



USER DOCUMENTATION

# ALEPH X-Services Documentation

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# Introduction to X-Services Documentation

The X-Services documentation contains the following:

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# List of X-Services

The following X-Services are available:

<i>X-Service</i>	<i>Summary</i>
<a href="#">bor-auth</a>	Retrieves the Global record (Z303), Local record (Z305) and the Data record (Z304) for a given Patron if the ID and verification code provided match, otherwise an error message is returned.
<a href="#">bor-by-key</a>	Retrieves an Internal ID (From Z308) for a given Borrower ID if the ID and verification code provided match, otherwise an error message is returned.
<a href="#">bor-course</a>	Retrieves all Course records (Z107) belonging to a given Borrower ID if the ID and verification code provided match, otherwise an error message is returned.
<a href="#">bor-info</a>	Retrieves all information related to a given Patron: Global & Local Records, Loan records, Loaned items records, Brief records, Cash records, and so on, if the ID and verification code provided match, otherwise an error message is returned.
<a href="#">circ-status</a>	Takes document number from the user, and for each of the document's items, retrieve its circulation status: <ol style="list-style-type: none"> <li>1. Item information (From Z30).</li> <li>2. Loan information (from Z36).</li> <li>3. Loan Status (Tab15), Due Date, Due Hour and so on.</li> </ol>
<a href="#">find</a>	Retrieves the set number and number of records which answer a search request inserted by the user.
<a href="#">find-doc</a>	Retrieves the OAI XML format of an expanded document, given by the user.
<a href="#">get-holding</a>	Retrieves HOL (holdings) information for a Union Catalog document number given by the user.
<a href="#">get-sort-codes</a>	Formats the tab_sort table under a given library into an XML output reply.
<a href="#">hold-req</a>	Creates a hold request record (Z37) for a given item (by the user), after performing initial checks.
<a href="#">hold-req-cancel</a>	Deletes a hold request record (Z37) for a given hold request key (Doc number + Item sequence + Cancel sequence).
<a href="#">ill-arrive-copy</a>	Generates an error message if, according to checks performed, there is a problem in supplying the copy to the Patron.
<a href="#">ill-arrive-loan</a>	Creates BIB and ADM documents for a loaned item which has just arrived for the borrower and which is about to be loaned by the borrower Library to the Patron. The X-Service also builds an Item record (Z30), and in some cases it creates a Loan record (Z36) immediately (depending on tab27 values).
<a href="#">ill-bor-auth</a>	Retrieves the Internal ID (Z303_ID) for a given patron if the provided ID and verification code match, otherwise an error message is returned.

<a href="#">ill-bor-info</a>	Retrieves Z303, Z304, Z305 and Z308 records for a given bor_id / barcode.
<a href="#">ill-build-loan</a>	Creates a loan record for a given document + item sequence. It also checks whether or not there is a hold request for this particular item on behalf of the given patron. If so, it deletes this hold request (Z37).
<a href="#">ill-create-pat</a>	Creates a new patron based on the input parameters which are the patron code and the patron name. Patron creation takes place if the code given as an input does not represent an already existing patron. Creation of the patron involves inserting entries into Z303, Z305, Z304, Z308.
<a href="#">ill-get-doc</a>	Takes a doc number and a library where this doc is located and retrieves an XML of the requested document as it appears in the given library.
<a href="#">ill-get-doc-short</a>	Takes the doc number and retrieves the XML of a brief document (Z13).
<a href="#">ill-get-set</a>	Takes the set number, start point (the index within the set number where the x-service will start working) and the number of documents in the set that the user wants to retrieve.
<a href="#">ill-holds-delete</a>	Takes the doc number and the borrower ID. It deletes the hold request records (Z37) which exist for the given borrower ID for the given document number. If there is at least one record deleted, it also indicates that the input parameters have hold requests.
<a href="#">ill-in-loc</a>	Checks whether or not a specific ILL document (Request) is located in the ALEPH system. If it exists, it retrieves its BIB library and BIB doc number and supplies data regarding the number of items it has and how many of them are available.
<a href="#">ill-in-loc-preview</a>	Predicts the results of a Locate action. The user can view the potential results of a Locate operation, and accordingly decide whether or not to proceed with the Locate action.
<a href="#">ill-item-by-bc</a>	Retrieves an item record (Z30) for a given item barcode.
<a href="#">ill-item-delete</a>	Takes a doc number and item sequence, and deletes the item's record (Z30).
<a href="#">ill-item-due-date</a>	Retrieves the due date and due hour for a given patron for a specific item, based on the patron's status, item status and so on.
<a href="#">ill-item-info</a>	Retrieves the item record (Z30) for a given doc number and item sequence.
<a href="#">ill-loan-info</a>	Retrieves the loan record (Z36) for a given doc number and item sequence.
<a href="#">ill-loan-lost</a>	Updates the status of a given loaned item to Lost.
<a href="#">ill-loan-recall</a>	Changes the due date in the loan record (Z36) for a given item according to the due date inserted as an input parameter.
<a href="#">ill-loan-renew</a>	Renews a loan for a specific item, based on the parameters given by the user, after checking if the renewal is possible according to the tab_delinq table and so on.
<a href="#">ill-loan-return</a>	Returns the loan records of a specific item (Delete loan record and update item record and so on), based on the parameters given by the user. In any event, an indication whether or not the item has been returned late is generated in the output XML.
<a href="#">ill-print-holdings</a>	Retrieves the holdings data of a given document under a given BIB library.

<a href="#">ill-print-items</a>	Retrieves all item records for a given document which are not on loan, based on filter parameters inserted by the user.
<a href="#">item-data</a>	Takes a document number from the user, and for each of the document's items, retrieves: <ol style="list-style-type: none"><li>1. Item information (From Z30).</li><li>2. Loan information (from Z36).</li><li>3. An indication of whether or not the request is on hold and so on.</li></ol>
<a href="#">present</a>	Retrieves OAI XML format output from expanded documents. The user can view documents according to locations within a specified set number.
<a href="#">renew</a>	Renews a loan of a given item for a given patron if it is possible to do so. If, for example, there is a delinquency on the patron, it will not renew the loan.
<a href="#">sort-set</a>	Re-sorts a specified set of documents according to the parameters given by the user.
<a href="#">update-bor</a>	Performs various actions (Update / Insert / Delete) involving the updating of patron details.

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# Borrower Authentication X-Service

## General Purpose

This service retrieves the Global record (Z303), Local record (Z305) and the Data record (Z304) for a given Patron if the given ID and verification code match, otherwise an error message is returned.

## Input Parameters

1. LIBRARY - X (5)
2. SUB\_LIBRARY X (5)
3. BOR\_ID X (20)
4. VERIFICATION X (20)

### Note:

The online check calls the *check\_bor\_id* parameter, meaning that Verification is a mandatory field.

- **Library:** The user inserts the library to be used as part of the key to the local record (Z305) in the event that the sublibrary has not been given as an input. This is the library in which the local record (Z305) exists. It also defines the context for which the global records (Z303 and Z304) are retrieved.
- **Sub\_Library:** This is the sublibrary for receiving the local record (Z305).
- **Bor\_Id / Identification/ ID:** Borrower's ID (Patron) for which the user wants full information.
- **Verification:** Password of the borrower's ID (Verification in Z308).

## Output XML Format

The output XML includes the Global record (Z303), Local record (Z305) and the Data record (Z304) for the borrower ID given by the user.

## Example

To retrieve data on borrower ID`12`, with verification`12`, for sublibrary`HIL`, local record is under `USM50`, enter the following URL:

`http://ram19:8995/X?op=bor-auth&library=usm50&bor_id=00000012&verification=00000012&sub_library=HIL`

If all goes well, the output XML will contain Z303, Z304 and Z305:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<bor-auth>
-
<z303>

<z303-id>00000012</z303-id>

<z303-proxy-for-id
/>

<z303-primary-id
/>

<z303-name-key>de
lossa
robert
00000012</z303-name-key>
```

```
<z303-user-library
/>

<z303-open-date>June/23/1989</z303-open-date>

<z303-update-date>March/30/2004</z303-update-date>

<z303-con-lng>ENG</z303-con-lng>

<z303-alpha>L</z303-alpha>

<z303-name>De
Lossa,
Robert</z303-name>

<z303-title
/>

<z303-delinq-1>03</z303-delinq-1>

<z303-delinq-n-1>Personal
item
left in
library
-
contact
Circ
desk</z303-delinq-n-1>

<z303-delinq-1-update-date>20040330</z303-delinq-1-update-date>

<z303-delinq-1-cat-name>MASTER</z303-delinq-1-cat-name>

<z303-delinq-2>00</z303-delinq-2>

<z303-delinq-n-2
/>

<z303-delinq-2-update-date>00000000</z303-delinq-2-update-date>

<z303-delinq-2-cat-name>CONVERSION</z303-delinq-2-cat-name>

<z303-delinq-3>00</z303-delinq-3>

<z303-delinq-n-3
/>

<z303-delinq-3-update-date>00000000</z303-delinq-3-update-date>

<z303-delinq-3-cat-name>CONVERSION</z303-delinq-3-cat-name>

<z303-budget
/>

<z303-profile-id
/>

<z303-ill-library
/>

<z303-home-library>Humanities
Library</z303-home-library>
```

## Explanation of Borrower Authentication X-Service

<z303-field-1  
/>

<z303-field-2  
/>

<z303-field-3  
/>

<z303-ill-total-limit>0000</z303-ill-total-limit>

<z303-ill-active-limit>0000</z303-ill-active-limit>

<z303-dispatch-library  
/>

<z303-birth-date  
/>

<z303-export-consent>Y</z303-export-consent>

<z303-proxy-id-type>00</z303-proxy-id-type>

<z303-send-all-letters>Y</z303-send-all-letters>

<z303-plif-modification  
/>

</z303>

<z304>

<z304-id>00000012</z304-id>

<z304-sequence>01</z304-sequence>

<z304-address-0>Robert  
Hatoum</z304-address-0>

<z304-address-1>Ukrainian  
Research  
Institute</z304-address-1>

<z304-address-2>1583  
Massachusetts  
Avenue</z304-address-2>

<z304-address-3>Oxford  
St Mail  
Area  
H0163</z304-address-3>

<z304-zip>H0163</z304-zip>

<z304-email-address>ilana.goldshmidt@exlibris.co.il</z304-email-address>

<z304-telephone  
/>

<z304-date-from>20020814</z304-date-from>

<z304-date-to>20060830</z304-date-to>



## Explanation of Borrower Authentication X-Service

```
<z304-address-type>02</z304-address-type>

<z304-telephone-2
/>

<z304-telephone-3
/>

<z304-telephone-4
/>

<z304-update-date>20040504</z304-update-date>

<z304-cat-name>MASTER</z304-cat-name>

</z304>
-
<z305>

<z305-id>00000012</z305-id>

<z305-sub-library>HIL</z305-sub-library>

<z305-open-date>May/04/2004</z305-open-date>

<z305-update-date>May/04/2004</z305-update-date>

<z305-bor-type
/>

<z305-bor-status>Staff</z305-bor-status>

<z305-expiry-date>January/01/2007</z305-expiry-date>

<z305-note
/>

<z305-loan-permission>Y</z305-loan-permission>

<z305-photo-permission>Y</z305-photo-permission>

<z305-over-permission>N</z305-over-permission>

<z305-multi-hold>Y</z305-multi-hold>

<z305-loan-check>N</z305-loan-check>

<z305-delivery-type
/>

<z305-hold-permission>Y</z305-hold-permission>

<z305-renew-permission>Y</z305-renew-permission>

<z305-rr-permission>N</z305-rr-permission>

<z305-ignore-late-return>N</z305-ignore-late-return>

<z305-last-activity-date
/>

<z305-photo-charge>C</z305-photo-charge>

<z305-no-loan>0000</z305-no-loan>
```

## Explanation of Borrower Authentication X-Service

```
<z305-no-hold>0000</z305-no-hold>

<z305-no-photo>0000</z305-no-photo>

<z305-no-cash>0000</z305-no-cash>

<z305-cash-limit>0.00</z305-cash-limit>

<z305-credit-debit
/>

<z305-sum>0.00</z305-sum>

<z305-delinq-1>00</z305-delinq-1>

<z305-delinq-n-1
/>

<z305-delinq-1-update-date>20040504</z305-delinq-1-update-date>

<z305-delinq-1-cat-name>MASTER</z305-delinq-1-cat-name>

<z305-delinq-2>00</z305-delinq-2>

<z305-delinq-n-2
/>

<z305-delinq-2-update-date>20040504</z305-delinq-2-update-date>

<z305-delinq-2-cat-name>MASTER</z305-delinq-2-cat-name>

<z305-delinq-3>00</z305-delinq-3>

<z305-delinq-n-3
/>

<z305-delinq-3-update-date>20040504</z305-delinq-3-update-date>

<z305-delinq-3-cat-name>MASTER</z305-delinq-3-cat-name>

<z305-field-1
/>

<z305-field-2
/>

<z305-field-3
/>

<z305-hold-on-shelf>N</z305-hold-on-shelf>

<z305-end-block-date
/>

<z305-booking-permission
/>

<z305-booking-ignore-hours
/>

</z305>

<session-id>B98R9EB8RH3IUSFDNEKNSQPRBJ51R3KC2FEJVGDC7SF5JL1XES</session-id>
```

</bor-auth>

## Possible Error Codes

1. When the Bor Auth X-Service is run without giving the Borrower ID and Verification as input, the following error message appears in the XML output:

```
<error>Both  
Bor_Id  
and  
Verification  
must be  
filled</error>
```

2. If, for some reason, an error occurs during the verification check:

```
<error>Error  
in  
Verification</error>
```

3. If a global record (Z303) is not found for a given patron:

```
<error>Error  
retrieving  
Global  
Patron  
Record</error>
```

4. If a local record (Z305) is not found for a given patron:

```
<error>Error  
retrieving  
Local  
Patron  
Record</error>
```

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# Borrower by Key X-Service

## General Purpose

This service retrieves an Internal ID (from Z308) for a given borrower\_id if the provided ID and verification code match. If not, an error message is returned.

## Input Parameters

1. LIBRARY - X (5)
2. BOR\_ID - X (20)
3. VERIFICATION - X (20)

### Note:

Since this X-Service calls check\_bor\_id with the GUI check type, the Verification field is not mandatory.

- **Library:** You do not have to fill in this field.
- **Bor\_Id / Identification/ ID:** Type the borrower ID (Patron) for which you want to generate an internal ID.
- **Verification:** Password of the borrower's ID (Verification in Z308). You do not have to fill in this field.

## Output XML Format

The output XML includes the internal ID for the borrower ID you enter.

## Example

To get data on borrower\_id 12, with verification 12, enter the following URL:

1. [http://ram19:8995/X?op=bor-by-key&bor\\_id=00000012&verification=00000012](http://ram19:8995/X?op=bor-by-key&bor_id=00000012&verification=00000012)
2. [http://ram19:8995/X?op=bor-by-key&bor\\_id=00000012](http://ram19:8995/X?op=bor-by-key&bor_id=00000012)

If all goes well, the two examples above will generate XML output containing the internal ID:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
```

```
-
<bor-by-key>
```

```
<internal-id>00000012</internal-id>
```

```
<session-id>MQCE3DG3SECET7SGSG1HYJJUFHL6M6H3MQJ1CUP2P75F6  
N6FQ1</session-id>
```

```
</bor-by-key>
```

## Possible Error Codes

1. If you activate this x-service without giving Borrower\_id as an input, the following error message appears in the XML output:

```
<error>Bor_Id  
must be  
filled</error>
```

2. If, for some reason, an error occurs when the system checks the verification:

```
<error>Error  
in  
Verification</error>
```

3. If a Global record (Z303) is not found for the given patron:

```
<error>Error  
retrieving  
Global  
Patron  
Record</error>
```

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# Borrower by Course X-Service

## General Purpose

This service retrieves all Course records (Z107) belonging to a given Borrower ID if the ID and verification code provided match. If not, an error message is returned.

## Input Parameters

1. LIBRARY - X (5)
2. BOR\_ID - X (20)
3. VERIFICATION - X (20)

### Note:

Since this X-Service calls check\_bor\_id with the GUI check type, the Verification field is not mandatory.

- **Library:** Enter the code of the library in which the Course record exists.
- **Bor\_Id / Identification/ ID:** Type the borrower ID (Patron) for which you want to receive course data.
- **Verification:** Password of the borrower's ID (Verification in Z308).

## Output XML Format

The output XML includes all course records (Z107) for the borrower ID you enter.

### Example

To retrieve all the course numbers for patron *00000012*, enter the following URL:

`http://ram19:8995/X?op=bor-course&bor_id=00000012&verification=00000012&library=usr00`

If everything goes well, the example above will generate XML output contain all relevant Z107 (Course) records:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<bor-course>
- <z107>
  <z107-id>00000012</z107-id>
  <z107-course-number>100-10</z107-course-number>
</z107>
<session-id>M7I2KYTIGXIL4NCE9C4Y7T78P2BQ7BU7XBIR663265KHAE3EV4</session-id>
</bor-course>
```

# Possible Error Codes

1. If you activate this x-service entering a Borrower ID, the following error message appears in the XML output:

```
<error>Bor_Id  
must be  
supplied</error>
```

2. If, for some reason, an error occurs when the system checks the verification:

```
<error>Error  
in  
Verification</error>
```

3. If a Global record (Z303) is not found for the given patron:

```
<error>Error  
retrieving  
Course  
Records</error>
```

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# Borrower Information X-Service

## General Purpose

This service retrieves all information related to a given Patron: Global and Local records, Loan records, Loaned items records, Short doc record, Cash record, and so on, if the ID and verification code provided match. If not, an error message is returned.

## Input Parameters

1. LIBRARY - X (5)
2. BOR\_ID - X (20)
3. VERIFICATION - X (20)

### Note:

Since this X-Service calls check\_bor\_id with the GUI check type, the Verification field is not mandatory.

- **Library:** Enter the code of the library where the full information on the patron resides.
- **Bor\_Id / Identification/ ID:** Type the borrower ID (Patron) for which you want to receive full information.
- **Verification:** Password of the borrower's ID (Verification in Z308).

## Output XML Format

The output XML includes the following information for the borrower ID (patron) you enter:

- Global Record of Patron (Z303).
- Local Record of Patron (Z305).
- Addresses and phones . personal record (Z304).
- All Loans records of the Patron (Z36).
- All Item records which are loaned (Z30).
- All Short-Doc records for loaned books (Z13).
- All Cash records of the atron (Z31)
- All Item records related to Cash record (Z30).
- All Short-Doc related to Cash record (Z13).
- All Hold Requests records of the Patron (Z37).
- All Item records related to Hold Requests (Z30).
- All Short-Doc related to Hold requests (Z13).

## Example

To retrieve all information for patron *00238154*, enter the following URL:

[http://ram19:8995/X?op=bor-info&bor\\_id=00238154&verification=00238154&library=usm50](http://ram19:8995/X?op=bor-info&bor_id=00238154&verification=00238154&library=usm50)



If all goes well, the example above will generate XML output containing all relevant information:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<bor-info>
- <z303>
  <z303-id>00238154</z303-id>
  <z303-proxy-for-id
/>
  <z303-primary-id
/>
  <z303-name-key>fraenkel
ernest
samuel
00238154</z303-name-key>
  <z303-user-library
/>
  <z303-open-date>June/19/1998</z303-open-date>
  <z303-update-date>July/31/2002</z303-update-date>
  <z303-con-lng>ENG</z303-con-lng>
  <z303-alpha>L</z303-alpha>
  <z303-name>Fraenkel,
Ernest
Samuel</z303-name>
  <z303-title
/>
  <z303-delinq-1>00</z303-delinq-1>
  <z303-delinq-n-1
/>

<z303-delinq-1-update-date>00000000</z303-delinq-1-update-date>

<z303-delinq-1-cat-name>CONVERSION</z303-delinq-1-cat-name>

  <z303-delinq-2>00</z303-delinq-2>
  <z303-delinq-n-2
/>

<z303-delinq-2-update-date>00000000</z303-delinq-2-update-date>

<z303-delinq-2-cat-name>CONVERSION</z303-delinq-2-cat-name>

  <z303-delinq-3>00</z303-delinq-3>
  <z303-delinq-n-3
/>

<z303-delinq-3-update-date>00000000</z303-delinq-3-update-date>
```

<z303-delinq-3-cat-name>CONVERSION</z303-delinq-3-cat-name>

<z303-budget  
/>  
<z303-profile-id  
/>  
<z303-ill-library  
/>  
<z303-home-library  
/>  
<z303-field-1  
/>  
<z303-field-2  
/>  
<z303-field-3  
/>  
<z303-ill-total-limit>0000</z303-ill-total-limit>  
<z303-ill-active-limit>0000</z303-ill-active-limit>  
<z303-dispatch-library  
/>  
<z303-birth-date  
/>  
<z303-export-consent>Y</z303-export-consent>  
<z303-proxy-id-type>00</z303-proxy-id-type>  
<z303-send-all-letters>Y</z303-send-all-letters>  
<z303-plif-modification  
/>  
</z303>  
- <z304>  
<z304-id>00238154</z304-id>  
<z304-sequence>01</z304-sequence>

<z304-address-0>Ernest  
Samuel  
Pugh</z304-address-0>  
<z304-address-1>Whitehead  
Institute</z304-address-1>  
  
<z304-address-2>Nine  
Cambridge  
Center</z304-address-2>  
<z304-address-3>Cambridge  
MA  
02142</z304-address-3>  
<z304-address-4>UNIVERSITY  
MAIL  
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Explanation of Borrower Information X-Service

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ha-dorot
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: Sifre
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Yits.a.

