

## How to enable or start Z395.50 Server on koha 23

1) How to enable a Z39.50 in koha

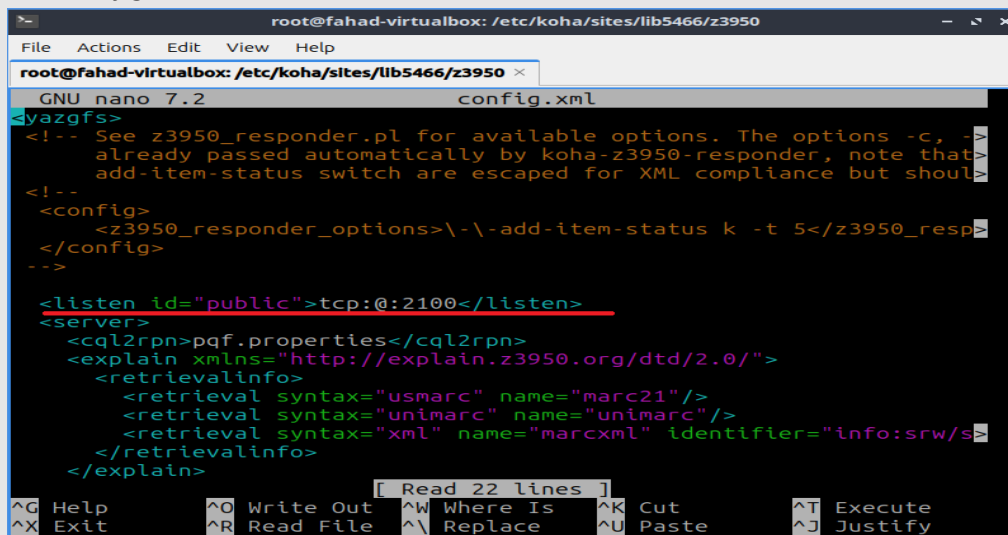
- `koha-z3950-responder --enable <instancename>`

2) How to start a Z39.50 Server

- `koha-z3950-responder --start <instancename>`

3) After above steps verify the configuration files in koha 23 on the following path

- `cd /etc/koha/sites/instancename/z3950#`
- `nano config.xml`



```
root@fahad-virtualbox: /etc/koha/sites/lib5466/z3950
File Actions Edit View Help
root@fahad-virtualbox: /etc/koha/sites/lib5466/z3950 x
GNU nano 7.2 config.xml
<yazgfs>
<!-- See z3950_responder.pl for available options. The options -c, -
already passed automatically by koha-z3950-responder, note that
add-item-status switch are escaped for XML compliance but shoul
<!--
<config>
  <z3950_responder_options>\-\-add-item-status k -t 5</z3950_resp
</config>
-->

<listen id="public">tcp:@:2100</listen>
<server>
  <cql2rpn>pqf.properties</cql2rpn>
  <explain xmlns="http://explain.z3950.org/dtd/2.0/">
    <retrievalinfo>
      <retrieval syntax="usmarc" name="marc21"/>
      <retrieval syntax="unimarc" name="unimarc"/>
      <retrieval syntax="xml" name="marcxml" identifier="info:srw/s
    </retrievalinfo>
  </explain>

^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute
^X Exit      ^R Read File  ^\ Replace    ^U Paste      ^J Justify
```

- You can change the port according to the needs, as per mentioned in the above pic & by default port is 2100

4) then restart the Z39 if we changed the port. Command for restarting the Z39 server is

