



# Books24x7's Authentication Options for Library Implementations

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*Overview and Technical Update  
August 2006*



## Overview and history of the program (*non-technical introduction page*)

**Why do we need tighter security?** Books24x7 is an aggregator of top-tier IT and Business book content from over 100 leading publishers. We provide a reference database called Referenceware® that includes 6,700 best selling titles today, and will include over 8,500 best-in-class titles by this time next year. The nature of our content is such that it is susceptible to unauthorized harvesting and repurposing on various Internet sites. Research into this issue has uncovered that the majority of this type of activity stems from the library segment much more so than from the corporate segment. In the past, the anonymity of library patrons allowed those who would harvest our content to do so with complete impunity – we could not effectively stop the behavior nor identify the actual user who was violating our license agreement.

**First steps:** When the nature and depth of the issue was discovered, we needed to eliminate this behavior while at the same time respecting the wishes of some of our library customers, who wished their users to remain anonymous. After much discussion, we decided that we would offer two options of authentication: mandatory user registration, or anonymous identification tokens. This provides a means by which libraries can either choose to allow users to identify themselves or provide us tokens, which fulfill our requirements regarding content security. We began notifying customers in April of 2004 about the scheduled release of our new user interface. We asked all libraries to partner with us on a security upgrade program, to choose one of our approved authentication methods so the new Books24x7 UI could be more secure. A great majority of our customers adopted one of the security options in time for the release of the new UI on June 30, 2004. However, there was still a lot of work to be done.

### **Second phase:**

By partnering with our 200+ library customers over the past 18 months, we have learned that many libraries have different systems, software, networks, and preferred methods of patron authentication which presented new challenges. By working closely with many helpful IT/systems people at our customer sites, we have made significant progress in understanding the different variations, and can now address concerns we were unaware of initially. We have enjoyed learning from our customer, and have strengthened our relationship further with partners like Chris Zagar of Useful Utilities.

### **Today and moving forward:**

Now that we have a clearer understanding of the various system challenges faced by our customers, we have prepared this convenient document as a 'Books24x7 authentication reference guide'. **Thank you** for partnering with us on this important security upgrade program. We sincerely hope this guide will help our library customers implement a user friendly, yet secure authentication program. Now that our publishers know the Books24x7 library site is secure, this will allow us to continue delivering Best-in-class content to our Referenceware® site weekly.

### **References:**

For any new customers, or customers considering the switch from user registration to tokens, we encourage you to speak with libraries that have successfully implemented tokens in a complex environment. Please send an email to: [librarysales@books24x7.com](mailto:librarysales@books24x7.com) for contact information. In addition, we encourage you to send email to Chris Zagar [[zagar@usefulutilities.com](mailto:zagar@usefulutilities.com)] if you would like to learn more about EZproxy.

**The pages to follow should be shared with your IT/systems people, and the last Section (IV. MARC Records) is for your Cataloging Department.**

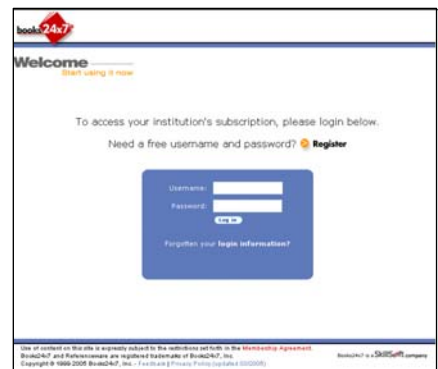
## I. User Registration using Institution email domain

When a patron accesses Books24x7 for the first time, he/she will be asked to register by providing an email address that is part of subscribing institution's domain. No other personally identifiable information, not even first or last name, will be requested. The patron will then have to demonstrate ownership of that institution email address, by retrieving the system-generated password that will be required to login to the service. Users will need to use this login information (email address and password) to gain access to Books24x7 from within the library, on or off campus. NOTE – patrons are allowed to change the system-generated password after logging in for the first time.

This Registration option is coupled with IP restrictions to allow only authorized and "identified" users to access Books24x7 content.

Books24x7 must configure each library's subscription individually for user registration. The library must provide Books24x7 with the following:

- Authorized campus IP addresses
- Institutional email domains
  - @university.edu
  - @dept1.university.edu, @dept2.university.edu
  - @%.university.edu (non-preferred format)



The Login screen

## II. Library Authentication Tokens

This document addresses the use of tokens to uniquely identify users of Books24x7 in those cases where personal identification is not desired. Tokens have been implemented due to increased concerns over the security of our content. The use of tokens preserves the anonymity of the patron while providing Books24x7 with a rudimentary means of identifying users who violate our User Agreement.

There are two types of tokens a partner library may choose to implement: EZproxy "secure" tokens, which are generated by the EZproxy software, and standard tokens, used in conjunction with referring-url authentication.

