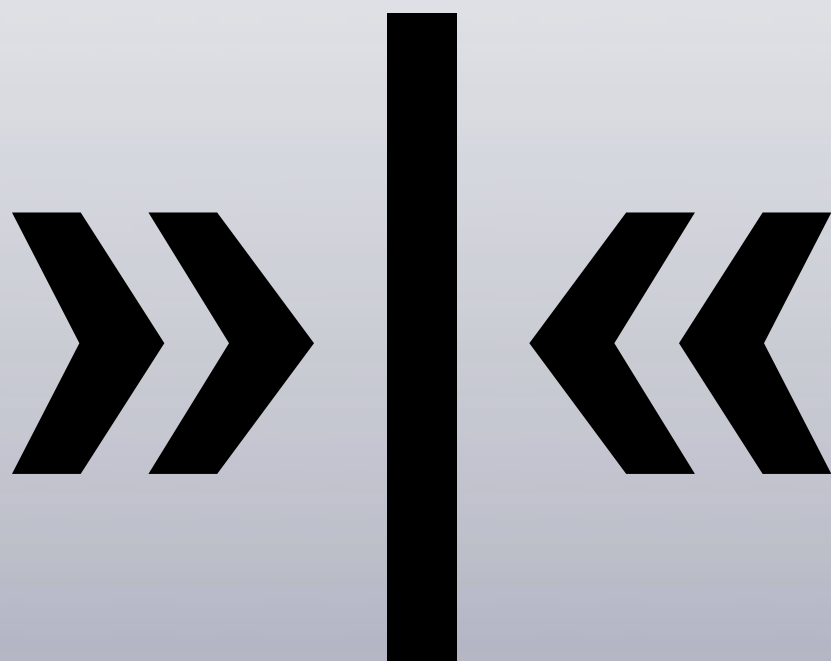


Jifty



Audrey Tang



Best Practical

Best Practical

»|« RT

Best Practical

»|« RT

»|« SVK

Best Practical

»|« RT

»|« SVK

»|« Hiveminder

Hiveminder

Hiveminder

»|« **Multiplayer TODO**

Hiveminder

»|« **Multiplayer TODO**

»|« **Web Application**

Hiveminder

»|« **Multiplayer TODO**

»|« **Web Application**

»|« **Just like RT**

RT

RT

»|« **Predates web frameworks**

RT

»|« **Predates web frameworks**

»|« **20th century technology**

RT

»|« **Predates web frameworks**

»|« **20th century technology**

»|« **Pain!**

Use a Framework

Use a Framework

»|« **We really want to**

Use a Framework

»|« **We really want to**

»|« **Nothing fits Jesse's head**

Use a Framework

- »|« We really want to
- »|« Nothing fits Jesse's head
- »|« This can only mean...

Jesse is Crazy





Jifty

Jifty

✓ **Web framework**

Jifty

- ✓ Web framework
- ✓ Easy things easy

Jifty

- ✓ Web framework
- ✓ Easy things easy
- ✓ Impossible things *easy*

***Jifty* = JFDI**

***Jifty* = JFDI**

✓ Just Do It

***Jifty* = JFDI**

✓ Just Do It

✓ Lets you JFDI

***Jifty* = JFDI**

- ✓ **Just Do It**
- ✓ **Lets you JFDI**
- ✓ **So let's JFDI!**

Demo

Demo

✓ How about a Blog?

Demo

✓ How about a Blog?

✓ Glad you like it ;)

Demo

- ✓ How about a Blog?
- ✓ Glad you like it ;)
- ✓ Let's set it up!


```
$ jifty app --name Blog
```

```
$ jifty app --name Blog
Creating new application Blog
Creating directory lib
Creating directory lib/Blog
Creating directory bin
Creating directory etc
Creating directory doc
Creating directory log
Creating directory var
Creating directory var/mason
Creating directory share
Creating directory share/po
Creating directory share/web
Creating directory share/web/templates
Creating directory share/web/static
Creating directory lib/Blog/Model
Creating directory lib/Blog/Action
Creating directory t
Creating configuration file Blog/etc/config.yml
```

3 Files

3 Files

✓ `bin/jifty`

3 Files

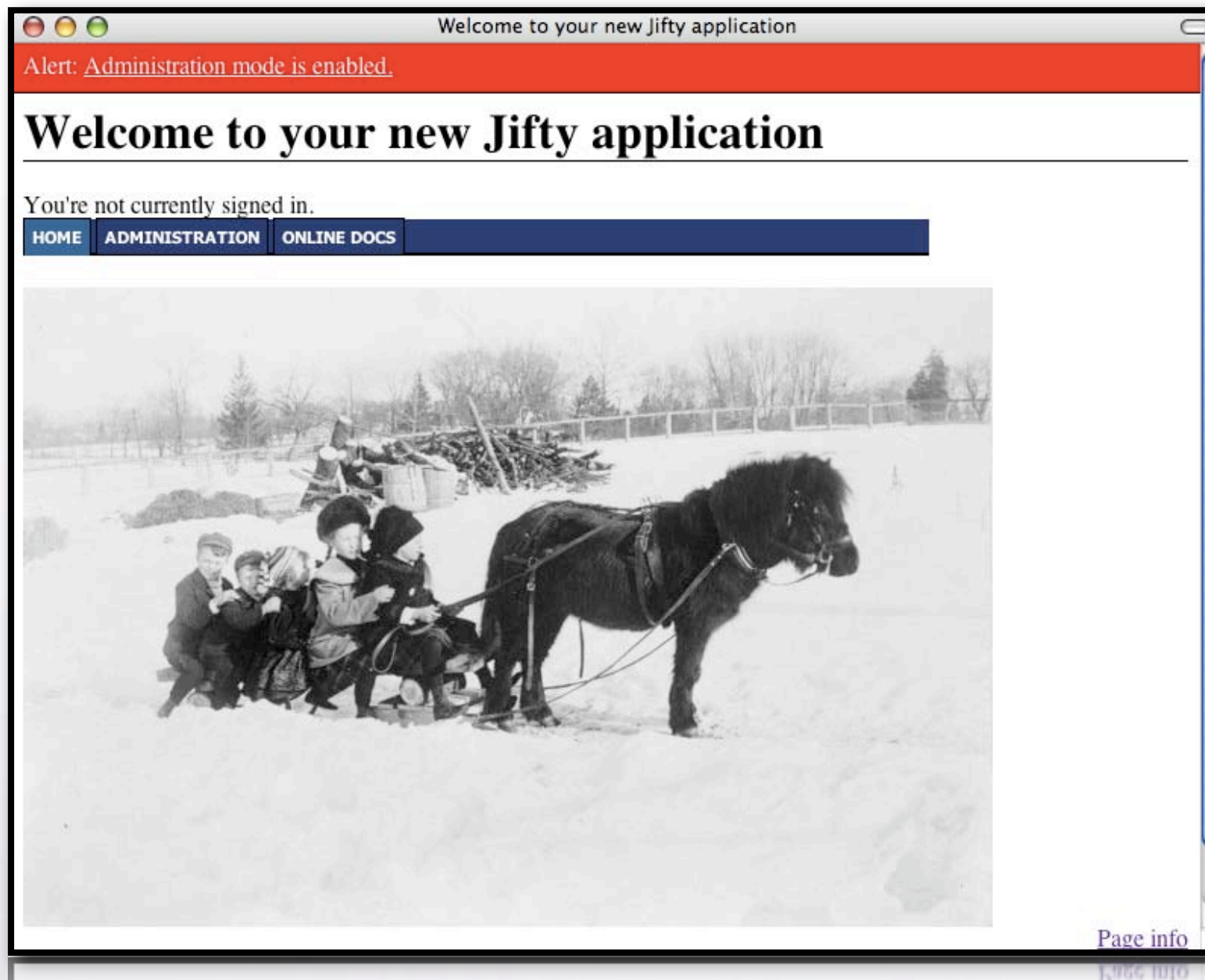
✓ `bin/jifty`

✓ `etc/config.yml`

3 Files

- ✓ `bin/jifty`
- ✓ `etc/config.yml`
- ✓ `Makefile.PL`

It runs!



It runs!



**This is not a good blog.
(Good blogs have entries.)**


```
$ cd Blog
```



```
$ cd Blog
```

```
$ jifty model --name Entry
```

```
$ cd Blog
```

```
$ jifty model --name Entry
```

```
Writing file t/00-model-Entry.t
```

```
Writing file lib/Blog/Model/Entry.pm
```

```
$ cd Blog
```

```
$ jifty model --name Entry
```

```
Writing file t/00-model-Entry.t
```

```
Writing file lib/Blog/Model/Entry.pm
```

```
$ vim lib/Blog/Model/Entry.pm
```

```
use strict;  
use warnings;
```

```
package Blog::Model::Entry;  
use Jifty::DBI::Schema;
```

```
use Blog::Record schema {
```

```
};
```

```
# Your model-specific methods go here.
```

```
1;
```

```
use strict;
use warnings;

package Blog::Model::Entry;
use Jifty::DBI::Schema;

use Blog::Record schema {

    column title =>
        type is 'text',
        default is 'Untitled';

    column body =>
        type is 'text',
        render as 'Textarea';

};

# Your model-specific methods go here.

1;
```


\$ jifty schema

```
$ jifty schema
```

```
INFO - Generating SQL for application Blog...
```

```
INFO - Using Blog::Model::Entry
```

```
INFO - Using Jifty::Model::Session
```

```
INFO - Using Jifty::Model::Metadata
```

```
INFO - Set up version v0.0.1, jifty version 0.610250
```

```
$ jifty schema
```

```
INFO - Generating SQL for application Blog...
```

```
INFO - Using Blog::Model::Entry
```

```
INFO - Using Jifty::Model::Session
```

```
INFO - Using Jifty::Model::Metadata
```

```
INFO - Set up version v0.0.1, jifty version 0.610250
```

```
$ jifty server
```

```
$ jifty schema
```

```
INFO - Generating SQL for application Blog...
```

```
INFO - Using Blog::Model::Entry
```

```
INFO - Using Jifty::Model::Session
```

```
INFO - Using Jifty::Model::Metadata
```

```
INFO - Set up version v0.0.1, jifty version 0.610250
```

```
$ jifty server
```

```
INFO - You can connect to your server at  
      http://localhost:8888/
```



Welcome to your new Jifty application

Alert: [Administration mode is enabled.](#)

Welcome to your new Jifty application

You're not currently signed in.

[HOME](#)

[ADMINISTRATION](#)

[ONLINE DOCS](#)



[Page info](#)

Page info



Welcome to your new Jifty application

Alert: [Administration mode is enabled.](#)

Welcome to your new Jifty application

You're not currently signed in.