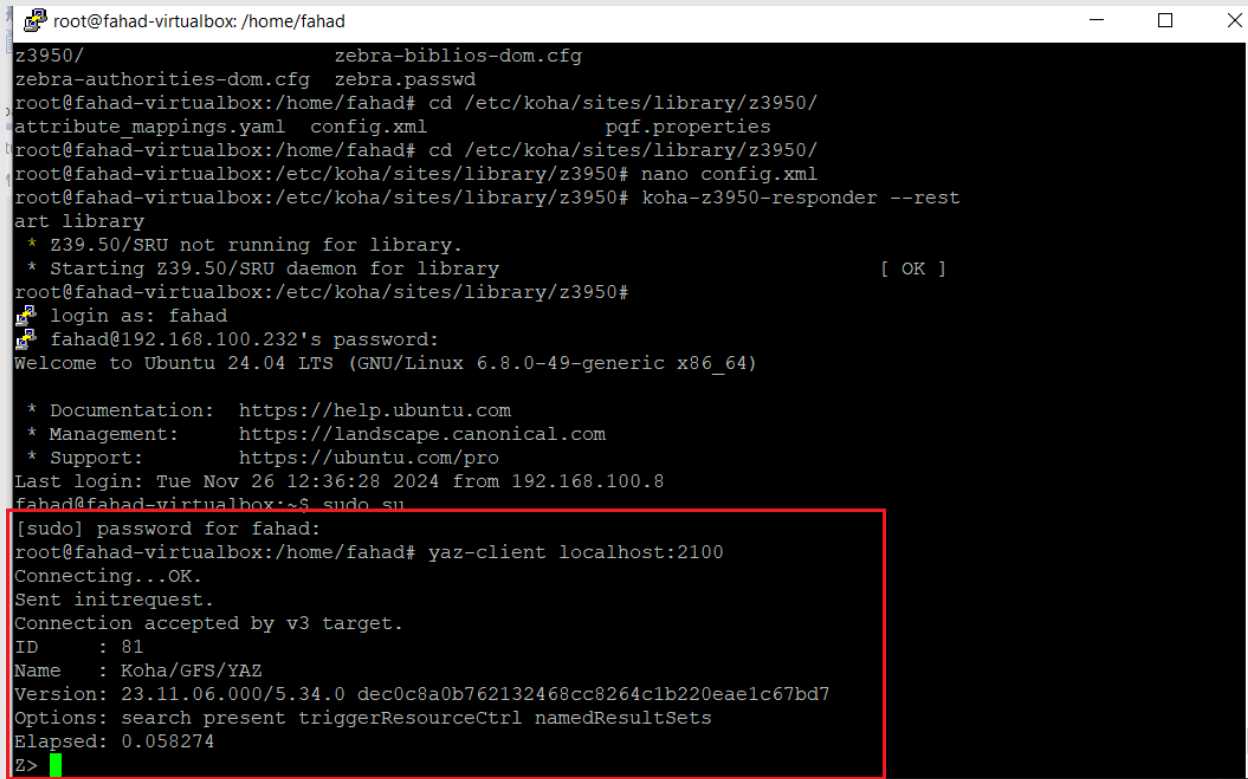
- `koha-z3950-responder --restart <instancename>`

## Testing the z39 server

### Through terminal

**Type:** yaz-client localhost:21xx(Port number) like

yaz-client localhost:2100 (if the output is like below image then Z39 server is successfully configured)



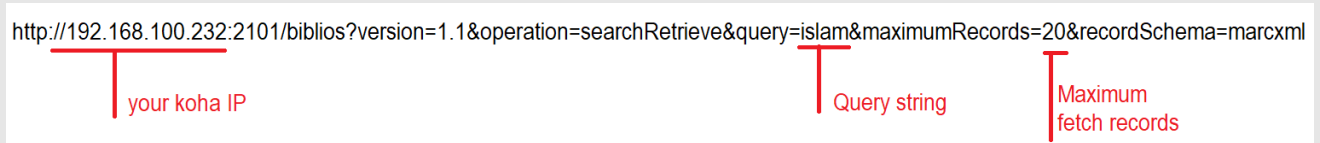
```
root@fahad-virtualbox: /home/fahad
z3950/          zebra-biblios-dom.cfg
zebra-authorities-dom.cfg  zebra.passwd
root@fahad-virtualbox:/home/fahad# cd /etc/koha/sites/library/z3950/
attribute_mappings.yaml  config.xml          pgf.properties
root@fahad-virtualbox:/home/fahad# cd /etc/koha/sites/library/z3950/
root@fahad-virtualbox:/etc/koha/sites/library/z3950# nano config.xml
root@fahad-virtualbox:/etc/koha/sites/library/z3950# koha-z3950-responder --rest
art library
* Z39.50/SRU not running for library.
* Starting Z39.50/SRU daemon for library                [ OK ]
root@fahad-virtualbox:/etc/koha/sites/library/z3950#
login as: fahad
fahad@192.168.100.232's password:
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-49-generic x86_64)

* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:       https://ubuntu.com/pro
Last login: Tue Nov 26 12:36:28 2024 from 192.168.100.8
fahad@fahad-virtualbox:~$ sudo su
[sudo] password for fahad:
root@fahad-virtualbox:/home/fahad# yaz-client localhost:2100
Connecting...OK.
Sent initrequest.
Connection accepted by v3 target.
ID      : 81
Name    : Koha/GFS/YAZ
Version: 23.11.06.000/5.34.0 dec0c8a0b762132468cc8264c1b220eae1c67bd7
Options: search present triggerResourceCtrl namedResultSets
Elapsed: 0.058274
Z>
```

