

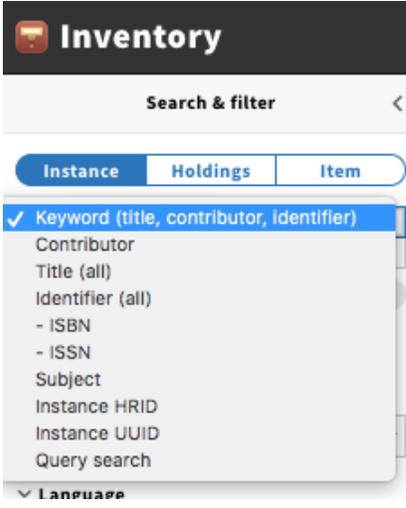
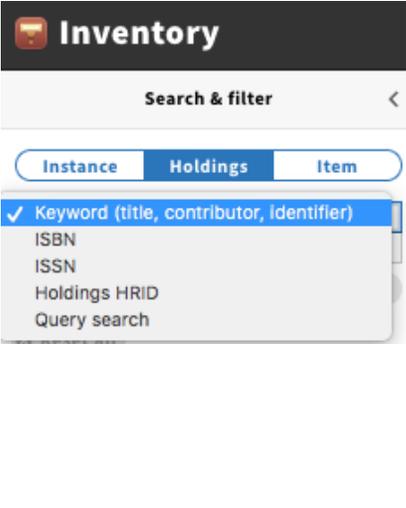
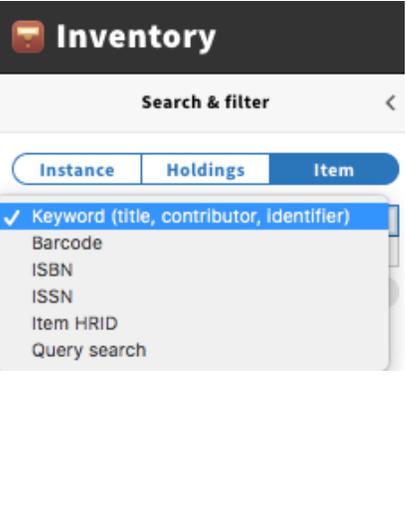
Searching

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Search and filters

In inventory, we have implemented segmented control search where it's possible to toggle between searching on an Instance, Holdings or individual Item level. Search in the Instance segment supports search on bibliographic data. Search in the Holdings and Item segments are a combination of key data from the Instance record, combined with holdings and item specific data elements. The filters reflect each of the individual segments and include search on effective location.

This is work in development, but as of end of January the following search and filter options are present in FOLIO Snapshot:

	Instance	Holdings	Item
Search options			

Filter options

The image displays three panels of search and filter options, each with a 'Search & filter' header and a left arrow. Each panel has tabs for 'Instance', 'Holdings', and 'Item'. The first panel shows filters for 'Effective location' (Main Library), 'Language' (English), 'Resource type' (text), and 'Format' (microform -- other). The second panel shows 'Effective location' (Main Library), 'Holdings permanent location', and 'Suppress from discovery'. The third panel shows 'Item status' with a list of checkboxes (Available, Awaiting pickup, Checked out, In process, In transit, Missing, On order, Paged, Declared lost, Received, Order closed), 'Effective location' (Main Library), 'Holdings permanent location', 'Material type' (sound recording, dvd), and 'Suppress from discovery'. Each panel includes a 'Reset all' button and a 'Search' button.

Search and filter options can be combined.

When searching in a filter, the search typed will be highlighted. E.g.:

A dropdown menu for 'Language' with 'English' selected. Below it, a list of search results is shown with 'English' highlighted in yellow:

- English, Old (ca. 450-1100) +
- English +
- English, Middle (1100-1500) +

A dropdown menu for 'Material type' with 're' selected. Below it, a list of search results is shown with 're' highlighted in yellow:

- electronic resource +
- sound recording +
- video recording +

If more than 100 hits are retrieved, the first 100 will load, and then you will see a "Load more" button at the bottom of the page.

