



IBM® Content Analytics with Enterprise Search

Time Series View: Explore the Frequency of Changes Over Time

**Copyright © 2011, 2012
International Business Machines, Inc.**

By studying the frequency of change over time, you can identify the frequency distribution of the documents that match your query for a given period of time. By reviewing documents that match your query, you can select a set of documents for analysis for a specific time period.

Scenario

In this scenario, your company is involved in litigation over the cause of engine fires in Ford Explorers. Your employer has asked you to look into the engine fire problem, report the number of burn incidents that happened to Ford Explorers between year 2004 and 2009, and identify trends.

Task flow

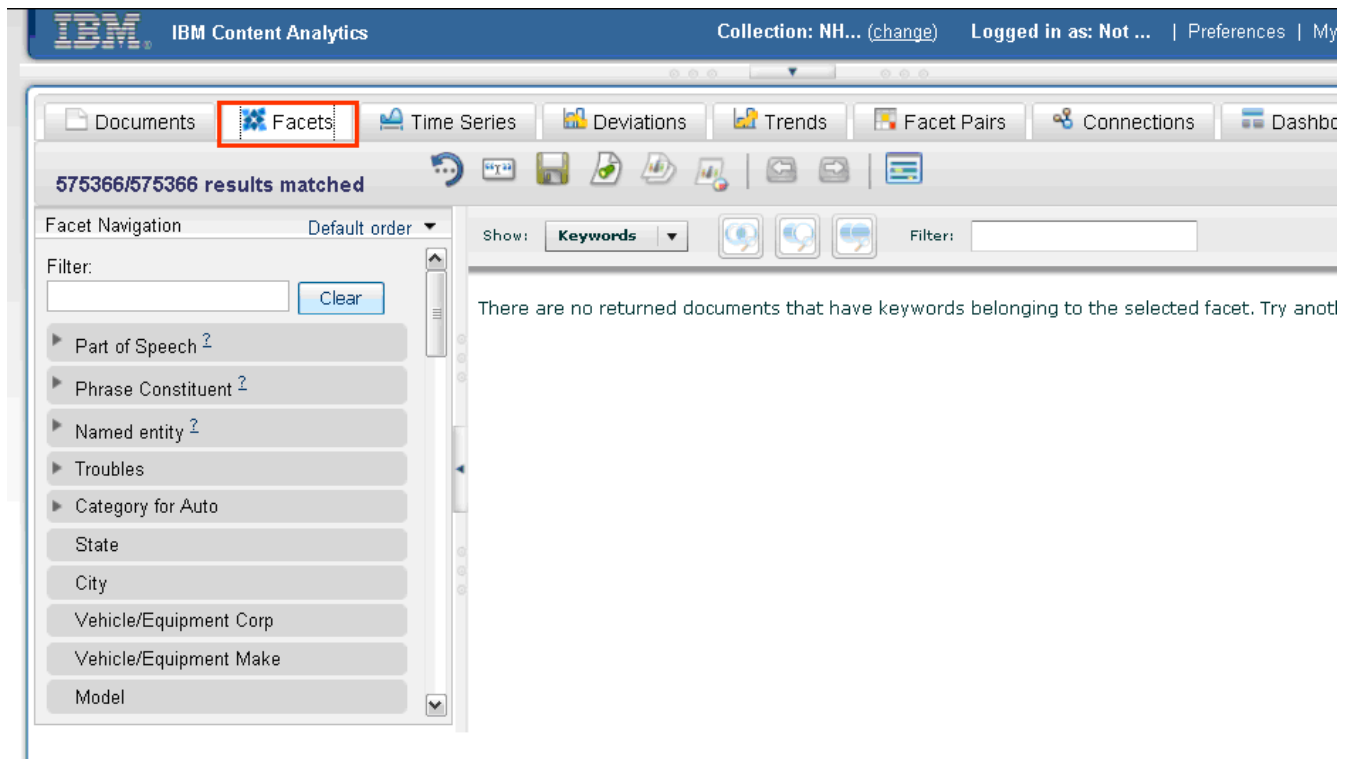
To accomplish this goal, you can follow this task flow

1. Create a query based on these two facets: *Model* and *Burn*
2. Evaluate data in the “Time Series” view to get burn incident numbers and report trends.

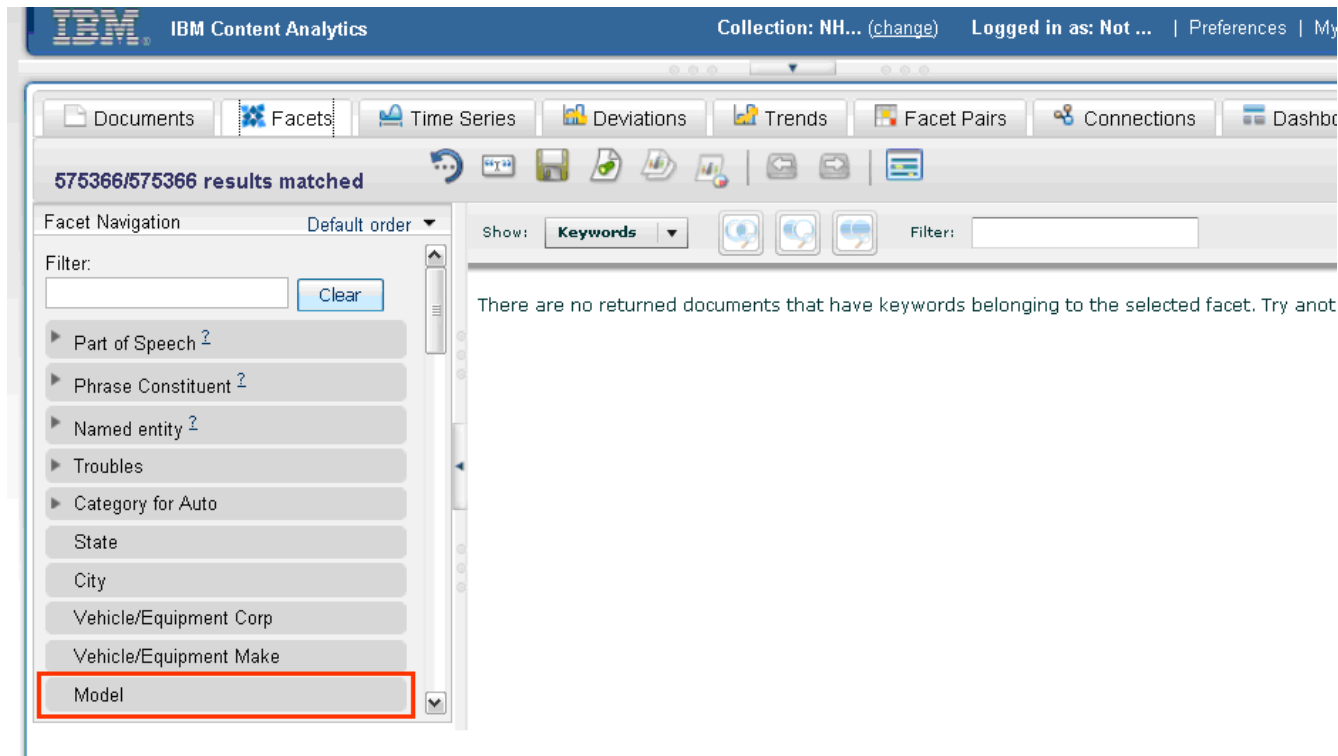
Procedure

To create a query based on *Model* and *Burn* facets:

