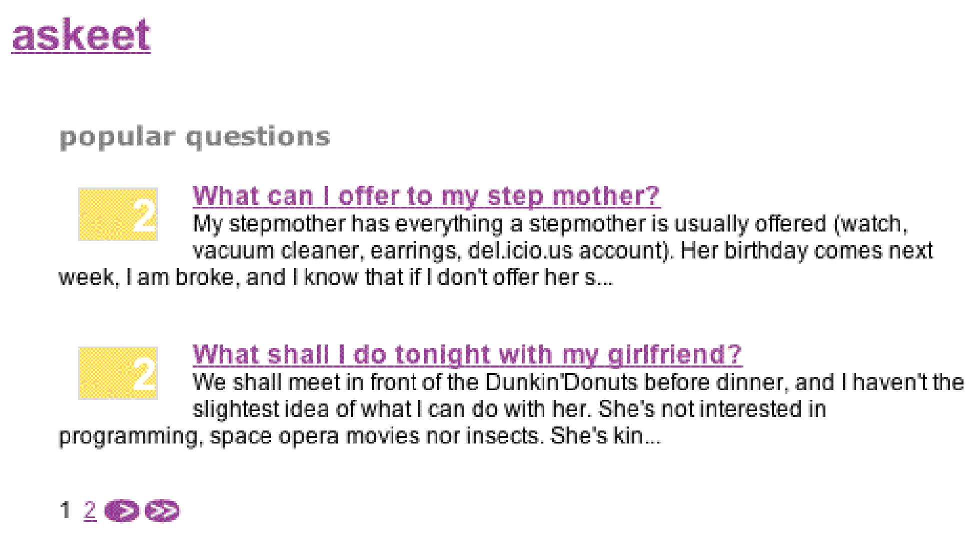
To use this helper in the `question/templates/_list.php` fragment, call the helper function as follows:

```
<?php use_helpers('Text', 'Global') ?>

<?php foreach($question_pager->getResults() as $question): ?>
  <div class="question">
    <div class="interested_block">
      <?php include_partial('interested_user', array('question' => $question)) ?>
    </div>

    <h2><?php echo link_to($question->getTitle(), 'question/show?stripped_title='.$question->getS

    <div class="question_body">
      <?php echo truncate_text($question->getBody(), 200) ?>
    </div>
  </div>
<?php endforeach; ?>

<div id="question_pager">
  <?php echo pager_navigation($question_pager, 'question/list') ?>
</div>
```

Notice the addition of the 's' in the `use_helpers()` call at the beginning, since we now need more than one helper. The name `Global` refers to the `GlobalHelper.php` file we just created.

Check that everything works as before by requesting:

```
http://askeet/frontend_dev.php/
```



askeet

popular questions

2 What can I offer to my step mother?
My stepmother has everything a stepmother is usually offered (watch, vacuum cleaner, earrings, del.icio.us account). Her birthday comes next week, I am broke, and I know that if I don't offer her s...

2 What shall I do tonight with my girlfriend?
We shall meet in front of the Dunkin'Donuts before dinner, and I haven't the slightest idea of what I can do with her. She's not interested in programming, space opera movies nor insects. She's kin...

1 2

List of the recent questions

In the `question` module, create a new action `recent`:

```
public function executeRecent()
{
  $this->question_pager = QuestionPeer::getRecentPager($this->getRequestParameter('page', 1));
}
```

That's as simple as that. We consider that the ability to grab the latest questions should be a method of the `QuestionPeer` class. The `-Peer` classes are dedicated to return lists of objects of a given class - this is explained in detail in the model chapter of the symfony book. But the `getRecent()` class method still has to be created. Open the `askeet/lib/model/QuestionPeer.php` class and add in:

```
public static function getRecentPager($page)
{
  $pager = new sfPropelPager('Question', sfConfig::get('app_pager_homepage_max'));
  $c = new Criteria();
  $c->addDescendingOrderByColumn(self::CREATED_AT);
  $pager->setCriteria($c);
  $pager->setPage($page);
  $pager->setPeerMethod('doSelectJoinUser');
  $pager->init();

  return $pager;
}
```

The creation date descending order criteria will select the latest questions. This method uses `self` instead of `parent` because it is a class function, not an object function. The reason why we do a `doSelectJoinUser()` here instead of a simple `doSelect()` is because we know that the template will need the details of the question's author. That would mean a first request for the list of questions, plus one request per question to get the related user. The `doSelectJoinUser()` method does all that in only one request: when we ask

```
$question->getUser();
```

...there is no request sent to the database. The `joinUser` allows us to reduce the number of requests from 1 + the number of questions to only 1. The database will thank us for this easy optimization.

The Propel documentation will give you all the explanations about this great feature.

The template of the list of recent questions will look a lot like the list of questions displayed in the homepage. Create the `askeet/apps/frontend/module/question/templates/recentSuccess.php` with:

```
<h1>recent questions</h1>

<?php include_partial('list', array('question_pager' => $question_pager)) ?>
```

You now understand why we refactored the question list into a fragment during day five. Finally, you need to add a `recent_questions` rule in the `frontend/config/routing.yml` configuration file, as exposed during day four:

```
recent_questions:
  url:   /recent/:page
  param: { module: question, action: recent, page: 1 }
```

But wait: the `question/_list` fragment creates links with the routing rule `question/list`, so using it will not work for the recent questions list. We need to have the routing rule passed as a parameter to the fragment so that it can be reused for various pagers. So change the final line of `recentSuccess.php` to:

```
<?php include_partial('list', array('question_pager' => $question_pager, 'rule' => 'question/rece
```

and also change the final lines of the `_list.php` fragment to:

```
<div id="question_pager">
  <?php echo pager_navigation($question_pager, $rule) ?>
</div>
```

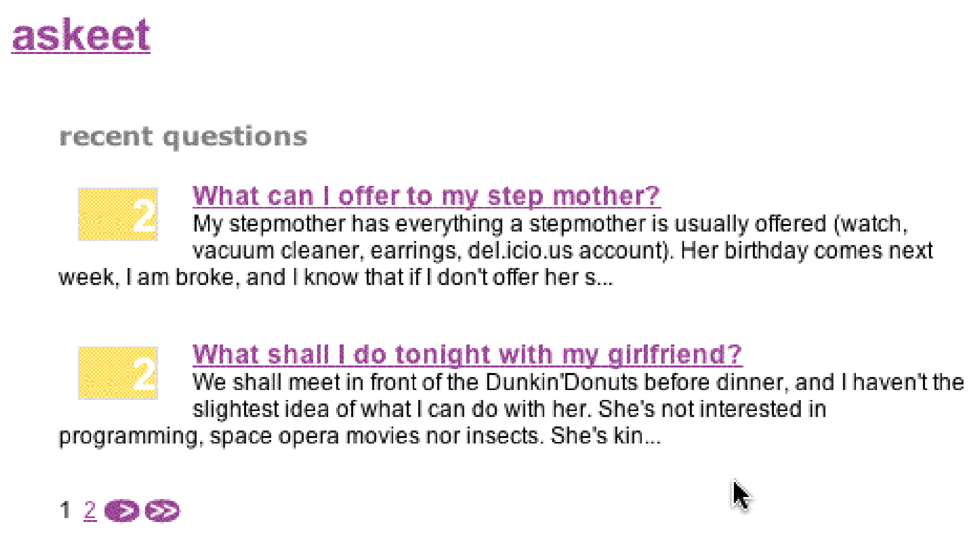
Don't forget to also add the rule parameter in the call to the `_list` fragment in `modules/question/templates/listSuccess.php`.

```
<h1>popular questions</h1>

<?php echo include_partial('list', array('question_pager' => $question_pager, 'rule' => 'question
```

Clear the cache (the configuration was modified), and that's it.

To display the list of latest questions, type in your browser URL bar:

```
http://askeet/recent
```


askeet

recent questions

2 What can I offer to my step mother?
My stepmother has everything a stepmother is usually offered (watch, vacuum cleaner, earrings, del.icio.us account). Her birthday comes next week, I am broke, and I know that if I don't offer her s...

2 What shall I do tonight with my girlfriend?
We shall meet in front of the Dunkin'Donuts before dinner, and I haven't the slightest idea of what I can do with her. She's not interested in programming, space opera movies nor insects. She's kin...

1 2

List of the recent answers

It is pretty much the same thing as above, so we will be quite straightforward on this one:

- Create an `answer` module:

```
$ symfony init-module frontend answer
```

- Create a new action `recent`:

```
public function executeRecent()
{
  $this->answer_pager = AnswerPeer::getRecentPager($this->getRequestParameter('page', 1));
}
```

- Extend the `AnswerPeer` class:

```
public static function getRecentPager($page)
{
  $pager = new sfPropelPager('Answer', sfConfig::get('app_pager_homepage_max'));
  $c = new Criteria();
  $c->addDescendingOrderByColumn(self::CREATED_AT);
  $pager->setCriteria($c);
  $pager->setPage($page);
  $pager->setPeerMethod('doSelectJoinUser');
  $pager->init();


  return $pager;
}
```

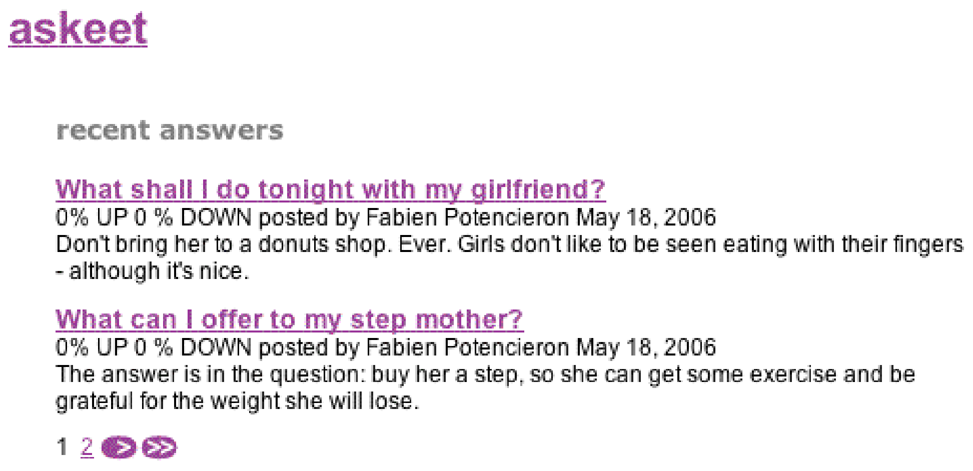
- Create a new `recentSuccess.php` template:

```
<?php use_helpers('Date', 'Global') ?>


<h1>recent answers</h1>
```

```
<div id="answers">
<?php foreach ($answer_pager->getResults() as $answer): ?>
  <div class="answer">
    <h2><?php echo link_to($answer->getQuestion()->getTitle(), 'question/show?stripped_tit
    <?php echo count($answer->getRelevancys()) ?> points
    posted by <?php echo link_to($answer->getUser(), 'user/show?id='.$answer->getUser()->g
    on <?php echo format_date($answer->getCreatedAt(), 'p') ?>
    <div>
      <?php echo $answer->getBody() ?>
    </div>
  </div>
<?php endforeach ?>
</div>


<div id="question_pager">
  <?php echo pager_navigation($answer_pager, 'answer/recent') ?>
</div>
```

- Test it in your browser:

```
http://askeet/answer/recent
```



askeet

recent answers

What shall I do tonight with my girlfriend?
0% UP 0 % DOWN posted by Fabien Potencieron May 18, 2006
Don't bring her to a donuts shop. Ever. Girls don't like to be seen eating with their fingers - although it's nice.

What can I offer to my step mother?
0% UP 0 % DOWN posted by Fabien Potencieron May 18, 2006
The answer is in the question: buy her a step, so she can get some exercise and be grateful for the weight she will lose.

1 2

You are getting used to it, aren't you?

> **Note**: Those who paid attention to the day 4 probably recognized the chunk of code used to show the details of an answer. Since this code is used in at least two places, we will refactor it and create an `_answer.php` partial, to be used both in `question/show` and `answer/recent`. Details are to be found in the askeet SVN repository.

User profile

The user name in a an answer will link to a `user/show` action yet to be written. This will be the user profile, and it will display the latest questions and answers contributed, as well as a few details about the user.

The first thing to do is to create the action:

```
public function executeShow()
{
  $this->subscriber = UserPeer::retrieveByPk($this->getRequestParameter('id', $this->getUser()->g
  $this->forward404Unless($this->subscriber);

  $this->interests = $this->subscriber->getInterestsJoinQuestion();
  $this->answers   = $this->subscriber->getAnswersJoinQuestion();
  $this->questions = $this->subscriber->getQuestions();
}
```

The `->getInterestsJoinQuestion()` and `->getAnswersJoinQuestion()` methods are native methods of the `User` class. You can inspect the `askeet/lib/model/om/BaseUser.php` class to see how they work.

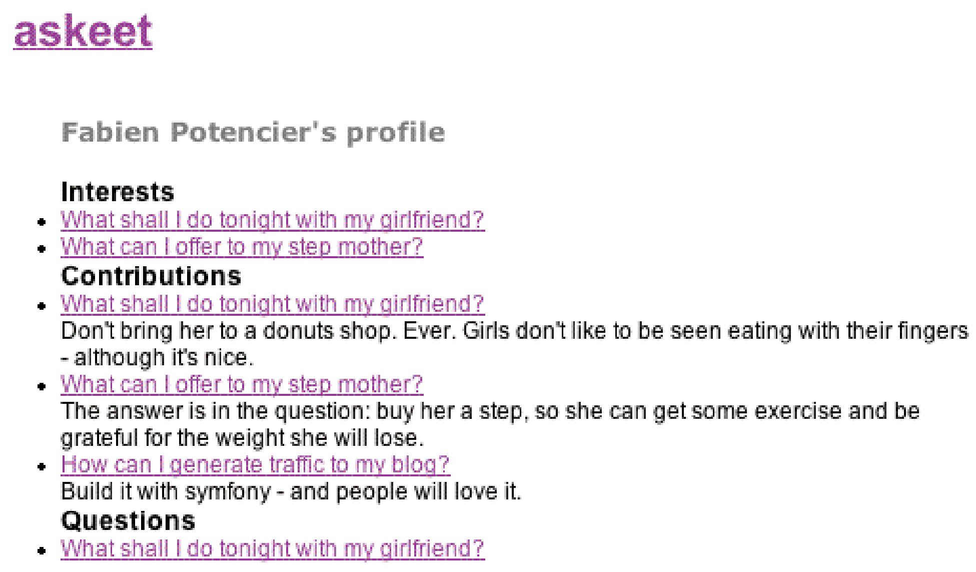
The `askeet/apps/frontend/modules/user/templates/showSuccess.php` template should not give you any problem:

```
<h1><?php echo $subscriber ?>'s profile</h1>

<h2>Interests</h2>

<ul>
<?php foreach ($interests as $interest): $question = $interest->getQuestion() ?>
  <li><?php echo link_to($question->getTitle(), 'question/show?stripped_title='.$question->getStr
<?php endforeach; ?>
</ul>

<h2>Contributions</h2>

<ul>
<?php foreach ($answers as $answer): $question = $answer->getQuestion() ?>
  <li>
    <?php echo link_to($question->getTitle(), 'question/show?stripped_title='.$question->getStrip
    <?php echo $answer->getBody() ?>
  </li>
<?php endforeach; ?>
</ul>

<h2>Questions</h2>

<ul>
<?php foreach ($questions as $question): ?>
  <li><?php echo link_to($question->getTitle(), 'question/show?stripped_title='.$question->getStr
<?php endforeach; ?>
</ul>
```

Of course, you could wish to limit the number of result returned by each of the `->getInterestsJoinQuestion()`, `->getAnswersJoinQuestion()` and `getQuestion()` methods of the `User` object, as well as the sorting order. It is simply done by overriding these methods in the `askeet/lib/model/User.php` class file, and we won't disclose here how to do it - but today's release will include it.

It is time for the final test. Let's see what the first user did:

```
http://askeet/user/show/id/1
```


askeet

Fabien Potencier's profile

Interests

- What shall I do tonight with my girlfriend?
- What can I offer to my step mother?

Contributions

- What shall I do tonight with my girlfriend?
  Don't bring her to a donuts shop. Ever. Girls don't like to be seen eating with their fingers - although it's nice.
- What can I offer to my step mother?
  The answer is in the question: buy her a step, so she can get some exercise and be grateful for the weight she will lose.
- How can I generate traffic to my blog?
  Build it with symfony - and people will love it.

Questions

- What shall I do tonight with my girlfriend?

Now we can also link to a user profile from a question. Add the following line to `question/templates/showSuccess.php` and `question/templates/_list.php` at the beginning of the `question_body` div:

```
<div>asked by <?php echo link_to($question->getUser(), 'user/show?id='.$question->getUser()->getI
```

Don't forget to declare the use of the `Date` helper in `_list.php`.

Add a navigation bar

We will change the global layout to add a lateral bar. This bar will contain dynamic content, but as we want to settle its position in the layout, it can't be part of each template. In addition, putting the code of the bar in the template would mean repeating it a lot, and you know we don't like to do that.

That's why the bar will be a **component**. A component is the result of an action (i.e. the HTML code resulting from the template execution) made available in a variable. The view chapter of the symfony book explains what a component is, and the differences between a component and a fragment.

Add the component in the layout

Open the global layout (`askeet/apps/frontend/templates/layout.php`). Do you remember this part of code:

```
<div id="content_bar">
  <!-- Nothing for the moment -->
  <div class="verticalalign"></div>
```

```
</div>
```

Replace the comment by

```
<?php include_component_slot('sidebar') ?>
```

And that's it.

Define what action goes into the component

We decided to use something a little more powerful than a simple component: a component slot. It is a component whose action can be modified according to the caller action - allowing contextual content. It's the view configuration (written in a `view.yml` file) that defines which action corresponds to a component slot:

```
default:
  components:
    sidebar:       [sidebar, default]
```

In this example, the component slot named `sidebar` is declared to be the result of the `default` action of the `sidebar` module.

The view configuration can be defined for the whole application (in the `askeet/apps/frontend/config/` directory) or specifically for a module (in a `askeet/apps/frontend/modules/mymodule/config/` directory). For our case, we will define it for the whole application, and override it when necessary to provide context-specific links in the sidebar.

So open the `askeet/apps/frontend/config/view.yml` and add in the component slot configuration shown above. You will find more information about the view configuration in the related chapter of the symfony book.

Write the `sidebar/default` action and template

First, we will let symfony initialize the new `sidebar` module:

```
$ symfony init-module frontend sidebar
```

Next, we need to write a `default` component. In the `askeet/apps/frontend/modules/sidebar/actions/` directory, rename `actions.class.php` into `components.class.php`, and change its content by:

```
<?php

class sidebarComponents extends sfComponents
{
  public function executeDefault()
  {
  }
}
```

A component view is a template, just like for an action. The difference is in the naming: A component view is named like a fragment (starting with _) rather than like a regular template (ending with `Success`). So create a `askeet/apps/frontend/modules/sidebar/templates/_default.php` fragment (and erase the `indexSuccess.php` that will not be used) with the following content:

```
<?php echo link_to('ask a new question', 'question/add') ?>

<ul>
  <li><?php echo link_to('popular questions', 'question/list') ?>
  <li><?php echo link_to('latest questions', 'question/recent') ?></li>
  <li><?php echo link_to('latest answers', 'answer/recent') ?></li>
</ul>
```

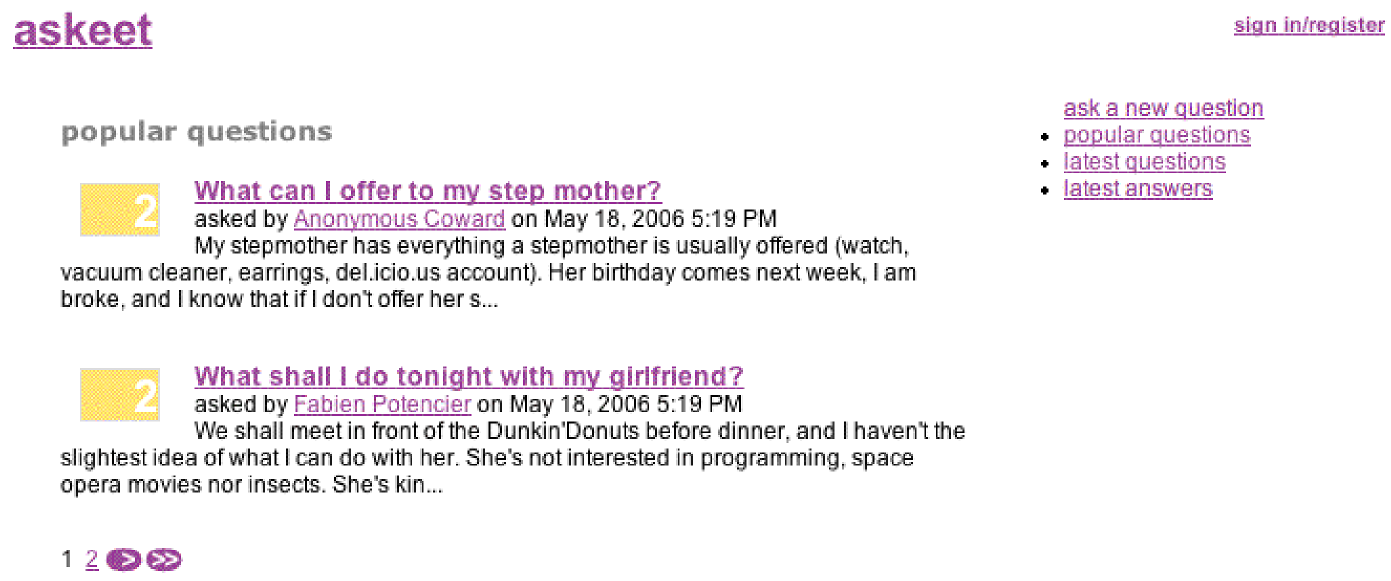
If you try to navigate in any page of your askeet website now, you might get an error. That's because you are navigating the site in the production environment, where the configuration is cached and not parsed at each request. We modified the `view.yml` configuration file, but the actions in the production environment don't see it. They use the cached version - the one that doesn't contain the component slot configuration. If you want to see the changes, either clear the cache or navigate in the development environment:

```
$ symfony clear-cache
```

or

```
http://askeet/frontend_dev.php/
```

The navigation bar is correctly displayed on every page


askeet
sign in/register

popular questions

2 What can I offer to my step mother?
asked by Anonymous Coward on May 18, 2006 5:19 PM
My stepmother has everything a stepmother is usually offered (watch, vacuum cleaner, earrings, del.icio.us account). Her birthday comes next week, I am broke, and I know that if I don't offer her s...

2 What shall I do tonight with my girlfriend?
asked by Fabien Potencier on May 18, 2006 5:19 PM
We shall meet in front of the Dunkin'Donuts before dinner, and I haven't the slightest idea of what I can do with her. She's not interested in programming, space opera movies nor insects. She's kin...

1 2

ask a new question
- popular questions
- latest questions
- latest answers

Note: This is a general effect of the production environment configuration. So you need to remember to use the development environment during the development phase (when you change the configuration a lot), and clear the cache when you navigate in the production environment after each change in the configuration.

A little more view configuration

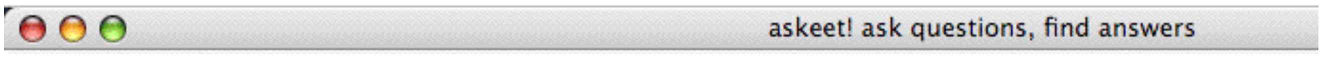
While we are at it, let's have a look at the application `view.yml` configuration file in `apps/config/`:

```
default:
  http_metas:
    content-type: text/html; charset=utf-8

  metas:
    title:          symfony project
    robots:         index, follow
    description:    symfony project
    keywords:       symfony, project
    language:       en

  stylesheets:     [main, layout]

  javascripts:     []

  has_layout:      on
  layout:          layout

  components:
    sidebar:       [sidebar, default]
```

The `metas` section contains a configuration for the meta tags of the whole site. The `title` key also defines the title that is displayed in the title bar of the browser window. This title is very important, because it is the first thing that a user sees of the site if it is found by a search index. It is therefore necessary to change it to something more adapted to the askeet site:

```
 metas:
    title:          askeet! ask questions, find answers
    robots:         index, follow
    description:    askeet!, a symfony project built in 24 hours
    keywords:       symfony, project, askeet, php5, question, answer
    language:       en
```

Refresh the current page. If you don't see any change, that's because you are in the production environment, and you should clear the cache first, to get the proper window title:


askeet! ask questions, find answers

> **Note**: In addition to providing a default title for your project pages, symfony creates a default `robots.txt` and `favicon.ico` in the web root directory (`askeet/web/`). Don't forget to change them also!
>
> **Note**: You might need to change the title for each page of your site. You can do that by defining a custom `view.yml` configuration for each module, but that would only let you give static titles. Alternatively, you can use a dynamic value from an action with the `->setTitle()` method, as described in the view configuration chapter:
>
> ```
> [php]
> ```

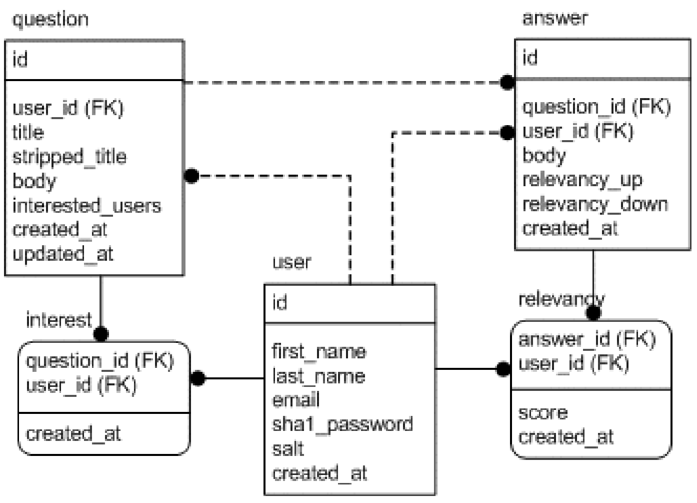
```
        $this->getResponse()->setTitle($title);
```

Look at what we have done

It is a general tradition to stop and look at what you've done when you reach the seventh day. That's a good opportunity to document a few things, including the current data model and the available actions.

As a matter of fact, you should document your code while you write it, for instance using PHP doc-style comments for each method. The thing with a symfony project is that the names used in the methods or functions often serve as an explanation of their purpose and use. The methods are kept short, and so are very readable. Most of the time, the templates only use `foreach` and `if` statements that are pretty self-explanatory. That's why the code you will find in the askeet SVN repository doesn't contain much documentation - plus the fact that we've already written seven hours worth of explanations about the work we've done!

Now let's have a look at the updated entity relationship diagram:



The list of available actions is the following:

```
answer/
  recent
question/
  list
  show
  recent
sidebar/
  default (component)
user/
  show
  login
  logout
  handleErrorLogin
```

The model also contains the following methods:

```
Anwser()
  getRelevancyUpPercent()
  getRelevancyDownPercent()
AnswerPeer::
  getRecentPager()
Interest->
  save()
Question->
  setTitle()
QuestionPeer::
  getQuestionFromTitle()
  getHomepagePager()
  getRecentPager()
Relevancy
  save()
User->
  __toString()
  setPassword()

myUser->
  signIn()
  signOut()
  getSubscriberId()
  getSubscriber()
  getNickName()
```

...plus a custom tools class and a custom validator, placed in the `askeet/apps/frontend/lib/` directory.

That's not bad for seven hours, is it?

See you Tomorrow

The application progressed a lot today, and it was quite fast to do. Everything is now prepared to inject some AJAX in the human-computer interaction. Tomorrow, users will be able to login and to declare their interest for a question using AJAX. Don't miss it!

You can still download today's full code from the askeet SVN repository, tagged `release_day_7`. The askeet mailing-list will answer any of your questions faster than lightspeed.

symfony advent calendar day eight: AJAX interactions

Previously on symfony

After seven hours of work, the askeet application has advanced well. The home page displays a list of questions, the detail of a question shows its answers, users have a profile page, and thematic lists are available from every page in the sidebar. Our community-enhanced FAQ is in the right direction (see the list of actions available as of yesterday), and yet the users cannot alter the data for now.

If the base of data manipulation in the web has long been forms, today the AJAX techniques and usability enhancements can change the way an application is built. And that applies to askeet, too. This tutorial will show you how to add AJAX-enhanced interactions to askeet. The objective is to allow a registered user to declare its interest about a question.

Add an indicator in the layout

While an asynchronous request is pending, users of an AJAX-powered website don't have any of the usual clues that their action was taken into account and that the result will soon be displayed. That's why every page containing AJAX interactions should be able to display an activity indicator.

For that purpose, add at the top of the `<body>` of the global `layout.php`:

```
<div id="indicator" style="display: none"></div>
```

Although hidden by default, this `<div>` will be displayed when an AJAX request is pending. It is empty, but the `main.css` stylesheet (stored in the `askeet/web/css/` directory) gives it shape and content:

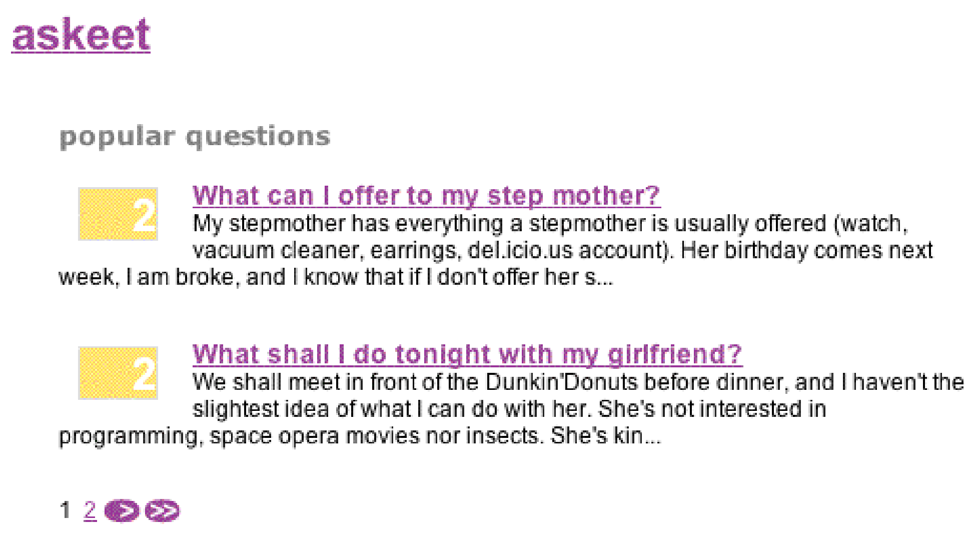
```
div#indicator
{
  position: absolute;
  width: 100px;
  height: 40px;
  left: 10px;
  top: 10px;
  z-index: 900;
  background: url(/home/production/sfweb/web/images/indicator.gif) no-repeat 0 0;
}
```

Add an AJAX interaction to declare interest

An ajax interaction is made up of three parts: a caller (a link, a button or any control that the user manipulates to launch the action), a server action, and a zone in the page to display the result of the action to the user.

Caller

Let's go back to the questions displayed. If you remember the day four, a question can be displayed in the lists of questions and in the detail of a question.


askeet
popular questions
2
What can I offer to my step mother?
My stepmother has everything a stepmother is usually offered (watch, vacuum cleaner, earrings, del.icio.us account). Her birthday comes next week, I am broke, and I know that if I don't offer her s...
2
What shall I do tonight with my girlfriend?
We shall meet in front of the Dunkin'Donuts before dinner, and I haven't the slightest idea of what I can do with her. She's not interested in programming, space opera movies nor insects. She's kin...
1 2

That's why the code for the question title and interest block was refactored into a `_interested_user.php` fragment. Open this fragment again, add a link to allow users to declare their interest:

```
<?php use_helper('User') ?>

<div class="interested_mark" id="mark_<?php echo $question->getId() ?>">
  <?php echo $question->getInterestedUsers() ?>
</div>

<?php echo link_to_user_interested($sf_user, $question) ?>
```

This link will do more than just redirect to another page. As a matter of fact, if a user already declared his/her interest about a given question, he/she must not be able to declare it again. And if the user is not authenticated... well, we will see this case later.

The link is written in a helper function, that needs to be created in a `askeet/apps/frontend/lib/helper/UserHelper.php`:

```
<?php

use_helper('Javascript');

function link_to_user_interested($user, $question)
{
  if ($user->isAuthenticated())
  {
    $interested = InterestPeer::retrieveByPk($question->getId(), $user->getSubscriberId());
    if ($interested)
    {
      // already interested
      return 'interested!';
    }
    else
    {
      // didn't declare interest yet
      return link_to_remote('interested?', array(
        'url'      => 'user/interested?id='.$question->getId(),
        'update'   => array('success' => 'block_'.$question->getId()),
        'loading'  => "Element.show('indicator')",
        'complete' => "Element.hide('indicator');".visual_effect('highlight', 'mark_'.$question->
      ));
    }
  }
  else
  {
    return link_to('interested?', 'user/login');
  }
}

?>
```

The `link_to_remote()` function is the first component of an AJAX interaction: The caller. It declares which action must be requested when a user clicks on the link (here: `user/interested`) and which zone of the page must be updated with the result of the action (here: the element of id `block_XX`). Two event handlers (`loading` and `complete`) are added and associated to prototype javascript functions. The prototype library offers very handy javascript tools to apply visual effects in a web page with simple function calls. Its only fault is the lack of documentation, but the source is pretty straightforward.

We chose to use a helper instead of a partial because this function contains much more PHP code than HTML code.

Don't forget to add the id `id="block_<?php echo $question->getId() ?>"` to the `question/_list` fragment.

```
<div class="interested_block" id="block_<?php echo $question->getId() ?>">
  <?php include_partial('interested_user', array('question' => $question)) ?>
</div>
```

> **Note**: This will only work if you properly defined the `sf` alias in your web server configuration, as explained during day one.

Result zone

The `update` attribute of the `link_to_remote()` javascript helper specifies the result zone. In this case, the result of the `user/interested` action will replace the content of the element of id `block_XX`. If you are confused, take a look at what the integration of the fragment in the templates will render:

```
...
<div class="interested_block" id="block_<?php echo $question->getId() ?>">
  <!-- between here -->
  <?php use_helper('User') ?>
  <div class="interested_mark" id="mark_<?php echo $question->getId() ?>">
```

```
    <?php echo $question->getInterestedUsers() ?>
  </div>
  <?php echo link_to_user_interested($sf_user, $question) ?>
  <!-- and there -->
</div>
...
```

The result zone is the part between the two comments. The action, once executed, will replace this content.

The interest of the second id (`mark_XX`) is purely visual. The `complete` event handler of the `link_to_remote` helper highlights the `interested_mark` `<div>` of the clicked interest... after the action returns an incremented number of interest.

Server action

The AJAX caller points to a `user/interested` action. This action must create a new record in the `Interest` table for the current question and the current user. Here is how to do it with symfony:

```
public function executeInterested()
{
  $this->question = QuestionPeer::retrieveByPk($this->getRequestParameter('id'));
  $this->forward404Unless($this->question);

  $user = $this->getUser()->getSubscriber();

  $interest = new Interest();
  $interest->setQuestion($this->question);
  $interest->setUser($user);
  $interest->save();
}
```

Remember that the `->save()` method of the `Interest` object was modified to increment the `interested_user` field of the related `User`. So the number of interested users about the current question will be magically incremented on screen after the call of the action.