[HOME](#)

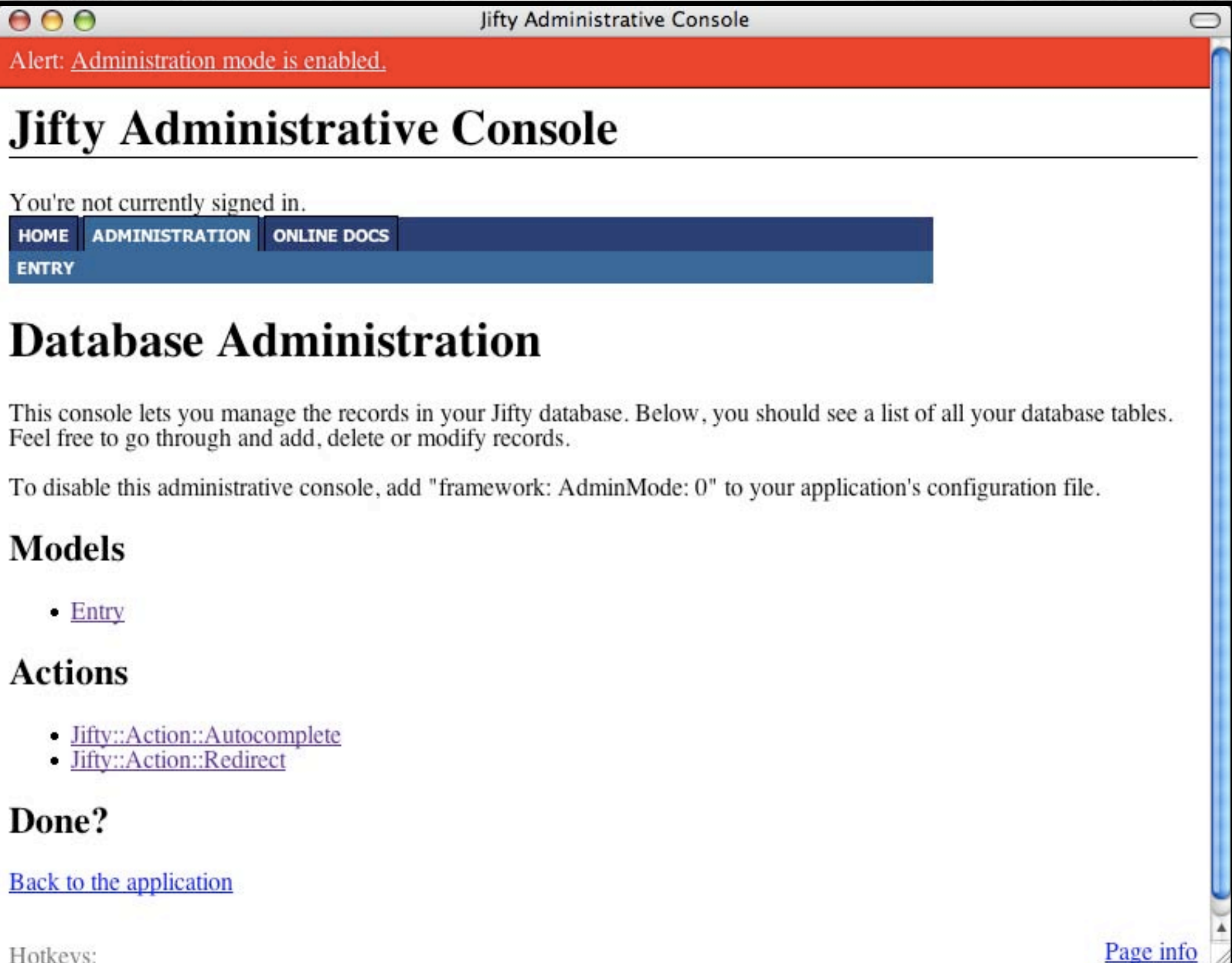
[ADMINISTRATION](#)

[ONLINE DOCS](#)



[Page info](#)

Page info





Alert: [Administration mode is enabled.](#)

Jifty Administrative Console

You're not currently signed in.

[HOME](#)[ADMINISTRATION](#)[ONLINE DOCS](#)[ENTRY](#)

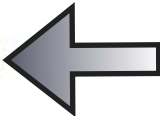
Database Administration

This console lets you manage the records in your Jifty database. Below, you should see a list of all your database tables. Feel free to go through and add, delete or modify records.

To disable this administrative console, add "framework: AdminMode: 0" to your application's configuration file.

Models

- [Entry](#)



Actions

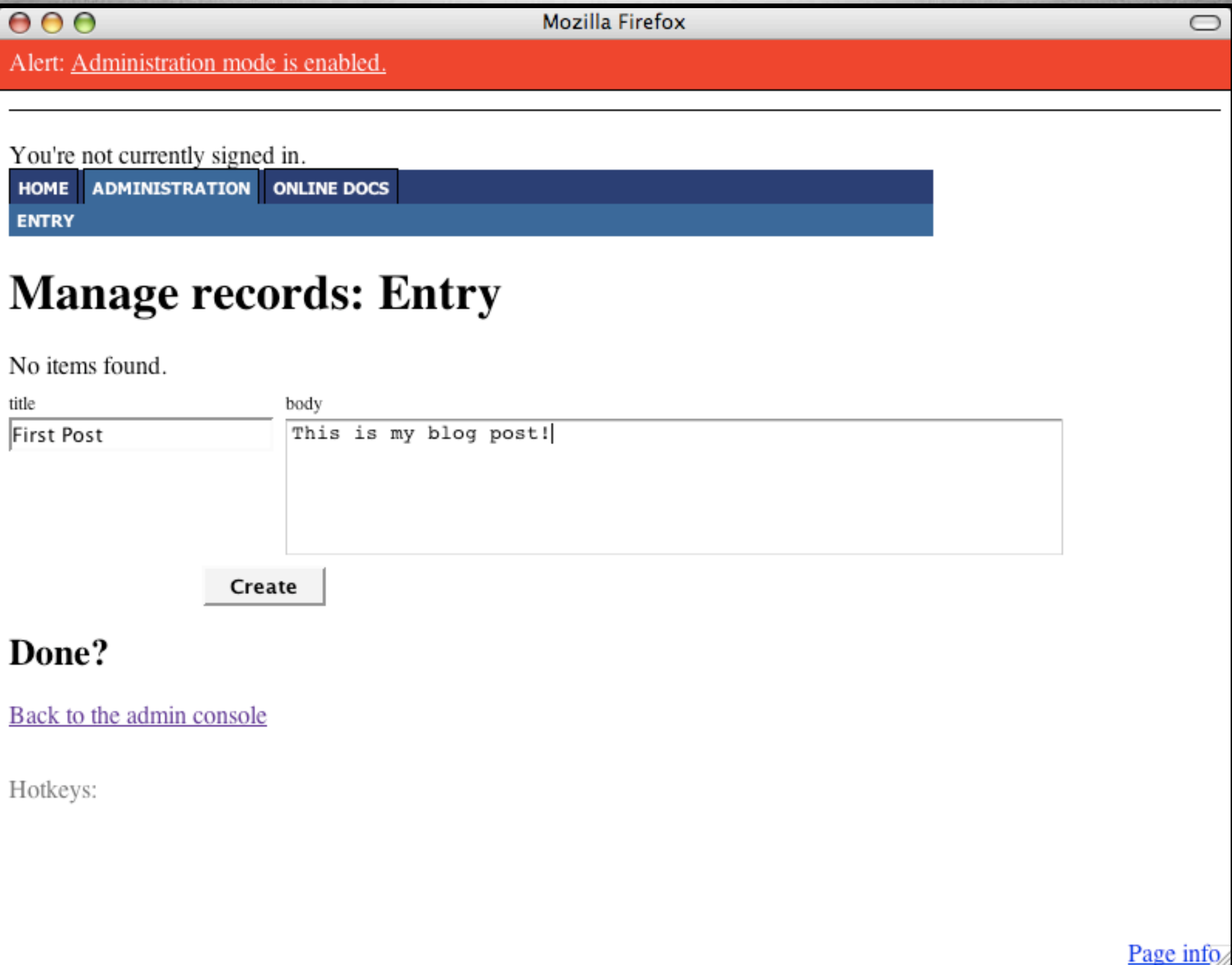
- [Jifty::Action::Autocomplete](#)
- [Jifty::Action::Redirect](#)

Done?

[Back to the application](#)

Hotkeys:

[Page info](#)





Alert: [Administration mode is enabled.](#)

You're not currently signed in.

[HOME](#)[ADMINISTRATION](#)[ONLINE DOCS](#)[ENTRY](#)

Manage records: Entry

No items found.

title

body



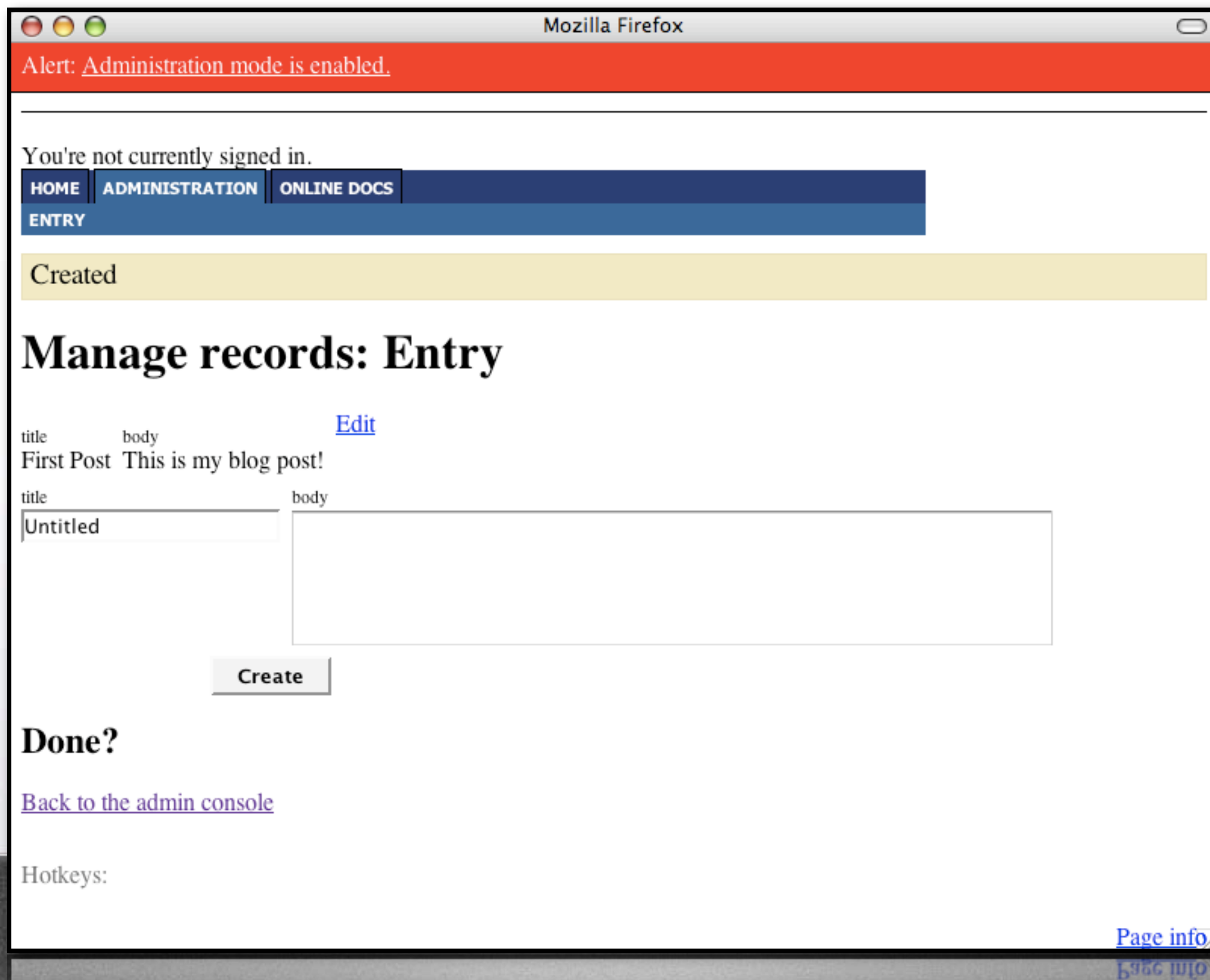
Done?