1. From the IBM Content Analytics user interface, click the **Facets** tab.

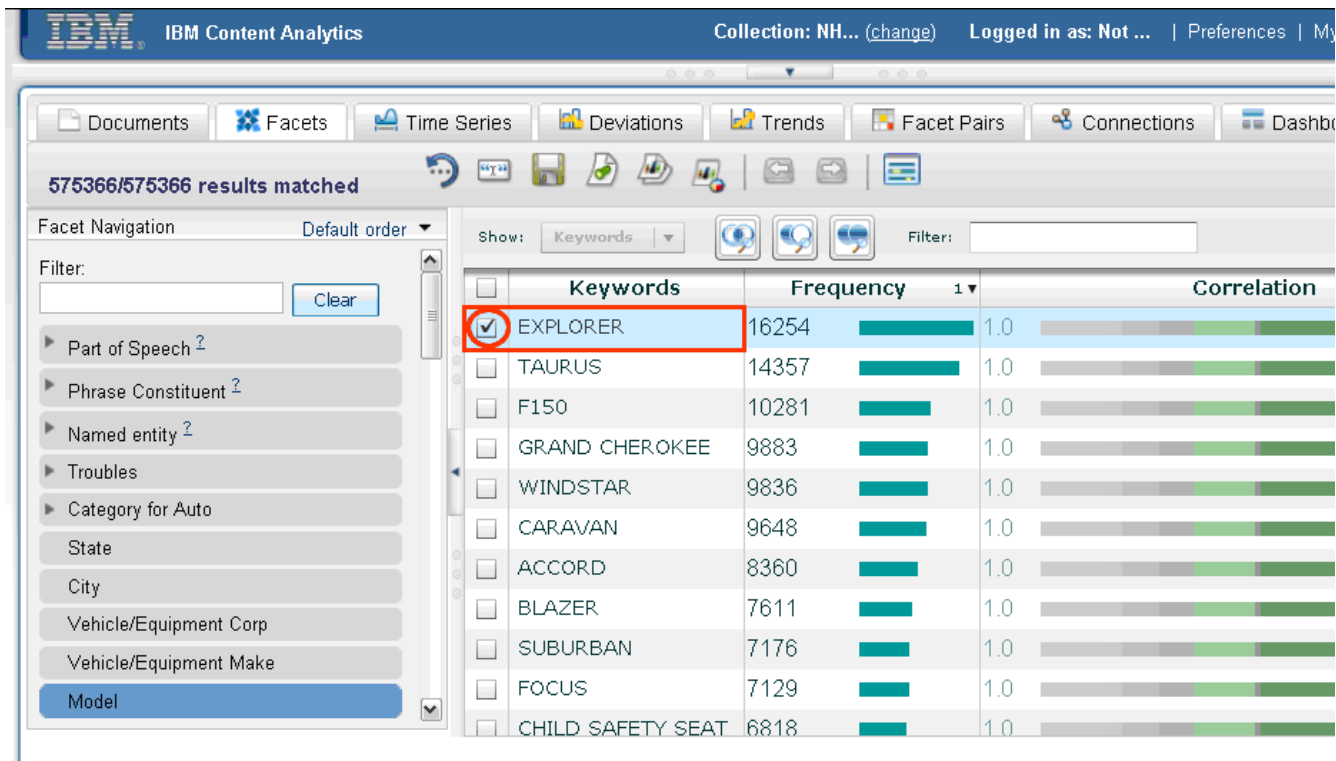


2. In the Facet Navigation panel, click your first facet, **Model**.

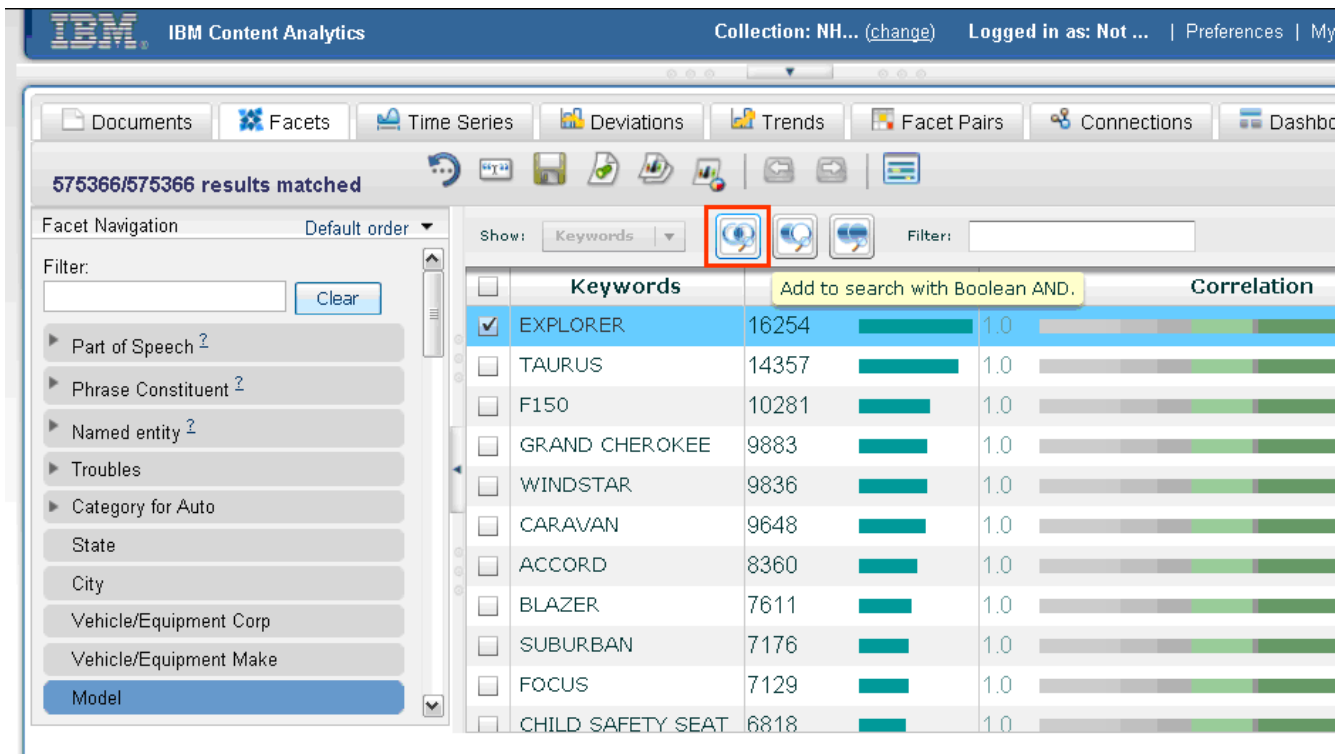


3. A list of keywords associated with the Model facet are displayed. For your research, select the model of car in question, **Ford Explorer**.

IBM Content Analytics with Enterprise Search



4. Add your selected keyword (Ford Explorer) to the search.



IBM Content Analytics with Enterprise Search

5. Select your second facet. Select **Category for Auto** → **Incident** → **Burn**.

The screenshot shows the IBM Content Analytics interface. The top navigation bar includes 'Documents', 'Facets', 'Time Series', 'Deviations', 'Trends', 'Facet Pairs', 'Connections', and 'Dashboards'. Below this, it indicates '16254/575366 results matched'. The 'Facet Navigation' panel on the left shows a tree structure with 'Incident' expanded to 'Burn', which is highlighted with a red box. The main table displays the following data:

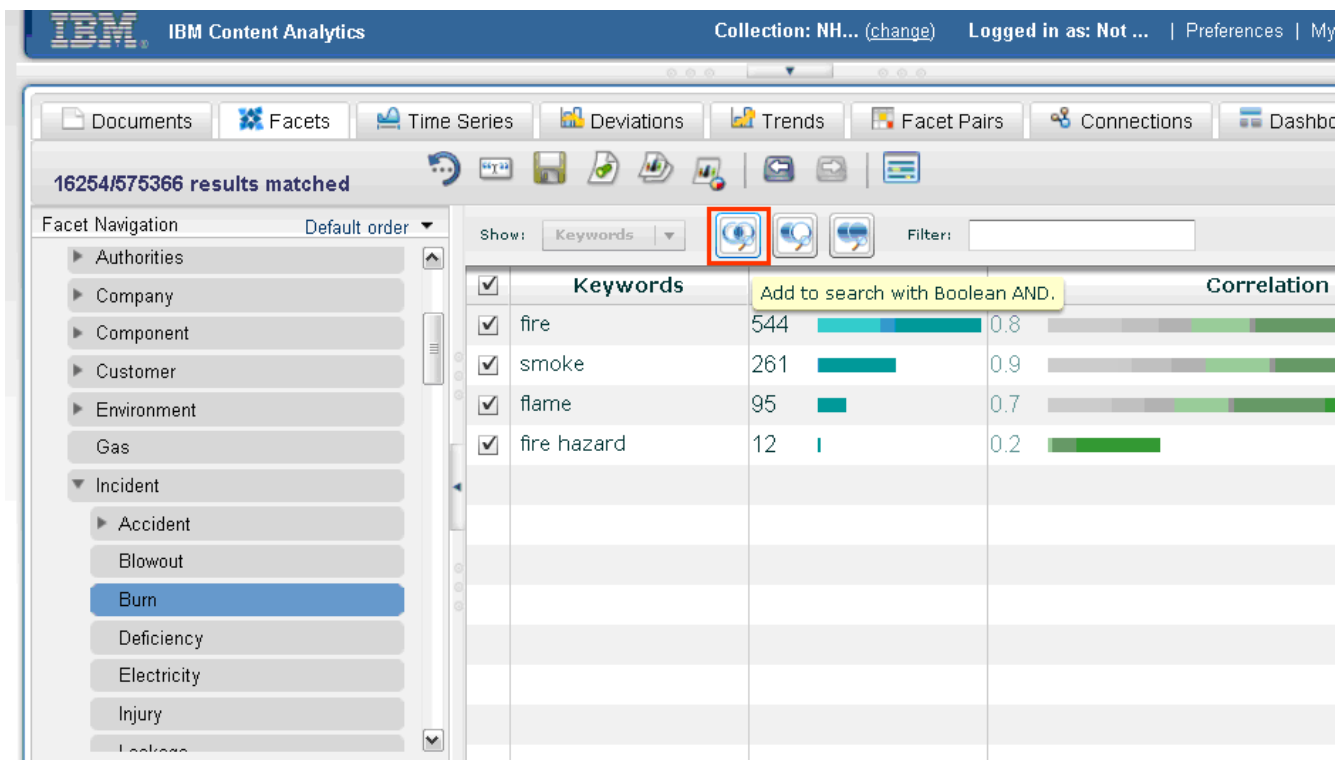
<input type="checkbox"/>	Keywords	Frequency	Correlation
<input type="checkbox"/>	EXPLORER	16254	35.0
<input type="checkbox"/>	FIRESTONE	1225	8.7
<input type="checkbox"/>	WILDERNESS	653	12.1
<input type="checkbox"/>	ATX	274	17.2
<input type="checkbox"/>	WILDERNESS AT	273	7.3
<input type="checkbox"/>	RADIAL ATX	106	19.3
<input type="checkbox"/>	UNKNOWN	52	0.2
<input type="checkbox"/>	WRANGLER	30	0.2
<input type="checkbox"/>	GOODYEAR	23	0.4
<input type="checkbox"/>	AIR BAG SWITCH	20	1.8
<input type="checkbox"/>	WILDERNESS HT	17	1.0
<input type="checkbox"/>	BRIDGESTONE	12	0.3