And what should the resulting `interestedSuccess.php` template display?

```
<?php include_partial('question/interested_user', array('question' => $question)) ?>
```

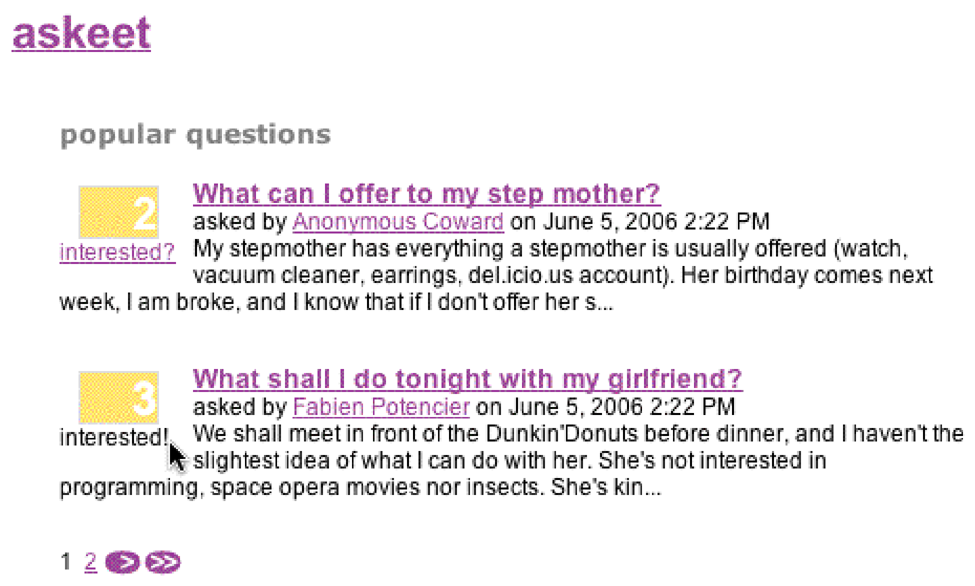
It displays the `_interested_user.php` fragment of the `question` module again. That's the greatest interest of having written this fragment in the first place.

We also have to disable layout for this template (`modules/user/config/view.yml`):

```
interestedSuccess:
  has_layout: off
```

Final test

The development of the AJAX interest is now over. You can test it by entering an existing login/password in the login page, displaying the quesiton list and then clicking an 'interested?' link. The indicator appears while the request is passed to the server. Then, the number is incremented in a highlight when the server answers. Note that the initial 'interested?' link is now an 'interested!' text without link, thanks to our `link_to_user_interested` helper:



askeet

popular questions

2
interested?
What can I offer to my step mother?
asked by Anonymous Coward on June 5, 2006 2:22 PM
My stepmother has everything a stepmother is usually offered (watch, vacuum cleaner, earrings, del.icio.us account). Her birthday comes next week, I am broke, and I know that if I don't offer her s...

3
interested!
What shall I do tonight with my girlfriend?
asked by Fabien Potencier on June 5, 2006 2:22 PM
We shall meet in front of the Dunkin'Donuts before dinner, and I haven't the slightest idea of what I can do with her. She's not interested in programming, space opera movies nor insects. She's kin...

1 2

If you want more examples about the use of the AJAX helpers, you can read the drag-and-drop shopping cart tutorial, watch the associated screencast or read the related book chapter.

Add an inline 'sign-in' form

We previously said that only registered users could declare interest about a question. This means that if a non-authenticated user clicks on an 'interested?' link, the login page must be displayed first.

But wait. Why should a user load a new page to login, and lose contact with the question he/she declared interest for? A better idea would be to have a login form appear dynamically on the page. That's what we are going to do.

Add a hidden login form to the layout

Open the global layout (in `askeet/apps/frontend/templates/layout.php`), and add in (between the `header` and the `content` div):

```
<?php use_helper('Javascript') ?>

<div id="login" style="display: none">
  <h2>Please sign-in first</h2>

  <?php echo link_to_function('cancel', visual_effect('blind_up', 'login', array('duration' => 0.

  <?php echo form_tag('user/login', 'id=loginform') ?>
    nickname: <?php echo input_tag('nickname') ?><br />
    password: <?php echo input_password_tag('password') ?><br />
    <?php echo input_hidden_tag('referer', $sf_params->get('referer') ? $sf_params->get('referer'
    <?php echo submit_tag('login') ?>
  </form>
</div>
```

Once again, this form is hidden by default. The `referer` hidden tag contains the `referer` request parameter if it exists, or else the current URI.

Have the form appear when a non-authenticated user clicks an interested link

Do you remember the `User` helper that we wrote previously? We will now deal with the case where the user is not authenticated. Open again the `askeet/lib/helper/UserHelper.php` file and change the line:

```
return link_to('interested?', 'user/login');
```

with this one:

```
return link_to_function('interested?', visual_effect('blind_down', 'login', array('duration' => 0
```

When the user is not authenticated, the link on the 'interested?' word launches a prototype javascript effect (`blind_down`) that will reveal the element of id `login` - and that's the form that we just added to the layout.

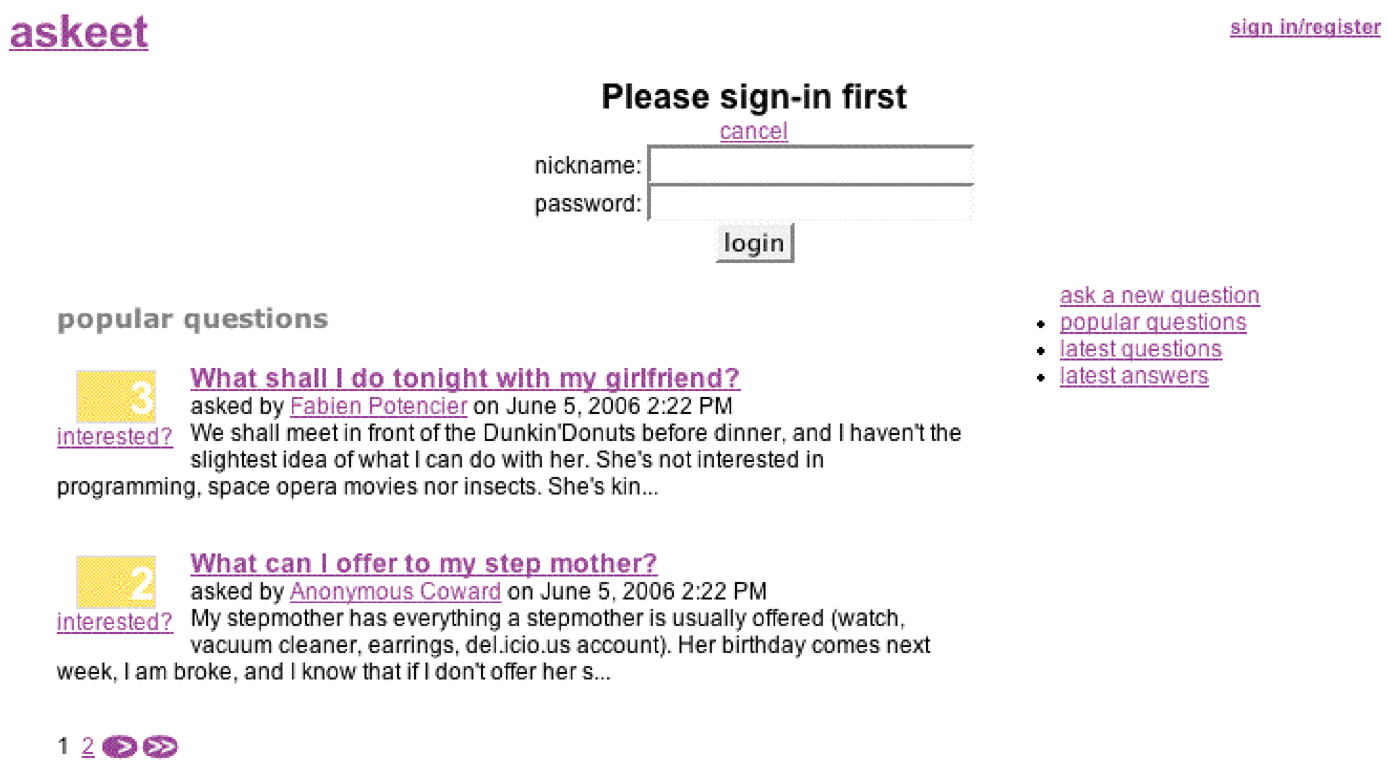
Login the user

The `user/login` action was already written during the fifth day, and refactored during day six. Do we have to modify it again?

```
public function executeLogin()
{
  if ($this->getRequest()->getMethod() != sfRequest::POST)
  {
    // display the form
    $this->getRequest()->getParameterHolder()->set('referer', $this->getRequest()->getReferer());

    return sfView::SUCCESS;
  }
  else
  {
    // handle the form submission
    // redirect to last page
    return $this->redirect($this->getRequestParameter('referer', '@homepage'));
  }
}
```

After all, no. It works perfectly as it is, the handling of the referer will redirect the user to the page where he/she was when the link was clicked.

Test the AJAX functionality now. An unregistered user will be presented a login form without leaving the current page. If the nickname and the password are recognized, the page will be refreshed and the user will be able to click on the 'interested?' link he intended to click before.


askeet

sign in/register

Please sign-in first

cancel

nickname:

password:

login

popular questions

3 interested? What shall I do tonight with my girlfriend?
asked by Fabien Potencier on June 5, 2006 2:22 PM
We shall meet in front of the Dunkin'Donuts before dinner, and I haven't the slightest idea of what I can do with her. She's not interested in programming, space opera movies nor insects. She's kin...

2 interested? What can I offer to my step mother?
asked by Anonymous Coward on June 5, 2006 2:22 PM
My stepmother has everything a stepmother is usually offered (watch, vacuum cleaner, earrings, del.icio.us account). Her birthday comes next week, I am broke, and I know that if I don't offer her s...

1 2

- ask a new question
- popular questions
- latest questions
- latest answers

> **Note**: In many AJAX interactions like this one, the template of the server action is a simple `include_partial`. That's because an initial result is often displayed when the whole page is first loaded, and because the part that is updated by the AJAX action is also part of the initial template.

See you Tomorrow

The most difficult thing in designing AJAX interactions is to properly define the caller, the server action, and the result zone. Once you know them, symfony gives you the helpers that do the rest. To be sure that you understood how it works, check out how we implemented the same mechanism as the one to declare interest for the answers relevancies. This time, the AJAX action called is `user/vote`, the `_answer.php` partial is split up in two parts (thus creating a `_user_vote.php` partial), and two helpers `link_to_user_relevancy_up()` and `link_to_user_relevancy_down()` are created in the `User` helper. The `User` module also gains a `vote` action and a `voteSuccess.php` template. Don't forget to set the layout to `off` for this template too.

Askeet is starting to look like a web 2.0 application. And it is just the beginning: In a few days, we will add some more AJAX interactions to it. Tomorrow we will take the occasion to do a general review of the MVC techniques in symfony, and to implement an external library.

If you come across a problem while trying to follow today's tutorial, you can still download the full code from the `release_day_8` tagged source in the askeet SVN repository. If you don't have any problem, come to the askeet forum to answer the other's questions.

symfony advent calendar day nine: local improvements

Previously on symfony

During day eight, we added AJAX interactions to askeet without pain. The application is now quite usable, but could use a lot of little improvements. Rich text should be allowed in the questions `body`, and primary keys should not appear in the URIs. All that is not difficult to put in place with symfony: today will be a good occasion to practice what you already learned, and to check that you know how to manipulate all the layers of the MVC architecture.

Allow rich text formatting on questions and answers

Markdown

The question and answer bodies only accept plain text for now. To allow basic formatting - bold, italic, hyperlinks, images, etc. - we will use an external library rather than reinvent the wheel.

If you have taken a look at the symfony documentation in text format, you probably know that we are big Markdown fans. Markdown is a text-to-HTML conversion tool, and a syntax for text formatting. The great advantage of Markdown over, for instance, Wiki or forum syntax, is that a plain text markdown file is still very readable:

```
Test Markdown text
------------------

This is a **very simple** example of [Markdown][1].
The best thing about markdown is its _auto-escape_ feature for code chunks:

    <a href="http://www.symfony-project.com">link to symfony</a>

>The `<` and `>` are properly escaped as `&lt;` and `&gt;`,
>and are not interpreted by any browser

[1]: http://daringfireball.net/projects/markdown/   "Markdown"
```

This Markdown renders as follow:

Test Markdown text

This is a **very simple** example of Markdown. The best thing about markdown is its *auto-escape* feature for code chunks:

```
<a href="http://www.symfony-project.com">link to symfony</a>
```

> The < and > are properly escaped as `&lt;` and `&gt;`, and are not interpreted by any browser

Markdown library

Although originally written in Perl, Markdown is available as a PHP library at PHP Markdown. That's the one we will use. Download the `markdown.php` file and put it in the `lib` folder of the askeet project (`askeet/lib/`). That's all: It is now available to all the classes of the askeet applications, provided that you require it first:

```
require_once('markdown.php');
```

We could call the Markdown converter each time we display the body of a message, but that would require too high a load on our servers. We'd rather convert the text body to an HTML body when the question is created, and store the HTML version of the body in the `Question` table. You are probably getting used to this, so the model extension won't be a surprise.

Extend the model

First, add a colomn to the `Question` table in the `schema.xml`:

```
<column name="html_body" type="longvarchar" />
```

Then, regenerate the model and update the database:

```
$ symfony propel-build-model
$ symfony propel-build-sql
$ symfony propel-insert-sql
```

Override the `setBody` method

When the `->setBody()` method of the `Question` class is called, the `html_body` column must also be updated with the Markdown conversion of the text body. Open the `askeet/lib/model/Question.php` model file, and create:

```
public function setBody($v)
{
  parent::setBody($v);

  require_once('markdown.php');

  // strip all HTML tags
  $v = htmlentities($v, ENT_QUOTES, 'UTF-8');

  $this->setHtmlBody(markdown($v));
}
```

Applying the `htmlentities()` function before setting the HTML body protects askeet from cross-site-scripting (XSS) attacks since all `<script>` tags are escaped.

Update the test data

We will add some Markdown formatting to some of the questions of the test data (in `askeet/data/fixtures/test_data.yml`), to be able to check that the conversion works properly:

```
Question:
  q1:
    title: What shall I do tonight with my girlfriend?
    user_id: fabien
    body:  |
      We shall meet in front of the __Dunkin'Donuts__ before dinner,
      and I haven't the slightest idea of what I can do with her.
      She's not interested in _programming_, _space opera movies_ nor _insects_.
      She's kinda cute, so I __really__ need to find something
      that will keep her to my side for another evening.

  q2:
    title: What can I offer to my step mother?
    user_id: anonymous
    body:  |
      My stepmother has everything a stepmother is usually offered
      (watch, vacuum cleaner, earrings, [del.icio.us](http://del.icio.us) account).
      Her birthday comes next week, I am broke, and I know that
      if I don't offer her something *sweet*, my girlfriend
      won't look at me in the eyes for another month.
```

You can now repopulate the database:

```
$ php batch/load_data.php
```

Modify the templates

The `showSuccess.php` template of the `question` module can be sightly modified:

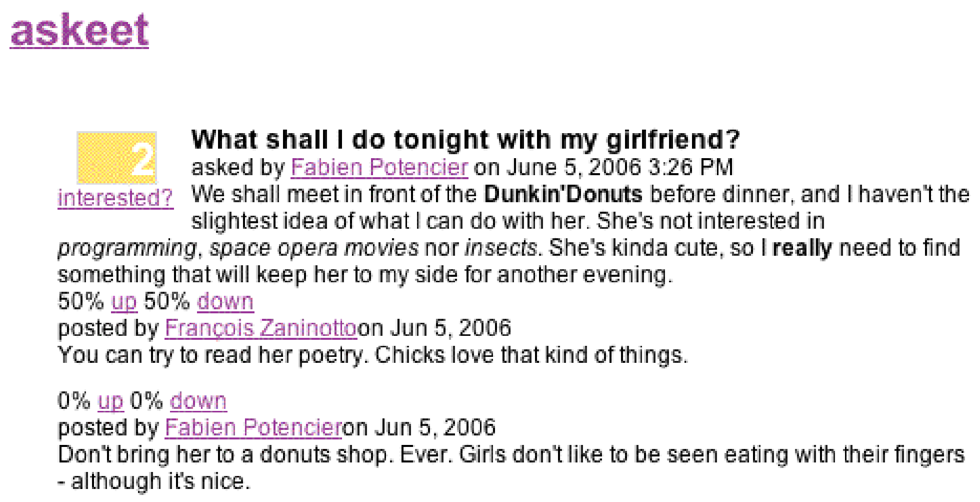
```
...
<div class="question_body">
  <?php echo $question->getHtmlBody() ?>
</div>
...
```

The list template fragment (`_list.php`) also shows the body, but in a truncated version:

```
<div class="question_body">
  <?php echo truncate_text(strip_tags($question->getHtmlBody()), 200) ?>
</div>
```

Everything is now ready for the final test: display the three pages that were modified, and observe the formatted text coming from the test data:

```
http://askeet/question/list
http://askeet/recent
http://askeet/question/show/stripped_title/what-shall-i-do-tonight-with-my-girlfriend
```


askeet

2
interested?
What shall I do tonight with my girlfriend?
asked by Fabien Potencier on June 5, 2006 3:26 PM
We shall meet in front of the **Dunkin'Donuts** before dinner, and I haven't the slightest idea of what I can do with her. She's not interested in *programming*, *space opera movies* nor *insects*. She's kinda cute, so I **really** need to find something that will keep her to my side for another evening.
50% up 50% down
posted by François Zaninottoon Jun 5, 2006
You can try to read her poetry. Chicks love that kind of things.

0% up 0% down
posted by Fabien Potencieron Jun 5, 2006
Don't bring her to a donuts shop. Ever. Girls don't like to be seen eating with their fingers - although it's nice.

The same goes for the `Answer body`: An alternate `html_body` column has to be created in the model, the `->setBody()` method needs to be overridden, and the answers displayed in `question/show` have to use the `->getHtmlBody()` method instead of the `->getBody()`. As the code is exactly the same as above, we won't decribe it here, but you will find it in today's SVN code.

Hide all `ids`

Another good practice in symfony actions is to avoid as much as possible to pass primary keys as request parameters. This is because our primary keys are mainly auto-incremental, and this gives hackers too much information about the records of the database. Plus, the displayed URI doesn't mean anything, and that's bad for the search engines.

Take the user profile page, for instance. For now, it uses the user `id` as a parameter. But if we make sure that the `nickname` is unique, it could as well be the parameter for the request. Let's do it.

Change the action

Edit the `user/show` action:

```
public function executeShow()
{
  $this->subscriber = UserPeer::retrieveByNickname($this->getRequestParameter('nickname'));
  $this->forward404Unless($this->subscriber);

  $this->interests = $this->subscriber->getInterestsJoinQuestion();
  $this->answers   = $this->subscriber->getAnswersJoinQuestion();
  $this->questions = $this->subscriber->getQuestions();
}
```

Change the model

Add the following method to the `UserPeer` class in the `askeet/lib/model/` directory.

```
public static function retrieveByNickname($nickname)
{
  $c = new Criteria();
  $c->add(self::NICKNAME, $nickname);

  return self::doSelectOne($c);
}
```

Change the template

The pages that display a link to the user profile must now mention the user's `nickname` instead of his/her `id`.

In the `question/showSuccess.php`, `question/_list.php` templates, replace:

```
<?php echo link_to($question->getUser(), 'user/show?id='.$question->getUserId()) ?>
```

by:

```
<?php echo link_to($question->getUser(), 'user/show?nickname='.$question->getUser()->getNickname(
```

The same kind of modification goes for the `answer/_answer.php` template.

Add the routing rule

Add a new rule in the routing configuration for this action so that the `url` pattern shows a `nickname` request parameter:

```
user_profile:
  url:   /user/:nickname
  param: { module: user, action: show }
```

After a `symfony clear-cache`, the last thing to do is to test your modifications.

Routing

Apart from today's additions, many of the actions written until now use the default routing, so the module name and the action name are often displayed in the address bar of the browser. You already learned how to fix it, so let's define URL patterns for all the actions. Edit the `askeet/apps/frontend/config/routing.yml`:

```
# question
question:
  url:   /question/:stripped_title
  param: { module: question, action: show }

popular_questions:
  url:   /index/:page
  param: { module: question, action: list, page: 1 }

recent_questions:
  url:    /recent/:page
  param: { module: question, action: recent, page: 1 }

add_question:
  url:    /add_question
  param: { module: question, action: add }

# answer
recent_answers:
  url:    /recent/answers/:page
  param: { module: answer, action: recent, page: 1 }

# user
login:
  url:    /login
  param: { module: user, action: login }

logout:
  url:    /logout
  param: { module: user, action: logout }

user_profile:
  url:    /user/:nickname
  param: { module: user, action: show }

# default rules
homepage:
  url:    /
  param: { module: question, action: list }

default_symfony:
  url:    /symfony/:action/*
  param: { module: default }

default_index:
  url:    /:module
  param: { action: index }

default:
  url:    /:module/:action/*
```

If you navigate in the production environment, you are strongly advised to clear the cache before testing this configuration modification.

One good practice of symfony routing is to use the rule names in a `link_to()` helper instead of the `module/action`. Not only is it faster (the routing engine doesn't need to parse the routing configuration to find the rule to apply), but it also allows you to modify the action behind a rule name later. The routing chapter of the symfony book explains that more in detail.

```
<?php link_to('@user_profile?id='.$user->getId()) ?>
// is better than
<?php link_to('user/show?id='.$user->getId()) ?>
```

Askeet follows the symfony good practices, so the code that you will download at the end of this day's tutorial contains only rule names in the link helpers. Replacing `action/module` by `@rule` in all the templates and custom helper is not very fun to do, so the last advice concerning routing is: Write the routing rules as you create actions, and use rule names in the link helpers from the beginning.

See you Tomorrow

Today's changes were longer to read than to understand. In addition, the modifications described in the tutorial were repeated for similar cases in the overall code. Although no real new feature was added today, the code changed a lot.

If you feel that you didn't learn much about symfony today, it means that you are getting ready to start your own project. The process of creating an action, modifying the model to have it serve the action as needed, write a simple template to output the action and edit the configuration to integrate the new action into the logic of the application are the basics of symfony development.

All the good practices exposed here (using external libraries instead of rewriting it in symfony, not showing primary keys in the application, using routing rule names instead of `module/action`) will keep your application clean, safe, fast and maintainable.

But the askeet application is far from finished! The functionnality that lacks the most is the ability to add a new question and to add a new answer. That's what we will develop tomorrow.

Do you have a suggestion about the additional feature of the 21st day? Make sure you send it to the askeet mailing-list. Stay tuned!

symfony advent calendar day ten: Alter data with Ajax forms

Previously on symfony

After yesterday's review of known techniques, some of you have a hunger for interaction. Displaying rich formatted questions and lists, even paginated, is not enough to make an application live. And the heart of the askeet concept is to allow any registered user to ask a new question, and any user to answer an existing one. Isn't it time we get to it?

Add a new question

The sidebar built during day seven already contains a link to add a new question. It links to the `question/add` action, which is waiting to be developped.

Restrict access to registered users

First of all, only registered users can add a new question. To restrict access to the `question/add` action, create a `security.yml` in the `askeet/apps/frontend/modules/question/config/` directory:

```
add:
  is_secure:   on
  credentials: subscriber

all:
  is_secure:   off
```

When an unregistered user tries to access a restricted action, symfony redirects him/her to the login action. This action must be defined in the application `settings.yml`, under the `login_module` and `login_action` keys:

```
all:
  .actions:
    login_module:           user
    login_action:           login
```

More information about action access restriction can be found in the security chapter of the symfony book.

The `addSuccess.php` template

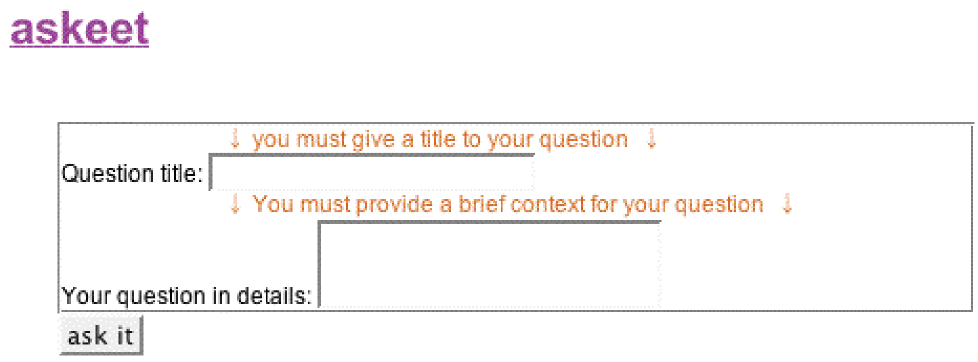
The `question/add` action will be used to both, display the form and handle the form. This means that as of now, to display the form, you only need an empty action. In addition, the form will be displayed again in case of error in the data validation:

```
public function executeAdd()
{
}

public function handleErrorAdd()
{
  return sfView::SUCCESS;
}
```

Both actions will output the `addSuccess.php` template:

```
<?php echo form_tag('@add_question') ?>

  <fieldset>

  <div class="form-row">
    <?php echo form_error('title') ?>
    <label for="title">Question title:</label>
    <?php echo input_tag('title', $sf_params->get('title')) ?>
  </div>

  <div class="form-row">
    <?php echo form_error('body') ?>
    <label for="label">Your question in details:</label>
    <?php echo textarea_tag('body', $sf_params->get('body')) ?>
  </div>

  </fieldset>

  <div class="submit-row">
    <?php echo submit_tag('ask it') ?>
  </div>
</form>
```

Both `title` and `body` controls have a default value (the second argument of the form helpers) defined from the request parameter of the same name. Why is that? Because we are going to add a validation file to the form. If the validation fails, the form is displayed again, and the previous entries of the user are still in the request parameters. They can be used as the default value of the form elements.


askeet

↓ you must give a title to your question ↓

Question title:

↓ You must provide a brief context for your question ↓

Your question in details:

The previous entry is not lost in case of a failed form validation. That is the least you can expect of a user-friendly application.

But, in order to achieve that, you need a form validation file.

Form validation

Create a `validate/` directory in the `question` module, and add in a `add.yml` validation file:

```
methods:
  post:             [title, body]

names:
  title:
    required:       Yes
    required_msg:   You must give a title to your question

  body:
    required:       Yes
    required_msg:   You must provide a brief context for your question
    validators:     bodyValidator

bodyValidator:
    class:          sfStringValidator
    param:
      min:          10
      min_error:    Please, give some more details
```

If you need more information about form validation, go back to day six or read the form validation chapter of the symfony book.

Handle the form submission

Now edit again the `question/add` action to handle the form submission:

```
public function executeAdd()
{
  if ($this->getRequest()->getMethod() == sfRequest::POST)
  {
    // create question
    $user = $this->getUser()->getSubscriber();

    $question = new Question();
    $question->setTitle($this->getRequestParameter('title'));
    $question->setBody($this->getRequestParameter('body'));
    $question->setUser($user);
    $question->save();

    $user->isInterestedIn($question);

    return $this->redirect('@question?stripped_title='.$question->getStrippedTitle());
  }
}
```

Remember that the `->setTitle()` method will also set the `stripped_title`, and the `->setBody()` method will also set the `html_body` field, because we overrode those methods in the `Question.php` model class. The user creating a question will be declared interested in it. This is intended to prevent questions with 0 interests, which would be too sad.

The end of the action contains a `->redirect()` to the detail of the question created. The main advantage over a `->forward()` in that if the user refreshes the question detail page afterwards, the form will not be submitted again. In addition, the 'back' button works as expected. That's a general rule: You should not end a form submission handling action with a `->forward()`.

The best thing is that the action still works to display the form, that is if the request is not in POST mode. It will behave exactly as the empty action written previously, returning the default `sfView::SUCCESS` that will launch the `addSuccess.php` template.

Don't forget to create the `isInterestedIn()` method in the `User` model:

```
public function isInterestedIn($question)
{
  $interest = new Interest();
  $interest->setQuestion($question);
  $interest->setUserId($this->getId());
  $interest->save();
}
```

As a minor refactoring, you can use this method in the `user/interested` action to replace the code snippet that does the same thing.

Go ahead, test it now. Using one of the test users, you can add a question.

Add a new answer

The answer addition will be implemented in a slightly different way. There is no need to redirect the user to a new page with a form, then to another page again for the answer to be displayed. So the new answer form will be in AJAX, and the new answer will appear immediately in the question detail page.

Add the AJAX form

Change the end of the `modules/question/templates/showSuccess.php` template by:

```
...
<div id="answers">
<?php foreach ($question->getAnswers() as $answer): ?>
  <div class="answer">
  <?php include_partial('answer/answer', array('answer' => $answer)) ?>
  </div>
<?php endforeach; ?>

<?php echo use_helper('User') ?>

<div class="answer" id="add_answer">
  <?php echo form_remote_tag(array(
    'url'      => '@add_answer',
    'update'   => array('success' => 'add_answer'),
    'loading'  => "Element.show('indicator')",
    'complete' => "Element.hide('indicator');".visual_effect('highlight', 'add_answer'),
  )) ?>
```

```
    <div class="form-row">
      <?php if ($sf_user->isAuthenticated()): ?>
        <?php echo $sf_user->getNickname() ?>
      <?php else: ?>
        <?php echo 'Anonymous Coward' ?>
        <?php echo link_to_login('login') ?>
      <?php endif; ?>
    </div>

    <div class="form-row">
      <label for="label">Your answer:</label>
      <?php echo textarea_tag('body', $sf_params->get('body')) ?>
    </div>

    <div class="submit-row">
      <?php echo input_hidden_tag('question_id', $question->getId()) ?>
      <?php echo submit_tag('answer it') ?>
    </div>
  </form>
</div>

</div>
```

A little refactoring

The `link_to_login()` function must be added to the `UserHelper.php` helper:

```
function link_to_login($name, $uri = null)
{
  if ($uri && sfContext::getInstance()->getUser()->isAuthenticated())
  {
    return link_to($name, $uri);
  }
  else
  {
    return link_to_function($name, visual_effect('blind_down', 'login', array('duration' => 0.5))
  }
}
```

This function does something that we already saw in the other `User` helpers: it shows a link to an action if the user is authenticated, and if not, the link points to the AJAX login form. So replace the `link_to_function()` calls in the `link_to_user_interested()` and `link_to_user_relevancy()` functions by calls to `link_to_login()`. Don't forget the link to `@add_question` in the `modules/sidebar/templates/defaultSuccess.php`. Yes, this is refactoring.

Handle the form submission

Even if it still involves a fragment, the method chosen here to handle the AJAX request is slightly different from the one described during the eighth day. This is because we want the result of the form submission to actually replace the form. That's why the `update` parameter of the `form_remote_tag()` helper points to the container of the form itself, rather than to an outer zone. The `_answer.php` fragment will be included in the result of the answer addition action, so that the final result can look like:

```
...
<div id="answers">
  <!-- Answer 1 -->
  <!-- Answer 2 -->
  <!-- Answer 3 -->
  ...
</div>

<div class="answer" id="add_answer">
  <!-- The new answer -->
</div>
```

You probably guessed how the `form_remote_tag()` javascript helper works: It handles the form submission to the action specified in the `url` argument through a XMLHttpRequest object. The result of the action replaces the element specified in the `update` argument. And, just like the `link_to_remote()` helper of day eight, it toggles the visibility of the activity indicator on and off according to the request submission, and highlights the updated part at the end of the AJAX transaction.

Let us add a few words about the user associated to the new answer. We previously mentioned that answers have to be linked to a user. If the user is authenticated, then his/her `user_id` is used for the new answer. In the other case, the `anonymous` user is used in place, unless the user chooses to login then. The `link_to_login()` helper, located in the `GlobalHelper.php` helper set, toggles the visibility of the hidden login form in the layout. Browse the askeet source to see its code.

The `answer/add` action

The `@add_answer` rule given as the `url` argument of the AJAX form points to the `answer/add` action:

```
add_answer:
  url:   /add_anwser
  param: { module: answer, action: add }
```

(In case you wonder, this configuration is to be added to the `routing.yml` application configuration file)

Here is the content of the action:

```
public function executeAdd()
{
  if ($this->getRequest()->getMethod() == sfRequest::POST)
  {
    if (!$this->getRequestParameter('body'))
    {
      return sfView::NONE;
    }

    $question = QuestionPeer::retrieveByPk($this->getRequestParameter('question_id'));
    $this->forward404Unless($question);

    // user or anonymous coward
    $user = $this->getUser()->isAuthenticated() ? $this->getUser()->getSubscriber() : UserPeer::r

    // create answer
    $this->answer = new Answer();
    $this->answer->setQuestion($question);
    $this->answer->setBody($this->getRequestParameter('body'));
    $this->answer->setUser($user);
    $this->answer->save();

    return sfView::SUCCESS;
  }

  $this->forward404();
}
```

First of all, if this action is not called in POST mode, that means that someone typed its URI in a browser address bar. The action is not designed for that type of (hacker) request, so it returns a 404 error in that case.

To determine the user to set as the answer's author, the action checks if the current user is authenticated. If this is not the case, the action uses the 'Anonymous Coward' user, thanks to a new `::retrieveByNickname()` method of the `UserPeer` class. Check the code if you have any doubt about what this method does.

After that, everything is ready to create the new question and pass the request to the `addSuccess.php` template. As expected, this template contains only one line, the `include_partial`:

```
<?php include_partial('answer', array('answer' => $answer)) ?>
```

We also need to disable layout for this action in `frontend/modules/answer/config/view.yml`:

```
addSuccess:
  has_layout: off
```

Lastly, if the user submits an empty answer, we don't want to save it. So the data handling part is bypassed, and the action returns nothing - this will simply erase the form of the page. We could have done error handling in this AJAX form, but it would imply putting the form itself in another fragment. That is not worth the effort for now.

Test it

Is that all? Yes, the AJAX form is ready to be used, clean and safe. Test it by displaying the list of answers to a question, and by adding a new answer to it. The page doesn't need a refresh, and the new answer appears at the bottom of the list of previous ones. That was simple, wasn't it?

See you Tomorrow

Classic forms and AJAX forms are equally easy to implement in a symfony application. And with these two additions, the askeet application has all the core features required to make it work.

One thing though: We didn't detail the way to register a new user. This feature was added to the current askeet SVN repository anyway, since it is very similar to what has been done today.

So ten days is all it takes to build a (very) beta version of an AJAX-enhanced FAQ with symfony. However, we want askeet to be more than that. To help build the askeet community, we need the site to deliver syndication feeds, so that a person asking a question can register to receive the answers in a feed aggregator. That will be tomorrow's tutorial.

Some of you already suggested a few ideas for the 21st day. Expand the list or support their suggestions by visiting the askeet forum.

symfony advent calendar day eleven: syndication feed

Previously on symfony

The askeet application is ready to be launched in a (early) beta stage. As a matter of fact, it could already seduce lots of users since the core features (ask questions, read answers, contribute new answers) are built. The trouble is that recurrent users will find it difficult to keep up-to-date with the latest events on the askeet website. You need to provide them with fresh news without effort, and there is a media for that: news feed. So let's add news feed to askeet today.

Popular questions feed

Link to the feed in the head

What we want is an RSS popular questions feed inserted in the `<head>` of the global layout. The resulting HTML should look like:

```
<link rel="alternate" type="application/rss+xml" title="Popular questions on askeet" href="http:/
```

To do this, open the `layout.php` and add in the `<head>`:

```
<?php echo auto_discovery_link_tag('rss', 'feed/popular') ?>
```

That's all. The `auto_discovery_link_tag` helper (autoloaded with the `AssetHelper.php` helper library) transforms the `module/action` into a site URI, passing by the routing engine.

Install the plug-in

Symfony provides a `sfFeed` plug-in that automates most of the feed generation. To install it, you will use the symfony command line.

```
$ symfony plugin-install local symfony/sfFeed
```

This installs the classes of the plug-in in the `askeet/lib/symfony/plugins/` directory, because the `local` option tells symfony to install the plug-in for the current application only. You could have installed it for all your projects by replacing `local` by `global`.

