

Exploring Data Insights with IBM InfoSphere Master Data Management and IBM Watson Explorer

IBM Redbooks Solution Guide

Today's businesses, applications, social media, and online transactions generate more data than ever before. This data can be explored and analyzed to provide tremendous business value. IBM® Watson™ Explorer and IBM InfoSphere® Master Data Management (InfoSphere MDM) enable organizations to simultaneously explore and derive insights from enterprise data that was traditionally stored in "silos" in enterprise applications. This data can be in different data repositories and in different data formats.

Applications that are developed by using Watson Explorer and InfoSphere MDM identify data relationships across these silos. These solutions unlock the business value that is inherent in a unified, 360-degree view of the information that is related to business entities, such as application users, customers, and products.

Figure 1 shows how the MDM integration of data from multiple sources enhances the 360-degree information applications that you can create by using Watson Explorer.

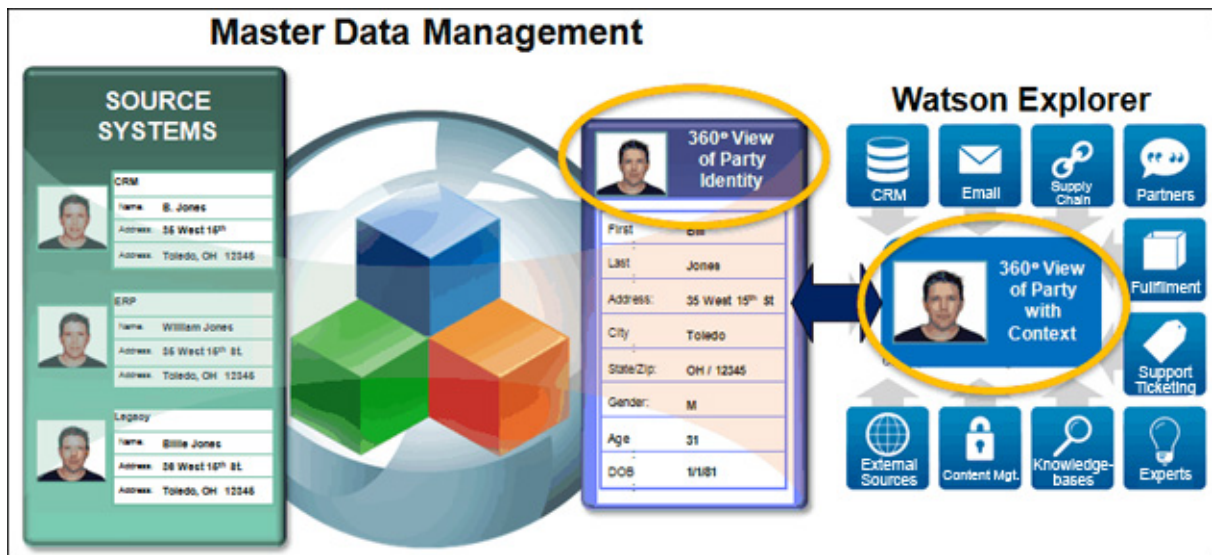


Figure 1. Integration between Watson Explorer and InfoSphere MDM

Did you know?

Research indicates that today's digital universe contains 2.7 zettabytes (2.7 x 10²¹ bytes) of data, and this data is expected to grow to 35 zettabytes by 2020. Massive volumes of complex data are being generated at a rapid pace. This phenomenon is known as "big data". Sources for this data include social media, digital pictures and videos, customer transactions, system location and log data, and cell phone GPS signals.

Business value

Imagine that you are a customer service representative and that your last caller of the day claims that another representative promised them a significant discount. You have no record of this customer or offer. Not wanting to risk losing the customer, you spend a significant amount of time searching through multiple systems, trying to find the missing link or information. This situation is not uncommon because of the vast amount of information that is available across different corporate sources and the variety of customer touch points.