6. Select the top-most check box to include all of the keywords shown in your search.

The screenshot shows the IBM Content Analytics interface with the 'Burn' facet selected in the 'Incident' category. The main table displays the following data:

<input checked="" type="checkbox"/>	Keywords	Frequency	Correlation
<input checked="" type="checkbox"/>	fire	544	0.8
<input checked="" type="checkbox"/>	smoke	261	0.9
<input checked="" type="checkbox"/>	flame	95	0.7
<input checked="" type="checkbox"/>	fire hazard	12	0.2

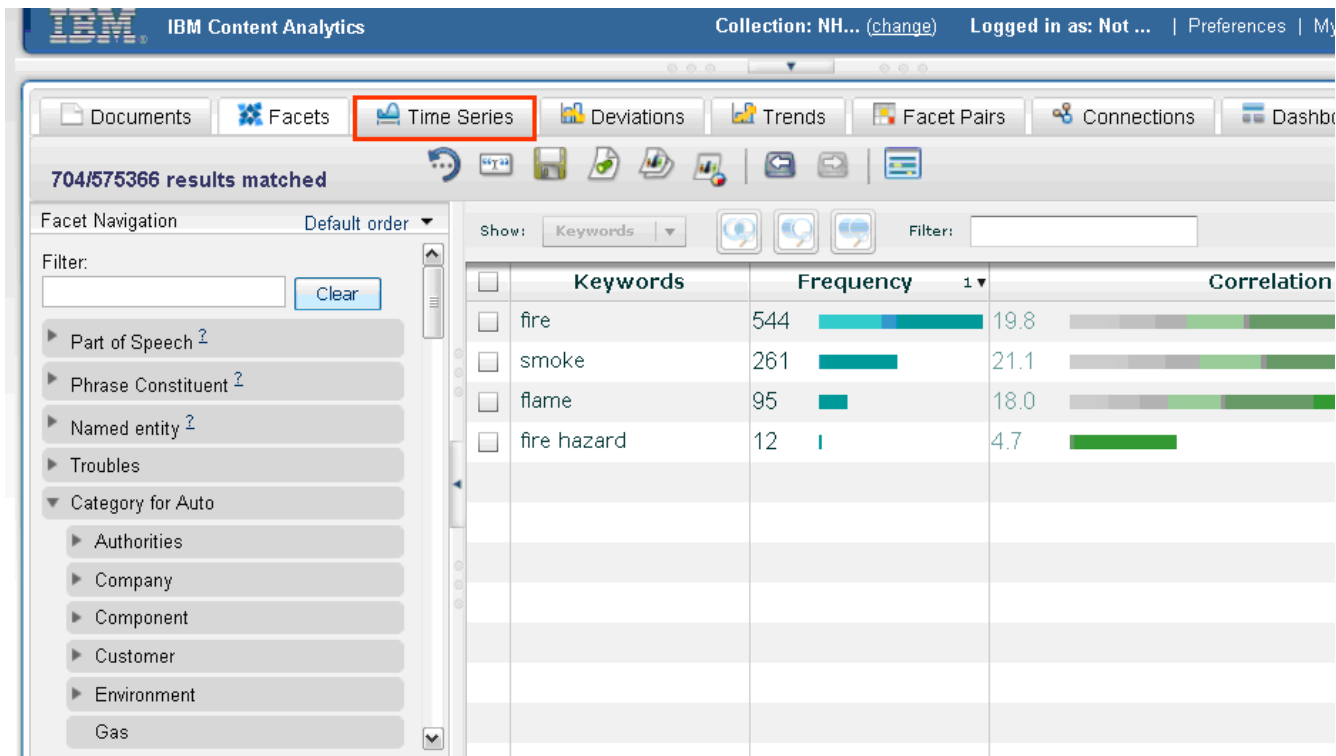
7. Add the keywords to your search by clicking **Add to search with Boolean AND.**



To evaluate data in the "Time Series" view to get burn incident numbers and report trends:

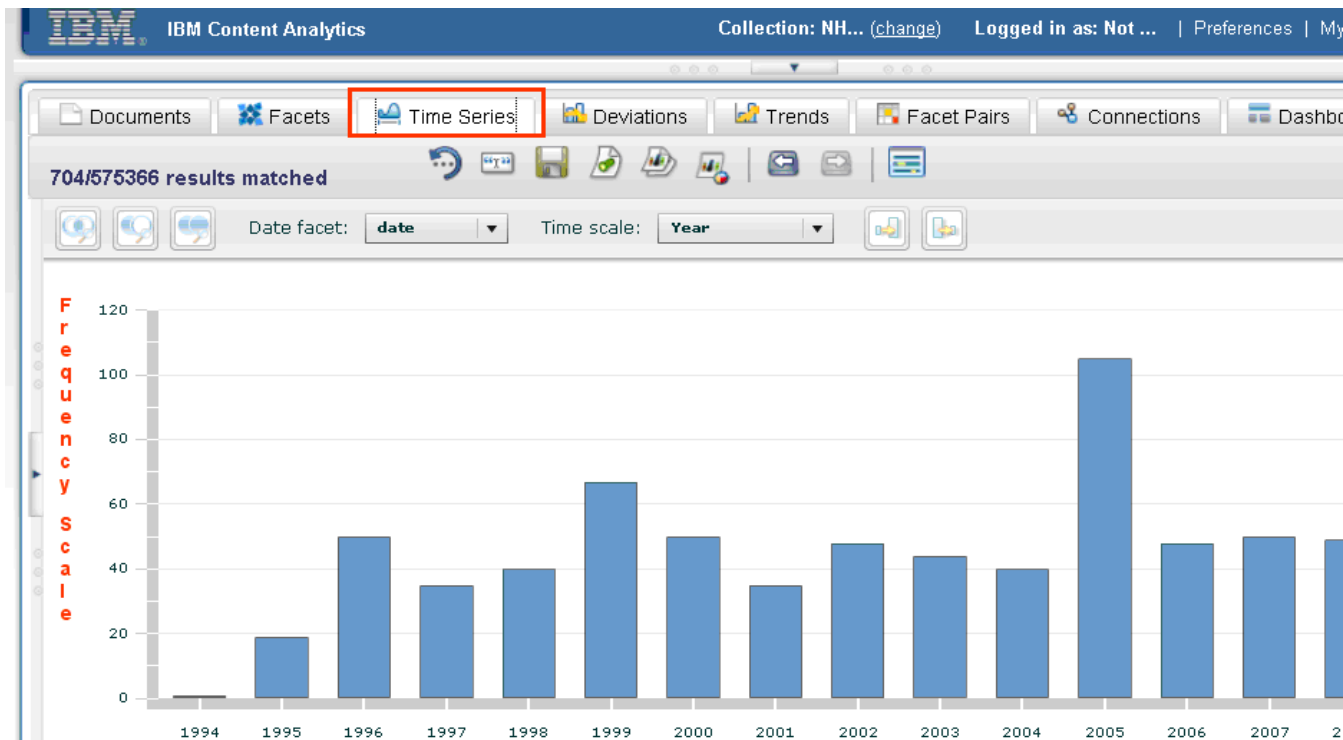
1. Click the **Time Series** tab.