### Through Web browser

**Type in browser:**

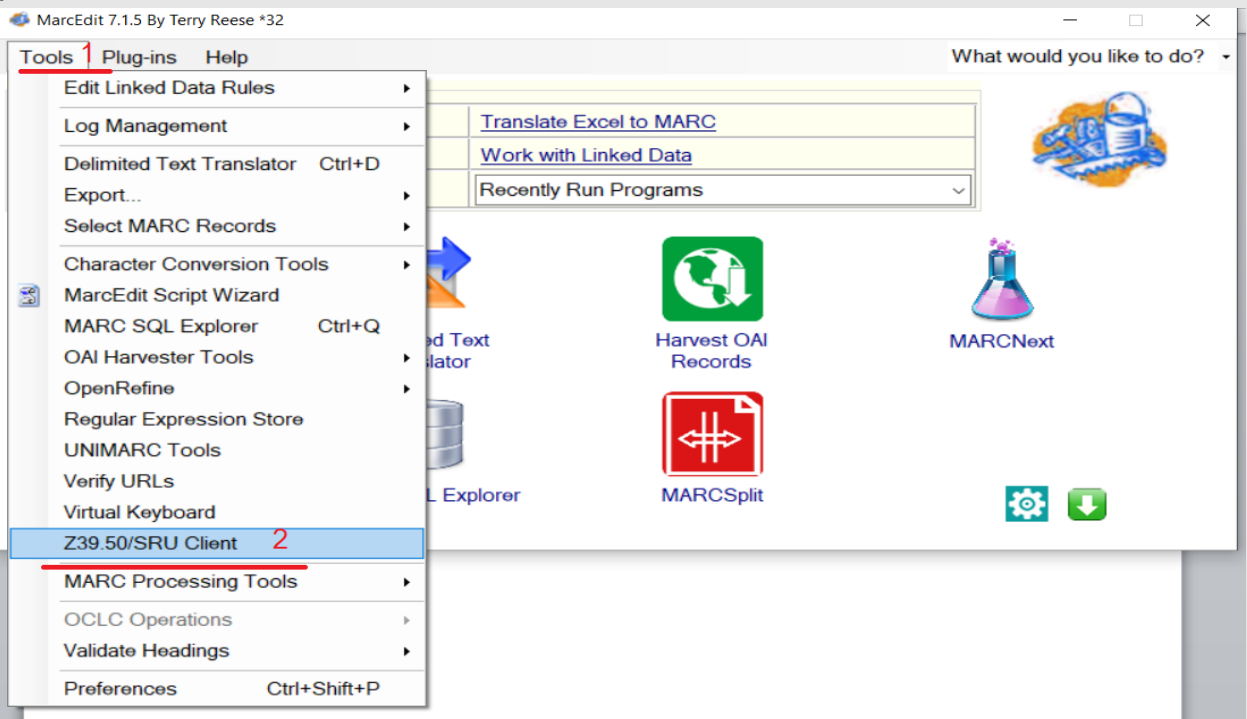
<http://192.168.100.232:2101/biblios?version=1.1&operation=searchRetrieve&query=islam&maximumRecords=20&recordSchema=marcxml>



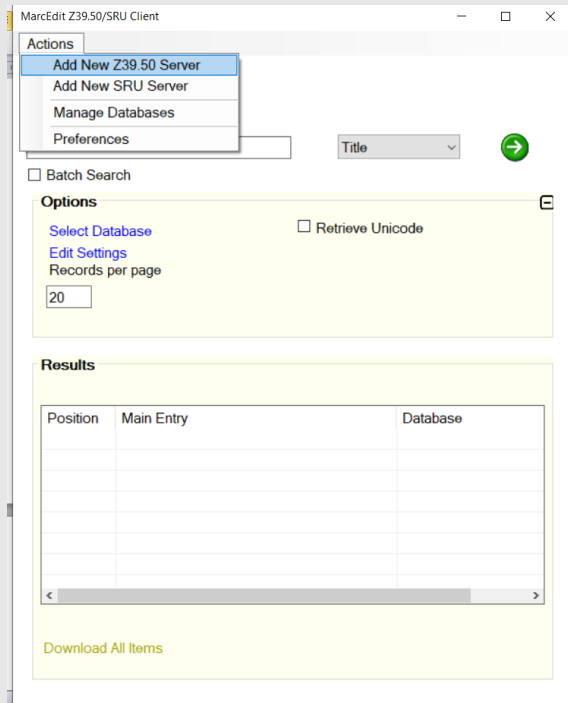
```
<?xml version="1.1" encoding="UTF-8" ?>
<searchRetrieveResponse xmlns:zsi="http://www.loc.gov/zing/srw/">
  <zsi:version>1.1</zsi:version>
  <zsi:numberOfRecords>268</zsi:numberOfRecords>
  <zsi:records>
    <zsi:record>
      <zsi:recordSchema>marcxml</zsi:recordSchema>
      <zsi:recordPacking>xml</zsi:recordPacking>
      <zsi:recordData>
        <record xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.loc.gov/MARC21/slim" xsi:schemaLocation="http://www.loc.gov/MARC21/slim http://www.loc.gov/standards/marcxml/schema/MARC21slim.xsd">
          <leader>nam a22 Ia 4500</leader>
          <controlfield tag="008">240717s999 xx 000 0 und dc</controlfield>
          <datafield tag="020" ind1=" " ind2=" ">
            <subfield code="a">(NULL)</subfield>
          </datafield>
          <datafield tag="100" ind1=" " ind2=" ">
            <subfield code="a">Zia Ul Islam Janjua</subfield>
          </datafield>
          <datafield tag="245" ind1=" " ind2="0">
            <subfield code="a">Encyclopaedia of Electricity, Petroleum, SUI Gas, MINERALS WATER SUPPLY Laws with Wapda Act & Rules</subfield>
          </datafield>
          <datafield tag="250" ind1=" " ind2=" ">
            <subfield code="a">(NULL)</subfield>
          </datafield>
          <datafield tag="260" ind1=" " ind2=" ">
            <subfield code="a">Lahore Pakistan</subfield>
            <subfield code="b">Nadeem Law Book House</subfield>
            <subfield code="c">2012</subfield>
          </datafield>
          <datafield tag="300" ind1=" " ind2=" ">
            <subfield code="a">1568</subfield>
          </datafield>
          <datafield tag="355" ind1=" " ind2=" ">
            <subfield code="b">1600</subfield>
          </datafield>
          <datafield tag="440" ind1=" " ind2=" ">
            <subfield code="v">(NULL)</subfield>
            <subfield code="a">(NULL)</subfield>
          </datafield>
          <datafield tag="600" ind1=" " ind2=" ">
            <subfield code="a">(NULL)</subfield>
          </datafield>
          <datafield tag="942" ind1=" " ind2=" ">
            <subfield code="c">BK</subfield>
          </datafield>
          <datafield tag="952" ind1=" " ind2=" ">
            <subfield code="0">0</subfield>
          </datafield>
        </record>
      </zsi:recordData>
    </zsi:record>
  </zsi:records>
</searchRetrieveResponse>
```