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21 cm..
[000000019</z13-user-defined-1>

<z13-user-defined-2-code
/>
<z13-user-defined-2
/>
<z13-user-defined-3-code
/>
<z13-user-defined-3
/>
<z13-user-defined-4-code
/>
<z13-user-defined-4
/>
<z13-user-defined-5-code
/>
<z13-user-defined-5
/>
</z13>
</fine>
- <fine>
- <z31>
<z31-id>00238154</z31-id>
<z31-date>May/18/2004</z31-date>
<z31-status>Not
paid
by/credited
to
patron</z31-status>
<z31-sub-library>Law
Library</z31-sub-library>
<z31-type>4</z31-type>
<z31-credit-debit>D</z31-credit-debit>
<z31-sum>(2.00)</z31-sum>
<z31-vat-sum>0.00</z31-vat-sum>
<z31-net-sum>2.00</z31-net-sum>
<z31-payment-date
/>
<z31-payment-hour
/>
<z31-payment-cataloger
/>

```

```

    <z31-payment-target>Law
Library</z31-payment-target>

    <z31-payment-ip
/>
    <z31-payment-receipt-number
/>
    <z31-payment-mode
/>
    <z31-payment-identifier
/>
    <z31-description>Loan</z31-description>
    <z31-transfer-department
/>
    <z31-transfer-date>00000000</z31-transfer-date>
    <z31-transfer-number
/>
    <z31-recall-transfer-status
/>

<z31-recall-transfer-date>00000000</z31-recall-transfer-date>

    <z31-recall-transfer-number
/>
</z31>
- <z30>
    <z30-doc-number>12224</z30-doc-number>
    <z30-item-sequence>20</z30-item-sequence>
    <z30-barcode>293</z30-barcode>
    <z30-sub-library>Law
Library</z30-sub-library>
    <z30-material>Book</z30-material>
    <z30-item-status>Regular
loan</z30-item-status>
    <z30-open-date>July/05/2002</z30-open-date>
    <z30-update-date>July/05/2002</z30-update-date>
    <z30-cataloger>EXLIBRIS</z30-cataloger>
    <z30-date-last-return
/>
    <z30-hour-last-return
/>
    <z30-ip-last-return
/>
    <z30-no-loans>001</z30-no-loans>
    <z30-alpha>L</z30-alpha>
    <z30-collection>General</z30-collection>
    <z30-call-no-type
/>
    <z30-call-no>PQ234&nbsp; .H29</z30-call-no>
    <z30-call-no-key>selected
    <z30-call-no-2-type
/>
<xxx-tag

```

```
</>
  <z30-call-no-2-key
/>
  <z30-description
/>
  <z30-note-opac
/>
  <z30-note-circulation
/>
  <z30-note-internal
/>
  <z30-order-number
/>
  <z30-inventory-number
/>
  <z30-inventory-number-date
/>

<z30-last-shelf-report-date>00000000</z30-last-shelf-report-date>

  <z30-price
/>
  <z30-doc-number-2>000012224</z30-doc-number-2>

<z30-schedule-sequence-2>00000</z30-schedule-sequence-2>
  <z30-copy-sequence-2>00000</z30-copy-sequence-2>
  <z30-vendor-code
/>
  <z30-invoice-number
/>
  <z30-line-number>00000</z30-line-number>
  <z30-pages
/>
  <z30-issue-date
/>
  <z30-expected-arrival-date
/>
  <z30-arrival-date
/>
  <z30-item-statistic
/>
  <z30-item-process-status
/>
  <z30-copy-id
/>
  <z30-hol-doc-number>000000000</z30-hol-doc-number>
  <z30-temp-location>No</z30-temp-location>
  <z30-enumeration-a
/>
  <z30-enumeration-b
/>
  <z30-enumeration-c
/>
  <z30-enumeration-d
```

```

/>
  <z30-enumeration-e
/>
  <z30-enumeration-f
/>
  <z30-enumeration-g
/>
  <z30-enumeration-h
/>
  <z30-chronological-i
/>
  <z30-chronological-j
/>
  <z30-chronological-k
/>
  <z30-chronological-l
/>
  <z30-chronological-m
/>
  <z30-suppl-index-o
/>
  <z30-85x-type
/>
  <z30-depository-id
/>
  <z30-linking-number>000000000</z30-linking-number>
  <z30-gap-indicator
/>
</z30>
- <z13>
  <z13-doc-number>12224</z13-doc-number>
  <z13-year>1988</z13-year>
  <z13-open-date>March/07/2004</z13-open-date>
  <z13-update-date>March/07/2004</z13-update-date>
  <z13-call-no-key
/>
  <z13-call-no-code
/>
  <z13-call-no
/>
  <z13-author-code>1001</z13-author-code>
  <z13-author>Zanini,
Marco.</z13-author>
  <z13-title-code>24510</z13-title-code>
  <z13-title>Disegni
di
architettura
=</z13-title>
  <z13-imprint-code>2600</z13-imprint-code>
  <z13-imprint>Milano
:
Galleria
Antonia
Jannone,

```

```
[1988].</z13-imprint>
  <z13-isbn-issn-code
/>
  <z13-isbn-issn
/>
  <z13-user-defined-1-code
/>
  <z13-user-defined-1>PQ234
Zanini,
Marco. :
Disegni
di
architettura
=49
drawings
and some
short
stories
/Marco
Zanini..
Milano
:
Galleria
Antonia
Jannone,
[1988]..
32 p. :
col.
ill. ;
30 cm..
[000012224</z13-user-defined-1>
  <z13-user-defined-2-code
/>
  <z13-user-defined-2
/>
  <z13-user-defined-3-code
/>
  <z13-user-defined-3
/>
  <z13-user-defined-4-code
/>
  <z13-user-defined-4
/>
  <z13-user-defined-5-code
/>
  <z13-user-defined-5
/>
</z13>
</fine>
```

<session-id>UYQXXC57K2JLKECDEAP2XD2QRF1G6E2B9P16IP5ICIGKTKPY7X</session-id>

</bor-info>

# Possible Error Codes

1. If this x-service is activated without a Borrower ID having been entered, the following error message appears in the XML output:

```
<error>Bor_Id  
must be  
supplied</error>
```

2. If, for some reason, an error occurs when the system checks the verification:

```
<error>Error  
retrieving  
Patron  
System  
Key</error>
```

3. If a Global record (Z303) is not found for the given patron:

```
<error>Error  
retrieving  
Patron  
Record</error>
```

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# Circulation Status X-Service

## General Purpose

The service takes a document number from the user, and for each of the document's items retrieves the following:

- Item information (from Z30).
- Loan information (from Z36).
- Indication of whether or not the request is on-hold and so on.

## Input Parameters

1. LIBRARY - X (5).
2. SYS\_NUMBER - 9 (9).

### Note:

Library is mandatory.

- **Library** : The library of the loaned Item.
- **Doc\_Number / Doc\_Num / Sys\_Number** : Document for which item information is to be retrieved.

## Output XML Format

The XML output includes part of the fields of Z30 and Z36, as well as a indication (Y / N) if an item is on hold and so on.

## Example

To get item data on all items of document number *10* under base *LAM* (there are three items for this document), enter the following URL:

`http://ram19:8995/X?op=itemdata&doc_number=000000010&base=LAM`

If all goes well, the XML output will be:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<item-data>
  <rec-key>000000010000010</rec-key>
```



```
<barcode>32044014006092</barcode>
<sublibrary>Main
Library</sublibrary>
<collection>WIDHE</collection>
<item-status>01</item-status>
<note
/>
<call-no-1>selected
<call-no-2
/>
<library>USM50</library>
<on-hold>N</on-hold>
<requested>N</requested>
<expected>N</expected>
<rec-key>000000010000020</rec-key>
<barcode>32044060563244</barcode>
<sublibrary>Law
Library</sublibrary>
<collection>ILS</collection>
<item-status>01</item-status>
<note
/>
<call-no-1>selected
<call-no-2
/>
<library>USM50</library>
<on-hold>N</on-hold>
<requested>N</requested>
<expected>N</expected>
<rec-key>000000010000030</rec-key>
<barcode>32044060563384</barcode>
<sublibrary>Law
Library</sublibrary>
<collection>ILS</collection>
<item-status>01</item-status>
<note
/>
<call-no-1>selected
<call-no-2
/>
<library>USM50</library>
<on-hold>N</on-hold>
<requested>N</requested>
<expected>N</expected>
<session-id>SDLFMXH4PRSDT88ALHPUH73GBF694UK91G8U4Q7FVAKIGCHP7G</session-id>
</item-data>
```

# Possible Error Codes

1. If the X-Service is activated without a document number having been given, the following error message appears in the XML output:

```
<error>Doc_Number  
must be  
supplied</error>
```

2. If the X-Service is activated without a base having been given:

```
<error>Base  
must be  
included  
in  
service  
params.</error>
```

3. If, for some reason, an error occurs during the retrieval of the Z30 items of the document:

```
<error>Error  
reading  
document</error>
```

4. If no items are associated with the given document:

```
<error>No  
associated  
items</error>
```

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# Find X-Service

## General Purpose

This service retrieves a set number and the number of records answering a search request inserted by the user.

## Input Parameters

1. BASE - X (20).
2. ADJACENT - X (1).
3. CODE - X (5).
4. REQUEST - X (500).

### Note:

This service supports searching by Common Command Language (CCL).

1. The Adjacent field is not mandatory. The default, if not supplied, is *N*.
2. The Code field is not mandatory, but if not supplied, then Request should be filled with the full search string (the code must be based on tab00).

If the Code field has not been filled, and the Request field does not include the code, then the default is search by WRD.

- **Base:** The base where you want to search for documents.
- **Adjacent:** If, for example, the search string combines more than one word, then if Adjacent=*Y*, the search looks for documents with this search string exactly. If Adjacent is set to *N*, then the search looks for each of the words in the string separately.
- **Code:** The code of the given search string inserted by user. If the search string is, for example, WRD = (art), then Code is : WRD. The code is based on tab00.
- **Request:** This is the requested search string. If, for example, the string is: WRD = (art), and Code has been provided, then Request will be: art. If Code has not been provided, then the request must be: wrd = (art). If Code is not provided and Request does not include code, then the default search will be based on WRD.

## Output XML Format

The XML output includes the set number created for the given search criteria, the number of hits and the number of documents.

## Example

1. If you want to search for all documents containing the word *art*, enter the following URL:  
<http://ram19:8995/X?op=find&code=wr&request=art&base=usm01>

or

<http://ram19:8995/X?op=find&request=wrд=art&base=usm01>

If all goes well, the above example will generate XML output containing relevant find query information:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
- <find>
<set_number>000937</set_number>
<no_records>000000683</no_records>
<no_entries>000000683</no_entries>

<session-id>2SCMP5YJTGXVLHGXLYSQXM1GI4ME7P3KTALVPGY7RXMI8PEKE</session-id>

</find>
```

2. If you want to search for all documents which containing the phrase *modern art* in their title:

<http://ram19:8995/X?op=find&code=wti&request=modern art&base=usm01&adjacent=Y>

If all goes well, the above example will generate XML output containing relevant find query information:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
- <find>
<set_number>000943</set_number>
<no_records>000000003</no_records>
<no_entries>000000003</no_entries>

<session-id>9BDFRL7C9IJB4Y2D6HPH4JT1QEF866ELVSRG8P9IHYCHYPJVMJ</session-id>

</find>
```

If no Code is provided and the Request includes the Code, the result will be different since the default for searching is WRD:

<http://ram19:8995/X?op=find&request=modern art&base=usm01&adjacent=Y>

If all goes well, the above example will generate XML output containing relevant find query information:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
- <find>
<set_number>000944</set_number>
<no_records>000000006</no_records>
<no_entries>000000006</no_entries>

<session-id>GCKCCLLT2J9QI7G4X8ID79BKINF7A5DKTQ1JYH MVU3KH3KNE3D</session-id>
```

&lt;/find&gt;

## Possible Error Codes

1. If you tried to activate the X-Service without giving Request as an input, the following error message appears in the XML output:

```
<error>Request
must be
filled</error>
```

2. If you provided the code .SYS. for search, and the Request is not for a numeric value, the following error message appears in the XML output:

```
<error>SYS
must
have a
numeric
value.</error>
```

3. If there is a problem in the search URL , the following error message appears in the XML output:

```
<error>expression
normalization
error</error>
```

4. If the number of documents in the set created based on the search criteria is 0, the following error message appears in the XML output:

```
<error>empty
set</error>
```

5. If the search criteria retrieved too many documents, the following error message appears in the XML output:

```
<error>Too
many
hits.
Refine
your
request
[internal
error
code
26]</error>
```

6. If the set created based on the criteria, is too long for a search with adjacency, the following error message appears in the XML output:

```
<error>Set
is too
large
for
adjacency
check.
Refine
your
request
or skip
adjacency
```

```
check
[internal
error
code
47]</error>
```

7. If, for some reason, there was an error parsing the find request, the following error message appears in the XML output:

```
<error>Error
parsing
find
request
[internal
error
code
31]</error>
```

8. If, for some reason, the search failed, the following error message appears in the XML output:

```
<error>search
failed
[internal
error
code
33]</error>
```

9. If the set number retrieved after the search is zero, the following error message appears in the XML output:

```
<error>error
generating
set</error>
```

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# Find Document X-Service

## General Purpose

This service retrieves the OAI XML format of an expanded document, as given by the user.

## Input Parameters

1. BASE - X (20).
2. FORMAT - X (5).
3. DOC\_NUMBER - X (9).
  - **Base:** Enter the base in which the give document resides.
  - **Format / Record\_Format:** *marc* or *marc\_latin*. Format is not mandatory and the default is *marc*.
  - **Doc\_Number / Doc\_Num:** The document for which you want to get OAI XML format.

## Output XML Format

The XML output includes the OAI format of the given document. The fields included in the XML are based on the expand procedures defined in tab\_expand of the given base for WWW-X.

## Example

If you want to get OAI XML for document: 444 in USM90, enter the following URL:

`http://ram19:4178/X?op=find-doc&doc_num=000000444&base=usm90`

If everything goes well, the example above will generate XML output similar to the following:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<find-doc>
-
<record>
-
<metadata>
-
<oai_marc>
```

```

<fixfield
id="FMT">BK</fixfield>
<fixfield
id="LDR">00647nam^^2200181K^^45^^</fixfield>
-
<varfield
id="SID"
i1=" "
i2=" ">
<subfield
label="b">LAD</subfield>
<subfield
label="c">ACJ71282</subfield>
</varfield>
<fixfield
id="005">200012230000000.0</fixfield>
<fixfield
id="008">861205s1811^^^^gw^^^^^^^^^^^^^^00^0^lat^d</fixfield>
-
<varfield
id="035"
i1="9"
i2=" ">
<subfield
label="a">3236741</subfield>
</varfield>
-
<varfield
id="035"
i1=" "
i2=" ">
<subfield
label="a">(OCoLC)14926036</subfield>
</varfield>
-
<varfield
id="040"
i1=" "
i2=" ">
<subfield
label="a">CLU</subfield>
<subfield
label="c">CLU</subfield>
</varfield>
-
<varfield
id="100"
i1="1"

```



```
i2=" ">
<subfield
label="a">Cicero,
Marcus
Tullius.</subfield>
</varfield>
-
<varfield
id="245"
i1="0"
i2="0">
<subfield
label="a">De
officiis
libri
tres.</subfield>
<subfield
label="c">Recensuit
et
scholiis
Jacobi
Facciolati
suisque
animadversionibus
instruxit
Aug.
Gotth.
Gernhard.</subfield>
</varfield>
-
<varfield
id="260"
i1=" "
i2=" ">
<subfield
label="a">Lipsiae,</subfield>
<subfield
label="b">Apud
Gerhardum
Fleischerum,</subfield>
<subfield
label="c">1811.</subfield>
</varfield>
-
<varfield
id="300"
i1=" "
i2=" ">
```

```

<subfield
label="a">xxxii,
464
p.</subfield>
</varfield>
-
<varfield
id="700"
i1="1"
i2="">
<subfield
label="a">Facciolati,
Jacobo,</subfield>
<subfield
label="d">1682-1769.</subfield>
</varfield>
-
<varfield
id="700"
i1="1"
i2="">
<subfield
label="a">Gernhard,
August
Gotthilf,</subfield>
<subfield
label="d">1777-1845.</subfield>
</varfield>
-
<varfield
id="852"
i1=""
i2="">
<subfield
label="a">LAD</subfield>
<subfield
label="b">SRLF</subfield>
<subfield
label="j">AA0004401121</subfield>
<subfield
label="p">AA0004401121</subfield>
</varfield>
-
<varfield
id="901"
i1=""
i2="">
<subfield

```

```
label="a">LAD</subfield>
<subfield
label="b">ACJ71282</subfield>
</varfield>
-
<varfield
id="CAT"
i1=" "
i2=" ">
<subfield
label="c">20020505</subfield>
<subfield
label="l">USM90</subfield>
<subfield
label="h">1001</subfield>
</varfield>
</oai_marc>
</metadata>
</record>

<session-id>13NSIJMXFTPE3Q9LIUFMGXK6MPCA43B1J4K9NICHE93717SLCM</session-id>

</find-doc>
```

## Possible Error Codes

1. If you provided a format different to marc or marc\_latin, the following error message appears in the XML output:  

```
<error>Format
must be
marc or
marc_latin</error>
```
2. If the document given can not be found under the base you have given, the following message appears in the XML output:  

```
<error>Error
reading
Document</error>
```

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# Get Holdings X-Service

## General Purpose

This service retrieves holdings (HOL) information for the Union Catalog document number given by the user.

## Input Parameters

1. BASE - X (20))
2. DOC\_NUM - 9 (9)

### Note:

Both parameters are mandatory.

- **Base:** The base of the document entered by the user.
- **Doc\_Num:** Number of the document for which HOL information is required.

## Output XML Format

The XML output includes information regarding HOL in a union catalog expand document.

## Example

To get HOL information for Document Number 000000028 located in the USM90 base, enter the following URL:

`http://ram19:8995/X?op=get_holding=usm90&doc-number=000000028`

If all goes well, for each HOL record in the expand document, the XML will look like the following:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<get-holding>
-
<cdl-holdings>
  <code>UCB</code>
  <campus>UC
Berkeley</campus>
  <library>Bancroft</library>
  <call_number>PA6308.E6
G8
```

```
1752</call_number>
  <availability
/>
  <note>AT
NRLF:
v.1-2 v.
1-2
(1752)</note>
  </cdl-holdings>

<session-id>RTCQ7P3M972TQT5K6TFB9JPQ5Y1488IANC2C24CG2PE7CR4DKN</session-id>

</get-holding>
```

## Possible Error Codes

1. If the X-Service is activated without a base having been entered, the following error message appears in the XML output:  

```
<error>Base
must be
included
in
service
params.</error>
```
2. If the borrower entered cannot be found in Z303, the following error message appears in the XML output:  

```
<error>Error
reading
document</error>
```
3. If a document number has not been given, the following error message appears in the XML output:  

```
<error>Doc
Number
must be
provided</error>
```

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# Get Sort Codes X-Service

## General Purpose

This service formats the tab\_sort table residing under a given library into an XML output reply.

## Input Parameters

### 1. LIBRARY - X (5)

- **Library:** Insert the library for which you want to have an XML format tab\_sort table.

## Output XML Format

Each line in tab\_sort will have an XML tag with its record number in the table (for example, <sort-01> for the first record in the table). For each record, all field codes and their subfields will also be included in the XML.

```
<get-sort-codes>
-
<sort-01>
<field-code-1>008</field-code-1>
<field-code-2>260
</field-code-2>
<sub-field-2>c</sub-field-2>
</sort-01>
-
<sort-02>
<field-code-1>1
</field-code-1>
<sub-field-1>a</sub-field-1>
<field-code-2>700
</field-code-2>
<sub-field-2>a</sub-field-2>
</sort-02>
<session-id>MJ6DAKYQANKTLPV82ESV6MN7FRDKXIKBGBRIH9QIQ1H46QEHK5</session-id>
```

## Example

If you want to get formatted XML for the tab\_sort table residing under the USM01 library, enter the following URL:

<http://ram19:8991/X?op=get-sort-codes&library=usm01>

In USM01, the tab\_sort table looks like this:

```
1  2
3    4
5  6
7  8
```

```
<get-sort-codes>
-
<sort-01>
<field-code-1>008</field-code-1>
<field-code-2>260##</field-code-2>
<sub-field-2>c</sub-field-2>
</sort-01>
-
<sort-02>
<field-code-1>1####</field-code-1>
<sub-field-1>a</sub-field-1>
<field-code-2>700##</field-code-2>
<sub-field-2>a</sub-field-2>
</sort-02>
-
<sort-03>
<field-code-1>245##</field-code-1>
<sub-field-1>a</sub-field-1>
```

```
<field-code-2>240##</field-code-2>
</sort-03>
-
<sort-04>
<field-code-1>050##</field-code-1>
<field-code-2>LOC##</field-code-2>
<sub-field-2>hjl</sub-field-2>
</sort-04>
-
<sort-05>
<field-code-1>440##</field-code-1>
<sub-field-1>av</sub-field-1>
</sort-05>
<session-id>MJ6DAKYQANKTLPV82ESV6MN7FRDKXIKBGBRIH9QIQ1H4
6QEHK5</session-id>
</get-sort-codes>
```

## Possible Error Codes

1. If the Get Sort Codes X-Service is activated without a library code having been entered, the following error message appears in the XML output:

```
<error>Library
must be
included
in
service
params.</error>
```

2. If, for the given library, the tab\_sort table is empty, the following error message appears in the XML output:

```
<error>Tab_Sort
table is
empty
for
given
Library.</error>
```



# Hold Request X-Service

## General Purpose

This service creates a hold request record (Z37) for a given item after performing initial checks.

## Input Parameters

1. LIBRARY - X (5)
2. REC\_KEY
  - DOC\_NUMBER - 9 (9)
  - ITEM\_SEQUENCE . 9 (6)
3. ITEM\_BARCODE . X (20)
4. BOR\_ID . X (12)

### Note:

Only one of the rec\_key and item\_barcode parameters must be entered

- **Library:** The library of the item for which you want to create a hold request.
- **Rec\_Key:** Document number + item sequence (key of Z30).
- **Item\_Barcode:** Item ID (Z30).
- **Bor\_Id / Identification/ ID:** Borrower ID (Patron) for the hold request.

## Output XML Format

The XML output includes an OK reply if a hold request record has been created.

### Example

To create a hold request record for patron *00000077*, document number *444*, item sequence *10*, and item barcode *32044024520025*, enter the following URL:

`http://ram19:8995/X?op=hold-req&doc_number=000000444&item_sequence=000010&bor_id=00000077&library=usm50`

You could also enter the following URL as the barcode is a unique identifier like the combination of document number and item sequence:

`http://ram19:8995/X?op=hold-req&item_barcode=32044024520025&bor_id=00000077&library=usm50`

If all goes well, the XML output is as follows:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<hold-req>
  <reply>ok</reply>
  <session-
id>SKCBYYRJASEB36E7B5YBXD2MQVDUPIPC1TT5JN7MBY43XIVBVC</session-id>

</hold-req>
```

## Possible Error Codes

1. If the X-Service is activated without a document number and item sequence or item barcode having been entered, the following error message appears in the XML output:
 

```
<error>Both
Doc
number
```

## Explanation of Hold Request X-Service

```
and item  
sequence  
should  
be  
filled  
OR item  
barcode  
only.</error>
```

2. If the borrower entered is not found in Z303, the following error message appears in the XML output:

```
<error>Error  
retrieving  
patron  
record</error>
```

3. If the item entered is not found , the following error message appears in the XML output:

```
<error>Error  
retrieving  
item  
record</error>
```

4. If the local information record (Z305) of the patron is not found, the following error message appears in the XML output:

```
<error>Error  
retrieving  
local  
patron  
record</error>
```

<a href="#">General Purpose</a>	<a href="#">Input Parameters</a>	<a href="#">Output XML Format</a>	<a href="#">Possible Error Codes</a>
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# Cancel Hold Request X-Service

## General Purpose

This service deletes a hold request record (Z37) for a given hold request key (document number + item sequence + cancel sequence).

## Input Parameters

1. LIBRARY - X (5).
2. CANCEL\_REC\_KEY.
  - CANCEL\_DOC\_NUM - 9 (9).
  - CANCEL\_ITEM\_SEQ . 9 (6).
  - REQ\_CANCEL\_SEQ . 9 (4).

### Note:

You can either enter the hold request key (rec\_key) only, making sure that it contains all three components or you can enter all three components by themselves, making sure that none of them are empty.

- **Library:** The library of the item for which you want to cancel the hold request.
- **Rec\_Key / Item\_id:** Document number + item sequence + cancel sequence (Z37 key).
- **Doc\_Num / Doc\_Number:** The number of the document containing the item for which you want to cancel the hold request.
- **Item\_Seq / Item\_Sequence:** The unique identifier of the item for which you want to cancel the hold request.
- **Seq / Sequence:** The cancellation sequence as it appears in Z37.

## Output XML Format

If all goes well and the hold request record is deleted, an OK reply appears in the XML output.

### Example

To cancel the hold request for patron 00000077 for document number 444 , item sequence 10, and sequence 1, enter the following URL:

[http://ram19:8995/X?op=hold-req-cancel&doc\\_number=000000444&item\\_sequence=000010&sequence=00001USR00=usm50](http://ram19:8995/X?op=hold-req-cancel&doc_number=000000444&item_sequence=000010&sequence=00001USR00=usm50)

To cancel the hold request for patron 00000077 using the hold request key only, enter the following URL:

[http://ram19:8995/X?op=hold-req-cancel&rec\\_key=0000004440000100001USR00=usm50](http://ram19:8995/X?op=hold-req-cancel&rec_key=0000004440000100001USR00=usm50)

The XML output looks like this:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<hold-req-cancel>
<reply>ok</reply>
```

```
<session-id>9GFAHNE72RA8Q3TGRHXELJ9YYV5LFRA9YXICB3ISSI9A524HR</session-id>
```

## Possible Error Codes

1. If the X-Service is activated when an empty hold request key has been entered, the following error message appears in the XML output:

```
<error>Doc
number
and Item
sequence
and
Cancel
sequence
```

## Explanation of Cancel Hold Request X-Service

```
must be  
provided</error>
```

2. If the X-Service is activated when the three component of the hold request have been entered separately, and one of those components is empty or contains zeroes, the following error message appears in the XML output:

```
<error>Doc  
number  
and Item  
sequence  
and  
Cancel  
sequence  
must be  
provided</error>
```

3. If the hold request record (Z37) could not be found based on the input parameters, the following error message appears in the XML output:

```
<error>Error  
retrieving  
hold  
request  
record</error>
```

4. If, for some reason, the hold request record could not be deleted, the following error message appears in the XML output:

```
<error>Error  
deleting  
hold  
request  
record</error>
```

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# ILL Copy Arrival X-Service

## General Purpose

This service generates an error message if, according to checks it performs, there is a problem in supplying the copy to the Patron.

## Input Parameters

1. LIBRARY - X (5)
2. BOR\_ID . X (12)
  - **Library:** Library in which the local record of the patron is stored.
  - **Bor\_Id:** Borrower ID (Patron) for whom the user wants to perform checks regarding supplying a copy of a document.

## Output XML Format

The XML output only includes session-id (standard output) in the event that all checks have been passed and it is possible to supply the copy to the given Patron. If there is a problem, the XML output includes the error message.

## Example

To get data on borrower ID 12, enter the following URL:

`http://ram19:8995/X?op=ill-arrive-copy&bor_id=00000012`

If all goes well the XML output will contain session-id only:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<ill-arrive-copy>

<session-id>BEGLU4P1446XQLAVRTDLSJ5MB7YMC5QQLBK1YMM9PHR9YBJIL7</session-id>

</ill-arrive-copy>
```

# Possible Error Codes

1. If the X-Service is activated without a Borrower ID having been entered, the following error message appears in the XML output:  

```
<error>bor_id  
must be  
supplied</error>
```
2. If a Global record (Z303) could not be found for the given patron, the following error message appears in the XML output:  

```
<error>Patron  
does not  
exist.</error>
```
3. If the Global record (Z303) of the given Patron does not have an ILL library defined:  

```
<error>Patron's  
ILL  
library  
is  
missing.</error>
```
4. If the local record of the Patron (Z305) could not be found based on the home library of the Patron as it appears in Z303, the following error message appears in the XML output:  

```
<error>Could  
not  
found  
Local  
record  
of  
Patron</error>
```
5. If the expiry date of the local record of the Patron is earlier than the current date, the following error message appears in the XML output:  

```
<error>Patron's  
expiry  
date has  
passed</error>
```

<a href="#">General Purpose</a>	<a href="#">Input Parameters</a>	<a href="#">Output XML Format</a>	<a href="#">Possible Error Codes</a>
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# ILL Loan Arrival X-Service

## General Purpose

This service creates BIB and ADM documents for a loaned item which has just arrived and is about to be loaned to the Patron. This X-Service also builds an Item record (Z30), and in some cases, a Loan record (Z36) immediately (depending on tab27 values). The XML output includes the following:

- The Item record which has been created.
- The Loan record (in the event that it has been created).
- The BIB library where the document has been created.
- The document number which has been created.