IBM Content Analytics with Enterprise Search



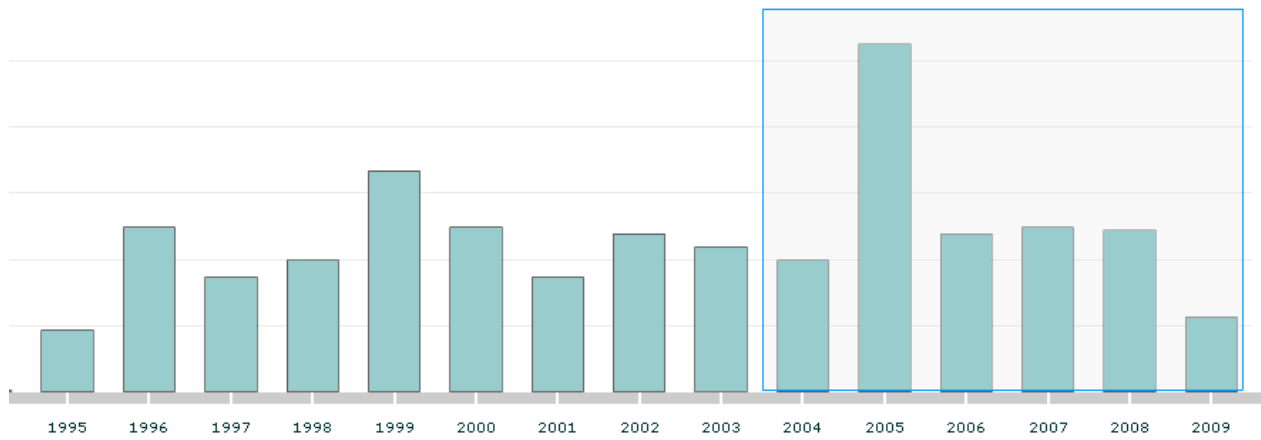
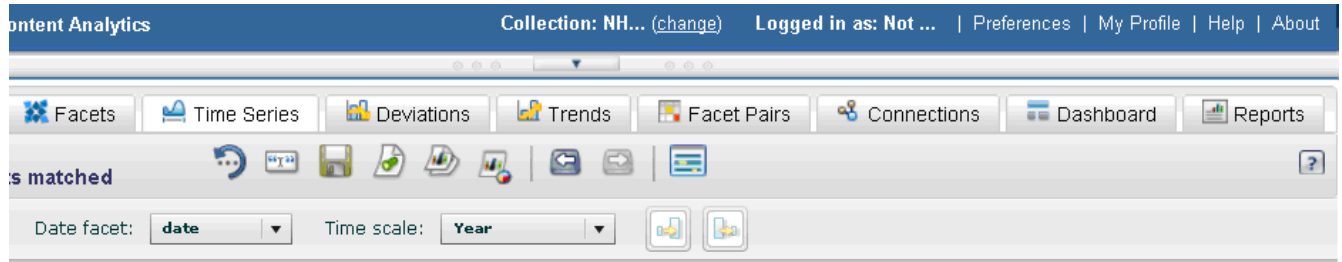
At a glance, you can see the frequency with which documents match your query by year. The y-axis shows the frequency scale, and the x-axis shows the time scale.

IBM Content Analytics with Enterprise Search

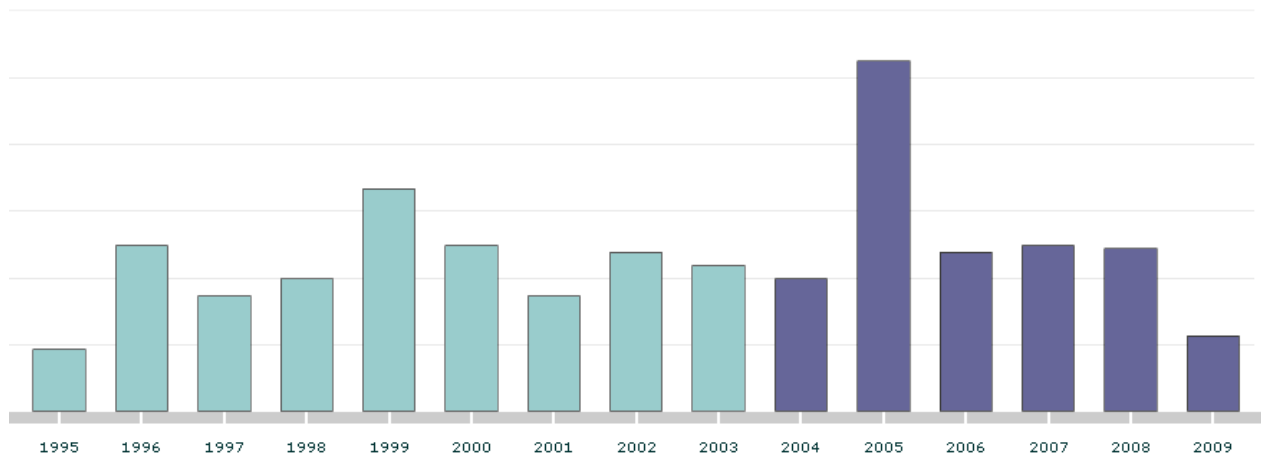
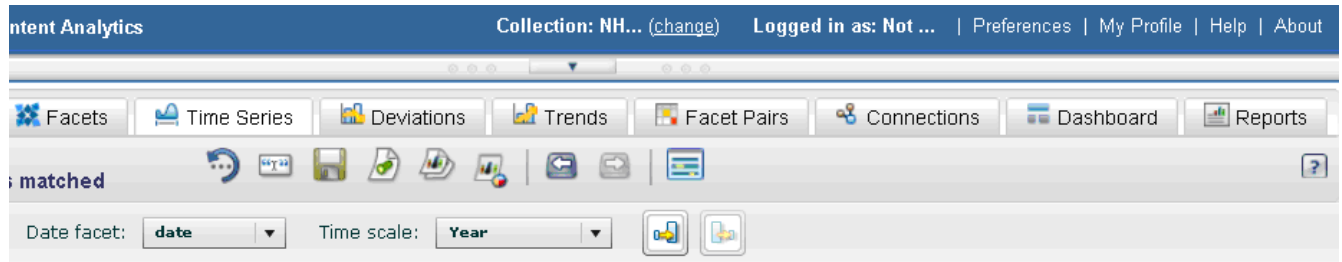


2. Zoom in on this time period by clicking on a blank space on the graph and dragging your mouse to capture the bars that correspond to the time range 2004 -- 2009.

IBM Content Analytics with Enterprise Search

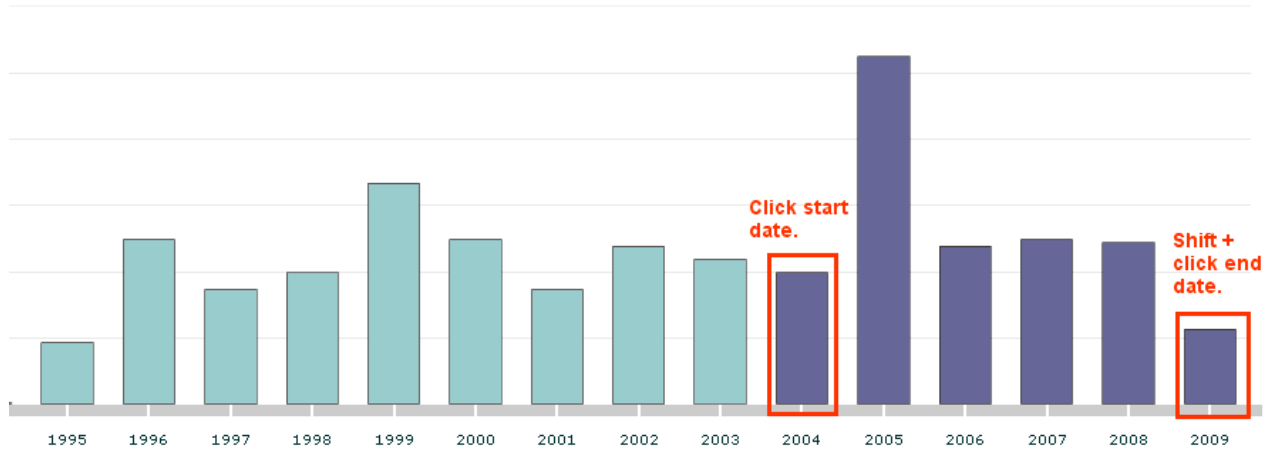
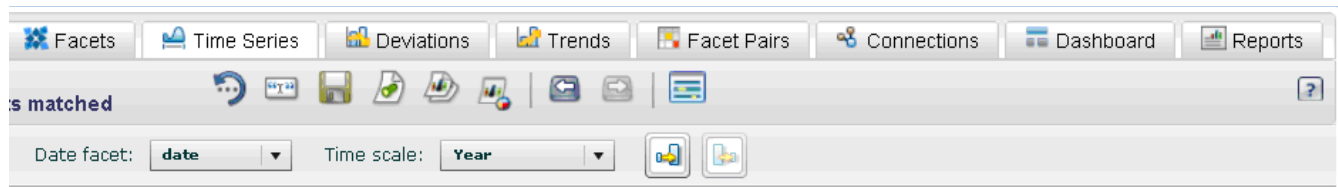


After your selection is completed, you'll see this:



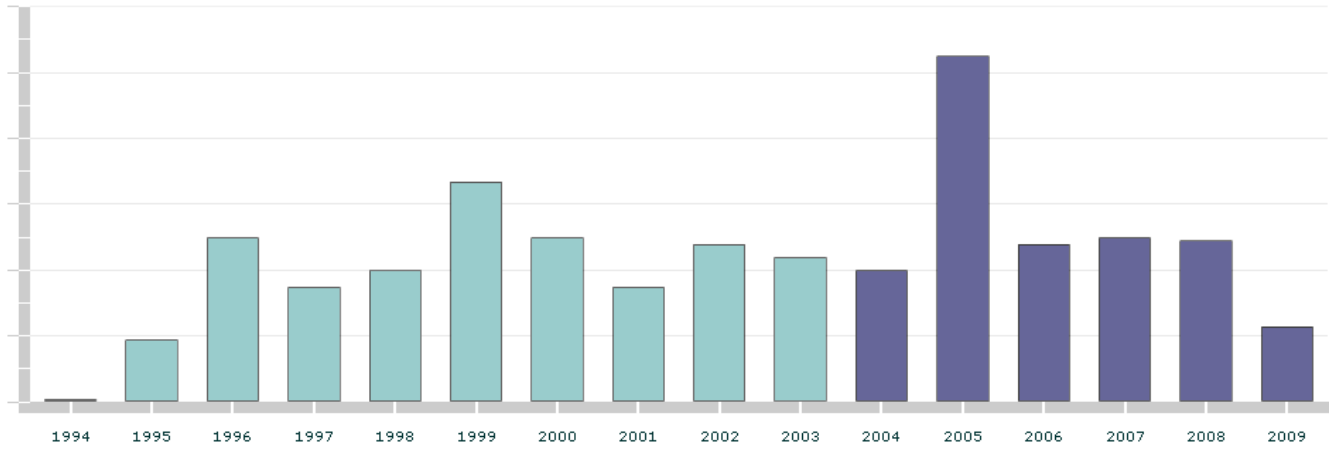
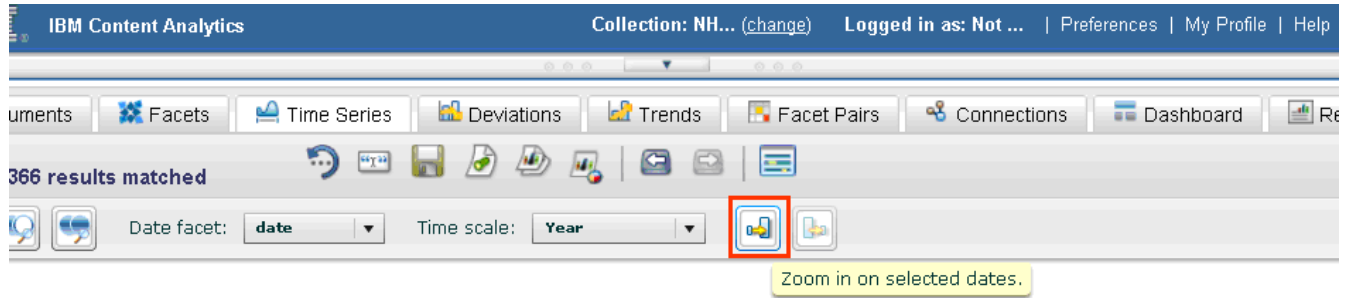
IBM Content Analytics with Enterprise Search

Alternatively, you can click the bar corresponding to the year 2004, then press the Shift key and click on the year 2009.