### Through MarcEdit 7.15

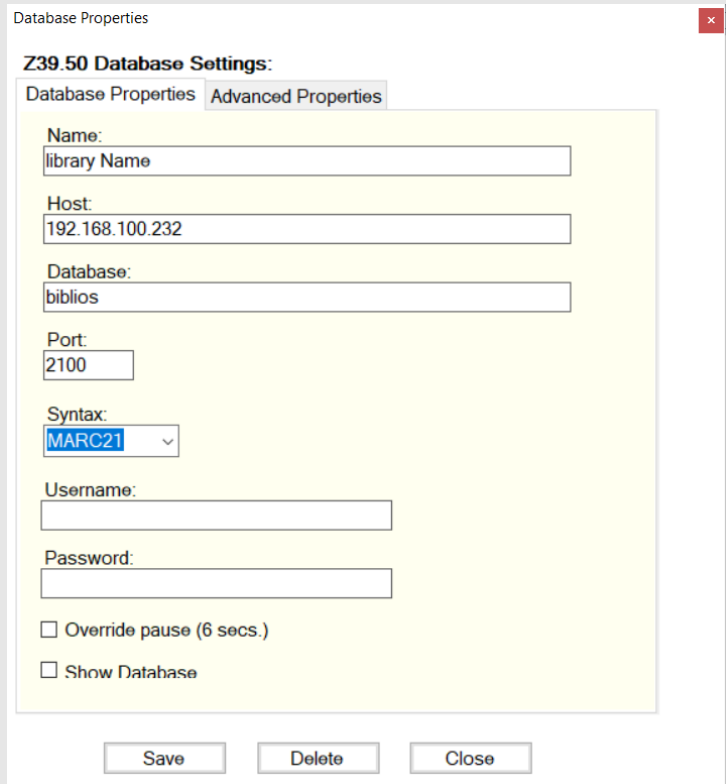
- Open the application
- Go to “Tools” from the top menu bar and select Z39.50/SRU Client as shown in the below picture



3) then Click Actions from the top menu bar and then select Add new Z39.50 Server as shown in the below image



4) then add following details as per shown in the below images



Then click on the Save button



Then search anything on the given interface

MarcEdit Z39.50/SRU Client

Actions

**Query Database:**  
library Name

Search:

Batch Search

**Options**

[Select Database](#)  Retrieve Unicode

[Edit Settings](#)

Records per page

**Results**

Position	Main Entry	Database
0	Denizens of Alien Worlds :Sba study of e...	library Name
1	Student engagement techniques :Sba han...	library Name
2	Higher education in the digital age /ScWill...	library Name
3	Guide to the successful thesis and disser...	library Name
4	Studying @ university :Sbhow to be a suc...	library Name
5	A larger sense of purpose :Sbhigher educ...	library Name
6	Software engineering : a practitioner's ap...	library Name
7	A problem-solving approach to aquatic ch...	library Name

[Get Next 20](#)  
[Download All Items](#)

