To configure a Z39.50 Server profile, you must have the following role:

- General System Administrator

An institution’s catalog can be made searchable by external applications. This may be required for a number of purposes. For example, if the institution serves as a copy cataloging source or participates in a resource sharing network, its catalog may need to be searched externally.

For general information about the Z39.50 protocol, see [http://www.loc.gov/z3950/gateway.html#about](http://www.loc.gov/z3950/gateway.html#about)

If a Z39.50 Server integration profile is configured, Alma listens for incoming Z39.50 searches. If an incoming request is detected, Alma returns a Z39.50 response, which includes record information in either MARC or OPAC format, depending on your client configuration.

**Note**

- Only one Z39.50 profile can be configured for an institution.
- If you open your institution’s catalog for a Z39.50 search, Ex Libris may add it to the pool of external search resources available for copy cataloging.
- The following attributes are supported by Alma: Term (1016, 1017); Author (1, 1003, 1004); Subject (21); Title (4); ISBN (7); ISSN (8); Date (31); Identifier (12); OCLC Number (1211).
- You must configure the Alma IP address, port, and database name on the Z39.50 client machine. The IP address/port to configure is: `<Alma server>:1921` (or 210, if you are working with Refworks — see [Configuring a Z39.50 Refworks Client](#)). Note that these ports are open to all, with no restriction on specific IP addresses; there is therefore never any need to add new IP addresses on the Alma side. The database name to use is the Alma institution code—for example, `60univ_inst`. For information about your Alma server domain, see [Your Alma Domain Names](#).
- For filtering Alma’s Z39.50 response at a campus level in a multicampus environment, you must add the campus code to the database name that is configured on the Z39.50 client machine using the following format: `base (institution ID)/<campus code>`. For example, `base 60univ_inst/Springfield` may be used at the client Z39.50 machine where `60univ_inst` = the Alma institution code and `Springfield` = the Alma campus code. When this is implemented, Alma’s Z39.50 search and present results are displayed/filtered only for resources that are owned by the campus (and its libraries). This enables institutions in a multicampus environment to provide results that belong only to libraries identified within the selected campus.
- When doing an external search using Z39.50 and retrieving 10,000 or more records, Alma responds with an error message when it retrieves the next bulk of records exceeding the 10,000 limit. Z39.50 integration is intended for integrating Alma search with other automated systems for the purposes of interlibrary loan, copy catalog, or selection. Using Z39.50 integration for other workflows, such as performing bulk exports of records, is not supported.

The following rules govern the return of MARC record information:
MARC holdings records are returned only if the **Enrich with holdings** check box is selected (see the procedure below). Selecting the **Enrich with holdings** parameter enriches the MARC 21 results with MARC 21 holdings fields such as the 852.

MARC holdings records are returned only for permanent locations.

Suppressed MARC holdings records (**Suppress from discovery** is selected for the record in the MD Editor) are excluded.

MARC holdings records from suppressed locations (**Suppress from discovery** is selected for the location; see [Configuring Physical Locations](#)) are excluded.

Suppressed MARC bibliographic records (**Suppress from discovery** is selected for the record in the MD Editor) and their associated holdings records are excluded.

The following rules govern the return of OPAC record information:

- OPAC holdings records are returned for both permanent and temporary locations (on holding per location).
- Suppressed OPAC holdings records (**Suppress from discovery** is selected for the record in the MD Editor) are excluded.
- OPAC holdings records from suppressed locations (**Suppress from discovery** is selected for the location; see [Configuring Physical Locations](#)) are excluded.
- Suppressed OPAC bibliographic records (**Suppress from discovery** is selected for the record in the MD Editor) and their associated holdings records are excluded.

Alma Z39.50 server support includes UNIMARC support for Network Zone records, which are enriched with information from member institutions. When a Z39.50 call to Alma specifies the UNIMARC format, Alma responds with the Z39.50 presentResponse output in UNIMARC format. The availability indication is handled using the following UNIMARC format:

- MARC 852 field
- $a Location – Institution code
- $6 Linkage – MMS ID
- $9 Local field – P (print) / E (electronic) / D (digital)

When more than one material type is available for an institution, such as print and electronic, the 852 field will contain multiple $9 entries.

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**Configuring a Z39.50 Search Type Integration Profile**

For each institution, there can be only one Z39.50 Server integration profile.

**To configure a Z39.50 search type of integration profile:**

1. On the Integration Profile List page (**Configuration Menu > General > External Systems > Integration Profiles**), select **Add Integration Profile**. The first page of the integration profile wizard appears.
2. Enter a code and name for the profile you are defining.
3. From the **Integration type** drop-down list, select **Z39.50 Server**.
4. Select **Next**.

