Information Builders

WebFOCUS

InfoSearch

Release 8206 and higher

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Preface

This content introduces WebFOCUS InfoSearch, a comprehensive search capability that enables you to find all of your Business Intelligence (BI) and analytics content, including reports, charts, and dashboards, in a WebFOCUS Repository. It is intended for WebFOCUS administrators, developers, and end users.

How This Manual Is Organized

This manual includes the following chapters:

	Chapter/Appendix	Contents
1	Introducing WebFOCUS InfoSearch	Introduces WebFOCUS InfoSearch, and describes user requirements.
2	Configuring WebFOCUS to Support InfoSearch	Describes the default WebFOCUS configuration that supports InfoSearch and the impact of adjustments to that configuration.
3	Creating a Dimensional Data Procedure	Describes how to use the InfoSearch Index Builder to create a dimensional data procedure.
4	Using InfoSearch to Explore Repository Content	Describes how to use InfoSearch to search your content.

Conventions

The following table describes the conventions that are used in this manual.

Convention	Description

`THIS TYPEFACE`
or
`this typeface`
	Denotes syntax that you must enter exactly as shown.

`this typeface`	Represents a placeholder (or variable) in syntax for a value that you or the system must supply.
`underscore`	Indicates a default setting.

Convention	Description
this typeface	Represents a placeholder (or variable), a cross-reference, or an important term. It may also indicate a button, menu item, or dialog box option that you can click or select.
Key + Key	Indicates keys that you must press simultaneously.
{ }	Indicates two or three choices. Type one of them, not the braces.
[ ]	Indicates a group of optional parameters. None are required, but you may select one of them. Type only the parameter in the brackets, not the brackets.
|	Separates mutually exclusive choices in syntax. Type one of them, not the symbol.
. . .	Indicates that you can enter a parameter multiple times. Type only the parameter, not the ellipsis (...).
. . .	Indicates that there are (or could be) intervening or additional commands.

Related Publications

Visit our Technical Content Library at *http://documentation.informationbuilders.com*. You can also contact the Publications Order Department at (800) 969-4636.

Customer Support

Do you have questions about this product?

Join the Focal Point community. Focal Point is our online developer center and more than a message board. It is an interactive network of more than 3,000 developers from almost every profession and industry, collaborating on solutions and sharing tips and techniques. Access Focal Point at *http://forums.informationbuilders.com/eve/forums*.

You can also access support services electronically, 24 hours a day, with InfoResponse Online. InfoResponse Online is accessible through our website, *http://www.informationbuilders.com*. It connects you to the tracking system and known-problem database at the Information Builders support center. Registered users can open, update, and view the status of cases in the tracking system and read descriptions of reported software issues. New users can register immediately for this service. The technical support section of *www.informationbuilders.com* also provides usage techniques, diagnostic tips, and answers to frequently asked questions.

Call Information Builders Customer Support Services (CSS) at (800) 736-6130 or (212) 736-6130. Customer Support Consultants are available Monday through Friday between 8:00 a.m. and 8:00 p.m. EST to address all your questions. Information Builders consultants can also give you general guidance regarding product capabilities. Please be ready to provide your six-digit site code number (*xxxx.xx*) when you call.

To learn about the full range of available support services, ask your Information Builders representative about InfoResponse Online, or call (800) 969-INFO.

Information You Should Have

To help our consultants answer your questions effectively, be prepared to provide the following information when you call:

- Your six-digit site code (*xxxx.xx*).
- Your WebFOCUS configuration:
  - The front-end software you are using, including vendor and release.
  - The communications protocol (for example, TCP/IP or HLLAPI), including vendor and release.
  - The software release.
  - Your server version and release. You can find this information using the Version option in the Web Console.
- The stored procedure (preferably with line numbers) or SQL statements being used in server access.
- The Master File and Access File.
- The exact nature of the problem:
  - Are the results or the format incorrect? Are the text or calculations missing or misplaced?

- Provide the error message and return code, if applicable.
- Is this related to any other problem?

- Has the procedure or query ever worked in its present form? Has it been changed recently? How often does the problem occur?
- What release of the operating system are you using? Has it, your security system, communications protocol, or front-end software changed?
- Is this problem reproducible? If so, how?
- Have you tried to reproduce your problem in the simplest form possible? For example, if you are having problems joining two data sources, have you tried executing a query containing just the code to access the data source?
- Do you have a trace file?
- How is the problem affecting your business? Is it halting development or production? Do you just have questions about functionality or documentation?

User Feedback

In an effort to produce effective documentation, the Technical Content Management staff welcomes your opinions regarding this document. You can contact us through our website, *http://documentation.informationbuilders.com/connections.asp*.

Thank you, in advance, for your comments.

Information Builders Consulting and Training

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For information on course descriptions, locations, and dates, or to register for classes, visit our website (*http://education.informationbuilders.com*) or call (800) 969-INFO to speak to an Education Representative.

Chapter 1

Introducing WebFOCUS InfoSearch

This topic introduces WebFOCUS InfoSearch, a comprehensive search tool that enables you to find all of your Business Intelligence (BI) and analytics content, including reports, charts, and dashboards, in a WebFOCUS Repository.

The following sections describe user requirements and InfoSearch components.

In this chapter:

- WebFOCUS InfoSearch Overview
- Getting Started With WebFOCUS InfoSearch

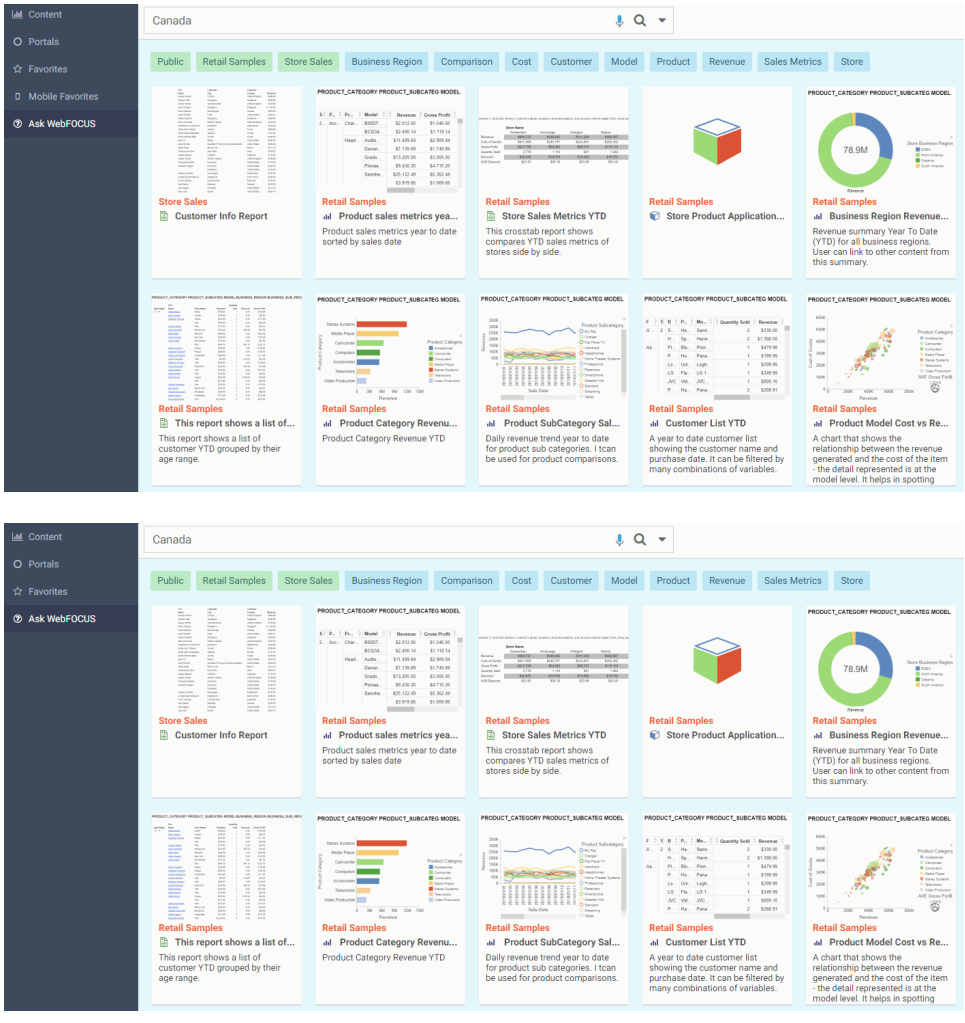
WebFOCUS InfoSearch Overview

With WebFOCUS InfoSearch, you can quickly find the BI content you need through simple, Google-style searches, without having to search through various folders for information. It enables you to search existing content items, such as procedures, charts, and other data elements using natural language processing and a type-ahead search index. To initiate a search, a user just types or speaks an actual value, such as the name of a specific customer.

WebFOCUS InfoSearch combines with several WebFOCUS technologies to enable users to quickly find related reports, charts, and dashboards that are indexed from key data elements in your BI content. For example, you can use WebFOCUS InfoAssist or WebFOCUS Designer to create content with the dimensions that will be loaded into a searchable index. InfoSearch also integrates with ReportCaster, a scheduling and distribution application that centralizes the execution and distribution of WebFOCUS reports, to schedule your dimensional data procedure to run at specified times. The combination of these technologies provides users with an easier way to locate, view, and retrieve their content, while searching multiple data values at the same time and ensuring that your latest data will always be available in your searches.

Once enabled and configured, using InfoSearch is simple. You can access it from the WebFOCUS Home Page by clicking *Ask WebFOCUS*. Here, you can either begin to type in your search, or tap the microphone and speak it. InfoSearch will use that search term to return results that include every piece of content in the repository, and display the results as thumbnails.

For example, what if you are a regional sales manager for North America and you want to find all of your BI content for Canada. Instead of spending time clicking through folders and trying to remember which reports contain this information, you can use InfoSearch to immediately locate all content items for this term, as shown in the following image.



Getting Started With WebFOCUS InfoSearch

Before you can begin to interact with InfoSearch, the WebFOCUS Administrator or Domain Developer in your organization must ensure that the InfoSearch settings are enabled correctly, and identify the data values that will be indexed for your queries, so that at least one domain has a corresponding index with dimensional data. A WebFOCUS software license that includes InfoSearch is also required.

There are three different types of users that can support or interact with InfoSearch:

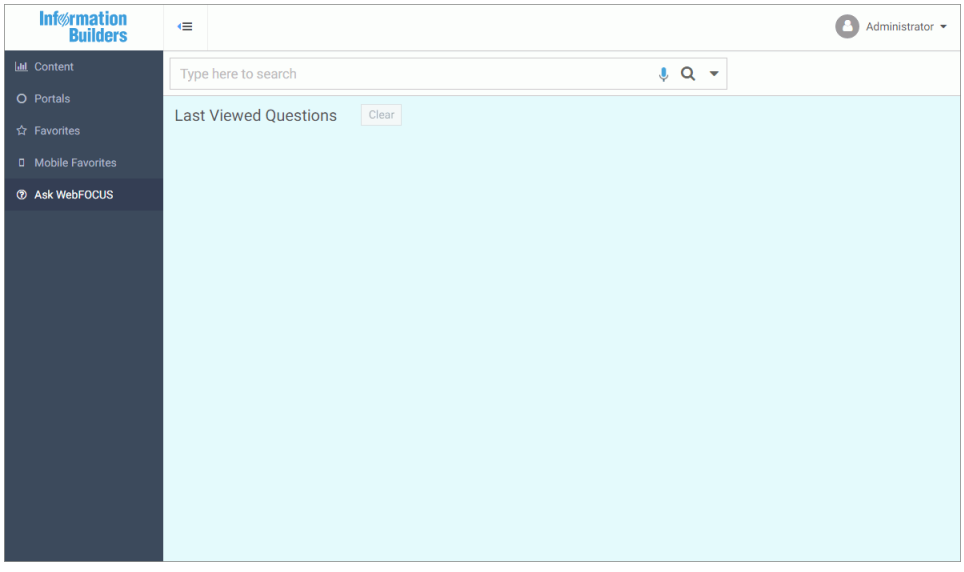
1. **Administrator.** Configures global settings and manages your WebFOCUS installation. Administrators also have access to core WebFOCUS functionality that enables them to troubleshoot any issues related to InfoSearch.
2. **Domain Developer.** Identifies the parameters that should be loaded in the dimensional data procedure so that users in your organization can interact with InfoSearch. They are also responsible for scheduling future index updates, deciding which domains require indexes, and optionally indexing Report Library output.
3. **End User.** Interacts with InfoSearch and performs search queries for BI applications such as reports, charts, and dashboards.