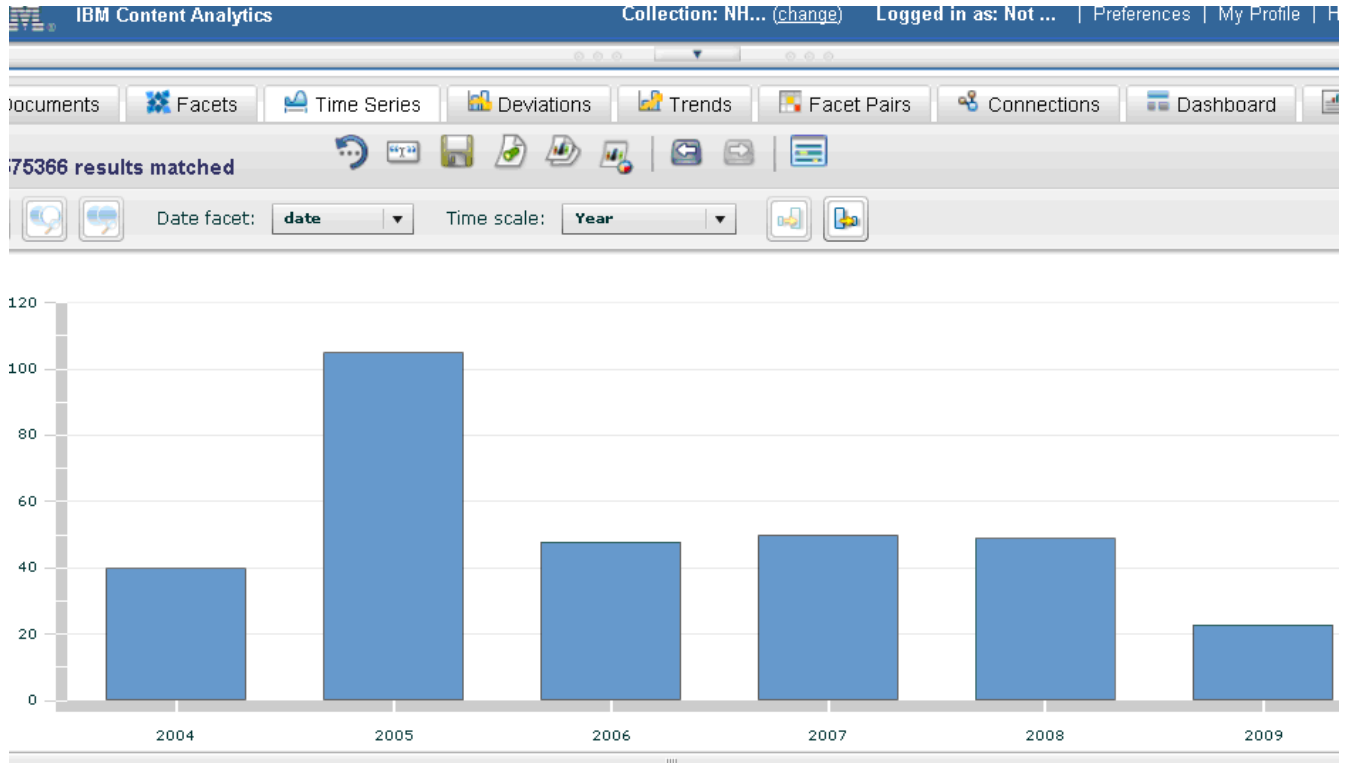
3. Click **Zoom in on selected dates.**

IBM Content Analytics with Enterprise Search

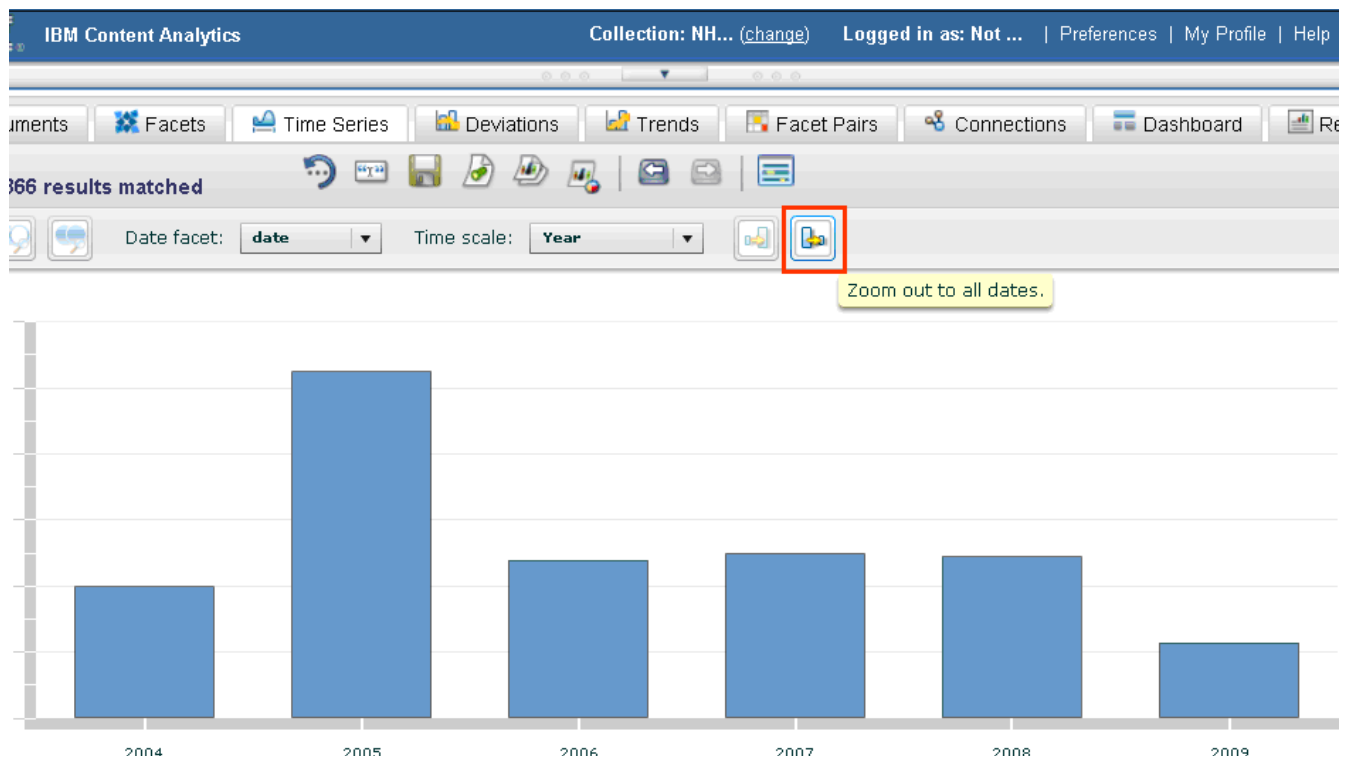


Now only 2004 – 2009 data is displayed.

IBM Content Analytics with Enterprise Search

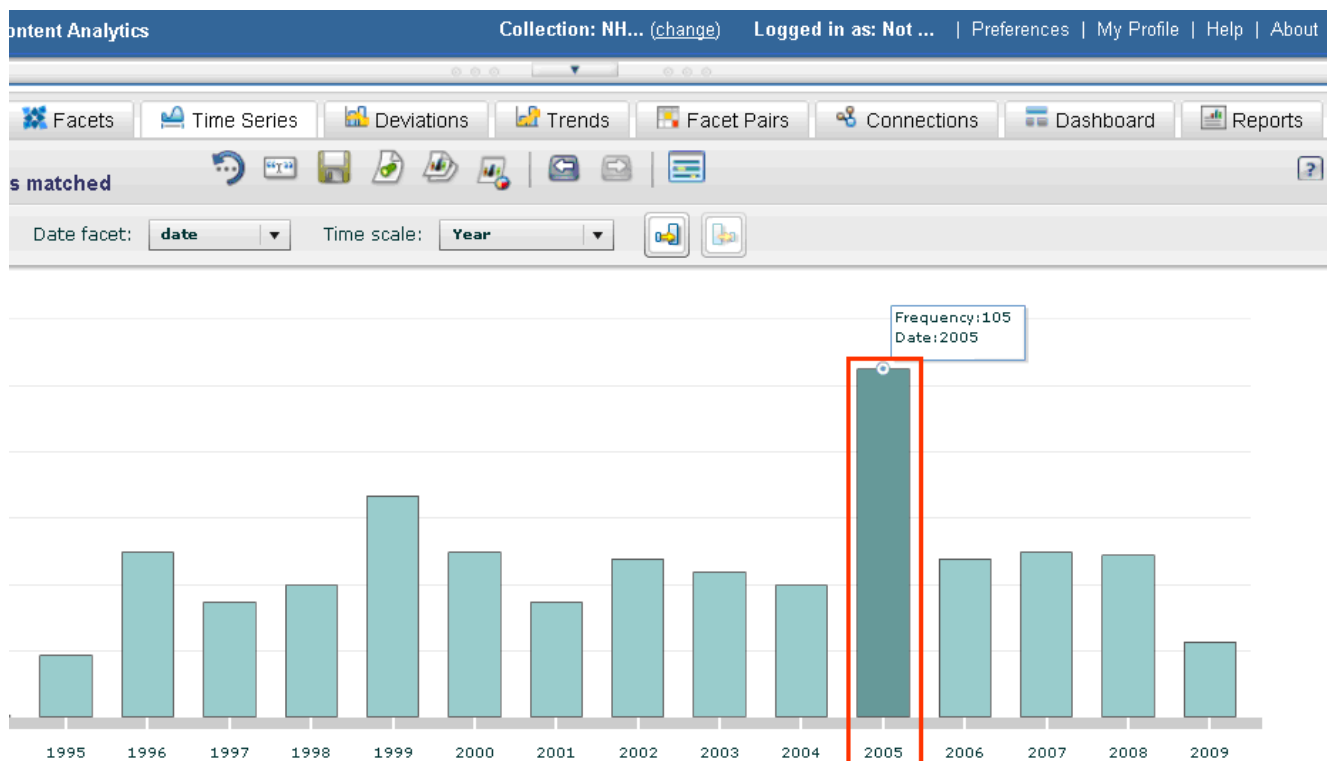


You can click **Zoom out to all dates** to return to the previous view.