[Back to the admin console](#)

Hotkeys:

[Page info](#)

[Page info](#)



Alert: [Administration mode is enabled.](#)

You're not currently signed in.

HOME

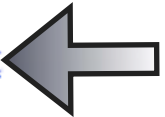
ADMINISTRATION

ONLINE DOCS

ENTRY

Created

Manage records: Entry

title	body	Edit
First Post	This is my blog post!	

title

body

Untitled

Create

Done?

[Back to the admin console](#)

Hotkeys:

Page info

Alert: [Administration mode is enabled.](#)

You're not currently signed in.

HOME

ADMINISTRATION

ONLINE DOCS

ENTRY

Manage records: Entry

title

First Post

body

This is my blog post! (Redux)

Save

title

Untitled

body

Create

Done?

[Back to the admin console](#)

Hotkeys:

[Page info](#)

Hotkeys:

[Page info](#)

Alert: [Administration mode is enabled.](#)

You're not currently signed in.

HOME

ADMINISTRATION

ONLINE DOCS

ENTRY

Manage records: Entry

title

First Post

body

This is my blog post! (Redux)

Save

title

Untitled

body

Create

Done?

[Back to the admin console](#)

Hotkeys:

Page info



Alert: [Administration mode is enabled.](#)

You're not currently signed in.

HOME

ADMINISTRATION

ONLINE DOCS

ENTRY

Updated

Manage records: Entry

title

body

[Edit](#)

First Post

This is my blog post! (Redux)

title

body

Untitled

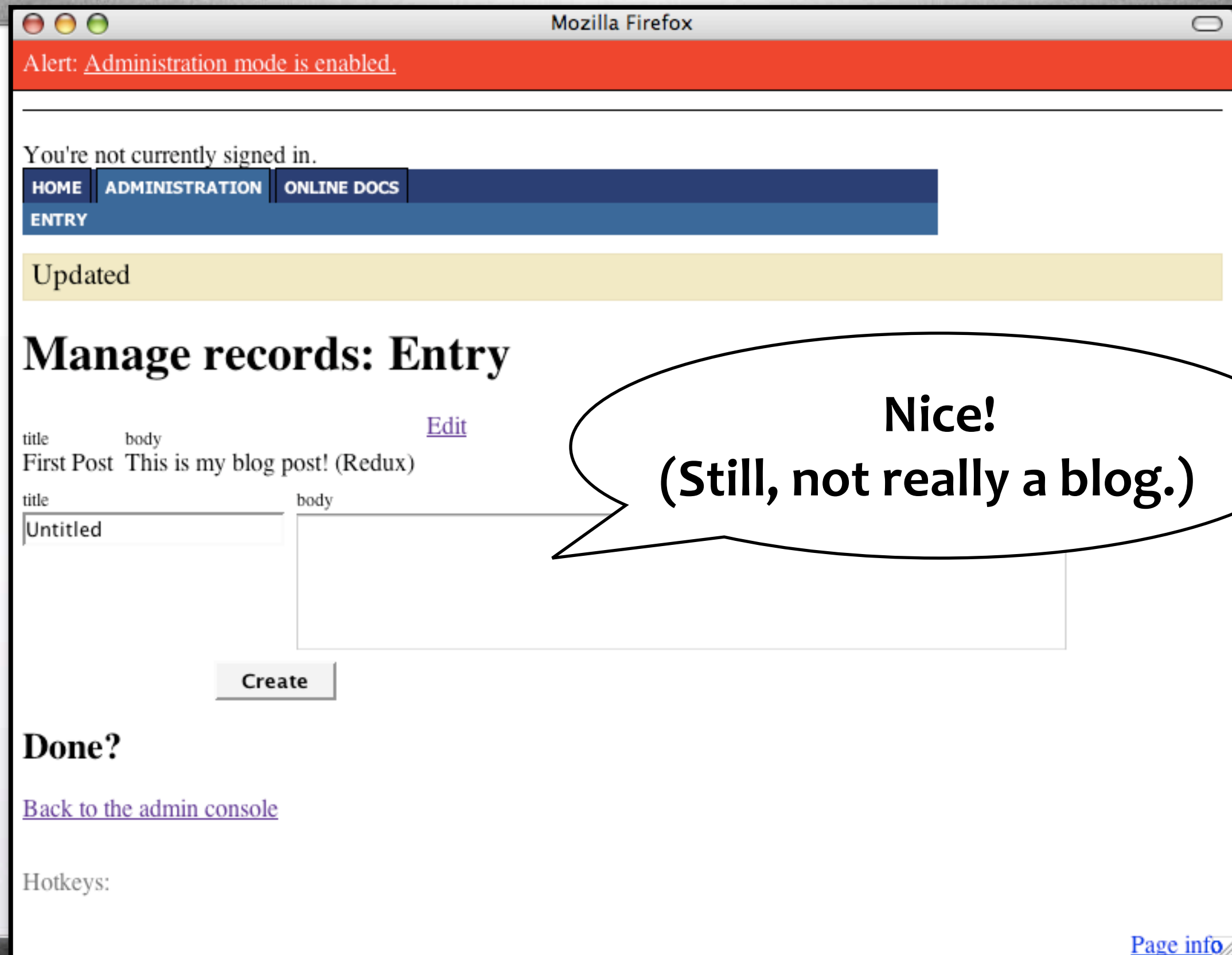
Create

Done?

[Back to the admin console](#)

Hotkeys:

[Page info](#)



lib/Blog/Dispatcher.pm
(Map URLs to view logic.)


```
package Blog::Dispatcher;  
use Jifty::Dispatcher -base;
```



```
package Blog::Dispatcher;
use Jifty::Dispatcher -base;

before '*' => run {
    my $top = Jifty->web->navigation;
    $top->child( 'List Entries' => url => '/' );
    $top->child( 'New Entry' => url => '/new_entry' );
};
```

```
package Blog::Dispatcher;
use Jifty::Dispatcher -base;

before '*' => run {
    my $top = Jifty->web->navigation;
    $top->child( 'List Entries' => url => '/' );
    $top->child( 'New Entry' => url => '/new_entry' );
};

on '/new_entry' => run {
    set create => Jifty->web->new_action(
        class => 'CreateEntry'
    );
};
```

```
package Blog::Dispatcher;
use Jifty::Dispatcher -base;

before '*' => run {
    my $top = Jifty->web->navigation;
    $top->child( 'List Entries' => url => '/' );
    $top->child( 'New Entry' => url => '/new_entry' );
};

on '/new_entry' => run {
    set create => Jifty->web->new_action(
        class => 'CreateEntry'
    );
};

on '/' => run {
    my $entries = Blog::Model::EntryCollection->new;
    $entries->unlimit;
    set entries => $entries;
};
```

share/web/templates/new_entry

Create an article

Alert: [Administration mode is enabled.](#)

Create an article

You're not currently signed in.

[HOME](#) [LIST ENTRIES](#) [NEW ENTRY](#) [ADMINISTRATION](#) [ONLINE DOCS](#)

title

body

Hotkeys:

[Page info](#)

Create an article

Alert: [Administration mode is enabled.](#)

Create an article

You're not currently signed in.

HOME

LIST ENTRIES

NEW ENTRY

ADMINISTRATION

ONLINE DOCS

title

Untitled

body

I 'm in deep shit if the NSA intercept this

Save

Hotkeys:

Page info

<%ARGS>

\$create # *From the dispatcher*

</%ARGS>



The screenshot shows a web browser window with the title "Create an article". A red alert bar at the top displays the message "Alert: [Administration mode is enabled.](#)". Below the alert, the main heading "Create an article" is followed by the text "You're not currently signed in.". A navigation bar contains five buttons: "HOME", "LIST ENTRIES", "NEW ENTRY", "ADMINISTRATION", and "ONLINE DOCS". The "NEW ENTRY" button is highlighted. The form includes a "title" field with the value "Untitled" and a "body" text area containing the text "I'm in deep shit if the NSA intercept this". A "Save" button is positioned below the text area. At the bottom left, the text "Hotkeys:" is visible. At the bottom right, there is a link labeled "Page info".

Create an article

Alert: [Administration mode is enabled.](#)

Create an article

You're not currently signed in.

HOME LIST ENTRIES NEW ENTRY ADMINISTRATION ONLINE DOCS

title

body

Save

Hotkeys:

[Page info](#)

<%ARGS>

\$create # *From the dispatcher*

</%ARGS>

<&|/_elements/wrapper, title => 'Create an article' &>

The screenshot shows a web browser window with the title 'Create an article'. At the top, there is a red alert bar that says 'Alert: Administration mode is enabled.' Below the alert, the main heading is 'Create an article'. Underneath the heading, it says 'You're not currently signed in.' There is a navigation bar with several buttons: 'HOME', 'LIST ENTRIES', 'NEW ENTRY', 'ADMINISTRATION', and 'ONLINE DOCS'. The 'NEW ENTRY' button is highlighted. Below the navigation bar, there is a form with two input fields. The first field is labeled 'title' and contains the text 'Untitled'. The second field is labeled 'body' and contains the text 'I'm in deep shit if the NSA intercept this'. Below the 'body' field, there is a 'Save' button. At the bottom left of the form, it says 'Hotkeys:'. At the bottom right, there is a link that says 'Page info'.

<%ARGS>

\$create # *From the dispatcher*

</%ARGS>

<&|/_elements/wrapper, title => 'Create an article' &>

% my \$form = Jifty->web->form;

<% \$form->start %>

The screenshot shows a web browser window with the title 'Create an article'. At the top, there is a red alert bar that says 'Alert: Administration mode is enabled.' Below the alert, the main heading is 'Create an article'. Underneath the heading, it says 'You're not currently signed in.' There is a navigation bar with several buttons: 'HOME', 'LIST ENTRIES', 'NEW ENTRY', 'ADMINISTRATION', and 'ONLINE DOCS'. The 'NEW ENTRY' button is highlighted. Below the navigation bar, there is a form with two fields: 'title' and 'body'. The 'title' field contains the text 'Untitled'. The 'body' field contains the text 'I'm in deep shit if the NSA intercept this'. Below the form, there is a 'Save' button. At the bottom left, there is a link labeled 'Hotkeys:'. At the bottom right, there is a link labeled 'Page info'.