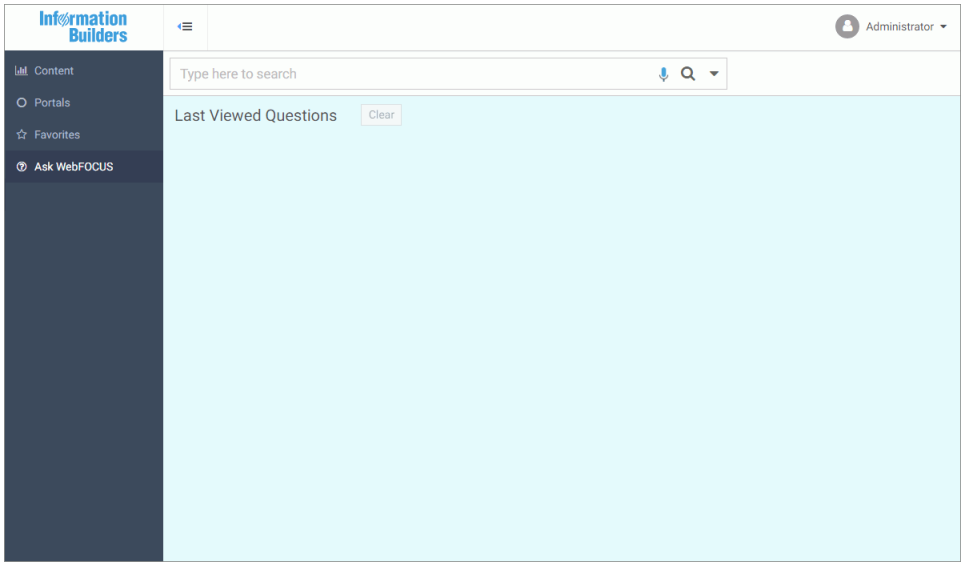
In some organizations, an Administrator and Domain Developer may be the same person.

In order to use the voice search capability through your desktop, your Administrator must configure SSL with your WebFOCUS installation, and you must access InfoSearch through a Google Chrome browser with HTTPS.

To access and view information through the Ask WebFOCUS user interface, you must first use the InfoSearch Index Builder to create a dimensional data procedure that defines the dimensions in your data that can be used to run searches in InfoSearch. Once that dimensional data procedure gets loaded into the search index of the domain, you can access the Ask WebFOCUS user interface from the WebFOCUS Home Page.

You can begin to interact with InfoSearch by signing in to WebFOCUS. From the WebFOCUS Home Page, click *Ask WebFOCUS* to open the Ask WebFOCUS user interface, as shown in the following image.





Here, you can run searches in your repository content by either typing or speaking search terms. InfoSearch will return results that include every piece of content contained in the repository that corresponds to that search term, regardless of what type of content it is.

Chapter 2

Configuring WebFOCUS to Support InfoSearch

This topic describes the default configuration in WebFOCUS that supports InfoSearch operations, and the impact of adjustments to this configuration.

In this chapter:

- Understanding InfoSearch Privileges
- Setting Up Your WebFOCUS Content to Work With InfoSearch
- Enabling Voice Capabilities for InfoSearch
- Configuring the Solr Search Engine for WebFOCUS
- Indexing Existing InfoSearch Content

Understanding InfoSearch Privileges

The first step in using InfoSearch is understanding its privileges, and ensuring that they are enabled correctly. After a new WebFOCUS installation or upgrade, the Enable InfoSearch check box is enabled by default. This check box is located on the Magnify page of the WebFOCUS Administration Console Configuration tab. As a result, the Display Ask WebFOCUS menu (opInfoSearch) privilege in the Edit Role dialog box, accessed from the WebFOCUS Security Center Roles tab, is enabled for the following three principal domain user roles:

- DomainBasicUser
- DomainAdvancedUser
- DomainDeveloper

It is important to note that even when both the Enable InfoSearch check box and the Display Ask WebFOCUS menu (opInfoSearch) privilege are enabled, the Ask WebFOCUS view and the Ask WebFOCUS user interface are only available when the Repository has a domain with an index.

Clearing the *Enable InfoSearch* check box disables InfoSearch and hides it from all users. When this check box is cleared, the Display Ask WebFOCUS Menu (opInfoSearch) privilege is removed from the Security Center Roles dialog box, making InfoSearch unavailable. Administrators should not clear this check box unless they intend to remove the ability to use InfoSearch from all users. To re-establish this setting, an administrator must select the *Enable InfoSearch* check box again.

The ability to use InfoSearch for queries throughout the Repository is limited to customers who have purchased it as a separate product. However, InfoSearch is available and the Ask WebFOCUS view and user interface are visible to users, regardless of whether it has been purchased or not. This configuration enables customers who have not purchased InfoSearch to use it when working with the Retail Samples demo.

Note: Users can only search in domains for which they have permission to access.

Setting Up Your WebFOCUS Content to Work With InfoSearch

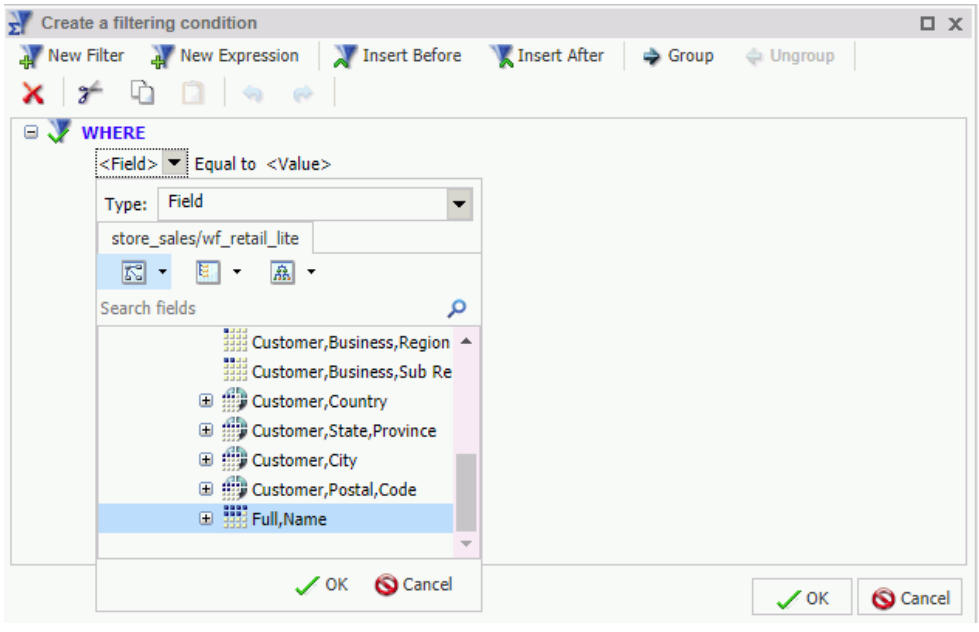
The next step is to ensure that your content will work with InfoSearch. When performing a search query, InfoSearch can only retrieve report procedures that have defined parameters. These parameters are then used by InfoSearch to correctly display all of the content that is related to your search query.

In the following examples, we create a sample report in InfoAssist and a chart in WebFOCUS Designer that shows the full name of a customer, and the revenue associated with their purchases.

Example: Creating a Parameterized Report in InfoAssist

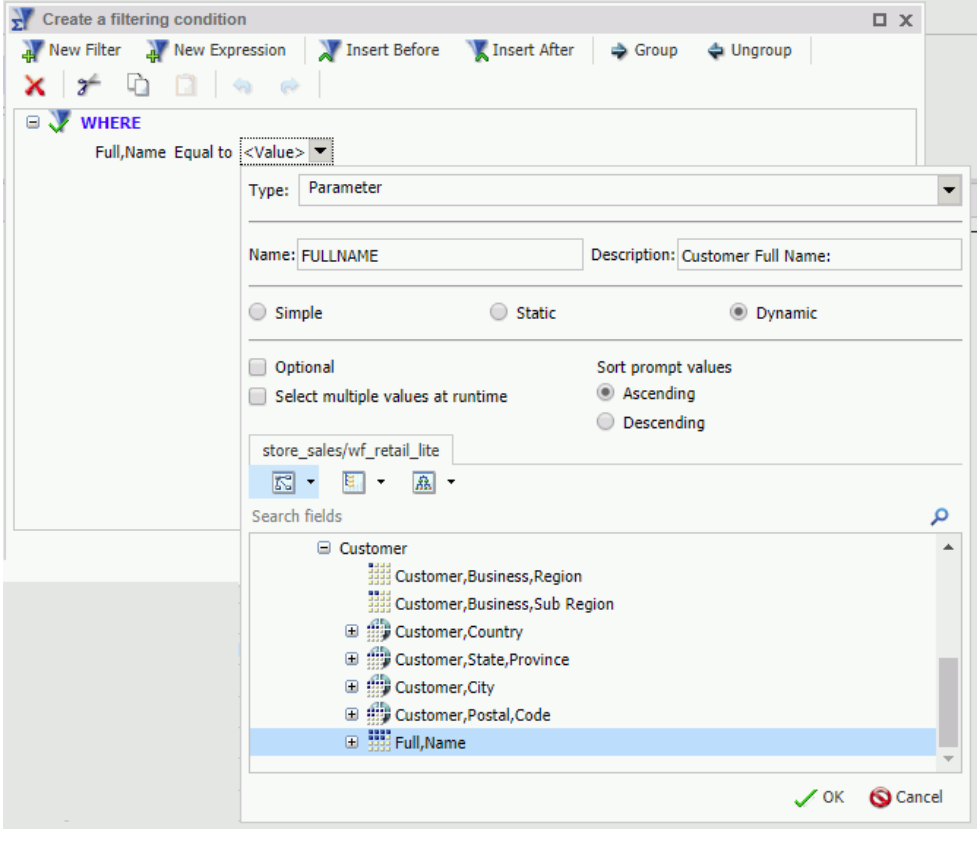
1. Load the WebFOCUS Retail sample data to a Domain, where you can create content.
2. From the WebFOCUS Home Page, select the Domain where you want to create your content, and under Create New, click *Report* to launch InfoAssist. On the Action bar, click the *InfoAssist* tab, then click *Report* to launch InfoAssist.
3. Add the following data fields. You can double-click these fields or drag them to the canvas:
   a. Revenue
   b. Full,Name
   c. Customer,City
4. On the Data tab, in the Filter group, click *Filter*. The Create a Filtering Condition dialog box opens.
5. Double-click *Double-click or press F2 to edit!* to open the drop-down menus that you can use to create a filter.

6. Use the Field drop-down menu to select a field from the Master File. For this example, we will use *Full,Name*.



7. Click *OK*.

8. In the <Value> drop-down menu, select the value from the Master File. For this example, select *Parameter* from the Type drop-down menu, and select the *Dynamic* radio button. This creates a dynamic parameter for Full Name.



There are two options you can choose from when creating the parameters that InfoSearch will use for your content:

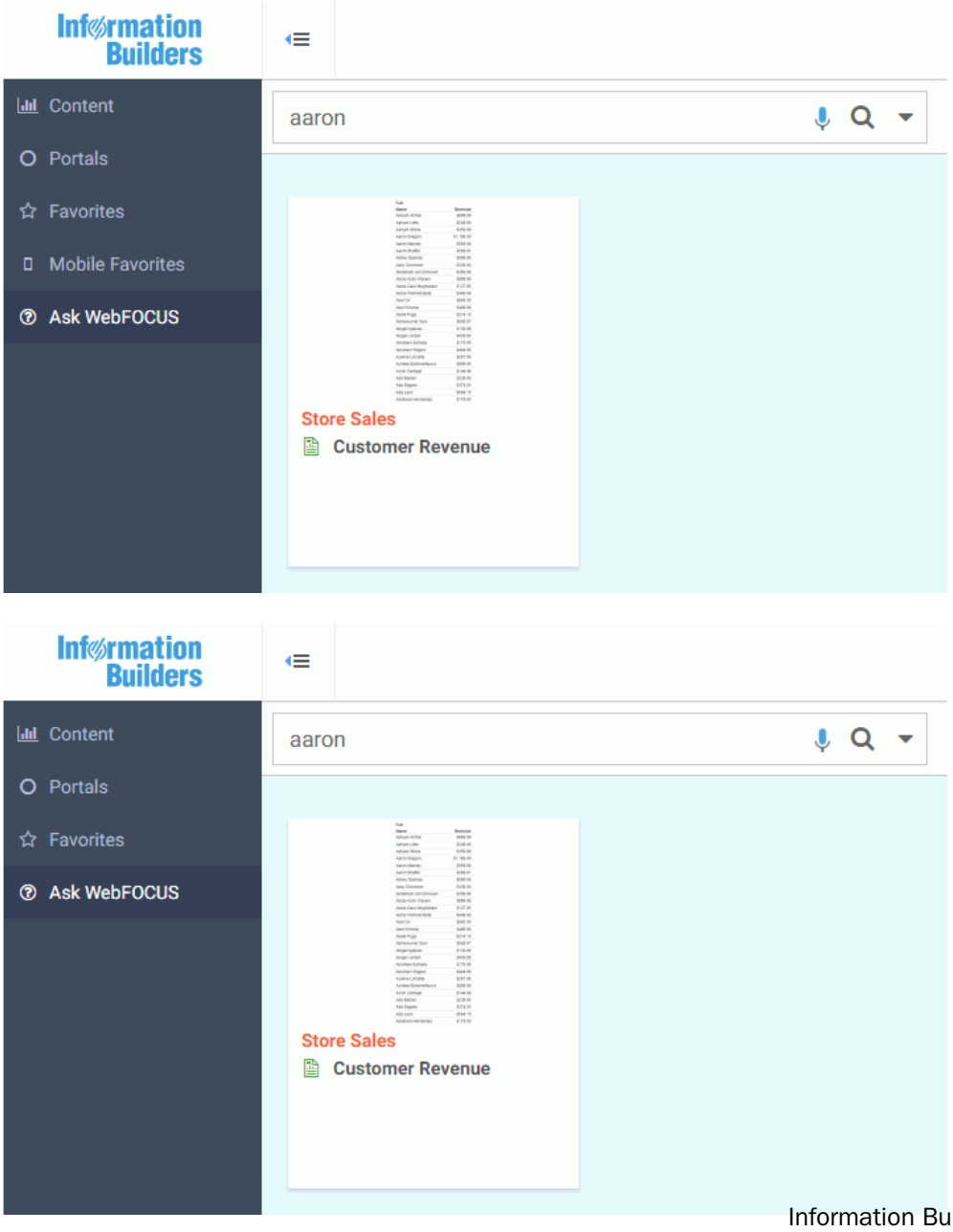
a. Keep the parameter value required, which is the default. Doing so requires the user to enter a value for the required parameter when performing a query in InfoSearch. In this example, using Full Name as the required parameter means that a user has to enter a customer name in the search box for InfoSearch to produce the proper results.

b. Set the parameter to optional, by selecting the *Optional* check box. Doing so means the user has a choice in whether or not they search for that value in InfoSearch. For example, if both Full Name and Customer City are set as optional, either of these values can be used in an InfoSearch query to locate that content.