5. Complete the export parameters using the information provided in the table below.

**Z39.50 Export Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Name / Password</td>
<td>Enter a user name and password (optional) for Alma to communicate with the Z39.50 client machine.</td>
</tr>
<tr>
<td>Note</td>
<td>The Z39.50 user name and password are case insensitive and can include:</td>
</tr>
<tr>
<td></td>
<td>- No more than 10 characters</td>
</tr>
<tr>
<td></td>
<td>- Uppercase/lowercase letters, digits, and underscores</td>
</tr>
<tr>
<td></td>
<td>For example, if you set the user name/password to <em>Alma_12_34</em>, it is possible to authenticate with all of following options: <em>alma_12_34</em>, <em>ALMA_12_34</em>, and <em>alMA_1234</em>.</td>
</tr>
<tr>
<td>Allow Access</td>
<td>Select this parameter to enable the Z39.50 client machine to access Alma.</td>
</tr>
<tr>
<td>Enrich with Holdings</td>
<td>Select this parameter to include holdings information, in addition to bibliographic information, in the Z39.50 response that Alma returns.</td>
</tr>
<tr>
<td>Enrich with Members</td>
<td>If you are configuring this profile on a Network Zone, select this parameter to return member institution ownership in the Z39.50 response.</td>
</tr>
<tr>
<td>Availability</td>
<td>Only requests to the Network Zone include the ownership of member institutions. The returned information includes the institution, the bibliographic record (MMS ID), and the format (physical, electronic, or digital). This feature supports more efficient queries by collaborative network members, and is often required for third-party integration and resource sharing purposes.</td>
</tr>
<tr>
<td></td>
<td>Member institution ownership information is returned in the following MARC 21 852 subfields:</td>
</tr>
<tr>
<td></td>
<td>- $a - Institution code</td>
</tr>
<tr>
<td></td>
<td>- $6 - MMS ID</td>
</tr>
<tr>
<td></td>
<td>- $9 - P (print), E (electronic), or D (digital)</td>
</tr>
<tr>
<td>Enrich with Representations</td>
<td>Select this parameter to have non-remote representation information exposed to the external system.</td>
</tr>
<tr>
<td>Enrich with Remote</td>
<td>Select this parameter to have remote representation information exposed to the external system.</td>
</tr>
</tbody>
</table>
### Parameter | Description
--- | ---
Representations | Select this parameter to normalize Alma bibliographic records prior to any additional enrichment and being presented to an external system as a result of a Z39.50 request. Normalization can be applied to MARC 21, KORMARC, UNIMARC, and CNMARC bibliographic records using the following normalization processes provided out of the box or by customizing these processes with normalization rules that you create: Marc21 Bib normalize on external search, KORMARC Bib normalize on external search, UNIMARC Bib normalize on external search, or CNMARC normalize on external search.

Select this parameter to exclude records with a **Suppress from External Search** tag from being exposed to the external system.

**Examples**

**Example Normalization Rule from the CNMARC Bibliographic Metadata Configuration Profile**

The normalization rules that are provided remove the following information from the bibliographic record: 590 local note (MARC 21), 590 local note (KORMARC), 900 local field (UNIMARC), and 300 general note (CNMARC). See [Working with Normalization Rules](#) for more information.

**Note**

Since the enrichment process is performed after the normalization process has completed, the normalization process will not affect fields added by enrichment.

The normalization rules that are provided out of the box use the following drools files (specified on the Task Parameters tab): drools/remove590.dslr, drools/remove900.dslr, and drools/remove300.dslr.

**Example Drools File from the Cnmarc Bib normalize on Z39.50/SRU search Normalization Rule**

For more information, see [Working with Normalization Processes](#).

6. Select **Save**.

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**Actions Available for the Z39.50 Profile**

After you have saved the Z39.50 Server integration profile, the following row actions are available for this profile:

- **Edit**
• Manage in Network – This action is only available in the Network Zone. Select this action to distribute this configuration to member institutions using the Distribute network administration changes to members job. See Centrally Managing Configurations in a Network Zone and Distribute Network Administration Changes to Members for more information.

• Stop Network Management – This action is only available in the Network Zone. Select this action to disable distribution of this configuration to member institutions when using the Distribute network administration changes to members job. See Centrally Managing Configurations in a Network Zone and Distribute Network Administration Changes to Members for more information.

• Unlink from Network – This action is only available for member institutions. When the Z39.50 Server integration profile is distributed to a member institution (that is, the integration profile is linked to the Network), the member institution may select the Unlink from Network action to disconnect from the Network Zone version of the integration profile and modify it for local use.

• Job History

• Delete

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**Configuring a Z39.50 Refworks Client**

**To configure a Z39.50 Refworks client:**

1. In the Refworks client administrative application, select Search > Online Catalog or Database. The Online Catalog or Database dialog box opens.

2. Select the **Request a Z39.50 Site** link. The Request dialog box opens.

   ![Request a Z39.50 Site](image)

3. In the **Z39.50 Site Name** box, enter the name that you want to display for your institution in Refworks.

4. In the **Details** field, enter the following:
   - **Server** – The Alma server: `<Alma domain>`
   - **Port** – Specify 210
   - **Database** – This is the Alma institution code, such as `01_EXL_INST`
   - **User and password**, if defined in Alma

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**Note**

For APAC countries, you must use the alternate Alma domain `<Alma alternate domain>`. See Your Alma Domain Names.

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5. Select **Send request**.

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**Example Refworks Client Settings**

The following is an example of one Alma customer’s Refworks client settings (note that this has not been verified by Ex Libris):

- **URL**: university.alma.exlibrisgroup.com *(see Your Alma Domain Names)*
- **Port**: 210
- **Database**: 01_EXL_INST
- **Record Syntax**: USmarc
- **Element Set Name**: F
- **Import Filter**: MARC Format
- **Character Set**: ANSEL/ALA/USmarc
- **Requires Password**: No
- **Any Field**: 1016
- **Author Field**: 1003
- **Year Field**: 31
- **Title Field**: 4
- **Keyword Field**: 21

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