If you want to learn more about plug-ins, how they extend the framework and how you can package the features that you use across several projects into a plug-in, read the plug-in chapter of the symfony book.

Don't forget to clear the cache since the project `lib/` forlder was modified because of the plugin. By the way, if you experiment problems with the `plugin-install` command (which will probably happen if you don't use a PEAR-installed version of symfony), copy the files located in the `lib/plugins/symfony/plugins/sfFeed/` directory from the SVN repository.

We will talk about this `sfFeed` class later. But first, we need to write a few lines of code.

Create the action

The feed points to a `popular` action of the `feed` action. To create it, type:

```
$ symfony init-module frontend feed
```

Then edit the `askeet/apps/frontend/modules/feed/actions/action.class.php` and add in the following method:

```
public function executePopular()
{
  // questions
  $c = new Criteria();
  $c->addDescendingOrderByColumn(QuestionPeer::INTERESTED_USERS);
  $c->setLimit(sfConfig::get('app_feed_max'));
  $questions = QuestionPeer::doSelectJoinUser($c);

  $feed = sfFeed::newInstance('rss201rev2');

  // channel
  $feed->setTitle('Popular questions on askeet');
  $feed->setLink('@homepage');
  $feed->setDescription('A list of the most popular questions asked on the askeet site, rated by

  // items
  $feed->setFeedItemsRouteName('@question');
  $feed->setItems($questions);

  $this->feed = $feed;
}
```

Define the `app_feed_max_question` custom parameter in your `askeet/apps/frontend/config/app.yml` configuration file:

```
all:
  feed:
    max: 10
```

Change the view configuration

By default, the result of our `feed/popular` action will be decorated by the layout, and will have a `text/html` content-type. That's not what we want. So create a `view.yml` in the `askeet/apps/frontend/modules/feed/config/` directory containing:

```
all:
  has_layout: off
  template:   feed
```

This deactivates the decorator and forces the output template to `feedSuccess.php`, whatever the action.

Write the template

That's because the template is very simple and can be reused for other feeds. Just write this simple `askeet/apps/frontend/modules/feed/templates/feedSuccess.php` template:

```
<?php echo $feed->getFeed() ?>
```

Test it

Now clear the cache (because the configuration has changed), refresh any page of the site, and notice the feed icon of your favorite web browser. Check the feed by requesting manually:

```
http://askeet/feed/popular
```

The result is:

```
<?xml version="1.0" encoding="UTF-8" ?>
<rss version="2.0">
  <channel>
  <title>Popular questions on askeet</title>
  <link>http://askeet/frontend_dev.php/</link>
  <description>A list of the most popular questions asked on the askeet site, rated by the commun
  <language>en</language>
<item>

  <title>What can I offer to my step mother?</title>
  <description>My stepmother has everything a stepmother is usually offered
(watch, vacuum cleaner, earrings, [del.icio.us](http://del.icio.us) account).
Her birthday comes next week, I am broke, and I know that
if I don't offer her something *sweet*, my girlfriend
won't look at me in the eyes for another month.</description>
  <link>http://askeet/frontend_dev.php/question/what-can-i-offer-to-my-step-mother</link>
  <guid>11</guid>
  <pubDate>Sat, 10 Dec 2005 09:44:11 +0100</pubDate>
</item>
<item>

  <title>What shall I do tonight with my girlfriend?</title>
  <description>We shall meet in front of the __Dunkin'Donuts__ before dinner,
and I haven't the slightest idea of what I can do with her.
She's not interested in _programming_, _space opera movies_ nor _insects_.
She's kinda cute, so I __really__ need to find something
that will keep her to my side for another evening.</description>
  <link>http://askeet/frontend_dev.php/question/what-shall-i-do-tonight-with-my-girlfriend</link>
  <guid>10</guid>
  <author>fp@example.com (Fabien Potencier)</author>
  <pubDate>Sat, 10 Dec 2005 09:44:11 +0100</pubDate>

</item>
<item>
  <title>How can I generate traffic to my blog?</title>
  <description>I have a very swell blog that talks
about my class and mates and pets and favorite movies.</description>
  <link>http://askeet/frontend_dev.php/question/how-can-i-generate-traffic-to-my-blog</link>
  <guid>12</guid>
  <author>fz@example.com (FranÃ§ois Zaninotto)</author>

  <pubDate>Sat, 10 Dec 2005 09:44:12 +0100</pubDate>
</item>
  </channel>
</rss>
```

That fast?

The magic

Now you might say: how did symfony know where to find the question's author, his/her email, and how did symfony guess about the URI to a question detail? The answer is: That's magic.

If you don't believe in magic, then come beyond the curtain and meet the `sfFeed` class. This class is able to interpret the names of the methods of the object that is passed as a parameter to its `->setItems()` methods. The `Question` object has a `->getUser()` method, so it is used to find the author of a question. The `User` object has a `->getEmail()` method, so this one is also used to determine the author's email. And the rule name passed to the `->setFeedItemsRouteName()` method is:

```
question:
  url:   /question/:stripped_title
  param: { module: question, action: show }
```

It contains a `stripped_title` parameter, so the `->getStrippedTitle()` method of the `Question` object is called to determine the question URI.

All that happens because the getter method names make sense - and the `sfFeed` class understands objects designed that way. The inference mechanisms of this class are described in detail in the feed chapter of the symfony book - refer to it to see how to ask, for instance, a feed without email addresses even if a `->getEmail()` method exists for the object's author.

> **Note**: The view of the feed has a XML content-type, so symfony will be smart enough not to add the web debug toolbar to it (otherwise the XML would'nt be valid anymore). If you ever need to disable the web debug toolbar manually, you can always call:
>
> ```
> sfConfig::set('sf_web_debug', false);
> ```
>
> (find more about the web debug toolbar in the debug chapter of the symfony book).

Interface improvements

Routing

The URL of a feed is as important as a regular one, so append the following to the `routing.yml`:

```
# feeds
feed_popular_questions:
  url:   /feed/popular
```

```
  param: { module: feed, action: popular }
```

RSS image

Whenever a link to a list had a corresponding field, a nice RSS icon is displayed, together with a link to the RSS. As this will happen quite a few times, create a `link_to_feed()` function in the `GlobalHelper.php`:

```
function link_to_feed($name, $uri)
{
  return link_to(image_tag('feed.gif', array('alt' => $name, 'title' => $name, 'align' => 'absmid
}
```

You will find the `feed.gif` image in the SVN repository.

Now, edit the `modules/sidebar/templates/defaultSuccess.php` as follows:

```
<li><?php echo link_to('popular questions', '@popular_questions') ?> <?php echo link_to_rss('popu
```

See you Tomorrow

This tutorial was supposed to last one hour, and only fifteen minutes passed. You are worried? Don't. That's another one of the lessons of agile programming: If you find a very simple solution to your problem, it is probably the right one. There is no need to pass too much time to develop a feature if it already works. And you now know that only fifteen minutes are necessary to setup, test and launch a RSS feed. After all, symfony offers professional web tools for lazy folks, so enjoy your free time and leave your computer for today.

If you want some more symfony stuff, try making a new feed for the latest questions, the latest answers in general, and the latest answers to a question in particular. It should not take you more than fifteen more minutes, so you will have time to download the full code from the askeet SVN repository, tagged `release_day_11`, and check if you did it well. Beware that there is one hidden difficulty - pay attention to the routing rule used for the feed of the latest comments.

And if you still have a few minutes left, go to the askeet forum and express yourself.

Tomorrow, we will send emails with symfony, because we are sure that some of our users will forget their access codes. Until then, sleep tight.

symfony advent calendar day twelve: Emails

Previously on symfony

Yesterday, the askeet application was extended to broadcast content on another media - RSS feed. Symfony is not just about web pages, and today's tutorial will illustrate it again. We will send an email by taking advantage of the MVC implementation.

Password recovery

The login forms (the AJAX one in every page, and the classic one accessed by the upper menu) require a nickname and a password, but it happens very often that users forget them. We must provide a mechanism to let them connect again in this case.

As we don't store the passwords in clear, we will be obliged to reset it to a random password, and send it to the user by email. For now, a user cannot modify his/her password, so the random one will not be very easy to remember, but we will address this issue later.

Password request form

In the `user` module, we will create a new action that displays a form requesting an email address. In `askeet/apps/frontend/modules/user/actions/action.class.php`, add:

```
public function executePasswordRequest()
{
}
```

In `modules/user/templates/`, create the following `passwordRequestSuccess.php`:

```
<h2>Receive your login details by email</h2>
<p>Did you forget your password? Enter your email to receive your login details:</p>
<?php echo form_tag('@user_require_password') ?>
  <?php echo form_error('email') ?>
  <label for="email">email:</label>
  <?php echo input_tag('email', $sf_params->get('email'), 'style=width:150px') ?><br />
  <?php echo submit_tag('Send') ?>
</form>
```

This form has to be accessible from the login forms, so add in each of them (in `layout.php` and in `loginSuccess.php`):

```
<?php echo link_to('Forgot your password?', '@user_require_password') ?>
```

Add the password request rule in the application `routing.yml`:

```
user_require_password:
  url:   /password_request
  param: { module: user, action: passwordRequest }
```

Form validation

First, we will set the validation rules for the form submission. Create a `passwordRequest.yml` file in the `modules/user/validate/` directory:

```
methods:
  post:             [email]

names:
  email:
    required:       Yes
    required_msg:   You must provide an email
    validators:     emailValidator

emailValidator:
    class:          sfEmailValidator
    param:
      email_error: 'You didn''t enter a valid email address (for example: name@domain.com). Pleas
```

Next, have the `passwordRequest` form being displayed again with the error messages if an error is detected by adding to the `askeet/apps/frontend/modules/user/actions/actions.class.php`:

```
public function handleErrorPasswordRequest()
{
  return sfView::SUCCESS;
}
```

Handling the request

As described during day six, we will use the same action to handle the form submission, so modify it to:

```
public function executePasswordRequest()
{
  if ($this->getRequest()->getMethod() != sfRequest::POST)
  {
    // display the form
    return sfView::SUCCESS;
  }

  // handle the form submission
  $c = new Criteria();
  $c->add(UserPeer::EMAIL, $this->getRequestParameter('email'));
  $user = UserPeer::doSelectOne($c);

  // email exists?
  if ($user)
  {
    // set new random password
    $password = substr(md5(rand(100000, 999999)), 0, 6);
    $user->setPassword($password);

    $this->getRequest()->setAttribute('password', $password);
    $this->getRequest()->setAttribute('nickname', $user->getNickname());
    $raw_email = $this->sendEmail('mail', 'sendPassword');
    $this->logMessage($raw_email, 'debug');

    // save new password
    $user->save();

    return 'MailSent';
  }
  else
  {
    $this->getRequest()->setError('email', 'There is no askeet user with this email address. Plea

    return sfView::SUCCESS;
  }
}
```

If the user exists, the action determines a random password to give to the user. Then it passes the request to another action (`mail/sendPassword`) and gets the result in a `$raw_email` variable. The `->sendEmail()` method of the `sfAction` class is a special kind of `->forward()` that executes another action but comes back afterward (it doesn't stop the execution of the current action). In addition, it returns a raw email that can be written into a log file (you will find more information about the way to log information in the debug chapter of the symfony book).

If the email is successfully sent, the action specifies that a special template has to be used in place of the default `passwordRequestSuccess.php`: `return 'mailsent';` will launch the `passwordRequestMailSent.php` template.

> **Note**: Had we followed the example of day 6, the verification of the existence of the email address should have been done in a custom validator. But you know that "There Is More Than One Way To Do It", and the use of the `->setError()` method avoids a double request to the database, and the creation of a much longer validation file.

So create the new template `passwordRequestMailSent.php` for the confirmation page:

```
<h2>Confirmation - login information sent</h2>

<p>Your login information was sent to</p>
<p><?php echo $sf_params->get('email') ?></p>
<p>You should receive it shortly, so you can proceed to
the <?php echo link_to('login page', '@login') ?>.</p>
```

Send an email

Ok, so if a user enters a valid email address, a `mail/sendPassword` action is called. We now need to create it.

Email sending action

Create a new `mail` module:

```
$ symfony init-module frontend mail
```

Add a new `sendPassword` action to this module:

```
public function executeSendPassword()
{
  $mail = new sfMail();
  $mail->addAddress($this->getRequestParameter('email'));
  $mail->setFrom('Askeet <askeet@symfony-project.com>');
  $mail->setSubject('Askeet password recovery');

  $mail->setPriority(1);

  $mail->addEmbeddedImage(sfConfig::get('sf_web_dir').'/home/production/sfweb/web/images/askeet_l

  $this->mail = $mail;

  $this->nickname = $this->getRequest()->getAttribute('nickname');
  $this->password = $this->getRequest()->getAttribute('password');
}
```

The action uses the `sfMail` object, which is an interface to a mail sender. All the email headers are defined in the action, but as the body will be more complicated than a simple text, we choose to use a template for it - otherwise, we could use a simple `->setBody()` method.

Embedded images are added by a call to the `->addEmbeddedImage()` method, and the image path on the server, a unique ID for insertion into the template, an alternate text and a format description must be passed as arguments.

> **Note**: The `sfMail` object is also a good way to add attachments to a mail:
>
> ```
> // document attachment
> $mail->addAttachment(sfConfig::get('sf_data_dir').'/MyDocument.doc');
> // string attachment
> $mail->addStringAttachment('this is some cool text to embed', 'file.txt');
> ```

You will find more details about the `sfMail` object in the mail chapter of the symfony book.

Mail template

Once the action is executed, the mail view handles the defined variables to the `sendPasswordSuccess.php`, which is the default HTML template for the email body:

```
<p>Dear askeet user,</p>

<p>A request for <?php echo $mail->getSubject() ?> was sent to this address.</p>

<p>For safety reasons, the askeet website does not store passwords in clear.
When you forget your password, askeet creates a new one that can be used in place.</p>

<p>You can now connect to your askeet profile with:</p>

<p>
nickname: <strong><?php echo $nickname ?></strong><br/>
password: <strong><?php echo $password ?></strong>
</p>
```

```
<p>To get connected, go to the <?php echo link_to('login page', '@login') ?>
and enter these codes.</p>

<p>We hope to see you soon on <img src="cid:CID1" /></p>

<p>The askeet email robot</p>
```

Just like in any other template, the standard helpers (like the `link_to()` helper used here) work seamlessly in an email template. You can also insert any presentational HTML that you need to make the email look good.

Embedding an image is as simple as passing a `sid:` parameter corresponding to the unique id of the image loaded in the action.

Alternate mail template

If the view finds a `sendPasswordSuccess.altbody.php`, it will use it to add an alternate (text) body to the email. This allows you to define a text-only template for email clients not accepting HTML:

```
Dear askeet user,

A request for <?php echo $mail->getSubject() ?> was sent to this address.

For safety reasons, the askeet website does not store passwords in clear.
When you forget your password, askeet creates a new one that can be used in place.

You can now connect to your askeet profile with:

nickname: <?php echo $nickname ?>
password: <?php echo $password ?>

To get connected, go to the login page (http://www.askeet.com/login)
and enter these codes.

We hope to see you soon on askeet!

The askeet email robot
```

Configuration

The `sfMail` being the view defined for this action, it can accept additional configuration. Create a `mailer.yml` configuration file with:

```
dev:
  deliver:    off

all:
  mailer:     sendmail
```

This stipulates the mailer program to be used to send mails, and deactivates the sending of mails in the development environment - the emails in the test data are fake anyway.

You don't want users to have direct access to this mailing action. So create a `module.yml` in the module `config/` directory with:

```
all:
  is_internal: on
```

Test

Test the new password recovery system by creating a custom user in the test data with your personal email, launch the `import_data.php` batch.

Clear the cache and navigate to the password recovery page in the production environment. After entering your email address and submitting the form, you should receive the email shortly.

See you Tomorrow

The email system of symfony is both simple and powerful. Simple emails are as easy to send as possible; complex emails are no harder to write than complex HTML pages, and you take full advantage of the MVC architecture. So for your next emailing campaign, maybe you should use symfony instead of a commercial emailing solution...

Anyway, tomorrow will be the tag day. Askeet questions will be tagged, the tags will be searchable, and we will give you the nicest tag cloud that you have ever dreamed of.

As usual, today's code is available in the askeet SVN repository, tagged `/tags/release_day_12`. We are still uncertain about what to talk during day 21, so post your suggestions to the askeet mailing-list or to the askeet forum.

symfony advent calendar day thirteen: Tags

Previously on symfony

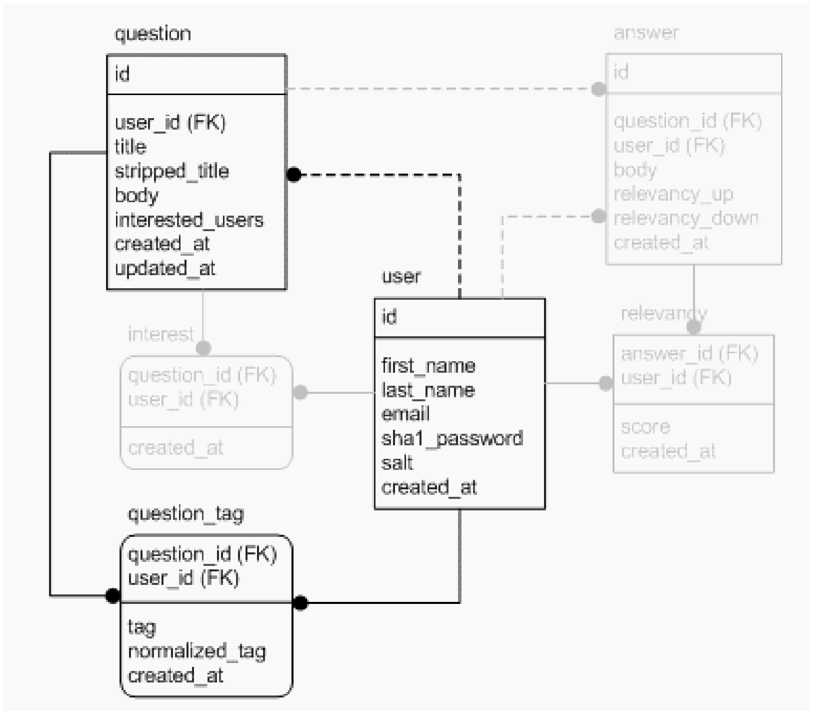
The askeet application can serve data trough a web page, a RSS feed, or email. Questions can be asked and answered. But the organization of questions is still to be developed. Organizing questions in categories and subcategories could end up in an inextricable tree structure, with thousands of branches and no easy way to know in which sub-branch a question you are looking for may be.

However, web 2.0 applications have come out with a new way of organizing items: tags. Tags are words, just as categories are. But the differences are that there is no hierarchy of tags, and that an item can have several tags. While finding a cat with categories could prove cumbersome (animal/mammal/four-legged/feline/, or other mysterious category names), it is very simple with tags (pet+cute). Add to that the ability for all users to add tags to a given question, and you get the famous concept of folksonomy.

Guess what? That's exactly what we are going to do with the askeet questions. It will take us some time (today and tomorrow), but the result is worth the pain. It will also be the occasion to show how to do complex SQL requests to a database using a Creole connection. Let's go.

The `QuestionTag` class

There are several ways to implement tags. We chose to add a `QuestionTag` table with the following structure:



When a user tags a question, it creates a new record in the `question_tag` table, linked to both the `user` table and the `question` table. There are two versions of the tag recorded: The one entered by the user, and a normalized version (all lower case, without any special character) used for indexing.

Schema update

As usual, adding a table to a symfony project is done by appending its Propel definition to the `schema.xml` file:

```
...
<table name="ask_question_tag" phpName="QuestionTag">
  <column name="question_id" type="integer" primaryKey="true" />
  <foreign-key foreignTable="ask_question">
    <reference local="question_id" foreign="id" />
  </foreign-key>
  <column name="user_id" type="integer" primaryKey="true" />
  <foreign-key foreignTable="ask_user">
    <reference local="user_id" foreign="id" />
  </foreign-key>
  <column name="created_at" type="timestamp" />
  <column name="tag" type="varchar" size="100" />
  <column name="normalized_tag" type="varchar" size="100" primaryKey="true" />
  <index name="normalized_tag_index">
    <index-column name="normalized_tag" />
  </index>
</table>
```

Rebuild the object model:

```
$ symfony propel-build-model
```

Custom class

Add a new `Tag.class.php` in the `askeet/lib/` directory with the following methods:

```
<?php

class Tag
{
  public static function normalize($tag)
  {
    $n_tag = strtolower($tag);

    // remove all unwanted chars
    $n_tag = preg_replace('/[^a-zA-Z0-9]/', '', $n_tag);

    return trim($n_tag);
  }

  public static function splitPhrase($phrase)
  {
    $tags = array();
    $phrase = trim($phrase);
    $words = preg_split('/(")/', $phrase, -1, PREG_SPLIT_NO_EMPTY | PREG_SPLIT_DELIM_CAPTURE);
    $delim = 0;
    foreach ($words as $key => $word)
    {
      if ($word == '"')
      {
        $delim++;
        continue;
      }
      if (($delim % 2 == 1) && $words[$key - 1] == '"')
      {
        $tags[] = trim($word);
      }
      else
      {
        $tags = array_merge($tags, preg_split('/\s+/', trim($word), -1, PREG_SPLIT_NO_EMPTY));
      }
    }

    return $tags;
  }
}

?>
```

The first method returns a normalized tag, the second one takes a phrase as argument and returns an array of tags. These two methods will be of great use when manipulating tags.

The interest of adding the class in the `lib/` directory is that it will be loaded automatically and only when needed, without needing to require it. It's called **autoloading**.

Extend the model

In the new `askeet/lib/model/QuestionTag.php`, add the following method to set the `normalized_tag` when the `tag` is set:

```
public function setTag($v)
{
  parent::setTag($v);

  $this->setNormalizedTag(Tag::normalize($v));
}
```

The helper class that we just created is already of great use: It reduces the code of this method to only two lines.

Add some test data

Append a file to the `askeet/data/fixtures/` directory with some tag test data in it:

```
QuestionTag:
  t1: { question_id: q1, user_id: fabien, tag: relatives }
  t2: { question_id: q1, user_id: fabien, tag: girl }
  t4: { question_id: q1, user_id: francois, tag: activities }
  t6: { question_id: q2, user_id: francois, tag: 'real life' }
  t5: { question_id: q2, user_id: fabien, tag: relatives }
  t5: { question_id: q2, user_id: fabien, tag: present }
  t6: { question_id: q2, user_id: francois, tag: 'real life' }
  t7: { question_id: q3, user_id: francois, tag: blog }
  t8: { question_id: q3, user_id: francois, tag: activities }
```

Make sure this file comes after the other files of the directory in the alphabetical order, so that the `sfPropelData` object can link these new records with the related records of the `Question` and `User` tables. You can now repopulate your database by calling:

```
$ php batch/load_data.php
```

We are now ready to work on tags in the actions. But first, let us extend the model for the `Question` class.

Display the tags of a question

Before adding anything to the controller layer, let's add a new `tag` module so that things keep organized:

```
$ symfony init-module frontend tag
```

Extend model

We will need to display the whole list of words tagged by all users for a given question. As the ability to retrieve the related tags should be a method of the `Question` class, we will extend it (in `askeet/lib/model/Question.php`). The trick here is to group double entries to avoid double tags (two identical tags should only appear once in the result). The new method has to return a tag array:

```
public function getTags()
{
  $c = new Criteria();
  $c->clearSelectColumns();
  $c->addSelectColumn(QuestionTagPeer::NORMALIZED_TAG);
  $c->add(QuestionTagPeer::QUESTION_ID, $this->getId());
  $c->setDistinct();
  $c->addAscendingOrderByColumn(QuestionTagPeer::NORMALIZED_TAG);

  $tags = array();
  $rs = QuestionTagPeer::doSelectRS($c);
  while ($rs->next())
  {
    $tags[] = $rs->getString(1);
  }

  return $tags;
}
```

This time, as we need only one column (the `normalized_tag`), there is no point to ask Propel to return an array of `Tag` objects populated from the database (this process, by the way, is called *hydrating*). So we do a simple query that we parse into an array, which is much faster.

Modify the view

The question detail page should now display the list of tags for a given question. We will use the sidebar for that. As it has been built as a component slot during the seventh day, we can set a specific component for this bar in the question module only.

So in `askeet/apps/frontend/modules/question/config/view.yml`, add the following configuration:

```
showSuccess:
  components:
    sidebar: [sidebar, question]
```

This component of the `sidebar` module is not yet created, but it is quite simple (in `modules/sidebar/actions/components.class.php`):

```
public function executeQuestion()
{
  $this->question = QuestionPeer::getQuestionFromTitle($this->getRequestParameter('stripped_title
}
```

The longest part to write is the fragment (`modules/sidebar/templates/_question.php`):

```
<?php include_partial('sidebar/default') ?>

<h2>question tags</h2>

<ul id="question_tags">
  <?php include_partial('tag/question_tags', array('question' => $question, 'tags' => $question->
</ul>
```

We choose to insert the list of tags as a fragment because it will be refreshed by an AJAX request a bit later.

This partial has to be created in `modules/tag/templates/_question_tags.php`:

```
<?php foreach($tags as $tag): ?>
  <li><?php echo link_to($tag, '@tag?tag='.$tag, 'rel=tag') ?></li>
<?php endforeach; ?>
```

The `rel=tag` attribute is a MicroFormat. It is by no means compulsory, but as it costs nothing to add it here, we'll let it stay.

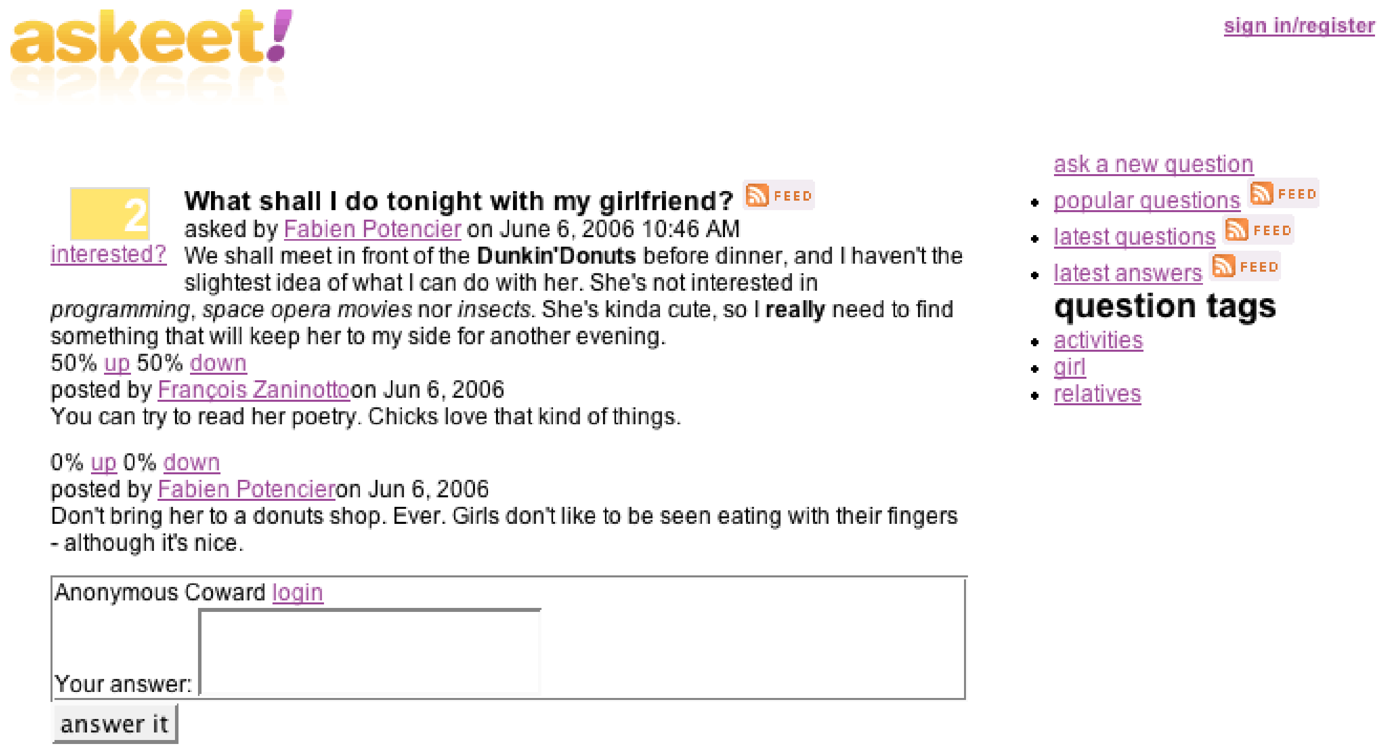
Add the `@tag` routing rule in the `routing.yml`:

```
tag:
  url:   /tag/:tag
  param: { module: tag, action: show }
```

Test it

Display the detail of the first question and look for the list of tags in the sidebar:

```
http://askeet/question/what-can-i-offer-to-my-step-mother
```



What shall I do tonight with my girlfriend?
asked by Fabien Potencier on June 6, 2006 10:46 AM
We shall meet in front of the **Dunkin'Donuts** before dinner, and I haven't the slightest idea of what I can do with her. She's not interested in *programming*, *space opera movies* nor *insects*. She's kinda cute, so I **really** need to find something that will keep her to my side for another evening.
50% up 50% down
posted by François Zaninottoon Jun 6, 2006
You can try to read her poetry. Chicks love that kind of things.

0% up 0% down
posted by Fabien Potencieron Jun 6, 2006
Don't bring her to a donuts shop. Ever. Girls don't like to be seen eating with their fingers - although it's nice.

Anonymous Coward login
Your answer:

question tags
- activities
- girl
- relatives

Display a short list of popular tags for a question

The sidebar is a good place to show the whole list of tags for a question. But what about the tags displayed in the list of questions? For each question, we should only display a subset of tags. But which ones? We will choose the most popular ones, i.e. the tags than have been given to this question most often. We will probably have to encourage users to keep on tagging a question with existing tags to increase the popularity of relevant tags for this question. If all users don't do that, maybe "moderators" will do it.

Extend the model

Anyway, this means that we have to add a `->getPopularTags()` method to our `Question` object. But this time, the request to the database is not simple. Using Propel to do it would multiply the number of requests and take way too much time. Symfony allows you to use the power of SQL when it is the best solution, so we will just need a Creole connection to the database and execute a regular SQL query.

This query should be something like:

```
SELECT normalized_tag AS tag, COUNT(normalized_tag) AS count
FROM question_tag
```

```
WHERE question_id = $id
GROUP BY normalized_tag
ORDER BY count DESC
LIMIT $max
```

However, using the actual column and table names creates a dependency to the database and bypasses the data abstraction layer. If, in the future, you decide to rename a column or a table, this raw SQL query will not work anymore. That's why the symfony version of the request doesn't use the current names but the abstracted ones instead. It is slightly harder to read, but it is much easier to maintain.

```
public function getPopularTags($max = 5)
{
  $tags = array();

  $con = Propel::getConnection();
  $query = '
    SELECT %s AS tag, COUNT(%s) AS count
    FROM %s
    WHERE %s = ?
    GROUP BY %s
    ORDER BY count DESC
  ';

  $query = sprintf($query,
    QuestionTagPeer::NORMALIZED_TAG,
    QuestionTagPeer::NORMALIZED_TAG,
    QuestionTagPeer::TABLE_NAME,
    QuestionTagPeer::QUESTION_ID,
    QuestionTagPeer::NORMALIZED_TAG
  );

  $stmt = $con->prepareStatement($query);
  $stmt->setInt(1, $this->getId());
  $stmt->setLimit($max);
  $rs = $stmt->executeQuery();
  while ($rs->next())
  {
    $tags[$rs->getString('tag')] = $rs->getInt('count');
  }

  return $tags;
}
```

First, a connection to the database is opened in `$con`. The SQL query is built by replacing `%s` tokens in a string by the column and table names that come from the abstraction layer. A `Statement` object containing the query and a `ResultSet` object containing the result of the query are created. These are Creole objects, and their use is described in detail in the Creole documentation. The `->setInt()` method of the `Statement` object replaces the first `?` in the SQL query by the question `id`. The `$max` argument is used to limit the number of results returned with the `->setLimit()` method.

The method returns an associative array of normalized tags and popularity, ordered by descending popularity, with only one request to the database.

Modify the view

Now we can add the list of tags for a question, which is formatted in a `_list.php` fragment in the `modules/question/templates/` directory:

```
<?php use_helpers('Text', 'Date', 'Global', 'Question') ?>

<?php foreach($question_pager->getResults() as $question): ?>
  <div class="question">
    <div class="interested_block" id="block_<?php echo $question->getId() ?>">
      <?php include_partial('question/interested_user', array('question' => $question)) ?>
    </div>

    <h2><?php echo link_to($question->getTitle(), '@question?stripped_title='.$question->getStrip

    <div class="question_body">
      <div>asked by <?php echo link_to($question->getUser(), '@user_profile?nickname='.$question-
      <?php echo truncate_text(strip_tags($question->getHtmlBody()), 200) ?>
    </div>

    tags: <?php echo tags_for_question($question) ?>

  </div>
<?php endforeach; ?>

<div id="question_pager">
  <?php echo pager_navigation($question_pager, $rule) ?>
</div>
```

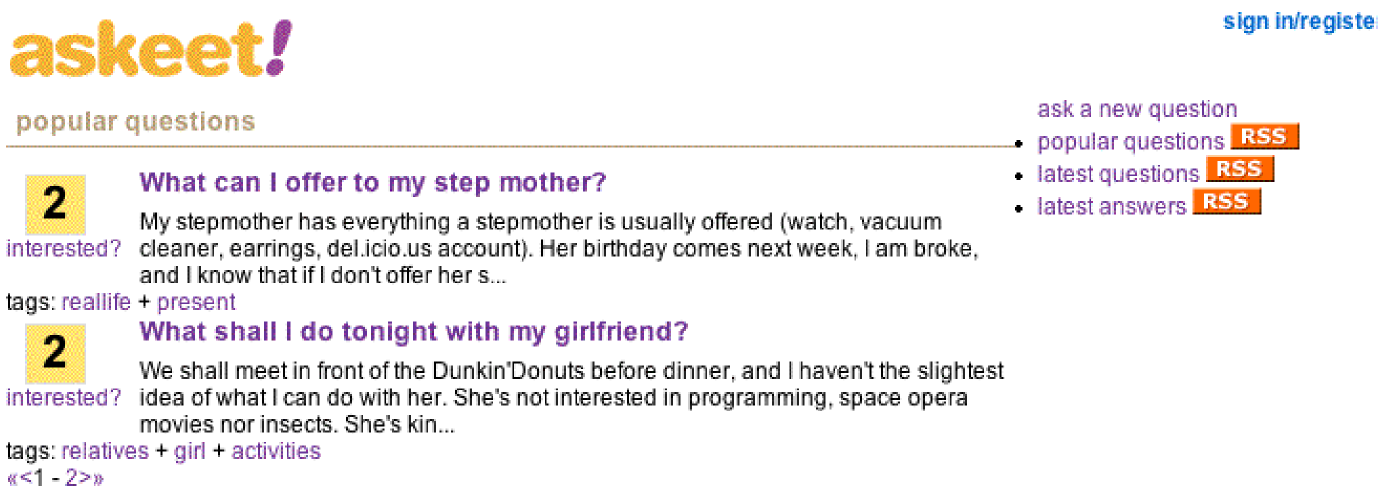
Because we want to separate the tags by a + sign, and to avoid too much code in the template to deal with the limits, we write a `tags_for_question()` helper function in a new `lib/helper/QuestionHelper.php` helper library:

```
function tags_for_question($question, $max = 5)
{
  $tags = array();

  foreach ($question->getPopularTags($max) as $tag => $count)
  {
    $tags[] = link_to($tag, '@tag?tag='.$tag);
  }

  return implode(' + ', $tags);
}
```

Test

The list of questions now displays the popular tags for each question:

```
http://askeet/
```



sign in/registe

popular questions

ask a new question
- popular questions RSS
- latest questions RSS
- latest answers RSS

2 interested?
What can I offer to my step mother?
My stepmother has everything a stepmother is usually offered (watch, vacuum cleaner, earrings, del.icio.us account). Her birthday comes next week, I am broke, and I know that if I don't offer her s...
tags: reallife + present

2 interested?
What shall I do tonight with my girlfriend?
We shall meet in front of the Dunkin'Donuts before dinner, and I haven't the slightest idea of what I can do with her. She's not interested in programming, space opera movies nor insects. She's kin...
tags: relatives + girl + activities
«<1 - 2>»

Display the list of questions tagged with a word

Each time we displayed a tag, we added a link to a `@tag` routing rule. This is supposed to link to a page that displays the popular questions tagged with a given tag. It is simple to write, so we won't delay it anymore.