<%ARGS>

\$create # From the dispatcher

</%ARGS>

<&|/_elements/wrapper, title => 'Create an article' &>

% my \$form = Jifty->web->form;

<% \$form->start %>

% for my \$arg (\$create->argument_names) {

 <% \$create->form_field(\$arg) %>

% }

The screenshot shows a web browser window with the title 'Create an article'. At the top, there is a red alert bar that says 'Alert: Administration mode is enabled.' Below the alert, the main heading is 'Create an article'. Underneath the heading, it says 'You're not currently signed in.' There is a navigation bar with five buttons: 'HOME', 'LIST ENTRIES', 'NEW ENTRY', 'ADMINISTRATION', and 'ONLINE DOCS'. The 'NEW ENTRY' button is highlighted. Below the navigation bar, there is a form with two fields: 'title' and 'body'. The 'title' field contains the text 'Untitled'. The 'body' field contains the text 'I'm in deep shit if the NSA intercept this'. Below the form fields, there is a 'Save' button. At the bottom left, there is a link labeled 'Hotkeys:'. At the bottom right, there is a link labeled 'Page info'.

<%ARGS>

\$create # From the dispatcher

</%ARGS>

<&|/_elements/wrapper, title => 'Create an article' &>

% my \$form = Jifty->web->form;

<% \$form->start %>

% for my \$arg (\$create->argument_names) {

 <% \$create->form_field(\$arg) %>

% }

<% \$form->submit(label => 'Save') %>

<% \$form->end %>

</&>

Create an article

Alert: [Administration mode is enabled.](#)

Create an article

You're not currently signed in.

[HOME](#) [LIST ENTRIES](#) [NEW ENTRY](#) [ADMINISTRATION](#) [ONLINE DOCS](#)

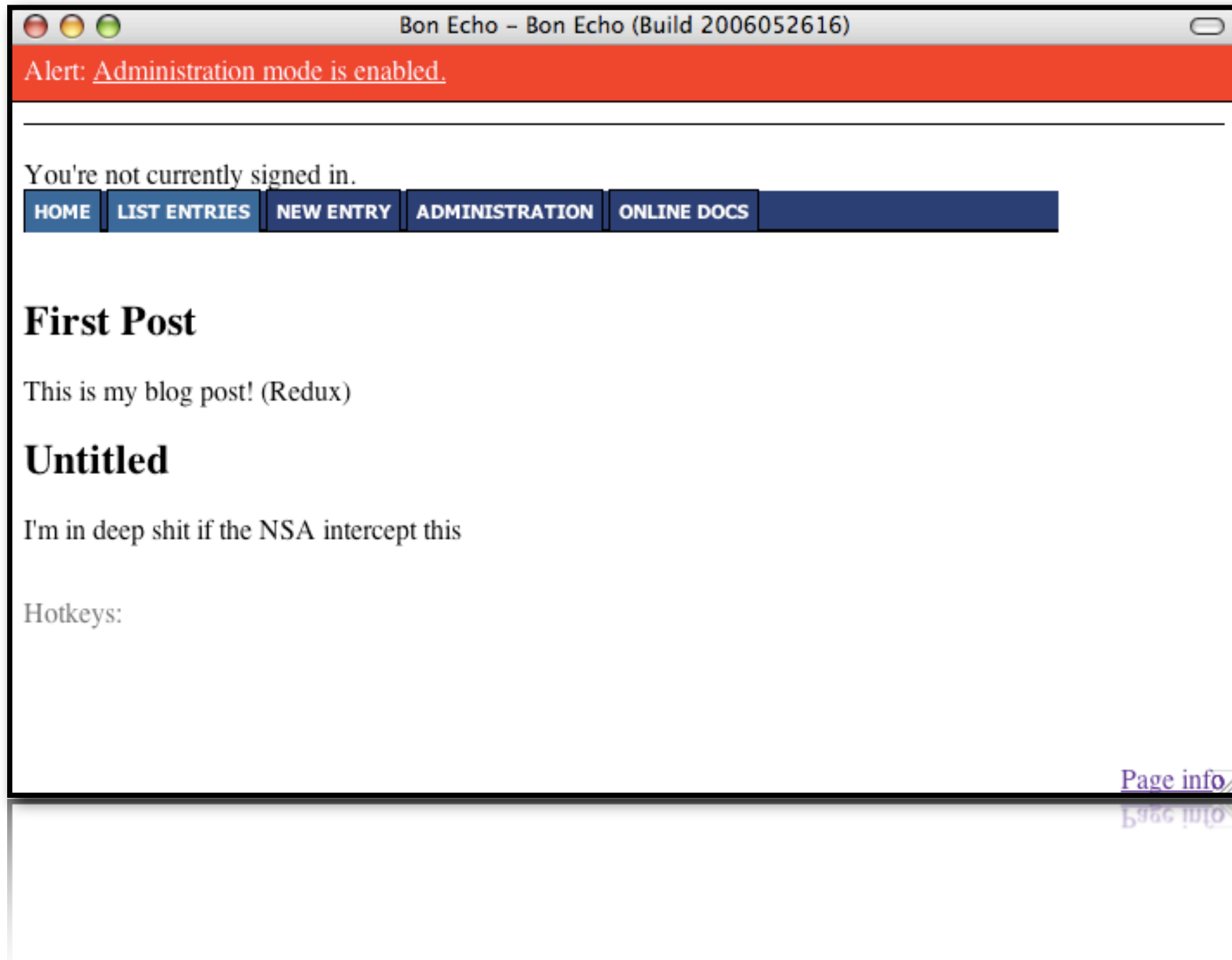
title

body

Hotkeys:

[Page info](#)

share/web/templates/index.html





<%ARGS>

\$entries # *From the dispatcher*

</%ARGS>



<%ARGS>

\$entries # *From the dispatcher*

</%ARGS>

<&|/_elements/wrapper&>

% while (my \$entry = \$entries->next) {




```
<%ARGS>
```

```
$entries # From the dispatcher
```

```
</%ARGS>
```

```
<&|/_elements/wrapper&>
```

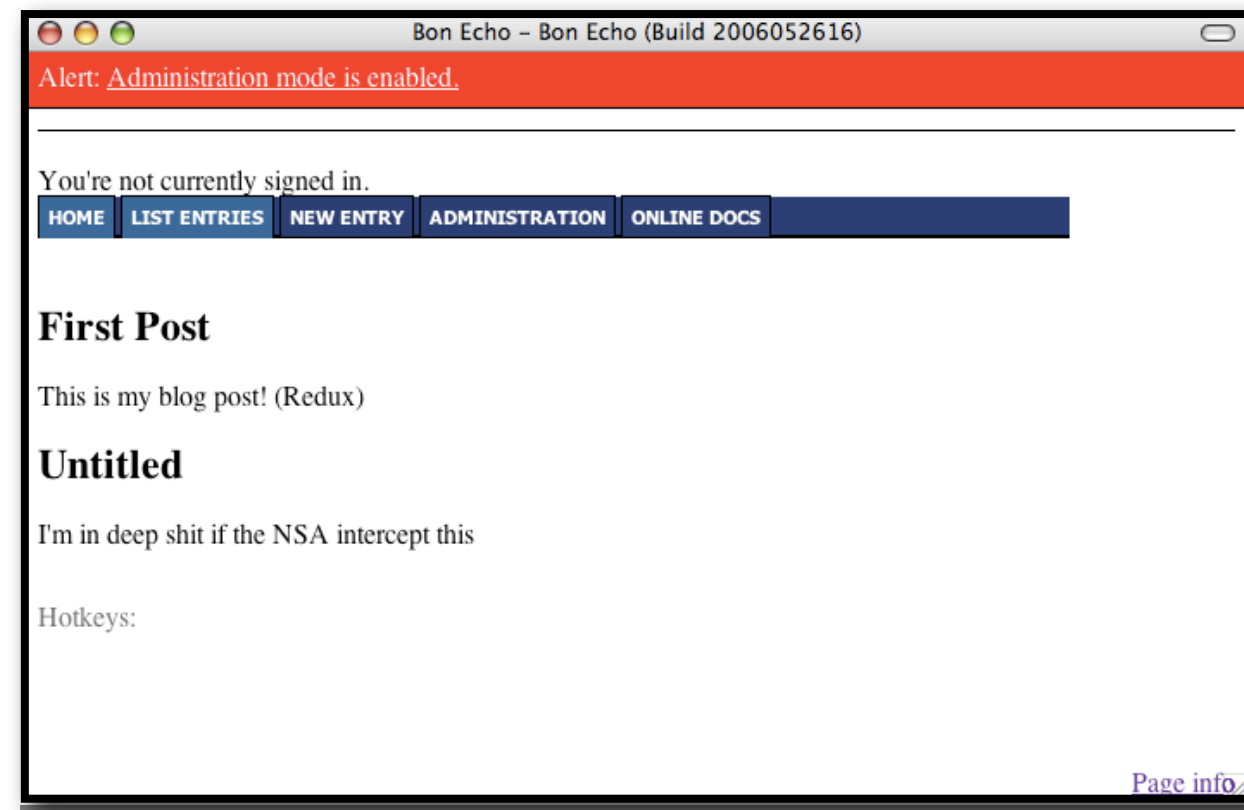
```
% while (my $entry = $entries->next) {
```

```
    <h2><% $entry->title %></h2>
```

```
    <div class="body">
```

```
        <% $entry->body %>
```

```
    </div>
```



```
<%ARGS>
```

```
$entries # From the dispatcher
```

```
</%ARGS>
```

```
<&|/_elements/wrapper&>
```

```
% while (my $entry = $entries->next) {
```

```
    <h2><% $entry->title %></h2>
```