### How to enable or start Z395.50 Server on koha 23

Copy the below code and paste into the koha-conf.xml file which is located /etc/koha/sites/instancename/koha-conf.xml and change the IP and Port number according to the need which is highlighted in the below code

```
<listen id="publicserver" >tcp:@:2100</listen>

<xi:include href="/etc/koha/zebradb/explain-biblios.xml"
  xmlns:xi="http://www.w3.org/2001/XInclude">
  <xi:fallback>
  <explain xmlns="http://explain.z3950.org/dtd/2.0/">
    <serverInfo>
      <host>192.168.100.232</host>
      <port>2100</port>
      <database>biblios</database>
    </serverInfo>
  </explain>
  </xi:fallback>
</xi:include>

<server id="publicserver" listenref="publicserver">
<directory>/var/lib/koha/library/biblios</directory>
<config>/etc/koha/sites/library/zebra-biblios-dom.cfg</config>
<cql2rpn>/etc/koha/zebradb/pqf.properties</cql2rpn>

<xi:include href="/etc/koha/marc21-retrieval-info-bib-dom.xml"
  xmlns:xi="http://www.w3.org/2001/XInclude">
<xi:fallback>
  <retrievalinfo>
    <retrieval syntax="marc21" name="F"/>
    <retrieval syntax="marc21" name="B"/>
    <retrieval syntax="xml" name="F"/>
    <retrieval syntax="xml" name="B"/>
    <retrieval syntax="xml" name="marcxml"
      identifier="info:srw/schema/1/marcxml-v1.1">
      <backend syntax="marc21" name="F">
        <marc inputformat="marc" outputformat="marcxml"
          inputcharset="utf-8"/>
      </backend>
    </retrieval>
    <retrieval syntax="xml" name="dc">
      <backend syntax="marc21" name="F">
        <marc inputformat="marc" outputformat="marcxml"
          inputcharset="utf-8"/>
        <xslt stylesheet="/usr/share/koha/intranet/htdocs/intranet-
tmpl/prog/en/xslt/MARC21slim2DC.xsl"/>
      </backend>
    </retrieval>
  </retrievalinfo>
</xi:fallback>
</xi:include>
```

```
    </backend>
  </retrieval>
  <retrieval syntax="xml" name="mods">
    <backend syntax="marc21" name="F">
      <marc inputformat="marc" outputformat="marcxml"
        inputcharset="utf-8"/>
      <xslt stylesheet="/usr/share/koha/intranet/htdocs/intranet-
tmpl/prog/en/xslt/MARC21slim2MODS.xsl"/>
    </backend>
  </retrieval>
  <retrieval syntax="xml" name="rdfdc">
    <backend syntax="marc21" name="F">
      <marc inputformat="marc" outputformat="marcxml"
        inputcharset="utf-8"/>
      <xslt stylesheet="/usr/share/koha/intranet/htdocs/intranet-
tmpl/prog/en/xslt/MARC21slim2RDFDC.xsl"/>
    </backend>
  </retrieval>
  <retrieval syntax="xml" name="rss2">
    <backend syntax="marc21" name="F">
      <marc inputformat="marc" outputformat="marcxml"
        inputcharset="utf-8"/>
      <xslt stylesheet="/usr/share/koha/intranet/htdocs/intranet-
tmpl/prog/en/xslt/MARC21slim2RSS2.xsl"/>
    </backend>
  </retrieval>
  <retrieval syntax="xml" name="utils">
    <backend syntax="marc21" name="F">
      <marc inputformat="marc" outputformat="marcxml"
        inputcharset="utf-8"/>
      <xslt stylesheet="/usr/share/koha/intranet/htdocs/intranet-
tmpl/prog/en/xslt/MARC21slimUtils.xsl"/>
    </backend>
  </retrieval>
</retrievalinfo>
</xi:fallback>
</xi:include>

<xi:include href="/etc/koha/zebradb/explain-biblios.xml"
  xmlns:xi="http://www.w3.org/2001/XInclude">
  <xi:fallback>
  <explain xmlns="http://explain.z3950.org/dtd/2.0/">
    <serverInfo>
      <host>192.168.100.232</host>
      <port>2100</port>
      <database>biblios</database>
    </serverInfo>
  </explain>
  </xi:fallback>
</xi:include>
```