When clicked, it will display the next 100:

Inventory 261,424 records found			
Title ^	Contributors	Publishers	Relation
Secretary of the treasury.	the Treasury		
1775 : a good year for revolution / Kevin Phillips.	Phillips, Kevin, 1940-	Viking (2012)	
17th and 18th century theatre research.	Loyola University Chicago	Johnson Reprint Corp. (1969)	
1812 : war and the passions of patriotism / Nicole Eustace.	Eustace, Nicole	University of Pennsylvania Press ([2012]), null (©2012)	
1836 San Antonio de Bejár, Republic of Texas.	Fletcher & Boeselt ; Carto-Graphic Galleries	Fletcher & Boeselt ([1986]), null (©1986)	
1890 Land-Grant University Agricultural Research Funding Formula.	United States. Congress. House. Committee on Agriculture ; ProQuest (Firm) ; United States. Department of Agriculture	[publisher not identified] (1978)	
18 lus soli : il diritto di esseri italiani / sostenuto da Associazione Amici di Giana [and others] ; Struggle Filmworks ; un film di Fred Kuwornu ; regia, Fred Kudjo Kuwornu.	Iacovacci, Leone, 1902-1983 ; Marincola, Giorgio, 1923-1945 ; Kuwornu, Fred Kudjo ; Struggle Filmworks	Struggle Filmworks ([2012])	
18 months / Calvin Harris.	Harris, Calvin, 1984- ; Kelis, 1979- ; Rihanna, 1988- ; Example, ; Romero, Nicky, ; Goulding, Ellie, ; Tinie Tempah, 1988- ; Welch, Florence, ; Francis, Dillon, ; Dizzee Rascal, ; Ne-Yo, ; Marar, Ayah,	Sony Music ; Columbia Records ([2012]), null (©2012)	
18th Annual Report on the Financial Condition and Result of the Operations of the Highway Trust Fund, Communication from Fiscal Assistant Secretary of the Treasury.	United States. Congress. House. Committee on Ways and Means ; ProQuest (Firm) ; United States. Department of the Treasury	[publisher not identified] (1974)	
18th international federation for heat treatment and surface engineering / JAI guest editor, Lauralice de C.F. Canale.	International Federation for Heat Treatment and Surface Engineering. Congress (18th : 2010 : Rio de Janeiro, Brazil)	ASTM International ([2012]), null (©2012)	
1936 Annual Report of the Public Printer.	United States. Government Printing Office ; ProQuest (Firm)	[publisher not identified] (1937)	
1941 Yearbook of Agriculture.	United States. Department of Agriculture ; ProQuest (Firm)	[publisher not identified] (1941)	
1950's "rocketman" TV series and their fans : cadets, rangers, and junior space men / edited by Cynthia J. Miller and A. Bowdoin Van Riper.	Miller, Cynthia J., 1958- ; Van Riper, A. Bowdoin	Palgrave Macmillan (2012)	

[Load more](#)

There is also a Query search function, which can search across records on all data elements. See below.

Search using Query language (Instance, Holdings, Item segment)

See list of property names in [Query Search - Inventory Beta - Metadata Elements](#), or in the [API Documentation](#) in the [/instance-storage/instances POST](#), [/holdings-storage/holdings POST](#) and [/item-storage/items POST](#).

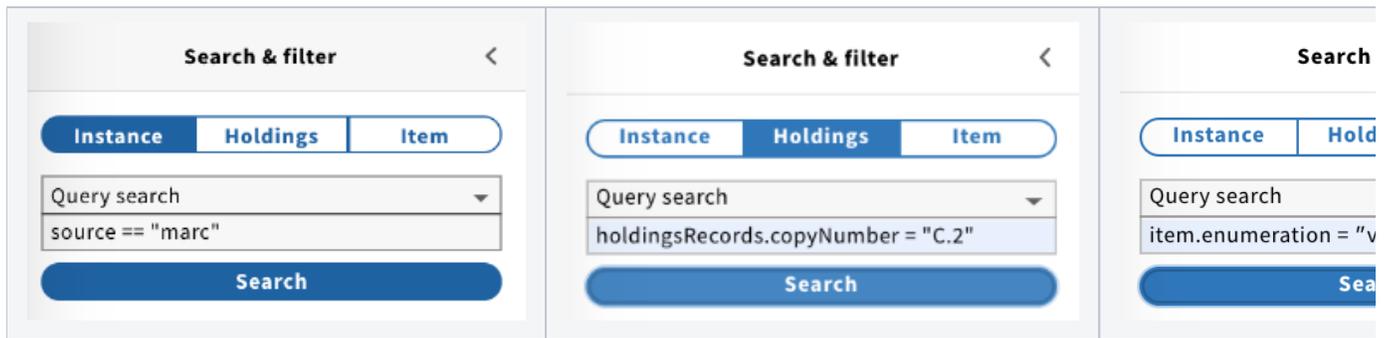
See more CQL tips written up by [Julian Ladisch Explain CQL string matching](#).