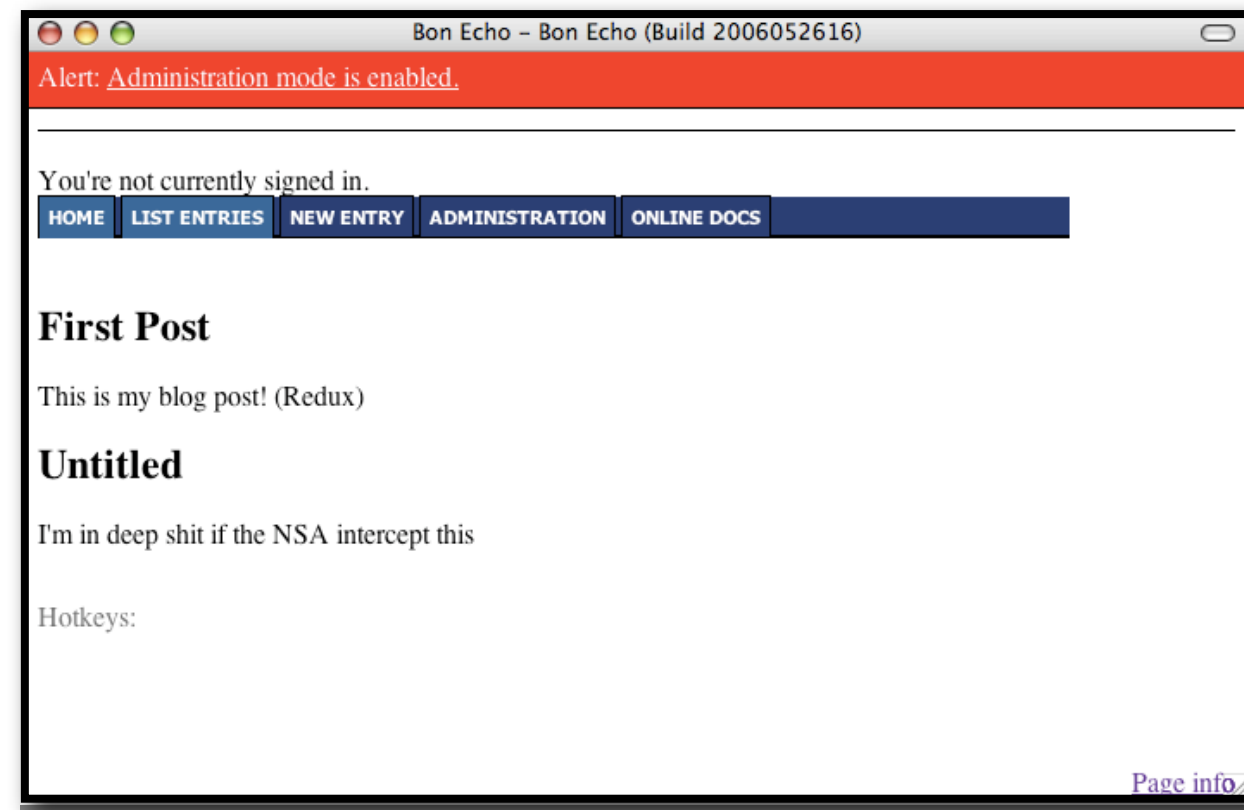
```
    <div class="body">
```

```
        <% $entry->body %>
```

```
    </div>
```

```
% }
```

```
</&>
```



All Done!

All Done!

✓ **lib/Blog/Dispatcher.pm**

All Done!

- ✓ **lib/Blog/Dispatcher.pm**
- ✓ **lib/Blog/Model/Entry.pm**

All Done!

- ✓ `lib/Blog/Dispatcher.pm`
- ✓ `lib/Blog/Model/Entry.pm`
- ✓ `web/templates/new_entry`

All Done!

- ✓ `lib/Blog/Dispatcher.pm`
- ✓ `lib/Blog/Model/Entry.pm`
- ✓ `web/templates/new_entry`
- ✓ `web/templates/index.html`



Blog Demo

Blog Demo

☺ It runs!

Blog Demo

😊 **It runs!**

😊 **Ship it!**

Blog Demo

😊 It runs!

😊 Ship it!

😊 Oh wait...

New U.S. Law

New U.S. Law

☺ **Banning profanity**

New U.S. Law

☺ **Banning profanity**

☺ **To protect the children**

New U.S. Law

- ☺ **Banning profanity**
- ☺ **To protect the children**
- ☺ **...from the internet**

Blog Censorship

Blog Censorship

☺ No problem

Blog Censorship

😊 No problem

😊 Back to the code!

Blog Censorship

☺ No problem

☺ Back to the code!

☺ `lib/Blog/Model/Entry.pm`


```
package Blog::Model::Entry;
```

```
package Blog::Model::Entry;
```

```
use Regexp::Common 'profanity_us';
```

```
package Blog::Model::Entry;

use Regexp::Common 'profanity_us';

sub validate_body {
    my ($self, $body) = @_;
```

```
package Blog::Model::Entry;

use Regexp::Common 'profanity_us';

sub validate_body {
    my ($self, $body) = @_;

    if ($body =~ /$RE{profanity}/i) {
        return (
            0, 'Would you speak like that '.
                'in front of your mother? *cough*'
        );
    }
}
```

```
package Blog::Model::Entry;

use Regexp::Common 'profanity_us';

sub validate_body {
    my ($self, $body) = @_;

    if ($body =~ /$RE{profanity}/i) {
        return (
            0, 'Would you speak like that '.
                'in front of your mother? *cough*'
        );
    }

    return 1;
}
```




Alert: [Administration mode is enabled.](#)

Create an article

You're not currently signed in.

HOME

LIST ENTRIES

NEW ENTRY

ADMINISTRATION

ONLINE DOCS

title

body

Would you speak like that in front of your mother? *cough*

Save

Hotkeys:

[Page info](#)

[Page info](#)

Validator

Validator

☺ Not good enough

Validator

☺ Not good enough

☺ Stops people from blogging

Validator

- ☺ Not good enough
- ☺ Stops people from blogging
- ☺ Let's clean it up directly!

```
package Blog::Model::Entry;
use Regexp::Common 'profanity_us';

sub canonicalize_body {
    my ($self, $body) = @_;

    $body =~ s/$RE{profanity}/**expletives**/gi;
    return $body;
}
```

Alert: [Administration mode is enabled.](#)

Create an article

You're not currently signed in.

[HOME](#)[LIST ENTRIES](#)[NEW ENTRY](#)[ADMINISTRATION](#)[ONLINE DOCS](#)

title

body

Hotkeys:

[Page info](#)[Page info](#)

Canonicalizer

Canonicalizer

☺ Part of the model

Canonicalizer

- ☺ Part of the model
- ☺ Same for autocompleters

Canonicalizer

- ☺ **Part of the model**
- ☺ **Same for autocompleters**
- ☺ ***Now we ship it!***

Anatomy of a Jifty App

Anatomy of a Jifty App

☺ **Model : Columns**

Anatomy of a Jifty App

☺ **Model : Columns**

☺ **Action : Parameters**

Anatomy of a Jifty App

- ☺ **Model : Columns**
- ☺ **Action : Parameters**
- ☺ **Template : Fragments**

More Components

More Components

😊 Dispatcher

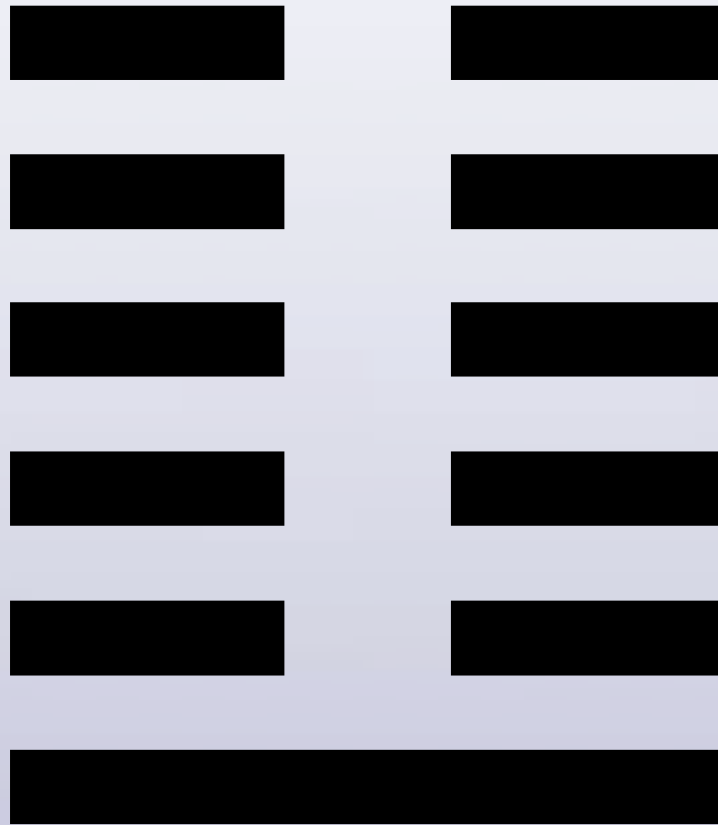
More Components

😊 **Dispatcher**

😊 **ClassLoader**

More Components

- ☺ **Dispatcher**
- ☺ **ClassLoader**
- ☺ **Continuations**



Jifty::DBI

Jifty::DBI

Ø **CREATE TABLE**

Jifty::DBI

Ø **CREATE TABLE**

Ø **ALTER TABLE**

Jifty::DBI

- Ø **CREATE TABLE**
- Ø **ALTER TABLE**
- Ø **CREATE FOREIGN KEY**

Object Relational Mapper

Object Relational Mapper

Ø SELECT

Object Relational Mapper

Ø SELECT

Ø INSERT

Object Relational Mapper

Ø SELECT

Ø UPDATE

Ø INSERT

Object Relational Mapper

Ø SELECT

Ø UPDATE

Ø INSERT

Ø DELETE

Jifty::DBI::Handle

Jifty::DBI::Handle

 SQLite

Jifty::DBI::Handle

≡ SQLite

≡ Postgres

Jifty::DBI::Handle

≡ SQLite

≡ MySQL

≡ Postgres

Jifty::DBI::Handle

≡ SQLite

≡ MySQL

≡ Postgres

≡ Oracle

Jifty::DBI::Collection

Jifty::DBI::Collection

≡ Joins and Limits

Jifty::DBI::Collection

≡ Joins and Limits

≡ Paging = Data : : Page

Jifty::DBI::Collection

- ≡ Joins and Limits
- ≡ Paging = Data : : Page
- ≡ Caching = Memcached

Jifty::DBI::Schema

Jifty::DBI::Schema

Declarative Columns

Jifty::DBI::Schema

- ≡ Declarative Columns
- ≡ Remember our Blog?