### What are Tokens?

Tokens, simply, are values that "stand in" for user information. In an effort to balance the library's need for patron privacy with Books24x7's need to be provided unique information for each user, we developed the concept of a user authentication token. The value of the authentication token is of no importance to Books24x7. The only requirements are the following:

1. **The token is unique for each user:** the same token shall never be presented for two different patrons. A token is assigned to each patron on an individual basis.



2. **The token is constant for each user:** the same patron will always present the same token on each visit to Books24x7. Each patron is only assigned a single token.

The use of tokens ensures end-user anonymity while providing Books24x7, and its associated publishers, with the ability to spot and curtail illegal downloading activity by an individual without resorting to shutting off an entire IP address, the drawbacks of which are self-evident.

## IIa. Library Authentication Tokens with Referring URL Authentication

The library providing the access must credential each library patron being sent to Books24x7. These credentials are provided in the form of authentication tokens: each user is assigned a unique and constant token by the library.

- All patrons being delivered to Books24x7 must first arrive at the following base URL (the library access page):  
<http://library.books24x7.com/library.asp>
- In order for authentication to succeed, you must provide Books24x7 with the URL that is being used to refer patrons to the library access page above. This is the Referring URL and it will determine whether access is to be granted for each user.
- The first of two mandatory parameters is the subscription code as provided by Books24x7. The purpose of this parameter is to identify the library's subscription.  
`site=YOURCODE`
- The second mandatory parameter is the authentication token. This is the unique and constant token that is provided for each patron.  
`token=THETOKENVALUE`
- Example. If your subscription code is GG3K1 and you wish to send a user who's calculated token is 394FAD2940C, then you would create the following complete URL for the user to follow.  
<http://library.books24x7.com/library.asp?site=GG3K1&token=394FAD2940C>

In order for patrons arriving from your site to be successfully authenticated, they must arrive at Book24x7 from a link found on the library's own website. Furthermore, the access to this URL must be restricted - it must not be an openly accessible location from the internet. In order to view the page which links to Books24x7, the patron must first authenticate themselves into the library's website. It is important that the correct Referring URL as seen by Books24x7 be provided. If you are unsure of the final form of the URL that patrons will be presenting to Books24x7, you can follow this procedure:

1. Follow the link from your website to Books24x7  
(<http://library.books24x7.com/library.asp?site=YOURCODE>)
2. If you have previously provided us with referring URL values you may successfully establish a session. If you have not, you will be sent to a page indicating that you must login through your library.
3. In either case, type in the following URL after you have attempted to access the service:  
<http://library.books24x7.com/diagnostics.asp>
4. Make note of the referring URL and the IP that is displayed – these are what you will need to communicate to Books24x7 to complete your configuration. Also make note of the site code being shown and confirm that it does correspond to the one provided to you by Books24x7 and that it matches the one that you used in step 1 above.



**Note:** because of how most web browsers operate, it is important that users display the web page corresponding to the referring URL in their browser. If a user were only redirected to the referring URL from the welcome page at the library, and then immediately redirected to Books24x7, then they would not have the correct referring URL. A redirection response from a web server will not produce a Referring URL HTTP header; it will simply forward any Referring URL header that it sees.

It is recommended that the library calculate a token for each user based on the whatever credentials the library as used to grant them access to their own restricted website. This could be a networkID, or a studentID, or a library card number. In order to protect the privacy of the library patron, the library can use a calculation to obscure the actual value of the credentials. We recommend that standard encryption be used to obscure the value presented to Books24x7.

We do not recommend calculating authentication tokens using a one-way hashing or checksum algorithm such as MD5. Though this will technically meet the requirements of uniqueness and constancy, it may prove to be impractical. Should issues arise with particular patrons, Books24x7 will provide to the library the token used by that patron. If a non-reversible encryption has been used the library would be unable to decrypt to token in order to identify the actual patron.

Even though EZproxy does not normally support Referring URLs for authentication purposes, it may be of interest to note that versions 2.2a (or later) of this software provide internal support for Books24x7 Authentication Tokens. This allows for an administration-free approach to integrating authentication token support for Books24x7. Furthermore, since EZproxy supports a more complete version of tokens (secure authentication tokens), it does not require establishment of referring URL rules.