See: [Tips: Use Query Search in Inventory for export MARC records from FOLIO](#)

See list of defined supporting database indexes: [db_scripts/schema.json](#) – Skip to the "tableName": "instance", "tableName": "holdings_record" or "tableName": "item" section and look into the "uniqueIndex", "index", and "fullTextIndex" subsections.

See misc. test of search performance in [Bug fest Goldenrod \(https://bugfest-goldenrod.folio.ebsco.com/\)](https://bugfest-goldenrod.folio.ebsco.com/) in Document Inventory Search Response time (Q3 Timebox)

Tips: When searching by an ID, in the Query search it's better to use "==" as it uses the B-tree index to search, whereas a CQL query using "=" will result in a full text search, which is not efficient for searching when there is already an index on the ID.



Examples on CQL syntax (WIP)

Query search	Search result
<code>id == "f31a36de-fcf8-44f9-87ef-a55d06ad21ae"</code>	give me the instance record where UUID = f31a36de-fcf8-44f9-87ef-a55d06ad21ae
<code>hrid == "in00000009"</code>	give me the instance record where the HRID = in00000009 (<i>this number will later be an 11 digit sequence</i>)
<code>source == "folio"</code>	give me all instance records where metadata source = FOLIO
<code>source == "marc"</code>	give me all instance records where metadata source = MARC, which means that the instance record has an underlying MARC record in SRS
<code>contributors =/@name "frank"</code>	give me all instance records where contributor = Frank
<code>identifiers =/@value/@identifierTypeId="01ca9cda-7027-4d64-abed-9e3c4943daf2" "806014467"</code>	give me all instance records where OCLC number = (OCoLC)806014467 - result in BugFest Goldenrod environment
<code>identifiers =/@value/@identifierTypeId="01ca9cda-7027-4d64-abed-9e3c4943daf2" ("806014467" OR "560591246")</code>	give me the two instance records with OCLC number = (OCoLC)806014467, (OCoLC)560591246 by using the OR boolean operator - result in BugFest Goldenrod environment
<code>series = "cooperative information systems"</code>	give me all instance records where the serie title = Cooperative information systems
<code>publication = "MIT Press"</code>	give me all instance records where the publisher = MIT Press
<code>publication = "c2004"</code>	give me all instance records where the publication year = c2004
<code>physicalDescriptions = "bände"</code>	give me all instance records where the physical description = bände
<code>subjects = "history"</code>	give me all instance records where the subject heading = history
<code>instanceFormatIds == "f5e8210f-7640-459b-a71f-552567f92369"</code>	give me all instance records where format term = online resource
<code>keyword all oclc</code>	give me all instance records where oclc is mentioned in title, contributor, or identifier
<code>holdingsRecords.fullCallNumber == "TK5105.88815 . A58 2004 FT MEADE" OR holdingsRecords.callNumberAndSuffix == "TK5105.88815 . A58 2004 FT MEADE"</code>	give me all holdings records where the call number = TK5105.88815 . A58 2004 FT MEADE
<code>holdingsRecords.copyNumber = "C.2"</code>	give me all holdings records where the copy number = C.2
<code>holdingsRecords.holdingsStatements = "v.70-84"</code>	give me all holdings records where the holdings statement = v.70-84 (1984-1998)
<code>holdingsRecords.notes = "CharlotteTest"</code>	give me all holdings records where the holdings notes = CharlotteTest
<code>holdingsRecords.metadata.createdDate = 2020-07-13</code>	give me all holdings records created on 2020-07-13
<code>holdingsRecords.metadata.updatedDate = 2020-07-13</code>	give me all holdings records updated on 2020-07-13
<code>item.enumeration = "v.71"</code>	give me all item records where the enumeration = v.71
<code>item.accessionNumber == 2424242424</code>	give me all item records with accession number 2424242424
<code>item.electronicAccess = "table"</code>	give me all item records where there in the electronic access elements is matching value = table
<code>item.notes = "note"</code>	give me all item records where the item note = note

item.circulationNotes = missing pages*	give me all item records with check out/check in note about having missing pages
item.permanentLoanTypeId == "2b94c631-fca9-4892-a730-03ee529ffe27"	give me all item records where the permanent item loan type is Can circulate
item.metadata.createdDate = 2020-07-13	give me all item records created on 2020-07-13
item.metadata.updatedDate = 2020-07-13	give me all item records updated on 2020-07-13