Jifty::DBI::Schema

- ≡ Declarative Columns**
- ≡ Remember our Blog?**
- ≡ Time for 0.0.2!**


```
package Blog::Model::Comment;  
use Jifty::DBI::Schema;  
use Blog::Record schema {  
  
    since '0.0.2';  
}
```

```
package Blog::Model::Comment;  
use Jifty::DBI::Schema;  
use Blog::Record schema {  
  
    since '0.0.2';  
  
    column entry => refers to Blog::Model::Entry;  
    column author => refers to Blog::Model::User;
```

```
package Blog::Model::Comment;
use Jifty::DBI::Schema;
use Blog::Record schema {

    since '0.0.2';

    column entry => refers to Blog::Model::Entry;
    column author => refers to Blog::Model::User;

    column body =>
        label is 'Content',
        type is 'Text',
        render as 'Textarea',
        default is 'First Post!';
```

```
package Blog::Model::Comment;
use Jifty::DBI::Schema;
use Blog::Record schema {

    since '0.0.2';

    column entry => refers to Blog::Model::Entry;
    column author => refers to Blog::Model::User;

    column body =>
        label is 'Content',
        type is 'Text',
        render as 'Textarea',
        default is 'First Post!';

    column title =>
        is mandatory,
        label is 'Title',
        length is 40,
        hints is '40 bytes max';
```

```
package Blog::Model::Comment;
use Jifty::DBI::Schema;
use Blog::Record schema {

    since '0.0.2';

    column entry => refers to Blog::Model::Entry;
    column author => refers to Blog::Model::User;

    column body =>
        label is 'Content',
        type is 'Text',
        render as 'Textarea',
        default is 'First Post!';

    column title =>
        is mandatory,
        label is 'Title',
        length is 40,
        hints is '40 bytes max';

};
```

```
package Blog::Model::Comment;
use Jifty::DBI::Schema;
use Blog::Record schema {

    since '0.0.2';

    column entry => refers to Blog::Model::Entry;
    column author => refers to Blog::Model::User;

    column body =>
        label is 'Content',
        type is 'Text',
        render as 'Textarea',
        default is 'First Post!';

    column title =>
        is mandatory,
        label is 'Title',
        length is 40,
        hints is '40 bytes max';

}:
```


Database Upgrade

Database Upgrade

≡ Used to be painful

Database Upgrade

≡ Used to be painful

≡ Not anymore

Database Upgrade

- ≡ Used to be painful
- ≡ Not anymore
- ≡ Jifty fixed it


```
$ vim etc/config.yml
```

```
$ vim etc/config.yml  
(Set version to 0.0.2)
```



```
$ vim etc/config.yml  
(Set version to 0.0.2)
```

```
$ jifty server
```

```
$ vim etc/config.yml
```

(Set version to 0.0.2)

```
$ jifty server
```

Application schema version in database (v0.0.1)
doesn't match application schema version (0.0.2)
Please run `bin/jifty schema --setup` to upgrade
the database.

```
$ vim etc/config.yml
```

(Set version to 0.0.2)

```
$ jifty server
```

Application schema version in database (v0.0.1)
doesn't match application schema version (0.0.2)
Please run `bin/jifty schema --setup` to upgrade
the database.

```
$ jifty schema --setup
```

```
$ vim etc/config.yml  
(Set version to 0.0.2)
```

```
$ jifty server  
Application schema version in database (v0.0.1)  
doesn't match application schema version (0.0.2)  
Please run `bin/jifty schema --setup` to upgrade  
the database.
```

```
$ jifty schema --setup  
Jifty version 0.605070 up to date.  
INFO - Generating SQL to upgrade Blog  
       v0.0.1 database to v0.0.2  
INFO - Upgraded to version v0.0.2
```

```
$ vim etc/config.yml  
(Set version to 0.0.2)
```

```
$ jifty server  
Application schema version in database (v0.0.1)  
doesn't match application schema version (0.0.2)  
Please run `bin/jifty schema --setup` to upgrade  
the database.
```

```
$ jifty schema --setup  
Jifty version 0.605070 up to date.  
INFO - Generating SQL to upgrade Blog  
       v0.0.1 database to v0.0.2  
INFO - Upgraded to version v0.0.2
```

```
$ jifty server
```

```
$ vim etc/config.yml  
(Set version to 0.0.2)
```

```
$ jifty server
```

```
Application schema version in database (v0.0.1)  
doesn't match application schema version (0.0.2)  
Please run `bin/jifty schema --setup` to upgrade  
the database.
```

```
$ jifty schema --setup
```

```
Jifty version 0.605070 up to date.  
INFO - Generating SQL to upgrade Blog  
       v0.0.1 database to v0.0.2  
INFO - Upgraded to version v0.0.2
```

```
$ jifty server
```

```
INFO - You can connect to your server at  
       http://localhost:8888/
```



```
column tags =>  
  since '0.0.3',  
  refers to Blog::Model::TagCollection by 'entry';
```

```
column tags =>  
  since '0.0.3',  
  refers to Blog::Model::TagCollection by 'entry';
```

```
column mood =>  
  since '0.0.4',  
  default is 'happy',  
  valid are  
    { display => 'Sad', value => 'sad' },  
    { display => 'Happy', value => 'happy' };
```

```
column tags =>  
  since '0.0.3',  
  refers to Blog::Model::TagCollection by 'entry';
```

```
column mood =>  
  since '0.0.4',  
  default is 'happy',  
  valid are  
    { display => 'Sad', value => 'sad' },  
    { display => 'Happy', value => 'happy' };
```

```
column created =>  
  since '0.0.5',  
  is immutable,  
  type is 'timestamp',  
  default is literal 'now()',  
  filters are 'Jifty::DBI::Filter::DateTime';
```



```
$ vim etc/config.yml
```

```
$ vim etc/config.yml  
(Set version to 0.0.5)
```

```
$ vim etc/config.yml  
(Set version to 0.0.5)
```

```
$ jifty schema --setup
```



```
$ vim etc/config.yml
```

(Set version to 0.0.5)

```
$ jifty schema --setup
```

```
Jifty version 0.605070 up to date.
```

```
INFO - Generating SQL to upgrade Blog  
       v0.0.2 database to v0.0.5
```

```
INFO - Upgraded to version v0.0.5
```

```
$ vim etc/config.yml
```

(Set version to 0.0.5)

```
$ jifty schema --setup
```

```
Jifty version 0.605070 up to date.
```

```
INFO - Generating SQL to upgrade Blog  
       v0.0.2 database to v0.0.5
```

```
INFO - Upgraded to version v0.0.5
```

```
$ jifty server
```

```
$ vim etc/config.yml
```

(Set version to 0.0.5)

```
$ jifty schema --setup
```

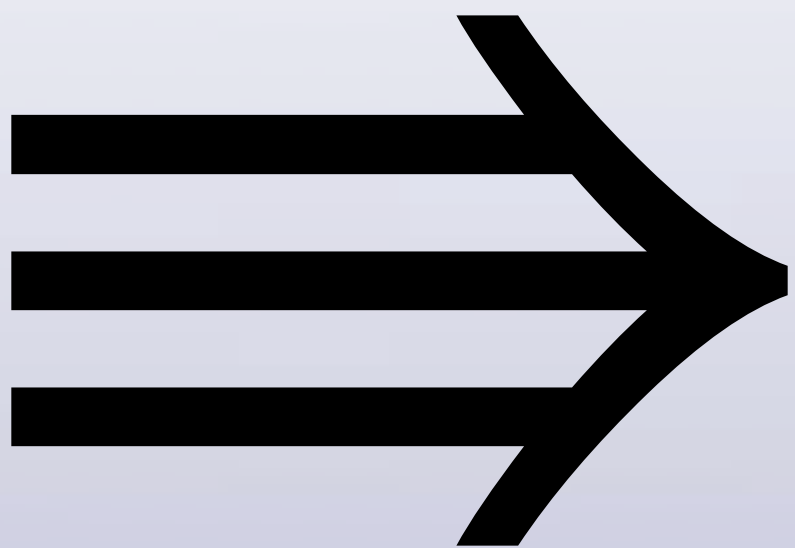
```
Jifty version 0.605070 up to date.
```

```
INFO - Generating SQL to upgrade Blog  
       v0.0.2 database to v0.0.5
```

```
INFO - Upgraded to version v0.0.5
```

```
$ jifty server
```

```
INFO - You can connect to your server at  
       http://localhost:8888/
```



Action = APIs

Action = APIs

⇒ Method Calls

Action = APIs

⇒ **Method Calls**

⇒ **Typed named arguments**

Action = APIs

- ⇒ **Method Calls**
- ⇒ **Typed named arguments**
- ⇒ **Returns results or errors**

Action \neq URLs

Action \neq URLs

⇒ Many actions on one page

Action \neq URLs

- ⇒ Many actions on one page
- ⇒ Called with web forms

Action \neq URLs

- ⇒ Many actions on one page
- ⇒ Called with web forms
- ⇒ Sounds like RPC?

Action = RPC

Action = RPC

⇒ Web form encoding

Action = RPC

⇒ **Web form encoding**

⇒ **XML/YAML encoding**

Action = RPC

- ⇒ **Web form encoding**
- ⇒ **XML/YAML encoding**
- ⇒ **Web services for free!**

Model \Rightarrow Action

Model \Rightarrow Action

\Rightarrow Blog::Action::CreateEntry

Model \Rightarrow Action

\Rightarrow Blog::Action::CreateEntry

\Rightarrow Blog::Action::SearchEntry

Model \Rightarrow Action

\Rightarrow Blog::Action::CreateEntry

\Rightarrow Blog::Action::SearchEntry

\Rightarrow Blog::Action::UpdateEntry

Model \Rightarrow Action

\Rightarrow Blog::Action::CreateEntry

\Rightarrow Blog::Action::SearchEntry

\Rightarrow Blog::Action::UpdateEntry

\Rightarrow Blog::Action::DeleteEntry

Make your own Actions

ⓘ Hello, jesse✕

Your name?

Click me!


```
package Hello::Action::SayHi;  
use Jifty::Param::Schema;  
use Jifty::Action schema {  
  
    param name =>  
        label is 'Your name?';  
  
};
```

```
package Hello::Action::SayHi;
use Jifty::Param::Schema;
use Jifty::Action schema {

    param name =>
        label is 'Your name?';

};

sub take_action {
    my $self = shift;
    my $name = $self->argument_value('name');
    $self->result->message( "Hello, $name" );
}
```

Your name?


Click me!

```
<%init>  
my $action = Jifty->web->new_action(  
    class => 'SayHi'  
);  
</%init>
```

Your name?

```
<%init>  
my $action = Jifty->web->new_action(  
    class => 'SayHi'  
);  
</%init>
```

```
<&|/_elements/wrapper&>  
<% Jifty->web->form->start %>  
<% $action->form_field('name') %>  
<% Jifty->web->form->submit %>  
<% Jifty->web->form->end %>  
</&>
```



Your name?

```
<%init>
my $action = Jifty->web->new_action(
    class => 'SayHi'
);
</%init>
```


```
<&|/_elements/wrapper&>
<% Jifty->web->form->start %>
<% $action->form_field('name') %>
<% Jifty->web->form->submit %>
<% Jifty->web->form->end %>
</&>
```



A screenshot of a web browser window showing a simple form. The form has a label "Your name?" followed by a text input field. Below the input field is a button labeled "Click me!". A large, light blue arrow points from the button towards the input field, indicating the action to be taken.


```
<%init>  
my $action = Jifty->web->new_action(  
    class => 'SayHi'  
);  
</%init>
```

```
<&|/_elements/wrapper&>  
<% Jifty->web->form->start %>  
<% $action->form_field('name') %>  
<% Jifty->web->form->submit %>  
<% Jifty->web->form->end %>  
</&>
```



The screenshot shows a web browser window with a yellow header bar containing the text "Hello, jesse" next to an information icon and a close button. Below the header, the text "Your name?" is followed by a text input field. Underneath the input field is a button labeled "Click me!".


```
$ curl \
http://localhost:8888/__jifty/webservices/yaml?\
J:A-1=SayHi;J:A:F-name-1=Jesse
```

```
$ curl \
  http://localhost:8888/__jifty/webservices/yaml?\
  J:A-1=SayHi;J:A:F-name-1=Jesse

1: !!perl/hash:Jifty::Result
  _content: {}
  action_class: Hello::Action::SayHi
  failure: 0
  field_errors:
    name: ~
  field_warnings:
    name: ~
  message: 'Hello, Jesse'
```



Jifty::Dispatcher

Dispatcher = Kernel

Dispatcher = Kernel

⚙ Simple

Dispatcher = Kernel

⚙ **Simple**

⚙ **Declarative**

Dispatcher = Kernel

- ⌘ Simple
- ⌘ Declarative
- ⌘ Encapsulates view logic

Three Stages

Three Stages

⚓ **Before: Sets up state**

Three Stages

- ⚙ **Before: Sets up state**
- ⚙ **On: Shows your pages**

Three Stages

- ⚙ **Before: Sets up state**
- ⚙ **On: Shows your pages**
- ⚙ **After: Cleans up state**

Jifty::ClassLoader

Scaffolding Bad

Scaffolding Bad

⚓ Ugly

Scaffolding Bad

- ❁ Ugly
- ❁ Redundant

Scaffolding Bad

- ⚓ Ugly
- ⚓ Redundant
- ⚓ Fragile

Scaffolding Bad

- ⚓ Ugly
- ⚓ Annoying
- ⚓ Redundant
- ⚓ Fragile

Scaffolding Bad

- ⚓ Ugly
- ⚓ Annoying
- ⚓ Redundant
- ⚓ Redundant
- ⚓ Fragile

Scaffolding Bad

⚓ Ugly

⚓ Annoying

⚓ Redundant

⚓ Redundant

⚓ Fragile

⚓ Redundant

Why *Empty* Classes?