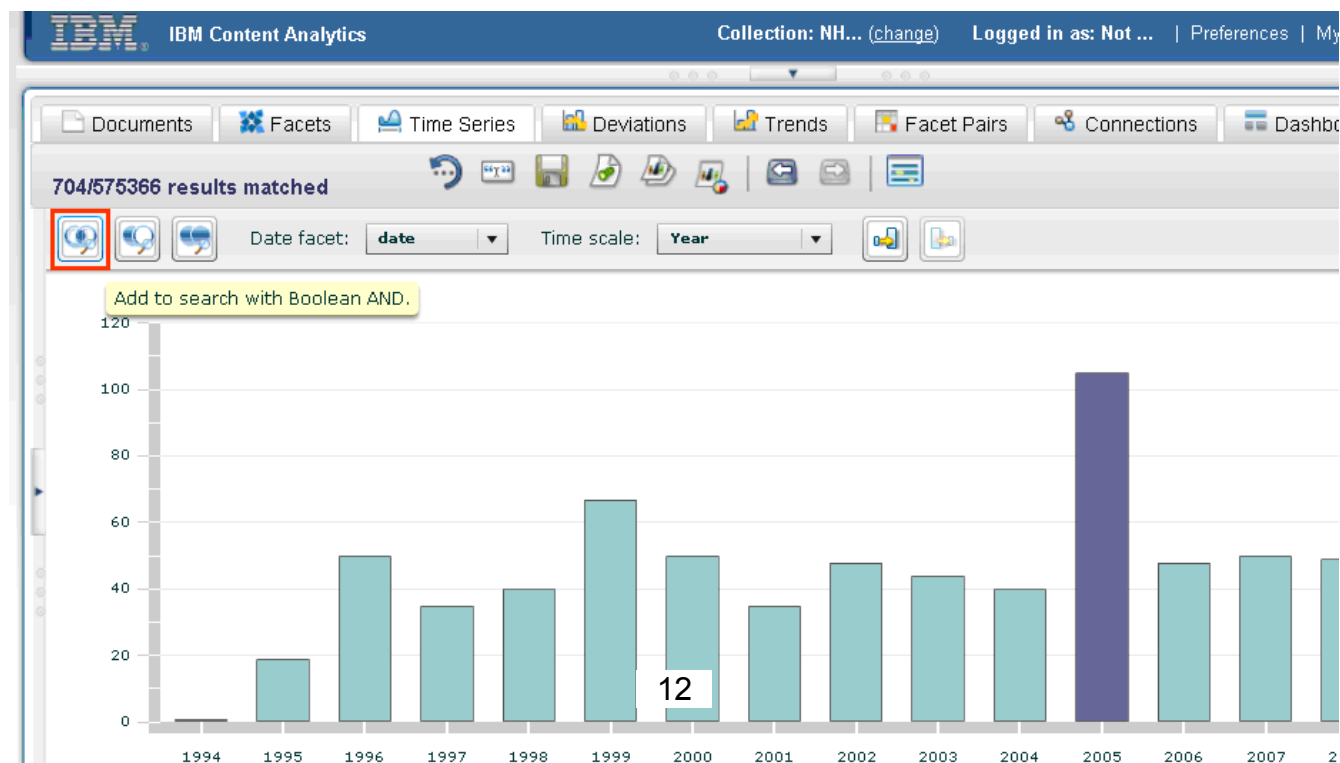


IBM Content Analytics with Enterprise Search

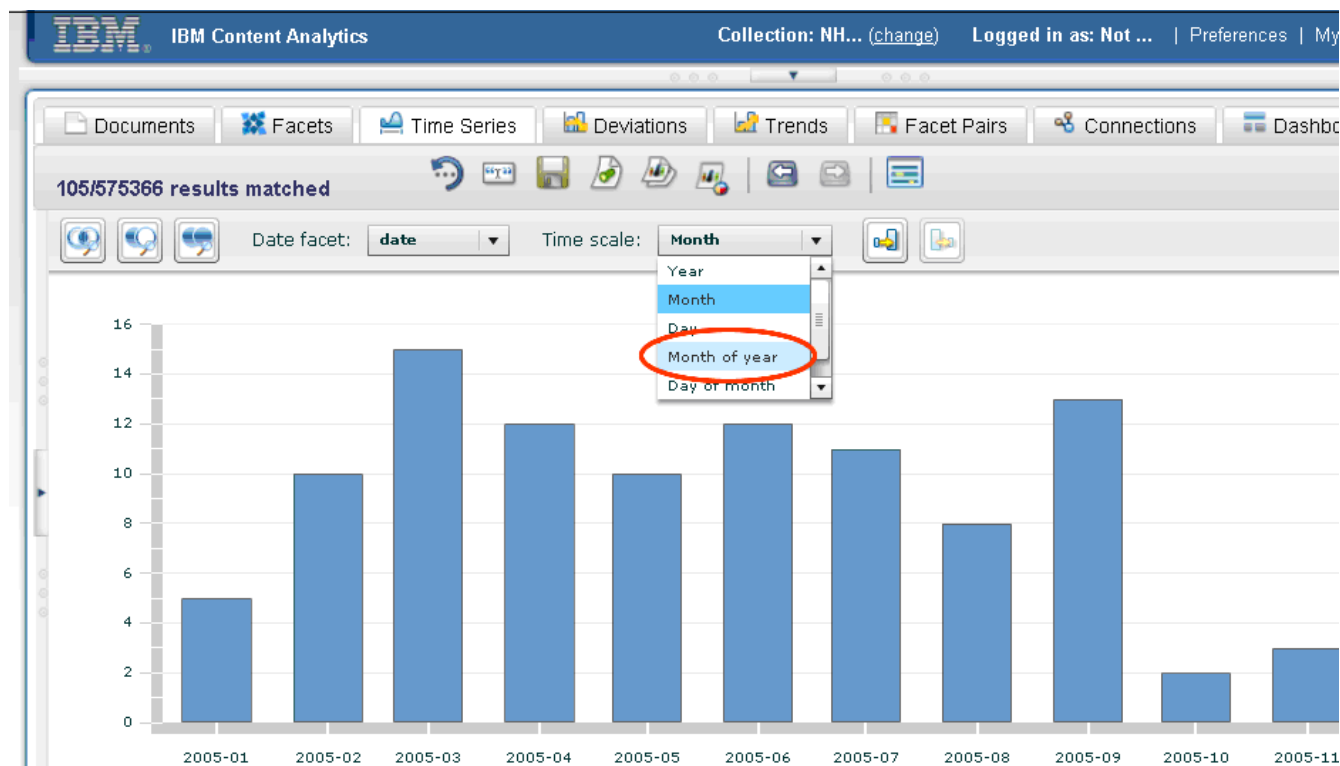
4. In this scenario, you decide to take a closer look at the data for the year 2005, because it stands out as the year in which the most incidents occurred. Hover over the bar to see the frequency, and then click on the bar and select it.



To narrow your search results to 2005, click **Add to search with Boolean AND**.

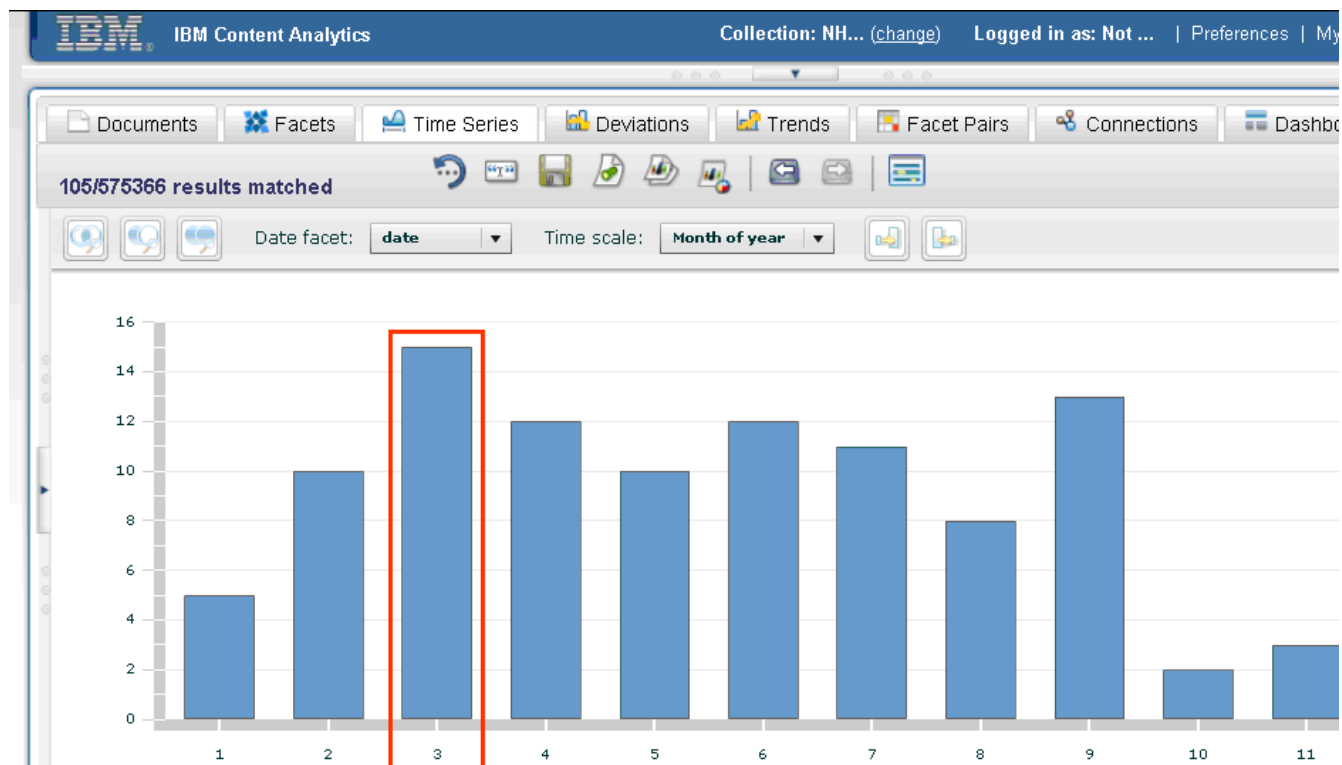


5. To further analyze the data by month, in the Time scale drop-down list, select **Month of year**.



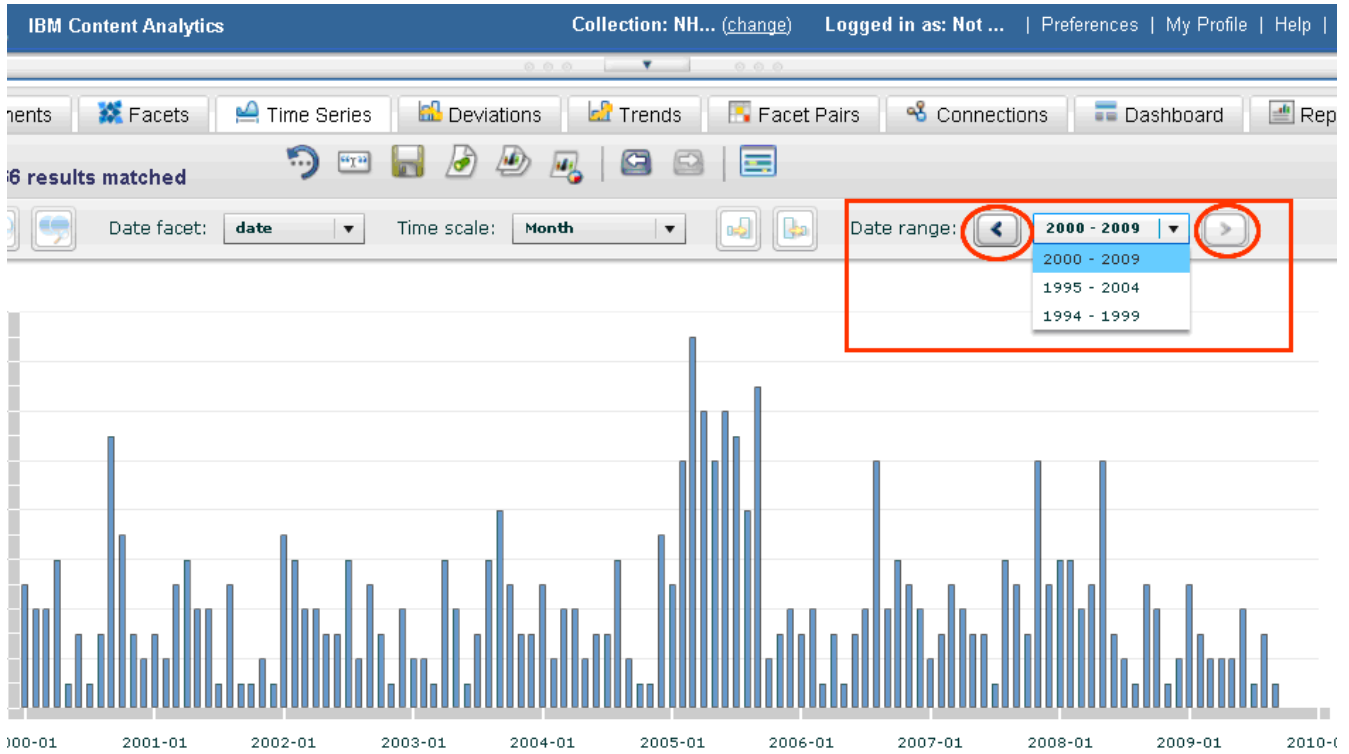
The frequency of documents that match your query for 2005 are displayed by month. The x-axis displays numbers that correspond to the months of the year. For example, you can see at a glance that March (month 3) had the highest frequency of matching documents in 2005.

