A Simple HTTP Application

As a pretext to revisit Pharo Syntax

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W3S04
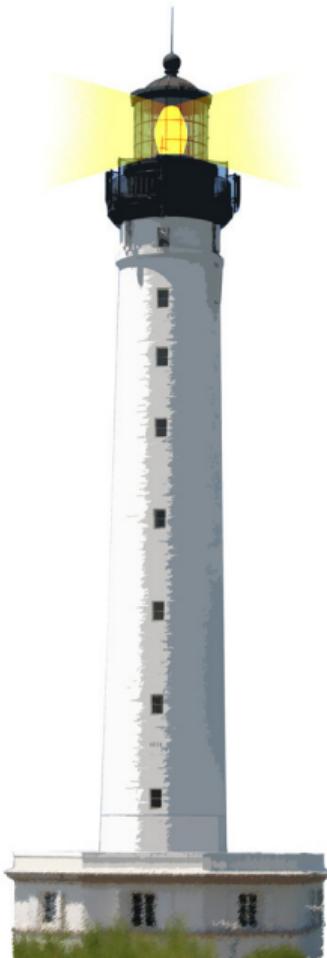
A Tiny Book Server
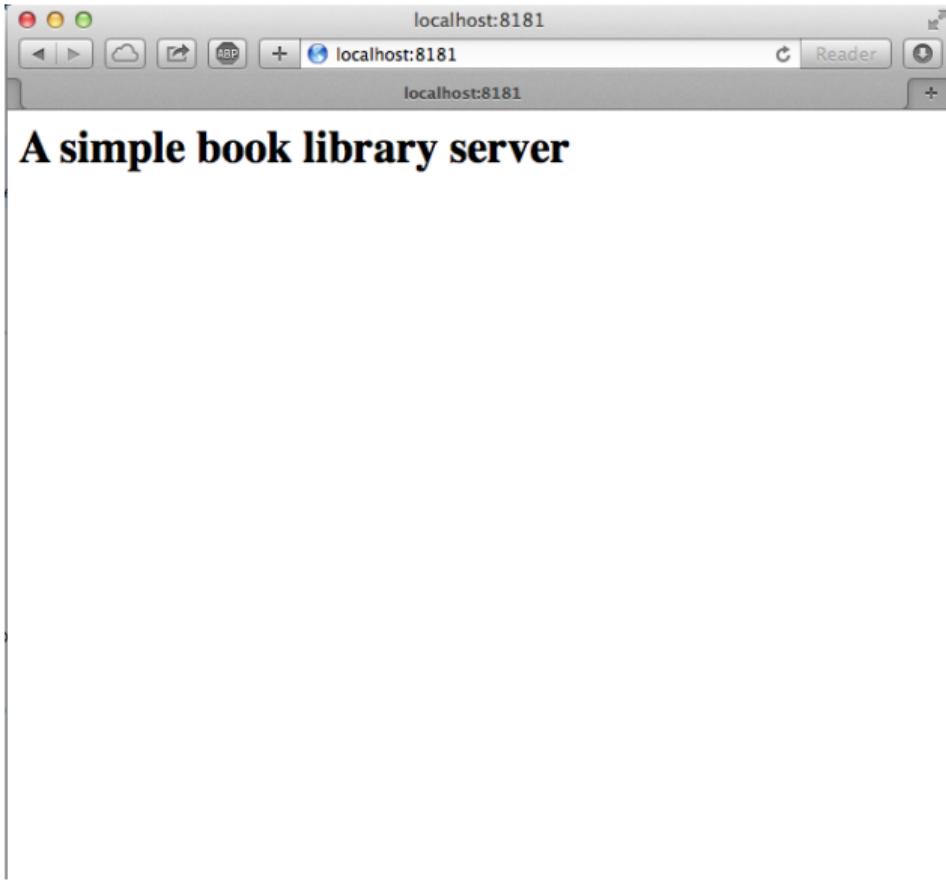
Getting a Book

```
ZnClient new
  url: 'http://localhost:8181/books/1';
  get
```

- Class name starts with an uppercase
- new is a message sent to the class ZnClient
- url: and get are both sent to the instance of ZnClient
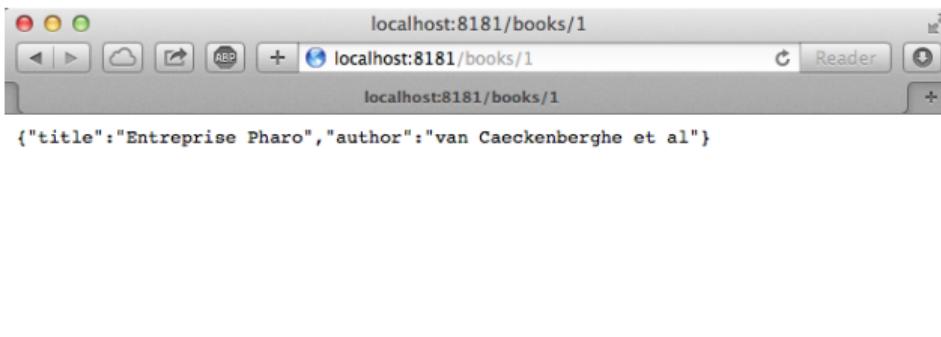
Adding a Book

```
ZnClient new
  url: 'http://localhost:8181/books/1';
  formAt: 'author' put: 'van Caekenberghe et al';
  formAt: 'title'  put: 'Entreprise Pharo';
  post
```

formAt: 'author' put: 'van Caekenberghe et al'
is equivalent to
formAtput('author' , 'van Caekenberghe et al')

The Full Server

```
books := Dictionary new.
teapot := Teapot configure: {
   #defaultOutput −> #json. #port −> 8181 }.
teapot
 GET: '/' −> '<h1>A simple book server</h1>'; output: #html;
 GET: '/books' −> books;
 GET: '/books/<id:IsInteger>'
   −> [ :request | books at: (request at: #id) asString];
 POST: '/books/<id>'
   −> [ :request | | book |
       book := { 'author' −> (request at: #author).
       'title'  −> (request at: #title) } asDictionary.
       books at: (request at: #id) put: book ];
 start.
```

Configuring a Server

```
| books teapot |
books := Dictionary new.
teapot := Teapot configure: { #defaultOutput –> #json.  #port
    –> 8181 . #debugMode –> true }.
```

- | | delimits local variable definition
- := assignment
- #port is a symbol (aka unique string)
- configure: is a message sent to the class Teapot
- In configure:, : means that the message is expecting an argument
- { .. } is an array of three elements
- -> creates a key-value pair

Defining The Server Routes

```
teapot
 GET: '/'
  --> '<h1>A simple book server</h1>'; output: #html;
 GET: '/books'
  --> books;
 GET: '/books/<id:IsInteger>'
  --> [ :request | books at: (request at: #id) asString];
 POST: '/books/<id>'
  --> [ :request | | book |
    book := { 'author' --> (request at: #author) .
     'title' --> (request at: #title) } asDictionary.
    books at: (request at: #id) put: book ];
 start.
```

More About Syntax

Processing URIs such as: http://localhost:8181/books/1

```
teapot
 GET: '/books/<id:IsInteger>'
  —> [ :request | books at: (request at: #id) asString];
```

- [:request | books at: (request at: #id) asString] **is a block**
- **acts as an anonymous method**
  - :request **is an argument**
  - at: **is a message accepting one argument**

Conclusion

- Teapot is a cool package
  http://smalltalkhub.com/#!/~zeroflag/Teapot
- A web server in one page
- Based on Zinc a really strong and well designed HTTP client/server

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