Note: You can use a combination of parameters in your content to help you perform InfoSearch queries. Adding both required and optional parameters to your content will only produce search results if a value for the required parameter is specified.

9. Click *OK* to complete your filter.
10. Once you are done creating your filters, click *OK* to close the Create a filtering condition dialog box.
11. Save your report with a meaningful name, such as *Customer Revenue*.
12. Close InfoAssist.

Once you create the dimensional data procedure for the Full,Name and Customer,City dimensions, you can perform a search query on this data. Using this example, when we perform a search query for customers named *Aaron*, InfoSearch uses the value that was input to locate the Customer Revenue report, that includes revenue for all customers named Aaron, as shown in the following image.

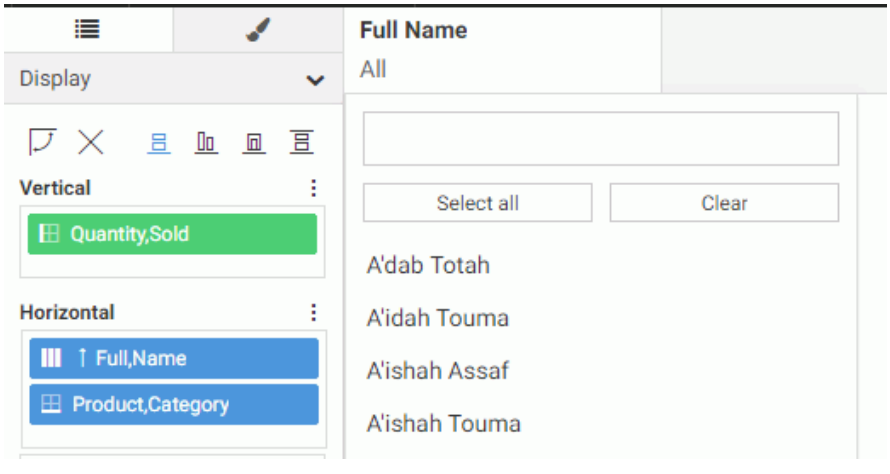


Example: Creating a Parameterized Chart in WebFOCUS Designer

1. Load the WebFOCUS Retail sample data to a Domain, where you can create content.
2. From the WebFOCUS Home Page, select the Domain where you want to create your content, and, on the Action bar, click the *Designer* tab.
3. Click *Chart* or *Workbook*.

   Note: InfoSearch will only find and display individual charts in a workbook, and not the workbook as a whole.
4. As WebFOCUS Designer opens, select the Retail sample data source that you previously loaded to your Domain, and click *Select*.
5. Add the following data fields. You can double-click these fields or drag them to the canvas:
   a. Quantity,Sold
   b. Full,Name
   c. Product,Category
6. From the Data pane, drag the *Full,Name* dimension to the Filter toolbar located above the canvas. You can also right-click the dimension and click *Add to filter toolbar*.

   The filter will show all of the available data values for that dimension, as shown in the following image.



There are two options you can choose from when creating the parameters that InfoSearch will use for your WebFOCUS Designer content:

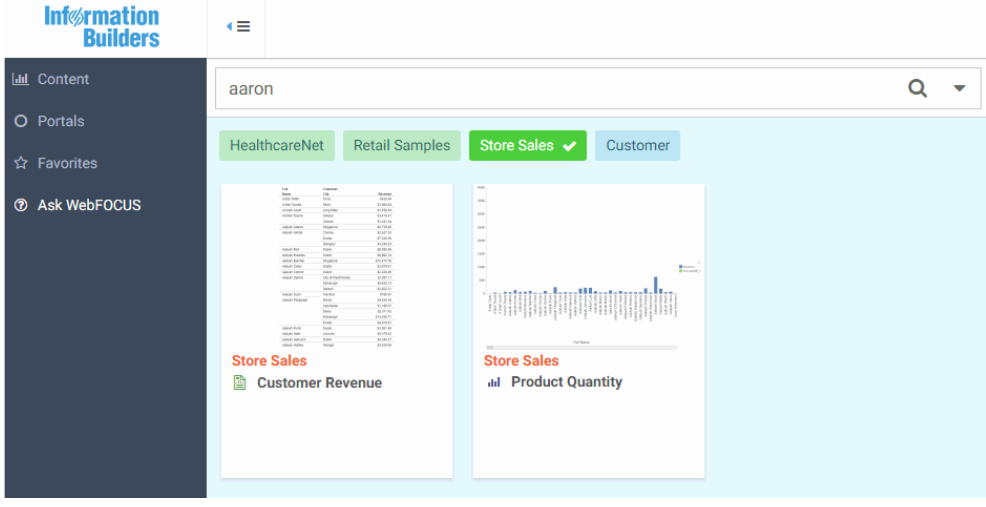
a. Keep the parameter value optional, which is the default. Doing so means the user has a choice in whether or not they search for that value in InfoSearch. For example, if both Full Name and Product Category are set as optional, either of these values can be used in an InfoSearch query to locate that content.

b. Set the parameter to required, by right-clicking the data field in the Filter toolbar and selecting *Require selection*. Doing so requires the user to enter a value for the required parameter when performing a query in InfoSearch. In this example, using Full Name as the required parameter means that a user has to enter a customer name in the search box for InfoSearch to produce the proper results. If you have a required parameter for Full Name and an optional parameter for Product Category, the query does not return any results unless a Full Name value is supplied, even if a Product Category is selected.

   Note: You can use a combination of parameters in your content to help you perform InfoSearch queries. Adding both required and optional parameters to your content will only produce search results if a value for the required parameter is specified.

7. Once you are done adding your desired filters, save your report with a meaningful name, such as *Product Quantity*.
8. Close WebFOCUS Designer.

Once you create the dimensional data procedure for the Full,Name, Customer,City, and Product,Category dimensions, you can perform a search query on this data. Using this example, when we perform a search query for customers named *Aaron*, InfoSearch uses the value that was input to locate both the Customer Revenue report that was created in InfoAssist, and the Product Quantity chart that was created in WebFOCUS Designer, which include revenue and quantity sold for all customers named Aaron, as shown in the following image.



Indexing Report Library Output

In addition to searching for parameterized reports, you can optionally enable Report Library output data for indexing and search InfoSearch. Unlike report procedures (FEX), a Report Library output does not need to contain a parameter to be found in InfoSearch.

When the *Index Library Output* check box is selected and saved in the ReportCaster Console, all subsequent Report Library distributions will be indexed and made searchable by InfoSearch.

Note:

- HTML5 charts that output into a Report Library cannot be indexed.
- Existing Report Library items are not indexed.

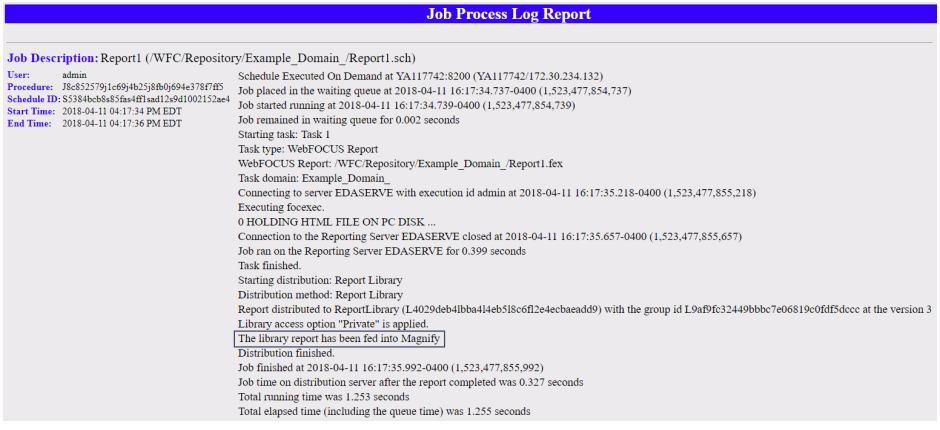
Procedure: How to Enable Indexing of Report Library Outputs

1. From the WebFOCUS Home Page, navigate to the WebFOCUS Administration Console.
2. On the *ReportCaster* tab, in the *Show* group, click *Configuration*.

3. On the Configuration pane, expand the *Report Library* folder, and then click the *Additional Library Setting*s folder.
4. In the center pane, navigate to the InfoSearch section and select the *Index Library Output* check box.
5. Save and restart the ReportCaster Console.

   All subsequent Report Library distributions will be indexed and made searchable by InfoSearch. Existing Report Library items are not indexed.

When a schedule distributes content to the Report Library, the Job Process Log Report for the schedule indicates that the output has also been fed into the search tool utilized by InfoSearch. The log is shown in the following image.



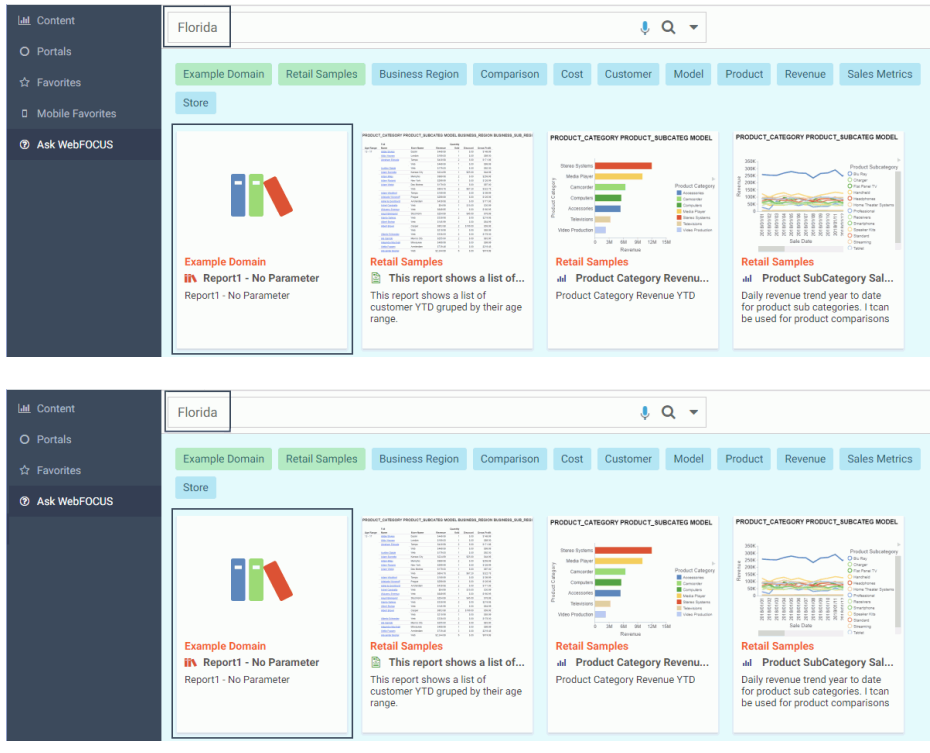
Job Process Log Report

Job Description: Report1 (/WFC/Repository/Example_Domain_/Report1.sch)