## Input Parameters

1. LIBRARY . X (5).
2. BOR\_ID . X (12).
3. PICKUP\_LOCATION . X (5).
4. ITEM\_BARCODE . X (30).
5. ITEM\_STATUS . X (2).
6. LOAN\_STAFF\_ID . X (10).
7. REQ\_NUM . 9 (9).
8. CIRC\_NOTE . X (150).
9. RETURN\_DATE . 9 (8).
10. ILL\_UNIT . X (20).

- **Library:** Library in which the Global and local record of the patron is located.
- **Bor\_Id:** Borrower\_Id (Patron) for which the ILL request was made.
- **Pickup\_loc / Pickup\_location:** The sublibrary in which the item received via ILL request is located.
- **Barcode / Item\_barcode:** The barcode of the item in the newly created item record.
- **Item\_status:** Item status of the item in the newly created item record.
- **Staff\_id:** Cataloger of the item in the newly created item record.
- **Req\_num / Request\_num:** Call number of the item in the newly created item record.
- **Circ\_note:** Circulation note of the item in the newly created item record.
- **Exp\_ret\_date / Ret\_date:** Due date in the new loan record (in the event that it has been created).
- **Ill\_unit:** Internal note of the item in the newly created item record.

## Output XML Format

The XML output includes the following:

- The newly created Item record.
- The Loan record (in the event that it has been created).
- The BIB library where the new document has been created.
- The document number which has been created.

## Example

To perform actions when a loan item has arrived after an ILL request was issued, where the Loan record has not been created immediately, enter the following URL:

[http://ram19:4178/X?op=ill-arrive-loan&:library=usm50&&:staff\\_id=U60AR&&:bor\\_id=00000012&&:req\\_num=1111&&:ret\\_date=20040612](http://ram19:4178/X?op=ill-arrive-loan&:library=usm50&&:staff_id=U60AR&&:bor_id=00000012&&:req_num=1111&&:ret_date=20040612)

If all goes well, the output XML contains the session-id only:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<ill-arrive-loan>
- <z30>
  <z30-doc-number>50091</z30-doc-number>
  <z30-item-sequence>10</z30-item-sequence>
  <z30-barcode>50091-10</z30-barcode>
```

## Explanation of ILL Loan Arrival X-Service

```
<z30-sub-library>Humanities
Library</z30-sub-library>
<z30-material>Book</z30-material>
<z30-item-status>14</z30-item-status>
<z30-open-date>31/05/2004</z30-open-date>
<z30-update-date
/>
<z30-cataloger>U60AR</z30-cataloger>
<z30-date-last-return
/>
<z30-hour-last-return
/>
<z30-ip-last-return
/>
<z30-no-loans>000</z30-no-loans>
<z30-alpha>L</z30-alpha>
<z30-collection>ILL</z30-collection>
<z30-call-no-type>7</z30-call-no-type>
<z30-call-no>1111</z30-call-no>
<z30-call-no-key>7
1111</z30-call-no-key>
<z30-call-no-2-type
/>
<z30-call-no-2
/>
<z30-call-no-2-key
/>
<z30-description
/>
<z30-note-opac
/>
<z30-note-circulation
/>
<z30-note-internal
/>
<z30-order-number
/>
<z30-inventory-number
/>
<z30-inventory-number-date
/>

<z30-last-shelf-report-date>00000000</z30-last-shelf-report-date>

<z30-price
/>
<z30-shelf-number
/>
<z30-on-shelf-date>00000000</z30-on-shelf-date>
<z30-on-shelf-seq>000000</z30-on-shelf-seq>
<z30-doc-number-2>000000000</z30-doc-number-2>

<z30-schedule-sequence-2>00000</z30-schedule-sequence-2>

<z30-copy-sequence-2>00000</z30-copy-sequence-2>
<z30-vendor-code
/>
<z30-invoice-number
/>
<z30-line-number>00000</z30-line-number>
<z30-pages
/>
<z30-issue-date
/>
<z30-expected-arrival-date
/>
<z30-arrival-date
/>
<z30-item-statistic
/>

<z30-item-process-status>IL</z30-item-process-status>
<z30-copy-id
/>
<z30-hol-doc-number>000000000</z30-hol-doc-number>
<z30-temp-location>No</z30-temp-location>
<z30-enumeration-a
/>
<z30-enumeration-b
/>
```



## Explanation of ILL Loan Arrival X-Service

```
<z30-enumeration-c
/>
<z30-enumeration-d
/>
<z30-enumeration-e
/>
<z30-enumeration-f
/>
<z30-enumeration-g
/>
<z30-enumeration-h
/>
<z30-chronological-i
/>
<z30-chronological-j
/>
<z30-chronological-k
/>
<z30-chronological-l
/>
<z30-chronological-m
/>
<z30-supp-index-o
/>
<z30-85x-type
/>
<z30-depository-id
/>
<z30-linking-number>000000000</z30-linking-number>
<z30-gap-indicator
/>
</z30>
<bib-library>USM01</bib-library>
<bib-doc-number>000050091</bib-doc-number>

<session-id>79LRHUD5IA5THS7QFY5L9B5J295XN6QIGFSNJCC4VT6CAU9XVT</session-id>

</ill-arrive-loan>
```

## Possible Error Codes

1. If the X-Service was activated without a Borrower ID having been entered, the following error message appears in the XML output:

```
<error>bor_id
must be
supplied</error>
```

2. If the staff ID has not been entered:

```
<error>staff_id
must be
supplied</error>
```

3. If the Global record (Z303) of the given Patron could not be found:

```
<error>Global
record
of
patron
could
not be
found</error>
```

4. If the local record of the given patron (Z305) could not be found:

```
<error>Local
record
of
patron
could
not be
found</error>
```

5. If the expiry date of the local record of the Patron is earlier than the current date:

```
<error>Patron's
expiry
date has
passed</error>
```

6. If the X-Service failed to create a BIB record:

```
<error>Failed
to
create
bib
record</error>
```

## Explanation of ILL Loan Arrival X-Service

7. If the X-Service failed to create a ADM record:

```
<error>Failed  
to  
create  
adm  
record</error>
```

8. If a failure occurred while the X-Service was trying to create an item record:

```
<error>Failed  
to  
create  
item  
record</error>
```

9. If a failure occurred while the X-Service was trying to create a loan record:

```
<error>Failed  
to  
create  
loan  
record</error>
```

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# ILL Borrower Authentication X-Service

## General Purpose

This service retrieves the Internal ID (Z303\_ID) for a given Patron if the ID and verification code entered match. If not, an error message is returned.

## Input Parameters

1. LIBRARY - X (5).
2. BOR\_ID . X (20).
3. VERIFICATION . X (20).

### Note:

The X-Service calls *check\_bor\_id* with the WWW type of check. This means the Verification field is mandatory.

- **Library** : Library where the patron is located.
- **Bor\_Id / Identification/ Id**: Borrower ID (Patron) for which an Internal ID is requested.
- **Verification** : Password of the Borrower ID (Verification in Z308).

## Output XML Format

The XML Output includes the Internal ID for the given Borrower ID if found, otherwise an error message will be included.

## Example

To get the Internal ID for Borrower ID *00000012*, with verification *00000012*, enter the following URL:

`http://ram19:4178/X?op=ill-bor-auth&bor_id=00000012&&verification=00000012`

If all goes well, the XML output will be:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<ill-bor-auth>
<internal-id>00000012</internal-id>

<session-id>1CCPPCREFN TTTVG4771JM1ME2B2HHG8HBKSHMEFL977VJEJD77</session-id>
```

</ill-bor-auth>

## Possible Error Codes

1. If the X-Service is activated without a Borrower ID and Verification having been entered, the following error message appears in the XML output:

```
<error>Both  
bor_id  
and  
verification  
must be  
supplied</error>
```

2. If, for some reason, an error occurred during the verification check, the following error message appears in the XML output:

```
<error>Error  
in  
Verification</error>
```

3. If a Global record (Z303) cannot be found for the given patron, the following error message appears in the XML output:

```
<error>Error  
retrieving  
Global  
Patron  
Record</error>
```

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# ILL Borrower Information X-Service

## General Purpose

This service retrieves Z303, Z304, Z305 and Z308 records for a given borrower ID / barcode.

## Input Parameters

1. BOR\_ID . X (12).
  2. BARCODE . X (30).
- **Bor\_Id / Identification/ Id:** Borrower ID (Patron) on which you want to get data.
  - **Barcode / Bc:** Needs to be filled in if bor\_id has not been filled in. There are two options for filling in this parameter:
    - Represent Z308\_Key\_Data field.

If, after checking in Z308, no record has been found, then:

    - Barcode will represent bor\_id.

## Output XML Format

The XML output will include all available information on the patron:

- Global Record of Patron (Z303).
- Local Record of Patron (Z305).
- Addresses and telephone numbers . personal record (Z304).
- User and password record (Z308).

## Example

To get information for patron 00000012, enter the following URL:

`http://ram19:8995/X?op=ill-bor-info&bor_id=00000012`

The following URL will produce the same results:

`http://ram19:8995/X?op=ill-bor-info&barcode=00000012`

If all goes well, the XML output will contain all relevant information:

```
<?xml
version="1.0"
encoding="UTF-8"
```

?>

-

<ill-bor-info>

- <z303>

<z303-id>00000012</z303-id>

<z303-proxy-for-id

/>

<z303-primary-id

/>

<z303-name-key>de

lossa

robert

00000012</z303-name-key>

<z303-user-library

/>

<z303-open-date>June/23/1989</z303-open-date>

<z303-update-date>March/30/2004</z303-update-date>

<z303-con-lng>ENG</z303-con-lng>

<z303-alpha>L</z303-alpha>

<z303-name>De

Lossa,

Robert</z303-name>

<z303-title

/>

<z303-delinq-1>03</z303-delinq-1>

<z303-delinq-n-1>Personal

item

left in

library

-

contact

Circ

desk</z303-delinq-n-1>

<z303-delinq-1-update-date>20040330</z303-delinq-1-update-date>

<z303-delinq-1-cat-name>MASTER</z303-delinq-1-cat-name>

<z303-delinq-2>00</z303-delinq-2>

<z303-delinq-n-2

/>

<z303-delinq-2-update-date>00000000</z303-delinq-2-update-date>

<z303-delinq-2-cat-name>CONVERSION</z303-delinq-2-cat-name>

<z303-delinq-3>00</z303-delinq-3>

<z303-delinq-n-3

/>

<z303-delinq-3-update-date>00000000</z303-delinq-3-update-date>

<z303-delinq-3-cat-name>CONVERSION</z303-delinq-3-cat-name>

<z303-budget

/>

<z303-profile-id

```

/>
  <z303-ill-library
/>
  <z303-home-library>Humanities
Library</z303-home-library>
  <z303-field-1
/>
  <z303-field-2
/>
  <z303-field-3
/>
  <z303-ill-total-limit>0000</z303-ill-total-limit>
  <z303-ill-active-limit>0000</z303-ill-active-limit>
  <z303-dispatch-library
/>
  <z303-birth-date
/>
  <z303-export-consent>Y</z303-export-consent>
  <z303-proxy-id-type>00</z303-proxy-id-type>
  <z303-send-all-letters>Y</z303-send-all-letters>
  <z303-plif-modification
/>
  </z303>
- <z304>
  <z304-id>00000012</z304-id>
  <z304-sequence>01</z304-sequence>
  <z304-address-0>Robert
Hatoum</z304-address-0>
  <z304-address-1>Ukrainian
Research
Institute</z304-address-1>
  <z304-address-2>1583
Massachusetts
Avenue</z304-address-2>
  <z304-address-3>Oxford
St Mail
Area
H0163</z304-address-3>
  <z304-zip>H0163</z304-zip>
<z304-email-address>ilana.goldshmidt@exlibris.co.il</z304-email-address>
  <z304-telephone
/>
  <z304-date-from>20020814</z304-date-from>
  <z304-date-to>20060830</z304-date-to>
  <z304-address-type>02</z304-address-type>
  <z304-telephone-2
/>
  <z304-telephone-3

```

```
<z304-telephone-4
/>
<z304-update-date>20040504</z304-update-date>

<z304-cat-name>MASTER</z304-cat-name>
</z304>
- <z305>
  <z305-id
/>
  <z305-sublibrary
/>
  <z305-open-date
/>
  <z305-update-date
/>
  <z305-bor-type
/>
  <z305-bor-status
/>
  <z305-expiry-date
/>
  <z305-note
/>
  <z305-loan-permission
/>
  <z305-photo-permission
/>
  <z305-over-permission
/>
  <z305-multi-hold
/>
  <z305-loan-check
/>
  <z305-delivery-type
/>
  <z305-hold-permission
/>
  <z305-renew-permission
/>
  <z305-rr-permission
/>
  <z305-ignore-late-return
/>
  <z305-last-activity-date
/>
  <z305-photo-charge
/>
```



```

<z305-no-loan>0000</z305-no-loan>
<z305-no-hold>0000</z305-no-hold>
<z305-no-photo>0000</z305-no-photo>
<z305-no-cash>0000</z305-no-cash>
<z305-cash-limit>0.00</z305-cash-limit>
<z305-credit-debit
/>
<z305-sum>0.00</z305-sum>
<z305-delinq-1>00</z305-delinq-1>
<z305-delinq-n-1
/>
<z305-delinq-1-update-date>00000000</z305-delinq-1-update-date>
<z305-delinq-1-cat-name
/>
<z305-delinq-2>00</z305-delinq-2>
<z305-delinq-n-2
/>
<z305-delinq-2-update-date>00000000</z305-delinq-2-update-date>
<z305-delinq-2-cat-name
/>
<z305-delinq-3>00</z305-delinq-3>
<z305-delinq-n-3
/>
<z305-delinq-3-update-date>00000000</z305-delinq-3-update-date>
<z305-delinq-3-cat-name
/>
<z305-field-1
/>
<z305-field-2
/>
<z305-field-3
/>
<z305-hold-on-shelf
/>
<z305-end-block-date
/>
<z305-booking-permission
/>
<z305-booking-ignore-hours
/>
</z305>
- <z308>
<z308-key-type>01</z308-key-type>
<z308-key-data>702827471</z308-key-data>
<z308-user-library
/>
<z308-verification>702827471</z308-verification>
<z308-verification-type>01</z308-verification-type>

```

```
<z308-id>00000012</z308-id>
<z308-status>NA</z308-status>
<z308-encryption>N</z308-encryption>
</z308>
<session-id>T589MQ1XL4XQSFKTY7HML1EGVE4VKJPNN7B9XTFBXC6CPE4VMK</session-id>
</ill-bor-info>
```

## Possible Error Codes

1. If the X-Service is activated without a Borrower ID or a barcode having been entered, the following error message appears in the XML output:

```
<error>bor_id
or
barcode
should
be
supplied</error>
```

2. If a global record cannot be found based on bor\_id, or based on the barcode in the event that bor\_id has not been provided, the following error message appears in the XML output:

```
<error>Could
not
found
Global
record
of
Patron
(Z303)</error>
```

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# ILL Build Loan X-Service

## General Purpose

This service creates a Loan record for a given document + item sequence. It also checks whether or not there is a hold request for this particular item on behalf of the given patron, and if this is the case, it will delete this hold request (Z37). The XML output includes:

- Item record of the loaned item (Z30).
- Loan record which was created for the given item (Z36).
- BIB library of the document.
- BIB doc number.

## Input Parameters

1. LIBRARY - X (5).
2. DOC\_NUM . 9 (9).
3. ITEM\_SEQ . 9 (6).
4. BOR\_ID . X (12).
5. STAFF\_ID . X (10).
6. RETURN\_DATE . 9 (8).
7. ILL\_UNIT . X (20).

- **Library:** Library in which the Global and local record of the patron are located.
- **Docno / Doc\_no / Doc\_number:** Document number from which a specific item is requested to be loaned.
- **Itemseq / Item\_seq / Item\_sequence:** The sequence of the item to be loaned.
- **Bor\_Id:** Borrower\_Id (Patron) to which the item will be loaned.
- **Staff\_id:** Cataloger of the item in the newly created loan record.
- **Exp\_ret\_date / Ret\_date:** Due date in the newly created loan record.

## Output XML Format

The XML output includes:

- Item record of the loaned item (Z30).
- Loan record which was created for the given item (Z36).
- BIB library of the document.
- BIB doc number.

## Example

To create a loan record for Document *000000003*, Item sequence *000020*, Staff ID *U60AR*, Borrower ID *00000012*, and Return date *20040612*, enter the following URL:

```
http://ram19:4178/X?op=ill-build-loan&library=usm50&doc_number=000000003&
item_seq=000020&staff
id=U60AR&bor_id=00000012&ret_date=20040612&ill_unit=U60AR
```

If all goes well, the XML output will contain the session-id only:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<ill-build-loan>
- <z30>
  <z30-doc-number>3</z30-doc-number>
  <z30-item-sequence>20</z30-item-sequence>
  <z30-barcode>HL58LE</z30-barcode>
  <z30-sublibrary>Law
Library</z30-sublibrary>
  <z30-material>Book</z30-material>
  <z30-item-status>In-library
use
(depository)</z30-item-status>
  <z30-open-date>22/01/2002</z30-open-date>
  <z30-update-date>22/01/2002</z30-update-date>
  <z30-cataloger>CONV</z30-cataloger>
<z30-date-last-return>29/08/2003</z30-date-last-return>
  <z30-hour-last-return>12:42</z30-hour-last-return>
<z30-ip-last-return>128.103.60.162</z30-ip-last-return>
  <z30-no-loans>002</z30-no-loans>
  <z30-alpha>L</z30-alpha>
  <z30-collection>Depository</z30-collection>
  <z30-call-no-type>8</z30-call-no-type>
<z30-call-no>ROOT&nbsp;G&nbsp;REM</z30-call-no>
  <z30-call-no-key>8
selected
  <z30-call-no-2-type
/>
  <z30-call-no-2
/>
```

```
<z30-call-no-2-key
/>
<z30-description
/>
<z30-note-opac
/>
<z30-note-circulation
/>
<z30-note-internal
/>
<z30-order-number
/>
<z30-inventory-number
/>
<z30-inventory-number-date
/>
<z30-last-shelf-report-date>00000000</z30-last-shelf-report-date>
<z30-price
/>
<z30-shelf-number
/>
<z30-on-shelf-date>00000000</z30-on-shelf-date>
<z30-on-shelf-seq>000000</z30-on-shelf-seq>
<z30-doc-number-2>000000003</z30-doc-number-2>
<z30-schedule-sequence-2>00000</z30-schedule-sequence-2>
<z30-copy-sequence-2>00000</z30-copy-sequence-2>
<z30-vendor-code
/>
<z30-invoice-number
/>
<z30-line-number>00000</z30-line-number>
<z30-pages
/>
<z30-issue-date
/>
<z30-expected-arrival-date
/>
<z30-arrival-date
/>

<z30-item-statistic
/>
<z30-item-process-status>HD</z30-item-process-status>
<z30-copy-id
/>
<z30-hol-doc-number>000000014</z30-hol-doc-number>
<z30-temp-location>No</z30-temp-location>
<z30-enumeration-a
```

```

/>
  <z30-enumeration-b
/>
  <z30-enumeration-c
/>
  <z30-enumeration-d
/>
  <z30-enumeration-e
/>
  <z30-enumeration-f
/>
  <z30-enumeration-g
/>
  <z30-enumeration-h
/>
  <z30-chronological-i
/>
  <z30-chronological-j
/>
  <z30-chronological-k
/>
  <z30-chronological-l
/>
  <z30-chronological-m
/>
  <z30-supp-index-o
/>
  <z30-85x-type
/>
  <z30-depository-id>HDEP</z30-depository-id>
  <z30-linking-number>000000000</z30-linking-number>
  <z30-gap-indicator
/>
</z30>
- <z36>
  <z36-doc-number>000000003</z36-doc-number>
  <z36-item-sequence>000020</z36-item-sequence>
  <z36-id>00000012</z36-id>
  <z36-number>000009086</z36-number>
  <z36-material>BOOK</z36-material>
  <z36-sublibrary>Law
Library</z36-sublibrary>
  <z36-status>A</z36-status>
  <z36-loan-date>31/05/2004</z36-loan-date>
  <z36-loan-hour>12:08</z36-loan-hour>
  <z36-due-date>14/06/2004</z36-due-date>
  <z36-due-hour>24:00</z36-due-hour>
  <z36-retained-date

```

```

/>
  <z36-returned-hour
/>
  <z36-item-status>02</z36-item-status>
  <z36-bor-status>Officer</z36-bor-status>
  <z36-letter-number>0</z36-letter-number>
  <z36-letter-date
/>
  <z36-no-renewal>0</z36-no-renewal>
  <z36-note-1
/>
  <z36-note-2
/>
  <z36-loan-cataloger-name
/>
  <z36-return-cataloger-name
/>
  <z36-renew-cataloger-name
/>
  <z36-renew-mode
/>
  <z36-bor-type
/>
  <z36-note-alpha
/>
  <z36-recall-date
/>
  <z36-recall-due-date
/>
  <z36-last-renew-date
/>
<z36-original-due-date>14/06/2004</z36-original-due-date>
  <z36-process-status
/>
  <z36-loan-type
/>
  <z36-proxy-id
/>
  <z36-recall-type
/>
</z36>
  <bib-library>USM01</bib-library>
  <bib-doc-number>000000003</bib-doc-number>
<session-id>UPG4CF1K1VMXBTv6V4E2DVHLMUADT6EUV53Q3U1RMC6AECN723</session-id>
</ill-build-loan>

```

# Possible Error Codes

1. If the X-Service is activated without a Borrower ID having been entered, the following error message appears in the XML output:

```
<error>Bor_id  
must be  
provided.</error>
```

2. If the document number or item sequence has not been entered:

```
<error>Both  
doc_number  
and  
item_seq  
should  
be  
supplied</error>
```

3. If the staff ID has not been supplied:

```
<error>staff_id  
must be  
given</error>
```

4. If the given Item cannot be found:

```
<error>Item  
does not  
exist.</error>
```

5. If the given item has already been loaned:

```
<error>Item  
is  
already  
on  
loan.</error>
```

6. If the local record of the patron cannot be found:

```
<error>Local  
record  
of  
patron  
could  
not be  
found</error>
```

7. If a failure occurs when the system tries to create a loan record:

```
<error>Failed  
to  
create  
the  
loan.</error>
```



[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# ILL Create Patron X-Service

## General Purpose

This service creates a new Patron based on the input parameters which are the patron code and the patron name. Patron creation takes place if the code entered does not represent a already existing patron. Creation of the patron involves the insertion of entries in the Z303, Z305, Z304, and Z308 tables.

## Input Parameters

1. CODE . X (20).
2. NAME . X (100).
  - **Code** : ID of the Patron (Z303\_ID). This field is mandatory.
  - **Name**: Name of the Patron (Z303\_NAME).

## Output XML Format

The XML output includes the ID of the patron only, if no error has occurred. If the patron code entered already exists, a new patron will not be created, and an error message will be generated.

## Example

To create new patron *2005*, enter the following URL:

```
http://ram19:8995/X?op=ill-create-pat&code=2005&name=George,
Nill
```

If all goes well, the XML output will be:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<ill-create-pat>
<id>2005</id>
<session-id>E1751ETFMBDHS323EGEQNGT71H6SSQCMLUSRY1663P6UFCKNHM</session-id>
</ill-create-pat>
```

# Possible Error Codes

1. If the X-Service is activated without a code for new patron, the following error message appears in the XML output:

```
<error>code  
must be  
provided</error>
```

2. If an error occurs when the system tries to create new patron:

```
<error>Failed  
to  
create  
new  
patron</error>
```

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# Get Document X-Service

## General Purpose

This service takes a document number and the library where the corresponding document is located and generates the XML of the requested document as it appears in the library given.

## Input Parameters

1. LIBRARY . X (5).
  2. DOC\_NUM . 9 (9).
- **Library:** The library in which the requested document the user is located.
  - **Docno / Doc-no / Doc\_no / Doc-number / Doc\_number:** The number of the document requested for XML format display.

## Output XML Format

The XML output displays the given document in MARC XML format.