Why *Empty* Classes?

⚙ Jifty::ClassLoader

Why *Empty* Classes?

- ⌘ **Jifty::ClassLoader**
- ⌘ **Auto-creates classes**

Why *Empty* Classes?

- ⌘ Jifty::ClassLoader
- ⌘ Auto-creates classes
- ⌘ Never writes them to disk

Auto-created Classes

Auto-created Classes

⚙ Blog

Auto-created Classes

- ⚙ Blog
- ⚙ Blog::Record

Auto-created Classes

- ⌘ Blog
- ⌘ Blog::Record
- ⌘ Blog::Collection

Auto-created Classes

- ⌘ Blog
- ⌘ Blog::Record
- ⌘ Blog::Collection
- ⌘ Blog::Bootstrap

Auto-created Classes

- ⌘ Blog
- ⌘ Blog::Record
- ⌘ Blog::Collection
- ⌘ Blog::Bootstrap
- ⌘ Blog::Upgrade

Auto-created Classes

- ⌘ Blog
- ⌘ Blog::Record
- ⌘ Blog::Collection
- ⌘ Blog::Bootstrap
- ⌘ Blog::Upgrade
- ⌘ Blog::Dispatcher

Auto-created Classes

- ⌘ Blog
- ⌘ Blog::Record
- ⌘ Blog::Collection
- ⌘ Blog::Bootstrap
- ⌘ Blog::Upgrade
- ⌘ Blog::Dispatcher
- ⌘ Blog::CurrentUser

Auto-created Classes

- ⌘ Blog
 - ⌘ Blog::Record
 - ⌘ Blog::Collection
 - ⌘ Blog::Bootstrap
 - ⌘ Blog::Upgrade
 - ⌘ Blog::Dispatcher
 - ⌘ Blog::CurrentUser
- ⌘ Blog::Model::EntryCollection

Auto-created Classes

- ⌘ Blog
- ⌘ Blog::Record
- ⌘ Blog::Collection
- ⌘ Blog::Bootstrap
- ⌘ Blog::Upgrade
- ⌘ Blog::Dispatcher
- ⌘ Blog::CurrentUser
- ⌘ Blog::Model::EntryCollection
- ⌘ Blog::Action::CreateEntry

Auto-created Classes

- ⌘ Blog
- ⌘ Blog::Record
- ⌘ Blog::Collection
- ⌘ Blog::Bootstrap
- ⌘ Blog::Upgrade
- ⌘ Blog::Dispatcher
- ⌘ Blog::CurrentUser
- ⌘ Blog::Model::EntryCollection
- ⌘ Blog::Action::CreateEntry
- ⌘ Blog::Action::SearchEntry

Auto-created Classes

- ⌘ Blog
- ⌘ Blog::Record
- ⌘ Blog::Collection
- ⌘ Blog::Bootstrap
- ⌘ Blog::Upgrade
- ⌘ Blog::Dispatcher
- ⌘ Blog::CurrentUser
- ⌘ Blog::Model::EntryCollection
- ⌘ Blog::Action::CreateEntry
- ⌘ Blog::Action::SearchEntry
- ⌘ Blog::Action::UpdateEntry

Auto-created Classes

- ⌘ Blog
- ⌘ Blog::Record
- ⌘ Blog::Collection
- ⌘ Blog::Bootstrap
- ⌘ Blog::Upgrade
- ⌘ Blog::Dispatcher
- ⌘ Blog::CurrentUser
- ⌘ Blog::Model::EntryCollection
- ⌘ Blog::Action::CreateEntry
- ⌘ Blog::Action::SearchEntry
- ⌘ Blog::Action::UpdateEntry
- ⌘ Blog::Action::DeleteEntry

Auto-created Classes

- ⌘ Blog
- ⌘ Blog::Record
- ⌘ Blog::Collection
- ⌘ Blog::Bootstrap
- ⌘ Blog::Upgrade
- ⌘ Blog::Dispatcher
- ⌘ Blog::CurrentUser
- ⌘ Blog::Model::EntryCollection
- ⌘ Blog::Action::CreateEntry
- ⌘ Blog::Action::SearchEntry
- ⌘ Blog::Action::UpdateEntry
- ⌘ Blog::Action::DeleteEntry
- ⌘ *...et cetera*



Continuation = Job Control

Continuation = Job Control

☯ Continuations in Perl?

Continuation = Job Control

☯ Continuations in Perl?

☯ Not Full Continuations

Continuation = Job Control

- ☯ **Continuations in Perl?**
- ☯ **Not Full Continuations**
- ☯ **Delimited Continuations**

Full Continuations

Full Continuations

☯ **Serializes everything**

Full Continuations

- ☯ Serializes everything
- ☯ %ENV, STDIN, STDOUT

Full Continuations

- ☯ Serializes everything
- ☯ %ENV, STDIN, STDOUT
- ☯ DBI Handle, Log Handle

Full Continuations

- ☯ **Serializes everything**
- ☯ **%ENV, STDIN, STDOUT**
- ☯ **DBI Handle, Log Handle**
- ☯ **Phase of the moon**

Jifty Continuations

Jifty Continuations

☯ Only the application state

Jifty Continuations

- ☯ Only the application state
- ☯ Requests and Actions

Jifty Continuations

- ☯ Only the application state
- ☯ Requests and Actions
- ☯ That's all we need

Why Continuations?

Why Continuations?

☯ The web is built on GOTO

Why Continuations?

- ☯ The web is built on GOTO
- ☯ Do you *like* GOTO?

Why Continuations?

- ☯ The web is built on GOTO
- ☯ Do you *like* GOTO?
- ☯ Continuations are GOSUB

Why Continuations?

- ☯ The web is built on GOTO
- ☯ Do you *like* GOTO?
- ☯ Continuations are GOSUB
- ☯ Welcome to Civilization!

A Brief Tangent...

A Brief Tangent...

 **Back to our Blog**

A Brief Tangent...

 **Back to our Blog**

 **Requiring Login**

A Brief Tangent...

- ☯ **Back to our Blog**
- ☯ **Requiring Login**
- ☯ **`lib/Blog/Dispatcher.pm`**


```
package Blog::Action::Login;
use Jifty::Param::Schema;
use Jifty::Action schema {

    param address =>
        is mandatory,
        ajax validates,
        label is 'Email address';

    param password =>
        is mandatory,
        type is 'Password',
        label is 'Password';

};
```

```

package Blog::Action::Login;
use Jifty::Param::Schema;
use Jifty::Action schema {

    param address =>
        is mandatory,
        ajax validates,
        label is 'Email address';

    param password =>
        is mandatory,
        type is 'Password',
        label is 'Password';

};

sub take_action {
    my $self = shift;
    if ( $self->validate_login ) {
        $self->login_as_user( $self->user );
        return 1;
    }
    return 0;
}

```

```
package Blog::Dispatcher;
```

```
## Auth and Login
```

```
before '*' => run {  
    if (not Jifty->web->current_user->id ) {  
        tangent '/login';  
    }  
};
```

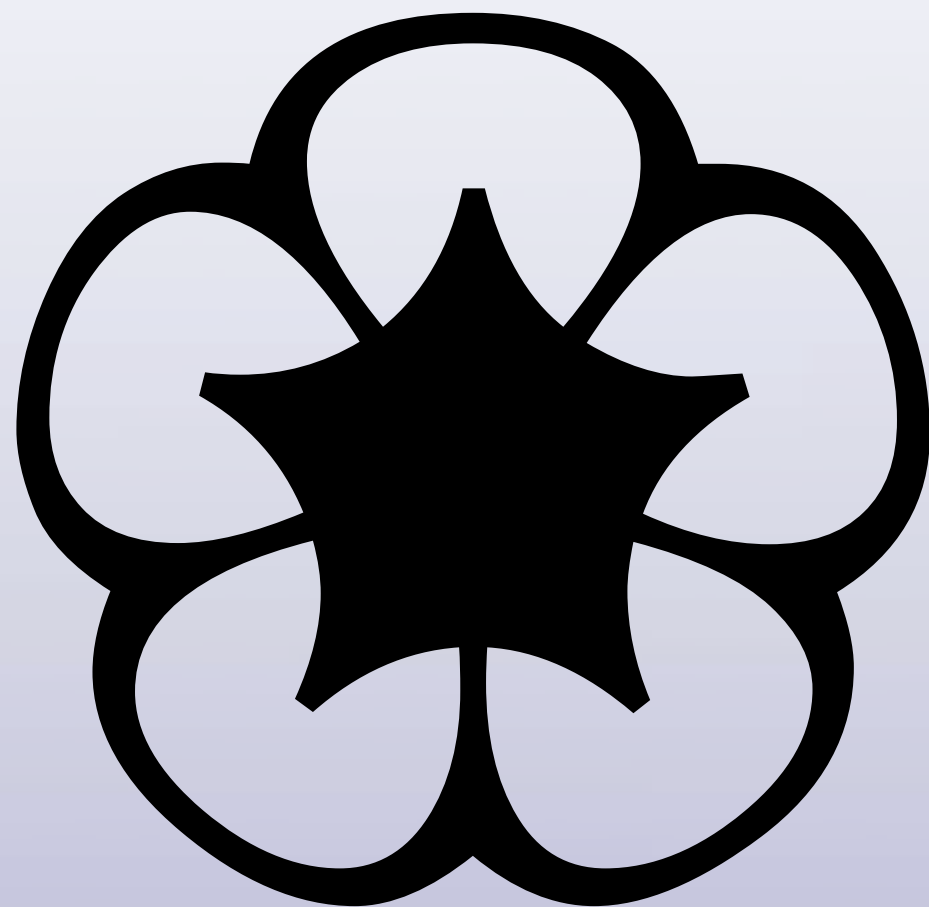


```
## share/web/templates/Login  
<%init>  
my $action = Jifty->web->new_action(  
    class => 'Login',  
);  
</%init>
```



```
%# share/web/templates/Login
<%init>
my $action = Jifty->web->new_action(
    class => 'Login',
);
</%init>

<&|/_elements/wrapper, title => 'Login' &>
<h2>Login</h2>
    <% Jifty->web->form->start %>
        <% $action->form_field('address') %>
        <% $action->form_field('password') %>
        <% Jifty->web->return( label => 'Login' ) %>
    <% Jifty->web->form->end %>
</&>
```