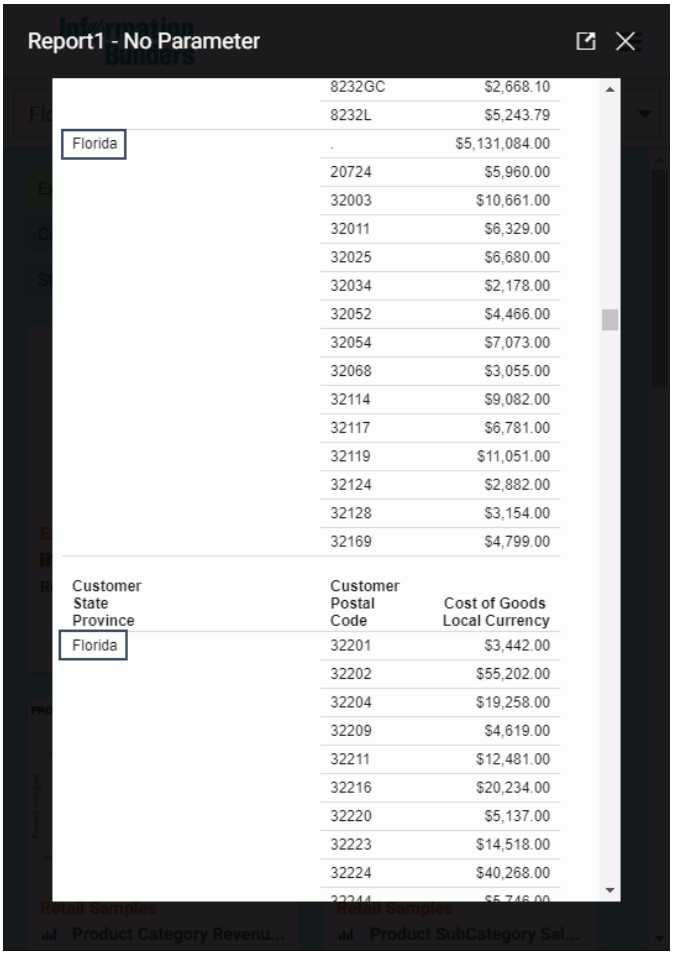
User: admin
Procedure: J8c852579j1e69j4b25j8fb0j694e378f7ff5
Schedule ID: S5384bcb8s85fas4ff1sad12s9d1002152ae4
Start Time: 2018-04-11 04:17:34 PM EDT
End Time: 2018-04-11 04:17:36 PM EDT

Schedule Executed On Demand at YA117742:8200 (YA117742/172.30.234.132)
Job placed in the waiting queue at 2018-04-11 16:17:34.737-0400 (1,523,477,854,737)
Job started running at 2018-04-11 16:17:34.739-0400 (1,523,477,854,739)
Job remained in waiting queue for 0.002 seconds
Starting task: Task 1
Task type: WebFOCUS Report
WebFOCUS Report: /WFC/Repository/Example_Domain_/Report1.fex
Task domain: Example_Domain_
Connecting to server EDASERVE with execution id admin at 2018-04-11 16:17:35.218-0400 (1,523,477,855,218)
Executing focexec.
0 HOLDING HTML FILE ON PC DISK ...
Connection to the Reporting Server EDASERVE closed at 2018-04-11 16:17:35.657-0400 (1,523,477,855,657)
Job ran on the Reporting Server EDASERVE for 0.399 seconds
Task finished.
Starting distribution: Report Library
Distribution method: Report Library
Report distributed to ReportLibrary (L4029deb4lbba4l4eb518c6fl2e4ecbaeadd9) with the group id L9af9fc32449bbbc7e06819c0fdf5dccc at the version 3
Library access option "Private" is applied.
The library report has been fed into Magnify
Distribution finished.
Job finished at 2018-04-11 16:17:35.992-0400 (1,523,477,855,992)
Job time on distribution server after the report completed was 0.327 seconds
Total running time was 1.253 seconds
Total elapsed time (including the queue time) was 1.255 seconds

The following image shows an example of a Report Library file found in InfoSearch by searching for the data value *Florida*.



The Report Library file is found because the data value Florida is found in at least one report stored in the Report Library, as shown in the following image.



Enabling Voice Capabilities for InfoSearch

To interact with InfoSearch using voice commands, you must also follow these steps:

- ❑ Enable SSL for WebFOCUS. This ensures that you can use the voice API software with a microphone and is typically set up by an Administrator. For more information, see the *WebFOCUS Security and Administration* technical content.
- ❑ Connect to your WebFOCUS environment through a Google Chrome browser with HTTPS.

- ❑ Enable Google Chrome to have access to your microphone, if you have not done so already.

Configuring the Solr Search Engine for WebFOCUS

Apache Solr is a standalone, search engine platform that can be configured to function with WebFOCUS, that is efficient in indexing and searching, and provides results in a simple way. Currently, when working with InfoSearch, there is an index created for every domain that you want to make searchable. With Solr, there is only one index that contains a domain field that allows separate documents by domain.

Procedure: How to Configure Solr to Work With Your WebFOCUS Client

The zip file required for the configuration can be found in the following location:

1. Navigate to the following location C:\ibi\solr.
2. Unzip the solr-8.0.0.zip file. It will create its own folder structure.
3. Unzip the ibi-protected.zip file to the solr-8.0.0\server\solr drive

   This file contains the default core with Retail Samples demo data already indexed. This will create the C:\ibi\solr\solr-8.0.0\solr-8.0.0\server\solr\ibi-protected subfolder with indexed data for retail_samples.
4. Change your default port by editing the following file:

   C:\ibi\solr\solr-8.0.0\solr-8.0.0\bin\solr.in.cmd (or solr.in.sh for Unix).

   To do so, uncomment the following line and specify the port:

   ```
   REM set SOLR_PORT=8983
   ```

   For example:

   ```
   set SOLR_PORT=28983
   ```

   a. To start or stop Solr with the default port configured in script files (solr.in.cmd, solr.in.sh), use the command prompt window to switch to the C:\ibi\solr \solr-8.0.0\solr-8.0.0\bin\ folder and issue the following commands:

      ```
      Solr start
      Solr stop
      ```

   b. To specify a custom port (for example, 28980), issue the following commands from the command line:

      ```
      solr start -p 28980
      solr stop -p 28980
      ```
5. Edit the JVM settings for the WebFOCUS Client application server configured with your WebFOCUS environment so that it can access the Solr environment.

To add the settings using Tomcat:

a. From the Start menu, click *Information Builders*, and then select the *Tomcat* folder.

b. Double-click *Tomcat Configuration Utility*.

   The Apache Tomct for WebFOCUS Properties dialog box opens.

c. Click the Java tab.

d. Enter the following line in the Java Options section:

   ```
   -DIBI_InfoSearch_Engine=Solr
   ```

   The following syntax notifies WebFOCUS that Solr will be used as the search engine.

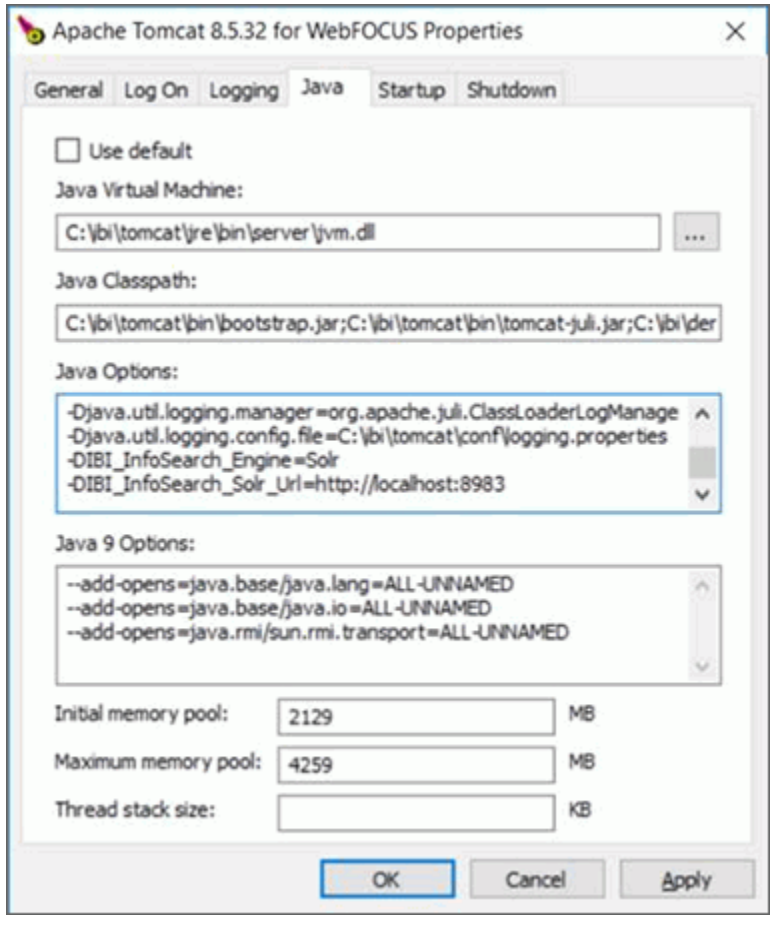
   ```
   -DIBI_InfoSearch_Solr_Url=http(s)://server:port
   ```

   where:

   server
   Is the port number of the machine running Solr.

   port
   Is the port number of the machine running Solr.

The following image shows a sample of the settings.



6. Start Solr by opening a command prompt window in administrator mode and entering the following syntax in the bin directory.

   ```
   solr start
   ```

7. Start Tomcat or your supported application server.

   You are now ready to use Solr as your search engine.

8. You must now index your existing InfoSearch content, including titles, summaries, and index, by using the corresponding web service.

   For more information, see *Indexing Existing InfoSearch Content* on page 28.

Indexing Existing InfoSearch Content

Existing InfoSearch users will need to convert their existing content and index in to a Solr format that can be used to display accurate search results once Solr is configured with their WebFOCUS installation. The following procedures will outline the steps needed to properly convert all of your existing InfoSearch content.

Procedure: How to Index Existing InfoSearch Content

1. Sign in to your WebFOCUS Installation and navigate to the web services page using the following link:

   `http://host:port/ibi_apps/rs?IBIRS_action=TEST`

   where:

   host
   Is the name or IP address of the host used to access WebFOCUS.

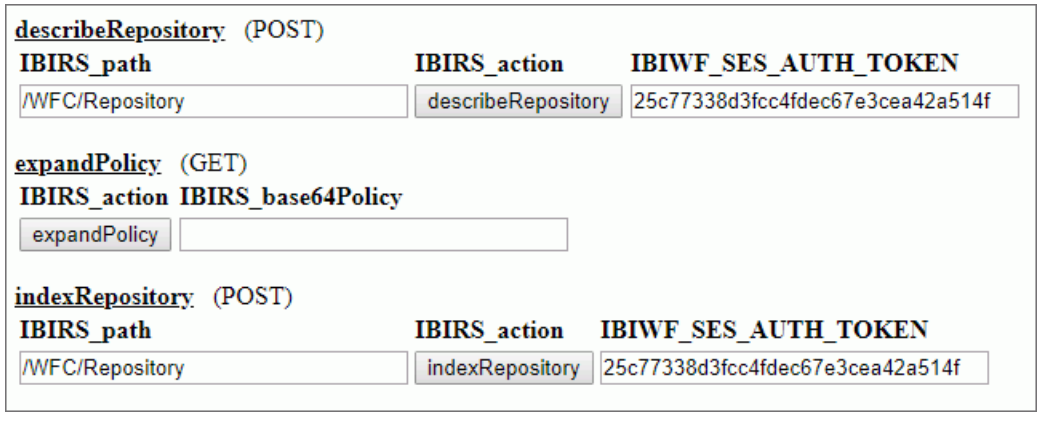
   port
   Is the number of the port on which the Web Server or Application Server listens.

   This value is optional, and should be excluded if the URL uses the default port for the protocol it uses in the scheme, which is port 80 for URLs using the http protocol or port 443 for URLs using the https protocol.

2. Click the *utils* button at the top of the page, as shown in the following image.

   The WebFOCUS Utils Web Services page opens.

3. In the IBIRS_path box, under both indexRepository and describeRepository, enter */WFC/Repository*, as shown in the following image.



4. Click the *IndexRepository* button and then click *describeRepository*.

   A new session window opens that shows the results of both executions.

5. From the WebFOCUS Home Page, click *Administrator*, select *Administration*, and then click *Administration Console*.
6. Click the *Clear Cache* button, at the top right of the page.
7. Sign back in to WebFOCUS to apply your changes.

Procedure: How to Convert an Existing InfoSearch Index for Use With Solr.