## Example

To see document *000000444* under library *USM01*, enter the following URL:

`http://ram19:4178/X?op=ill-get-doc&doc_number=000000444&library=usm01`

If all goes well, the XML output will be:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<ill-get-doc>
-
<record
schemaLocation="<pre>http://www.loc.gov/MARC21/slim
<pre>http://www.loc.gov/standards/marcxml/schema/MARC21slim.xsd">
  <leader>01610cas^^2200385^a^4500</leader>
  <controlfield
tag="001">000000444-8</controlfield>
  <controlfield
tag="005">20020418155342.1</controlfield>
  <controlfield
```

```
tag="008">751012d18451971ce^ar0p^^^^^^0^^^a0eng^d</controlfield>
```

-

```
<datafield
```

```
tag="010"
```

```
ind1=""
```

```
ind2="">
```

```
<subfield
```

```
code="a">^^^90657028^//r90</subfield>
```

```
<subfield
```

```
code="z">sn^87045074^</subfield>
```

```
</datafield>
```

-

```
<datafield
```

```
tag="022"
```

```
ind1=""
```

```
ind2="">
```

```
<subfield
```

```
code="a">0304-2235</subfield>
```

```
</datafield>
```

-

```
<datafield
```

```
tag="035"
```

```
ind1="0"
```

```
ind2="">
```

```
<subfield
```

```
code="a">(OCoLC)01695542</subfield>
```

```
</datafield>
```

-

```
<datafield
```

```
tag="040"
```

```
ind1=""
```

```
ind2="">
```

```
<subfield
```

```
code="a">MUL</subfield>
```

```
<subfield
```

```
code="c">MUL</subfield>
```

```
<subfield
```

```
code="d">IXA</subfield>
```

```
<subfield
```

```
code="d">HUL</subfield>
```

```
<subfield
```

```
code="d">NSD</subfield>
```

```
<subfield
```

```
code="d">DLC</subfield>
```

```
<subfield
```

```
code="d">HLS</subfield>
```

```
</datafield>
```

-

```

<datafield
tag="042"
ind1=""
ind2="">
  <subfield
code="a">lc</subfield>
  <subfield
code="a">nsdp</subfield>
  </datafield>
-
<datafield
tag="043"
ind1=""
ind2="">
  <subfield
code="a">a-ce---</subfield>
  </datafield>
-
<datafield
tag="050"
ind1="0"
ind2="0">
  <subfield
code="a">AS472</subfield>
  <subfield
code="b">.C5</subfield>
  </datafield>
-
<datafield
tag="082"
ind1="0"
ind2="0">
  <subfield
code="a">068/.5493/05</subfield>
  <subfield
code="2">20</subfield>
  </datafield>
-
<datafield
tag="210"
ind1="0"
ind2="">
  <subfield
code="a">J.
Ceylon
Branch
R.
Asiat.

```

```
Soc.</subfield>
  </datafield>
-
<datafield
tag="222"
ind1=" "
ind2="0">
  <subfield
code="a">Journal
of the
Ceylon
Branch
of the
Royal
Asiatic
Society</subfield>
  </datafield>
-
<datafield
tag="245"
ind1="0"
ind2="4">
  <subfield
code="a">The
Journal
of the
Ceylon
Branch
of the
Royal
Asiatic
Society
of Great
Britain
&
Ireland.</subfield>
  </datafield>
-
<datafield
tag="246"
ind1="1"
ind2="0">
  <subfield
code="a">Journal
of the
Ceylon
Branch
of the
```

```
Royal
Asiatic
Society</subfield>
  </datafield>
-
<datafield
tag="260"
ind1=" "
ind2=" ">
  <subfield
code="a">Colombo
:</subfield>
  <subfield
code="b">The
Branch,</subfield>
  <subfield
code="c">1845-1971.</subfield>
  </datafield>
-
<datafield
tag="300"
ind1=" "
ind2=" ">
  <subfield
code="a">53
v.
:</subfield>
  <subfield
code="b">ill.
;</subfield>
  <subfield
code="c">22
cm.</subfield>
  </datafield>
-
<datafield
tag="310"
ind1=" "
ind2=" ">
  <subfield
code="a">Annual,</subfield>
  <subfield
code="b">-1971</subfield>

  </datafield>
-
<datafield
tag="362"
```

```

ind1="0"
ind2="">
  <subfield
code="a">No.
1, pt.
1-no. 1
[i.e.
107] =
[v. 1,
pt.
1]-v.
38, pt.
3 & 4 ;
new ser.
v. 1-v.
15.</subfield>
  </datafield>
-
<datafield
tag="500"
ind1=""
ind2="">
  <subfield
code="a">Title
from
cover.</subfield>
  </datafield>
-
<datafield
tag="500"
ind1=""
ind2="">
  <subfield
code="a">Vols.
for
-1971
have
title:
Journal
of
the
Ceylon
Branch
of the
Royal
Asiatic
Society.</subfield>
  </datafield>

```



```

-
<datafield
tag="515"
ind1=""
ind2="">
  <subfield
code="a">Issues
for
1845-
lack
volume
designation
but
constitute
v.
1-</subfield>
  </datafield>
-
<datafield
tag="555"
ind1=""
ind2="">
  <subfield
code="a">Vols.
1
(1845)-v.
11
(1890).
1 v.;
Vols. 1
(1845)-36
(1945),
in v.
37.</subfield>
  </datafield>
-
<datafield
tag="710"
ind1="2"
ind2="">
  <subfield
code="a">Royal
Asiatic
Society
of Great
Britain
and
Ireland.</subfield>

```

```

    <subfield
code="b">Ceylon
Branch.</subfield>
  </datafield>
-
<datafield
tag="770"
ind1="0"
ind2="">
  <subfield
code="t">Ceylon
notes
and
queries</subfield>
  </datafield>
-
<datafield
tag="785"
ind1="0"
ind2="0">
  <subfield
code="t">Journal
of the
Sri
Lanka
Branch
of the
Royal
Asiatic
Society</subfield>
  <subfield
code="x">1013-9818</subfield>
  <subfield
code="w">(DLC)
76913504</subfield>
  <subfield
code="w">(OCoLC)5049193</subfield>
  </datafield>
</record>
<session-id>RKYYHTGV262E9JRCMU2GR7V5CKKA4DQJYRLA83S9K2CINNPM9D</session-id>
</ill-get-doc>

```

## Possible Error Codes

1. If the X-Service is activated without a document number having been entered, the following error message appears in the XML output:

```

<error>doc_number
must be

```

given</error>

2. If the document number which was supplied (for example, 444) could not be found under the given library (for example, USM01):

```
<error>Document  
number:  
000000444  
can not  
be found  
under  
library:  
USM01</error>
```

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# ILL Get Short Document X-Service

## General Purpose

This service takes a document number and retrieves the XML of the corresponding short document (Z13).

## Input Parameters

1. LIBRARY . X (5).
2. DOC\_NUM . 9 (9).

### Note:

Both parameters are mandatory.

- **Library:** The library in which the document the user wants to see is located.
- **Docno / Doc-no / Doc\_no / Doc-number / Doc\_number:** The document number of the requested short document record.

## Output XML Format

The XML output includes the MARC XML format of the given document.

## Example

To see the short document record (Z13) for document *00000015* under library *USM01*, enter the following URL:

`http://ram19:4178/X?op=ill-get-doc-short&doc_number=000000015&library=usm01`

If all goes well, the XML output will be:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<ill-get-doc-short>
- <z13>
  <z13-doc-number>15</z13-doc-number>
  <z13-year>1969</z13-year>
  <z13-open-date>March/07/2004</z13-open-date>
  <z13-update-date>March/26/2004</z13-update-date>
  <z13-call-no-key
/>
```

```

<z13-call-no-code
/>
<z13-call-no
/>
<z13-author-code>1001</z13-author-code>
<z13-author>Caspi,
Joseph,
ca.
1280-ca.
1340.</z13-author>
<z13-title-code>24510</z13-title-code>
<z13-title>Mishneh
kesef
:</z13-title>
<z13-imprint-code>2600</z13-imprint-code>
<z13-imprint>[Jerusalem]
:
[Sifriyat
Me.erot],
[1969 or
1970]</z13-imprint>
<z13-isbn-issn-code
/>
<z13-isbn-issn
/>
<z13-user-defined-1-code
/>
<z13-user-defined-1>Heb
2106.385.5&#35;&#35;Caspi,
Joseph,ca.
1280-ca.
1340. :
Mishneh
kesef
:shene
be.urim
.al
ha-Torah
/hotsetim
la-or
...
Yits.a.
Las...
[Jerusalem]
:
[Sifriyat
Me.erot],
[1969 or

```

1970]. 2

v..

[000000015</z13-user-defined-1>

<z13-user-defined-2-code

/>

<z13-user-defined-2>(

Kitve R.

Yosef

Kaspi

)</z13-user-defined-2>

<z13-user-defined-3-code

/>

<z13-user-defined-3

/>

<z13-user-defined-4-code

/>

<z13-user-defined-4

/>

<z13-user-defined-5-code

/>

<z13-user-defined-5

/>

</z13>

<session-id>3HETUQ6PNE2AQHIHLEBG1SJI5DRMBE13M9ASRR2C9UI7H71IT8</session-id>

</ill-get-doc-short>

## Possible Error Codes

1. If the X-Service is activated without a document number having been entered, the following error message appears in the XML output:

```
<error>doc_number
must be
supplied</error>
```

2. If the document number which was supplied (for example, 15) could not be found under the given library (for example, USM01):

```
<error>document
number:
000000015
short
doc
(Z13)
could
not be
found in
library:
USM01</error>
```

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# Get Set X-Service

## General Purpose

This service takes a set number, start point (the index within the set number where the X-Service will start working) and the number of documents in the requested set. The XML output includes:

- All document numbers in the given set, from the given start point until the given number of documents is reached.
- Count of how many documents were actually included in the output.
- The library of the set (Z05\_LIBRARY).

## Input Parameters

1. SET\_NUMBER . 9 (6).
2. SET\_START . 9 (4).
3. NO\_DOCS . 9 (4).

### Note:

All three parameters are mandatory.

- **Setno / Set-no / Set\_no / Set-number / Set\_number** : The set in Z05 and Z110 from which document numbers are to be retrieved.
- **Start-point / Start\_point** : The entry number within the set (Z110) from which document numbers are to be retrieved.
- **No-docs / No-documents / No\_docs / No\_documents**: The total number of documents for which document numbers are requested. It does not matter if the job ends without reaching this number having been reached.

## Output XML Format

The XML output includes:

- All document numbers in the given set number starting from a given start point until the given total number of documents has been passed or the set has ended (whichever comes first).
- Number of documents that have actually been counted.
- Library of the set.

## Example

To retrieve the numbers of the second, third and fourth documents in set number *000986*, as well as getting the library where the set is actually located, enter the following URL:

`http://ram19:4178/X?op=ill-get-set&set_number=000986&start_point=0002&no_documents=0003`

If all goes well, the XML output will be:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<ill-get-set>
```

```
<doc-number>000000586</doc-number>
<doc-number>000002129</doc-number>
<doc-number>000004889</doc-number>
<no-docs>000000003</no-docs>
<set-library>USM01</set-library>
<session-id>YD55PFN5CY57DQCRQD6B21CA83AQ14SE8A5QFBCYK4T49QK6Q9</session-id>
</ill-get-set>
```

## Possible Error Codes

1. If the X-Service is activated without a set number having been entered, the following error message appears in the XML output:

```
<error>Missing
set
number</error>
```

2. If the start point has not been given:

```
<error>Missing
start
point</error>
```

3. If the total number of requested documents has not been given:

```
<error>Missing
no
documents
parameters</error>
```

4. If the given set number has not been found in Z05:

```
<error>Set
number
could
not be
found in
Z05</error>
```

5. If the start point is higher than the given set number:

```
<error>Start
point is
bigger
than the
size of
the set
number</error>
```

6. If the start point could not be located in the set (Z110):

```
<error>Start
point
could
not be
located
in the
set</error>
```



[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# ILL Delete Hold Requests X-Service

## General Purpose

This service takes a document number and a borrower ID. It deletes the hold request records (Z37) which exist for the given borrower ID and for the given document number. If at least one record is deleted, it also indicates that the input parameters retrieved hold requests.

## Input Parameters

1. LIBRARY . X (5).
2. DOC\_NUM . 9 (9).
3. HOLDS\_DEL\_ID . X (12).

### Note:

All parameters are mandatory to ensure that the deletion process works.

- **Library:** The library in which the hold requests are located.
- **Docno / Doc-no / Doc\_no / Doc-number / Doc\_number:** The document whose associated holds are to be deleted for the given borrower id.
- **Id / Bor-id / Bor\_id:** Patron whose hold requests on the given document number are to be deleted.

## Output XML Format

The XML output includes an indication of whether or not hold request records have been deleted.

## Example

To delete all hold requests made for the borrower ID *1975* for document number *000000512*, under library *USM50*, enter the following URL:

`http://ram19:4178/X?op=ill-holds-delete&doc_number=000000512&bor_id=1975&library=usm50`

If all goes well, the XML output will be:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<ill-holds-delete>
<has-holds>Y</has-holds>
<session-id>2538Y3U56BCJPASII86FGRI64A73K9ME7EXNT5YIF8X293LXMA</session-id>
</ill-holds-delete>
```

# Possible Error Codes

1. If the X-Service is activated without a document number having been given, the following error message appears in the XML output:

```
<error>doc_number  
must be  
supplied</error>
```

2. If an error occurs when the service checks how many hold requests exist for the given document for the given patron:

```
<error>Error  
while  
trying  
to count  
hold  
requests</error>
```

# ILL Location Service

## General Purpose

This service checks whether or not a specific ILL document (Request) is located in the ALEPH system. If it exists, the service retrieves its BIB library and BIB number and supplies data regarding how many items it has and how many of them are available.

## Input Parameters

1. LIBRARY . X (5).

2. DOC\_NUM . 9 (9).

3. DOC\_LIBRARY . X (5).

4. LOCATE\_BASE . X (20).

5. LOCATE\_TYPE . X (10).

6. SUB\_LIBRARY . X (5) - This is an array that can hold up to 20 sublibraries.

7. BOR\_ID . X (12).

8. BOR\_MEDIA . X (20).

9. SERVER\_ADR . X (100).

10. ILL\_UNIT . X (20).

**Note:**  
You can filter item records per sublibrary. Under the sub\_libs parameter, you can refer to a maximum of 20 sublibraries. Only item records from the listed sublibraries will be displayed. To populate sub\_libs with LAW & LAM sublibraries, for example:  
sub\_libs=LAW  
LAM  
Leave a space between different sublibraries.

The Media parameter will be filled with L or Loan or C or Copy.

- **library:** ADM library which is associated with (in the library\_relation table) the ILL library in which the newly created document will reside.

●

**Docno / Doc-no / Doc\_no / Doc-number / Doc\_number :** The number of the document which resides under the given document's library (in the ILL system), and on which the Locate action will be performed.

●

**Doc-library / Doc\_library:** Original ILL library where the requested document is located.

●

**Locate-base / Locate\_base:** The circulation locate base as it appears in the ILL system (Z704).

●

**Locate\_type:** The circulation handling type as it appears in the ILL system (Z704).

●

**Sub\_libs:** One or more (up to 20) sublibraries. Only items located under the listed sublibraries (Z30\_SUB\_LIBRARY) are shown. If no sublibrary is given, then no filtering will be done based on sublibraries.

●

**Bor\_id:** Filtering can be done per patron. If there is no local record for the given patron, no record will be shown. If there is such a record, circulation checks will be performed for this patron.

●

**Media:** Checks can be performed based on OP. In this event, the possibilities are L (Loan) and C (Copy).

●

**Server\_adr:** host number of the ILL system, where the request is located.

## Output XML Format

The XML output will include:

- BIB library of the document if it exists in the ALEPH system.
- BIB document number in the ALEPH system.
- Set number where the document exists.
- Number of existing items.
- Number of available items.

## Example

To check whether or not request number 000000501 under ILL01 in ram47 exists in ALEPH library USM50, document number 000000501, document library ILL01, Locate\_type ALEPH, Borrower ID 00000012, Media: Copy, Server\_adr: 10.1.235.47:12002, and Ill\_unit U60AR, enter the following URL:  
http://xam19:4178/X?op=ill-in-loc&library=usm51&doc\_number=000000501&doc\_library=ill01&locate\_type=ALEPH&bor\_id=00000012&media=Copy&server\_adr=10.1.235.47:12002&ill\_unit=U60AR  
If all goes well, the XML output will be:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<ill-in-loc>
<bib-library
/>
<bib-doc-number>000000000</bib-doc-number>
<set-number>000000</set-number>
<no-doc>000000000</no-doc>
<exist-items>000000000</exist-items>
<avail-items>000000000</avail-items>
<session-id>YJSFYJD1G9AJ29KV5YUJMGAD1L8LFQSCFI5NM411GNQ39YCL9</session-id>
</ill-in-loc>
```

## Possible Error Codes

1. If the X-Service is activated without a document number having been given, the following error message appears in the XML output:

<error>Doc  
Number  
must be  
provided</error>
2. If no ILL library associated with the given library (for example, USM51) has been found:

<error>ILL  
library  
could  
not be  
found  
based on  
relation  
to lib:  
USM51</error>
3. If the document could not be found in the ILL system:

<error>Failed  
in  
get-doc  
from ILL  
system</error>

Explanation of ILL Locate Prediction X-Service

<a href="#">General Purpose</a>	<a href="#">Input Parameters</a>	<a href="#">Output XML Format</a>	<a href="#">Possible Error Codes</a>
---------------------------------	----------------------------------	-----------------------------------	--------------------------------------

ILL Locate Prediction X-Service

General Purpose

This service predicts the results of Locate actions, letting the user decide whether or not to perform the actual Locate actions.

Input Parameters

- 1. LIBRARY . X (5).
- 2. DOC\_NUM . 9 (9).
- 3. DOC\_LIBRARIY . X (5).
- 4. LOCATE\_BASE . X (20).
- 5. LOCATE\_TYPE . X (10).
- 6. SUB\_LIBRARIY . X (5) - This is an array that can hold up to 20 sublibraries.
- 7. BOR\_ID . X (12).
- 8. BOR\_MEDIA . X (20).
- 9. SERVER\_ADR . X (100).
- 10. ILL\_UNIT . X (20).

**Note:**  
You can filter item records per sublibrary. Under the sub\_libs parameter, you can refer to a maximum of 20 sublibraries. Only item records from the listed sublibraries will be displayed. To populate sub\_libs with LAW & LAM sublibraries, for example:  
sub\_libs=LAW  
LAM  
Leave a space between different sublibraries.

The Media parameter will be filled with L or Loan or C or Copy.

- **library:** ADM library which is associated with (in the library\_relation table) the ILL library in which the newly created document will reside.
- **Docno / Doc-no / Doc\_no / Doc-number / Doc\_number :** The number of the document which resides under the given document's library (in the ILL system), and on which the Locate action will be performed.
- **Doc-library / Doc\_library:** Original ILL library where the requested document is located.
- **Locate-base / Locate\_base:** The circulation locate base as it appears in the ILL system (Z704).
- **Locate\_type:** The circulation handling type as it appears in the ILL system (Z704).
- **Sub\_libs:** One or more (up to 20) sublibraries. Only items located under the listed sublibraries (Z30\_SUB\_LIBRARIY) are shown. If no sublibrary is given, then no filtering will be done based on sublibraries.
- **Bor\_id:** Filtering can be done per patron. If there is no local record for the given patron, no record will be shown. If there is such a record, circulation checks will be performed for this patron.
- **Media:** Checks can be performed based on OP. In this event, the possibilities are L (Loan) and C (Copy).
- **Server\_adr:** host number of the ILL system, where the request is located.

Output XML Format

The XML output will include:

- BIB library of the document if it exists in the ALEPH system.
- BIB document number in the ALEPH system.
- Set number where the document exists.
- Number of existing items.
- Number of available items.

Example

To predict Locate results for library *USM50*, document number : *000000502*, document library *ILL01*, Locate\_type *ALEPH*, borrower ID *00000012*, Media type *Copy*, sublibraries of *LAW & LAM*, Locate\_base *LAW*, Server\_adr *10.1.235.47:12002*, and ILL unit *U60AR*, enter the following URL:  
[http://ram19:4178/X?op=ill-in-loc-preview&library=usm50&doc\\_number=000000502&doc\\_library=ill01&locate\\_type=ALEPH&bor\\_id=00000012&media=Copy&sub\\_libs=LAW%20LAM&locate\\_base=LAW&server\\_adr=10.1.235.47:12002&ill\\_unit=u60AR](http://ram19:4178/X?op=ill-in-loc-preview&library=usm50&doc_number=000000502&doc_library=ill01&locate_type=ALEPH&bor_id=00000012&media=Copy&sub_libs=LAW%20LAM&locate_base=LAW&server_adr=10.1.235.47:12002&ill_unit=u60AR)  
If all goes well, the XML output will be:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<ill-in-loc-preview>
- <line>
  <locate-code>LAW</locate-code>
  <locate-request>wti=
(spiders
and
britain)
and wau=
(dickenson
clara)</locate-request>
<no-docs>000000000</no-docs>
<exist-items>000000000</exist-items>
<avail-items>000000000</avail-items>
<set-number>001228</set-number>
<bib-library
/>
<bib-doc-number>000000000</bib-doc-number>
<locate-error-code>00</locate-error-code>
</line>

<session-id>7CH6YAJNLFPN3617EEDIADPE6KP6UIQFPCI7JGVGP7V51GURYC</session-id>
</ill-in-loc-preview>
```

Possible Error Codes

- 1. If the X-Service is activated without a document number having been given, the following error message appears in the XML output:  
<error>Doc  
Number  
must be  
provided</error>
- 2. If the get document from ILL operation fails:  
<error>Failed  
in get  
doc</error>
- 3. If the get items action failed:  
<error>Error  
retrieving  
items  
associated  
with  
BIB/ADM  
record</error>
- 4. If filtering items per sublibrary fails:  
<error>Error  
filtering  
items  
based on  
unit's  
sub  
libraries</error>
- 5. If filtering items on loan fails:  
<error>Error  
filtering  
items on  
loan</error>
- 6. If circulation checks fail:  
<error>Error  
filtering  
items  
vased on  
circ

checks</error>

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# ILL Item By Barcode X-Service

## General Purpose

This service retrieves holdings (HOL) information for the Union Catalog document number given by the user.

## Input Parameters

1. LIBRARY . X (5).
2. BARCODE . X (30).

### Note:

Both parameters are mandatory.

- **Library:** The library in which the Item is located.
- **Bc / Barcode:** Barcode of an item as it appears in the item record (Z30).

## Output XML Format

The XML output includes Item record.