Templates = View

Templates = View

✿ **HTML::Mason**

Templates = View

✿ **HTML::Mason**

✿ **Mason has Components**

Templates = View

- ✿ **HTML::Mason**
- ✿ **Mason has Components**
- ✿ **Server-side inclusion**

Fragments

Fragments

Components 2.0

Fragments

- ✿ **Components 2.0**
- ✿ **Client-side for AJAX**

Fragments

- ✿ **Components 2.0**
- ✿ **Client-side for AJAX**
- ✿ **Server-side for Lynx**

```
<% Jifty->web->region(  
    name => "myweblog-posts",  
    path => "/fragments/page_of_posts"  
) %>
```

Chat

Chat

Server-push (Comet)

Chat

- ✿ **Server-push (Comet)**
- ✿ **Refreshed fragments**

Chat

- ✿ **Server-push (Comet)**
- ✿ **Refreshed fragments**
- ✿ **Live Demo!**



Development Tools

Development Tools

∇ Standalone Server

Development Tools

∇ Standalone Server

∇ Module::Install

Development Tools

- ∇ Standalone Server
- ∇ Module::Install
- ∇ PAR Distribution

Halos

autohandler	[X]
/autohandler <i>Rendered in 0.122s</i>	
Children	
<ul style="list-style-type: none">• /_elements/nav - 0• /edit - 0.099	
Variables	
<ul style="list-style-type: none">♦ page: Wifty::Model::Page♦ revision: Wifty::Model::Revision♦ viewer: Wifty::Action::UpdatePage	
SQL Statements	
<ul style="list-style-type: none">● SELECT * FROM pages WHERE name = ? <p>Bindings: HomePage <i>0.000277042388916016 seconds</i></p>	
Edit	

[/_elements/menu:menu - 0.031](#)
[/_elements/menu:menu - 0.031](#)

Halos

√ SQL Logging

autohandler [X]	
/autohandler <i>Rendered in 0.122s</i>	
Children	
<ul style="list-style-type: none">• /_elements/nav - 0• /edit - 0.099	
Variables	
<ul style="list-style-type: none">♦ page: Wifty::Model::Page♦ revision: Wifty::Model::Revision♦ viewer: Wifty::Action::UpdatePage	
SQL Statements	
<ul style="list-style-type: none">● SELECT * FROM pages WHERE name = ? Bindings: HomePage <i>0.000277042388916016 seconds</i>	
Edit	

Halos

∇ SQL Logging

∇ SQL Profiling

autohandler [X]

/autohandler
Rendered in 0.122s

Children

- [/_elements/nav - 0](#)
- [/edit - 0.099](#)

Variables

- ♦ page: [Wifty::Model::Page](#)
- ♦ revision: [Wifty::Model::Revision](#)
- ♦ viewer: [Wifty::Action::UpdatePage](#)

SQL Statements

- SELECT * FROM pages WHERE name = ?
Bindings: HomePage
0.000277042388916016 seconds

Edit

[/_elements/menu:menu - 0.031](#)
[/_elements/menu:menu - 0.0](#)

Halos

- ▽ SQL Logging
- ▽ SQL Profiling
- ▽ Template Profiling

autohandler [X]

/autohandler
Rendered in 0.122s

Children

- [/_elements/nav - 0](#)
- [/edit - 0.099](#)

Variables

- ♦ page: [Wifty::Model::Page](#)
- ♦ revision: [Wifty::Model::Revision](#)
- ♦ viewer: [Wifty::Action::UpdatePage](#)

SQL Statements

- SELECT * FROM pages WHERE name = ?
Bindings: HomePage
0.000277042388916016 seconds

Edit

[/_elements/menu:menu - 0.031](#)
[/_elements/menu:menu - 0.0](#)

Halos

[/autohandler - 0.122](#) [Edit](#)
[/_elements/nav - 0](#) [Edit](#)
[/edit - 0.099](#) [Edit](#)
[/_elements/page_nav - 0.001](#) [Edit](#)
[/_elements/wrapper - 0.095](#) [Edit](#)
[/_elements/header - 0.001](#) [Edit](#)
[/_elements/javascript - 0](#) [Edit](#)
[/_elements/sidebar - 0.074](#) [Edit](#)
[/_elements/menu - 0.072](#) [Edit](#)
[/_elements/menu:.menu - 0.001](#)
[/_elements/menu:.menu - 0.001](#)
[/_elements/menu:.menu - 0.033](#)
[/_elements/menu:.menu - 0.001](#)
[/_elements/menu:.menu - 0.001](#)
[/_elements/menu:.menu - 0.001](#)
[/_elements/markup - 0](#) [Edit](#)

Halos

▽ View Tracing

[/autohandler - 0.122](#) [Edit](#)
[/_elements/nav - 0](#) [Edit](#)
[/edit - 0.099](#) [Edit](#)
[/_elements/page_nav - 0.001](#) [Edit](#)
[/_elements/wrapper - 0.095](#) [Edit](#)
[/_elements/header - 0.001](#) [Edit](#)
[/_elements/javascript - 0](#) [Edit](#)
[/_elements/sidebar - 0.074](#) [Edit](#)
[/_elements/menu - 0.072](#) [Edit](#)
[/_elements/menu:.menu - 0.001](#)
[/_elements/menu:.menu - 0.001](#)
[/_elements/menu:.menu - 0.033](#)
[/_elements/menu:.menu - 0.001](#)
[/_elements/menu:.menu - 0.001](#)
[/_elements/menu:.menu - 0.001](#)
[/_elements/markup - 0](#) [Edit](#)

Halos

∇ View Tracing

∇ Online Editing

```
/autohandler - 0.122 Edit  
  /_elements/nav - 0 Edit  
    /edit - 0.099 Edit  
      /_elements/page_nav - 0.001 Edit  
        /_elements/wrapper - 0.095 Edit  
          /_elements/header - 0.001 Edit  
            /_elements/javascript - 0 Edit  
              /_elements/sidebar - 0.074 Edit  
                /_elements/menu - 0.072 Edit  
                  /_elements/menu:.menu - 0.001  
                    /_elements/menu:.menu - 0.001  
                      /_elements/menu:.menu - 0.033  
                        /_elements/menu:.menu - 0.001  
                          /_elements/menu:.menu - 0.001  
                            /_elements/menu:.menu - 0.001  
                              /_elements/markup - 0 Edit
```

Halos

- ▽ View Tracing
- ▽ Online Editing
- ▽ ...and more!

```
/autohandler - 0.122 Edit  
/\_elements/nav - 0 Edit  
/edit - 0.099 Edit  
/\_elements/page\_nav - 0.001 Edit  
/\_elements/wrapper - 0.095 Edit  
/\_elements/header - 0.001 Edit  
/\_elements/javascript - 0 Edit  
/\_elements/sidebar - 0.074 Edit  
/\_elements/menu - 0.072 Edit  
/\_elements/menu:.menu - 0.001  
/\_elements/menu:.menu - 0.001  
/\_elements/menu:.menu - 0.033  
/\_elements/menu:.menu - 0.001  
/\_elements/menu:.menu - 0.001  
/\_elements/menu:.menu - 0.001  
/\_elements/markup - 0 Edit
```


Devel Mode

Devel Mode

▽ **Module::Refresh**

Devel Mode

▽ **Module::Refresh**

▽ **Tracing with Log4Perl**

Devel Mode

- ▽ **Module::Refresh**
- ▽ **Tracing with Log4Perl**
- ▽ **Administrative Console**

Deployment

Deployment

∇ **Lighttpd / Apache**

Deployment

∇ **Lighttpd / Apache**

∇ **Fast Static Server**

Deployment

- ∇ **Lighttpd / Apache**
- ∇ **Fast Static Server**
- ∇ **CSS::Squish, JS::Squish**

More Goodies

More Goodies

∇ Comprehensive I18N

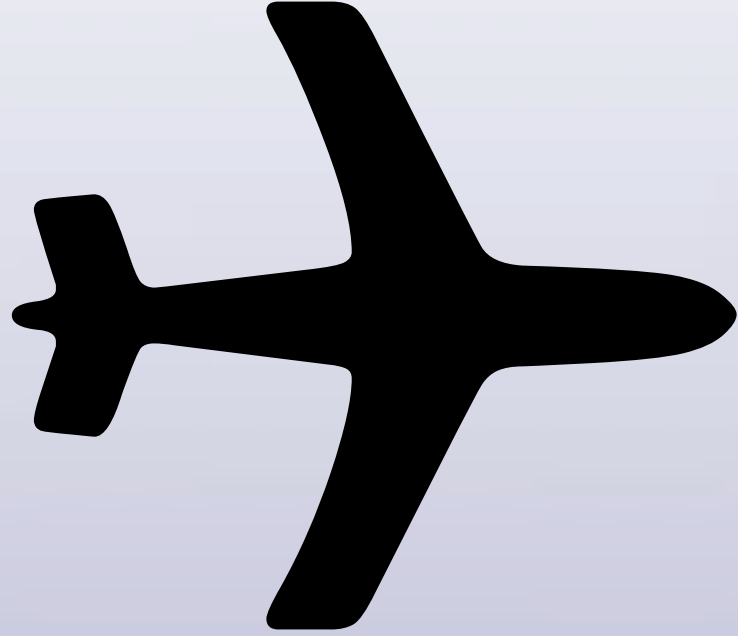
More Goodies

∇ Comprehensive I18N

∇ Client-Side Sessions

More Goodies

- ∇ Comprehensive I18N
- ∇ Client-Side Sessions
- ∇ Events and Subscriptions



Future Plans

Future Plans

✈ **Wiki-style UI Editor**

Future Plans

✈ **Wiki-style UI Editor**

✈ **Even less code**

Future Plans

- ✈ Wiki-style UI Editor
- ✈ Even less code
- ✈ “Jifty in a Jiffy” MTVs

Sample Applications

Sample Applications

 **Wifty**

Sample Applications

✈ **Wifty**

✈ **CommitBit**

Sample Applications

✈ **Wifty**

✈ **CommitBit**

✈ **Ping / Chat / Clock**

Get Jifty

Get Jifty

✈ cpan Jifty

Get Jifty

✈ cpan Jifty

✈ svn.jifty.org/svn/jifty.org

Get Jifty

✈ `cpan Jifty`

✈ `svn.jifty.org/svn/jifty.org`

✈ `http://jifty.org/`

Getting Started

Getting Started

✈ **Jifty::Manual::Tutorial**

Getting Started

✈ **Jifty::Manual::Tutorial**

✈ **irc.freenode.net #jifty**

Getting Started

- ✈ **Jifty::Manual::Tutorial**
- ✈ **irc.freenode.net #jifty**
- ✈ **jifty-devel@lists.jifty.org**

Thank you!