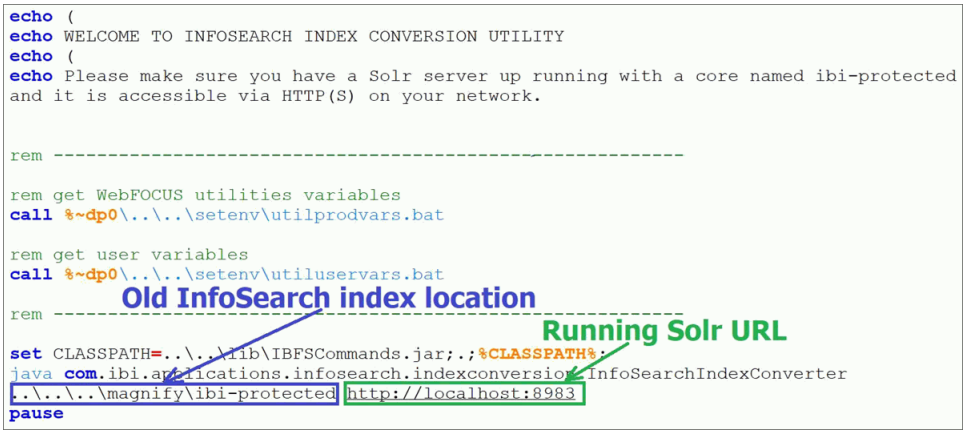
Solr requires any existing InfoSearch Lucene index to be converted to a Solr format in order to properly provide search results. Your WebFOCUS installation comes pre-packaged with a conversion utility that allows you to easily convert your existing index. To convert the existing InfoSearch Index for use with Solr:

1. Navigate to the following location:

   ```
   drive:\ibi\WebFOCUS82\utilities\search/convert2solr
   ```

2. Double-click the *infosearch_index_convert.bat* file.
3. Specify the directory path to the old Lucene index and press Enter.

By default, the conversion utility will automatically find an existing InfoSearch index under the *drive*:\ibi\WebFOCUS82\magnify\ibi-protected folder and create the corresponding Solr index using HTTP(S) connections to a running Solr server, which by default, runs on http://localhost:8983. However, if your installation has non-default settings, you can customize the script file in the locations shown in the following image.



After the upgrade process has finished, the command console window automatically closes.

You can now perform all InfoSearch searches on your existing content.

Chapter 3

Creating a Dimensional Data Procedure

This topic describes the dimensional data procedure, a type of procedure that forms the basis of InfoSearch operations. It also shows you how to use the InfoSearch Index Builder to create a dimensional data procedure.

In this chapter:

- Using the InfoSearch Index Builder
- Scheduling Index Updates
- Customizing Your InfoSearch Index Location

Using the InfoSearch Index Builder

In order to access the Ask WebFOCUS user interface and perform InfoSearch searches, there must be at least one dimensional index present in the WebFOCUS software that corresponds to at least one domain. This is done by creating a dimensional data procedure in each domain that defines the dimensions that will be used to search your repository content.

Dimensional data procedures must contain the following components:

- Dimension names drawn from a Master File.
- Corresponding data values that those dimensions may have.
- An internal field name, if there are display values and internal values.

Note: You can only add non-numeric fields to a dimensional data procedure.

To create a dimensional data procedure, you must select the domain in which you are defining data for the dimensional data procedure, a Master File that provides dimension values, and the fields that you want to include. When you build the dimensional data procedure, you must select a Field Name and Title for each value that you define. Note that if there is already a value for Title in your Master File, the Title box automatically populates with that information.

While you are building the components of your index, you may come across the following issues that should be taken into consideration:

- Synonyms in your data that may not easily be recognized by voice or text, such as "1st" versus "First".

- Multiple data values with the same stem or root word, such as "television" and "televisions".

With your WebFOCUS installation you have access to WebFOCUS Magnify search technology, an Information Builders enterprise business intelligence search tool that you can use to create and find business content across an organization. Whether or not you have a WebFOCUS Magnify license, you can use components of this technology to enhance the InfoSearch experience for your users.

- For more information on using Magnify technology to configure how synonyms are recognized, see the *Configuring Synonyms* topic in the *Magnify Search Security and Administration* technical content.

- For more information on using Magnify technology to configure multiple data values with the same stem word, see the *Magnify Analyzers* topic in the *Magnify Search Security and Administration* technical content.

While creating an index in the InfoSearch Index Builder, you may want to add a qualifying name to an index entry so InfoSearch can discern between two or more similar data values. To use the Qualifying Name feature, the data you select must have multiple matching values that can be filtered by another value.

For example, if you are indexing data that contains information about two cities with the same name, such as Kansas City, you can use the Qualifying Name field to add the ability to select data for Kansas City, Kansas and Kansas City, Missouri.

Alternatively, when you retrieve a data value as a search result, you may also want to display the code name assigned to your data. For example, if your search term is Newark Liberty International Airport, and the designated code name for this value is EWR, you can configure your index to display the EWR value next to Newark Liberty International Airport when you open a search result.

To expand search and index capabilities beyond a single domain, you must copy the same dimensional data procedure to each domain that shares the data that you want to index. Optionally, you can create new dimensional data procedures for each additional domain, meaning each domain will have a separate dimensional index.

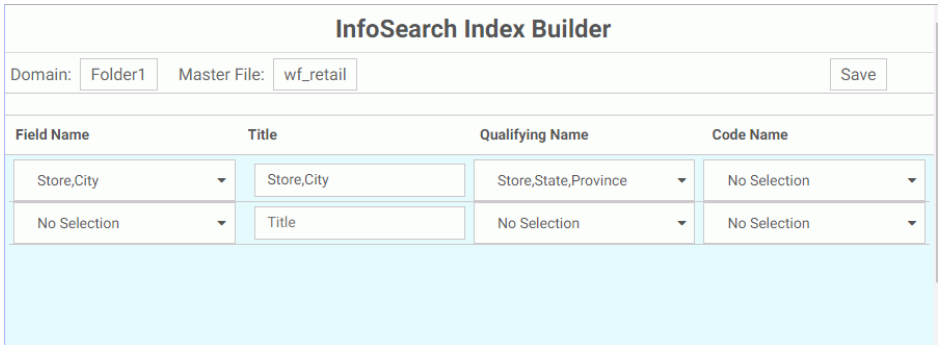
If needed, you can delete indexes. This can be done from your file system or by accessing the Magnify Console, a component of Magnify Search. Contact your administrator to confirm the best approach.

Note: Turn off the application server before deleting index files.

Example: **Using Qualifying Names to Differentiate City-State Index Entries**

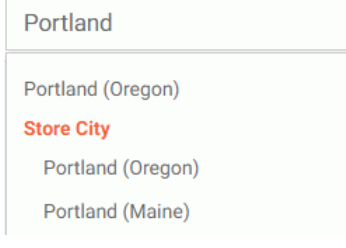
In this example, a dimension data procedure is created with the goal of indexing reports that contain data about two cities named Portland. Using the Qualifying Name field in the Index Builder allows the ability to search for data specifically for Portland, Oregon, and Portland, Maine.

The following image shows the InfoSearch Index Builder with values already assigned.



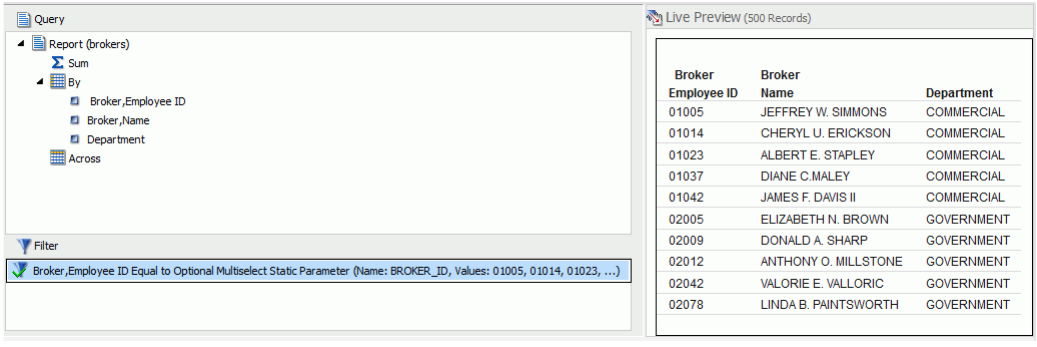
The Domain that uses this index is Folder 1. The Master File assigned to this domain is wf_retail. The first dimensional data procedure entry is Store,City, which contains data about cities named Portland. The Qualifying Name value for the same entry is the Store,State,Province data. Designating this data as a qualifying value will allow users to differentiate Store,City data by State and Province.

After the dimension data procedure is saved and run, the search index for the Folder1 domain updates. When you type *Portland* in the InfoSearch search bar, if reports that contain parameters for Portland, Oregon and Portland, Maine have been saved in the Folder1 domain, the option to search for reports which contain the values Portland (Oregon) or Portland (Maine) is made available, as shown in the following image.

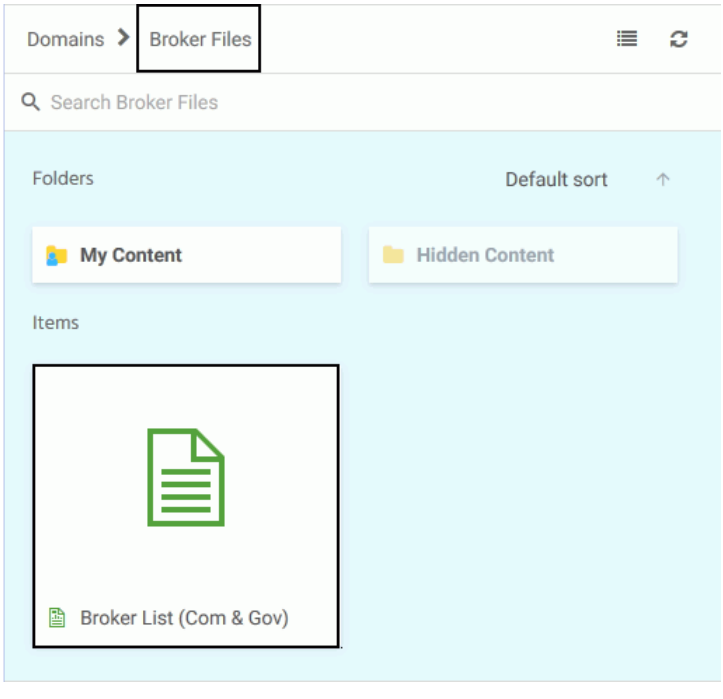


Example: Viewing Code Names in Your Search Results

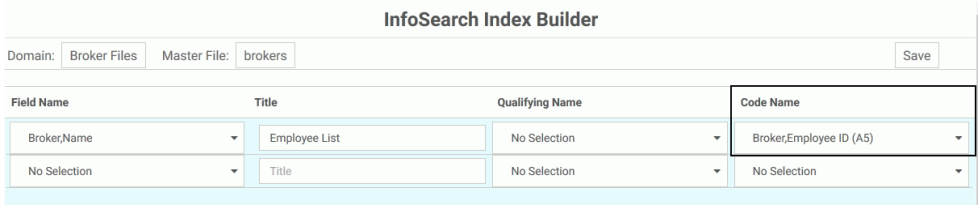
The following image shows a report created in InfoAssist that displays a list of employees, their employee IDs, and the department of each employee. Parameter options for the Broker Employee ID data have been added to the report, as displayed in the Filter dialog box.



This report is then saved in the Repository so it can eventually be found by InfoSearch. The following image shows the saved report and the domain of the saved report.



The following image shows the InfoSearch Index Builder. To create an index procedure that will display Employee IDs for all employees, the Code Name field for the Broker,Name data has the option *Broker, Employee ID (A5)* assigned to it.

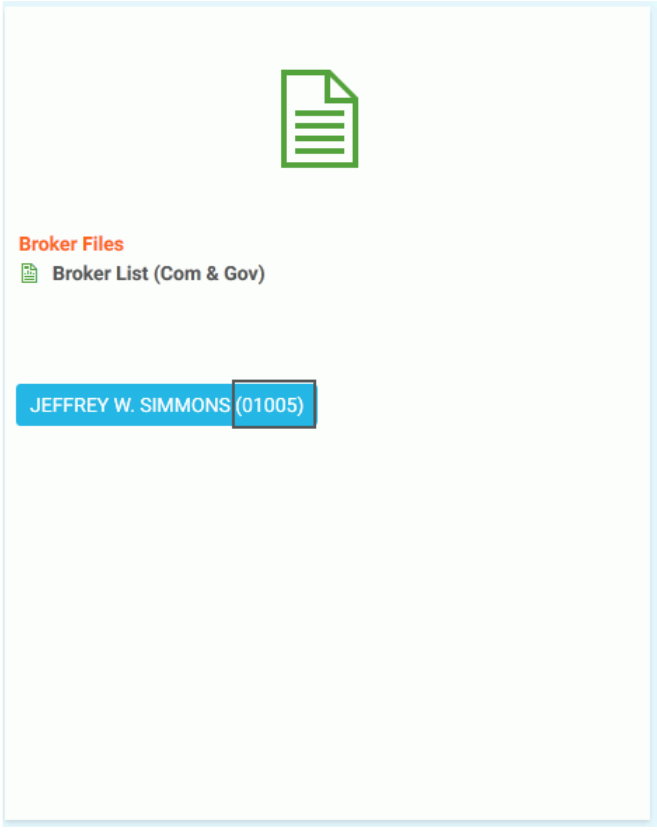


Selecting this option means that all employee search results will have their corresponding employee ID displayed next to their name. Changing the name of the Title of the data, which is how the data collection will be titled in search results, is optional.

When this dimensional data procedure is saved and run, The Employee List report will be indexed, meaning it will now be searchable by InfoSearch.

The following image displays a search request for employee Jeffrey W. Simmons.