The `tag/show` action

Create a `show` action in the `tag` module:

```
public function executeShow()
{
  $this->question_pager = QuestionPeer::getPopularByTag($this->getRequestParameter('tag'), $this-
}
```

Extend the model

As usual, the code that deals with the model is placed in the model, this time in the `QuestionPeer` class since it returns a set of `Question` objects. We want the popular question by interested users, so this time, there is no need for a complex request. Propel can do it with a single `->doSelect()` call:

```
public static function getPopularByTag($tag, $page)
{
  $c = new Criteria();
  $c->add(QuestionTagPeer::NORMALIZED_TAG, $tag);
  $c->addDescendingOrderByColumn(QuestionPeer::INTERESTED_USERS);
  $c->addJoin(QuestionTagPeer::QUESTION_ID, QuestionPeer::ID, Criteria::LEFT_JOIN);

  $pager = new sfPropelPager('Question', sfConfig::get('app_pager_homepage_max'));
  $pager->setCriteria($c);
  $pager->setPage($page);
  $pager->init();

  return $pager;
}
```

The method returns a pager of questions, ordered by popularity.

Create the template

The `modules/tag/templates/showSuccess.php` template is as simple as you expect it to be:

```
<h1>popular questions for tag "<?php echo $sf_params->get('tag') ?>"</h1>

<?php include_partial('question/list', array('question_pager' => $question_pager, 'rule' => '@tag
```

Add the `page` parameter in the routing rule

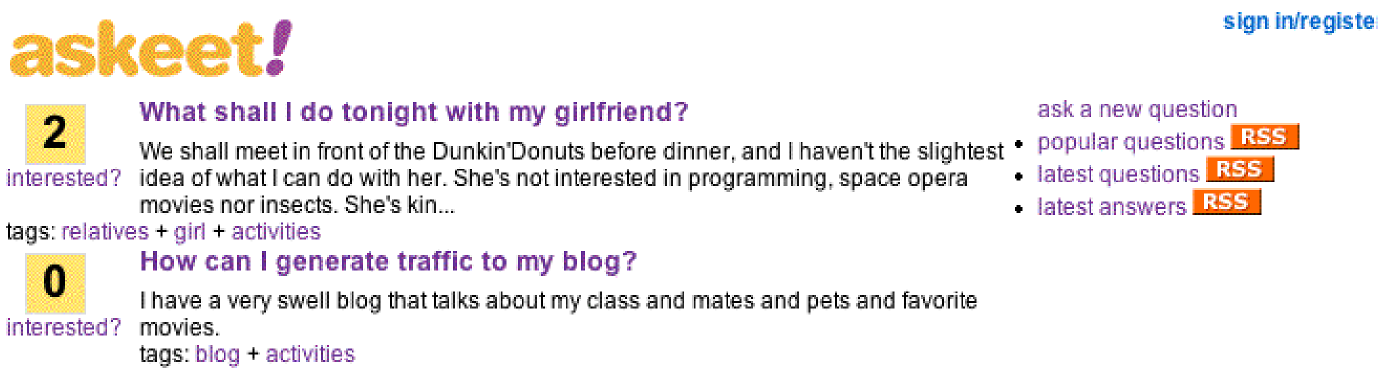
In the `routing.yml`, add a `:page` parameter with a default value in the `@tag` routing rule:

```
tag:
  url:   /tag/:tag/:page
  param: { module: tag, action: show, page: 1 }
```

Test it

Navigate to the `activities` tag page to see all the questions tagged with this word:

```
http://askeet/tag/activities
```



2 interested? **What shall I do tonight with my girlfriend?**
We shall meet in front of the Dunkin'Donuts before dinner, and I haven't the slightest idea of what I can do with her. She's not interested in programming, space opera movies nor insects. She's kin...
tags: relatives + girl + activities

0 interested? **How can I generate traffic to my blog?**
I have a very swell blog that talks about my class and mates and pets and favorite movies.
tags: blog + activities

See you Tomorrow

The Creole database abstraction layer allows symfony to do complex SQL requests. On top of that, the Propel object-relational mapping gives you the tools to work in an object-oriented world, useful methods that keep you from worrying about the database, and it transforms requests into simple sentences.

Some of you may worry about the important load that the above requests may put on the database. Optimizations are still possible - for instance, you could create a `popular_tags` column in the `Question` table, updated by a transaction each time a related `QuestionTag` is created. The list of questions would then be much less heavy. But the benefits of the cache system - which we will discuss in a few days - make this optimization useless.

Tomorrow, we will finish the tag features of the askeet application. Users will be able to add tags to a question, and a global tag bubble will be made available. Make sure you come back to read about it.

The full code of the askeet application as of today can be grabbed from the askeet SVN repository, tagged `/tags/release_day_13/`. If you have any questions about today's tutorial, feel free to ask them in the askeet forum.

symfony advent calendar day fourteen: Tags, part II

Previously on symfony

During yesterday's tutorial, we built the first part of the folksonomy features of symfony. The `QuestionTag` class and the other extensions to the model helped us to display the tags of a question in the question list and in the question detail. In addition, the list of popular questions for a given tag was also developed.

There are two things that are left to do concerning tags, and they both sound quite 'web 2.0': The ability to add a new tag with an AJAX form, and the global askeet tag bubble. Are you ready to experience the agile development methods of symfony?

Add tags to a question

The form

Not only do we want to give the ability to a registered user to add a tag for a question, we also want to suggest one of the tags given to other questions before if they match the first letters he/she types. This is called auto complete. If you ever played with google suggest, you know what this is about.

Yesterday, we created a fragment that is inserted in the sidebar when a question detail is displayed. Edit this `askeet/apps/frontend/modules/sidebar/templates/_question.php` file to add a form at the end:

```
...
<?php if ($sf_user->isAuthenticated()): ?>
  <div>Add your own:
    <?php echo form_remote_tag(array(
      'url'    => '@tag_add',
      'update' => 'question_tags',
    )) ?>
      <?php echo input_hidden_tag('question_id', $question->getId()) ?>
      <?php echo input_auto_complete_tag('tag', '', 'tag/autocomplete', 'autocomplete=off', 'use_
      <?php echo submit_tag('Tag') ?>
    </form>
  </div>
<?php endif; ?>
```

Of course, as a tag has to be linked to a user, the addition of a new tag is restricted to authenticated users. We will talk in a minute about the `form_remote_tag()` helper. But first, let's have a look at the auto complete `input` tag. It specifies an action (here, `tag/autocomplete`) to get the array of matching options.

Autocomplete

The list that the action should return is a list of tags entered by the user that match the entry in the `tag` field, without duplicates, ordered by alphabetical order. The SQL query that returns this is:

```
SELECT DISTINCT tag AS tag
FROM question_tag
WHERE user_id = $id AND tag LIKE $entry
ORDER BY tag
```

Add this action to the `modules/tag/actions/action.class.php` file:

```
public function executeAutocomplete()
{
  $this->tags = QuestionTagPeer::getTagsForUserLike($this->getUser()->getSubscriberId(), $this->g
}
```

As usual, the heart of the database query lies in the model. Add the following method to the `QuestionTagPeer` class:

```
public static function getTagsForUserLike($user_id, $tag, $max = 10)
{
  $tags = array();

  $con = Propel::getConnection();
  $query = '
    SELECT DISTINCT %s AS tag
    FROM %s
    WHERE %s = ? AND %s LIKE ?
    ORDER BY %s
  ';

  $query = sprintf($query,
    QuestionTagPeer::TAG,
    QuestionTagPeer::TABLE_NAME,
    QuestionTagPeer::USER_ID,
    QuestionTagPeer::TAG,
    QuestionTagPeer::TAG
  );

  $stmt = $con->prepareStatement($query);
  $stmt->setInt(1, $user_id);
  $stmt->setString(2, $tag.'%');
  $stmt->setLimit($max);
  $rs = $stmt->executeQuery();
  while ($rs->next())
  {
    $tags[] = $rs->getString('tag');
  }

  return $tags;
}
```

Now that the action has determined the list of tags, we only need to shape them in the `autocompleteSuccess.php` template:

```
<ul>
<?php foreach ($tags as $tag): ?>
  <li><?php echo $tag ?></li>
<?php endforeach; ?>
</ul>
```

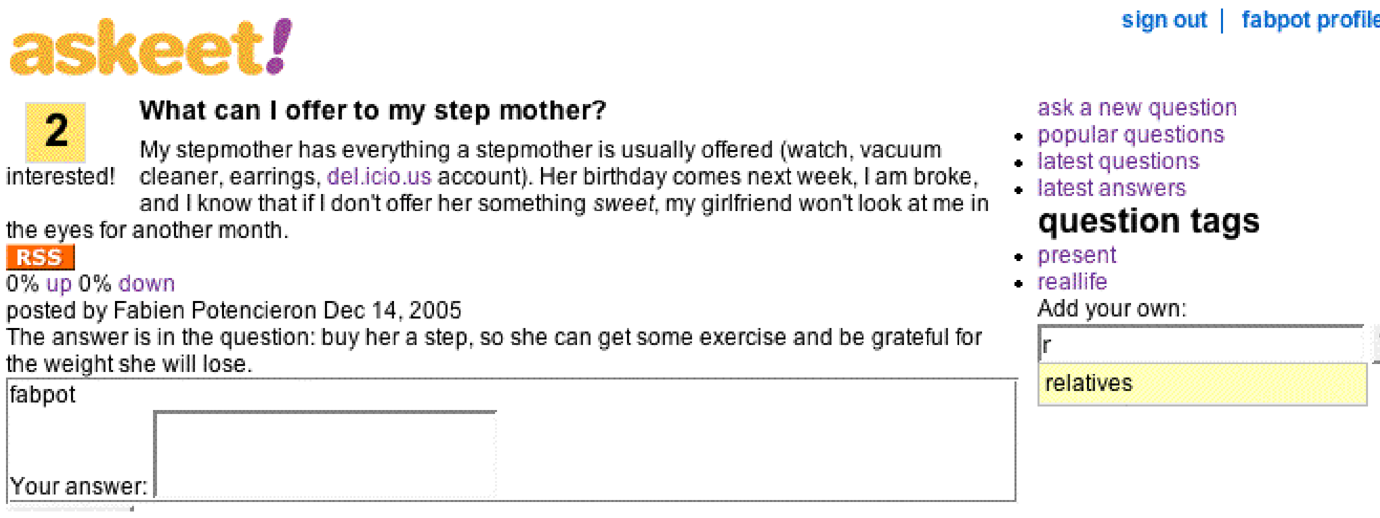
Add a new `routing.yml` route (and use it instead of the `module/action` in the `input_auto_complete_tag()` call of the `_question.php` partial):

```
tag_autocomplete:
  url:   /tag_autocomplete
  param: { module: tag, action: autocomplete }
```

And configure your `view.yml`:

```
autocompleteSuccess:
  has_layout:   off
  components:   []
```

Go ahead, you can try it: After registering with an existing account (for instance: fabpot/symfony), display a question and notice the new field in the sidebar. Type in the first letters of a tag already given by this user (for instance: relatives) and watch the div which appears below the field, suggesting the appropriate entry.


sign out | fabpot profile

What can I offer to my step mother?

2 interested!

My stepmother has everything a stepmother is usually offered (watch, vacuum cleaner, earrings, del.icio.us account). Her birthday comes next week, I am broke, and I know that if I don't offer her something *sweet*, my girlfriend won't look at me in the eyes for another month.

RSS

0% up 0% down

posted by Fabien Potencieron Dec 14, 2005

The answer is in the question: buy her a step, so she can get some exercise and be grateful for the weight she will lose.

fabpot

Your answer:

ask a new question
- popular questions
- latest questions
- latest answers

question tags
- present
- reallife

Add your own:

r

relatives

Remote form

When the form is submitted, there is no need to refresh the full page: Only the list of tags and the form to add a tag have to be refreshed. That's the purpose of the `form_remote_tag()` helper, which specifies the action to be called when the form is submitted (`tag/add`), and the zone of the page to be updated by the result of this action (the element identified 'question_tags'). This has already been explained during the eighth day, with the AJAX form to add a question.

Let's create the `executeAdd()` method in the `tag` actions:

```
public function executeAdd()
{
  $this->question = QuestionPeer::retrieveByPk($this->getRequestParameter('question_id'));
  $this->forward404Unless($this->question);

  $userId = $this->getUser()->getSubscriberId();
  $phrase = $this->getRequestParameter('tag');
  $this->question->addTagsForUser($phrase, $userId);
  $this->tags = $this->question->getTags();
}
```

And the addTagsForUser in the Question class:

```
public function addTagsForUser($phrase, $userId)
{
  // split phrase into individual tags
  $tags = Tag::splitPhrase($phrase);

  // add tags
  foreach ($tags as $tag)
  {
    $questionTag = new QuestionTag();
    $questionTag->setQuestionId($this->getId());
    $questionTag->setUserId($userId);
    $questionTag->setTag($tag);
    $questionTag->save();
  }
}
```

The addSuccess.php template will determine the code that will replace the update zone. As usual with AJAX actions, it contains a simple include_partial():

```
<?php include_partial('tag/question_tags', array('question' => $question, 'tags' => $tags)) ?>
```

Add a new routing.yml route:

```
tag_add:
  url:   /tag_add
  param: { module: tag, action: add }
```

And configure your view.yml:

```
addSuccess:
  has_layout:    off
  components:    []
```

Test it

Try it on: Login to the site, display a question detail, enter a new tag and submit. The whole list updates, and the new tag inserts were it should in the alphabetical order.

Display the tag bubble

Folksonomy allows to rate a tag with a popularity. But the amount of tags make a list of tags difficult to read. The most satisfying solution, visually speaking, is to increase the size of a tag word according to its popularity, so that the most popular tags - the ones that are given most by users - appear immediately. Check the del.icio.us popular tags page to understand what a tag bubble is.

80% of the visits to a website concern less than 20% of its content, that's a rule that many website verify every day, and askeet will probably be no different. So if askeet proposes a list of tags, it will have to be arranged by popularity as well, to limit the perturbation of the most unpopular tags ('grandma', 'chocolate') and to increase the visibility of the most popular ones ('php', 'real life', 'useful').

Extend the `QuestionTagPeer` class

The provider of the list of popular tags cannot be another class than `QuestionTagPeer`. Extend it with a new method, in which we will experiment an alternative way of writing SQL queries:

```
public static function getPopularTags($max = 5)
{
  $tags = array();

  $con = Propel::getConnection();
  $query = '
    SELECT '.QuestionTagPeer::NORMALIZED_TAG.' AS tag,
    COUNT('.QuestionTagPeer::NORMALIZED_TAG.') AS count
    FROM '.QuestionTagPeer::TABLE_NAME.'
    GROUP BY '.QuestionTagPeer::NORMALIZED_TAG.'
    ORDER BY count DESC';

  $stmt = $con->prepareStatement($query);
  $stmt->setLimit($max);
  $rs = $stmt->executeQuery();
  $max_popularity = 0;
  while ($rs->next())
  {
    if (!$max_popularity)
    {
      $max_popularity = $rs->getInt('count');
    }

    $tags[$rs->getString('tag')] = floor(($rs->getInt('count') / $max_popularity * 3) + 1);
  }

  ksort($tags);

  return $tags;
}
```

We limit the number of popularity degrees to 4, because otherwise the tag cloud would become unreadable. The result of the method is an associative array of tag names and popularity. We are ready to display it.

Display a tag bubble

Create a simple `popular` action in the `tag` module:

```
public function executePopular()
{
  $this->tags = QuestionTagPeer::getPopularTags(sfConfig::get('app_tag_cloud_max'));
}
```

Nearly as simple as the action is the `popularSuccess.php` template:

```
<h1>popular tags</h1>

<ul id="tag_cloud">
  <?php foreach($tags as $tag => $count): ?>
  <li class="tag_popularity_<?php echo $count ?>"><?php echo link_to($tag, '@tag?tag='.$tag, 'rel
  <?php endforeach; ?>
</ul>
```

Don't forget to add a routing rule for this new action in the `routing.yml` configuration file:

```
popular_tags:
  url:   /popular_tags
  param: { module: tag, action: popular }
```

And the `app_tag_cloud_max` parameter in the application `app.yml`:

```
all:
  tag:
    cloud_max:   40
```

Everything is ready: display the tag cloud by requesting

```
http://askeet/popular_tags
```

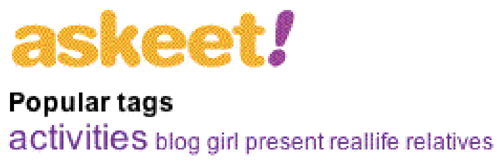
Style the tag list items

But where is the cloud? All that the action returns is a list of tags, in alphabetical order. The real shaping is done by a stylesheet, as recommended by web standards. Append the following declarations to the `main.css` stylesheet (located in `askeet/web/css`).

```
ul#tag_cloud
{
  list-style: none;
}

ul#tag_cloud li
{
  list-style: none;
  display: inline;
}

ul#tag_cloud li.tag_popularity_1
{
  font-size: 60%;
}

ul#tag_cloud li.tag_popularity_2
{
  font-size: 100%;
}

ul#tag_cloud li.tag_popularity_3
```

```
{
  font-size: 130%;
}

ul#tag_cloud li.tag_popularity_4
{
  font-size: 160%;
}
```

Refresh the popular tags page, and voila!



See you Tomorrow

Adding taxonomy to your site is not a big deal with symfony. Complex requests, autocomplete forms and local refresh of a page after a form submission need only a few lines of code.

But the facility to develop applications must not let you forget the good principles of development, and you should always test all the changes you make. The best tool to allow you to develop fast and to refactor often are the unit tests, the latest great advance in computer programming, and we will be dealing with them tomorrow.

Until then, you can post your suggestions for the 21st day to the askeet mailing-list. If you want to download the entire code of the application so far, head to the askeet SVN repository, and the `/tags/release_day_14` tag.

symfony advent calendar day fifteen: Unit tests

Previously on symfony

The questions are now well organized in the askeet website, thanks to the community tagging feature that we added yesterday.

But there is a thing that has not been described until now, despite its importance in the life of web applications. Unit tests are one of the greatest advances in programming since object orientation. They allow for a safe development process, refactoring without fear, and can sometimes replace documentation since they illustrate quite clearly what an application is supposed to do. Symfony supports and recommends unit testing, and provides tools for that. The overview of these tools - and the addition of a few unit tests to askeet - will take much of our time today.

Simple test

There are many unit test frameworks in the PHP world, mostly based on Junit. We didn't develop another one for symfony, but instead we integrated the most mature of them all, Simple Test. It is stable, well documented, and offers tons of features that are of considerable value for all PHP projects, including symfony ones. If you don't know it already, you are strongly advised to browse their documentation, which is very clear and progressive.

Simple Test is not bundled with symfony, but very simple to install. First, download the Simple Test PEAR installable archive at SourceForge. Install it via pear by calling:

```
$ pear install simpletest_1.0.0.tgz
```

If you want to write a batch script that uses the Simple Test library, all you have to do is insert these few lines of code on top of the script:

```
<?php

require_once('simpletest/unit_tester.php');
require_once('simpletest/reporter.php');

?>
```

Symfony does it for you if you use the test command line; we will talk about it shortly.

> **Note**: Due to non backward-compatible changes in PHP 5.0.5, Simple Test is currently not working if you have a PHP version higher than 5.0.4. This should change shortly (an alpha version addressing this problem is available), but unfortunately the rest of this tutorial will probably not work if you have a later version.

Unit tests in a symfony project

Default unit tests

Each symfony project has a `test/` directory, divided into application subdirectories. For askeet, if you browse to the `askeet/test/frontend/` directory, you will see that a few files already exist there:

```
answerActionsTest.php
feedActionsTest.php
mailActionsTest.php
sidebarActionsTest.php
userActionsTest.php
```

They all contain the same initial code:

```
<?php

class answerActionsWebBrowserTest extends UnitTestCase
{
  private
    $browser = null;

  public function setUp ()
  {
    // create a new test browser
    $this->browser = new sfTestBrowser();
    $this->browser->initialize('hostname');
  }

  public function tearDown ()
  {
    $this->browser->shutdown();
  }

  public function test_simple()
  {
    $url = '/answer/index';
    $html = $this->browser->get($url);
    $this->assertWantedPattern('/answer/', $html);
  }
}

?>
```

The `UnitTestCase` class is the core class of the Simple Test unit tests. The `setUp()` method is run just before each test method, and `tearDown()` is run just after each test method. The actual test methods start with the word 'test'. To check if a piece of code is behaving as you expect, you use an assertion, which is a method call that verifies that something is true. In Simple Test, assertions start by `assert`. In this example, one unit test is implemented, and it looks for the word 'user' in the default page of the module. This autogenerated file is a stub for you to start.

As a matter of fact, every time you call a `symfony init-module`, symfony creates a skeleton like this one in the `test/[appname]/` directory to store the unit tests related to the created module. The trouble is that as soon as you modify the default template, the stub tests don't pass anymore (they check the default title of the page, which is 'module $modulename'). So for now, we will erase these files and work on our own test cases.

Add a unit test

During day 13, we created a `Tag.class.php` file with two functions dedicated to tag manipulation. We will add a few unit tests for our Tag library.

Create a `TagTest.php` file (all the test case files must end with `Test` for Simple Test to find them):

```
<?php

require_once('Tag.class.php');

class TagTest extends UnitTestCase
{
  public function test_normalize()
  {
    $tests = array(
      'FOO'       => 'foo',
      '   foo'    => 'foo',
      'foo   '    => 'foo',
      ' foo '     => 'foo',
      'foo-bar'   => 'foobar',
    );

    foreach ($tests as $tag => $normalized_tag)
    {
      $this->assertEqual($normalized_tag, Tag::normalize($tag));
    }
  }
}

?>
```

The first test case that we will implement concerns the `Tag::normalize()` method. Unit tests are supposed to test one case at a time, so we decompose the expected result of the text method into elementary cases. We know that the `Tag::normalize()` method is supposed to return a lower-case version of its argument, without any spaces - either before or after the argument - and without any special character. The five test cases defined in the `$test` array are enough to test that.

For each of the elementary test cases, we then compare the normalized version of the input with the expected result, with a call to the `->assertEqual()` method. This is the heart of a unit test. If it fails, the name of the test case will be output when the test suite is run. If it passes, it will simply add to the number of passed tests.

We could add a last test with the word `'  FOo-bar  '`, but it mixes elementary cases. If this test fails, you won't have a clear idea of the precise cause of the problem, and you will need to investigate further. Keeping to elementary cases gives you the insurance that the error will be located easily.

> **Note**: The extensive list of the `assert` methods can be found in the Simple Test documentation.

Running unit tests

The symfony command line allows you to run all the tests at once with a single command (remember to call it from your project root directory):

```
$ symfony test frontend
```

Calling this command executes all the tests of the `test/frontend/` directory, and for now it is only the ones of our new `TagTest.php` set. These tests will pass and the command line will show:

```
$ symfony test frontend
Test suite in (test/frontend)
OK
Test cases run: 1/1, Passes: 5, Failures: 0, Exceptions: 0
```

> **Note**: Tests launched by the symfony command line don't need to include the Simple Test library (`unit_tester.php` and `reporter.php` are included automatically).

The other way around

The greatest benefit of unit tests is experienced when doing test-driven development. In this methodology, the tests are written before the function is written.

With the example above, you would write an empty `Tag::normalize()` method, then write the first test case ('Foo'/'foo'), then run the test suite. The test would fail. You would then add the necessary code to transform the argument into lowercase and return it in the `Tag::normalize()` method, then run the test again. The test would pass this time.

So you would add the tests for blanks, run them, see that they fail, add the code to remove the blanks, run the tests again, see that they pass. Then do the same for the special characters.

Writing tests first helps you to focus on the things that a function should do before actually developing it. It's a good practice that others methodologies, like eXtreme Programming, recommend as well. Plus it takes into account the undeniable fact that if you don't write unit tests first, you never write them.

One last recommendation: keep your unit tests as simple as the ones described here. An application built with a test driven methodology ends up with roughly as much test code as actual code, so you don't want to spend time debugging your tests cases...

When a test fails

We will now add the tests to check the second method of the `Tag` object, which splits a string made of several tags into an array of tags. Add the following method to the `TagTest` class:

```
public function test_splitPhrase()
```

```
{
  $tests = array(
    'foo'                => array('foo'),
    'foo bar'            => array('foo', 'bar'),
    '  foo    bar  '     => array('foo', 'bar'),
    '"foo bar" askeet' => array('foo bar', 'askeet'),
    "'foo bar' askeet" => array('foo bar', 'askeet'),
  );

  foreach ($tests as $tag => $tags)
  {
    $this->assertEqual($tags, Tag::splitPhrase($tag));
  }
}
```

Note: As a good practice, we recommend to name the test files out of the class they are supposed to test, and the test cases out of the methods they are supposed to test. Your `test/` directory will soon contain a lot of files, and finding a test might prove difficult in the long run if you don't.

If you try to run the tests again, they fail:

```
$ symfony test frontend
Test suite in (test/frontend)
1) Equal expectation fails as key list [0, 1] does not match key list [0, 1, 2] at line [35]
        in test_splitPhrase
        in TagTest
        in /home/production/askeet/test/frontend/TagTest.php
FAILURES!!!
Test cases run: 1/1, Passes: 9, Failures: 1, Exceptions: 0
```

All right, one of the test cases of `test_splitPhrase` fails. To find which one it is, you will need to remove them one at at time to see when the test passes. This time, it's the last one, when we test the handling of simple quotes. The current `Tag::splitPhrase()` method doesn't translate this string properly. As part of your homework, you will have to correct it for tomorrow.

This illustrates the fact that if you pile up too much elementary test cases in an array, a failure is harder to locate. Always prefer to split long test cases into methods, since Simple Test mentions the name of the method where a test failed.

Simulating a web browsing session

Web applications are not all about objects that behave more or less like functions. The complex mechanisms of page request, HTML result and browser interactions require more than what's been exposed before to build a complete set of unit tests for a symfony web app.

We will examine three different ways to implement a simple web app test. The test has to do a request to the first question detail, and assume that some text of the answer is present. We will put this test into a `QuestionTest.php` file, located in the `askeet/test/frontend/` directory.

The `sfTestBrowser` object

Symfony provides an object called `sfTestBrowser`, which allows to simulate browsing without a browser and, more important, without a web server. Being inside the framework allows this object to bypass completely the http transport layer. This means that the browsing simulated by the `sfTestBrowser` is fast, and independent of the server configuration, since it does not use it.

Let's see how to do a request for a page with this object:

```
$browser = new sfTestBrowser();
$browser->initialize();
$html = $browser->get('uri');

// do some test on $html

$browser->shutdown();
```

The `get()` request takes a routed URI as a parameter (not an internal URI), and returns a raw HTML page (a string). You can then proceed to all kinds of tests on this page, using the `assert*()` methods of the `UnitTestCase` object.

You can pass parameters to your call as you would in the URL bar of your browser:

```
$html = $browser->get('/frontend_test.php/question/what-can-i-offer-to-my-stepmother');
```

The reason why we use a specific front controller (`frontend_test.php`) will be explained in the next section.

The `sfTestBrowser` simulates a cookie. This means that with a single `sfTestBrowser` object, you can require several pages one after the other, and they will be considered as part of a single session by the framework. In addition, the fact that `sfTestBrowser` uses routed URIs instead of internal URIs allows you to test the routing engine.

To implement our web test, the `test_QuestionShow()` method must be built as follows:

```
<?php

class QuestionTest extends UnitTestCase
{
  public function test_QuestionShow()
  {
    $browser = new sfTestBrowser();
    $browser->initialize();
    $html = $browser->get('frontend_test.php/question/what-can-i-offer-to-my-step-mother');
    $this->assertWantedPattern('/My stepmother has everything a stepmother is usually offered/',
    $browser->shutdown();
  }
}
```

Since almost all the web unit tests will need a new `sfTestBrowser` to be initialized and closed after the test, you'd better move part of the code to the `->setUp()` and `->tearDown()` methods:

```
<?php

class QuestionTest extends UnitTestCase
{
  private $browser = null;

  public function setUp()
  {
    $this->browser = new sfTestBrowser();
    $this->browser->initialize();
  }

  public function tearDown()
  {
    $this->browser->shutdown();
  }

  public function test_QuestionShow()
  {
    $html = $this->browser->get('frontend_test.php/question/what-can-i-offer-to-my-step-mother');
    $this->assertWantedPattern('/My stepmother has everything a stepmother is usually offered/',
  }
}
```

Now, every new `test` method that you add will have a clean `sfTestBrowser` object to start with. You may recognize here the auto-generated test cases mentioned at the beginning of this tutorial.

The `WebTestCase` object

Simple Test ships with a `WebTestCase` class, which includes facilities for navigation, content and cookie checks, and form handling. Tests extending this class allow you to simulate a browsing session with a http transport layer. Once again, the Simple Test documentation explains in detail how to use this class.

The tests built with `WebTestCase` are slower than the ones built with `sfTestBrowser`, since the web server is in the middle of every request. They also require that you have a working web server configuration. However, the `WebTestCase` object comes with numerous navigation methods on top of the `assert*()` ones. Using these methods, you can simulate a complex browsing session. Here is a subset of the `WebTestCase` navigation methods:

-	-	-
`get($url, $parameters)`	`setField($name, $value)`	`authenticate($name, $password)`
`post($url, $parameters)`	`clickSubmit($label)`	`restart()`
`back()`	`clickImage($label, $x, $y)`	`getCookie($name)`
`forward()`	`clickLink($label, $index)`	`ageCookies($interval)`

We could easily do the same test case as previously with a `WebTestCase`. Beware that you now need to enter full URIs, since they will be requested to the web server:

```
require_once('simpletest/web_tester.php');

class QuestionTest extends WebTestCase
{
  public function test_QuestionShow()
  {
    $this->get('http://askeet/frontend_test.php/question/what-can-i-offer-to-my-step-mother');
    $this->assertWantedPattern('/My stepmother has everything a stepmother is usually offered/');
  }
}
```

The additional methods of this object could help us test how a submitted form is handled, for instance to unit test the login process:

```
public function test_QuestionAdd()
{
  $this->get('http://askeet/frontend_dev.php/');
  $this->assertLink('sign in/register');
  $this->clickLink('sign in/register');
  $this->assertWantedPattern('/nickname:/');
  $this->setField('nickname', 'fabpot');
  $this->setField('password', 'symfony');
  $this->clickSubmit('sign in');
  $this->assertWantedPattern('/fabpot profile/');
}
```

It is very handy to be able to set a value for fields and submit the form as you would do by hand. If you had to simulate that by doing a `POST` request (and this is possible by a call to `->post($uri, $parameters)`), you would have to write in the test function the target of the action and all the hidden fields, thus depending too much on the implementation. For more information about form test with Simple Test, read the related chapter of the Simple Test documentation.

Selenium

The main drawback of both the `sfTestBrowser` and the `WebTestCase` tests is that they cannot simulate JavaScript. For very complex interactions, like with AJAX interactions for instance, you need to be able to reproduce exactly the mouse and keyboard inputs that a user would do. Usually, these tests are reproduced by hand, but they are very time consuming and prone to error.

The solution, this time, comes from the JavaScript world. It is called Selenium and is better when employed with the Selenium Recorder extension for Firefox. Selenium executes a set of action on a page just like a regular user would, using the current browser window.

Selenium is not bundled with symfony by default. To install it, you need to create a new `selenium/` directory in your `web/` directory, and unpack there the content of the Selenium archive. This is because Selenium relies on JavaScript, and the security settings standard in most browsers wouldn't allow it to run unless it is available on the same host and port as your application.

> **Note**: Beware not to transfer the `selenium/` directory to your production host, since it would be accessible from the outside.