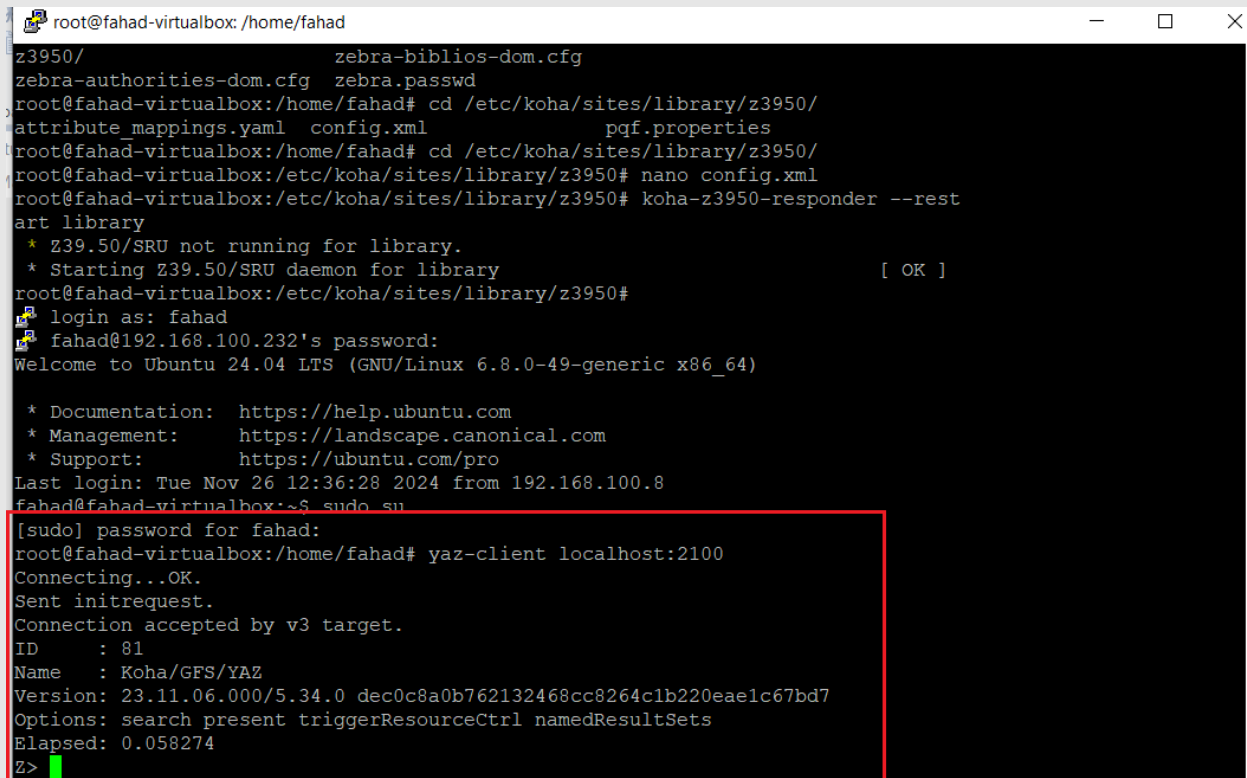
```
</server>
<serverinfo id="publicserver">
  <ccl2rpn>/etc/koha/zebradb/ccl.properties</ccl2rpn>
  <user>kohauser</user>
  <password>xQVbmQwqgd9BpQ4m</password>
</serverinfo>
```

### Testing the z39 server

#### Through terminal

**Type:** yaz-client localhost:21xx(Port number) like

yaz-client localhost:2100 (if the output is like below image then Z39 server is successfully configured)



```
root@fahad-virtualbox: /home/fahad
z3950/          zebra-biblios-dom.cfg
zebra-authorities-dom.cfg  zebra.passwd
root@fahad-virtualbox:/home/fahad# cd /etc/koha/sites/library/z3950/
attribute_mappings.yaml  config.xml          pqf.properties
root@fahad-virtualbox:/home/fahad# cd /etc/koha/sites/library/z3950/
root@fahad-virtualbox:/etc/koha/sites/library/z3950# nano config.xml
root@fahad-virtualbox:/etc/koha/sites/library/z3950# koha-z3950-responder --rest
art library
* Z39.50/SRU not running for library.
* Starting Z39.50/SRU daemon for library [ OK ]
root@fahad-virtualbox:/etc/koha/sites/library/z3950#
login as: fahad
fahad@192.168.100.232's password:
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-49-generic x86_64)

* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:       https://ubuntu.com/pro
Last login: Tue Nov 26 12:36:28 2024 from 192.168.100.8
fahad@fahad-virtualbox:~$ sudo su
[sudo] password for fahad:
root@fahad-virtualbox:/home/fahad# yaz-client localhost:2100
Connecting...OK.
Sent initrequest.
Connection accepted by v3 target.
ID      : 81
Name    : Koha/GFS/YAZ
Version: 23.11.06.000/5.34.0 dec0c8a0b762132468cc8264c1b220eae1c67bd7
Options: search present triggerResourceCtrl namedResultSets
Elapsed: 0.058274
Z>
```

## Through Web browser

### Type in browser:

<http://192.168.100.232:2101/biblios?version=1.1&operation=searchRetrieve&query=islam&maximumRecords=20&recordSchema=marcxml>

<http://192.168.100.232:2101/biblios?version=1.1&operation=searchRetrieve&query=islam&maximumRecords=20&recordSchema=marcxml>