Clicking the search result, and then clicking the magnifying glass on the search bar, displays a single search result, the report that contains information about Jeffrey W. Simmons. Clicking this tile displays the name and user ID of the employee, as shown in the following image.



Since the Code Name field in the dimensional data procedure was set so that Employee ID numbers would be displayed, Employee ID numbers now appear next to the name of every employee when a search is initiated.

Clicking the blue box displays the full report for the employee, shown in the following image.

Procedure: How to Create a Dimensional Data Procedure Using the InfoSearch Index Builder

1. In your browser, navigate to the InfoSearch Index Builder page, using the following link:

   `https://host:port/ibi_apps/ibxtools/explore/dimidxbuilder.jsp`

   where:

   host
   Is the name or IP address of the host used to access WebFOCUS.

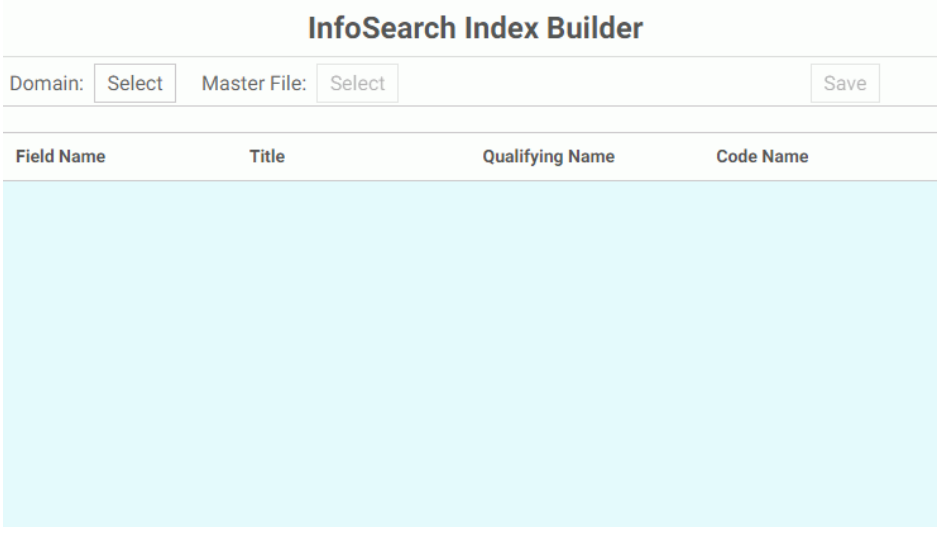
   port
   Is the number of the port on which the Web Server or Application Server listens.

   This value is optional, and it should be excluded if the URL uses the default port for the protocol it uses in the scheme, which is port 80 for URLs using the http protocol or port 443 for URLs using the https protocol.

   Note:

   - You must be signed in to your WebFOCUS environment in order to access the InfoSearch Index Builder.
   - When typing the link to navigate to the InfoSearch Index Builder page, you can use both https:// and http://.
   - To use the voice feature, you must be signed in to a secure HTTPS site via Google Chrome.

The InfoSearch Index Builder is shown in the following image.



2. In the Domain and Master File lists, select the values that you want to use by clicking *Select*.
3. In the Field Name column, click the drop-down list to display the Master File data values that you can select. Select a data value to add it to your index.

   Once you select a value from the drop-down list, an additional row of potential dimensional data values displays. Creating additional values is optional.
4. In the Title field, type a title for your dimensional data value. By default, the name of the data you selected for the Field Name is added as the title for this value.
5. Optionally, select a Qualifying Name and Code Name for your dimensional data value.
6. Optionally, repeat steps 3 to 5 to create additional dimensional data values.
7. Once you add your values, click the *Save* button.

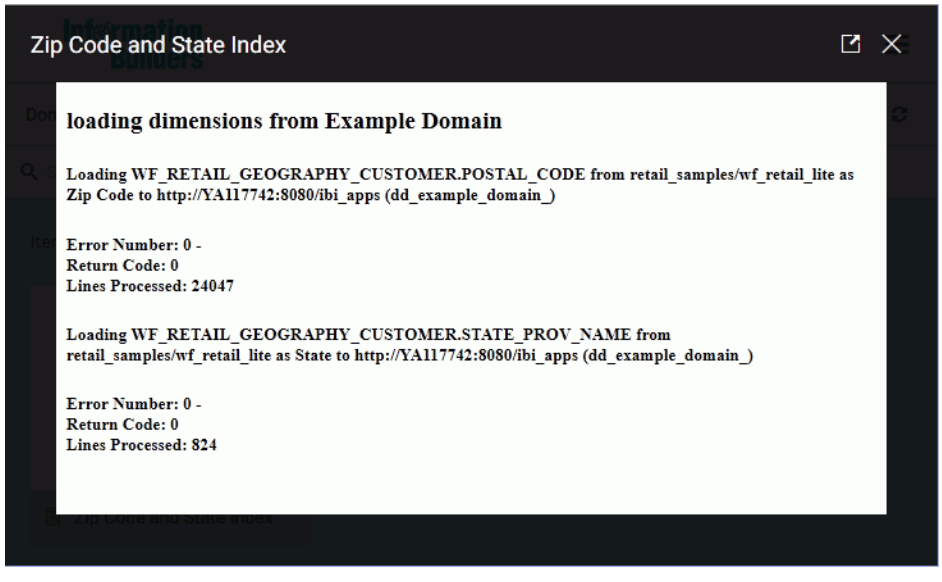
   The Save Index dialog box displays.
8. Choose a domain that will contain your new dimensional data procedure.
9. In the Title and Name fields, type the Title and Name of your procedure file.
10. Click the *Save* button to save your procedure into your selected domain.

If there is a need for using fields not in the data source, once a dimensional data procedure is saved, you may want to use a DEFINE field. To do so, you must edit the procedure manually in the Text Editor and add any of the required DEFINE fields that will be loaded into the search index before it is run. You will need to add the DEFINE field syntax, and then add the call to the DimensionLoad1.fex, while making sure to qualify the DEFINE field with its associated segment.

11. Navigate back to the WebFOCUS Home Page.
12. Right-click the dimensional data procedure and click *Run*. Optionally, point to the *Run...* option and click *Run in New Window*.

    After loading your dimensional data, your index generates. A message appears and a folder containing information about your index is created in *drive*:\ibi\WebFOCUS*nn* \magnify\ibi-protected, where *nn* is release number of your WebFOCUS software.

    The following image shows an example of a dimensional data procedure message, which explains that the index was generated successfully, and displays the file system location of the new index.



    You can now use Ask WebFOCUS to search for the data values that are referenced in your index.

13. Optionally, schedule your dimensional data procedure to update your search index on a regular basis. For more information, see *Scheduling Index Updates* on page 40.

14. Optionally, enable future Report Library outputs to be indexed and made searchable by InfoSearch. For more information, see *Indexing Report Library Output* on page 21.

Scheduling Index Updates

If you want to continually search for the latest data made available by your organization, you can schedule your index to update hourly, daily, monthly, or for any other recurrence you desire. Use the ReportCaster Scheduling tools to schedule your index the same way you would schedule a report procedure, and your index will update each time it is run by the Scheduling tool. For more information, see the *WebFOCUS ReportCaster Guide*.

Customizing Your InfoSearch Index Location

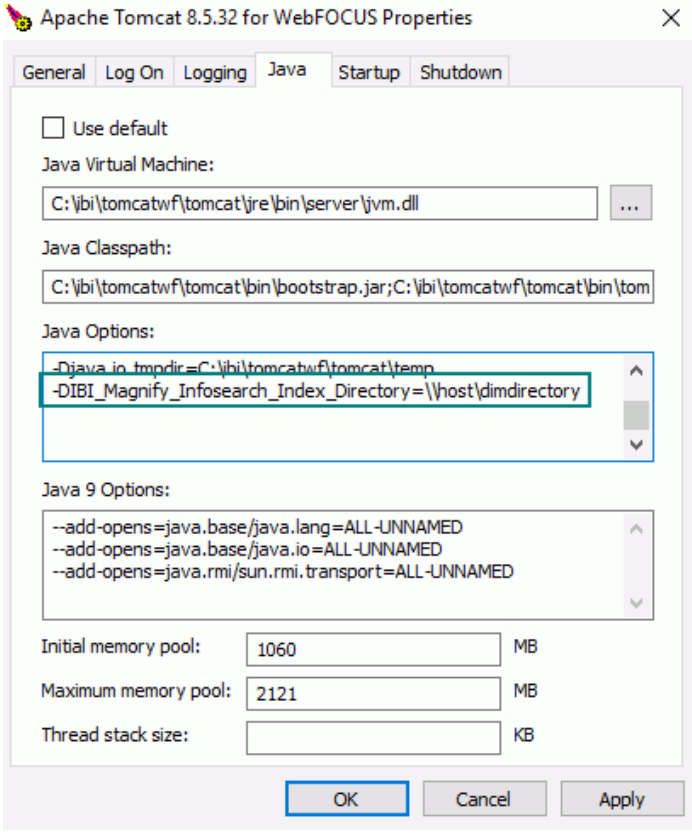
InfoSearch provides you with the ability to customize the location where your index data is saved. Typically, you would customize this location when using a Docker container, so that the index data is stored outside of the container and you can prevent the loss of any data. This feature is enabled through your WebFOCUS Client application server that is configured with your WebFOCUS environment. The following procedure outlines how to configure your index location using Tomcat.

Procedure: How to Configure Your Index Location

1. From the Start menu, click *Information Builders*. Then, click the *Tomcat* folder.
2. Double-click the *Tomcat Configuration Utility*.

   The Apache Tomcat for WebFOCUS Properties dialog box opens.
3. Click the *Java* tab.
4. Type the following line in the Java Options section, as shown in the following image.

```
-DIBI_Magnify_Infosearch_Index_Directory=\\host\dimdirectory
```



where:

host
: Is the name or IP address of the host used to access WebFOCUS.

dimdirectory
: Is the location where the index will be saved.

  Note: If this variable is not defined, the default location will be:

  ```
  ApplicationValues.getIBIInitParameter("IBI_DOCUMENT_ROOT") + '/' +
  "magnify" + '/' + "ibi-protected";
  ```

5. Click *OK*.
6. Recycle the application server so that the changes take effect.

Any index created from InfoSearch will now be read from this location.

Chapter 4

Using InfoSearch to Explore Repository Content

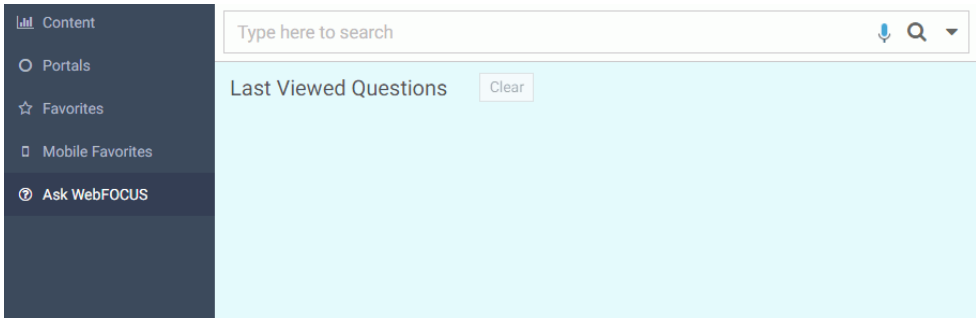
This topic describes the various ways you can search for your content using InfoSearch.