## Example

To get the item record of an item with the barcode : 32044052978673, under library *usm50*, enter the following URL:

<http://ram19:4178/X?op=ill-item-by-bc&barcode=32044052978673&library=usm50>

If all goes well, the XML output will be:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<ill-ITEM-INFO>
- <z30>
  <z30-doc-number>22</z30-doc-number>
  <z30-item-sequence>10</z30-item-sequence>
  <z30-barcode>32044052978673</z30-barcode>
  <z30-sublibrary>Main
Library</z30-sublibrary>
  <z30-material>Book</z30-material>
  <z30-item-status>Regular
```

```

loan</z30-item-status>
  <z30-open-date>October/13/1988</z30-open-date>
  <z30-update-date>March/15/2000</z30-update-date>
  <z30-cataloger>CONV</z30-cataloger>
<z30-date-last-return>March/15/2000</z30-date-last-return>
  <z30-hour-last-return>11:12</z30-hour-last-return>
  <z30-ip-last-return>CONV</z30-ip-last-return>
  <z30-no-loans>002</z30-no-loans>
  <z30-alpha>L</z30-alpha>
  <z30-collection>General</z30-collection>
  <z30-call-no-type>7</z30-call-no-type>
  <z30-call-no>Heb
16628.505</z30-call-no>
  <z30-call-no-key>heb
16628
00505
0000
0000
0000</z30-call-no-key>
  <z30-call-no-2-type
/>
  <z30-call-no-2
/>
  <z30-call-no-2-key
/>
  <z30-description
/>
  <z30-note-opac
/>
  <z30-note-circulation
/>
  <z30-note-internal
/>
  <z30-order-number
/>
  <z30-inventory-number
/>
  <z30-inventory-number-date
/>
<z30-last-shelf-report-date>00000000</z30-last-shelf-report-date>
  <z30-price
/>
  <z30-shelf-number
/>
  <z30-on-shelf-date>00000000</z30-on-shelf-date>
  <z30-on-shelf-seq>000000</z30-on-shelf-seq>
  <z30-doc-number-2>000000022</z30-doc-number-2>
<z30-schedule-sequence-2>00000</z30-schedule-sequence-2>

```

```
<z30-copy-sequence-2>00000</z30-copy-sequence-2>
<z30-vendor-code
/>
<z30-invoice-number
/>
<z30-line-number>00000</z30-line-number>
<z30-pages
/>
<z30-issue-date
/>
<z30-expected-arrival-date
/>
<z30-arrival-date
/>
<z30-item-statistic
/>
<z30-item-process-status
/>
<z30-copy-id
/>
<z30-hol-doc-number>000000064</z30-hol-doc-number>
<z30-temp-location>No</z30-temp-location>
<z30-enumeration-a
/>
<z30-enumeration-b
/>
<z30-enumeration-c
/>
<z30-enumeration-d
/>
<z30-enumeration-e
/>
<z30-enumeration-f
/>
<z30-enumeration-g
/>
<z30-enumeration-h
/>
<z30-chronological-i
/>
<z30-chronological-j
/>
<z30-chronological-k
/>
<z30-chronological-l
/>
<z30-chronological-m
/>
```



```
<z30-suppl-index-o
/>
<z30-85x-type
/>
<z30-depository-id
/>
<z30-linking-number>000000000</z30-linking-number>
<z30-gap-indicator
/>
</z30>
<session-id>EAD219LA1F9K3NRRFQGP6GL2EGBMPYKRLF83GHYAXXPSVK1SHI</session-id>
</ill-ITEM-INFO>
```

## Possible Error Codes

1. If the X-Service is activated without an item barcode having been given, the following error message appears in the XML output:

```
<error>Barcode
must be
supplied</error>
```

2. If the item record could not be found:

```
<error>Item
record
could
not be
found</error>
```

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# ILL Delete Item X-Service

## General Purpose

This service takes a document number and item sequence, and deletes the corresponding item record (Z30).

## Input Parameters

1. LIBRARY . X (5).
2. DOC\_NUM . 9 (9).
3. ITEM\_SEQ . 9 (6).

### Note:

All parameters are mandatory in order for the deletion to succeed.

- **Library:** The library in which the Item is located.
- **Docno / Doc-no / Doc\_no / Doc-number / Doc\_number:** The document from which the given item is to be deleted.
- **Itemseq / Item-seq / Item\_seq / Item-sequence / Item\_sequence:** The item sequence to be deleted.

## Output XML Format

The XML output will include session-id (standard output) only, unless an error occurs.

## Example

To delete an item from document number *000000215*, item sequence *000040*, located in library *USM50*, enter the following URL:

[http://ram19:4178/X?op=ill-item-delete&doc\\_number=000000215&item\\_sequence=000040&library=usm50](http://ram19:4178/X?op=ill-item-delete&doc_number=000000215&item_sequence=000040&library=usm50)

If all goes well, the XML output will include session-id only.

## Possible Error Codes

1. If the X-Service is activated without a document number and an item sequence having been given, the following error message appears in the XML output:

```
<error>Both
doc_num
and
item_seq
should
be
supplied</error>
```

2. If the Item record could not be found based on the given parameters:

```
<error>Item
record
could
not be
found</error>
```

3. If the item record could not be deleted:

```
<error>Item
record
could
```

```
not be  
deleted</error>
```

4. If the X-Service is activated without a base having been entered, the following error message appears in the XML output:

```
<error>Base  
must be  
included  
in  
service  
params.</error>
```

5. If the borrower entered cannot be found in Z303, the following error message appears in the XML output:

```
<error>Error  
reading  
document</error>
```

6. If a document number has not been given, the following error message appears in the XML output:

```
<error>Doc  
Number  
must be  
provided</error>
```

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# ILL Item Due Date X-Service

## General Purpose

This service retrieves the due date and due hour for a specific item given for a specific patron, based on the patron's status, item status, and so on.

## Input Parameters

1. LIBRARY . X (5).
2. DOC\_NUM . 9 (9).
3. ITEM\_SEQ . 9 (6).
4. BOR\_ID . X (12).

### Note:

All parameters are mandatory.

- **Library:** The library in which the Item is located.
- **Docno / Doc\_no / Doc\_number:** The document from which the given item's due date and due hour are requested.
- **Itemseq / Item\_seq / Item\_sequence:** The item sequence.
- **Bor\_Id / Id :** Patron ID.

## Output XML Format

The XML output includes the due date and due hour of the given item.

## Example

To get the due date of an item with document number *000000022*, item sequence *000010*, for patron *00000194*, of library *usm50*, enter the following URL:

[http://ram19:4178/X?op=ill-item-due-date&doc\\_number=000000022&item\\_seq=000010&bor\\_id=00000194&library=usm50](http://ram19:4178/X?op=ill-item-due-date&doc_number=000000022&item_seq=000010&bor_id=00000194&library=usm50)

If all goes well, the XML output will be:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<ill-item-due-date>
  <due-date>20040910</due-date>
  <due-hour>2100</due-hour>
</session-id>JTYQX5YDMVLHVFMITYDM4XU5L2NSDD3E2GHKPH3PIGFA42IBLJY</session-id>
</ill-item-due-date>
```

## Possible Error Codes

1. If the X-Service is activated without a document number and item sequence having been given, the following error message appears in the XML output:
 

```
<error>Both
doc_number
and
item_seq
should
be
supplied</error>
```
2. If bor\_id has not been given:
 

```
<error>Bor_id
must be
provided.</error>
```
3. If the item record could not be found:
 

```
<error>Item
```

## Explanation of ILL Item Due Date X-Service

record  
could  
not be  
found</error>

4. If the local record could not be found for the patron:

<error>Local  
record  
(Z305)  
of  
patron  
could  
not be  
found</error>

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# ILL Item Information X-Service

## General Purpose

This service retrieves an item record (Z30) for a given document number and item sequence.

## Input Parameters

1. LIBRARY . X (5).
2. DOC\_NUM . 9 (9).
3. ITEM\_SEQ . 9 (6).

**Note:**

All parameters are mandatory.

- **Library:** The library in which the item is located.
- **Docno / Doc\_no / Doc\_number:** The document from which the given item's record is required.
- **Itemseq / Item\_seq / Item\_sequence:** The item sequence.

## Output XML Format

The XML output includes the item record.

## Example

To get the item record for an item with document number: *000000022*, item sequence *000010* and library *USM50*, enter the following URL:

[http://ram19:4178/X?op=ill-item-info&doc\\_number=000000022&item\\_seq=000010USR00=usm50](http://ram19:4178/X?op=ill-item-info&doc_number=000000022&item_seq=000010USR00=usm50)

If all goes well, the XML output will be:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<ill-ITEM-INFO>
- <z30>
  <z30-doc-number>22</z30-doc-number>
  <z30-item-sequence>10</z30-item-sequence>
  <z30-barcode>32044052978673</z30-barcode>
  <z30-sub-library>Main
Library</z30-sub-library>
  <z30-material>Book</z30-material>
  <z30-item-status>Regular
loan</z30-item-status>
  <z30-open-date>October/13/1988</z30-open-date>
  <z30-update-date>March/15/2000</z30-update-date>
```

```

<z30-cataloger>CONV</z30-cataloger>
<z30-date-last-return>March/15/2000</z30-date-last-return>
<z30-hour-last-return>11:12</z30-hour-last-return>
<z30-ip-last-return>CONV</z30-ip-last-return>
<z30-no-loans>002</z30-no-loans>
<z30-alpha>L</z30-alpha>
<z30-collection>General</z30-collection>
<z30-call-no-type>7</z30-call-no-type>
<z30-call-no>Heb
16628.505</z30-call-no>
<z30-call-no-key>heb
16628
00505
0000
0000
0000</z30-call-no-key>
<z30-call-no-2-type
/>
<z30-call-no-2
/>
<z30-call-no-2-key
/>
<z30-description
/>
<z30-note-opac
/>
<z30-note-circulation
/>
<z30-note-internal
/>
<z30-order-number
/>
<z30-inventory-number
/>
<z30-inventory-number-date
/>
<z30-last-shelf-report-date>00000000</z30-last-shelf-report-date>
<z30-price
/>
<z30-shelf-number
/>
<z30-on-shelf-date>00000000</z30-on-shelf-date>
<z30-on-shelf-seq>000000</z30-on-shelf-seq>
<z30-doc-number-2>000000022</z30-doc-number-2>
<z30-schedule-sequence-2>00000</z30-schedule-sequence-2>
<z30-copy-sequence-2>00000</z30-copy-sequence-2>
<z30-vendor-code
/>
<z30-invoice-number
/>
<z30-line-number>00000</z30-line-number>
<z30-pages
/>
<z30-issue-date

```

```
</z30-expected-arrival-date>
<z30-arrival-date>
</z30-arrival-date>
<z30-item-statistic>
</z30-item-statistic>
<z30-item-process-status>
</z30-item-process-status>
<z30-copy-id>
</z30-copy-id>
<z30-hol-doc-number>000000064</z30-hol-doc-number>
<z30-temp-location>No</z30-temp-location>
<z30-enumeration-a>
</z30-enumeration-a>
<z30-enumeration-b>
</z30-enumeration-b>
<z30-enumeration-c>
</z30-enumeration-c>
<z30-enumeration-d>
</z30-enumeration-d>
<z30-enumeration-e>
</z30-enumeration-e>
<z30-enumeration-f>
</z30-enumeration-f>
<z30-enumeration-g>
</z30-enumeration-g>
<z30-enumeration-h>
</z30-enumeration-h>
<z30-chronological-i>
</z30-chronological-i>
<z30-chronological-j>
</z30-chronological-j>
<z30-chronological-k>
</z30-chronological-k>
<z30-chronological-l>
</z30-chronological-l>
<z30-chronological-m>
</z30-chronological-m>
<z30-suppl-index-o>
</z30-suppl-index-o>
<z30-85x-type>
</z30-85x-type>
<z30-depository-id>
</z30-depository-id>
<z30-linking-number>000000000</z30-linking-number>
<z30-gap-indicator>
</z30-gap-indicator>
</z30>
<session-id>EAD219LA1F9K3NRRFQGP6GL2EGBMPYKRLF83GHYAXXPSVK1SHI</session-id>
</ill-ITEM-INFO>
```



# Possible Error Codes

1. If the X-Service is activated without a document number and item sequence having been given, the following error message appears in the XML output:

```
<error>Both  
doc_number  
and  
item_seq  
should  
be  
supplied</error>
```

2. If item record could not been found:

```
<error>Item  
record  
could  
not be  
found</error>
```

<a href="#">General Purpose</a>	<a href="#">Input Parameters</a>	<a href="#">Output XML Format</a>	<a href="#">Possible Error Codes</a>
---------------------------------	----------------------------------	-----------------------------------	--------------------------------------

# ILL Loan Information X-Service

## General Purpose

This service retrieves holdings (HOL) information for the Union Catalog document number given by the user.

## Input Parameters

1. LIBRARY . X (5).
2. DOC\_NUM . 9 (9).
3. ITEM\_SEQ . 9 (6).

### Note:

All parameters are mandatory.

- **Library:** The library in which the loaned Item is located.
- **Docno / Doc\_no / Doc\_number:** The document from which the given item's loan record is requested.
- **Itemseq / Item\_seq / Item\_sequence:** The item sequence.

## Output XML Format

The XML output includes the loan record.

## Example

To get the loan record of an item from document number: *000000015*, with item sequence *000010*, from library *USM50*, enter the following URL:

`http://ram19:4178/X?op=ill-loan-info&doc_number=000000015&item_seq=000010&library=usm50`

If all goes well, the XML output will be:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<ill-LOAN-INFO>
- <z36>
  <z36-doc-number>000000015</z36-doc-number>
  <z36-item-sequence>000010</z36-item-sequence>
  <z36-id>00084949</z36-id>
  <z36-number>000009069</z36-number>
  <z36-material>BOOK</z36-material>
  <z36-sublibrary>Main
Library</z36-sublibrary>
  <z36-status>A</z36-status>
  <z36-loan-date>May/18/2004</z36-loan-date>
  <z36-loan-hour>12:36</z36-loan-hour>
  <z36-due-date>September/10/2004</z36-due-date>
```

```
<z36-due-hour>24:00</z36-due-hour>
<z36-returned-date
/>
<z36-returned-hour
/>
<z36-item-status>01</z36-item-status>
<z36-bor-status>Faculty</z36-bor-status>
<z36-letter-number>0</z36-letter-number>
<z36-letter-date
/>
<z36-no-renewal>0</z36-no-renewal>
<z36-note-1
/>
<z36-note-2
/>
<z36-loan-cataloger-name>10.1.235.152</z36-loan-cataloger-name>
<z36-return-cataloger-name
/>
<z36-renew-cataloger-name
/>
<z36-renew-mode
/>
<z36-bor-type>AS</z36-bor-type>
<z36-note-alpha
/>
<z36-recall-date
/>
<z36-recall-due-date
/>
<z36-last-renew-date
/>
<z36-original-due-date>September/10/2004</z36-original-due-date>
<z36-process-status
/>
<z36-loan-type
/>
<z36-proxy-id
/>
<z36-recall-type
/>
</z36>
<session-id>7YVD8VXCNCGIVA9DJ12YLMVI4LXLXY4RBLXCXBAR44THPVMPBH</session-id>
</ill-LOAN-INFO>
```

## Possible Error Codes

1. If the X-Service is activated without a base having been entered, the following error message appears in the XML output:

```
<error>Base
must be
included
in
service
params.</error>
```

2. If the borrower entered cannot be found in Z303, the following error message appears in the XML output:

```
<error>Error
```

```
reading  
document</error>
```

3. If a document number has not been given, the following error message appears in the XML output:

```
<error>Doc  
Number  
must be  
provided</error>
```

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# ILL Lost Loan X-Service

## General Purpose

This service updates the status of a given loaned item to Lost.

## Input Parameters

1. LIBRARY . X (5).
2. DOC\_NUM . 9 (9).
3. ITEM\_SEQ . 9 (6).

### Note:

All parameters are mandatory.

- **Library:** The library in which the loaned item is located.
- **Docno / Doc\_no / Doc\_number:** The document from which the given item's loan record is requested.
- **Itemseq / Item\_seq / Item\_sequence:** The item sequence.

## Output XML Format

The XML output include session-id only (standard) in the event that updating loaned record to lost goes well, otherwise, an error message is generated.

## Example

To update the loaned item's status (from *A*) to Lost for an item with document number *000000015*, item sequence *000010*, and library *USM50*, enter the following URL:

`http://ram19:4178/X?op=ill-loan-lost&doc_number=000000015&item_seq=000010&library=usm50`

If all goes well, the XML output will include session id only, and Z36\_STATUS will be changed to *L*.

## Possible Error Codes

1. If the X-Service is activated without a document number and item sequence having been given, the following error message appears in the XML output:

```
<error>Both
doc_number
and
item_seq
should
be
supplied</error>
```

2. If the Loan record could not be found:

```
<error>Loan
record
could
```

not be  
found</error>

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# ILL Loan Recall X-Service

## General Purpose

This service changes the due date in the loan record (Z36) for a given item according to the due date inserted in the DUE\_DATE parameter.

## Input Parameters

1. LIBRARY . X (5).
2. DOC\_NUM . 9 (9).
3. ITEM\_SEQ . 9 (6).
4. DUE\_DATE . 9 (8).

### Note:

All parameters are mandatory.

- **Library:** The library in which the loaned Item is located.
- **Docno / Doc\_no / Doc-no / Doc\_number / Doc-number:** The document from which a given item's loan record is requested for the new due date.
- **Itemseq / Item\_seq / Item-seq / Item\_sequence / Item-sequence:** The item sequence.
- **Due\_date / Due-date:** New due date to be shown in the loan record.

## Output XML Format

The XML output includes session-id (standard output) only if all goes well.

## Example

To change the loan due date (current due date is *20040910*) for an item with document number *000000015*, item sequence *000010*, new due date: *20040905*, and library *USM50*, enter the following URL:

[http://ram19:4178/X?op=ill-loan-recall&doc\\_number=000000015&item\\_seq=000010&due\\_date=20040905&library=usm50](http://ram19:4178/X?op=ill-loan-recall&doc_number=000000015&item_seq=000010&due_date=20040905&library=usm50)

If all goes well, the XML output will only include session-id.

## Possible Error Codes

1. If the X-Service is activated without a document number and item sequence, the following error message appears in the XML output:

```
<error>Both
doc_number
and
item_seq
should
be
supplied</error>
```

2. If no due date has been given:

```
<error>Due_date
must not
be
empty</error>
```

3. If the Loan record could not be found:

```
<error>Loan
record
could
not be
found</error>
```

4. If the update of the new due date failed for some reason:

```
<error>Failed
to
update
```

Explanation of ILL Loan Recall X-Service

new due  
date to  
Loan  
record</error>



<a href="#">General Purpose</a>	<a href="#">Input Parameters</a>	<a href="#">Output XML Format</a>	<a href="#">Possible Error Codes</a>
---------------------------------	----------------------------------	-----------------------------------	--------------------------------------

# ILL Loan Renewal X-Service

## General Purpose

This service renews a loan for a specific item, based on the parameters given by the user, after checking if renewal is possible according to the tab\_delinq table and so on.

## Input Parameters

1. LIBRARY . X (5).
2. DOC\_NUM . 9 (9).
3. ITEM\_SEQ . 9 (6).
4. RENEW\_DATE . 9 (8).
5. RENEW\_HOUR . 9 (4).
6. CATALOGER\_NAME . X (10).

### Note:

Renew hour is not mandatory. If it is not filled in, the default will be 24:00.

The Cataloger name is also not mandatory.

- **Library**: The library in which the item is located.
- **Docno / Doc\_no / Doc\_number**: The document from which the given item is to be renewed.
- **Itemseq / Item\_seq / Item\_sequence**: The item sequence.
- **Renew-date / Renew\_date**: New renew date to be updated in the loan record.
- **Renew-hour / Renew\_hour**: New renew hour to be updated in the loan record.
- **Cataloger-name / Cataloger\_name**: Cataloger who performs the due date renewal to be updated in the loan record.

## Output XML Format

The XML output includes session-id (standard output) only in the event that everything goes well, otherwise it includes an error message.

### Example

To renew the due date for an item with document number *000000015*, item sequence *000010*, new due date *20040415*, new due hour *21:45*, and library *USM50*, enter the following URL:

[http://ram19:4178/X?op=ill-loan-renew&doc\\_number=000000015&item\\_seq=000010&renew\\_date=20040915&renew\\_hour=2145&library=usm50](http://ram19:4178/X?op=ill-loan-renew&doc_number=000000015&item_seq=000010&renew_date=20040915&renew_hour=2145&library=usm50)

If all goes well, the XML output will include the session-id only.

## Possible Error Codes

1. If the X-Service is activated without a document number and item sequence having been given, the following error message appears in the XML output:

```
<error>Both
doc_number
and
item_seq
should
be
supplied</error>
```

2. If the due date has not been given or if zeroes have been inserted as the due date:

```
<error>Renew_date
should
be
supplied</error>
```

3. If the item record could not be found:

```
<error>Item
record
could
not be
found</error>
```

4. If the loan record could not be found for the item:

```
<error>Loan
record
could
not be
found</error>
```

## Explanation of ILL Loan Renewal X-Service

5. If the local record could not be found for the patron:

```
<error>Local  
record  
of  
patron  
could  
not be  
found</error>
```

6. If, for some reason, due date renewing fails:

```
<error>Failed  
to Renew  
item</error>
```

<a href="#">General Purpose</a>	<a href="#">Input Parameters</a>	<a href="#">Output XML Format</a>	<a href="#">Possible Error Codes</a>
---------------------------------	----------------------------------	-----------------------------------	--------------------------------------

# ILL Loan Return X-Service

## General Purpose

This service returns a loan for a specific item (deletes the loan record and updates the item record, and so on), based on the parameters entered. In any event, an indication of whether or not the item is a late return is generated in the XML output.

## Input Parameters

1. LIBRARY . X (5).
2. DOC\_NUM . 9 (9).
3. ITEM\_SEQ . 9 (6).
4. RETURN\_DATE . 9 (8).
5. RETURN\_HOUR . 9 (4).
6. CATALOGER\_NAME . X (10).

### Note:

Return Date, Return Hour and Cataloger name are not mandatory. If the return date and return hour are not supplied, the current date will be considered as the return date.

- **Library:** The library in which the Item is located.
- **Docno / Doc\_no / Doc-no / Doc\_number / Doc-number /:** The document from which the given item is to be returned.
- **Itemseq / Item\_seq / Item-seq / Item-sequence / Item\_sequence:** The item sequence.
- **Return-date / Return\_date:** Return date to be entered.
- **Return-hour / Return\_hour:** Return hour to be entered.
- **Cataloger-name / Cataloger\_name:** Cataloger performing the return to be entered in the loan record.

## Output XML Format

The XML output includes an indication of whether or not the item is a late return. If an error occurs, an error message appears.

### Example

To return an item with document number *000000015*, item sequence *000010*, return date *20040410*, return hour *21:45*, and library *USM50*, enter the following URL:

[http://ram19:4178/X?op=ill-loan-return&doc\\_number=000000015&item\\_seq=000010&return\\_date=20040910&renew\\_hour=2145&library=usm50](http://ram19:4178/X?op=ill-loan-return&doc_number=000000015&item_seq=000010&return_date=20040910&renew_hour=2145&library=usm50)

If all goes well, the XML output will be:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<ill-loan-return>
  <late-return>N</late-return>
<session-id>TV1CXQDIHSG37PUJEQRQDR9UY15AAEK7G2YC1IRHA76BHS17IR</session-id>
</ill-loan-return>
```

## Possible Error Codes

1. If the X-Service is activated without a document number and item sequence having been given, the following error message appears in the XML output:

```
<error>Both
doc_number
and
item_seq
should
be
supplied</error>
```

2. If the item record could not be found:

```
<error>Item
record
could
not be
found</error>
```

3. If the loan record could not be found for the item:

```
<error>Loan
record
could
not be
```

## Explanation of ILL Loan Return X-Service

found</error>

4. If, for some reason, the return failed:

```
<error>Failed  
to  
return  
item</error>
```

<a href="#">General Purpose</a>	<a href="#">Input Parameters</a>	<a href="#">Output XML Format</a>	<a href="#">Possible Error Codes</a>
---------------------------------	----------------------------------	-----------------------------------	--------------------------------------

# ILL Print Holdings X-Service

## General Purpose

This service retrieves holdings data for a given document under a given BIB library. The holdings data is given per each line of the given document with the code 852 and with same sublibrary (as it appears in subfield b) as the given unit (input parameter):

- call no data - the value under subfield h in the line with code 852.
- summary data - All there is under the line with the code 866 (except for subfield 8).

### Note:

Filtering based on sublibrary (unit) will only be carried out if the unit has been given, otherwise every sublibrary in the 852 line will be shown.

## Input Parameters

1. LIBRARY . X (5).
2. BIB\_LIBRARY . X (5).
3. BIB\_DOC\_NUM . 9 (9).
4. HOLD\_UNIT . X (5).
5. MAX\_NO\_ITEMS . 9 (3).

### Note:

- Hold unit is not mandatory. To filter the data per sublibrary, this parameter must be supplied.
- Max\_no\_items is mandatory. If it is not filled, then no records will be shown.
- **Library:** ADM library.
- **BIB\_library:** The library in which the BIB document is stored.
- **BIB\_doc\_number / Doc\_number :** The document which is located under the given BIB library, and for which HOL data is requested.
- **Unit:** Sublibrary for filtering.
- **Max\_no\_items:** Maximum number of records to be printed in the XML output.

## Output XML Format

The XML output will include the following for each 852 line in the given document (after performing checks):

- call no data - the value under subfield h in line with code= 852.
- summary data - all there is under each 866 line (except for subfield 8).

## Example

To retrieve holdings data for library *USM60*, document number: *000000528*, unit *HYL*, max\_no\_items *20*, enter the following URL:

[http://ram19:4178/X?op=ill-print-holdings&bib\\_doc\\_number=000000528&unit=HYL&max\\_no\\_items=20&bib\\_library=usm60](http://ram19:4178/X?op=ill-print-holdings&bib_doc_number=000000528&unit=HYL&max_no_items=20&bib_library=usm60)

If all goes well, the XML output will be:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<ill-print-holdings>
- <hold>
  <call-no-data>J</call-no-data>
  <summary-data>v.
2-4
complete,
bd. in 3
(1959-1962);
v. 6
```

bd.

```
(1964)</summary-data>
```

```
</hold>
```

```
<session-id>XDQY458GULDX78B7D1VJ9UA638NC885YJ4V229YQ1N2BXNCAG5</session-id>
```

```
</ill-print-holdings>
```

## Possible Error Codes

1. If the X-Service is activated without a document number and BIB library having been given, the following error message appears in the XML output:

```
<error>Both  
bib_library  
and  
doc_number  
should  
be  
supplied</error>
```

<a href="#">General Purpose</a>	<a href="#">Input Parameters</a>	<a href="#">Output XML Format</a>	<a href="#">Possible Error Codes</a>
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# ILL Print Items X-Service

## General Purpose

This service retrieves all item records for a given document which are not on loan, based on the filter parameters entered. The options for filtering records are as follows:

- Filter records per given sublibraries.
- Filter records per given media (after making circulation checks), based on the given borrower ID (Patron).

## Input Parameters

1. BIB\_LIBRARY . X (5).
2. BIB\_DOC\_NUM . 9 (9).
3. SUB\_LIBRARY . X (5) - This is an array that can hold up to 20 sublibraries.
4. BOR\_ID . X (12).
5. BOR\_MEDIA . X (20).
6. MAX\_NO\_ITEMS . 9 (3).

### Note:

- You can filter item records based on sublibraries. Under the sub\_libs parameter, you can refer to a maximum of 20 sublibraries.