## IIb. Secure Authentication Tokens using EZproxy

EZproxy version 2.2a or later (<http://www.usefulutilities.com/>) contains support for Books24x7 secure authentication tokens. This document describes the required configuration. Secure Authentication Tokens allow anonymous credentialed access to Books24x7. EZproxy prepares a link to Books24x7 for each user, which includes encrypted data used to establish a session on Books24x7. This process does not disclose the identity of the EZproxy user to Books24x7. It sends an encrypted string (authentication token), which identifies each user uniquely. If necessary, Books24x7 can provide the library with this authentication token, which the library can then cross-reference to the original user using <http://ezproxy.yourlib.org:2048/token>

### Configuration for EZproxy

The EZproxy configuration must contain a block of parameters as shown below

Title	Book24x7.com
URL	http://library.books24x7.com/library.asp?^B
Books24x7Site	<b>ABC123</b>
TokenKey	SomethingYouPickAndDontTellAnyone
TokenSignatureKey	<b>YouGetThisFromBooks24x7</b>
DJ	books24x7.com

In this example

- Books24x7Site is a site identifier issued to the library by Books24x7.
- TokenKey is a random alphanumeric string that you pick that is used to encrypt the username of the person accessing EZproxy before sending it to Books24x7. [Note: this value cannot be changed once the configuration is complete.]
- TokenSignatureKey is used to encrypt the information sent to Books24x7. You must obtain this from Books24x7.
- URL is the portal entry point to Books24x7. This URL is the only supported entry point, which will properly interpret the encrypted authentication tokens provided by EZproxy.

Books24x7 must configure each library's subscription for use with EZproxy Authentication Tokens. When a library requests such a configuration, Books24x7 provides them a TokenSignatureKey, which they enter in their EZproxy configuration as shown above. The library should also confirm that they have correctly entered their Books24x7Site code parameter.

In order for users to be successfully authenticated by Book24x7 using EZproxy secure token, they must only enter Books24x7 from the URL specified in the configuration file for EZProxy. Failure to do so will result in access denials.

### **Troubleshooting tools during integration**

Type in the following URL after you have attempted to access the service:

<http://library.books24x7.com/diagnostics.asp>

Make note of the referring URL and the IP that is displayed. Also make note of the site code being shown and confirm that it does correspond to the one provided to you by Books24x7.

<http://library.books24x7.com/library.asp?^B&debug=1>

This will prevent the library.asp from automatically redirecting the user to the first viewable page past the access portal. Display information, which is useful during the setup phase, will be displayed instead - including a link to the first viewable page.

## **IIC. Secure Authentication Tokens using EZproxy and Athens**

<http://www.athensams.net>

1. The minimum version of EZproxy is an Athens-enable version\* of EZproxy 4.0. All EZproxy customers are given a no cost update to this release, so there is no EZproxy-related cost for existing EZproxy customers.

\* EZproxy 4.0a GA (2006-08-02) or later

2. Enabling Athens involves just a few steps as outlined in:  
<http://www.usefulutilities.com/support/usr/athens.html>  
To use Athens with Books24x7, libraries must perform the steps from the link, plus, add the steps above under "IIB. Secure Authentication Tokens using EZproxy".



### III. Kiosk Patrons

Access to Books24x7 can be granted to patrons using walk-up workstations or kiosks typically located in the library. In this open arrangement, the users will normally not be credentialed. The IP address of all such workstations must first be provided to Books24x7 to complete the subscription configuration. In these cases, it is each workstation that is being granted access to Books24x7 on behalf of their current patron. This does not imply that all workstations within an institution (an entire college campus, for example) qualify for kiosk status; only workstations **within** the library proper will be granted kiosk status.

**Note:** Patrons accessing the service via a Kiosk workstation will NOT have access to personalization features, such as bookshelves.

### IV. MARC Records (*Cataloger section*)

Extended forms of the portal URL are available. These are used by adding extra parameters to base form of the portal URL

**Example: ISBN, direct link to book title.**

<http://library.books24x7.com/library.asp?^B&isbn=1893115593>

This will deliver the user directly to the table of contents of the book with ISBN 1893115593, after successful authentication.

**User Registration using Institution email domain**

Libraries utilizing Books24x7 MARC records need make no changes to the standard URL in the 856-field to allow patrons to access via the catalog.

**Referring URL Tokens**

Libraries utilizing Books24x7 MARC records must edit the URL in the 856-field in order for the token authentication to work for patrons accessing via the catalog.

The URL delivered in the standard MARC records is typically in this form:

<http://www.books24x7.com/marc.asp?isbn=xxxxxxxxxx>.

This must be changed so the final URLs from the catalog are in this form:

<http://library.books24x7.com/library.asp?site=YOURCODE&token=THETOKENVALUE&isbn=xxxxxxxxxx>.

**EZproxy Tokens**

Libraries utilizing Books24x7 MARC records must edit the URL in the 856-field in order for the token authentication to work for patrons accessing via the catalog.

The URL delivered in the standard MARC records is typically in this form:

<http://www.books24x7.com/marc.asp?isbn=xxxxxxxxxx>.

This must be changed so the final URLs from the catalog are in this form:

<http://YourProxyServerInfo/login?url=http://library.books24x7.com/library.asp?^B&isbn=xxxxxxxxxx>.