Selenium tests are written in HTML and stored in the `selenium/tests/` directory. For instance, to do the simple unit test about question detail, create the following file called `testQuestion.html`:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN">
<html>
<head>
  <meta content="text/html; charset=UTF-8" http-equiv="content-type">
  <title>Question tests</title>
</head>
<body>
<table cellspacing="0">
<tbody>
  <tr><td colspan="3">First step</td></tr>

  <tr>
    <td>open</td>
    <td>/frontend_test.php/</td>
    <td>&nbsp;</td>
  </tr>

  <tr>
    <td>clickAndWait</td>
    <td>link=What can I offer to my step mother?</td>
    <td>&nbsp;</td>
  </tr>

  <tr>
    <td>assertTextPresent</td>
    <td>My stepmother has everything a stepmother is usually offered</td>
    <td>&nbsp;</td>
  </tr>

</tbody>
</table>
</body>
</html>
```

A test-case is represented by an HTML document, containing a table with 3 columns: command, target, value. Not all commands take a value, however. In this case either leave the column blank or use a `&nbsp;` to make the table look better.

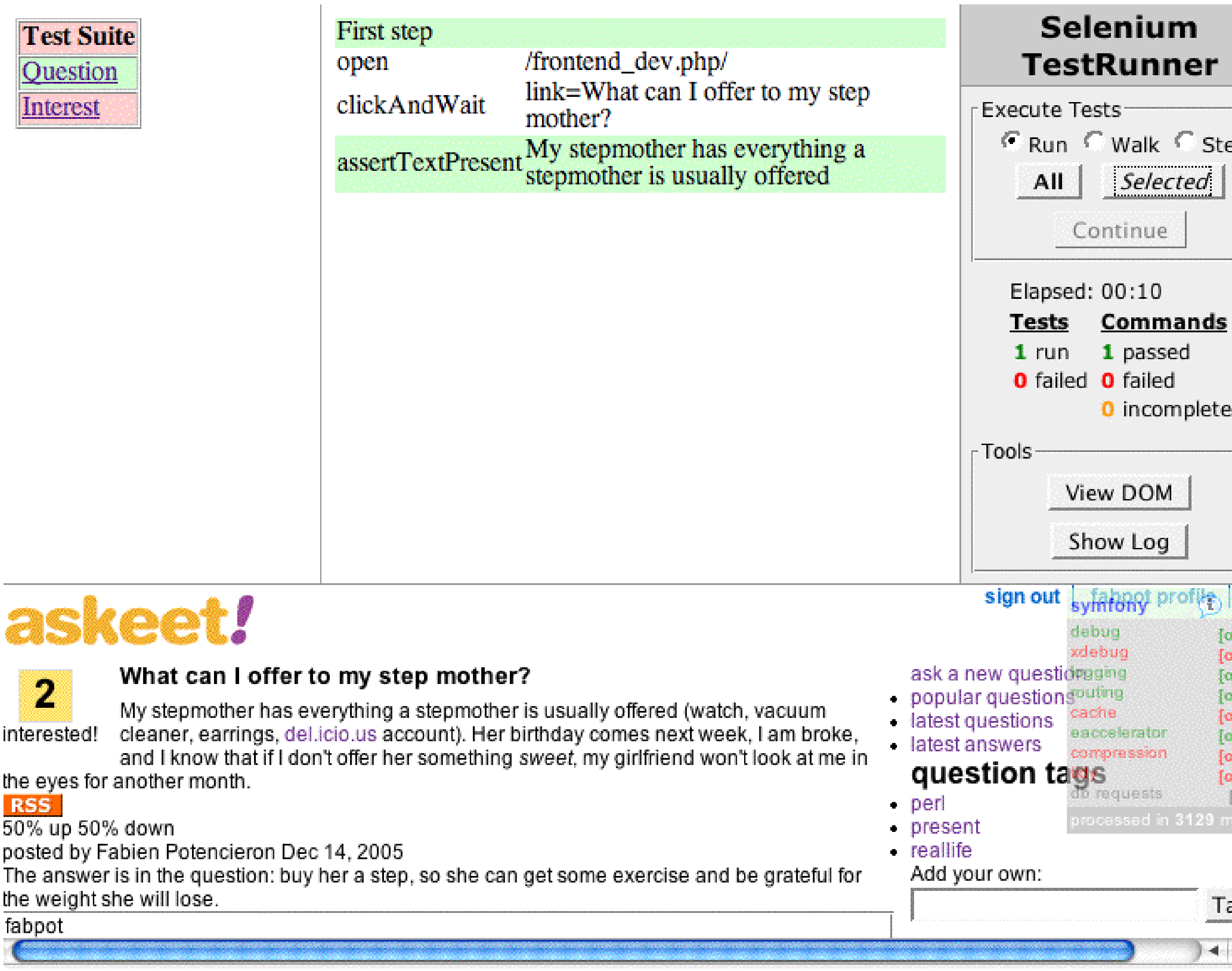
You also need to add this test to the global test suite by inserting a new line in the table of the `TestSuite.html` file, located in the same directory:

```
...
<tr><td><a href='./testQuestion.html'>My First Test</a></td></tr>
...
```

To run the test, simply browse to

```
http://askeet/selenium/index.html
```

Select 'Main Test Suite', than click on the button to run all tests, and watch your browser as it reproduces the steps that you have told him to do.


Test Suite
Question
Interest

First step		
open	/frontend_dev.php/	
clickAndWait	link=What can I offer to my step mother?	
assertTextPresent	My stepmother has everything a stepmother is usually offered	

Selenium TestRunner
Execute Tests
Run Walk Ste
All Selected
Continue
Elapsed: 00:10

Tests	Commands
1 run	1 passed
0 failed	0 failed
	0 incomplete

Tools
View DOM
Show Log

sign out | fabpot profile |

2
interested!

What can I offer to my step mother?

My stepmother has everything a stepmother is usually offered (watch, vacuum cleaner, earrings, del.icio.us account). Her birthday comes next week, I am broke, and I know that if I don't offer her something *sweet*, my girlfriend won't look at me in the eyes for another month.

RSS
50% up 50% down
posted by Fabien Potencier on Dec 14, 2005
The answer is in the question: buy her a step, so she can get some exercise and be grateful for the weight she will lose.
fabpot

ask a new question
- popular questions
- latest questions
- latest answers

question tags
- perl
- present
- reallife

Add your own:

Note: As Selenium tests run in a real browser, they also allow you to test browser inconsistencies. Build your test with one browser, and test them on all the others on which your site is supposed to work with a single request.

The fact that Selenium tests are written in HTML could make the writing of Selenium tests a hassle. But thanks to the Firefox Selenium extension, all it takes to create a test is to execute the test once in a recorded session. While navigating in a recording session, you can add assert-type tests by right clicking in the browser window and selecting the appropriate check under the Append Selenium Command in the pop-up menu.

For instance, the following Selenium test checks the AJAX rating of a question. The user 'fabpot' logs in, displays the second page of questions to access the only one he's not interested in so far, then clicks the 'interested?' link, and checks that it changes the '?' into a '!'. It was all recorded with the Firefox extension, and it took less than 30 seconds:

```
<html>
<head><title>New Test</title></head>
```

```
<body>
<table cellpadding="1" cellspacing="1" border="1">
<thead>
<tr><td rowspan="1" colspan="3">New Test</td></tr>
</thead><tbody>
<tr>
    <td>open</td>
    <td>/frontend_dev.php/</td>
    <td></td>
</tr>
<tr>
    <td>clickAndWait</td>
    <td>link=sign in/register</td>
    <td></td>
</tr>
<tr>
    <td>type</td>
    <td>//div/input[@value="" and @id="nickname" and @name="nickname"]</td>
    <td>fabpot</td>
</tr>
<tr>
    <td>type</td>
    <td>//div/input[@value="" and @id="password" and @name="password"]</td>
    <td>symfony</td>
</tr>
<tr>
    <td>clickAndWait</td>
    <td>//input[@type='submit' and @value='sign in']</td>
    <td></td>
</tr>
<tr>
    <td>clickAndWait</td>
    <td>link=2</td>
    <td></td>
</tr>
<tr>
    <td>click</td>
    <td>link=interested?</td>
    <td></td>
</tr>
<tr>
    <td>pause</td>
    <td>3000</td>
    <td></td>
</tr>
<tr>
    <td>verifyTextPresent</td>
    <td>interested!</td>
    <td></td>
</tr>
<tr>
    <td>clickAndWait</td>
    <td>link=sign out</td>
    <td></td>
</tr>

</tbody></table>
</body>
</html>
```

Don't forget to reinitialize the test data (by calling `php batch/load_data.php`) before launching the Selenium test.

> **Note**: We had to manually add a `pause` action after the click on the AJAX link, since Selenium wouldn't go ahead of the test otherwise. This is a general advice for testing AJAX interactions with Selenium.

You can save the test to a HTML file to build a Test Suite for your application. The Firefox extension even allows you to run the Selenium tests that you have recorded with it.

A few words about environments

Web tests have to use a front controller, and as such can use a specific environment (i.e. configuration). Symfony provides a `test` environment to every application by default, specifically for unit tests. You can define a custom set of settings for it in your application `config/` directory. The default configuration parameters are (extract from `askeet/apps/frontend/config/settings.yml`):

```
test:
  .settings:
    # E_ALL | E_STRICT & ~E_NOTICE = 2047
    error_reporting:        2047
    cache:                  off
    stats:                  off
    web_debug:              off
```

The cache, the stats and the web_debug toolbar are set to off. However, the code execution still leaves traces in a log file (`askeet/log/frontend_test.log`). You can have specific database connection settings, for instance to use another database with test data in it.

This is why all the external URIs mentioned above show a `frontend_test.php`: the `test` front controller has to be specified - otherwise, the default `index.php` production controller will be used in place, and you won't be able to use a different database or to have separate logs for your unit tests.

> **Note**: Web tests are not supposed to be launched in production. They are a developer tool, and as such, they should be run in the developer's computer, not in the host server.

See you Tomorrow

There is no perfect solution for unit testing PHP applications built with symfony for now. Each of the three solutions presented today have great advantages, but if you have an extensive approach of unit testing, you will probably need to use all the three. As for askeet, unit tests will be added little by little in the SVN source. Check for it every now and then, or propose your own to increase the solidity of the application.

Unit testing can also be used to avoid regression. Refactoring a method can create new bugs that didn't use to appear before. That's why it is also a good practice to run all unit tests before deploying a new realease of an application in production - this is called regression testing. We will talk more about it when we deal with application deployement.

Tomorrow... well, tomorrow will be another day. If you have any questions about today's tutorial, feel free to ask them in the askeet forum.

symfony advent calendar day sixteen: Lazy day

After fifteen hours of hard work, we all deserve some time off. So we have decided to declare the sixteenth day the *lazy day*, because getting some rest is always a good thing when developing web applications. There is no symfony tutorial published today, but there is still a lot to learn.

A lazy day is an important part of the lifetime of a project. It gives you the opportunity to go and see what happens in the outer world, grab new ideas and come back fresh and full of energy for the future. To be honest, we had planned this day from the very beginning, because that's part of the symfony philosophy: If it takes less time to actually develop an application, then you have more time to stand back a bit from things, and to think about improvements.

Today will also be the time to experiment one of the principles of web 2.0 applications: They are always released at a (too) early stage. Not only does it give time to the search engines to visit them, but it also creates a solid group of early users, who will be able to say in the near future: "I was there when it got started". And those people, if they actually like your application, are the best evangelists that you can find. Of course, releasing an unfinished application adds an important constraint to the course of the project: Non-backward compatible changes will be painful, since there already are users and data based on previous versions. But the benefits are almost always more important than the drawbacks. In addition, seeing the AJAX interactions that were developed during the past days in action is a much better illustration than any screen capture.

That means that the askeet website is now open to the public, and you are invited to test it and report any inconvenience that you may experience. But don't talk about it too much yet, because we planned a stress test for the end of the calendar and we will need that a lot of people - including all your friends and relatives - come to visit it that day.

You will probably notice quite a lot of little changes, mostly in the design of the application. We couldn't possibly release askeet without rounded corner boxes and psychedelic colors, so we worked a bit on every page and more on the stylesheets. The detail of the changes can be seen in the askeet trac timeline. You can still download the source from the askeet SVN repository or, and that's the news of the day, directly a .tgz archive.

See you Tomorrow

Askeet is online, but far from being finished. The next days will be tough ones, since we will have to develop web services, a back-office, cache and performance improvements, internationalization, and a mysterious feature that you have to decide.

So make sure you come back tomorrow for the last week of the symfony advent calendar.

symfony advent calendar day seventeen: API

Previously on symfony

The askeet application was just put online yesterday, and we already have a lot of feedback about feature tweaking and additions. The user input is fundamental to the design of a web 2.0 application, and even if the concept of the application is new, it has to be experimented with as soon as possible.

But we will add unplanned functionalities on day 21. Before that, we have scheduled a handful of advanced web application development techniques to show you through askeet, and the first to be revealed today is the programming of an external API requiring an HTTP authentication.

As we made quite a lot of little changes yesterday, you are strongly advised to start today's tutorial with a fresh downloaded version of askeet from the day 16 tagged version in the askeet repository.

The API

An Application Programming Interface, or **API**, is a developer's interface to a particular service on your application, so that it can be included in external websites. Think about Google Maps or Flickr, which are used to extend lots of websites over the Internet thanks to their APIs.

Askeet makes no exception, and we believe that in order to increase the service's popularity, it has to be made available to other websites. The RSS feed developed during day 11 was a first approach to that requirement, but we can do much better.

Askeet will provide an API of **answers to a question asked by the user**. The access to this API will be restricted to registered askeet users, through HTTP authentication. The API response format chosen is Representational State Transfer, or REST - that means that the response is a simple XML block similar to most of the output of main APIs in the web:

```
<?xml version="1.0" encoding="utf-8" ?>
<rsp stat="ok" version="1.0">
  <question href="http://www.askeet.com/question/what-shall-i-do-tonight-with-my-girlfriend" time
    <title>What shall I do tonight with my girlfriend?</title>
    <tags>
      <tag>activities</tag>
      <tag>relatives</tag>
      <tag>girl</tag>
    <tags>
    <answers>
      <answer relevancy="50" time="2005-11-22T12:21:53Z">You can try to read her poetry. Chicks l
      <answer relevancy="0" time="2005-11-22T15:45:03Z">Don't bring her to a doughnuts shop. Ever
    </answers>
  </question>
</rsp>
```

We will implement the API in a new module of the `frontend` application, so use the command line to build the module skeleton:

```
$ symfony init-module frontend api
```

HTTP Authentication

We choose to limit the use of the API to registered askeet users. For that, we will use the HTTP authentication process, which is a built-in authentication mechanism of the HTTP protocol. It is different from the web authentication that we have seen previously because it doesn't even require a web page - all the exchanges take place in the HTTP headers.

We will need the authentication method included in a custom validator during day six, so first of all we will do some refactoring and relocate the login code in the `UserPeer` model class:

```
public static function getAuthenticatedUser($login, $password)
{
  $c = new Criteria();
  $c->add(UserPeer::NICKNAME, $login);
  $user = UserPeer::doSelectOne($c);

  // nickname exists?
  if ($user)
  {
    // password is OK?
    if (sha1($user->getSalt().$password) == $user->getSha1Password())
    {
      return $user;
    }
  }

  return null;
}
```

The new class method `UserPeer::getAutenticatedUser()` can now be used in the `myLoginValidator.class.php` (we'll leave that to you) and in the new `api/index` web service:

```
<?php

class apiActions extends sfActions
{
  public function preExecute()
  {
    sfConfig::set('sf_web_debug', false);
  }

  public function executeIndex()
  {
    $user = $this->authenticateUser();
    if (!$user)
    {
      $this->error_code    = 1;
      $this->error_message = 'login failed';

      $this->forward('api', 'error');
    }
    // do some stuff
  }
  private function authenticateUser()
  {
    if (isset($_SERVER['PHP_AUTH_USER']))
    {
      if ($user = UserPeer::getAuthenticatedUser($_SERVER['PHP_AUTH_USER'], $_SERVER['PHP_AUTH_PW
      {
        $this->getContext()->getUser()->signIn($user);

        return $user;
      }
    }

    header('WWW-Authenticate: Basic realm="askeet API"');
    header('HTTP/1.0 401 Unauthorized');
  }

  public function executeError()
  {
  }
}

?>
```

First of all, before executing any action of the API module (thus in the `preExecute()` method), we turn off the web debug toolbar. The view of this action being XML, the insertion of the toolbar code would produce a non-valid response.

The first thing that the `index` action will do is to check whether a login and a password are provided, and if they match an existing askeet account. If that is not the case, the `authenticateUser()` method sets the response HTTP header to '401'. It will cause an HTTP authentication window to pop-up in the user's browser; the user will have to resubmit the request with the login and password.

```
// first request to the API, without authentication
GET /api/index HTTP/1.1
Host: mysite.example.com
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 5.1; fr; rv:1.8) Gecko/20051111 Firefox/1.5
Accept: text/xml,application/xml,application/xhtml+xml,text/html;q=0.9,text/plain;q=0.8,image/png
...

// the API returns a 401 header with no content
HTTP/1.x 401 Authorization Required
Date: Thu, 15 Dec 2005 10:32:44 GMT
Server: Apache
WWW-Authenticate: Basic realm="Order Answers Feed"
Content-Length: 401
Keep-Alive: timeout=15, max=100
Connection: Keep-Alive
Content-Type: text/html; charset=iso-8859-1

// a login box will then appear on the user's window.
// Once the user enters his login/password, a new GET is sent to the server
GET /api/index HTTP/1.1
Host: mysite.example.com
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 5.1; fr; rv:1.8) Gecko/20051111 Firefox/1.5
Accept: text/xml,application/xml,application/xhtml+xml,text/html;q=0.9,text/plain;q=0.8,image/png
```

```
...
Authorization: Basic ZmFicG90OnN5bWZvbnk=
```

An `Authorization` attribute is added to the HTTP request, which is sent again. It contains a [base 64][http://en.wikipedia.org/wiki/Base64] encoded 'login:password' string. This is what the `$_SERVER['PHP_AUTH_USER']` and `$_SERVER['PHP_AUTH_PW']` look for in our `authenticateUser()` method.

> **Note**: Base64 does not output an encrypted version of its input. Decoding a base64-encoded string is [very easy][http://makcoder.sourceforge.net/demo/base64.php], and it reveals the password in clear. For instance, decoding the string `ZmFicG90OnN5bWZvbnk=` gives `fabpot:symfony`. So you have to consider that the password transits in clear in the Internet (as when entered in a web form) and can be intercepted. HTTP authentication must be restricted to non-critical content and services for this reason. Added protection could be gained by requiring the HTTPS protocol for API calls as well.

If a login and password are provided and exist in the user database, then the `index` action executes. Otherwise, it forwards to the `error` action (empty) and displays the `errorSuccess.php` template:

```
<?php echo '<?' ?>xml version="1.0" encoding="utf-8" ?>
<rsp stat="fail" version="1.0">
  <err code="<?php echo $error_code ?>" msg="<?php echo $error_message ?>" />
</rsp>
```

Of course, you have to set all the views of the `api` module to a XML content-type, and to deactivate the decorator. This is done by adding a `view.yml` file in the `askeet/apps/frontend/modules/api/config/` directory:

```
all:
  has_layout: off

  http_metas:
    content-type: text/xml
```

> **Note**: The reason why the `index` action returns a `forward('api', 'error')` instead of a `sfView::ERROR` in case of error is because all of the actions of the `api` module use the same view. Imagine that both our `index` action and another one, for instance `popular`, end up with `sfView::ERROR`: we would have to serve two identical error views (`indexError.php` and `popularError.php`) with the same content. The choice of a `forward()` limits the repetition of code. However, it forces the execution of another action. A similar result can be achieved in a much cheaper way by calling `return array('api', 'errorSuccess');` instead: This mentions the *view* that has to be executed, and bypasses the action completely.

API response

Building an XML response is exactly like building an XHTML page. So none of the following should surprise you now that you have 16 days of symfony behind you.

`api/index` action

```
public function executeQuestion()
{
  $user = $this->authenticateUser();
  if (!$user)
  {
    $this->error_code    = 1;
    $this->error_message = 'login failed';

    $this->forward('api', 'error');
  }

  if (!$this->getRequestParameter('stripped_title'))
  {
    $this->error_code    = 2;
    $this->error_message = 'The API returns answers to a specific question. Please provide a stri

    $this->forward('api', 'error');
  }
  else
  {
    // get the question
    $question = QuestionPeer::getQuestionFromTitle($this->getRequestParameter('stripped_title'));

    if ($question->getUserId() != $user->getId())
    {
      $this->error_code    = 3;
      $this->error_message = 'You can only use the API for the questions you asked';

      $this->forward('api', 'error');
    }
    else
    {
      // get the answers
      $this->answers  = $question->getAnswers();
      $this->question = $question;
    }
  }
}
```

`questionSuccess.php` template

```
<?php echo '<?' ?>xml version="1.0" encoding="utf-8" ?>
<rsp stat="ok" version="1.0">
  <question href="<?php echo url_for('@question?stripped_title='.$question->getStrippedTitle(), t
    <title><?php echo $question->getTitle() ?></title>
    <tags>
      <?php foreach ($sf_user->getSubscriber()->getTagsFor($question) as $tag): ?>
      <tag><?php echo $tag ?></tag>
      <?php endforeach ?>
    </tags>
    <answers>
      <?php foreach ($answers as $answer): ?>
      <answer relevancy="<?php echo $answer->getRelevancyUpPercent() ?>" time="<?php echo strftim
      <?php endforeach ?>
    </answers>
  </question>
</rsp>
```

Add a new routing rule for this API call:

```
api_question:
  url:   /api/question/:stripped_title
  param: { module: api, action: question }
```

Test it

As the response of a REST API is simple XML, you can test it with a simple browser by requiring:

```
http://askeet/api/question/what-shall-i-do-tonight-with-my-girlfriend
```

Integrating an external API

Integrating an external API is not any harder than reading XML in PHP. As there is no immediate interest to integrate an existing external API in askeet, we will describe in a few words how to integrate the askeet API in a foreign website - whether built with symfony or not.

PHP5 comes bundled with SimpleXML, a very easy-to-use set of tools to interpret and loop through an XML document. With SimpleXML, element names are automatically mapped to properties on an object, and this happens recursively. Attributes are mapped to iterator accesses.

To reconstitute the list of answers to a question provided by the API into a simple page, all it takes is these few lines of PHP:

```
<?php $xml = simplexml_load_file(dirname(__FILE__).'/question.xml') ?>

<h1><?php echo $xml->question->title ?></h1>
<p>Published on <?php echo $xml->question['time'] ?></p>

<h2>Tags</h2>
<ul>
  <?php foreach ($xml->question->tags->tag as $tag): ?>
  <li><?php echo $tag ?></li>
  <?php endforeach ?>
</ul>

<h2>Answers to this question from askeet users</h2>
<ul>
<?php foreach ($xml->question->answers->answer as $answer): ?>
  <li>
    <?php echo $answer ?>
    <br />
    Relevancy: <?php echo $answer['relevancy'] ?>% - Pulished on <?php echo $answer['time'] ?>
  </li>
<?php endforeach ?>
</ul>
```

Paypal donation

While we talk about external APIs, some of them are very simple to integrate and can bring a lot to your site. The Paypal donation API is a simple chunk of HTML code in which the email of the accountant must be included.

Wouldn't it be a good motivation for askeet users who generously answer questions to be able to receive a small donation from all the happy users who found their answer useful? The 'Donate' button could appear on the user profile page, and link to his/her Paypal donation page.

First, add a `has_paypal` column to the `User` table in the `schema.xml`:

```
<column name="has_paypal" type="boolean" default="0" />
```

Rebuild the model, and add to the `user/show` template the following code:

```
<?php if ($subscriber->getHasPaypal()): ?>
<p>If you appreciated this user's contributions, you can grant him a small donation.</p>
<form action="https://www.paypal.com/cgi-bin/webscr" method="post">
  <input type="hidden" name="cmd" value="_xclick">
  <input type="hidden" name="business" value="<?php echo $subscriber->getEmail() ?>">
  <input type="hidden" name="item_name" value="askeet">
  <input type="hidden" name="return" value="http://www.askeet.com">
  <input type="hidden" name="no_shipping" value="1">
  <input type="hidden" name="no_note" value="1">
  <input type="hidden" name="tax" value="0">
  <input type="hidden" name="bn" value="PP-DonationsBF">
  <input type="image" src="http://images.paypal.com/home/production/sfweb/web/images/x-click-but0
</form>
<?php endif ?>
```

Now a user must be given the opportunity to declare a Paypal account linked to his/her email address. It will be a good occasion to allow a user to modify his/her profile. If a logged user displays his/her own profile, an 'edit profile' must appear. It will link to a `user/edit` action, used both to display the form and to handle the form submission. The 'edit profile' form will allow the modification of the password and the email address. The nickname, as it is used as a key, cannot be modified. Since you are familiar with symfony by now, the code will not be described here but included in the SVN repository.

See you Tomorrow

Developing a web service or integrating an external one should not give you any difficulty with symfony

Tomorrow will be the occasion to talk about filters, and to divide askeet.com in sub projects such as php.askeet.com and symfony.askeet.com with only a few lines of code. If you were not convinced about development speed and power with symfony, you may change your mind then.

As usual, today's code has been committed to the askeet SVN repository, under the `/tags/release_day_17` tag. Questions ans suggestions about askeet and the advent calendar tutorials are welcome in the askeet forum. See you tomorrow!

symfony advent calendar day eighteen: Filters

Previously on symfony

We saw yesterday how to make the askeet service available through an XML API. Today's program will focus on filters, and we will illustrate their use with the creation of sub domains to askeet. For instance, 'php.askeet.com' will display only PHP tagged questions, and any new question posted in this domain will be tagged with 'php'. Let's call this new feature 'askeet universe' and develop it right away.

Configurable feature

First, this new feature has to be optional. Askeet is supposed to be a piece of software that you can install on any configuration, and you might not want to allow subdomains in, say, an enterprise Intranet.

So we will add a new parameter in the application configuration. To enable the universe feature, it must be set to `on`. To add a custom parameter, open the `askeet/apps/frontend/config/app.yml` file and add:

```
all:
  .global:
    universe: on
```

This parameter is now available to all the actions of your application. To get its value, use the `sfConfig::get('app_universe')` call.

You will find more about custom settings in the configuration chapter of the symfony book.

Create a filter

A filter is a piece of code executed before every action. That's what we need to inspect the host name prior to all actions, in search for a tag name in the domain.

Filters have to be declared in a special configuration file to be executed, the `askeet/apps/frontend/config/filters.yml` file. This file is created by default when you initiate an application, and it is empty. Open it and add in:

```
myTagFilter:
  class: myTagFilter
```

This declares a new `myTagFilter` filter. We will create a `myTagFilter.class.php` class file in the `askeet/apps/frontend/lib/` directory to make it available to the whole `frontend` application:

```
<?php

class myTagFilter extends sfFilter
{
  public function execute ($filterChain)
  {
    // execute this filter only once
    if (sfConfig::get('app_universe') && $this->isFirstCall())
    {
      // do things
    }

    // execute next filter
    $filterChain->execute();
  }
}

?>
```

This is the general structure of a filter. If the `app_universe` parameter is not set to `on`, the filter doesn't execute. As we want the filter to be executed only once per request (although there may be more than one action per request, because we use forwards), we check the `->isFirstCall()` method. It is `true` only the first time the filter is executed in a given request.

One word about the `filterChain` object: All the steps of the execution of a request (configuration, front controller, action, view) are a chain of filters. A custom filter just comes very early in this chain (before the execution of an action), and it must not break the execution of the other steps of the chain filter. That's why a custom filter must always end up with `$filterChain->execute();`.

> **Note**: The `sfFilter` class has an `initialize()` method, executed when the filter object is created. You can override it in your custom filter if you need to deal with filter parameters in your own way.

Get a permanent tag from the domain name

We want to inspect the host name to check if it contains a sub domain that might be a tag. Tags like 'www' or 'askeet' must be ignored. In addition, we want to be able to modify the rule of sub domains to ignore, for instance if we use load balancing techniques with alternative domain names such as 'www1', 'www2', etc. This is why we decided to put the rule of universes to ignore (a regular expression) in a parameter of the `filters.yml` configuration file:

```
myTagFilter:
  class: myTagFilter
  param:
    host_exclude_regex: /^(www|askeet)/
```

Now it is time to have a look at the content of the `execute()` action of the filter (replacing the `// do things` comment):

```
// is there a tag in the hostname?
$hostname = $this->getContext()->getRequest()->getHost();
if (!preg_match($this->getParameter('host_exclude_regex'), $hostname) && $pos = strpos($hostname,
{
  $tag = Tag::normalize(substr($hostname, 0, $pos));

  // add a permanent tag custom configuration parameter
  sfConfig::set('app_permanent_tag', $tag);

  // add a custom stylesheet
  $this->getContext()->getResponse()->addStylesheet($tag);
}
```

The filter looks for a possible permanent tag in the URI. If one is found, it is added as a custom parameter, and a custom stylesheet is added to the view. So, for instance:

```
// calling this URI to display the PHP universe
http://php.askeet.com

// will create a constant
sfConfig::set('app_permanent_tag', 'php');

// and include a custom stylesheet in the view
<link rel="stylesheet" type="text/css" media="screen" href="/css/php.css" />
```

> **Note**: As the execution of a custom filter happens very early in the filter chain, and even earlier than the view configuration parsing, the custom stylesheet will appear in the output HTML file *before* the other style sheets. So if you have to override style settings of the main askeet site in a custom stylesheet, these settings need to be declared `!important`.

Model modifications

We now need to modify the actions and model methods that should take the permanent tag into account. As we like to keep the model logic inside the Model layer, and because refactoring becomes really necessary, we take advantage of the permanent tag modifications to take the Propel requests out of the actions, and put them in the model. If you take a look at the list of modifications for today's release in the askeet trac, you will see that a few new model methods were created, and that the actions call these methods instead of doing `doSelect()` by themselves:

```
Answer->getRecent()
Question->getPopularAnswers()
QuestionPeer::getPopular()
QuestionPeer::getRecent()
QuestionTagPeer::getForUserLike()
```

Filter lists according to the permanent tag

When a list of questions, tags, or answers are displayed in an askeet universe, all the requests must take into account a new search parameter. In symfony, search parameters are calls to the `->add()` method of the `Criteria` object.

So add the following method to the `QuestionPeer` and `AnswerPeer` classes:

```
private static function addPermanentTagToCriteria($criteria)
{
  if (sfConfig::get('app_permanent_tag'))
  {
    $criteria->addJoin(self::ID, QuestionTagPeer::QUESTION_ID, Criteria::LEFT_JOIN);
    $criteria->add(QuestionTagPeer::NORMALIZED_TAG, sfConfig::get('app_permanent_tag'));
    $criteria->setDistinct();
  }
  return $criteria;
}
```

We now need to look for all the model methods that return a list that must be filtered in a universe, and add to the `Criteria` definition the following line:

```
$c = self::addPermanentTagToCriteria($c);
```

For instance, the `QuestionPeer::getHomepagePager()` has to be modified to look like:

```
public static function getHomepagePager($page)
{
  $pager = new sfPropelPager('Question', sfConfig::get('app_pager_homepage_max'));
  $c = new Criteria();
  $c->addDescendingOrderByColumn(self::INTERESTED_USERS);

  // add this line
  $c = self::addPermanentTagToCriteria($c);

  $pager->setCriteria($c);
  $pager->setPage($page);
  $pager->setPeerMethod('doSelectJoinUser');
  $pager->init();

  return $pager;
}
```

The same modification must be repeated quite a few times, in the following methods:

```
QuestionPeer::getHomepagePager()
QuestionPeer::getPopular()
QuestionPeer::getPopular()
QuestionPeer::getRecentPager()
QuestionPeer::getRecent()
AnswerPeer::getPager()
AnswerPeer::getRecentPager()
AnswerPeer::getRecent()
```

For complex requests not using the `Criteria` object, we need to add the permanent tag as a `WHERE` statement in the SQL code. Check how we did it for the `QuestionTagPeer::getPopularTags()` and `QuestionTagPeer::getPopularTagsFor()` methods in the askeet trac or in the SVN repository.

Lists of tags for a question or a user

All the questions of the 'PHP' universe are tagged with 'php'. But if a user is browsing questions in the 'PHP' universe, the 'php' tag must not be displayed in the list of tags since it is implied. When outputting a list of tags for a question or a user in a universe, the permanent tag must be omitted. This can be done easily by bypassing it in loops, as for instance in the `Question->getTags()` method:

```
public function getTags()
{
  $c = new Criteria();
  $c->add(QuestionTagPeer::QUESTION_ID, $this->getId());
  $c->addGroupByColumn(QuestionTagPeer::NORMALIZED_TAG);
  $c->setDistinct();
  $c->addAscendingOrderByColumn(QuestionTagPeer::NORMALIZED_TAG);

  $tags = array();
  foreach (QuestionTagPeer::doSelect($c) as $tag)
  {
    if (sfConfig::get('app_permanent_tag') == $tag)
    {
      continue;
    }

    $tags[] = $tag->getNormalizedTag();
  }

  return $tags;
}
```

The same kind of technique is to be used in the following methods:

```
Question->getTags()
Question->getPopularTags()
User->getTagsFor()
User->getPopularTags()
```

Append the permanent tag to new questions

When a question is created in an askeet universe, it must be tagged with the permanent tag in addition to the tags entered by the user. As a reminder, in the `question/add` method, the `Question->addTagsForUser()` method is called:

```
$question->addTagsForUser($this->getRequestParameter('tag'), $sf_user->getId());
```

...where the `tag` request parameters contains the tags entered by the user, separated by blanks (we called this a 'phrase'). So we will just append the permanent tag to the phrase in the first line of the `addTagsForUser` method:

```
public function addTagsForUser($phrase, $userId)
{
  // split phrase into individual tags
  $tags = Tag::splitPhrase($phrase.(sfConfig::get('app_permanent_tag') ? ' '.sfConfig::get('app_p

  // add tags
  foreach ($tags as $tag)
  {
    $questionTag = new QuestionTag();
    $questionTag->setQuestionId($this->getId());
    $questionTag->setUserId($userId);
    $questionTag->setTag($tag);
    $questionTag->save();
  }
}
```

That's it: if the user hasn't already included the permanent tag, it is added to the list of tags to be given to the new question.

Server configuration

In order to make the new domains available, you have to modify your web server configuration.

In local, i.e. if you don't control the DNS to the askeet site, add a new host for each new universe that you want to add (in the `/etc/hosts` file in a Linux system, or in the `C:\WINDOWS\system32\drivers\etc\hosts` file in a Windows system):

```
127.0.0.1         php.askeet
127.0.0.1         senseoflife.askeet
127.0.0.1         women.askeet
```

> **Note**: You need administrator rights to do this.

In all cases, you have to add a server alias in your virtual host configuration (in the `httpd.conf` Apache file):

```
<VirtualHost *:80>
  ServerName askeet
  ServerAlias *.askeet
  DocumentRoot "/home/sfprojects/askeet/web"
  DirectoryIndex index.php
  Alias /sf /usr/local/lib/php/data/symfony/web/sf

  <Directory "/home/sfprojects/askeet/web">
   AllowOverride All
  </Directory>
</VirtualHost>
```

After restarting the web server, you can test one of the universes by requesting, for instance:

```
http://php.askeet/
```

See you Tomorrow

Filters are powerful, and can be used for all kinds of things. Tags allow us to customize content according to a specific theme. Combining tags and filters helped us to partition askeet into several universes, and the possibilities of specialized askeet sites (think about music.askeet.com, programming.askeet.com or doityourself.askeet.com) are endless. As all these sites can be skinned differently, and since the content of the specialized sites still appear in the global askeet site, askeet gets the best of community-based web applications. Universes are small enough to allow a community to build up, and the global site can become the best place to look for the answer to any kind of question.

Tomorrow, we will focus on performance and see how HTML cache can boost the delivery time of complex pages. In three days comes the mysterious functionality, there is still time for you to vote for the best idea. You can still pay a visit to the askeet forum and see how the askeet website behaves online.

symfony advent calendar day nineteen: Performance and cache

Previously on symfony

As the advent calendar days pass, you are getting more comfortable with the symfony framework and its concepts. Developing an application like askeet is not very demanding if you follow the good practices of agile development. However, one thing that you should do as soon as a prototype of your website is ready is to test and optimize its performance.

The overhead caused by a framework is a general concern, especially if your site is hosted in a shared server. Although symfony doesn't slow down the server response time very much, you might want to see it yourself and tweak the code to speed up the page delivery. So today's tutorial will be focused on the performance measurement and improvement.

Load testing tools

Unit tests, described during the fifteenth day, can validate that the application works as expected *if there is only one user connected to it at a time*. But as soon as you release your application on the Internet - and that's the least we can wish for you - hordes of hectic fans will rush to it simultaneously, and performance issues may occur. The web server might even fail and need a manual restart, and this is a really painful experience that you should prevent at all costs. This is especially important during the early days of your application, when the first users quickly draw conclusions about it and decide to spread the word or not.

To avoid performance issues, it is necessary to simulate numerous concurrent access to your website to see how it reacts - before releasing it. This is called load testing. Basically, you program an automate to post concurrent requests to your web server, and measure the return time.

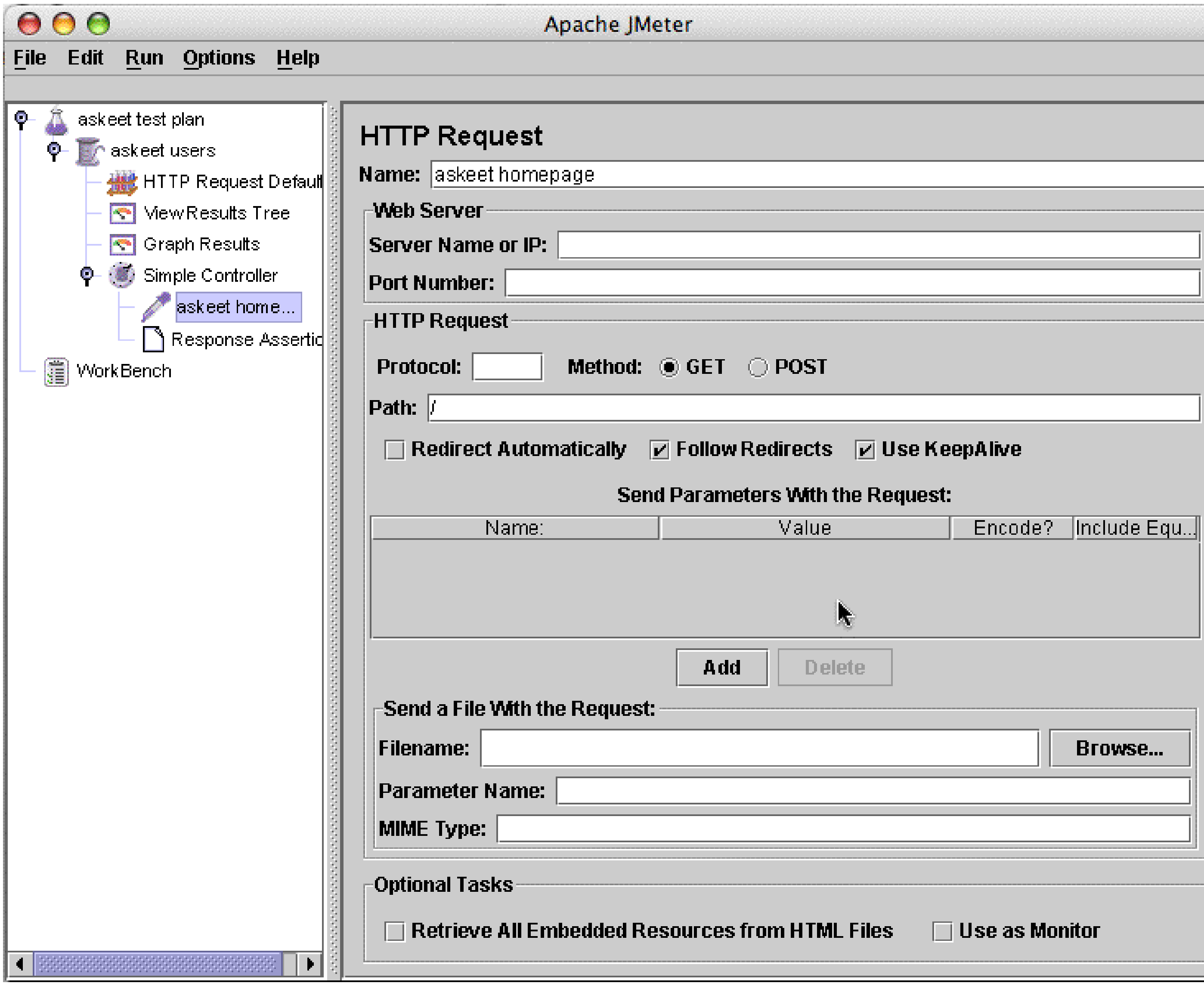
> **Note**: Whatever load testing tool you choose, you should execute it on a different server than the one running the website. This is because the testing tools are generally CPU consuming, and their own activity could perturb the results of the server performance. In addition, do your tests in a local network, to avoid disturbance due to the external network components (proxy, firewall, cache, router, ISP, etc.).

JMeter

The most common load testing tool is **JMeter**, and it is an open-source Java application maintained by the Apache foundation. It has impressive online documentation to help you get started using it, including a good introduction about load testing.

To install it, retrieve the latest stable version (currently 2.1.1) in the Jmeter download page. You'll also need the latest version of the Java runtime environment which you can find on Sun's site. To start JMeter, locate and run the `jmeter.bat` file (in Windows platforms) or type `java jmeter.jar` (in Linux platforms).

The way to setup a load testing plan, called 'Web test plan', is described in detail in the related page of the JMeter documentation, so we will not describe it here.



HTTP Request

Name: askeet homepage

Web Server

Server Name or IP:

Port Number:

HTTP Request

Protocol: Method: [✓ GET] POST

Path: /

☐ Redirect Automatically ☑ Follow Redirects ☑ Use KeepAlive

Send Parameters With the Request:

Name:	Value	Encode?	Include Equ...

Send a File With the Request:

Filename:

Parameter Name:

MIME Type:

Optional Tasks

☐ Retrieve All Embedded Resources from HTML Files ☐ Use as Monitor

Note: Not only does JMeter report about average response time for a given request or set of requests, it can also do assertions on the content of the page it receives. So, in addition to using JMeter as a load testing tool, you can build scenarios to do regression tests and unit tests.

Apache's ab

The second tool recommended by symfony is ApacheBench, or **ab**, another nice utility brought to you by the Apache foundation. Its online manual is less detailed than JMeter's, but as ab is a command line tool, it is easier to use.

In Linux, it comes standard with the Apache package, so if you have an installed Apache server, you should find it in `/usr/local/apache/bin/ab`. In Windows platforms, it is much harder to find, so you'd better download it directly from symfony.

The use of this benchmarking tool is very simple:

```
$ /usr/local/bin/apache2/bin/ab -c 1 -n 1 http://www.askeet.com/
This is ApacheBench, Version 2.0.41-dev <$Revision: 1.121.2.12 $> apache-2.0
Copyright   1996 Adam Twiss, Zeus Technology Ltd, http://www.zeustech.net/
Copyright   1998-2002 The Apache Software Foundation, http://www.apache.org/

Benchmarking www.askeet.com (be patient).....done


Server Software:        Apache
Server Hostname:        www.askeet.com
Server Port:            80

Document Path:          /
Document Length:        15525 bytes

Concurrency Level:      1
Time taken for tests:   0.596104 seconds
Complete requests:      1
Failed requests:        0
Write errors:           0
Total transferred:      15874 bytes
HTML transferred:       15525 bytes
Requests per second:    1.68 [#/sec] (mean)
Time per request:       596.104 [ms] (mean)
Time per request:       596.104 [ms] (mean, across all concurrent requests)
Transfer rate:          25.16 [Kbytes/sec] received

Connection Times (ms)
              min  mean[+/-sd] median   max
Connect:       61   61   0.0     61      61
Processing:   532  532   0.0    532     532
Waiting:      359  359   0.0    359     359
Total:        593  593   0.0    593     593
```

> **Note**: you need to provide a page name (at least `/` like in the above example) because targeting only a host will give an incorrectly formatted URL error.

The `-c` and `-n` parameters define the number of simultaneous threads, and the total number of requests to execute. The most interesting data in the result is the last line: the average total connection time (second number from the left). In the example above, there is only one connection, so the connection time is not very accurate. To have a better view of the actual performance of a page, you need to average several requests and launch them in parallel:

```
$ /usr/local/bin/apache2/bin/ab -c 10 -n 20 http://www.askeet.com/
...

Connection Times (ms)
              min  mean[+/-sd] median   max
Connect:       59   88  19.9     89     130
```

```
Processing:   831 1431 510.9    1446     3030
Waiting:      632 1178 465.1    1212     2781
Total:        906 1519 508.4    1556     3089

Percentage of the requests served within a certain time (ms)
  50%    1556
  66%    1569
  75%    1761
  80%    1827
  90%    2285
  95%    3089
  98%    3089
  99%    3089
 100%    3089 (longest request)
```

You should always start by a `ab -c 1 -n 1` to have an idea of the time taken by the test itself before executing it on a larger number of requests. Then, increase the number of total requests (like `ab -c 1 -n 30`) until you have a reasonably low standard deviation. Only then will you have a significant average connection time measure, and you will be ready for the actual load test. Add threads little by little (and don't forget to increase the total number of requests accordingly, like `ab -c 10 -n 300`) and see the connection time increase as your server load is being handled. When the average loading times pass beyond a few seconds, it means that your server is outnumbered and can probably not support more concurrent threads. You have determined the maximum charge of your service. This is called a stress test.

> **Note**: Please be kind enough not to stress test any running website in the Internet but your own. Doing stress test on a foreign site is considered as a denial-of-service attack. The askeet website is no different, so once again, please do not stress test it.

The load tests will provide you with two important pieces of information: the average loading time of a specific page, and the maximum capacity of your server. The first one is very useful to monitor performance improvements.

Improve performances with the cache

There are a lot of ways to increase the performance of a given page, including code profiling, database request optimization, addition of indexes, creation of an alternative light web server dedicated to the media of the website, etc. Existing techniques are either cross-language or PHP-specific, and browsing the web or buying a good book about it will teach you how to become a performance guru.

Symfony adds a certain overload to web requests, since the configuration and the framework classes are loaded for each request, and because the MVC separation and the ORM abstraction result in more code to execute. Although this overhead is relatively low (as compared to other frameworks or languages), symfony also provides ways to balance the response time with **caching**. The result of an action, or even a full page, can be written in a file on the hard disk of the web server, and this file is reused when a similar request is requested again. This considerably boosts performance, since all the database accesses, decoration, and action execution are bypassed completely. You will find more information about caching in symfony in the cache chapter of the symfony book.

We will try to use HTML cache to speed up the delivery of the popular tags page. As it includes a complex SQL query, it is a good candidate for caching. First, let's see how long it takes to load it with the current code:

```
$ ab -c 1 -n 30 http://askeet/popular_tags
...
Connection Times (ms)
              min  mean[+/-sd] median   max
Connect:        0    0   0.0      0       0
Processing:   147  148   2.4    148     154
Waiting:      138  139   2.3    139     145
Total:        147  148   2.4    148     154
...
```

Put the result of the action in the cache

> **Warning**: The following will not work on symfony 0.6. Please jump to the next section until this tutorial is updated.

The action executed to display the list of popular tags is `tag/popular`. To put the result of this action in cache, all we have to do is to create a `cache.yml` file in the `askeet/apps/frontend/modules/tag/config/` directory with:

```
popular:
  activate:   on
  type:       slot

all:
  lifeTime:   600
```

This activates the `slot` type cache for this action. The result of the action (the view) will be stored in a file in the `cache/frontend/prod/template/askeet/popular_tags/slot.cache` file, and this file will be used instead of calling the action for the next 600 seconds (10 minutes) after it has been created. This means that the popular tags page will be processed every ten minutes, and in between, the cache version will be used in place.

The caching is done at the first request, so you just need to browse to:

```
http://askeet/popular_tags
```

...to create a cache version of the template. Now, all the calls to this page for the next 10 minutes should be faster, and we will check that immediately by running the Apache benchmarking tool again:

```
$ ab -c 1 -n 30 http://askeet/popular_tags
...
Connection Times (ms)
              min  mean[+/-sd] median   max
Connect:        0    0   0.0      0       0
Processing:   137  138   2.0    138     144
Waiting:      128  129   2.0    129     135
Total:        137  138   2.0    138     144
...
```

We passed from an average of 148ms to 138ms, that's a 7% increase in performance. The cache system improves the performance in a significant way.

> **Note**: The `slot` type doesn't bypass the decoration of the page (i.e. the insertion of the template in the layout). We can not put the whole page in cache in this case because the layout contains elements that depend on the context (the user name in the top bar for instance). But for non-dynamic layouts, symfony also provides a `page` type which is even more efficient.

Build a staging environment

By default, the cache system is deactivated in the development environment and activated in the production environment. This is because cached pages, if not configured properly, can create new errors. A good practice concerning the test of a web application including cached page is to build a new test environment, similar to the production one, but with all the debug and trace tools available in the development environment. We often call it the 'staging' environment. If an error occurs in the staging environment but not in the development environment, then there are many chances that this error is caused by a problem with the cache.

When you develop a functionality, make sure that it works properly in the development environment first. Then, change the cache parameters of the related actions to improve performance, and test it again in the staging environment to see if the caching system doesn't create functional perturbation. If everything works fine, you just need to execute load tests in the production environment to measure the improvement. If the behaviour of the application is different than in the development environment, you need to review the way you configured the cache. Unit tests can be of great help to make this procedure systematic.

In order to create the staging environment, you need to add a new front controller and to define the environment's settings.

Copy the production front controller (`askeet/web/index.php`) into a `askeet/web/frontend_staging.php` file, and change its definition to:

```
<?php

define('SF_ROOT_DIR',    realpath(dirname(__FILE__).'/..'));
define('SF_APP',         'frontend');
define('SF_ENVIRONMENT', 'staging');
define('SF_DEBUG',       false);

require_once(SF_ROOT_DIR.DIRECTORY_SEPARATOR.'apps'.DIRECTORY_SEPARATOR.SF_APP.DIRECTORY_SEPARATO

sfContext::getInstance()->getController()->dispatch();

?>
```

Now, open the `askeet/apps/frontend/config/settings.yml`, and add the following lines:

```
staging:
  .settings:
    web_debug:              on
    cache:                  on
    no_script_name:         off
```

That's it, the staging environment, with web debug and cache activated, is ready to be used by requesting:

```
http://askeet/frontend_staging.php/
```

Put a template fragment in the cache

As many of the askeet pages are made of dynamic elements (a question description, for instance, contains an 'interested?' link which might be turned into simple text if the user displaying it already clicked on it), there are not many `slot` cache type candidates in our actions. But we can put chunks of templates in cache, like for instance the list of tags for a specific question. This one is trickier than the popular tag cloud, because the cache of this chunk has to be cleared every time a user adds a tag to this question. But don't worry, symfony makes it easy to handle.

To measure the improvement, we need to know the current average loading time of the `question/show` page.

```
$ ab -c 1 -n 30 http://askeet/question/what-can-i-offer-to-my-step-mother
```

First of all, the list of tags for a question has two versions: one for unregistered users (it is a tag cloud), and the other for registered users (it is a list of tags with delete links for the tags entered by the user himself). We can only put in cache the tag cloud for unregistered users (the other one is dynamic). It is located in the `tag/_question_tags` template partial. Open it (`askeet/apps/frontend/modules/tag/templates/_question_tags.php`) and enclose the fragment that has to be cached in a special `if(!cache())` statement:

```
...
<?php if ($sf_user->isAuthenticated()): ?>
...
<?php else: ?>
  <?php if (!cache('question_tags', 3600)): ?>
    <?php include_partial('tag/tag_cloud', array('tags' => QuestionTagPeer::getPopularTagsFor($qu
    <?php cache_save() ?>
  <?php endif ?>
<?php endif ?>
```

The `if(!cache())` statement will check if a version of the fragment enclosed (called `fragment_question_tags.cache`) already exists in the cache, with an age not older than one hour (3600 seconds). If this is the case, the cache version is used, and the code between the `if(!cache())` and the `endif` is not executed. If not, then the code is executed and its result saved in a fragment file with `cache_save()`.

Let us see the performance improvement caused by the fragment cache:

```
$ ab -c 1 -n 30 http://askeet/question/what-can-i-offer-to-my-step-mother
```

Of course, the improvement is not as significant as with a `slot` type cache, but doing lots of little optimizations like this one can bring an appreciable enhancement to your application.

> **Note**: Even if originally called by the `sidebar/question` action, the cache fragment file is located in `cache/frontend/prod/template/askeet/question/what-can-i-offer-to-my-step-m`
> This is because the code of a slot depends on the main action called.

Clear selective parts of the cache

The tag list of a question can change within the lifetime of the fragment. Each time a user adds or removes a tag to a question, the tag list may change. This means that the related action have to be able to clear the cache for the fragment. This is made possible by the `->remove()` method of the `viewCacheManager` object.

Just modify the `add` and `remove` actions of the `tag` module by adding at the end of each one:

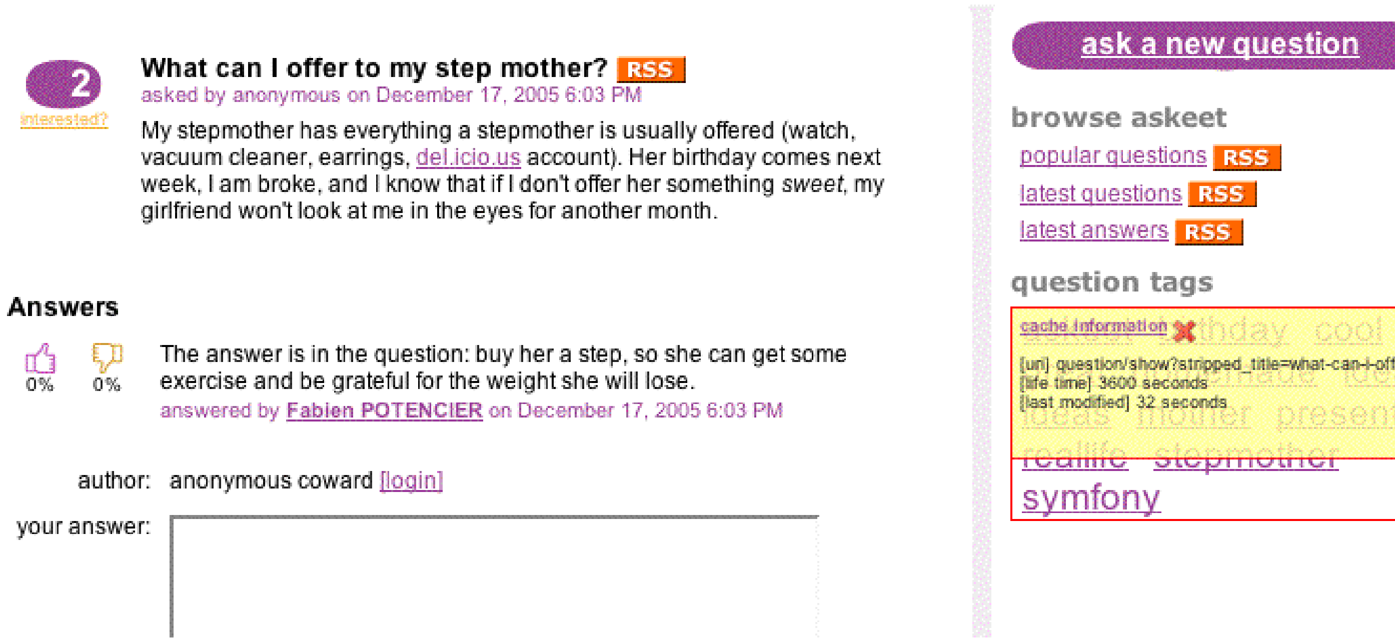
```
// clear the question tag list fragment in cache
$this->getContext()->getViewCacheManager()->remove('@question?stripped_title='.$this->question->g
```

You can now check that the tag list fragment cache doesn't create incoherences in the pages displayed by adding to or removing a tag from a question, and seeing the list of tag properly updated accordingly.

You can also enable cache in the development environment to see which parts of a page are in cache. Change your `settings.yml` configuration:

```
dev:
  .settings:
    cache:                  on
```

And now, you can see when a page, fragment or slot is already in cache:



What can I offer to my step mother?

asked by anonymous on December 17, 2005 6:03 PM

My stepmother has everything a stepmother is usually offered (watch, vacuum cleaner, earrings, del.icio.us account). Her birthday comes next week, I am broke, and I know that if I don't offer her something *sweet*, my girlfriend won't look at me in the eyes for another month.

Answers

0% 0%

The answer is in the question: buy her a step, so she can get some exercise and be grateful for the weight she will lose.

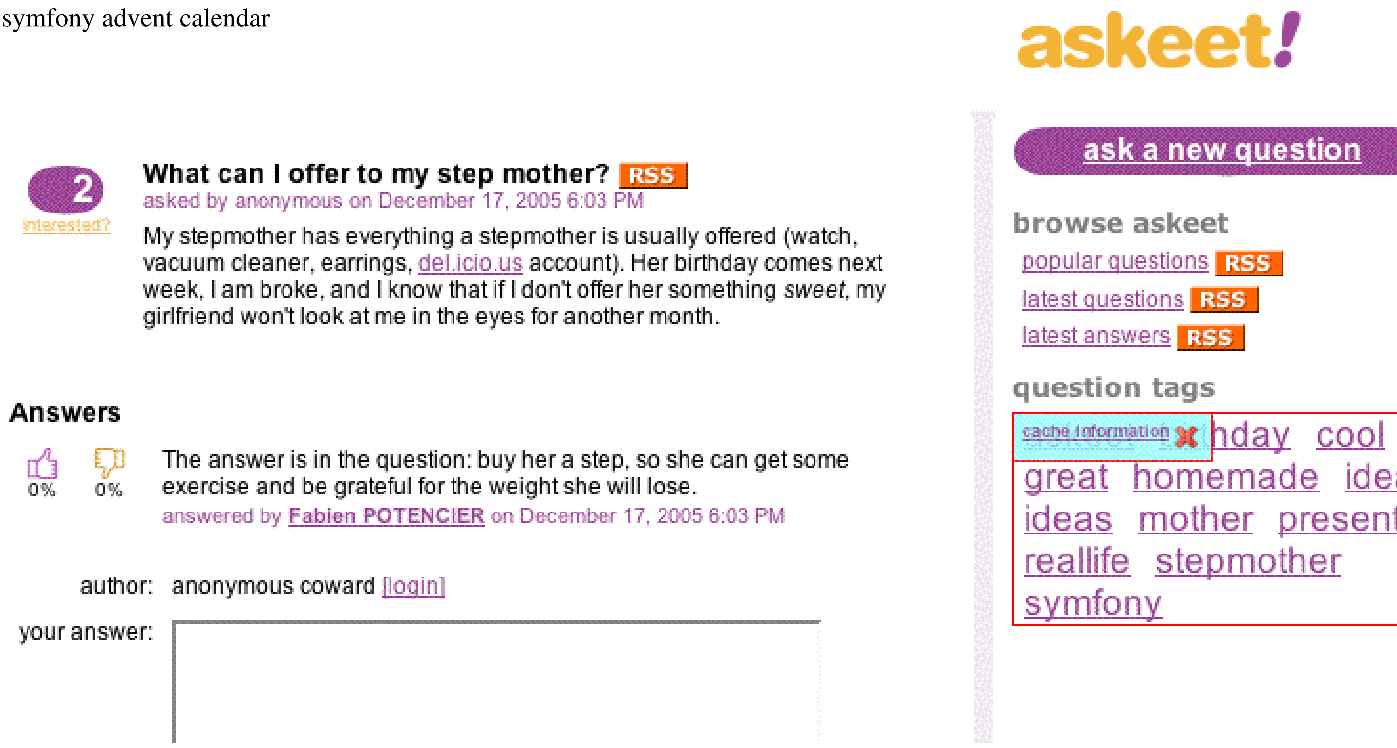
answered by Fabien POTENCIER on December 17, 2005 6:03 PM

author: anonymous coward [login]

your answer:

```
[uri] question/show?stripped_title=what-can-i-off
[life time] 3600 seconds
[last modified] 32 seconds
```

or when it is a fresh copy:



2 interested?

What can I offer to my step mother? RSS
asked by anonymous on December 17, 2005 6:03 PM

My stepmother has everything a stepmother is usually offered (watch, vacuum cleaner, earrings, del.icio.us account). Her birthday comes next week, I am broke, and I know that if I don't offer her something *sweet*, my girlfriend won't look at me in the eyes for another month.

Answers

0% 0% The answer is in the question: buy her a step, so she can get some exercise and be grateful for the weight she will lose.
answered by Fabien POTENCIER on December 17, 2005 6:03 PM

author: anonymous coward [login]

your answer:

cache information
hday cool
great homemade ide
ideas mother present
reallife stepmother
symfony

See you Tomorrow

Symfony doesn't create a high overhead, and provides easy ways to accurately tune the performance of a web application. The cache system is powerful and adaptive. Once again, if some parts of this tutorial still seem somehow obscure to you, don't hesitate to refer to the cache chapter of the symfony book. It is very detailed and contains lots of new examples.

Tomorrow, we will start to think about the management of the website activity. Protection against spam or correction of erroneous entries are among the functionality required by a website as soon as it is open to semi-anonymous publication. We could either create an askeet back-office for that, or give access to a new set of options to users with a certain profile. Anyway, it will surely take less than an hour, since we will develop it with symfony.

Make sure you keep aware of the latest askeet news by visiting the forum or looking at the askeet timeline, in which you will find bug reports, version details, and wiki changes.

symfony advent calendar day twenty: Administration and moderation

Previously on symfony

The askeet service should work as expected and without any bad surprises, thanks to our concern about performance before the initial release. But there is a much bigger problem: being an application open to contributions from anyone, it is subject to spam, excesses, or disturbing errors. Every service like askeet needs a way to moderate the publications, and accessing the database by hand is surely a bad solution. Should we add a backend application to askeet?

The advent calendar tutorials are supposed to talk about the development of a web application using agile methods. However, until now, we talked a lot about coding and not that much about application development, and the relations between the requirements of a client and the functionality implemented. The backend need will be a good opportunity to illustrate what comes before coding in agile development.

The expected result: what the client says

Today's job will consist of a few new actions, new templates and new model method, and we already know how to do that. The hardest part is probably to define what is needed, and where to put it. It is both a functional and usability concern, and it's a good thing that developers focus on something else than code every once in a while.

It will be the opportunity to illustrate one of the tasks of the eXtreme Programming (XP) methodology: the writing of **stories**, and the work that developers have to do to transform stories into functionality. XP is one of the best agile development approaches, and is usually applicable to web 2.0 projects like askeet.

Stories

In XP, a story is a brief description of the way an action of the user triggers a reaction of the application. Stories are written by the client of the website (the one who eventually pays for it - the web is not all about open source). Stories rarely exceed one or two sentences. They are regrouped in themes.

The stories are generally less detailed and more elementary than use cases. If you are familiar with UML, you might find the stories to not be precise enough, but we will see shortly that it can be a great chance.

Stories focus on the result of the action, not the implementation details. Of course, the client may have preferences concerning the interface, and in this case the story has to contain the demands and recommendations about the look and feel of the human computer interaction.

Stories have to be small enough to be evaluated easily by developers in terms of development time. Usually, a team of extreme programmers measure stories in units. The value of a unit is refined throughout the course of a project, and can vary from half a day to a few days.

Now, let's have a look at how the client would define the requirements for the askeet backend.

Story #1: Profile management

Every user can ask to become a moderator. In a user's profile page, a link should be made available to ask for this privilege. A person who asked to be moderator must not be able to ask it again until he/she receives an answer.

The persons entitled to accept or refuse a moderator candidate are the administrators. They must be able to browse the list of candidates, and have a button to grant or refuse the grade of moderator for each one of them. Administrators need to have a link to the candidate's profile to see if their contributions are all right.

Granting moderator rights must be a reversible action: Administrators must be able to browse a list of moderators, and for each, to delete the moderator credential.

Administrators can also grant administrator rights to other users. They have access to the list of administrators.

Story #2: Report of problematic questions or answers

Every user must be able to report a problematic question or answer to a moderator. A simple 'report spam' link at the bottom of every question or answer can be a good solution.

To avoid spam of reports, the report from a user about a specific question or answer can only be counted once. It would be great if the user had a visual feedback about the fact that his/her report was taken into account.

Story #3: Handling of problematic questions or answers

Moderators have two more lists available: the list of problematic questions, and the list of problematic answers. Each list is ordered according to the number of reports, in decreasing order. So the most reported questions will appear on top of the reported question list.

Moderators have the ability to delete a question, to delete an answer, and to reset the number of reports about either one. The deletion of a question causes the deletion of all the answers to this question.

Story #4: handling of problematic tags

Moderators have the ability to delete a tag for a question, whether the tag was given by them or not.

Moderators have access to a list of tags, ordered by inverse popularity, so that they can detect the problematic tags - the ones that don't make sense. By linking to the list of questions tagged with this tag, the list gives the ability to suppress the tags.

Story #4: Handling of problematic users

When a moderator deletes a user's contribution, it increments the number of problematic contributions posted by this user.

Administrators have a list of problematic users ordered by the number of problematic posts erased. Administrators must be able to delete a user and all his/her contributions.

Is that all?

Yes, that's all that the client needs to define about the functionality required for the askeet site management. It doesn't cover all cases as a functional specification would, it is not as accurate as a complete set of use case, and it leaves a lot of open ends that may lead to unwanted results.

But the job of the agile developers, which starts now, is to detect the possible ambiguities and lack of data, and to require the assistance of the client when it turns out that a story must be more precise. In a XP-style development phase, the client is always available to answer the questions of the development team.

So the developers meet up in pairs, and each pair chooses a story to work on. They talk a bit about what the story means, the unit test cases that would validate the functionality. They write the unit tests. Then, they write the code to pass these tests. When it's done, they release the code that they added in the whole application, and validate the integration by running all the unit tests written before. As it works, they take a cup of coffee, and split up. Then they form a new pair with someone else and focus on a new story.

What if the final result doesn't meet up with the desires of the client? Well, it only represents a few units of work (a few hours or days), so it is easy to forget it and try a new approach. At least, the client now knows what he/she *doesn't* want, and that's a great step towards determinism. But most of the time, as the developers are given the opportunity to talk directly with the client and read between the lines of he stories written, they get to produce the functionality in an even better way than the client would expect. Plus, it's the developer who knows about the AJAX possibilities and the way a web 2.0 can become successful. So giving them (us) the initiative is a good chance to end up with a great application.

If you are interested in XP and the benefits of agile development, have a look at the eXtreme Programming website or read *Extreme Programming Explained: Embrace Change* by Kent Beck.

Backend vs. enhanced frontend

The feedback of the developer on the client's requirements is often crucial for the quality of the application. Let us see what the developer, who knows how the application is built and how powerful symfony is, could say to the client.

The idea to add a backend application to askeet is not that good, and for several reasons.

First, a moderator using the backend might need a lot of the features already available in the frontend (including the list of latest questions, the login module, etc.). So there is a risk that the backend application repeats part of the frontend. As we don't like to repeat ourselves, that would imply a lot of cross-application refactoring, and this is much too long for the hour dedicated to it. Second, a new application would probably mean a new design to the site, with a custom layout and stylesheets. This is what takes the most time in application development. Last, to create the backend application in one hour, we would probably have to use the CRUD generator a lot, resulting in many unnecessary actions and long-to-adapt templates.

In the near future (it is planned for version 0.6), symfony will provide a full-featured back-office generator. All the functionality commonly needed to manage a website activity will be handled easily, almost without a line of code. This brilliant addition would have changed our mind about the way to build the askeet backend, but considering the current state of the framework, the best solution for the management features is to add them to the frontend application.

The base of the askeet frontend is a set of lists, and detail pages for questions and users in which certain actions are available. This is exactly the skeleton needed to build up site management functionality on.

Although it would be helpful to show how a project can contain more than one application, the client, impressed by this demonstration, goes for an integration of the site management features in the frontend application.

> **Note**: If you are still curious about the way to have more than one application running in a symfony project, have a look at the My first project tutorial, which describes it in detail.

The functionality: what the developers understand

After the developers meet up and talk with the client about the stories, they deduce the modifications to be done to the askeet application. The developer transforms *stories* to *tasks*. Tasks are usually smaller than stories, because implementing a story takes more than a day or two, while a task can normally be developed within one or two time units.

1. The model has to be modified to allow efficient requests:
    - new table `ReportQuestion` to be created, with `question_id`, `user_id` and `created_at` columns
    - new table `ReportAnswer` to be created, with `question_id`, `user_id` and `created_at` columns
    - new column `reports` to be added to the `Question` and `Answer` tables
    - new columns `is_administrator`, `is_moderator` and `deletions` to be added to the `User` table
2. On every page, the sidebar has to provide access to new lists according to the credentials of the user:
    - All users: popular questions, latest questions, latest answers
    - Moderators: reported questions, reported answers, unpopular tags
    - Administrators: administrators, moderators, moderator candidates, problematic users
3. The question detail page (`question/show`) has to provide access to new actions according to the credentials of the user:
    - Subscriber: report question, report answer
    - Moderators: delete question and answers, delete answer, reset reports for question, reset reports for answer, delete tag

   The question detail has to give additional information according to the credentials of the user:
    - Subscriber: if the question has already been reported by the subscriber
    - Moderator: the number of reports about the question and answers

4. The user profile page (`user/show`) has to provide access to new actions according to the credentials of the user:
    - Subscriber on his own page: come forward as a moderator candidate
    - Administrators: delete the user and all his/her contributions, grant moderator credentials, refuse moderator credentials, delete moderator credentials, grant administrator credentials

    The user profile page has to give additional information according to the credentials of the user:
    - All users: credentials of the user, credentials being applied for
    - Administrators: number of erased posts
5. New lists with restricted access must be created:
    - Restricted to moderators:
        - `question/reports`: list of reported questions, in decreasing order of number of reports; For each, link to the question detail.
        - `answer/reports`: list of reported answers, in decreasing order of number of reports; For each, link to the question detail.
        - `tag/unpopular`: list of tags, in increasing popularity order; For each, link to the list of questions tagged with this tag
    - Restricted to administrators:
        - `user/administrators`: list of administrators, by alphabetical order; For each, link to the user profile
        - `user/moderators`: list of moderators, by alphabetical order; For each, link to the user profile
        - `user/candidates`: list of moderator candidates, by alphabetical order; For each, link to the user profile
        - `user/problematic`: list of problematic users, in decreasing order of deleted contributions; For each, link to the user profile
6. Two new credentials must be created: Administrator and Moderator.
7. At least one administrator has to be setup by hand in the database for the application to work.

Implementation

Once the task list is written, the way to implement the backend features on askeet with symfony is just a matter of work. Applying the XP methodology on this task list, including the writing of unit tests, would take at least a good day of work. For the needs of the advent calendar tutorial, we will do it a little faster, and we will just focus here on the new techniques not described previously, or on the ones that should help you to review classical symfony techniques.

New tables

For the question and answer reports, we add two new tables to the askeet database:

```
<table name="ask_report_question" phpName="ReportQuestion">
  <column name="question_id" type="integer" primaryKey="true" />
  <foreign-key foreignTable="ask_question">
    <reference local="question_id" foreign="id" />
  </foreign-key>
  <column name="user_id" type="integer" primaryKey="true" />
  <foreign-key foreignTable="ask_user">
    <reference local="user_id" foreign="id" />
  </foreign-key>
  <column name="created_at" type="timestamp" />
</table>

<table name="ask_report_answer" phpName="ReportAnswer">
  <column name="answer_id" type="integer" primaryKey="true" />
  <foreign-key foreignTable="ask_answer">
    <reference local="answer_id" foreign="id" />
  </foreign-key>
  <column name="user_id" type="integer" primaryKey="true" />
  <foreign-key foreignTable="ask_user">
    <reference local="user_id" foreign="id" />
  </foreign-key>
  <column name="created_at" type="timestamp" />
</table>
```

The combination of the `question_id`/`answer_id` and the `user id` is enough to create a unique primary key, so we don't need to add an auto-increment `id` for these tables.

We also add a new `reports` column to the `Question` and `Answer` table. In order to synchronize the number of records in the `ReportQuestion` and the number of `reports` in the `Question` table, we override the `save()` method of the `ReportQuestion` object to add a transaction, as we did during day 4:

```
public function save($con = null)
{
  $con = sfContext::getInstance()->getDatabaseConnection('propel');
  try
  {
    $con->begin();

    $ret = parent::save();

    // update spam_count in answer table
    $answer = $this->getAnswer();
    $answer->setReports($answer->getReports() + 1);
    $answer->save();

    $con->commit();

    return $ret;
  }
  catch (Exception $e)
  {
    $con->rollback();
    throw $e;
  }
}
```

Same for the `ReportAnswer` table.

Cascade deletion

When a question is deleted, all the answers to this questions must also be deleted, as well as all the interests about the question, the tags added to the question and the relevancy ratings about all the answers. We need a mechanism of cascade deletion to take care of all that for us.

During day two, we had the idea of using the InnoDB engine for the askeet database. This facilitates the cascade deletions. But the Propel layer can manage to do the cascade deletions even on a non-InnoDB enabled database, provided that we indicate in the schema that cascade deletion has to be taken care of. This has to be done when declaring a foreign key: add a `onDelete="cascade"` attribute to the `<foreign-key>` tag in a table definition. For instance, for the `Answer` table:

```
...
<table name="ask_answer" phpName="Answer">
  <column name="id" type="integer" required="true" primaryKey="true" autoIncrement="true" />
  <column name="question_id" type="integer" />
  <foreign-key foreignTable="ask_question" onDelete="cascade">
    <reference local="question_id" foreign="id"/>
  </foreign-key>
  <column name="user_id" type="integer" />
  <foreign-key foreignTable="ask_user">
    <reference local="user_id" foreign="id"/>
  </foreign-key>
  <column name="body" type="longvarchar" />
  <column name="html_body" type="longvarchar" />
  <column name="relevancy_up" type="integer" default="0" />
  <column name="relevancy_down" type="integer" default="0" />
  <column name="reports" type="integer" default="0" />
  <column name="created_at" type="timestamp" />
</table>
...
```

Once the model is rebuilt, cascade deletion is enabled for the relations bearing the `onDelete` attribute. When you delete a record in the `Question` table:

- if the database uses the InnoDB engine, the related answers will be deleted automatically by the database itself
- else, the Propel layer will automatically get the related answers, delete them, then delete the question.

All relations may not involve a cascade deletion. Deleting a user, for instance, should delete his/her interests and ratings for answer relevancies, but not his/her contributions (questions and answers). These contributions should be associated to the anonymous user after deletion.

So the `onDelete` attribute has to be set to `cascade` for the following relations:

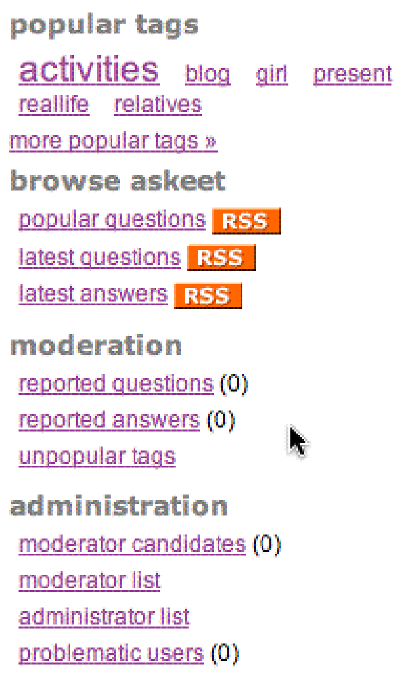
- `Answer/QuestionId`
- `Interest/QuestionId`
- `Relevancy/QuestionId`
- `QuestionTag/QuestionId`
- `ReportQuestion/QuestionId`
- `ReportAnswer/AnswerId`

Add links in the sidebar for users with credentials

We create a new `moderator` module to handle all the moderator actions, and an `administrator` one to handle the administration actions.

During day seven, we used the component slot technique to store the code of the sidebar in the `sidebar` module. The links to the new lists will appear there, but they need to be conditionned to a credential. This is simply done by using the `$sf_user->hasCredential()` method, as seen during day six:

```
// in askeet/apps/frontend/modules/sidebar/templates/_default.php and _question.php:
...
<?php include_partial('sidebar/moderation') ?>

<?php include_partial('sidebar/administration') ?>

// in askeet/apps/frontend/modules/sidebar/templates/_moderation.php:
<?php if ($sf_user->hasCredential('moderator')): ?>
  <h2>moderation</h2>

  <ul>
    <li><?php echo link_to('reported questions', 'moderator/reportedQuestions') ?> (<?php echo Qu
    <li><?php echo link_to('reported answers', 'moderator/reportedAnswers') ?> (<?php echo Answer
    <li><?php echo link_to('unpopular tags', 'moderator/unpopularTags') ?></li>
  </ul>
<?php endif ?>

// in askeet/apps/frontend/modules/sidebar/templates/_administration.php:
...
<?php if ($sf_user->hasCredential('administrator')): ?>
  <h2>administration</h2>

  <ul>
    <li><?php echo link_to('moderator candidates', 'administrator/moderatorCandidates') ?> (<?php
    <li><?php echo link_to('moderator list', 'administrator/moderators') ?></li>
    <li><?php echo link_to('administrator list', 'administrator/administrators') ?></li>
    <li><?php echo link_to('problematic users', 'administrator/problematicUsers') ?> (<?php echo
  </ul>
<?php endif ?>
```



The class methods `QuestionPeer::getReportCount()`, `AnswerPeer::getReportCount()`, `UserPeer::getModeratorCandidatesCount()` and `UserPeer::getProblematicUsersCount()` are to be added to the model. They are all based on the same principle:

```
public static function getReportCount()
{
  $c = new Criteria();
  $c->add(self::REPORTS, 0, Criteria::GREATER_THAN);
  $c = self::addPermanentTagToCriteria($c);

  return self::doCount($c);
}
```

AJAX report

We will provide a '[report to moderator]' link to report a question in all the places a question is displayed (in the question lists, in a question detail page). It would be nice if this link was an AJAX one, as in the day eight tutorial. So we add a new helper to the `QuestionHelper.php` file in the `askeet/apps/frontend/lib/helper/` directory:

```
function link_to_report_question($question, $user)
{
  use_helper('Javascript');

  $text = '[report to moderator]';
  if ($user->isAuthenticated())
  {
    $has_already_reported_question = ReportQuestionPeer::retrieveByPk($question->getId(), $user->
    if ($has_already_reported_question)
    {
      // already reported for this user
      return '[reported]';
    }
    else
    {
      return link_to_remote($text, array(
        'url'      => '@user_report_question?id='.$question->getId(),
        'update'   => array('success' => 'report_question_'.$question->getId()),
        'loading'  => "Element.show('indicator')",
        'complete' => "Element.hide('indicator');".visual_effect('highlight', 'report_question_'.
      ));
    }
  }
  else
  {
    return link_to_login($text);
  }
}
```

Now, the templates where the link has to appear (`question/templates/showSuccess.php`, `question/templates/_list.php`) can use this helper:

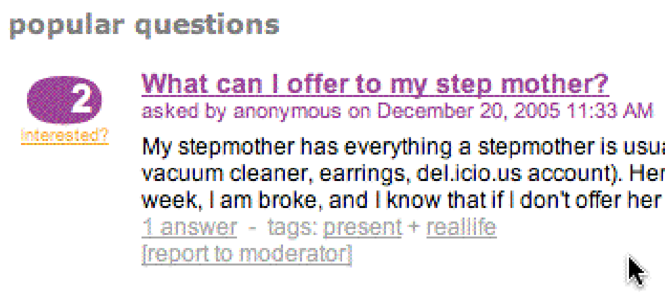
```
<div class="options" id="report_question_<?php echo $question->getId() ?>">
  <?php echo link_to_report_question($question, $sf_user) ?>
</div>
```

The `@user_report_question` rule has to be written in the `routing.yml` as leading to a `user/reportQuestion` action:

```
public function executeReportQuestion()
{
  $this->question = QuestionPeer::retrieveByPk($this->getRequestParameter('id'));
  $this->forward404Unless($this->question);

  $spam = new ReportQuestion();
  $spam->setQuestionId($this->question->getId());
  $spam->setUserId($this->getUser()->getSubscriberId());
  $spam->save();
}
```

And the result of this action, the `user/templates/reportQuestionSuccess.php` template, is simply:

```
<?php use_helper('Question') ?>
<?php echo link_to_report_question($question, $sf_user) ?>
```


popular questions

2 interested?

What can I offer to my step mother?
asked by anonymous on December 20, 2005 11:33 AM
My stepmother has everything a stepmother is usually offered (watch, vacuum cleaner, earrings, del.icio.us account). Her birthday comes next week, I am broke, and I know that if I don't offer her s...
1 answer - tags: present + reallife
[report to moderator]

The same goes for the reported answers.

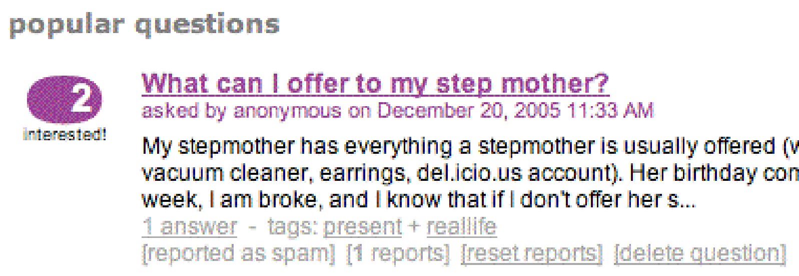
New action links for users with credentials

In the `question_body` div tag of the `askeet/apps/frontend/modules/question/templates/showSuccess.php`, we add the question management actions for moderators only, so to be compatible with the AJAX report, we put them in a fragment:

```
...
<div class="options" id="report_question_<?php echo $question->getId() ?>">
  <?php echo link_to_report_question($question, $sf_user) ?>
  <?php include_partial('moderator/question_options', array('question' => $question)) ?>
</div>
```

The `askeet/apps/frontend/modules/moderator/templates/_question_options.php` fragment contains:

```
<?php if ($sf_user->hasCredential('moderator')): ?>
  <?php if ($question->getReports()): ?>
    &nbsp;[<strong><?php echo $question->getReports() ?></strong> reports]
    &nbsp;<?php echo link_to('[reset reports]', 'moderator/resetQuestionReports?stripped_title='.
  <?php endif ?>
  &nbsp;<?php echo link_to('[delete question]', 'moderator/deleteQuestion?stripped_title='.$quest
<?php endif ?>
...
```


popular questions

2 interested!

What can I offer to my step mother?
asked by anonymous on December 20, 2005 11:33 AM
My stepmother has everything a stepmother is usually offered (watch, vacuum cleaner, earrings, del.icio.us account). Her birthday comes next week, I am broke, and I know that if I don't offer her s...
1 answer - tags: present + reallife
[reported as spam] [1 reports] [reset reports] [delete question]

The same options are added in the `askeet/apps/frontend/modules/answer/templates/_answer.php`, with a link to a `moderator/templates/_answer_options.php` fragment.

The same kind of adaptation goes for the administrator action links in the user profile page.

> **Note**: One of the good practices about links to actions is to implement them as a normal link (doing a 'GET' request) when the action doesn't modify the model, and as a button (doing a 'POST') request when the action alters the data. This is to avoid that automatic web crawlers, like search engine robots, click on a link that can modify the database. The AJAX links being inmplemented in javascript, they can'y be clicked by robots. The 'reset' and 'report' links that we just added, however, could be clicked by a robot. Fortunately, they are not displayed unless the user has moderator access, so there is no risk that they are clicked unintentionnally.
>
> We could add an extra protection on these links by declaring them as 'POST' links, as described in the link chapter of the symfony book:
>
> ```
> [php]
>  getId(), 'post=true') ?>
> ```

Access restriction

When a user with specific rights logs in, his `sfUser` object must be given the appropriate credential. This is done in the `signIn` method of the `myUser` class in `askeet/apps/frontend/lib/myUser.class.php`, that we created during day six:

```
public function signIn($user)
{
  $this->setAttribute('subscriber_id', $user->getId(), 'subscriber');
  $this->setAuthenticated(true);

  $this->addCredential('subscriber');

  if ($user->getIsModerator())
  {
    $this->addCredential('moderator');
  }

  if ($user->getIsAdministrator())
  {
    $this->addCredential('administrator');
  }

  $this->setAttribute('nickname', $user->getNickname(), 'subscriber');
}
```

Of course, all the moderator actions have to be restricted to moderators with appropriate settings in the `askeet/apps/frontend/modules/moderator/config/security.yml`:

```
all:
  is_secure:   on
  credentials: moderator
```

The same kind of restriction is to be applied for administrator actions.

New `moderator` and `administrator` actions

There is nothing new in the actions to be added to the `moderator` and `administrator` actions. We will just give the list here so that you know about them:

```
// administrator actions
executeProblematicUsers()     ->  usersSuccess.php
executeModerators()           ->  usersSuccess.php
executeAdministrators()       ->  usersSuccess.php
executeModeratorCandidates()  ->  usersSuccess.php

executePromoteModerator()     ->  request referrer
executeRemoveModerator()      ->  request referrer
executePromoteAdministrator() ->  request referrer
executeRemoveAdministrator()  ->  request referrer

// moderator actions
executeUnpopularTags()        ->  unpopularTagsSuccess.php
executeReportedQuestions()    ->  reportedQuestions.php
executeReportedAnswers()      ->  reportedAnswers.php

executeDeleteTag()            ->  request referrer
executeDeleteQuestion()       ->  @homepage
executeDeleteAnswer()         ->  request referrer
```

> **Note**: To specify a custom template for an action, you can add a `view.yml` config file to the module. For instance, to have half of the `administrator` actions use the `usersSuccess.php` template, you can create the following `askeet/apps/frontend/modules/administrator/config/view.yml` file:
>
> ```
> moderatorsSuccess:
>   template: users
>
> administratorsSuccess:
>   template: users
>
> moderatorCandidatesSuccess:
>   template: users
>
> problematicUsersSuccess:
>   template: users
> ```

Log deletions

When a moderator deletes a question, we want to keep a trace of the deletion in a log file, in a warning message. To allow the logging of warning messages in the production environment, we need to modify the `logging.yml` configuration file:

```
prod:
  level: warning
```

Then, in all the delete actions, add the code to log the deletion, as in this `moderator/deleteQuestion` action:

```
public function executeDeleteQuestion()
{
  $question = QuestionPeer::getQuestionFromTitle($this->getRequestParameter('stripped_title'));
  $this->forward404Unless($question);

  $con = sfContext::getInstance()->getDatabaseConnection('propel');
  try
  {
    $con->begin();

    $user = $question->getUser();
    $user->setDeletions($user->getDeletions() + 1);
    $user->save();

    $question->delete();

    $con->commit();

    // log the deletion
    $log = 'moderator "%s" deleted question "%s"';
    $log = sprintf($log, $this->getUser()->getNickname(), $question->getTitle());
    $this->getContext()->getLogger()->warning($log);
  }
  catch (PropelException $e)
  {
    $con->rollback();
    throw $e;
  }

  $this->redirect('@homepage');
}
```

If you want to know more about logging, you can have a look at the debug chapter of the symfony book.

We changed the `try/catch` statement to react only to `PropelExceptions` instead of all `Exceptions`. This is because we don't want the transaction to fail only because there is a problem in the logging of the deletion.

> **Note**: In the example above, we use the object `$question` *even after it has been deleted*. This is because the call to the `->delete()` method marks a record or a list of records for deletion, and the actual deletion is only processed by Propel once the action is finished.

See you Tomorrow

As we took some time to think about the way to implement the backend features, and because there are quite a lot of them, today's tutorial probably lasted two hours rather than only one. But there is not many new things here, so the implementation should be a review of symfony techniques. You can have a good view of the total list of changes by browsing to the askeet timeline.

Tomorrow is the day of the mysterious feature. Numerous suggestions were sent to the forum, or even in the beta askeet site itself. You will see which one we decided to implement, and how symfony can be of great help to it.

Feel free to go to the forum if you have any problem with today's source, which, by the way, can still be downloaded from the SVN repository or browsed in the trac.

symfony advent calendar day twenty-one: Search engine

Previously on symfony

With AJAX interactions, web services, RSS feed, a hat ful of site management features, and a growing number or users, askeet has almost all that a web 2.0 application could ask for. The symfony community debated about what could be added on top of that, in order to make askeet a real killer application.

Some of the suggestions included features that were already planned for initially. Others concerned small additions that will take only a couple minutes to implement, and that will probably be added shortly after the 1.0 release. Askeet aims to be a living open-source application, and you can start raising tickets or proposing evolutions in the askeet trac system. And you can also contribute patches and adapt or extend the application as you wish. But please wait a few more days, for the advent calendar has some more surprises for you before Christmas.

How to build a search engine?

The most popular suggestion about the 21st day addition proved to be a search engine.

If the Zsearch extension (a PHP implementation of the Lucene search engine from Apache) had already been released by Zend, this would have been a piece of cake to implement. Unfortunately, Zend seems to take longer than expected to launch their PHP framework, so we need to find another solution.

Integrating a foreign library (like, for instance, mnoGoSearch) would probably take more than one hour, and lots of custom adaptations would be necessary to obtain a good result for the askeet specific content. Plus, foreign search libraries are often platform or database dependant, and not all of them are open-source, and that's something we don't want for askeet.

The MySQL database offers a full-text indexation and search for text content, but it is restricted to MyISAM tables. Once again, basing our search engine on a database-specific component would limit the possible uses of the askeet application, and we want to do everything to preserve the large compatibility it has so far.

The only alternative left is to develop a full-text PHP search engine by ourselves. And we have less than one hour, so we'd better get started.

Word index

The first step is to build a search index. The index can be seen as a table indexing all occurrences of a particular word. For example, if question #34 has the following characteristics:

- **Title**: What is the best Zodiac sign for my child?
- **Body**: My husband doesn't care about Zodiac signs for our next child, but we already have a Cancer girl and an Aries boy, and they get along with each other like hell. My mother-in-law didn't express

any preference, so I am completely free to choose the Zodiac sign of my next baby. What do you think?
- **Tags**: zodiac, real life, family, children, sign, astrology, signs

An index has to be created to list the words of this question, so that a search engine can find it.

Index table

The index should look like:

id	word	count
34	sign	4
34	zodiac	4
34	child	2
34	hell	1
34	...	...

A new `SearchIndex` table is added to the askeet `schema.xml` before rebuilding the model:

```
<table name="ask_search_index" phpName="SearchIndex">
  <column name="question_id" type="integer" />
  <foreign-key foreignTable="ask_question" onDelete="cascade">
    <reference local="question_id" foreign="id"/>
  </foreign-key>
  <column name="word" type="varchar" size="255" />
  <index name="word_index">
    <index-column name="word" />
  </index>
  <column name="weight" type="integer" />
</table>
```

The `onDelete` attribute ensures that the deletion of a question will lead to the deletion of all the records in the `SearchIndex` table related to this question, as explained yesterday.

Splitting phrases into words

The input content that will be used to build the index is a set of sentences (question title and body) and tags. What is eventually needed is a list of words. This means that we need to split the sentences into words, ignoring all punctuation, numbers, and putting all words to lowercase. The `str_word_count()` PHP function will do the trick:

```
// split into words
$words = str_word_count(strtolower($phrase), 1);
...
```

Stop words

Some words, like "a," "of," "the," "I,", "it", "you," and "and", have to be ignored when indexing some text content. This is because they have no distinctive value, they appear in almost every text content, they slow down a text search and make it return a lot of poorly interesting results that have nothing to do with a user's query. They are known as stop words. The stop words are specific to a given language.

For the askeet search engine, we will use a custom list of stop words. Add the following method to the `askeet/lib/myTools.class.php` class:

```
public static function removeStopWordsFromArray($words)
{
  $stop_words = array(
    'i', 'me', 'my', 'myself', 'we', 'our', 'ours', 'ourselves', 'you', 'your', 'yours',
    'yourself', 'yourselves', 'he', 'him', 'his', 'himself', 'she', 'her', 'hers',
    'herself', 'it', 'its', 'itself', 'they', 'them', 'their', 'theirs', 'themselves',
    'what', 'which', 'who', 'whom', 'this', 'that', 'these', 'those', 'am', 'is', 'are',
    'was', 'were', 'be', 'been', 'being', 'have', 'has', 'had', 'having', 'do', 'does',
    'did', 'doing', 'a', 'an', 'the', 'and', 'but', 'if', 'or', 'because', 'as', 'until',
    'while', 'of', 'at', 'by', 'for', 'with', 'about', 'against', 'between', 'into',
    'through', 'during', 'before', 'after', 'above', 'below', 'to', 'from', 'up', 'down',
    'in', 'out', 'on', 'off', 'over', 'under', 'again', 'further', 'then', 'once', 'here',
    'there', 'when', 'where', 'why', 'how', 'all', 'any', 'both', 'each', 'few', 'more',
    'most', 'other', 'some', 'such', 'no', 'nor', 'not', 'only', 'own', 'same', 'so',
    'than', 'too', 'very',
  );

  return array_diff($words, $stop_words);
}
```

Stemming

The first thing that you should notice in the example question given above is that words having the same radical should be seen as a single one. 'Children' should increase the weight of 'child', as should 'sign' do for 'signs'. So before indexing words, they have to be reduced to their greatest common divisor, and in linguistics vocabulary, this is called a stem, or "the base part of the word including derivational affixes but not inflectional morphemes, i. e. the part of the word that remains unchanged through inflection".

There are lots of rules to transform a word into its stem, and these rules are all language-dependant. One of the best stemming techniques for the English language so far is called the Porter Stemming Algorithm and, as we are very lucky, it has been ported to PHP5 in an open-source script available from tartarus.org.

The `PorterStemmer` class provides a `::stem($word)` method that is perfect for our needs. So we can write a method, still in `myTools.class.php`, that turns a phrase into an array of stem words:

```
 [php]
  public static function stemPhrase($phrase)
  {
    // split into words
    $words = str_word_count(strtolower($phrase), 1);

    // ignore stop words
    $words = myTools::removeStopWordsFromArray($words);

    // stem words
    $stemmed_words = array();
    foreach ($words as $word)
    {
      // ignore 1 and 2 letter words
      if (strlen($word) <= 2)
      {
        continue;
      }

      $stemmed_words[] = PorterStemmer::stem($word, true);
    }

    return $stemmed_words;
  }
```

Of course, you have to put the `PorterStemmer.class.php` in the same `askeet/lib/` directory for this to work.

Giving weight to words

The search results have to appear in order of pertinence. The questions that are more tightly related to the words entered by the user have to appear first. But how can we translate this idea of pertinence into an algorithm? Let's write a few basic principles:

- If a searched word appears in the title of a question, this question should appear higher in a search result than another one where the word appears only in the body.
- If a searched word appears twice in the content of a question, the search result should show this question before others where the word appears only once.

That's why we need to give *weight* to words according to the part of the question they come from. As the weight factors have to be easily accessible, to make them vary if we want to fine tune our search engine algorithm, we will put them in the application configuration file (`askeet/apps/frontend/config/app.yml`):

```
all:
  ...

  search:
    body_weight:         1
    title_weight:        2
    tag_weight:          3
```

In order to apply the weight to a word, we simply repeat the content of a string as many times as the weight factor of its origin:

```
...
// question body
$raw_text =  str_repeat(' '.strip_tags($question->getHtmlBody()), sfConfig::get('app_search_body_

// question title
$raw_text .= str_repeat(' '.$question->getTitle(), sfConfig::get('app_search_title_weight'));
...
```

The basic weight of the words will be given by their number of occurrences in the text. The `array_count_values()` PHP function will help us for that:

```
...
// phrase stemming
$stemmed_words = myTools::stemPhrase($raw_text);

// unique words with weight
$words = array_count_values($stemmed_words);
```

Updating the index

The index has to be updated each time a question, tag or answer is added. The MVC architecture makes it easy to do, and you have already seen how to override a `save()` method in a class of the Model with a transaction, for instance during day four. So the following should not surprise you. Open the `askeet/lib/model/Question.php` file and add in:

```
public function save($con = null)
{
  $con = sfContext::getInstance()->getDatabaseConnection('propel');
  try
  {
    $con->begin();

    $ret = parent::save($con);
    $this->updateSearchIndex();

    $con->commit();

    return $ret;
  }
  catch (Exception $e)
  {
    $con->rollback();
    throw $e;
  }
}

public function updateSearchIndex()
{
  // delete existing SearchIndex entries about the current question
  $c = new Criteria();
  $c->add(SearchIndexPeer::QUESTION_ID, $this->getId());
  SearchIndexPeer::doDelete($c);

  // create a new entry for each of the words of the question
  foreach ($this->getWords() as $word => $weight)
  {
    $index = new SearchIndex();
    $index->setQuestionId($this->getId());
    $index->setWord($word);
    $index->setWeight($weight);
    $index->save();
  }
}
```

```
public function getWords()
{
  // body
  $raw_text =  str_repeat(' '.strip_tags($this->getHtmlBody()), sfConfig::get('app_search_body_we

  // title
  $raw_text .= str_repeat(' '.$this->getTitle(), sfConfig::get('app_search_title_weight'));

  // title and body stemming
  $stemmed_words = myTools::stemPhrase($raw_text);

  // unique words with weight
  $words = array_count_values($stemmed_words);

  // add tags
  $max = 0;
  foreach ($this->getPopularTags(20) as $tag => $count)
  {
    if (!$max)
    {
      $max = $count;
    }

    $stemmed_tag = PorterStemmer::stem($tag);

    if (!isset($words[$stemmed_tag]))
    {
      $words[$stemmed_tag] = 0;
    }
    $words[$stemmed_tag] += ceil(($count / $max) * sfConfig::get('app_search_tag_weight'));
  }

  return $words;
}
```

We also have to update the question index each time a tag is added to it, so override the `save()` method of the `Tag` model object as well:

```
public function save($con = null)
{
  $con = sfContext::getInstance()->getDatabaseConnection('propel');
  try
  {
    $con->begin();

    $ret = parent::save($con);
    $this->getQuestion()->updateSearchIndex();

    $con->commit();

    return $ret;
  }
  catch (Exception $e)
  {
    $con->rollback();
    throw $e;
  }
}
```

Test the index builder

The index is ready to be built. Initialize it by populating the database again:

```
$ php batch/load_data.php
```

You can inspect the `SearchIndex` table to check if the indexing went all well:

id	word	weight
10	blog	6
9	offer	4
8	girl	3
8	rel	3
8	activ	3
10	activ	3
9	present	3
9	reallif	3
11	test	3
12	test	3
13	test	3
8	shall	3
8	tonight	2
8	girlfriend	2
..	.....	..

The search function

AND or OR?

We want the search function to manage both 'AND' and 'OR' searches. For instance, if a user enters 'family zodiac', he (she?) must be given the choice to look only for the questions where both the two terms appear (that's an 'AND'), or for all the questions where at least one of the term appears (that's an 'OR'). The trouble is that these two options lead to different queries:

```
// OR query
SELECT DISTINCT question_id, COUNT(*) AS nb, SUM(weight) AS total_weight
FROM ask_search_index
WHERE (word = "family" OR word = "zodiac")
GROUP BY question_id
ORDER BY nb DESC, total_weight DESC

// AND query
SELECT DISTINCT question_id, COUNT(*) AS nb, SUM(weight) AS total_weight
FROM ask_search_index
WHERE (word = "family" OR word = "zodiac")
GROUP BY question_id
HAVING nb = 2
```

```
ORDER BY nb DESC, total_weight DESC
```

Thanks to the `HAVING` keyword (explained, for instance, at w3schools), the `AND` SQL query is only one line longer than the `OR` one. As the `GROUP BY` is on the `id` column, and because there is only one index occurrence for a given word in a question, if a `question_id` is returned twice, it is because the question matches both the 'family' and 'zodiac' term. Neat, isn't it?

The search method

For the search to work, we need to apply the same treatment to the search phrase as to the content, so that the words entered by the user are reduced to the same kind of stem that lies in the index. Since it returns a set of questions without any foreign constraint, we decide to implement it as a method of the `QuestionPeer` object.

The search results need to be paginated. As we use a complex request, the `sfPropelPager` object cannot be employed here, so we will do a pagination by hand, using an offset.

There is one more thing to remember: askeet is made to work with universes (that was the subject of the eighteenth day tutorial). This means that a search function must only return the questions tagged with the current `app_permanent_tag` if the user is browsing askeet in a universe.

All these conditions make the SQL query slightly more difficult to read, but not much different from the ones described above:

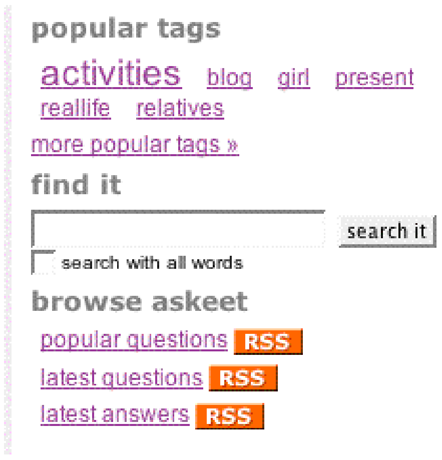
```
public static function search($phrase, $exact = false, $offset = 0, $max = 10)
{
  $words    = array_values(myTools::stemPhrase($phrase));
  $nb_words = count($words);

  if (!$words)
  {
    return array();
  }

  $con = sfContext::getInstance()->getDatabaseConnection('propel');

  // define the base query
  $query = '
      SELECT DISTINCT '.SearchIndexPeer::QUESTION_ID.', COUNT(*) AS nb, SUM('.SearchIndexPeer::WE
      FROM '.SearchIndexPeer::TABLE_NAME;

  if (sfConfig::get('app_permanent_tag'))
  {
    $query .= '
      WHERE ';
  }
  else
  {
    $query .= '
      LEFT JOIN '.QuestionTagPeer::TABLE_NAME.' ON '.QuestionTagPeer::QUESTION_ID.' = '.SearchInd
      WHERE '.QuestionTagPeer::NORMALIZED_TAG.' = ? AND ';
  }
  $query .= '
      ('.implode(' OR ', array_fill(0, $nb_words, SearchIndexPeer::WORD.' = ?')).')
      GROUP BY '.SearchIndexPeer::QUESTION_ID;

  // AND query?
  if ($exact)
  {
    $query .= '
      HAVING nb = '.$nb_words;
  }

  $query .= '
      ORDER BY nb DESC, total_weight DESC';

  // prepare the statement
  $stmt = $con->prepareStatement($query);
  $stmt->setOffset($offset);
  $stmt->setLimit($max);
  $placeholder_offset = 1;
  if (sfConfig::get('app_permanent_tag'))
  {
    $stmt->setString(1, sfConfig::get('app_permanent_tag'));
    $placeholder_offset = 2;
  }
  for ($i = 0; $i < $nb_words; $i++)
  {
    $stmt->setString($i + $placeholder_offset, $words[$i]);
  }
  $rs = $stmt->executeQuery(ResultSet::FETCHMODE_NUM);

  // Manage the results
  $questions = array();
  while ($rs->next())
  {
    $questions[] = self::retrieveByPK($rs->getInt(1));
  }

  return $questions;
}
```

The method returns a list of `Question` objects, ordered by pertinence.

The search form

The search form has to be always available, so we choose to put it in the sidebar. As there are two distinct sidebars, they should include the same partial:

```
// add to defaultSuccess.php and questionSuccess.php in askeet/apps/frontend/modules/sidebar/temp
<h2>find it</h2>
<?php include_partial('question/search') ?>

// create the following askeet/apps/frontend/modules/question/templates/_search.php fragment
<?php echo form_tag('@search_question') ?>
  <?php echo input_tag('search', htmlspecialchars($sf_params->get('search')), array('style' => 'w
  <?php echo submit_tag('search it', 'class=small') ?>
  <?php echo checkbox_tag('search_all', 1, $sf_params->get('search_all')) ?>&nbsp;<label for="sea
</form>
```



The `@search_question` rule has to be defined in the `routing.yml`:

```
search_question:
  url:   /search/*
  param: { module: question, action: search }
```

Do you know what this `question/search` action does? Almost nothing, since most of the work is handled by the `QuestionPeer::search()` method described above:

```
public function executeSearch ()
{
  if ($this->getRequestParameter('search'))
  {
    $this->questions = QuestionPeer::search($this->getRequestParameter('search'), $this->getReque
  }
  else
  {
    $this->redirect('@homepage');
  }
}
```

The action has to translate a `page` request parameter into an `offset` for the `::search()` method. The `app_search_results_max` is the number of results per page, and as usual, it is an application parameter defined in the `app.yml` file:

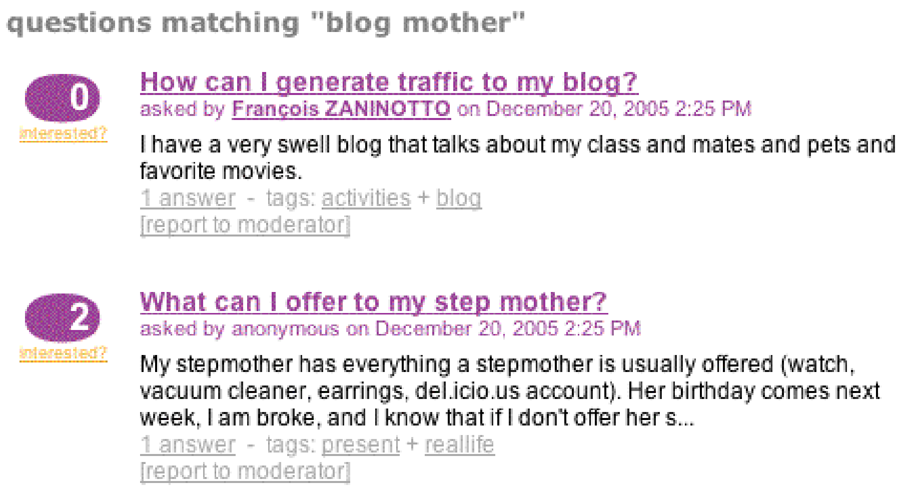
```
all:
  search:
    results_max:        10
```

Display the search result

The hardest part of the job is done, we just have to display the search result in a `askeet/apps/frontend/modules/question/templates/searchSuccess.php`. As we didn't implement a real pagination to keep the query light, the template has no information about the total number of results. The pagination will just display a 'more results' link at the bottom of the result list if the number of results equals the maximum of results per page:

```
<?php use_helpers('Global') ?>

<h1>questions matching "<?php echo htmlspecialchars($sf_params->get('search')) ?>"</h1>

<?php foreach($questions as $question): ?>
  <?php include_partial('question/question_block', array('question' => $question)) ?>
<?php endforeach ?>

<?php if ($sf_params->get('page') > 1 && !count($questions)): ?>
  <div>There is no more result for your search.</div>
<?php elseif (!count($questions)): ?>
  <div>Sorry, there is no question matching your search terms.</div>
<?php endif ?>

<?php if (count($questions) == sfConfig::get('app_search_results_max')): ?>
  <div class="right">
    <?php echo link_to('more results &raquo;', '@search_question?search='.$sf_params->get('search
  </div>
<?php endif ?>
```

Ah, yes, this is the final surprise. We refactored a little the question templates to create a `_question_block.php` question block, as the code was reused in more than one place. Have a look at this fragment in the source repository, there is nothing new in it. But it helps us to keep the code clean.


questions matching "blog mother"

0
interested?

How can I generate traffic to my blog?
asked by François ZANINOTTO on December 20, 2005 2:25 PM

I have a very swell blog that talks about my class and mates and pets and favorite movies.
1 answer - tags: activities + blog
[report to moderator]

2
interested?

What can I offer to my step mother?
asked by anonymous on December 20, 2005 2:25 PM

My stepmother has everything a stepmother is usually offered (watch, vacuum cleaner, earrings, del.icio.us account). Her birthday comes next week, I am broke, and I know that if I don't offer her s...
1 answer - tags: present + reallife
[report to moderator]

See you Tomorrow

It took us about one hour to build a good search engine, perfectly adapted to our needs. It is light, fast and efficient. It returns pertinent results. Would you want to integrate an external library to do the same job without any possibility to tweak it?

If not, you are probably getting to think the symfony way. If you understood this tutorial, you can probably add to the search engine the indexing of answers to a question. Questions and suggestions are welcome in the askeet forum. And most of all, don't create new questions on askeet if a similar question has already been asked: Now there is a search engine, you have no excuse!

symfony advent calendar day twenty-two: Transfer to production

Previously on symfony

Yesterday, we added a back-office to askeet. So everything is ready for the application to actually run and be released on the Internet (by the way, it **is** already online, try browsing to www.askeet.com if you didn't do it already). This is the perfect moment to focus on the techniques involved in the synchronization of two servers, since you developed askeet on your computer and will probably host it in another server, connected to the Internet.

Synchronization

Good practices

There are a lot of ways to synchronize two environments for a website. The basic file transfers can be achieved by an FTP connection, but there are two major drawbacks to this solution. First, it is not secure, the data stream transmits in the clear over the Internet and can be intercepted. Second, sending the root project directory by FTP is fine for the first transfer, but when you have to upload an update of your application, where only a few files changed, this is not a good and fast way to do it. Either you transfer the whole project again which, can be long or you browse to the directories where you know that some files changed, and transfer only the ones with different modification dates. That's a long job, and it is prone to error. In addition, the website can be unavailable or buggy during the time of the transfer.

The solution that is supported by symfony is **rsync** synchronization through a **SSH** layer.

Rsync is a command line utility that provides fast incremental file transfer, and it's open source. By 'incremental', it means that only the modified data will be transferred. If a file didn't change, it won't be sent to the host. If a file changed only partially, only the differential will be sent. The major advantages is that rsync synchronizations transfer only a little data and are very fast.

Symfony adds SSH on top of rsync to secure the data transfer. More and more commercial hosts support an SSH tunnel to secure file uploads on their servers, and that's a good practice that symfony encourages.

For notes on installing rsync and SSH on Linux, read the instructions in the related websites. For Windows users, an open-source alternative called cwRsync exists, or you can try to install the binaries by hand (instructions can be found here). Of course, to be able to setup an SSH tunnel between an integration server and a host server, the SSH service has to be installed and running on *both* computers.

The `symfony sync` command

Doing a rsync over SSH requires several commands, and synchronization can occur a lot of times in the life of an application. Fortunately, symfony automates this process with just one command:

```
$ symfony sync production
```

This command, called from the root directory of a symfony project, launches the synchronization of the project code with the `production` hosted server. The connection details of this server are to be written in the project `properties.ini`, found in `askeet/config/`:

```
name=askeet

[production]
  host=myaskeetprodserver.com
  port=22
  user=myuser
  dir=/home/myaccount/askeet/
```

The connection settings will be used by the SSH client call enclosed in the symfony `sync` command line.

If you just call `symfony sync` like mentioned above, the rsync utility will run in dry mode by default (`--dry-run`), i. e. it will show you which files have to be synchronized but *without actually synchronizing them*. If you want the synchronization to be done, you have to mention it explicitly:

```
$ symfony sync production go
```

Ignoring irrelevant files

If you synchronize your symfony project with a production host, there are a few files and directories that should not be transferred:

- All the `.svn` directories and their content: They contain source version control information, only necessary for development and integration
- `askeet/web/fronted_dev.php`: The web front controller for the development environment must not be available to the final users. The debugging and logging tools available when using the application through this front controller slow down the application, and give information about the core variables of your actions. It is something to keep off of the host server.
- The `cache/` and `log/` directories of a project must not be erased in the host server each time you do a synchronization. These directories must be ignored as well. If you have a `stats/` directory, it should probably be treated the same.
- The files uploaded by users: one of the good practices of symfony projects is to store the uploaded files in the `web/uploads/` directory. This allows us to exclude all these files by pointing to only one directory.

To exclude files from rsync synchronizations, open and edit the `rsync_exclude.txt` file under the `askeet/config/` directory. Each line can contain either a file, a directory, or a pattern:

```
.svn
web/frontend_dev.php
cache
log
stats
web/uploads
```

Thanks to the symfony file structure, you don't have too many files or directories to exclude manually from the synchronization. If you want to learn more about the way the files are organized in a symfony project, read the file structure chapter of the symfony book.

> **Note**: The `cache/` and `log/` directories must not be synchronized with the development server, but they must at least exist in the production server. Create them by hand if the askeet project tree structure doesn't contain them.

Production server configuration

For your project to work in the production server, the symfony framework has to be installed in the host.

Installing symfony in a production server

There are several ways to install symfony on a server, but they are not all adapted to a production environment. For instance, doing a PEAR install requires administrator rights on directories that might not be open to you if you share a web server.

Based on the principle that you will probably host several projects using symfony on the production web server, the recommended symfony installation is to uncompress the archive of the framework in a specific directory. Only the `lib/` and `data/` directories are necessary in a production server, so you can get rid of the other files (`bin/`, `doc/`, `test/` and the files from the root directory).

You should end up with a file structure looking like:

```
/home/myaccount/
  symfony/
    lib/
    data/
  askeet/
    apps/
      frontend/
    batch/
    cache/
    config/
    data/
    doc/
    lib/
    log/
    test/
    web/
```

For the askeet project to use the symfony classes, you have to set up two symbolic links between the application `lib/symfony` and `data/symfony`, and the related directories in the `symfony` installation:

```
$ cd /home/myaccount/askeet
$ ln -sf /home/myaccount/symfony/lib lib/symfony
$ ln -sf /home/myaccount/symfony/data data/symfony
```

Alternatively, if you don't have command line access, the files of the framework can be copied directly into the project `lib/` and `data/` directories:

```
copy /home/myaccount/symfony/lib/*   into /home/myaccount/askeet/lib/symfony
copy /home/myaccount/symfony/data/*  into /home/myaccount/askeet/data/symfony
```

Beware that in this case, each time you update the framework, you have to do it in all your projects.

For more information, all the possible ways to install symfony are described in the installation chapter of the symfony book.

Access to the symfony commands in production

While developing, you took the good habit of using:

```
$ symfony clear-cache
```

...each time you change the configuration or the object model of the project. When you upload a new version of your project in production, the cache also needs to be cleared if you want the application to work. You can easily do it by deleting the full content of the `askeet/cache/` directory (by ftp or with a ssh console). Alternatively, you can have the power of the symfony command line at the price of a slightly longer installation.

To use the command line, you need to install the pake utility. Pake is a PHP tool similar to the make command. It automates some administration tasks according to a specific configuration file called `pakefile.php`. The symfony command line uses the pake utility, and each time you type `symfony`, you actually call `pake` with a special `pakefile.php` located in the `symfony/bin/` directory (find more about pake in symfony in the project creation chapter of the symfony book). If you install symfony via PEAR, pake is installed as a requirement, so you usually don't see it at all and don't need to bother about what comes next. But if you do a manual installation, you have to uncompress the pake directory (get it from your symfony pear installation or download it from the pake website) into your directory in the production server. Just like for the symfony libs, you also have to add a symlink in order to enable symfony to use pake:

```
$ ln -sf /home/myaccount/pake/lib lib/pake
```

You should end up with something like this:

```
/home/myaccount/
  pake/
    lib/
  symfony/
    lib/
    data/
  askeet/
    apps/
      frontend/
    batch/
    cache/
    config/
    data/
      symfony/ -> /home/myaccount/symfony/data
    doc/
    lib/
      symfony/ -> /home/myaccount/symfony/lib
      pake     -> /home/myaccount/pake/data
    log/
    test/
    web/
```

To call the symfony command to do a clear-cache, you need to do:

```
$ cd /home/myaccount/askeet/
$ php lib/pake/bin/pake.php -f lib/symfony/data/symfony/bin/pakefile.php clear-cache
```

Alternatively, you can create a file called `symfony` in the `home/myaccount/askeet/` with:

```
#!/bin/sh

php lib/pake/bin/pake.php -f lib/symfony/data/symfony/bin/pakefile.php $@
```

Then, all you need to do in order to clear the cache is that good old

```
$ symfony clear-cache
```

Web command

If you want to have the power of the pake utility but without command line access, you can also create a web access for the clear-cache command.

For instance, you could save the following `webpake.php` in your `/home/myaccount/askeet/web/` directory:

```
<?php

// as we are in the web/ dir, we need to go up one level to get to the project root
chdir(dirname(__FILE__).DIRECTORY_SEPARATOR.'..');

include_once('/lib/symfony/pake/bin/pake.php');

$pake = pakeApp::get_instance();
try
{
  $ret = $pake->run('/data/symfony/bin/pakefile.php', 'clear-cache');
}
catch (pakeException $e)
{
  print "<strong>ERROR</strong>: ".$e->getMessage();
}

?>
```

Then, clearing the cache could be done by navigating to:

```
http://myaskeetprodserver.com/webpake.php
```

> **Note**: Beware that by letting web access to administration tools, you can compromise the security of your website.

Upgrading your application

There will be times in the life of your project when you need to switch between two versions of an application. It can be in order to correct bugs, or to upload new features. You can also be faced with the problem of switching between two versions of the database. If you follow a few good practices, these actions will prove easy and harmless.

Show unavailability notice

Between the moment when you start the data transfer and the moment you clear the cache (if you modify the configuration or the data model), there are sometimes more than a few seconds of delay. You must plan to display an unavailability notice for users trying to browse the site at that very moment.

In the application `settings.yml`, define the `unavailable_module` and `unavailable_action` settings:

```
all:
  .settings:
    unavailable_module:     content
    unavailable_action:     unavailable
```

Create an empty `content/unavailable` action and a `unavailableSuccess.php` template:

```
// askeet/apps/frontend/modules/content/actions/actions.class.php
public function executeUnavailable()
{
  $this->setTitle('askeet! &raquo; maintenance');
}

// askeet/apps/frontend/modules/content/templates/unavailableSuccess.php
<h1>Askeet: Site maintenance</h1>

<p>The askeet website is currently being updated.</p>

<p>Please try again in a few minutes.</p>

<p><i>The askeet team</i></p>
```

Now each time that you want to make your application unavailable, just change the `available` setting:

```
all:

  .settings:

    available:              off
```

Don't forget that for a configuration change to be taken into account in production, you need to clear the cache.

> **Note**: The fact that the whole application can be turned off with only a single parameter is possible because symfony applications use a single entry point, the front web controller. You

will find more information about it in the controller page of the symfony book.

Use two versions of your application

A good way to avoid unavailability is to have the project root folder configured as a symlink. For instance, imagine that you are currently using the version 123 of your application, and that you want to switch to the version 134. If your web server root is set to `/home/myaccount/askeet/web/` and that the production folder looks like that:

```
/home/myaccount/
  pake/
    lib/
  symfony/
    lib/
    data/
  askeet/     -> /home/production/askeet.123/
  askeet.123/
  askeet.134/
```

Then you can instantly switch between the two versions by changing the symlink:

```
$ ln -sf /home/myaccount/askeet/ /home/myaccount/askeet.134/
```

The users will see no interruption, and yet all the files used after the change of the symlink will be the ones of the new release. If, in addition, you emptied the `cache/` folder of your release 134, you don't even need to launch a clear-cache after switching applications.

Switching databases

You can extrapolate that technique to switching databases. Remember that the address of the database used by your application is defined in the `databases.yml` configuration file. If you create a copy of the database with a new name, say `askeet.134`, you just need to write in the `askeet.134/apps/frontend/config/databases.yml`:

```
all:
  propel:
    class:          sfPropelDatabase
    param:
      phptype:      mysql
      hostspec:     localhost
      database:     askeet.134
      username:     myuser
      password:     mypassword
      compat_assoc_lower:  true
      compat_rtrim_string: true
```

As the `databases.yml` will be switched as the same time as the application itself, your askeet will instantly start querying the new database.

This technique is especially useful if your application has a big traffic and if you can't afford any service interruption.

See you Tomorrow

Synchronization is often a big issue for high traffic websites, but thanks to the file structure of the symfony projects, it should not create any problem for askeet.

Tomorrow, we will talk about the way to adapt askeet to other languages. The patient speakers call it *internationalization*, the others find it more convenient to talk about *i18n*. Symfony has built-in support for multilingual sites, so that should not be a big deal.

You can still post your questions and suggestions in the askeet forum. And did you try to ask one in the brand new askeet website?

symfony advent calendar day twenty-three: Internationalization

Previously on symfony

Now that you learned how to transfer a symfony application to a production host, the askeet application can run anywhere. But what if someone decided to use it in a non-English speaking country like, say, France?

Askeet being an open-source project, we hope that people from all over the world will use it shortly. Not only does that mean that all the files of the project have to be encoded in utf-8, the application also has to propose a multilingual interface and content localization.

Think about the multinational companies that are going to install askeet on their Intranet to have a knowledge management base. They will definitely require that users can switch interface language or content rather than install one askeet per language... Fortunately, the choices made during the eighteenth day to implement universes will ease our task a lot, and symfony has native support for internationalized interfaces.

Localization

What if the call to an address like:

```
http://fr.askeet.com/
```

...displayed only the French questions? Well, this is quite easy, because since the eighteenth day, such an URI is understood as a universe.

Content

Creating a question in a language universe will have it tagged automatically with the language tag (here: 'fr'). And, if you browse the 'fr' universe, only the questions with the 'fr' tag will appear.

So the universe filter already takes care of content localization. That was an easy move.

Look and feel

The universes can have their own stylesheet. This means that the look and feel of a localized askeet can be easily adapted as well, with the same mechanism. Next, please.

Language-dependent functions

The database indexing system built during the twenty-first day relies on a stemming algorithm which is language-dependant. In a localized version, it has to be adapted.

For now, there is no available stemming library for other languages than English in PHP, but what if there was one, or what if someone decided to port one of the Perl stemming libraries to PHP?

Then, in the `myTools::stemPhrase()` method, we should call a factory method instead of a simple PorterStemmer (left as an exercise for now).

Database content

Imagine an international website proposing a list of hotels around the world. Each hotel is shown with a text description of the rooms, the service and the opening hours. There are thousands of hotels, so this content is to be stored in a database. The problem is that there must be as many versions of the descriptions as there are translations of the site.

Symfony provides a way to structure data in order to handle such cases. As for the example above, there would be a `Hotel` class for the fares, address and not-to-be-translated content, and a `HotelI18n` class for the localized content. As the Propel accessors abstract this separation, even if the `description` was located in the `HotelI18n` table, you would still access it with a simple:

```
$description = $hotel->getDescription();
```

To understand how this works, refer to the i18n chapter of the symfony book.

Fortunately, the filter system of the askeet universes replaces the need for content adaptation, so we won't use it here..

Internationalization

As it is a long word, developers often refer to internationalization as 'i18n'. For those who don't know why, just count the letters in the word 'internationalization', and you will also understand why 'localization' is referred to as 'l10n'. In web application development, i18n mostly concerns the translation of text content and the use of local formats for the interface.

Set the culture

A lot of built-in i18n features in symfony are based on a parameter of the user session called the **culture**. The culture is the combination of the country and the language of the user, and it determines how the text and culture-dependant information will be displayed.

When the askeet application recognizes a universe as a localization, it has to set the corresponding culture. When should a permanent tag be recognized as a localization? We choose to allow only the ones for which the interface is translated (see below), so the fact that a universe is a localization is determined by the existence of an XML translation file in the project `i18n/` directory.

The universes are discovered in the `askeet/apps/frontend/lib/myTagFilter.class.php` filter, so we just need to modify it a little bit:

```
public function execute ($filterChain)
{
  ...
  // is there a tag in the hostname?
  $request  = $this->getContext()->getRequest();
  $hostname = $request->getHost();
  if (!preg_match($this->getParameter('host_exclude_regex'), $hostname) && $pos = strpos($hostnam
  {
    $tag = Tag::normalize(substr($hostname, 0, $pos));

    // add a permanent tag constant
    sfConfig::set('app_permanent_tag', $tag);

    // add a custom stylesheet
    $request->setAttribute('app/tag_filter', $tag, 'helper/asset/auto/stylesheet');

    // is the tag a culture?
    if (is_readable(sfConfig::get('sf_app_i18n_dir').'/global/messages.'.strtolower($tag).'.xml')
    {
      $this->getContext()->getUser()->setCulture(strtolower($tag));
    }
    else
    {
      $this->getContext()->getUser()->setCulture('en');
    }
  }
  ...
}
```

Note: The language tags that will be recognized are to be coded in two lower-case characters, as described in the ISO 639-1 norm (for instance `fr` for French). When dealing with internationalization, always prefer ISO codes for countries and languages, so that your code can comply with international standards and be understood by foreign developers.

You will find more information about internationalization and cultures in the i18n chapter of the symfony book.

Dates, Times, Numbers, Currency, Measurements

The way to display a date in France is not the same as in the US. What an American would write:

```
December 16, 2005 9:26 PM
```

...is written by a French

```
16 dÃ©cembre 2005 21:26
```

If you remember well, each time we had to display a date in an askeet template, we used the `format_date()` helper. This helper formats the date given as parameter according to the user culture. As the culture is set in the `myTagFilter.class.php` filter, the date formatting will be done automatically.

1
interested!

Question en français RSS
asked by Fabien POTENCIER on 22 décembre 2005 16:19

Première question en français

[report to moderator] [delete question]

This is a another good practice for international projects: always use the i18n helpers when you have to output a date, a time, a number, a currency or a measurement. Symfony provides helpers for most of them (see the i18 helpers chapter of the symfony book for more information).

Interface translation

The interface of the askeet project contains text. In a localized version, the text of the interface should be displayed in the language of the user culture.

To enable interface translation, all the texts of the askeet templates have to be enclosed in a special i18n helper, `__()`. In addition, the helper must be declared at the top of the template. For instance, to enable interface translation in the home page, open the `askeet/apps/frontend/modules/question/templates/listSuccess.php` template and change it to:

```
<?php use_helper('I18N') ?>

<h1><?php echo __('popular questions') ?></h1>

<?php include_partial('list', array('question_pager' => $question_pager)) ?>
```

> **Note**: Instead of having to add the `i18n` helper on top of each template, you can just add it once to the application `settings.yml` in `askeet/apps/frontend.config/`:
>
> ```
> all:
>   .settings:
>
>     standard_helpers:       Partial,Cache,Form,I18N
> ```

For each language in which the interface is translated, a `messages.xx.xml` file must be created in the `askeet/apps/frontend/i18n/` directory, where `xx` is the language of the translation. This XML file is a XLIFF dictionary, showing the translated version of the text from the source language (English for askeet).

For instance, to enable a French translation, you must create a `messages.fr.xml` with the following content:

```
<?xml version="1.0" ?>
<xliff version="1.0">
  <file orginal="global" source-language="en_US" datatype="plaintext">
    <body>
      <trans-unit id="1">
        <source>popular questions</source>
        <target>questions populaires</target>
```

```
      </trans-unit>
    </body>
  </file>
</xliff>
```

The syntax of the XLIFF file is explained in detail in the i18N chapter of the symfony book.

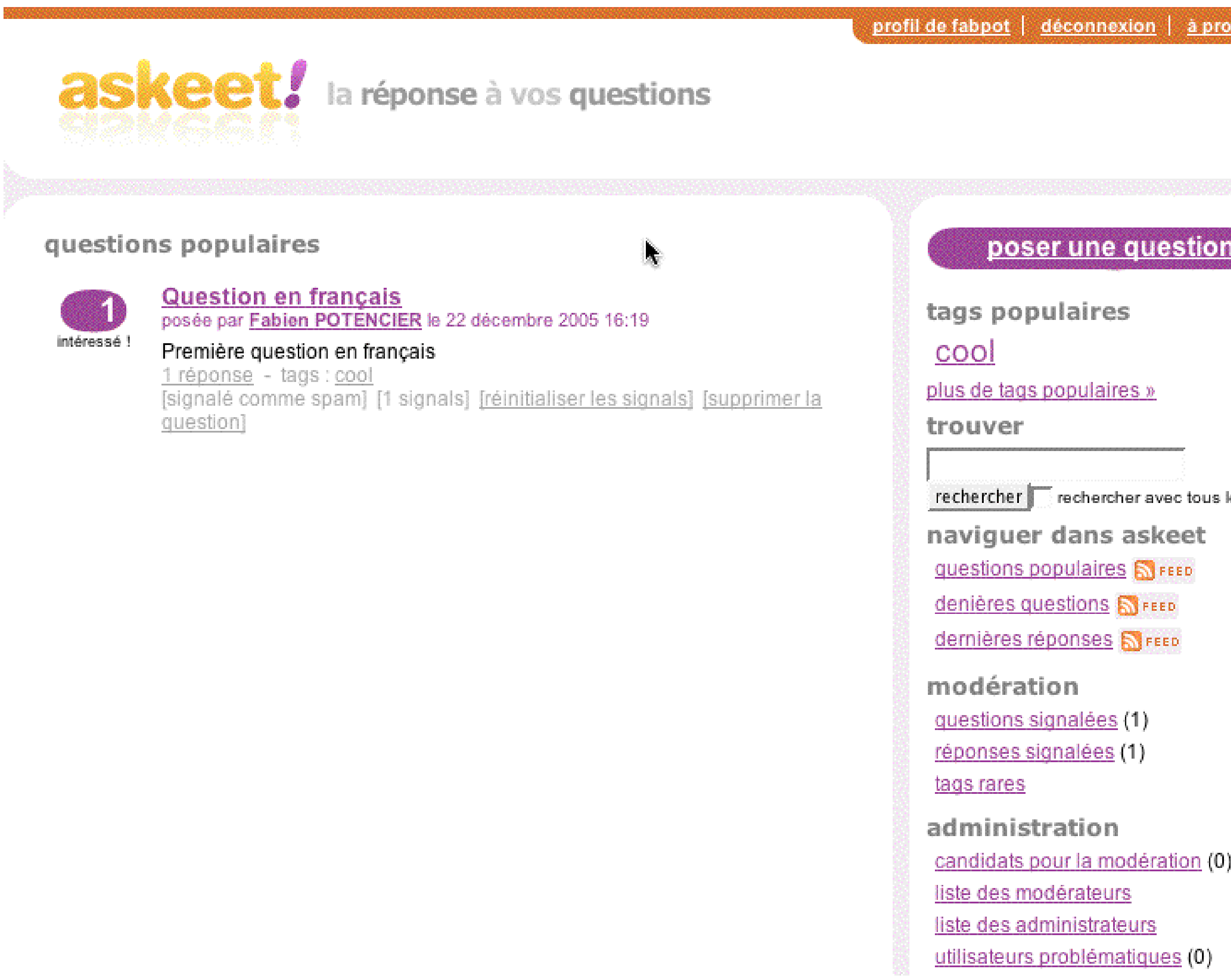
Now, the big part of the job is to browse all the templates (and template fragments) to find the text to translate. Each time you find a sentence, you have to enclose it between `<?php echo __('` and `') ?>`, and create a new `<trans-unit>` tag in the `messages.fr.xml` file. Fortunately, all the templates in symfony projects are localized in `templates/` directories, so you don't need to browse all the files of your project.

> **Note**: A translation only makes sense if the translation files contains full sentences. However, as you sometimes have formatting or variables in the text, you can add a second argument to the `__()` helper to do substitution. For instance, to mark the following template text:
>
> ```
> There are <?php echo count_logged() ?> persons logged.
> ```
>
> ...use only one `__())` call to avoid splitting the sentence into two parts that can't be understood on their own:
>
> ```
> <?php echo __('There are %1% persons logged', array('%1%' => count_logged())) ?>
> ```

Finally, to allow the automatic translation, you have to set the `i18n` parameter to `on` in the application `settings.yml`:

```
all:
  .settings:

    i18n:                 on
```

Now browse to `fr.askeet.com` and watch the translated interface:


profil de fabpot | déconnexion | à pro
askeet! la réponse à vos questions
poser une question
rechercher
FEED

questions populaires

1 intéressé !

Question en français
posée par Fabien POTENCIER le 22 décembre 2005 16:19
Première question en français
1 réponse - tags : cool
[signalé comme spam] [1 signals] [réinitialiser les signals] [supprimer la question]

tags populaires
cool
plus de tags populaires »

trouver
rechercher avec tous l

naviguer dans askeet
questions populaires
denières questions
dernières réponses

modération
questions signalées (1)
réponses signalées (1)
tags rares

administration
candidats pour la modération (0)
liste des modérateurs
liste des administrateurs
utilisateurs problématiques (0)

Automated translation

Some tools exist to automate the task of enclosing source text and creating `messages.xx.xml` files. Unfortunately, none will be able to do the enclosing as well as you would do. Only you can determine where to start and where to end the `__()` call. Although we don't use them, we provide a link to the websites where you will find resources about automated translation tools:

- The `xgettext` command from the GNU getText tool provides a way to extract text from PHP code. It produces a `.pot` file (list of the terms) that can be declined into a series of `.po` files (list of the terms translated in one language).
- The `po2xliff` command from the XLIFF tools turns `.po` files into `messages.xx.xml` XLIFF files.
- For Windows users, the Okapi framework can be a good alternative.
- To edit the translation files, poedit proposes an intuitive interface (this is especially useful since most of the human translators *don't* understand either XML or `.po` files).

Don't forget

Once the text from the templates is marked for translation, there is still a close code inspection to be done. As a matter of fact, text messages can hide in unexpected parts of your application. Make sure you do an inventory to find the following "hidden" text:

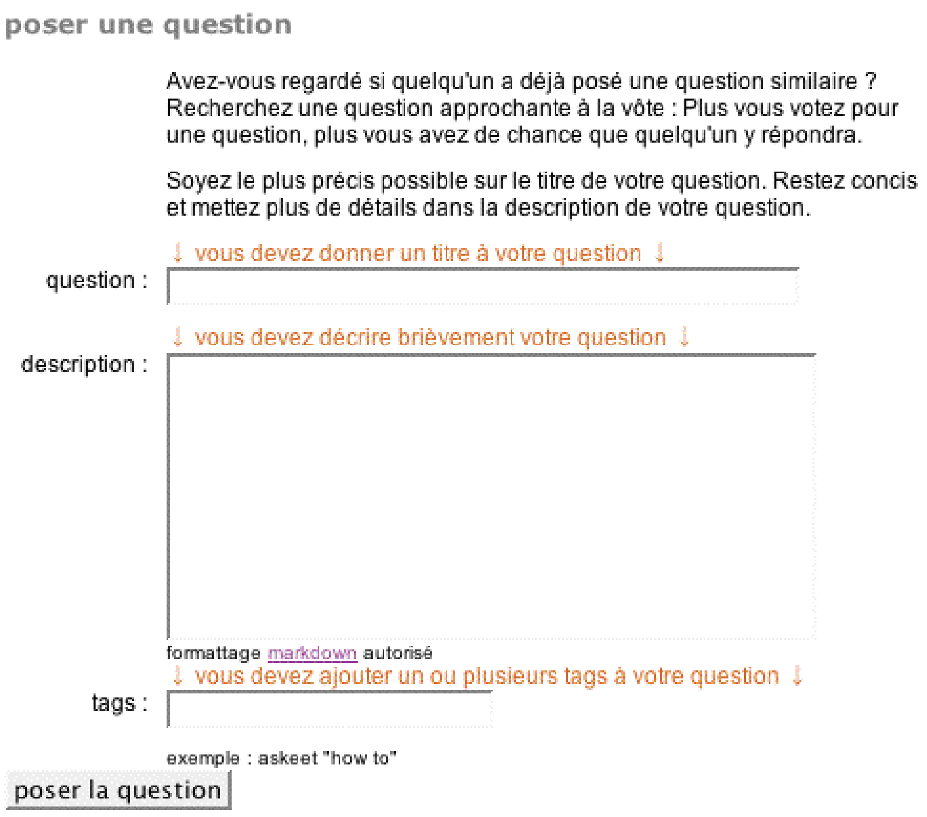
- Image folders (images can include text)

  If you need to localize images, put them in a sub directory corresponding to their culture, and add the culture to the `image_tag()` helper call:

  ```
  [php]
    getCulture().'/myimage.png') ?>
  ```
- The alternative text for images, the button labels and all the text messages that are parameters of `<?php` and `?>` instructions.
- The JavaScript messages can be located in helpers (as in `link_to('click', '@rule', 'confirm=Are you sure?')`), in JavaScript tags in your templates, or in included `.js` files

All in all, if you don't design an application with i18n in mind from the beginning, there is a high risk that you will forget some untranslated text somewhere. Our best advice is to think about i18n before starting to develop, and if you know that your application will probably be translated, keep in mind to use `__('')` each time you write text that will be displayed to the end user.

> **Note**: There are some hidden text messages in the `validate/` directories of your modules, that appear when a form is not properly validated. The cool thing is that you don't have to do a special treatment to these texts if they appear in the XLIFF translation. Symfony will automatically find the translation in a `<trans-unit>` node, and use it instead of the original text of the YAML files.



poser une question

Avez-vous regardé si quelqu'un a déjà posé une question similaire ? Recherchez une question approchante à la vôte : Plus vous votez pour une question, plus vous avez de chance que quelqu'un y répondra.

Soyez le plus précis possible sur le titre de votre question. Restez concis et mettez plus de détails dans la description de votre question.

↓ vous devez donner un titre à votre question ↓

question :

↓ vous devez décrire brièvement votre question ↓

description :

formattage markdown autorisé

↓ vous devez ajouter un ou plusieurs tags à votre question ↓

tags :

exemple : askeet "how to"

See you Tomorrow

Askeet is making its way to be a really useful open-source application. Being an i18n-compatible application, it becomes available to the non-English speakers (roughly 90% of the world population).

The modified source of the application, including i18n, is available in the SVN repository and can be browsed directly from the askeet trac. Your comments on the forum are welcome.

And tomorrow is already the last day of the symfony advent calendar series. Don't miss it.

symfony advent calendar day twenty-four: What's next?

Previously on symfony

For twenty-three days, we have been building a web 2.0 application in PHP5 with the symfony framework. Yesterday was the last step of the askeet development, and it is fully i18n compatible. If you browse to www.askeet.com, what you will see is the result of roughly 3 days (24 hours) of work with symfony. As you see it, the application is ready to answer your questions about chocolate, sex, astronomy, or PHP programming.

But more than that, askeet is an open source project, and what comes next is, hopefully, a long story.

Use it

The askeet website is open to the public. You can advertise it and talk about it to your friends and relatives. Some of the test contributions will be removed, but most of the existing questions and user accounts will remain. Askeet is a great tool to find answers - provided that many users visit it. So spread the word.

Opening an account is fast and easy, and requires nothing but a nickname, a password, and an email. It allows you to declare interest about questions, to ask new questions, and to rate answers. The email address will not be used for any kind of advertising, ever.

Subscribe to the RSS feeds to keep informed about the latest questions, or about the answers to the questions you asked.

Askeet can also be a way to make some money, since user profiles can be linked to a Paypal account. If a user finds your contributions useful, he/she can thank you by granting you a small donation.

All in all, there is no good reason not to use askeet everyday. It would be our great pleasure if you bookmarked the site, visited it regularly, and contributed questions and answers.

Install it

Askeet is more than a website, it is an open-source project. As of today, askeet can already be downloaded and installed anywhere. Today's version is tagged 1.0, it is free to use, adapt, customize, and integrate in third party applications.

This is technically possible because askeet is based on PHP5 and symfony, and this is legally possible because askeet is an open-source project on its own, published under the MIT license.

Download

To install askeet, you have two options:

- Download the 1.0 release as a .tgz archive from the symfony-project website
- Do a checkout from the 1.0 release in the SVN repository into your own `askeet` folder.

You will have a symfony project, ready to run as soon as you configure your web server.

> **Note**: The full source can also be browsed online in the askeet trac.

Documentation

The 24 advent calendar tutorials will still be available online in the symfony project website. The full series can be downloaded as a single PDF file (1.3Mo, almost 200 pages).

If you feel like translating them to a foreign language, you can also download the Markdown version of the tutorials. We will be delighted to host any foreign translations of the askeet tutorials on our website. The symfony site uses a Markdown converter which does the formatting, media inclusion and syntax coloring. So just send us a translated Markdown version, calling the same media, encoded in utf-8, and we will publish it.

> **Note**: Before starting a translation, please write a post in the askeet forum so that two people don't start the translation at the same time. And please send us the chapters one by one as you translate them, so that the content can be made available sooner.

File structure

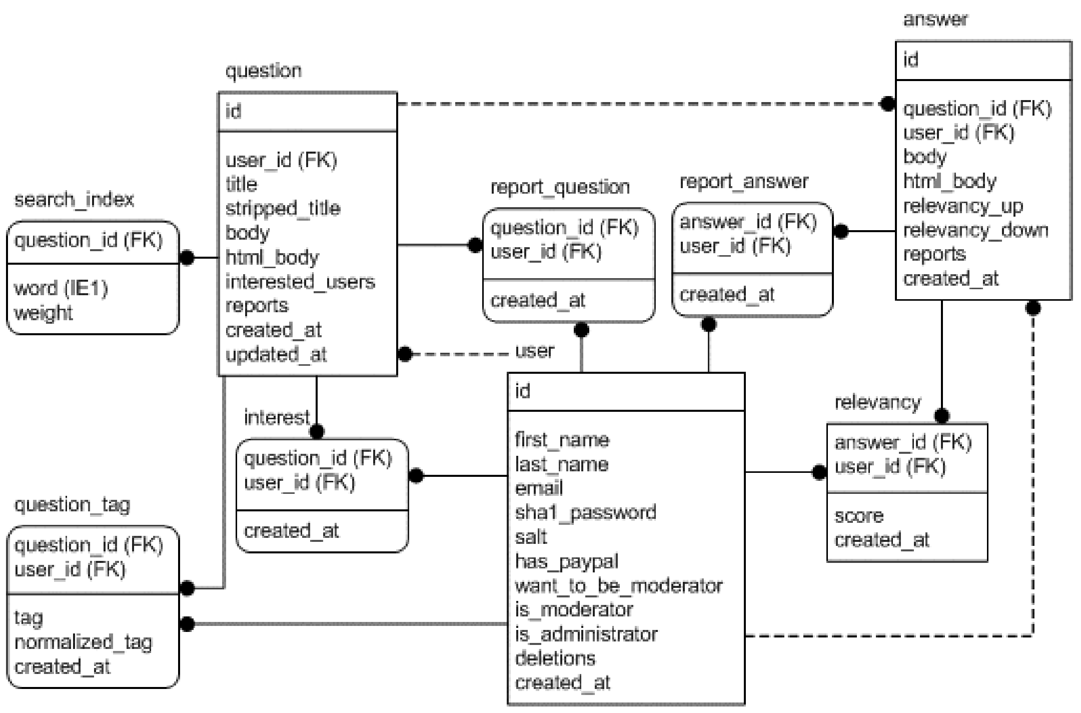
After uncompressing the askeet project archive, you will obtain a list of directories which are the classic file tree structure of a symfony project. It is explained in detail in the file structure chapter of the symfony book.

At the time of the 1.0 release, the askeet project contains one application (called '`frontend`') and 11 modules:

```
modules/
  administrator
  answer
  api
  content
  feed
  mail
  moderator
  question
  sidebar
  tag
  user
```

Data model

Askeet is compatible with MySQL, PostgreSQL, Oracle, MSSQL, and all database for which a Creole driver exists. Here is the data model of the askeet application as of release 1.0:



You can find a SQL query that will add these tables to any existing database in `askeet/data/sql/schema/sql`.

There is a set of test data in `askeet/data/fixtures/`. If you want to use it to populate your database, call:

```
$ php batch/load_data.php
```

...from the root directory of the project.

Contribute to it

The askeet application is a living open-source project. As such, we hope that it will continue to improve, but we need your help for that.

Askeet was developed by Fabien Potencier, who is also the lead developer of the symfony project. As the framework already represents an important amount of work, contributions from askeet enthusiasts are needed to make the project live. And there is much to do! If you are a developer interested in contributing to askeet, have a look at the following to-do list:

- Additional features:

- Alternative site designs to propose more than one presentation. This is mostly a graphical design and CSS coding job.
    - User-contributed Captchas, under the shape of a simple question (like "how many fingers in one hand?"), to avoid automatic spam on question contributions.
    - Preview of questions before publication to avoid big typos
    - Confirmation of user subscription by email (optional)
    - Auto login (with a cookie)
    - RSS Feed of reports for Moderators
    - Ajax Pagination of the contributions/interests in the User profile page
    - Popular algorithm so that the questions of the front page can change over the time
    - ...
- Project strengthening:
    - Unit tests
    - Code documentation in PHP doc format
    - Installation manual

In addition, there are or will be bugs to detect, track and fix.

For enhancements and bugs, please use the askeet ticketing system. You can keep track of all the askeet changes by consulting the project timeline regularly.

All contributions are welcome. Regular contributors with a good understanding of the project will quickly be granted a right to commit to the SVN repository.

Finally, if you want to discuss about askeet, you have the choice between the askeet forum section in the symfony project website, or a dedicated wiki at trac.askeet.com/trac/wiki.

Acknowledgements

Fabien Potencier (lead developer of askeet and symfony)

FranÃ§ois Zaninotto (writer of the tutorials) would like to thank John Christopher for his great help on rereading each of the tutorials to put them in good English, Bruno Klein for his work on the askeet design, and his wife for the incredible patience and tolerance she showed during 24 days...

See you soon

That's about it. It's been a pleasure developing and writing this for you, we hope that askeet will live long and that lots of people will start using symfony for their web projects.

Merry Christmas to you all.