Only items records with a listed sublibrary will be shown. To populate sub\_libs with, for example, LAW & LAM sublibraries, enter:

```
sub_libs=LAW
LAM . . .
```

Leave a space between different sublibraries.

- Media will be filled with L or Loan or C or Copy.
- **BIB\_library**: The library in which the BIB document is stored. The items will be found in the ADM library associated with this particular BIB library for the given document (via Z103).
- **BIB\_doc\_number / Doc\_number** : The document which is located under the given BIB library, for which some (or all) of its items records are to be retrieved.
- **Sub\_libs**: One or more (up to 20) sublibraries. Only items located under listed sublibraries (Z30\_SUB\_LIBRARY) will be shown. If no sublibrary is given, then no filtering based on sublibraries will be carried out.
- **Bor\_id**: Filtering can be done per patron. If there is no local record for the given patron, no record will be shown. If such a record exists, circulations checks will be performed for this patron.
- **Media**: Checks can be performed based on OP. In this case, the possibilities are *L* (Loan) and *C* (Copy).
- **Max\_no\_items**: Maximum number of records to be printed in the XML output.

## Output XML Format

The XML output will include all item records which have passed the filter's parameters.

### Example

To retrieve item records for BIB\_library *USM01*, BIB document number: 000050035, sublibrary *WID*, Bor\_id *00000012*, Media *Copy*, Max\_no\_items *20*, enter the following URL:

[http://ram19:4178/X?op=ill-print-items&bib\\_library=usm01&bib\\_doc\\_number=000050035&sub\\_libs=WID&bor\\_id=00000012&media=copy&max\\_no\\_items=20](http://ram19:4178/X?op=ill-print-items&bib_library=usm01&bib_doc_number=000050035&sub_libs=WID&bor_id=00000012&media=copy&max_no_items=20)

If all goes well, the XML output will be:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<ill-print-items>
- <item>
- <z30>
  <z30-doc-number>50035</z30-doc-number>
  <z30-item-sequence>10</z30-item-sequence>
  <z30-barcode
/>
  <z30-sublibrary
/>
  <z30-material
/>
  <z30-item-status
/>
  <z30-open-date
/>
  <z30-update-date
/>
  <z30-cataloger
/>
  <z30-date-last-return
/>
  <z30-hour-last-return
/>
  <z30-ip-last-return
```

## Explanation of ILL Print Items X-Service

```
</>
<z30-no-loans>000</z30-no-loans>
<z30-alpha
</>
<z30-collection
</>
<z30-call-no-type
</>
<z30-call-no
</>
<z30-call-no-key
</>
<z30-call-no-2-type
</>
<z30-call-no-2
</>
<z30-call-no-2-key
</>
<z30-description
</>
<z30-note-opac
</>
<z30-note-circulation
</>
<z30-note-internal
</>
<z30-order-number
</>
<z30-inventory-number
</>
<z30-inventory-number-date
</>
<z30-last-shelf-report-date>00000000</z30-last-shelf-report-date>
<z30-price
</>
<z30-shelf-number
</>
<z30-on-shelf-date>00000000</z30-on-shelf-date>
<z30-on-shelf-seq>000000</z30-on-shelf-seq>

<z30-doc-number-2>000000000</z30-doc-number-2>
<z30-schedule-sequence-2>00000</z30-schedule-sequence-2>
<z30-copy-sequence-2>00000</z30-copy-sequence-2>
<z30-vendor-code
</>
<z30-invoice-number
</>
<z30-line-number>00000</z30-line-number>
<z30-pages
</>
<z30-issue-date
</>
<z30-expected-arrival-date
</>
<z30-arrival-date
</>
<z30-item-statistic
</>
<z30-item-process-status
</>
<z30-copy-id
</>
<z30-hol-doc-number>000000000</z30-hol-doc-number>
<z30-temp-location
</>
<z30-enumeration-a
</>
<z30-enumeration-b
</>
<z30-enumeration-c
</>
<z30-enumeration-d
</>
<z30-enumeration-e
</>
<z30-enumeration-f
</>
<z30-enumeration-g
</>
<z30-enumeration-h
</>
<z30-chronological-i
</>
<z30-chronological-j
</>
<z30-chronological-k
</>
<z30-chronological-l
</>
```



## Explanation of ILL Print Items X-Service

```
<z30-chronological-m
/>
<z30-suppl-index-o
/>
<z30-85x-type
/>
<z30-depository-id
/>
<z30-linking-number>000000000</z30-linking-number>
<z30-gap-indicator
/>
</z30>
</item>
<session-id>GGGJD7C9YSDAUCTECK2E1455TLNYD4U9BEH9T89V1SPXQXHY4</session-id>
</ill-print-items>
```

## Possible Error Codes

1. If the X-Service is activated without a document number and BIB library having been entered, the following error message appears in the XML output:

```
<error>Both
doc_number
and
bib_library
should
be
supplied</error>
```

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# Item Data X-Service

## General Purpose

The service takes a document number from the user, and for each of the document's items retrieves the following:

- Item information (from Z30).
- Loan information (from Z36).
- Indication of whether or not the request is on-hold and so on.

## Input Parameters

1. LIBRARY - X (5).
2. SYS\_NUMBER - 9 (9).

### Note:

Library is mandatory.

- **Library** : The library of the loaned Item.
- **Doc\_Number / Doc\_Num / Sys\_Number** : Document for which item information is to be retrieved.

## Output XML Format

The XML output includes part of the fields of Z30 and Z36, as well as a indication (Y / N) if an item is on hold and so on.

## Example

If you want to get item data on all items of document number *10* under base *LAM* (there are three items for this document), enter the following URL:

`http://ram19:8995/X?op=itemdata&doc_number=000000010&base=LAM`

If all goes well, the XML output will be:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
```

```

-
<item-data>
  <rec-key>0000000100000010</rec-key>
  <barcode>32044014006092</barcode>
  <sublibrary>Main
Library</sublibrary>
  <collection>WIDHE</collection>
  <item-status>01</item-status>
  <note
/>
  <call-no-1>$$hBM522.26$$i.E58
x
1981</call-no-1>
  <call-no-2
/>
  <library>USM50</library>
  <on-hold>N</on-hold>
  <requested>N</requested>
  <expected>N</expected>
  <rec-key>0000000100000020</rec-key>
  <barcode>32044060563244</barcode>
  <sublibrary>Law
Library</sublibrary>
  <collection>ILS</collection>
  <item-status>01</item-status>
  <note
/>
  <call-no-1>$$hBM522.26$$i.E542
1981
SMON</call-no-1>
  <call-no-2
/>

```

## Possible Error Codes

1. If the X-Service is activated without a document number having been given, the following error message appears in the XML output:
 

```

<error>Doc_Number
must be
supplied</error>

```
2. If the X-Service is activated without a base having been given, the following error message appears in the XML output:
 

```

<error>Base
must be

```

```
included  
in  
service  
params.</error>
```

3. If, for some reason, an error occurs during the retrieval of the Z30 items of the document:

```
<error>Error  
reading  
document</error>
```

4. If no items are associated with the given document:

```
<error>No  
associated  
items</error>
```

[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# Present X-Service

## General Purpose

This service retrieves OAI XML format of expanded documents. You can view documents according to the locations within a specific set number.

## Input Parameters

1. SET\_NUMBER . 9 (6).

2. SET\_ENTRY . 9 (9).

3. FORMAT . X (10).

4. CHAR\_CONV . X (20).

- **Set\_Number / Set\_No**: Set number in which set entries are to be checked. This parameter is mandatory.
- **Set\_Entry**: This field contains the set entries within the given set number. The set entries represent the entries in the Z110 (documents) to be viewed in OAI XML format. There are two possible formats:

- Range of entries *000000001-000000012*

This means that you want to get information on documents located in entries 1 to 12 within the given set number. In this format, the order should be: *lower number entry-higher number entry*

- Single documents, separated into entries: *000000001,000000005,000000010*. That means that you want to get information on documents located in entries 1, 5 and 10 within the given set number.

In both formats, the number of requested entries must not exceed 99.

This parameter is mandatory.

- **Format / Record\_Format** : marc or marc\_latin. Format is not mandatory and the default is marc.
- **Char\_Conv**: Character conversion in document.

## Output XML Format

The XML output includes OAI XML format including the following data for each of the documents located in the range of set entries (or specific set entries) given:

- Set Entry number
- Document number
- OAI format of the expand document, based on the expand procedures defined in the tab\_expand table of the given base for WWW-X.

## Example

- To get OAI XML output for set entries 1 to 3 under set number 000936 in base USM01, enter the following URL:

[http://ram19:8995/X?op=present&set\\_entry=000000001-000000003&set\\_number=000936&base=usm01](http://ram19:8995/X?op=present&set_entry=000000001-000000003&set_number=000936&base=usm01)

If all goes well, the XML output will be:

```
<?xml
version
= "1.0"
encoding
=
"UTF-8"?>
<present>
<record>
<record_header>
<set_entry>000000001</set_entry>
</record_header>
<doc_number>49714</doc_number>
<metadata>
<oai_marc>
<fixfield
id="FMT">SE</fixfield>
<fixfield
id="LDR">01036aas^^2200313^a^4500</fixfield>
<fixfield
id="001">000049714-2</fixfield>
<fixfield
id="005">20020418155342.1</fixfield>
<fixfield
id="008">790312c19669999ja^mr^p^^^^^f0^^^d0jpn^d</fixfield>
<varfield
id="010"
i1=" "
i2=" ">
<subfield
label="a">^^^93659629^/AJ/V</subfield>
</varfield>
<varfield
id="022"
i1=" "
i2=" ">
<subfield
label="a">0549-401X</subfield>
</varfield>
<varfield
id="035"
i1="0"
i2=" ">
<subfield
label="a">(OCoLC)04733851</subfield>
</varfield>
<varfield
id="037"
i1=" "
i2=" ">
<subfield
label="b">Shibund.,
2-11-13
```

Nishi  
 Waseda,  
 Shinjuku-ku,  
 Tokyo  
 169</subfield>  
 </varfield>  
 <varfield  
 id="040"  
 i1=" "  
 i2=" ">  
 <subfield  
 label="a">COO</subfield>  
 <subfield  
 label="c">COO</subfield>  
 <subfield  
 label="d">MUL</subfield>  
 <subfield  
 label="d">IUL</subfield>  
 <subfield  
 label="d">OCL</subfield>  
 <subfield  
 label="d">DLC</subfield>  
 <subfield  
 label="d">HFL</subfield>  
 </varfield>  
 <varfield  
 id="042"  
 i1=" "  
 i2=" ">  
 <subfield  
 label="a">lc</subfield>  
 </varfield>  
 <varfield  
 id="043"  
 i1=" "  
 i2=" ">  
 <subfield  
 label="a">a-ja---</subfield>  
 </varfield>  
 <varfield  
 id="050"  
 i1="0"  
 i2="0">  
 <subfield  
 label="a">N7353</subfield>  
 <subfield  
 label="b">.N537</subfield>  
 </varfield>  
 <varfield  
 id="245"  
 i1="0"  
 i2="0">  
 <subfield  
 label="a">Nihon  
 no  
 bijutsu  
 /</subfield>

```

<subfield
label="c">kansh.
T.ky.
Kokuritsu
Hakubutsukan,
Ky.to
Kokuritsu
Hakubutsukan,
Nara
Kokuritsu
Hakubutsukan.</subfield>
</varfield>
<varfield
id="260"
i1=" "
i2=" ">
<subfield
label="a">T.ky.-to
:</subfield>
<subfield
label="b">Shibund.,</subfield>
<subfield
label="c">Sh.wa
41-nen
[1966]-</subfield>
</varfield>
<varfield
id="300"
i1=" "
i2=" ">
<subfield
label="a">v.
:</subfield>
<subfield
label="b">ill.
;</subfield>
<subfield
label="c">23-25
cm.</subfield>
</varfield>
<varfield
id="310"
i1=" "
i2=" ">
<subfield
label="a">Monthly</subfield>
</varfield>
<varfield
id="362"
i1="0"
i2=" ">
<subfield
label="a">No.
1
(&apos;66,
5)-</subfield>
</varfield>

```



```

<varfield
id="500"
i1=" "
i2=" ">
<subfield
label="a">Each
no. has
also a
distinctive
title.</subfield>
</varfield>
<varfield
id="650"
i1=" "
i2="0">
<subfield
label="a">Art,
Japanese</subfield>
<subfield
label="y">To
1868</subfield>
<subfield
label="x">Periodicals.</subfield>
</varfield>
<varfield
id="710"
i1="2"
i2=" ">
<subfield
label="a">T.ky.
Kokuritsu
Hakubutsukan.</subfield>
</varfield>
<varfield
id="710"
i1="2"
i2=" ">
<subfield
label="a">Ky.to
Kokuritsu
Hakubutsukan.</subfield>
</varfield>
<varfield
id="710"
i1="2"
i2=" ">
<subfield
label="a">Nara
Kokuritsu
Hakubutsukan.</subfield>
</varfield>
<varfield
id="CAT"
i1=" "
i2=" ">
<subfield
label="a">CONV</subfield>
<subfield

```

```

label="b">00</subfield>
<subfield
label="c">20040307</subfield>
<subfield
label="l">USM01</subfield>
<subfield
label="h">1200</subfield>
</varfield>
<varfield
id="CAT"
i1=" "
i2=" ">
<subfield
label="a">CONV</subfield>
<subfield
label="b">00</subfield>
<subfield
label="c">20040307</subfield>
<subfield
label="l">USM01</subfield>
<subfield
label="h">1407</subfield>
</varfield>
</oai_marc>
</metadata>
</record>
<record>
<record_header>
<set_entry>000000002</set_entry>
</record_header>
<doc_number>49283</doc_number>
<metadata>
<oai_marc>
<fixfield
id="FMT">BK</fixfield>
<fixfield
id="LDR">00717nam^^2200217^a^4500</fixfield>
<fixfield
id="001">000049283-3</fixfield>
<fixfield
id="005">20020418155342.1</fixfield>
<fixfield
id="008">960712s1928^^^^p1^^^^^^b^^^^001^0^pol^d</fixfield>
<varfield
id="040"
i1=" "
i2=" ">
<subfield
label="a">HLS</subfield>
<subfield
label="c">HLS</subfield>
<subfield
label="d">HMM</subfield>
</varfield>
<varfield
id="100"
i1="1"

```

```

i2=" ">
<subfield
label="a">Sobeski,
Micha.,</subfield>
<subfield
label="d">1877-1939.</subfield>
</varfield>
<varfield
id="245"
i1="1"
i2="0">
<subfield
label="a">Z
pogranicza
sztuki i
filozofji
/</subfield>
<subfield
label="c">Micha.
Sobeski.</subfield>
</varfield>
<varfield
id="260"
i1=" "
i2=" ">
<subfield
label="a">Pozna.
:</subfield>
<subfield
label="b">Fischer
i
Majewski,</subfield>
<subfield
label="c">1928.</subfield>
</varfield>
<varfield
id="300"
i1=" "
i2=" ">
<subfield
label="a">268
p.
;</subfield>
<subfield
label="c">25
cm.</subfield>
</varfield>
<varfield
id="504"
i1=" "
i2=" ">
<subfield
label="a">Includes
bibliographical
references
and
index.</subfield>
</varfield>

```

```

<varfield
id="650"
i1=" "
i2="0">
<subfield
label="a">Aesthetics.</subfield>
</varfield>
<varfield
id="650"
i1=" "
i2="0">
<subfield
label="a">Art</subfield>
<subfield
label="x">Philosophy.</subfield>
</varfield>
<varfield
id="650"
i1=" "
i2="0">
<subfield
label="a">Literature</subfield>
<subfield
label="x">Philosophy.</subfield>
</varfield>
<varfield
id="830"
i1=" "
i2="0">
<subfield
label="5">mmf</subfield>
<subfield
label="a">Harvard
College
Library
preservation
microfilm
program
; </subfield>
<subfield
label="v">00788.</subfield>
</varfield>
<varfield
id="CAT"
i1=" "
i2=" ">
<subfield
label="a">CONV</subfield>
<subfield
label="b">00</subfield>
<subfield
label="c">20040307</subfield>
<subfield
label="l">USM01</subfield>
<subfield
label="h">1200</subfield>
</varfield>

```

```

<varfield
id="CAT"
i1=" "
i2=" ">
<subfield
label="a">CONV</subfield>
<subfield
label="b">00</subfield>
<subfield
label="c">20040307</subfield>
<subfield
label="l">USM01</subfield>
<subfield
label="h">1407</subfield>
</varfield>
</oai_marc>
</metadata>
</record>
<record>
<record_header>
<set_entry>000000003</set_entry>
</record_header>
<doc_number>49238</doc_number>
<metadata>
<oai_marc>
<fixfield
id="FMT">BK</fixfield>
<fixfield
id="LDR">00908na9^^22001815a^4500</fixfield>
<fixfield
id="001">000049238-8</fixfield>
<fixfield
id="005">20020418155342.1</fixfield>
<fixfield
id="008">940921|||||||gw^||||||||||||||ger||</fixfield>
<varfield
id="100"
i1="1"
i2=" ">
<subfield
label="a">Palandt,
Otto,</subfield>
<subfield
label="d">1877-1951.</subfield>
</varfield>
<varfield
id="245"
i1="1"
i2="0">
<subfield
label="a">Bürgerliches
Gesetzbuch
:</subfield>
<subfield
label="b">mit
Einführungsgesetz,
Gesetz

```

zur  
Regelung  
des  
Rechts  
der  
Allgemeinen  
Geschäftsbedingungen,  
Verbraucherkreditgesetz,  
Gesetz  
über den  
Widerruf  
von  
Haustürgeschäften  
und  
ähnlichen  
Geschäften,  
Gesetz  
zur  
Regelung  
der  
Miethöhe  
(Art. 3  
des 2.  
WKSchG),  
Produkthaftungsgesetz,  
Erbbaurechtsverordnung,  
Wohnungseigentumsgesetz,  
Ehegesetz,  
Hausratsverordnung  
</subfield>  
<subfield  
label="c">Palandt  
;  
bearbeitet  
von  
Peter  
Bassenge  
...  
[et  
al.]</subfield>  
</varfield>  
<varfield  
id="260"  
i1=" "  
i2=" ">  
<subfield  
label="a">München  
</subfield>  
<subfield  
label="b">C.H.  
Beck,</subfield>  
</varfield>  
<varfield  
id="490"  
i1="0"  
i2=" ">  
<subfield

label="a">Beck&apos;sche  
Kurz-Kommentare  
</subfield>  
<subfield  
label="v">Bd.  
7</subfield>  
</varfield>  
<varfield  
id="700"  
i1="1"  
i2=" ">  
<subfield  
label="a">Bassenge,  
Peter.</subfield>  
</varfield>  
<varfield  
id="710"  
i1="1"  
i2="2">  
<subfield  
label="a">Germany.</subfield>  
<subfield  
label="t">Bürgerliches  
Gesetzbuch.</subfield>  
</varfield>  
<varfield  
id="STA"  
i1=" "  
i2=" ">  
<subfield  
label="a">SUPPRESSED</subfield>  
</varfield>  
<varfield  
id="CAT"  
i1=" "  
i2=" ">  
<subfield  
label="a">CONV</subfield>  
<subfield  
label="b">00</subfield>  
<subfield  
label="c">20040307</subfield>  
<subfield  
label="l">USM01</subfield>  
<subfield  
label="h">1200</subfield>  
</varfield>  
<varfield  
id="CAT"  
i1=" "  
i2=" ">  
<subfield  
label="a">CONV</subfield>  
<subfield  
label="b">00</subfield>  
<subfield  
label="c">20040307</subfield>  
<subfield

```
label="l">USM01</subfield>
<subfield
label="h">1407</subfield>
</varfield>
</oai_marc>
</metadata>
</record>
<session-id>Q6EDSR58UC9DHE1MRRYG6K4UAR3UJ7APB76ESRTJMH62X8SGGK</session-id>
</present>
```

To get OAI XML for set entries *1* and *3* under Set Number *000936* in base *USM01* (unlike the first example, here we are not interested in set entry number 2), enter the following URL:

[http://ram19:8995/X?op=present&set\\_entry=000000001,000000003&set\\_number=000936&base=usm01](http://ram19:8995/X?op=present&set_entry=000000001,000000003&set_number=000936&base=usm01)

If all goes well, the XML output will be:

```
<?xml
version
= "1.0"
encoding
=
"UTF-8"?>
<present>
<record>
<record_header>
<set_entry>000000001</set_entry>
</record_header>
<doc_number>49714</doc_number>
<metadata>
<oai_marc>
<fixfield
id="FMT">SE</fixfield>
<fixfield
id="LDR">01036aas^^2200313^a^4500</fixfield>
<fixfield
id="001">000049714-2</fixfield>
<fixfield
id="005">20020418155342.1</fixfield>
<fixfield
id="008">790312c19669999ja^mr^p^^^^^f0^^^d0jpn^d</fixfield>
<varfield
id="010"
i1=" "
i2=" ">
<subfield
label="a">^^^93659629^/AJ/V</subfield>
</varfield>
<varfield
id="022"
i1=" "
i2=" ">
<subfield
label="a">0549-401X</subfield>
</varfield>
<varfield
id="035"
i1="0"
i2=" ">
<subfield
```



```

label="a">(OCoLC)04733851</subfield>
</varfield>
<varfield
id="037"
i1=" "
i2=" ">
<subfield
label="b">Shibund.,
2-11-13
Nishi
Waseda,
Shinjuku-ku,
Tokyo
169</subfield>
</varfield>
<varfield
id="040"
i1=" "
i2=" ">
<subfield
label="a">COO</subfield>
<subfield
label="c">COO</subfield>
<subfield
label="d">MUL</subfield>
<subfield
label="d">IUL</subfield>

<subfield
label="d">OCL</subfield>
<subfield
label="d">DLC</subfield>
<subfield
label="d">HFL</subfield>
</varfield>
<varfield
id="042"
i1=" "
i2=" ">
<subfield
label="a">lc</subfield>
</varfield>
<varfield
id="043"
i1=" "
i2=" ">
<subfield
label="a">a-ja---</subfield>
</varfield>
<varfield
id="050"
i1="0"
i2="0">
<subfield
label="a">N7353</subfield>
<subfield
label="b">.N537</subfield>
</varfield>

```

```

<varfield
id="245"
i1="0"
i2="0">
<subfield
label="a">Nihon
no
bijutsu
/</subfield>
<subfield
label="c">kansh.
T.ky.
Kokuritsu
Hakubutsukan,
Ky.to
Kokuritsu
Hakubutsukan,
Nara
Kokuritsu
Hakubutsukan.</subfield>
</varfield>
<varfield
id="260"
i1=" "
i2=" ">
<subfield
label="a">T.ky.-to
:</subfield>
<subfield
label="b">Shibund.,</subfield>
<subfield
label="c">Sh.wa
41-nen
[1966]-</subfield>
</varfield>
<varfield
id="300"
i1=" "
i2=" ">
<subfield
label="a">v.
:</subfield>
<subfield
label="b">ill.
;</subfield>
<subfield
label="c">23-25
cm.</subfield>
</varfield>
<varfield
id="310"
i1=" "
i2=" ">
<subfield
label="a">Monthly</subfield>
</varfield>
<varfield

```

```

id="362"
i1="0"
i2=" ">
<subfield
label="a">No.
1
(&apos;66,
5)-</subfield>
</varfield>
<varfield
id="500"
i1=" "
i2=" ">
<subfield
label="a">Each
no. has
also a
distinctive
title.</subfield>
</varfield>
<varfield
id="650"
i1=" "
i2="0">
<subfield
label="a">Art,
Japanese</subfield>
<subfield
label="y">To
1868</subfield>
<subfield
label="x">Periodicals.</subfield>
</varfield>
<varfield
id="710"
i1="2"
i2=" ">
<subfield
label="a">T.ky.
Kokuritsu
Hakubutsukan.</subfield>
</varfield>
<varfield
id="710"
i1="2"
i2=" ">
<subfield
label="a">Ky.to
Kokuritsu
Hakubutsukan.</subfield>
</varfield>
<varfield
id="710"
i1="2"
i2=" ">
<subfield
label="a">Nara
Kokuritsu

```

```

Hakubutsukan.</subfield>
</varfield>
<varfield
id="CAT"
i1=" "
i2=" ">
<subfield
label="a">CONV</subfield>
<subfield
label="b">00</subfield>
<subfield
label="c">20040307</subfield>
<subfield
label="l">USM01</subfield>
<subfield
label="h">1200</subfield>
</varfield>
<varfield
id="CAT"
i1=" "
i2=" ">
<subfield
label="a">CONV</subfield>
<subfield
label="b">00</subfield>
<subfield
label="c">20040307</subfield>
<subfield
label="l">USM01</subfield>
<subfield
label="h">1407</subfield>
</varfield>
</oai_marc>
</metadata>
</record>
<record>
<record_header>
<set_entry>000000003</set_entry>
</record_header>
<doc_number>49238</doc_number>
<metadata>
<oai_marc>
<fixfield
id="FMT">BK</fixfield>
<fixfield
id="LDR">00908na9^^22001815a^4500</fixfield>
<fixfield
id="001">000049238-8</fixfield>
<fixfield
id="005">20020418155342.1</fixfield>
<fixfield
id="008">940921|||||||gw^||||||||||||||ger||</fixfield>
<varfield
id="100"
i1="1"
i2=" ">
<subfield