your koha IP

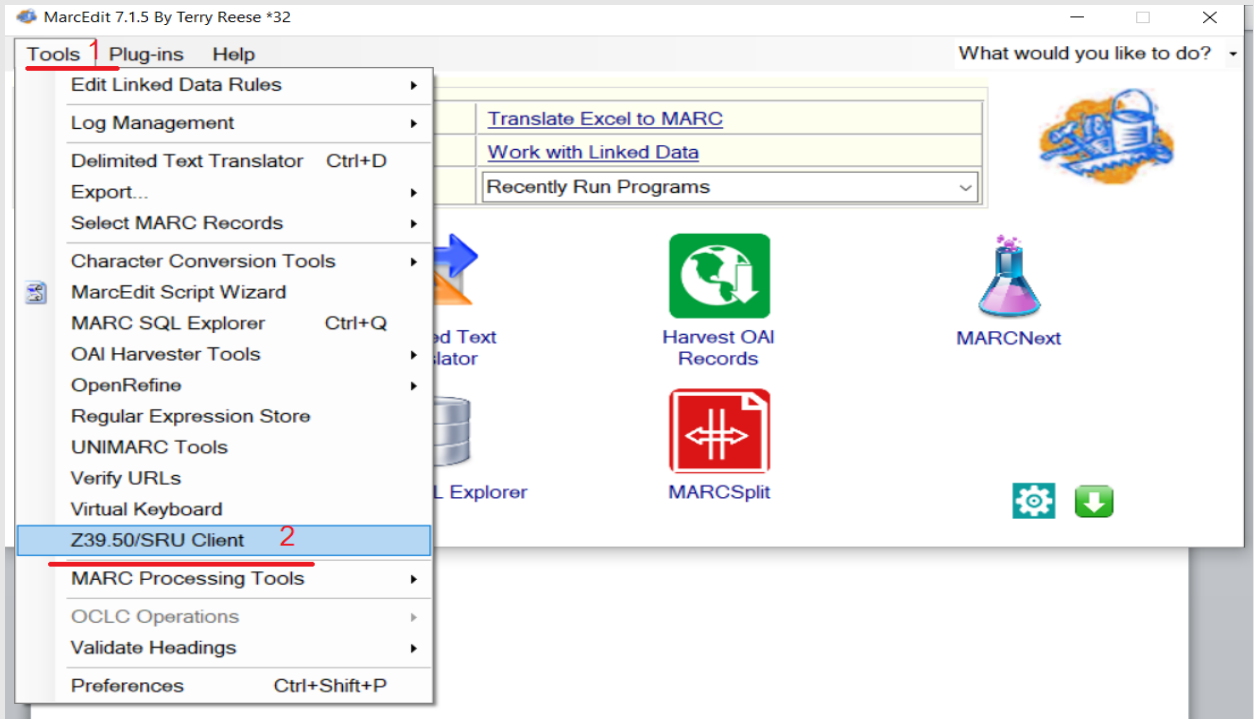
Query string

Maximum  
fetch records

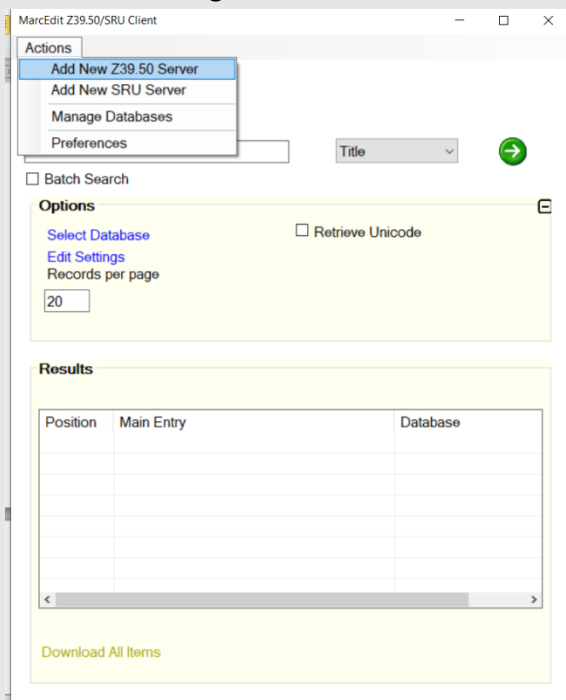
```
← → ↻ Not secure 192.168.100.232:2101/biblios?version=1.1&operation=searchRetrieve&query=islam&maximumRecords=20&recordSchema=marcxml ☆ 🏠 📄 📁 📂 📅 📆 📇 📈 📉 📊 📋 📌 📍 📎 📏 📐 📑 📒 📓 📔 📕 📖 📗 📘 📙 📚 📛 📜 📝 📞 📟 📠 📡 📢 📣 📤 📥 📦 📧 📨 📩 📪 📫 📬 📭 📮 📯 📰 📱 📲 📳 📴 📵 📶 📷 📸 📹 📺 📻 📼 📽 📾 📿 📰 📱 📲 📳 📴 📵 📶 📷 📸 📹 📺 📻 📼 📽 📾 📿
▼ <zsi:searchRetrieveResponse xmlns:zsi="http://www.loc.gov/z39.50-2003/z39.50-2003.xsd" >
  <zsi:version>1.1</zsi:version>
  <zsi:numberOfRecords>268</zsi:numberOfRecords>
  ▼ <zsi:records>
    ▼ <zsi:record>
      <zsi:recordSchema>marcxml</zsi:recordSchema>
      <zsi:recordPacking>xml</zsi:recordPacking>
      ▼ <zsi:recordData>
        ▼ <record xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.loc.gov/MARC21/slim" xsi:schemaLocation="http://www.loc.gov/MARC21/slim http://www.loc.gov/standards/marcxml/schema/MARC21slim.xsd" >
          <leader>nam a22 Ia 4500</leader>
          <controlfield tag="008">240717a9999 xx 000 0 und dc</controlfield>
          ▼ <datafield tag="020" ind1=" " ind2=" " >
            <subfield code="a">(NULL)</subfield>
            </datafield>
          ▼ <datafield tag="100" ind1=" " ind2=" " >
            <subfield code="a">Zia Ul Islam Janjua</subfield>
            </datafield>
          ▼ <datafield tag="245" ind1=" " ind2="0" >
            <subfield code="a">Encyclopaedia of Electricity, Petroleum, Sui Gas, MINERALS WATER SUPPLY Laws with Wapda Act & Rules</subfield>
            </datafield>
          ▼ <datafield tag="250" ind1=" " ind2=" " >
            <subfield code="a">(NULL)</subfield>
            </datafield>
          ▼ <datafield tag="260" ind1=" " ind2=" " >
            <subfield code="a">Lahore Pakistan</subfield>
            <subfield code="b">Madem Law Book House</subfield>
            <subfield code="c">2012</subfield>
            </datafield>
          ▼ <datafield tag="300" ind1=" " ind2=" " >
            <subfield code="a">1568</subfield>
            </datafield>
          ▼ <datafield tag="365" ind1=" " ind2=" " >
            <subfield code="b">1600</subfield>
            </datafield>
          ▼ <datafield tag="440" ind1=" " ind2=" " >
            <subfield code="a">(NULL)</subfield>
            <subfield code="a">(NULL)</subfield>
            </datafield>
          ▼ <datafield tag="600" ind1=" " ind2=" " >
            <subfield code="a">(NULL)</subfield>
            </datafield>
          ▼ <datafield tag="942" ind1=" " ind2=" " >
            <subfield code="c">BK</subfield>
            </datafield>
          ▼ <datafield tag="952" ind1=" " ind2=" " >
            <subfield code="0">0</subfield>
            </datafield>
        </recordData>
      </zsi:record>
    </zsi:records>
  </zsi:searchRetrieveResponse>
```