IBM Content Analytics with Enterprise Search

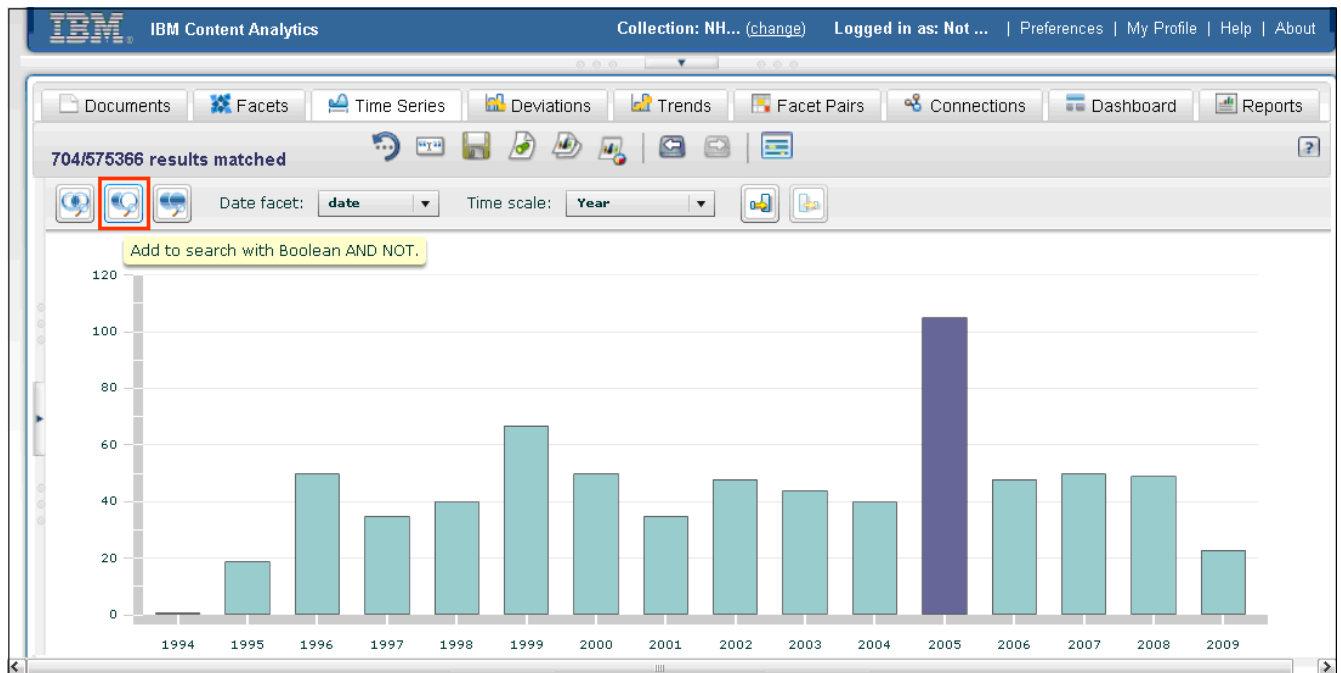


If you have more data than can be displayed in a single screen, the Date range drop-down list is displayed. You can page through the data by selecting a date range from the drop-down list, or by clicking the arrows on either side of the drop-down list.

IBM Content Analytics with Enterprise Search

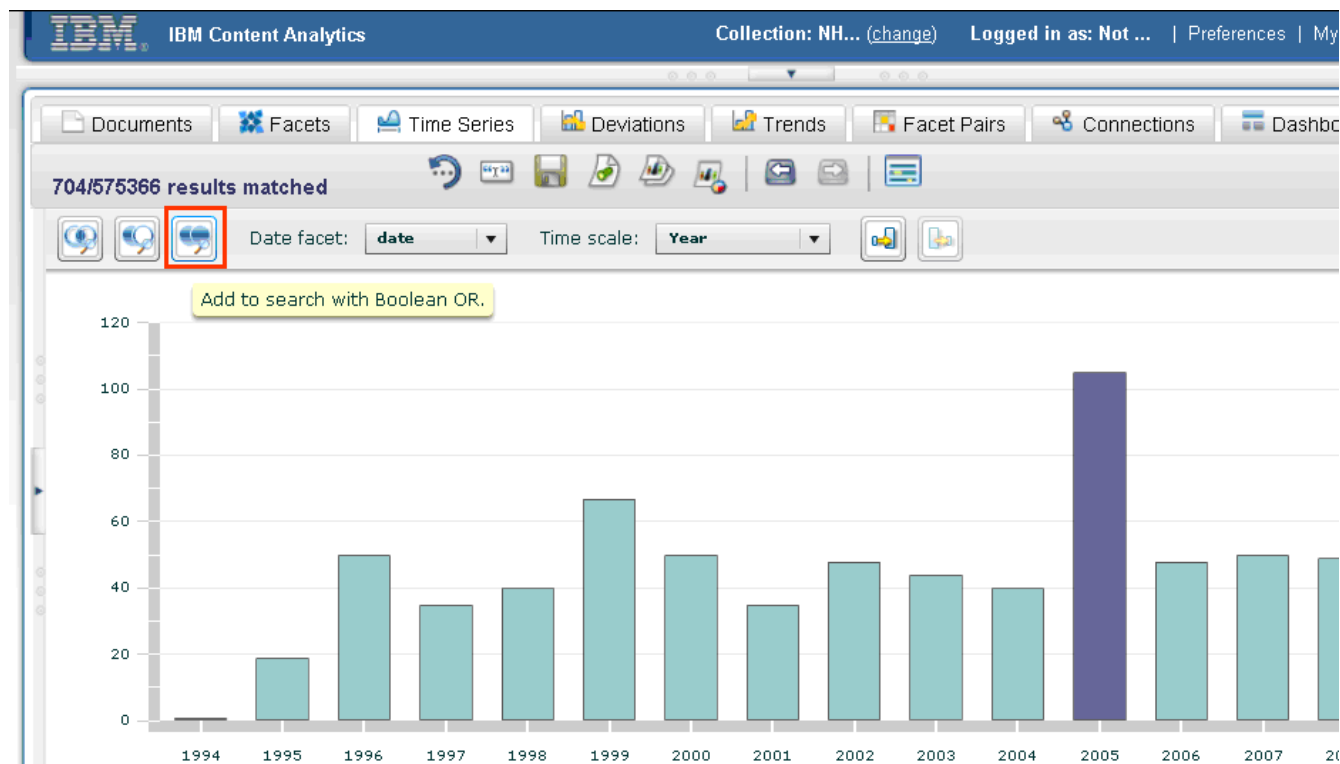


6. You can further refine the date or range of dates included in your query by selecting the bar or bars in the graph and clicking **Add to search with Boolean AND NOT**.



IBM Content Analytics with Enterprise Search

You can also add a date or range of dates by selecting the bar or bars in the graph and clicking **Add to search with Boolean OR**.



After you have identified the collection of documents that you want to analyze further in the Time Series view, you can use other views, such as Trends and Deviations, to explore the engine fire problem in greater depth.

=====End of Scenario=====

Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area.

Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

Intellectual Property Licensing
Legal and Intellectual Property Law
IBM Japan, Ltd.
3-2-12, Roppongi, Minato-ku, Tokyo 106-8711

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law: INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation
J46A/G4
555 Bailey Avenue
San Jose, CA 95141-1003

IBM Content Analytics with Enterprise Search

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs. The sample programs are provided "AS IS", without warranty of any kind. IBM shall not be liable for any damages arising out of your use of the sample programs.

Each copy or any portion of these sample programs or any derivative work, must include a copyright notice as follows: © (your company name) (year). Portions of this code are derived from IBM Corp. Sample Programs. © Copyright IBM Corp. 2004, 2012. All rights reserved.

If you are viewing this information softcopy, the photographs and color illustrations may not appear.

Trademarks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at *Copyright and trademark information* at www.ibm.com/legal/copytrade.shtml.

Other company, product, or service names might be trademarks or service marks of others.