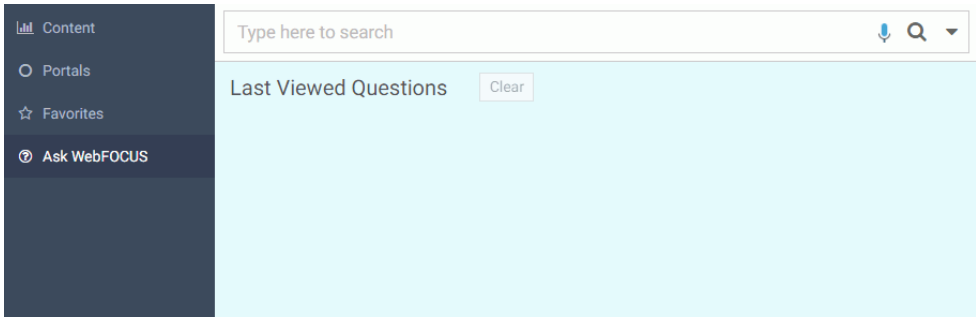
In this chapter:

- Performing InfoSearch Searches

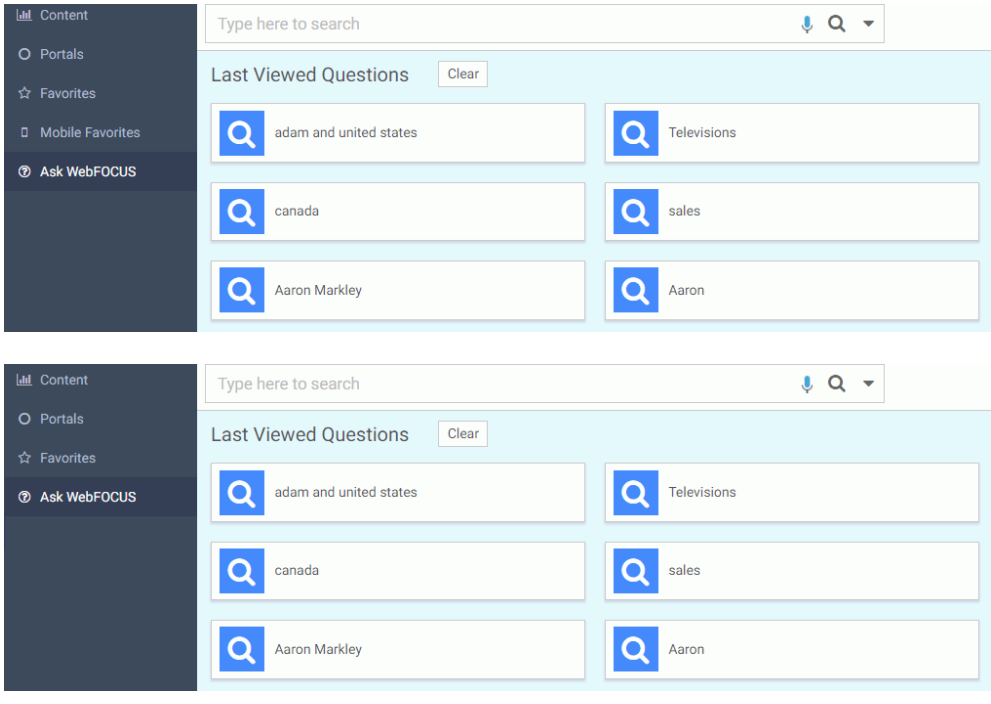
Performing InfoSearch Searches

Your content is now ready to be used with InfoSearch. To perform a search, from the WebFOCUS Home Page, click *Ask WebFOCUS* to display the Ask WebFOCUS user interface, as shown in the following image.



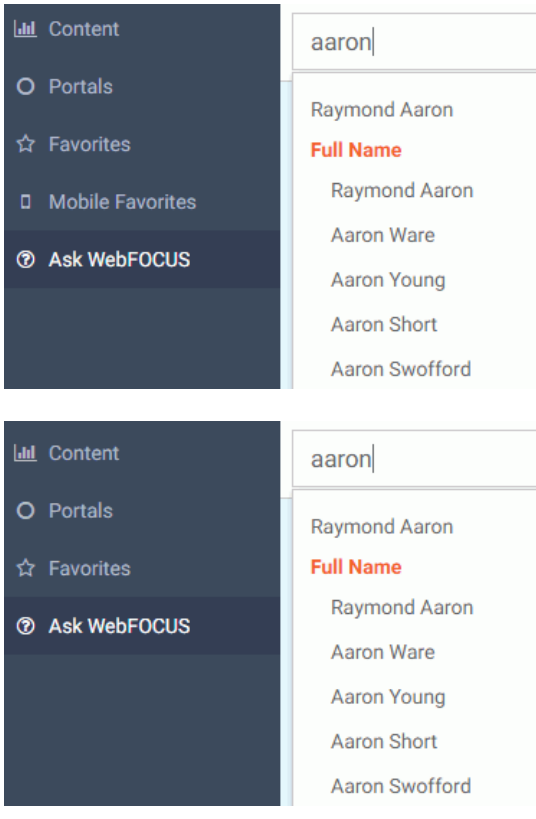


When you first access InfoSearch, no search results or questions are listed under the Last Viewed Questions area, which identifies the most recent searches that users have asked. As you begin to use InfoSearch more frequently, the screen will display previous searches, as shown in the following image.

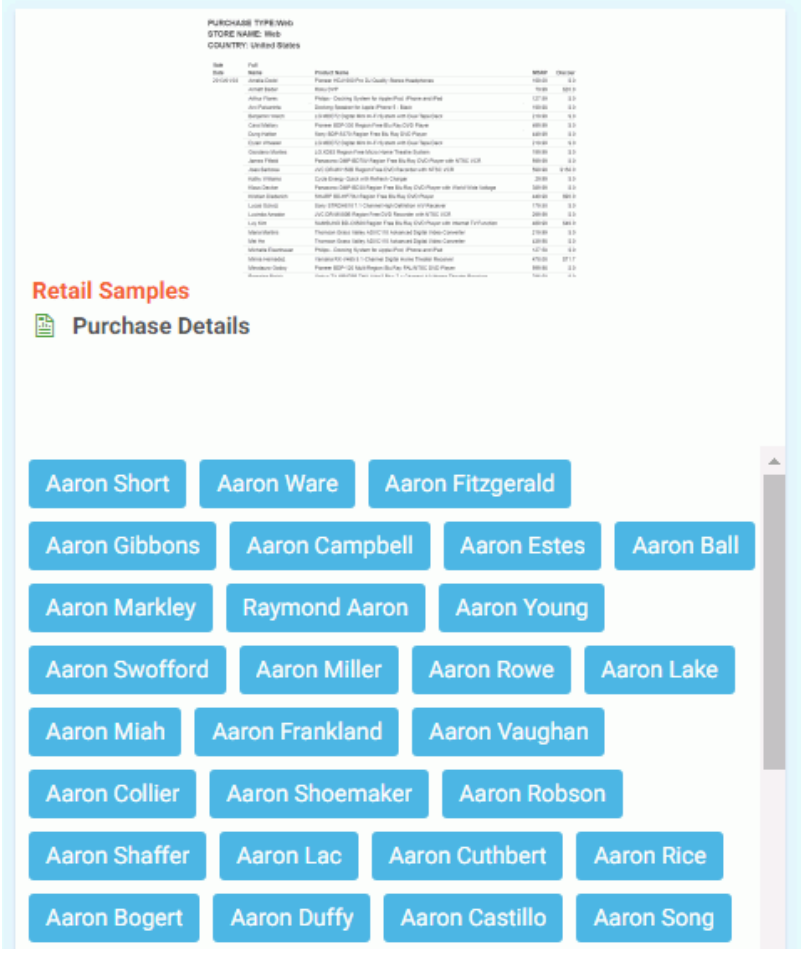


You can quickly click on a tile to run a search on that item. To clear this list of search terms, just click the *Click* button.

All of your InfoSearch queries are performed from the search bar in the Ask WebFOCUS user interface. Here, you can either type your search term, or click the microphone icon to speak it. For example, you can search for all reports that have data for customers with the first name Aaron. As you enter your search term, a list of all possible search terms displays.

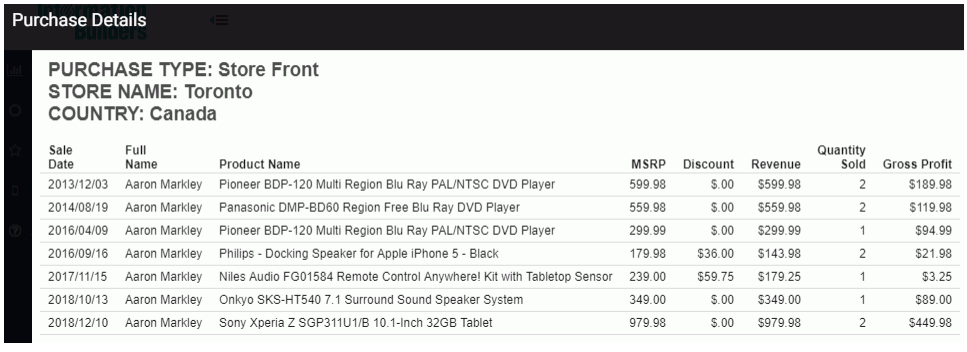


If you know the exact field that you are looking for, you can click on it from the list and then either press the Enter key or click the magnifying glass icon to initiate your search. But what if you are not sure what the exact name of the customer is that you are looking for? In this situation, you can just enter the term that you do know and initiate a search. InfoSearch will display all of the content that is related to your search term as tiles. Clicking a tile displays all available links for the content item, as shown in the following image.



Note: While Magnify gives you ability to set a limit to the maximum number of search results, this parameter will not affect your InfoSearch results. All available reports that match your search query will be returned.

These links accept your data value search term as an input parameter value. When you click one of the links inside the tile, the content item executes using the data value search term as the parameter value in the procedure. In this example, clicking the tile for Aaron Markley in the Purchase Details report runs a report that contains only his information.


Purchase Details

PURCHASE TYPE: Store Front
STORE NAME: Toronto
COUNTRY: Canada

Sale Date	Full Name	Product Name	MSRP	Discount	Revenue	Quantity Sold	Gross Profit
2013/12/03	Aaron Markley	Pioneer BDP-120 Multi Region Blu Ray PAL/NTSC DVD Player	599.98	$.00	$599.98	2	$189.98
2014/08/19	Aaron Markley	Panasonic DMP-BD60 Region Free Blu Ray DVD Player	559.98	$.00	$559.98	2	$119.98
2016/04/09	Aaron Markley	Pioneer BDP-120 Multi Region Blu Ray PAL/NTSC DVD Player	299.99	$.00	$299.99	1	$94.99
2016/09/16	Aaron Markley	Philips - Docking Speaker for Apple iPhone 5 - Black	179.98	$36.00	$143.98	2	$21.98
2017/11/15	Aaron Markley	Niles Audio FG01584 Remote Control Anywhere! Kit with Tabletop Sensor	239.00	$59.75	$179.25	1	$3.25
2018/10/13	Aaron Markley	Onkyo SKS-HT540 7.1 Surround Sound Speaker System	349.00	$.00	$349.00	1	$89.00
2018/12/10	Aaron Markley	Sony Xperia Z SGP311U1/B 10.1-Inch 32GB Tablet	979.98	$.00	$979.98	2	$449.98

Note: Click an expanded tile to return the tile to its original display size.

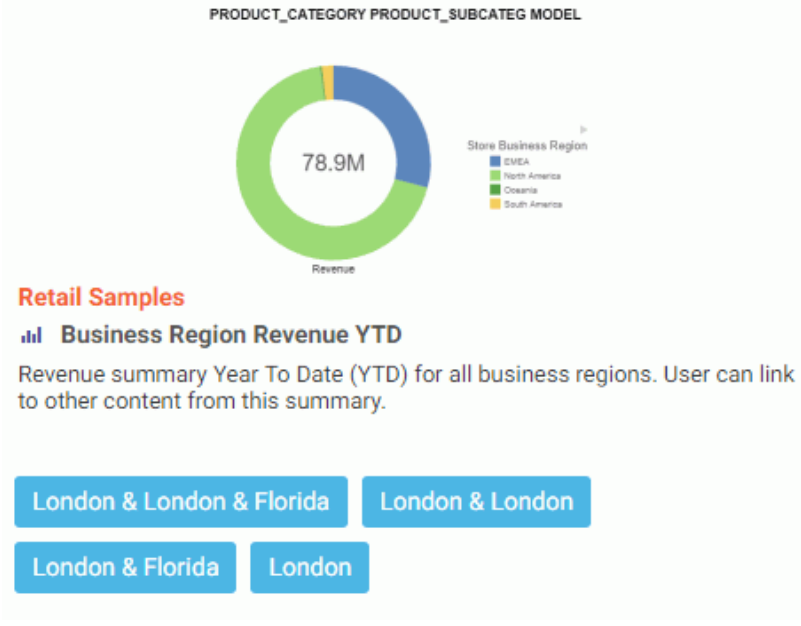
You can also combine your search terms and retrieve information about two or more data values simultaneously by using the word *and*. The word *and* must be placed between each data value and does not need capitalization.

Initiating a search using *and* can retrieve the following types of search results:

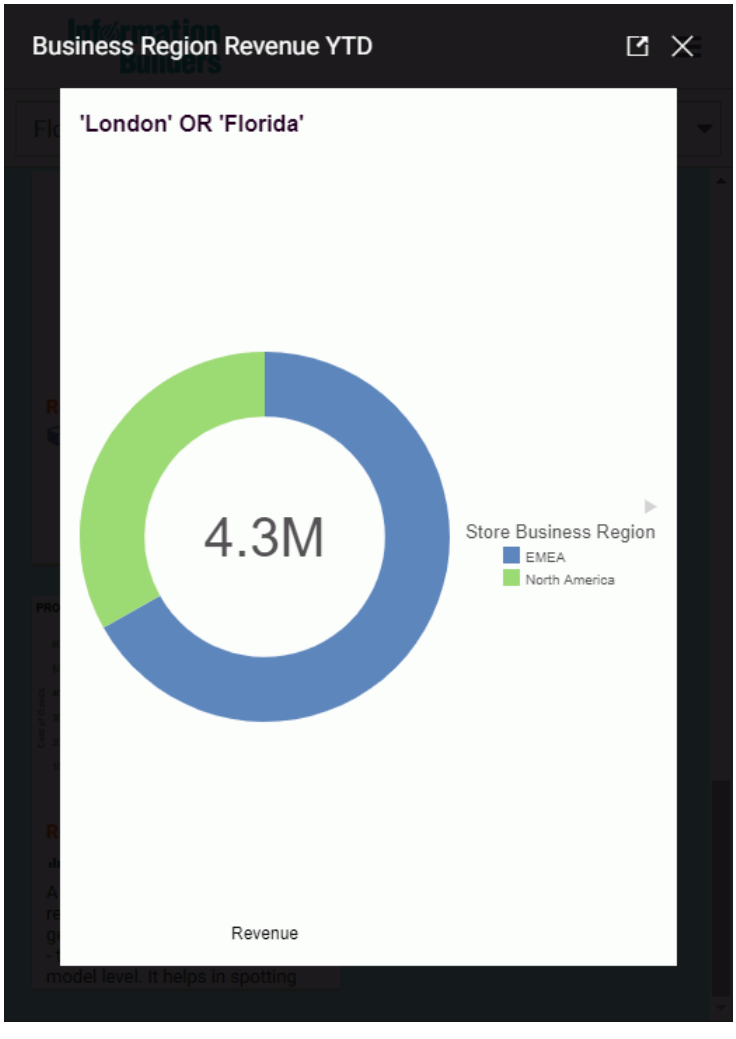
- A repository item that contains all your search terms.
- A repository item that contains just one of your search terms.
- A repository item that contains your search terms in any combination.