Boolean search within records and across instance/holdings/item:

Query search	Search result
publication = "MIT Press" and publication = "c2004"	give me all instance records where publisher = MIT Press AND publication year is c2004
publication = "MIT Press" and holdingsRecords.callNumber = "TK5105.88815 . A58 2004 FT MEADE"	give me all instance records where publisher = MIT Press AND the associated holdings records has holdings level call number = TK5105.88815 . A58 2004 FT MEADE
subjects = "history" or identifiers = "OCoLC" not publication = "2017"	give me all instance records where publisher = MIT Press AND the resource identifier is starting with OCoLC and does NOT has publication year = 2017
languages="eng" AND item.itemLevelCallNumber="TK5105**"	give me all instance records where language = English AND the associated item records has item level call number starts with TK5105. The query includes wildcard search with an asterix
identifiers =/@value/@identifierTypeId == "216b156b-215e-4839-a53e-ade35cb5702a" "10419/192087"	give me all instance records where resource identifier type = handle AND resource identifier = 10419/192087
source = "*" not source = "folio" Alternative CQL: id=* not source = "folio" cql.allRecords = "1" not source = "folio"	give me all instance records where metadata source is NOT Folio (but: MARC, and other source formats)
item.status="available" AND statusId = "26f5208e-110a-4394-be29-1569a8c84a65"	give me all records where item status = available AND instance status term = Uncataloged

Search queries that currently do not seem to work

Query search	Expected search result	Actual search result	Tested by / on environment	Comments
discoverySuppress="false" AND holdingsRecords.discoverySuppress="false" AND item.discoverySuppress="false" AND item.barcode="null"	Instance, Holdings, Item are not suppressed (for discovery?) AND item barcode = blank example from 2020-01-30 Metadata Management Meeting notes			The instance record JSON includes a boolean "discoverySuppress" which is set to false in my instance example record. Holding and item records don't have this elements in their response. Use Chrome's dev tools to verify. I'm not sure how to search for NULL values. If an item has no barcode assigned, the element is not included in the JSON response either. cc Charlotte Whitt

Retrieve UUIDs

For some CQL queries you need the UUID of the value, because you cannot search for the actual term. To do this, you can use the developer tools that are built into your browser. In Chrome, press F12 to open the developer tools and switch to the "network" tab. Clear out any previous data by pressing "clear" and refresh the Folio page. Please note, that you'll first have to open a detail instance record in the third pane. After the page has loaded, you should look in the network data for the record UUID. Select it to see the record data in JSON format.



RefData	Value	UUID
Instance status types	Batch Loaded	52a2ff34-2a12-420d-8539-21aa8d3cf5d8
	Cataloged	9634a5ab-9228-4703-baf2-4d12ebc77d56
	Not yet assigned	f5cc2ab6-bb92-4cab-b83f-5a3d09261a41
	Other	2a340d34-6b70-443a-bb1b-1b8d1c65d862
	Temporary	daf2681c-25af-4202-a3fa-e58df806183
	Uncataloged	26f5208e-110a-4394-be29-1569a8c84a65

More documentation on search indexes (from a developer's perspective)

Following list of resources is gathered by [Julian Ladisch](#):

Existing documentation:

<https://dev.folio.org/faqs/explain-cql/>
<https://dev.folio.org/faqs/explain-database-schema/>
<https://github.com/folio-org/raml-module-builder#the-post-tenant-api> about likeIndex, ginIndex, uniqueIndex, index, fullTextIndex
<https://github.com/folio-org/raml-module-builder#cql-relations> with several sections about CQL
<https://github.com/folio-org/raml-module-builder#cql2pgjson-multi-field-index> with several sections about CQL2PgJSON indexes
https://github.com/folio-org/mod-inventory-storage/blob/master/src/main/resources/templates/db_scripts/schema.json is the schema.json of mod-inventory-storage including several indexes for instance, holdings_record and item fields.

All fields can be indexed, simply add an index entry to schema.json on GitHub. The indexing is the same for all institutions and a change requires a new release of the module.

Currently institutions cannot customize indexing at runtime and cannot have different indexing. GBV libraries have extensive indexing customization in the inventory of their current system (OCLC LBS) and will likely request this for FOLIO. Index customization use cases for inventory should be discussed in the metadata management sig.