```

label="a">Palandt,  
Otto,</subfield>  
<subfield  
label="d">1877-1951.</subfield>  
</varfield>  
<varfield  
id="245"  
i1="1"  
i2="0">  
<subfield  
label="a">Bürgerliches  
Gesetzbuch  
:</subfield>  
<subfield  
label="b">mit  
Einführungsgesetz,  
Gesetz  
zur  
Regelung  
des  
Rechts  
der  
Allgemeinen  
Geschäftsbedingungen,  
Verbraucherkreditgesetz,  
Gesetz  
über den  
Widerruf  
von  
Haustürgeschäften  
und  
ähnlichen  
Geschäften,  
Gesetz  
zur  
Regelung  
der  
Miethöhe  
(Art. 3  
des 2.  
WKSchG),  
Produkthaftungsgesetz,  
Erbbaurechtsverordnung,  
Wohnungseigentumsgesetz,  
Ehegesetz,  
Hausratsverordnung  
/</subfield>  
<subfield  
label="c">Palandt  
;  
bearbeitet  
von  
Peter  
Bassenge  
...  
[et  
al.].</subfield>  
</varfield>

```

<varfield
id="260"
i1=" "
i2=" ">
<subfield
label="a">München
:</subfield>
<subfield
label="b">C.H.
Beck,</subfield>
</varfield>
<varfield
id="490"
i1="0"
i2=" ">
<subfield
label="a">Beck&apos;sche
Kurz-Kommentare
;</subfield>
<subfield
label="v">Bd.
7</subfield>
</varfield>
<varfield
id="700"
i1="1"
i2=" ">
<subfield
label="a">Bassenge,
Peter.</subfield>
</varfield>
<varfield
id="710"
i1="1"
i2="2">
<subfield
label="a">Germany.</subfield>
<subfield
label="t">Bürgerliches
Gesetzbuch.</subfield>
</varfield>
<varfield
id="STA"
i1=" "
i2=" ">

<subfield
label="a">SUPPRESSED</subfield>
</varfield>
<varfield
id="CAT"
i1=" "
i2=" ">
<subfield
label="a">CONV</subfield>
<subfield
label="b">00</subfield>

```

```

<subfield
label="c">20040307</subfield>
<subfield
label="l">USM01</subfield>
<subfield
label="h">1200</subfield>
</varfield>
<varfield
id="CAT"
i1=" "
i2=" ">
<subfield
label="a">CONV</subfield>
<subfield
label="b">00</subfield>
<subfield
label="c">20040307</subfield>
<subfield
label="l">USM01</subfield>
<subfield
label="h">1407</subfield>
</varfield>
</oai_marc>
</metadata>
</record>
<session-id>YUDFBMMHHXLQ8VH742FLKJ56QHPRX5CIPT7K6DL9V6BYQPLGAB</session-id>
</present>

```

## Possible Error Codes

1. If the given Format (for example, test), is different from marc or marc\_latin, the following error message appears in the XML output:

```

<error>Unsupported
format
test</error>

```

2. If the set number has not been given:

```

<error>Error
reading
set
000000</error>

```

3. If the set entry has not been given:

```

<error>Error
parsing
set
entry</error>

```

4. If the given range of set entries begins with the larger number (for example, set\_entry=000000003-000000001):

```

<error>Error
parsing
set
entry
000000003-000000001</error>

```

5. If the given set entry is non-numeric (for example, aleph):

```

<error>Error
parsing
set

```

```
entry  
aleph</error>
```

6. If the set number could not be found in Z05:

```
<error>Error  
reading  
set  
000936</error>
```



[General Purpose](#)[Input Parameters](#)[Output XML Format](#)[Possible Error Codes](#)

# Renew X-Service

## General Purpose

This service renews the loan of a given item for a given patron. The X-Service renews the loan only if it can be done. If, for example, there is a delinquency on the patron, it will not renew the loan.

## Input Parameters

1. LIBRARY - X (5).
2. REC\_KEY.
  - DOC\_NUMBER - 9 (9).
  - ITEM\_SEQUENCE . 9 (6).
3. ITEM\_BARCODE . X (20).
4. BOR\_ID . X (12).

**Note:**

For REC-KEY, only one of the DOC\_NUMBER or ITEM\_SEQUENCE parameters is required.

- **Library** : The library of the loaned Item.
- **Rec\_Key**: Document Number + Item Sequence (Key of Z30).
- **Item\_Barcode**: ID of the item (Z30).
- **Bor\_Id / Identification/ Id**: Borrower ID (Patron) for renewing.

## Output XML Format

The XML output includes the new due date and due hour if renew goes well. If the loan is overdue, the XML includes an indication that the loan is overdue and that a fine has been incurred as a result.

## Example

To renew a loan for patron *1975* for document number *444* , item sequence *10*, and item barcode *32044024520025*, enter the following URL:

[http://ram19:8995/X?op=renew&doc\\_number=000000444&item\\_sequence=000010&bor\\_id=1975&library=usm50](http://ram19:8995/X?op=renew&doc_number=000000444&item_sequence=000010&bor_id=1975&library=usm50)

The following URL produces the same results since the barcode is a unique identifier, just like the combination of document number and item sequence:

[http://ram19:8995/X?op=renew&item\\_barcode=32044024520025&bor\\_id=1975&library=usm50](http://ram19:8995/X?op=renew&item_barcode=32044024520025&bor_id=1975&library=usm50)

If all goes well, the XML output will be:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<renew>
<reply>ok</reply>
<due-date>20040615</due-date>
<due-hour>2400</due-hour>
<session-
id>DFDXTD74JRF9KQL9XV33D8BB1UKP9U31L64FHRGYDH5LIQ5H23</session-id>
</renew>
```

# Possible Error Codes

1. If the X-Service is activated without a document number + item sequence or item barcode having been given, the following error message appears in the XML output:  

```
<error>Both  
Doc  
number  
and item  
sequence  
should  
be  
filled  
OR item  
barcode  
only.</error>
```
2. If the number of renewal limit has been reached, the following error message appears in the XML output:  

```
<error-text-1>Renewal  
limit  
reached  
- No. of  
renews:  
07  
Limit:  
05.</error-text-1>
```
3. If the renew request is for a loan declared lost, the following error message appears in the XML output:  

```
<error-text-2>Loan  
has been  
declared  
lost.</error-text-2>
```
4. If a library has not been given:  

```
<error>Library  
must be  
included  
in  
service  
params.</error>
```
5. If the document number has not been given, and the barcode has been provided (for example, 39999024520025), but it does not exist in Z30:  

```
<error>Item  
barcode:  
39999024520025  
can not  
be found  
in  
library  
USM50</error>
```
6. If the given document number and item sequence (or barcode) given by user are not in the loan 1record:  

```
<error>Doc  
Num:  
000000444  
Item  
sequence:  
000010  
is not  
Loaned  
in  
library  
USM50</error>
```

7. If the Local record (Z305) cannot be found for the patron:

```
<error>Patron  
ID: 1975  
Sub  
Library:  
WID has  
no Local  
Information.</error>
```

8. If the item cannot be found in the library (Z30):

```
<error>Doc  
Num:  
000000444  
Item  
sequence:  
USM50  
can not  
be found  
in  
library</error>
```

9. If the new given due date (after renewal) is earlier than the current loan's due date:

```
<error>New  
due date  
must be  
bigger  
than  
current  
loan's  
due  
date</error>
```

<a href="#">General Purpose</a>	<a href="#">Input Parameters</a>	<a href="#">Output XML Format</a>	<a href="#">Possible Error Codes</a>
---------------------------------	----------------------------------	-----------------------------------	--------------------------------------

# Sort Set X-Service

## General Purpose

This service re-sorts a specific set of documents according to the parameters given.

## Input Parameters

1. LIBRARY - X (5).
  2. SET\_NUMBER . 9 (6).
  3. SORT\_CODE\_1 . X (2).
  4. SORT\_ORDER\_1 . X (1).
  5. SORT\_CODE\_2 . X (2).
  6. SORT\_ORDER\_2 . X (1).
- **Library:** The library which includes the set to be re-sorted.
  - **Set\_Number / Set\_Num / Set\_No :** The number of the set to be re-sorted.
  - **Sort\_Code\_1:** The first sort is done based on this code.
  - **Sort\_Order\_1:** First sort's direction (Ascending / Descending).
  - **Sort\_Code\_2:** Second sort is done based on this code.
  - **Sort\_Order\_2:** Second sort's direction (Ascending / Descending).

## Output XML Format

The XML output includes session-id only, if the service goes well, as its purpose is to re-sort a set of documents and not to retrieve data. If the service does not go well, the XML includes an error message.

## Example

To sort set number *512* (as in Z05, Z110) as follows:

- First sort, according to title (first code in tab\_sort in record *03*) in Ascending order.
- Second sort, according to year (first code in tab\_sort in record *01*) in Descending order.

Under *USM01* library, enter the following URL:

[http://ram19:8995/X?op=sort-set&library=usm01&set\\_number=512&sort\\_code\\_1=03&sort\\_order\\_1=A&sort\\_code\\_2=01&sort\\_order\\_2=D](http://ram19:8995/X?op=sort-set&library=usm01&set_number=512&sort_code_1=03&sort_order_1=A&sort_code_2=01&sort_order_2=D)

If the input parameters are correct and the re-sorting goes well, the XML will only include session-id (included in all X-Services' output):

```
<?xml
version="1.0"
encoding="UTF-8"
?> -
<sort-set>
<session-id>GC43YBUHV7BY6GR1GU6S31GVIXRKU74FP1KPQ4YAB972YXAM4</session-id>
</sort-set>
```

## Possible Error Codes

1. If the Sort Set X-Service is activated without a library having been entered, the following error message appears in the XML output:

```
<error>Library
must be
included
in
service
params.</error>
```
2. If no set number is given, the following error message appears in the XML output:

```
<error>Set
number
must be
specified</error>
```
3. If one of the four parameters indicating what kind of re-sort is needed is empty, the following error message appears in the XML output:

```
<error>Sort
instructions
```

## Explanation of Sort Set X-Service

```
must be  
given</error>
```

4. If the set number given does not exist in the Z05 table (for example, 999), the following error message appears in the XML output (same message appear if the set number does not exist in Z110):

```
<error>Set  
Number:  
000999  
doesn't  
exist in  
Z05</error>
```

5. If, for some reason, the re-sorting fails (for example, for set 999):

```
<error>Sorting  
set  
number  
000999  
has been  
failed</error>
```

<u>General Purpose</u>	<u>Input Parameters</u>	<u>Output XML Format</u>	<u>Possible Error Codes</u>

# Update Borrower X-Service

## General Purpose

This service performs various actions (Update / Insert / Delete) involving the updating of patron details. Actions affect the Z303, Z304, Z305 and Z308 table based on input XML specifying which action is to be taken on each table and on which patron. The XML includes all of the table's data and is only for a single patron.

## Input Parameters

1. LIBRARY - X (5).
2. UPDATE\_FLAG . X (1).
3. XML\_FULL\_REQ . X (20000).

### Note:

- All logical issues regarding available actions and validation checks are identical to those for the file-20 (PLIF - Patron Loader) service. Refer to the Help file of the Patron loader service in the Circulation GUI.
- Unlike other X-Services, the parameters can include XML up to 20000 characters long. The usual GET /X option is not in use because of the limit in the number of bytes that can be transferred. You need to create a CGI to call the X-Service (update-bor) and send the parameters using the POST method.

- **Library** : Insert the library in which the patron is stored (or will be stored).
- **Update\_flag** : This Y/N flag indicates whether or not the actions are transferred to the database. Enter *N* to view the output XML to predict changes if the database is updated with actually transferring the actions to the database. The default is *N*.
- **Xml\_full\_req**: This is the input XML which specifies which changes are to be performed for the given patron. The structure of the XML is as follows:

```
<?xml version="1.0"?>
<UPDATE-BOR>
  <USER-REC> /* affects
Z303 . Only one such record !! */
<USER-REC-ACTION> </USER-REC-ACTION>
<USER-REC-MATCH-ID-TYPE></USER-REC-MATCH-ID-TYPE>
<USER-REC-MATCH-ID></USER-REC-MATCH-ID>
<USER-REC-ID-1></USER-REC-ID-1>
<USER-REC-ID-2></USER-REC-ID-2>
<USER-REC-VERIFICATION-1></USER-REC-VERIFICATION-1>
<USER-REC-VERIFICATION-2></USER-REC-VERIFICATION-2>
<USER-REC-VERIFICATION-3></USER-REC-VERIFICATION-3>
<USER-REC-NAME-TITLE></USER-REC-NAME-TITLE>
<USER-REC-NAME> </USER-REC-NAME>
<USER-REC-BIRTH-DATE></USER-REC-BIRTH-DATE>
<USER-REC-BUDGET></USER-REC-BUDGET>
<USER-REC-EXPORT-CONSENT> </USER-REC-EXPORT-CONSENT>
<USER-REC-DELINQ-INDEX></USER-REC-DELINQ-INDEX>
<USER-REC-DELINQ></USER-REC-DELINQ>
<USER-REC-DELINQ-N></USER-REC-DELINQ-N>
<USER-REC-FIELD-INDEX></USER-REC-FIELD-INDEX>
<USER-REC-FIELD></USER-REC-FIELD>
<USER-REC-PROFILE-ID></USER-REC-PROFILE-ID>
<USER-REC-ILL-LIBRARY></USER-REC-ILL-LIBRARY>
<USER-REC-HOME-LIBRARY> </USER-REC-HOME-LIBRARY>
<USER-REC-ILL-TOTAL-LIMIT></USER-REC-ILL-TOTAL-LIMIT>
<USER-REC-ILL-ACTIVE-LIMIT></USER-REC-ILL-ACTIVE-LIMIT>
<USER-REC-SEND-ALL-LETT> </USER-REC-SEND-ALL-LETT>
<USER-REC-PROXY-FOR-ID></USER-REC-PROXY-FOR-ID>
<USER-REC-PRIMARY-ID></USER-REC-PRIMARY-ID>
<USER-REC-CON-LNG>ENG</USER-REC-CON-LNG>
  </USER-REC>
<NO-ID-REC></NO-ID-REC> /* - This field
specifies how many login records are about to be specified - affects
Z308*/
  <LOGIN-REC>
<LOGIN-REC-ACTION></LOGIN-REC-ACTION>
<LOGIN-REC-TYPE></LOGIN-REC-TYPE>
<LOGIN-REC-LOGIN></LOGIN-REC-LOGIN>
```

```

<LOGIN-REC-VERIFICATION></LOGIN-REC-VERIFICATION>
<LOGIN-REC-VERIFICATION-TYPE></LOGIN-REC-VERIFICATION-TYPE>
<LOGIN-REC-STATUS> </LOGIN-REC-STATUS>
<LOGIN-REC-ENCRYPTION> </LOGIN-REC-ENCRYPTION>
</LOGIN-REC>
<NO-ADDR-REC></NO-ADDR-REC> /* This field specifies how
many addr records are about to be specified - affects
Z304*/

<ADDR-REC>
<ADDR-REC-ACTION> </ADDR-REC-ACTION>
<ADDR-REC-SEQUENCE></ADDR-REC-SEQUENCE>
<ADDR-REC-TYPE></ADDR-REC-TYPE>
<ADDR-REC-ADDR-1> </ADDR-REC-ADDR-1>
<ADDR-REC-ADDR-2> </ADDR-REC-ADDR-2>
<ADDR-REC-ADDR-3> </ADDR-REC-ADDR-3>
<ADDR-REC-ADDR-4> </ADDR-REC-ADDR-4>
<ADDR-REC-ADDR-5></ADDR-REC-ADDR-5>
<ADDR-REC-ZIP> </ADDR-REC-ZIP>
<ADDR-REC-PHONE></ADDR-REC-PHONE>
<ADDR-REC-PHONE-2></ADDR-REC-PHONE-2>
<ADDR-REC-PHONE-3></ADDR-REC-PHONE-3>
<ADDR-REC-PHONE-4></ADDR-REC-PHONE-4>
<ADDR-REC-E-MAIL> </ADDR-REC-E-MAIL>
<ADDR-REC-START-DATE></ADDR-REC-START-DATE>
<ADDR-REC-STOP-DATE></ADDR-REC-STOP-DATE>
</ADDR-REC>
<NO-BOR-REC></NO-BOR-REC> /* This field specifies how many
bor records are about to be specified - affects Z305*/
<BOR-REC>
<BOR-REC-ACTION> </BOR-REC-ACTION>
<BOR-REC-sublibrary>ALEPH</BOR-REC-sublibrary>
<BOR-REC-TYPE></BOR-REC-TYPE>
<BOR-REC-STATUS></BOR-REC-STATUS>
<BOR-REC-EXPIRY-DATE></BOR-REC-EXPIRY-DATE>
</BOR-REC>
</UPDATE-BOR>

```

## Output XML Format

The XML output includes the patron ID on which actions have be taken and specifies how many records are to be inserted / updated / deleted per each table. If the service does not go well, the XML will include an error message.

### Example

To perform actions for a new patron in USM50, and to transfer changes to the database, in the CGI written, the parameters sent with the POST method should look like this:

```

op=update-bor&library=usm50&update_flag=Y&xml_full_req
version="1.0"?>
<UPDATE-BOR><USER-REC><USER-REC-ACTION>A</USER-REC-ACTION>
<USER-REC-MATCH-ID-TYPE>00</USER-REC-MATCH-ID-TYPE>

```



<USER-REC-MATCH-ID>00000997</USER-REC-MATCH-ID>  
<USER-REC-ID-1>+</USER-REC-ID-1>  
<USER-REC-ID-2>+</USER-REC-ID-2>  
<USER-REC-VERIFICATION-1>+</USER-REC-VERIFICATION-1>  
<USER-REC-VERIFICATION-2>+</USER-REC-VERIFICATION-2>  
<USER-REC-VERIFICATION-3>+</USER-REC-VERIFICATION-3>  
<USER-REC-NAME-TITLE></USER-REC-NAME-TITLE>  
<USER-REC-NAME>Bush, W</USER-REC-NAME>  
<USER-REC-BIRTH-DATE>19930203</USER-REC-BIRTH-DATE>  
<USER-REC-BUDGET></USER-REC-BUDGET>  
<USER-REC-EXPORT-CONSENT>Y</USER-REC-EXPORT-CONSENT>  
<USER-REC-DELINQ-INDEX>1</USER-REC-DELINQ-INDEX>  
<USER-REC-DELINQ>00</USER-REC-DELINQ>  
<USER-REC-DELINQ-N></USER-REC-DELINQ-N>  
<USER-REC-FIELD-INDEX>1</USER-REC-FIELD-INDEX>  
<USER-REC-FIELD></USER-REC-FIELD>  
<USER-REC-PROFILE-ID></USER-REC-PROFILE-ID>  
<USER-REC-ILL-LIBRARY></USER-REC-ILL-LIBRARY>  
<USER-REC-HOME-LIBRARY>HIL</USER-REC-HOME-LIBRARY>  
<USER-REC-ILL-TOTAL-LIMIT>0000</USER-REC-ILL-TOTAL-LIMIT>  
<USER-REC-ILL-ACTIVE-LIMIT>0000</USER-REC-ILL-ACTIVE-LIMIT>  
<USER-REC-SEND-ALL-LETT>Y</USER-REC-SEND-ALL-LETT>  
<USER-REC-PROXY-FOR-ID></USER-REC-PROXY-FOR-ID>  
<USER-REC-PRIMARY-ID></USER-REC-PRIMARY-ID>  
<USER-REC-CON-LNG>ENG</USER-REC-CON-LNG>  
</USER-REC><NO-ID-REC>02</NO-ID-REC>  
<LOGIN-REC>  
<LOGIN-REC-ACTION>I</LOGIN-REC-ACTION>  
<LOGIN-REC-TYPE>00</LOGIN-REC-TYPE>  
<LOGIN-REC-LOGIN>00000997</LOGIN-REC-LOGIN>  
<LOGIN-REC-VERIFICATION>00000997</LOGIN-REC-VERIFICATION>  
<LOGIN-REC-VERIFICATION-TYPE>00</LOGIN-REC-VERIFICATION-TYPE>  
<LOGIN-REC-STATUS>AC</LOGIN-REC-STATUS>  
<LOGIN-REC-ENCRYPTION>N</LOGIN-REC-ENCRYPTION>  
</LOGIN-REC>  
<LOGIN-REC>  
<LOGIN-REC-ACTION>A</LOGIN-REC-ACTION>  
<LOGIN-REC-TYPE>01</LOGIN-REC-TYPE>  
<LOGIN-REC-LOGIN>70339999</LOGIN-REC-LOGIN>  
<LOGIN-REC-VERIFICATION>70339999</LOGIN-REC-VERIFICATION>  
<LOGIN-REC-VERIFICATION-TYPE>00</LOGIN-REC-VERIFICATION-TYPE>  
<LOGIN-REC-STATUS>AC</LOGIN-REC-STATUS>  
<LOGIN-REC-ENCRYPTION>N</LOGIN-REC-ENCRYPTION>  
</LOGIN-REC>  
<NO-ADDR-REC>01</NO-ADDR-REC>  
<ADDR-REC>  
<ADDR-REC-ACTION>I</ADDR-REC-ACTION>  
<ADDR-REC-SEQUENCE>01</ADDR-REC-SEQUENCE>  
<ADDR-REC-TYPE>02</ADDR-REC-TYPE>  
<ADDR-REC-ADDR-1>Bush institute</ADDR-REC-ADDR-1>  
<ADDR-REC-ADDR-2>American music building</ADDR-REC-ADDR-2>  
<ADDR-REC-ADDR-3>Broadway avenue</ADDR-REC-ADDR-3>  
<ADDR-REC-ADDR-4>Wall Street Mail JR456</ADDR-REC-ADDR-4>  
<ADDR-REC-ADDR-5></ADDR-REC-ADDR-5>  
<ADDR-REC-ZIP>JR456</ADDR-REC-ZIP>  
<ADDR-REC-PHONE>212-555-9979</ADDR-REC-PHONE>  
<ADDR-REC-PHONE-2></ADDR-REC-PHONE-2>

```

<ADDR-REC-PHONE-3></ADDR-REC-PHONE-3>
<ADDR-REC-PHONE-4></ADDR-REC-PHONE-4>
<ADDR-REC-E-MAIL>Bush.Bush@exlibris.co.il</ADDR-REC-E-MAIL>
<ADDR-REC-START-DATE>20010314</ADDR-REC-START-DATE>
<ADDR-REC-STOP-DATE>20100523</ADDR-REC-STOP-DATE>
</ADDR-REC>
<NO-BOR-REC>01</NO-BOR-REC>
<BOR-REC>
<BOR-REC-ACTION>A</BOR-REC-ACTION>
<BOR-REC-sublibrary>ALEPH</BOR-REC-sublibrary>
<BOR-REC-TYPE></BOR-REC-TYPE>
<BOR-REC-STATUS>02</BOR-REC-STATUS>
<BOR-REC-EXPIRY-DATE>20080514</BOR-REC-EXPIRY-DATE>
</BOR-REC>
</UPDATE-BOR>

```

If the input parameters are correct and the update goes well, the XML output will be:

```

<?xml version = "1.0" encoding = "UTF-8"?>
<update-bor>
<patron-id>000000477</patron-id>
<table>z303-user record</table>
<num-of-new-rec-inserted>01</num-of-new-rec-inserted>
<num-of-updated-rec>00</num-of-updated-rec>
<num-of-deleted-rec>00</num-of-deleted-rec>
<table>z308-login record</table>
<num-of-new-rec-inserted>02</num-of-new-rec-inserted>
<num-of-updated-rec>00</num-of-updated-rec>
<num-of-deleted-rec>00</num-of-deleted-rec>
<table>z304-address record</table>
<num-of-new-rec-inserted>12</num-of-new-rec-inserted>
<num-of-updated-rec>00</num-of-updated-rec>
<num-of-deleted-rec>00</num-of-deleted-rec>
<table>z305-bor record</table>
<num-of-new-rec-inserted>01</num-of-new-rec-inserted>
<num-of-updated-rec>00</num-of-updated-rec>
<num-of-deleted-rec>00</num-of-deleted-rec>
<error>Record is ready to be processed.
Update DB flag is Off.</error></pre>
<session-
id>MMULU3HNUL5AXYFLLAP63GVQHYTL2S69DD2N7HHG5D153GT373</session-id>
</update-bor>

```

## Possible Error Codes

1. If this X-Service is activated without a library having been entered, the following error message appears in the XML output:

```
<error>Library must be included in service params.</error>
```

2. If an XML file has not been provided:

```
<error> xml must be provided to update patron</error>
```

3. If, after filling the PLIF record based on the input XML, the length of the record is still zero:

```
<error> Can't work on empty xml</error>
```

4. If one of the fields specifying how many records there are (no-id-rec, no-addr-rec, no-bor-rec) is non-numeric:

```
<error> Number of records specified in the input xml is not numeric</error>
```

5. If an action different to X, U, I, D, A has been inserted in the XML (for example, P):

```
<error> Unsupported action: P</error>
```

6. If the action requested for a record is Update / Delete, and no such record exists for the given Patron (for example, Z303 for patron 123):

```
<error> Cannot update / delete z303. No match found for ID: 123</error>
```

7. If the action requested for a record is Insert, and such a record already exists:

```
<error> Cannot Insert z303. Match found for ID: 123</error>
```

8. If a patron is requested to be deleted who still has outstanding cash transactions:

```
<error> Unable to delete due to cash</error>
```

9. If a patron is requested to be deleted who still has active loans:

```
<error> Unable to delete Z303 due to active loans</error>
```

10. If a new patron is being inserted and the system failed to generate a new bor\_id:

```
<error> Failed to generate new User ID. Check tab100 or z52.last-bor-id</error>
```

11. If a login record is requested to be deleted / updated (Z308) and no such record exists:

```
<error> Cannot update / delete Z308. Login doesn't exist.</error>
```

12. If a login record is requested to be deleted / updated (Z308) but the given

Z308 record (in the XML) belongs to another user:

```
<error> Cannot update/delete Z308 record. Login record belongs to another user.</error>
```

13. If a login record is requested to be inserted and such a record already exists:

```
<error> Cannot insert Z308. Login record already exist</error>
```

14. If a Login record is requested to be inserted and the key data is empty (meaning, it is requested to be generated) and the key type is not 01 (barcode):

```
<error> System can not generate login for login-type other than 01</error>
```

15. If a login record is requested to be inserted and the key data is empty, and key type is 01 and there is a matching Z303 record:

```
<error> Cannot assign new barcode for an existing patron</error>
```

16. If a borrower record (Z305) is requested to be deleted and there are active hold requests for the patron:

```
<error> Unable to delete due to active hold requests</error>
```

17. If a failure occurred in generating a barcode for Z308:

```
<error> System could not generate "dummy" barcode. Check tab100 or z52.last-bor-id-1</error>
```

18. If a user record (Z303) is requested to be deleted and one of the other records (Z308, Z304, Z305) is requested to be Inserted / Updated:

```
<error> Cannot update / insert record when user record is being deleted</error>
```

19. If a user record (Z303) is requested to be inserted and one of the other records (Z308, Z304, Z305) is requested to be updated:

```
<error> Cannot update record when new user is being inserted</error>
```

20. If a barcode record (z308, type=01) is requested to be deleted and the user record (Z303) is not requested to be deleted:

```
<error> Cannot delete barcode from existing/new user</error>
```

21. If more than one barcode record (Z308, type=01) is requested to be inserted:

```
<error> Cannot insert more than one barcode</error>
```

22. If a user record is requested to be updated, and there is no permission for this action:

```
<error> TAB100-USER-PERMISSION doesn't allow record's  
updating</error>
```

23. If an address record (Z304) is requested to be updated, and there is no permission for this action:

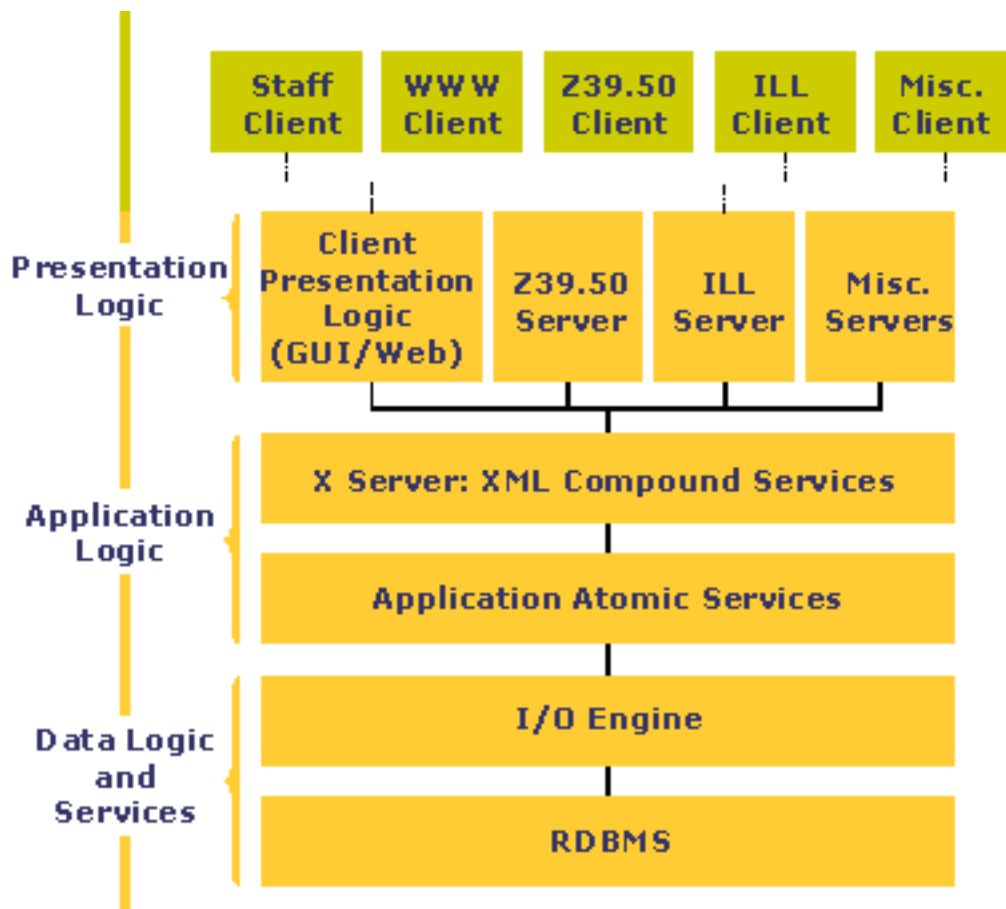
```
<error> TAB100-USER-ADDR-PERMISSION doesn't allow record's  
updating</error>
```

# What is the X-Server?

The X-Server is a component of Ex Libris products multi-tier architectural structure. It enables connectivity to the ALEPH system, as well as to the MetaLib and DigiTool systems, via a standard XML interface.

The Ex Libris Products multi-tier applications, described in Figure 1, can be divided into the following layers:

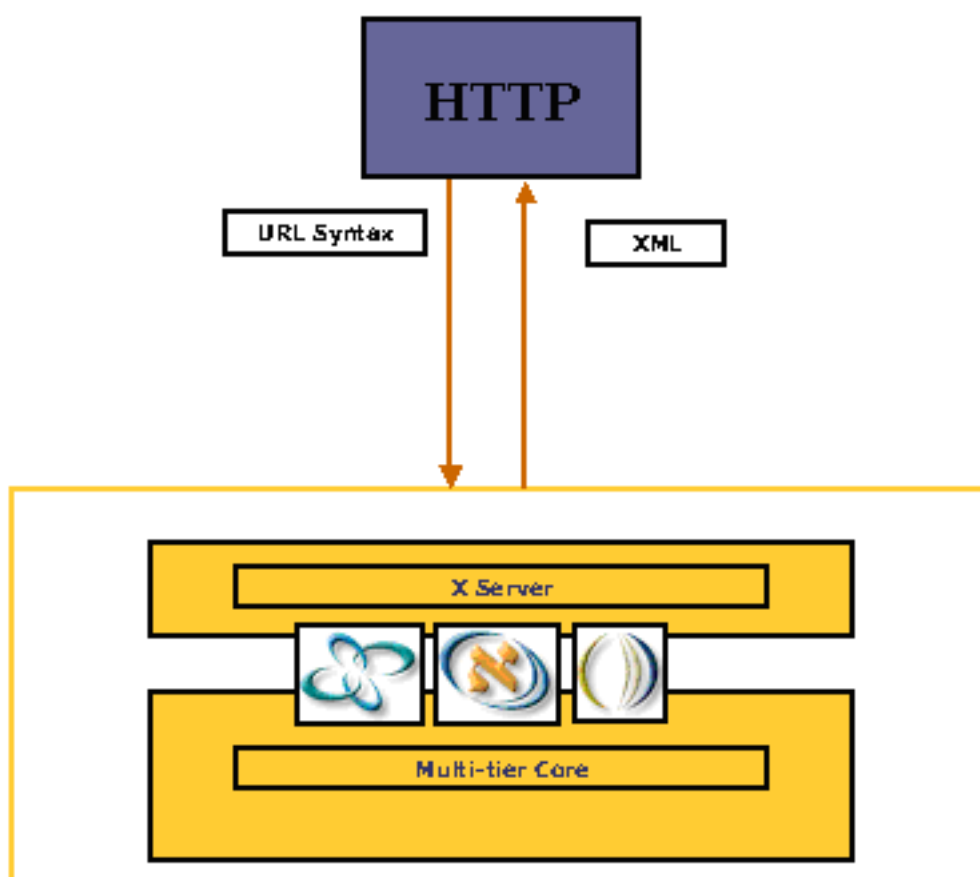
1. The Data Logic and Services layer interacts with the database and provides data to the higher levels, according to their requests. This layer is comprised of the RDBMS component, which handles the physical access to the database, and the I/O engine, which provides the means of communication between the application layer and the actual data.
2. The Application Logic layer provides functional services to the Presentation Logic layer, based on the data it accesses via the Data Logic and Services layer. It is comprised of the Application Atomic Services component, which provides basic services, and the X-Server layer. The X-Server layer provides compound services, based on the accumulation of several atomic services into a comprehensive functional operation or request for information.
3. The Presentation Logic layer enables the display of information and the interaction with the various clients or with other systems.
4. Various clients (Staff, Z39.50, ILL, and any other client or application software) that interact with the user, based on the services provided by the Presentation Logic layer.



## Figure 1: Ex Libris Products multi-tier architecture

The importance of the X-Server component lies in several aspects:

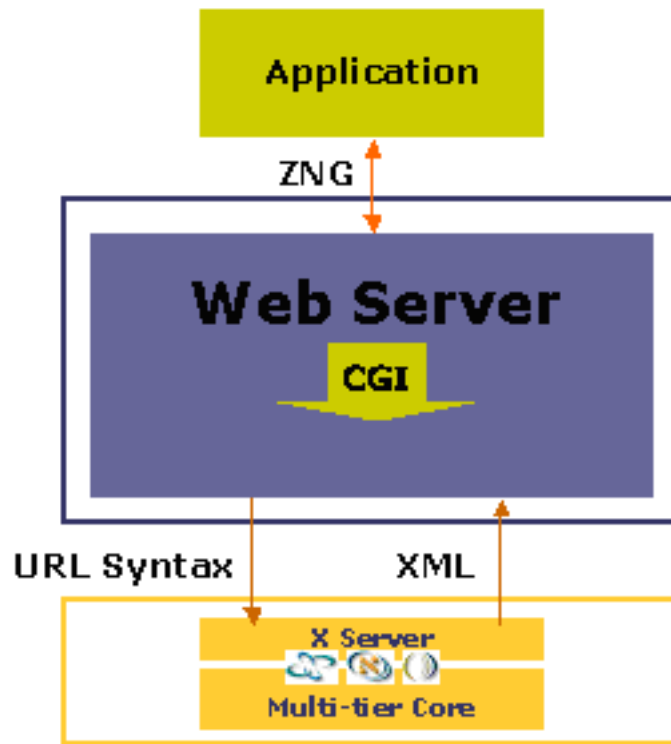
1. The X-Server enables Ex Libris products to be fully open to other systems. The interaction with the X-Server is via URL syntax for input and XML for output, hence providing for a standard, simple interface. This is illustrated in Figure 2
2. The services provided by the X-Server are comprehensive, compound services that provide simple and straightforward interaction with the Ex Libris systems. Knowledge of the system's internal format, protocols and structure is not required
3. The X-Server enables the Presentation Logic components of Ex Libris products to be independent of the Application Logic. The Presentation Logic only handles the interaction with the user and the presentation of the data.



**Figure 2: Interaction with the X-Server**

The X-Server receives input in the form of a standard URL syntax, and returns the reply in XML.

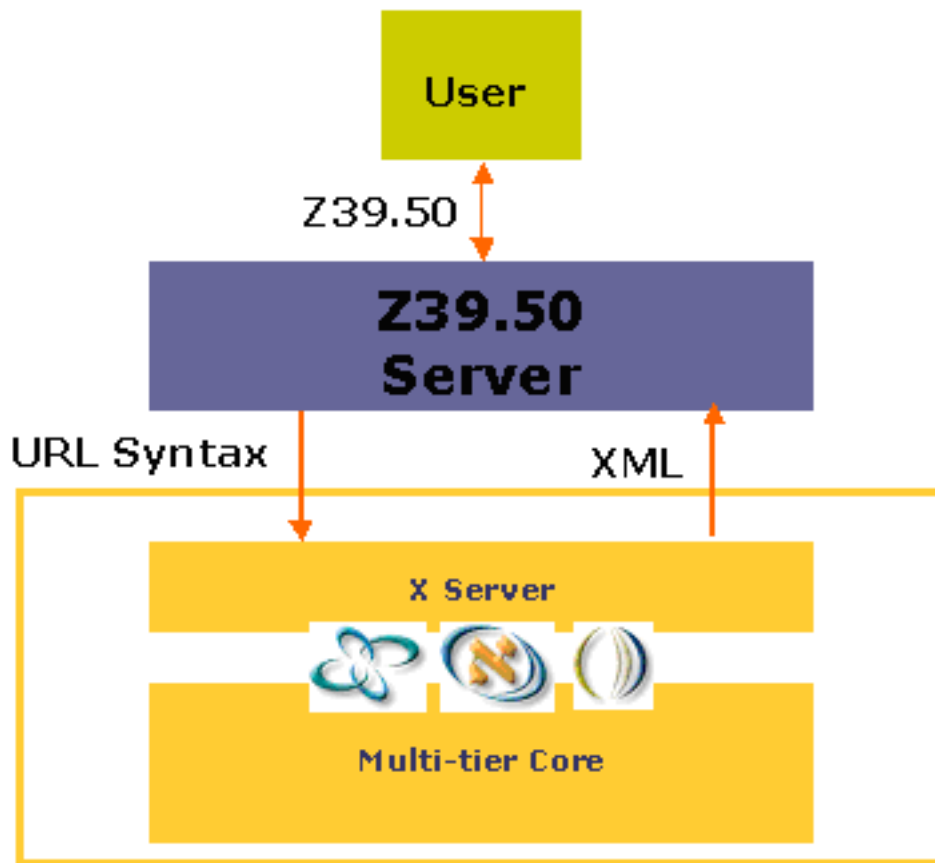
The Ex Libris Z39.50 server is an example of such an implementation (see Figure 3). A Z39.50 request is processed by the Z39.50 server and converted to a URL syntax request. This request is directed to the X-Server, which, in turn, returns an XML reply. The Z39.50, using its converter from XML to Z39.50 format, returns the reply to the Z39.50 client.



**Figure 3: Z39.50 Server interaction with the X-Server**

The flexibility of the architecture can be seen when looking at the future implementation of new protocols, such as the ZNG protocol (see The ZNG Initiative: Z39.50 Next Generation at <http://www.loc.gov/z3950/agency/zng.html>). When using open architecture based on the X-Server, such an implementation only requires the conversion of the ZNG request, and the conversion of the reply back to ZNG (Figure 4). The same applies to the incorporation of an ILL server communicating with an ILL client (for instance, a client that supports ISO 10160/10161), and practically any future interaction with the system.





**Figure 4: Implementation of connectivity to ZNG**

# Types of X-Services

The X-Server provides compound, comprehensive services, which can be divided into the following categories:

## General

<i>Section</i>	<i>Summary</i>
EXPLAIN	Provides information regarding X-Server services

## Retrieval Services

<i>Section</i>	<i>Summary</i>
FIND	Searches for records answering specified criteria in a specified scope
PRESENT	Presents specified records from a specified result set, both bibliographic data and OPAC Record Syntax (including holdings)

## User Information

<i>Section</i>	<i>Summary</i>
AUTHENTICATE	Requests authorization information regarding a specific patron
BOR_INFO	Requests borrower information regarding a specific patron
HOLD_REQUEST	Requests holdings information for the specified patron and the specified item
RENEW	Requests a loan renewal for the specified item

# Example of Query

The following example illustrates the procedure of invoking a query and obtaining the results using the X-Server services. The component that uses the X-Server can be an ALEPH component, such as the Client Presentation Logic component; another Ex Libris product, such as MetaLib; or any third party application.

The process has two parts: invoking the query, and obtaining the results.

## Invoking a Query

An HTTP request: find all documents with Author=Smith in database USM01:

<http://ram43/X?op=find&base=usm01&request=wau=smith>

The X-Server receives the request and returns an XML reply, which is sent to the calling component:

```
<?xml version="1.0" ?>
<find>
  <base>USM01</base>
  <request>wau%20%3D(smith%20)</request>
  <set_number>000655</set_number>
  <no_entries>000016</no_entries>
</find>
```

16 hits were found in the specified database for the specified query; the ID of the set including these hits is 655.

## Obtaining the Results

The calling component requests the first two results from the specified set, in MARC format:

[http://ram43/X?op=present&set\\_no=000655&set\\_entry=000000001,000000002&format=marc](http://ram43/X?op=present&set_no=000655&set_entry=000000001,000000002&format=marc)

The X-Server returns an XML file:

```
<?xml version="1.0" ?>
<record-present>
  <set_number>000655</set_number>
  <format>marc</format>
  <char_set>XXXX</char_set>
  <record>
    <record-header>
      <set_entry>000000001</set_entry>
```

```
</record-header>
<doc_number>000000054</doc_number>
<metadata>
  <fixfield id="FMT">BK</fixfield>
. . . .
<varfield id="245" i1="0" i2="">
  <subfield label="a">Philosophers speak for themselves :
    </subfield>
  <subfield label="b">guides and readings for Greek,
    Roman, and early Christian philosophy/</subfield>
  <subfield label="c">by T.V. Smith.--</subfield> </varfield>
. . . .
</metadata>
</record>
</record-present>
```

--&gt;

[General](#)[Specific Error Tables](#)[Examples](#)

# X-Service Error Messages

## General

There are two main error tables, containing general error messages which can be used by every X-Service. These tables are located in the `./alephe/error_eng` directory:

- `www_x_global`
- `xml_global`

For example, almost all X-Services require a library to be entered as an input parameter. If a library is not entered, the X-Service uses error message 81 (in `www_x_global`):

```
0081
Library
must be
included
in
service
params.
```

Errors related to problems with input parameters sent by the user are usually located under `www_x_global`, while errors relating to the validity of these parameters are located under `xml_service` (for example, 0071 Library \$1 is not defined on the server.)

The reason for this separation is that every X-Service is built from two main steps:

1. Accepting input parameters and checking if there is a missing parameter. This stage is done in `www_x`, and its error messages are presented under `www_x_global`.
2. Working on the input and performing the actions defined in the X-Service. This stage is done in `xml_service`, and its error messages will be presented under `xml_global`.

## Specific Error Tables

Every X-Service can have specific error tables with its own unique error messages. Their location is the same as the main error table (`./alephe/error_eng`), and the names are as follows (in this example, for the `bor-auth` X-Service):

- `www_x_bor_auth`
- `xml_bor_auth`

`www_x_bor_auth` includes specific error messages for accepting the X-Service parameters.

`xml_bor_auth` includes specific error messages for the main function of the X-Service. For example, if, when trying to get the global record of a given patron, no such record can be found, the following message will appear in `xml_bor_auth`:

0022  
Error  
retrieving  
Global  
Patron  
Record)  
because  
bor\_id  
was  
given by  
the  
user,  
and  
www\_x\_bor\_auth  
will not  
generate  
any  
error  
message,  
since  
the  
parameter  
was  
given.  
The  
xml\_bor\_auth  
will  
check if  
this  
parameter  
is  
valid,  
and  
accordingly  
will  
generate  
appropriate  
error  
message.

**Note:**

If there is a message in a private error table with the same number as in the global table (for example both www\_x\_global and www\_x\_bor\_auth have a message 81, or both xml\_global and xml\_bor\_auth have a message 11), then the private error table's message overrides the global message.

## Examples

1. The get-sort-codes X-Service requires a library as an input. If no library is entered, message 81 is called (from www\_x\_global):  
`http://ram19:4178/X?op=get-sort-codes`

The output XML will be:

```
<?xml
version="1.0"
encoding="UTF-8"
?>-
<get-sort-codes>
<session-id>49556A8RQJ3XYMEQ6K2TT7QAL4DDQ9XT118EISHMLM7BSXM63J</session-id>
<error>Library
must be
included
in
service
params.</error>
/*
message
81 */
</get-sort-codes>
```

2. The Find X-Service requires a request as an input. Since the need for a request number is specific to this X-Service, it uses a specific error message 11 from its local error message table (www\_x\_find) in the event that a request has not been given:

<http://ram19:4178/X?op=find&base=usm01&code=wti&adjacent=Y>

The output XML will be:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
- <find>
<session-id>2J31V8RE2483XA6KEHMLPS2MY3BSEFBT3TEMH9EAYLK46VTLR</session-id>
<error>Request
must be
filled</error>
/*
message
11 in
www_x_find
*/
</find>
```

If message 11 does not appear in www\_x\_find, the following message appears:

```
<?xml
version="1.0"
encoding="UTF-8"
?>
- <find>
<session-id>TX18YV15ATT8S17HN43C4HHD8CV2G9RS4UJVAGXLJSXE5D5YD9</session-id>
<error>Error
11 Not
defined
for
service
```

#### X-Service Error Messages

```
www_x_find.</error>  
</find>
```

The same rules apply for the tables in the xml\_service directory.



# X-Service Licences

## General

Unlike the permissions check which performs a check per user name and user password, the license check is checking whether or not there is a license to use an X-Service. The license check is based on license files, located in the `./ alephe/tab` directory. The check does not look for a specific user but for a general license to use the x-service.

# X-Service Permissions

## General

X-Services are not open services for all library users. In general, staff members use the X-Service for their specific needs. There is a list of permissions per user name and user password for a given library. If, when activating the x-service, no user name and user password are given, the default for each of them will be: WWW-X.

If the user does not have permission to use a specific x-service, then the check permission procedure will fail and the X-Service will not be activated.

There are several X-Services which do not require check permission, as they are available for all users, such as the find and find-doc services.

# X-Service Translate Mechanism

## General Purpose

Every X-Service has the option of a translate mechanism. The translate mechanism will be active, unless a parameter is inserted called: translate and the value specified to be N (&translate=N).

In general, this mechanism is the same as the printing translate mechanism.

There are two levels of translation:

- tag . Filtering per structure and associated tag names. You can delete an entire set of tags from the XML output of the X-Service. You can also manipulate the output tag names in this XML.
- trn . Manipulation on the content of the XML (data), for example, presentation of date fields to be formatted to a standard date presentation.

## Tables

There are two types of translate tables, located at ./alephe/www\_x\_eng:

- global.trn / global.tag - These are global tables, referring to all X-Services.
- xxx.trn / xxx.tag - The xxx is the name of the X-Service. This type of table is not mandatory, although it is worthwhile creating these tables in case a specific translation is needed for an X-Service.

## Example of the Use of a trn File

Here are the results when looking for the Z13 record of a specific document, with the help of the ill-get-doc-short X-Service (the actual results produce the whole Z13 record, but only four fields are shown here). The results can be seen after the translation takes place (since since the no translation option is not specified):

`http://ram19:4178/X?op=ill-get-doc-short&doc_number=000000444&library=usm90`

```
<?xml
version="1.0"
encoding="UTF-8"
?>
-
<ill-get-doc-short>
- <z13>
  <z13-doc-number>444</z13-doc-number>
  <z13-year>1811</z13-year>
  <z13-open-date>05/05/2002</z13-open-date>
  <z13-update-date>05/05/2002</z13-update-date>
  ..
</ill-get-doc-short>
```

Here are the results when the no translation option is specified:

`http://ram19:4178/X?op=ill-get-doc-short&doc_number=000000444&library=usm90&translate=N`

```
<?xml
version="1.0"
encoding="UTF-8"
```

?>

-

<ill-get-doc-short>

- <z13>

<z13-doc-number>000000444</z13-doc-number>

<z13-year>1811</z13-year>

<z13-open-date>20020505</z13-open-date>

<z13-update-date>20020505</z13-update-date>

..

</ill-get-doc-short>

The difference can be seen in three out of the four fields, due to the manipulations of the global.trn file:

z13-doc-number

INTEGER

S

z13-open-date

DATE S

z13-update-date

DATE S

When global.trn is run on the data, and the leading zeroes in z13-doc-number are deleted, Z13-open-date and z13-update-date are translated into DATE format.

# Help for X-Services Documentation

X-Services documents contain the following sections:

<i>Section</i>	<i>Summary</i>
General Purpose	A brief description of the purpose of the X-Service
Input Parameters	Which parameters use any part of the given X-Service
Output XML Format	Illustrates the XML generated when the X-Service is run
Error Codes	A list of error codes that can be generated by the X-Service, with a brief summary for each