## Through MarcEdit 7.15

- Open the application
- Go to “Tools” from the top menu bar and select Z39.50/SRU Client as shown in the below picture



- 3) then Click Actions from the top menu bar and then select Add new Z39.50 Server as shown in the below image



4) then add following details as per shown in the below images

Database Properties

**Z39.50 Database Settings:**

Database Properties Advanced Properties

Name:  
library Name

Host:  
192.168.100.232

Database:  
biblios

Port:  
2100

Syntax:  
MARC21

Username:

Password:

Override pause (6 secs.)

Show Database

Save Delete Close

Then click on the Save button

5) then Click on the select database

MarcEdit Z39.50/SRU Client

Actions

**Query Database:**

Search: [ ] Title [ ]

Batch Search

**Options**

[Select Database](#)  Retrieve Unicode

[Edit Settings](#)

Records per page  
20

**Results**

Position	Main Entry	Database

[Download All Items](#)



## SOP for Adding Library to PAKCAT

**Step1:** Open following link

<http://pakcat.pastic.gov.pk/>

Screen will look like below.



Add Library Signup Login ▾

## Welcome to PakCat

PakCat is a Union Catalogue of Pakistani Libraries developed by CSTRDLP (Consortium of S&T and R&D Libraries of Pakistan) a tool for resource sharing among the Pakistani libraries. Librarians may use it as a source to avoid duplication during acquisition of library material among nearest libraries of Pakistan. This tool will also be beneficial for researcher to locate their required material in the libraries of Pakistan.

**Step 2:** Click on Add Library on top right corner.

Will open screen like below.

A screenshot of the "Add new Library" form. The form is titled "Add new Library" and contains four input fields: "Name of Library", "University", "Select Province", and "Select a City...". The "Select Province" and "Select a City..." fields are dropdown menus. The form is displayed on a page with a blue header and a navigation bar.

**Step 3:** Fill the form texts as like showing in below screenshots.

A screenshot of the "Add new Library" form with the following text entered: "librarian@admin.muets.edu.pk" in the "Name of Library" field, "Library" in the "University" field, "Mehran University of Engineering & Technology" in the "Select Province" dropdown, "Sindh" in the "Select a City..." dropdown, "Jamshoro" in the "Select a City..." dropdown, "Engineering Library" in the "Select a City..." dropdown, and "http://142.54.178.188:5107" in the "Select a City..." dropdown.

**Z39.50 Configurations**

142.54.178.188

60005

biblios

**Librarian Info**

First Name      Last Name

Contact Number

Email Address

Password

Confirm Password

I accept the [Terms of Use & Privacy Policy](#)

**Step 4:** Click on Submit Button.

**Submit**