Note: InfoSearch is not compatible with traditional Boolean search operators.

For example, you can run a search to compare the total year-to-date sales revenue for the North American state Florida and the European city London. In the search bar, enter *London and Florida* to perform your query. A list of tiles opens that match these search terms, as shown in the following image. Clicking on the *Business Region Revenue YTD* tile shows you the various combinations of the search terms you entered.



The results show a combination of the parameters that were entered. Since we wanted results for both Florida and London, click the tile that shows both parameters to open a filtered version of the Business Region Revenue TYD chart that shows information about both London and Florida on the same chart, as shown in the following image.



Note: You cannot perform voice search for more than one parameter at a time.

InfoSearch also gives you the ability to search for content using a date value. To do so, you must create a Define field that will index the date value as a string by manually adding it to the procedure. For example, let's say we have a simple report that shows the quantity of items sold on a particular date. In this example, you would add the following line to the dimensional data procedure:

```
DEFINE FILE retail_samples/wf_retail_lite
MY_DATE_STRING/A30=EDIT2(WF_RETAIL_LITE.WF_RETAIL_TIME_SALES.TIME_DATE,
'MtrDYY');
```

This will create a Define field that will take the date field in your report, translate it to Month Day Year format, and save it as a string. Once the Define is created, you must index it, as shown in the following image.

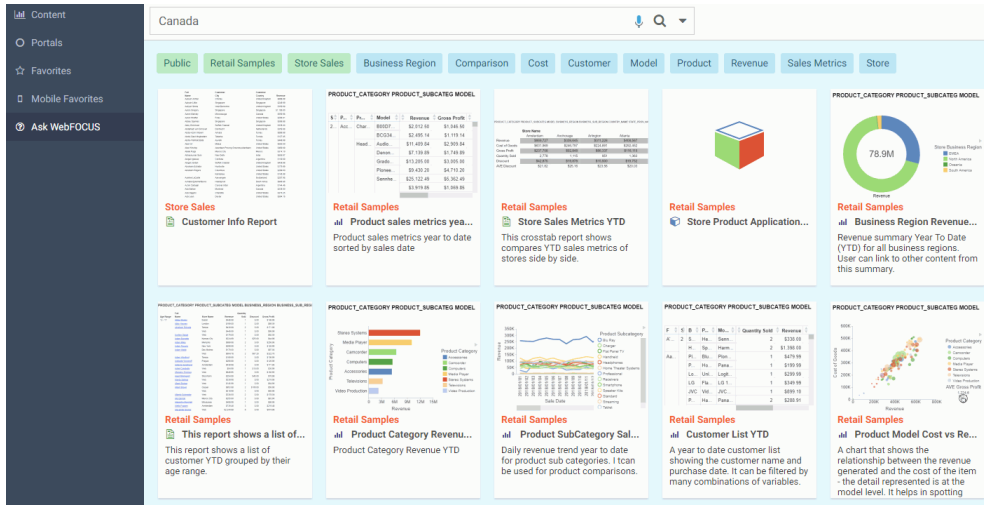
```
-HTMLFORM END
DEFINE FILE retail_samples/wf_retail_lite
MY_DATE_STRING/A30=EDIT2(WF_RETAIL_LITE.WF_RETAIL_TIME_SALES.TIME_DATE, 'MtrDYY');
END
EX /FILE/IBFS_features/infosearch/DimensionLoad1.fex DOMAIN=TCM,APP_AND_MASTER=retail_samples/wf_retail_lite,
FIELDNAME=WF_RETAIL_TIME_SALES.MY_DATE_STRING,FIELDTITLE='Sale Day'
-RUN
```

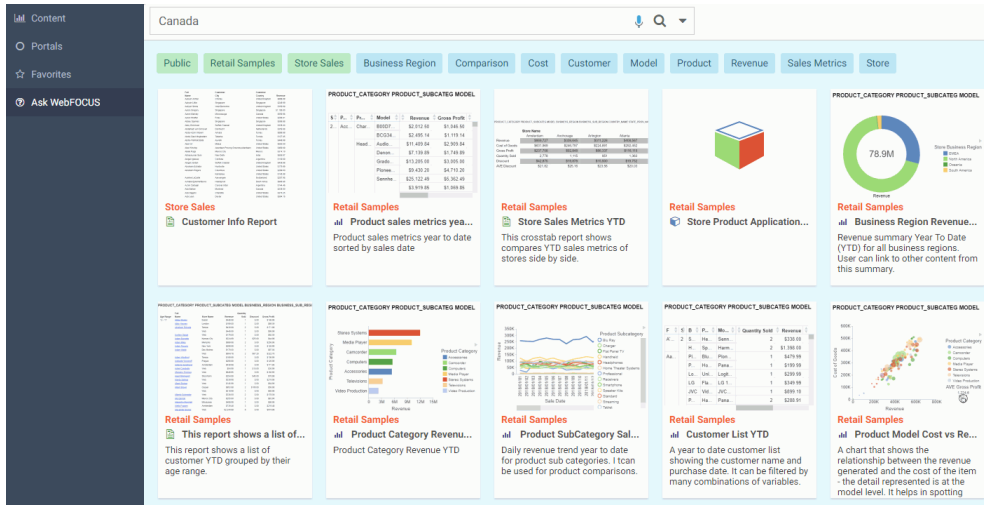
Once the Define field is indexed, you must change the parameter name in your report to match the name of the field that is being indexed, as shown in the following image.

```
SUM WF_RETAIL_LITE.WF_RETAIL_SALES.QUANTITY_SOLD
BY WF_RETAIL_LITE.WF_RETAIL_TIME_SALES.TIME_DATE_DAY_COMPONENT
WHERE WF_RETAIL_LITE.WF_RETAIL_TIME_SALES.TIME_DATE_DAY_COMPONENT EQ &MY_DATE_STRING.Date:.QUOTEDSTRING;
```

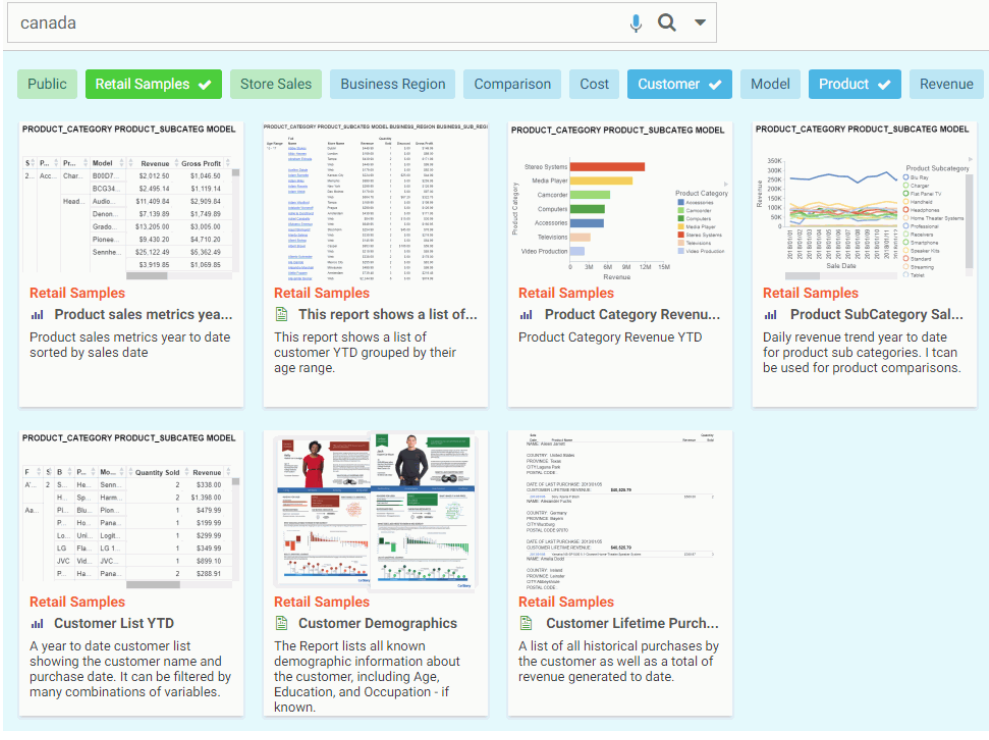
You can now search for date fields in InfoSearch, by either typing or speaking the date in the following format: *February 15 2013*.

Once you perform a search, you may notice different colored boxes above your content tile results. These boxes are filters that allow you to drill down even further into your content. In the following image, which shows all content related to Canada, there are a number of boxes with different names directly above the content tile results.

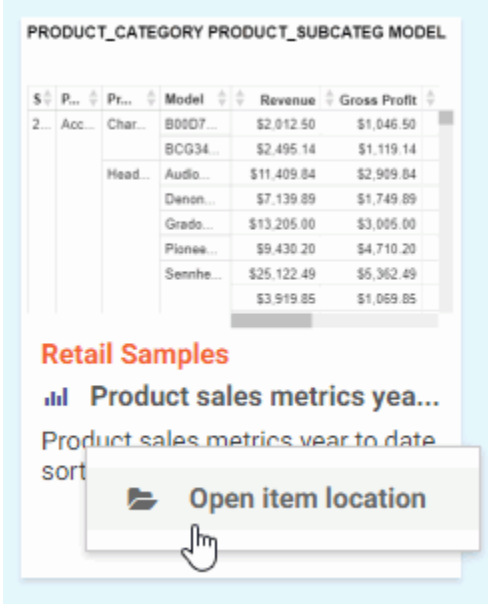




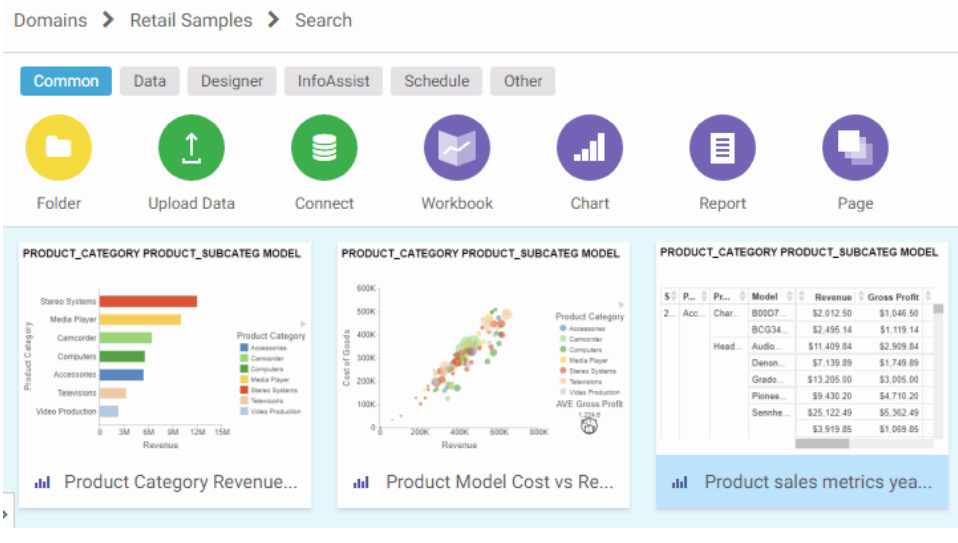
The green boxes indicate the domains that contain the displayed search results. In this example, there are three domains that contain content with information on Canada: Public, Retail Samples, and Store Sales. The blue boxes show you search results that are associated with that particular attribute. Selecting any combination of these boxes applies multiple filters to your search results. In the following image, we have filtered out content for Canada that is in the Retail Samples domain to show both Customer and Product information.



Tip: You can easily find the content associated with a particular search term by right-clicking the content item on the Ask WebFOCUS user interface and clicking *Open item location*, as shown in the following image.



The content item associated with that search term will be highlighted on the Content page, as shown in the following image.



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InfoSearch

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