Watson Explorer provides organizations with a combined, trusted 360-degree view of both structured and unstructured data from within and outside the enterprise.

Master data management (MDM) is a key component to enable a single, trusted understanding of products and customers. It provides the insights that are required to act appropriately.

IBM InfoSphere MDM supports a consistent understanding of master data entities and their relationships. This trusted view can be presented to Watson Explorer to ensure that accurate information is delivered to users. Watson Explorer can also leverage the master record to extract and include visibility from other data sources to create an even broader view of a customer or product. MDM might be unaware of these sources.

Solution overview

The enhanced 360-degree view solution that is delivered by Watson Explorer combines structured data from enterprise systems. These enterprise systems include customer relationship management, supply chain management, order tracking systems, and customer support databases. The data might also include unstructured content from sources such as email, file shares, and content management systems.

This solution creates a unified workspace for customer-facing professionals, marketers, and other decision makers that provide an enhanced 360-degree view of customers, products, and more. It delivers the data and analytics that these users need in context and tailored to their role and current activities.

Applications that are based on the Watson Explorer Application Builder can incorporate data from both inside and outside the enterprise, and analytics in context (Figure 2). The solution can combine all this data and content with analytics that are relevant to the current situation and user role while ensuring that it delivers only trusted data.

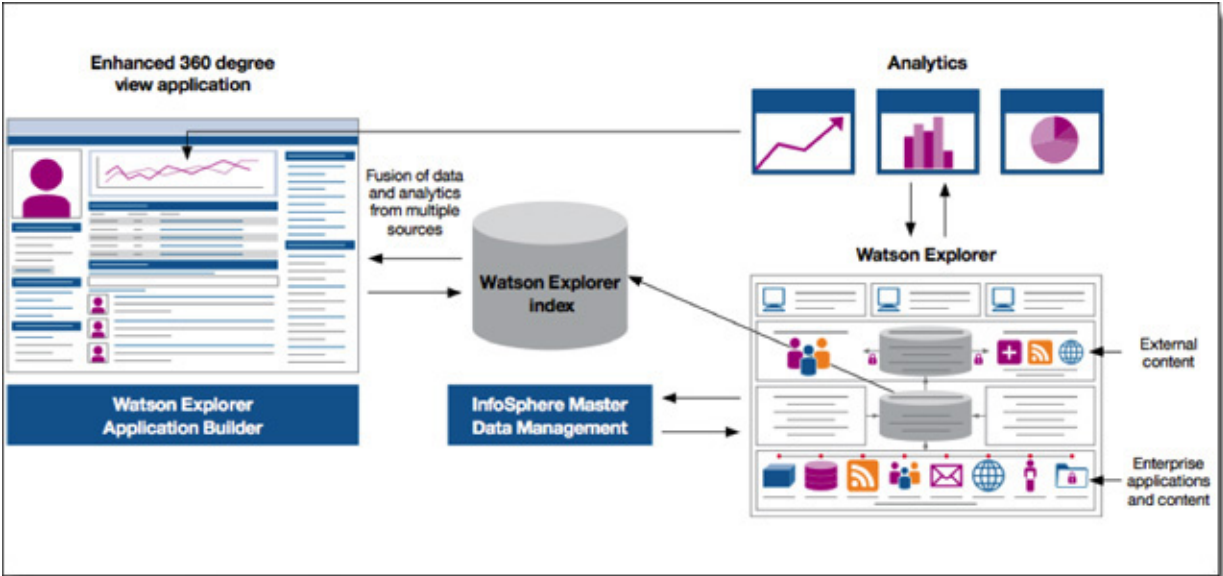


Figure 2. Applications incorporating data from various sources

Solution architecture

The solution architecture is composed of two main IBM products:

- InfoSphere Master Data Management
- Watson Explorer

InfoSphere Master Data Management provides a trusted view of an entity, such as person, product, or location. The two products are connected through the InfoSphere MDM connector, as shown in Figure 3. The data from different sources is imported and indexed to get a 360-degree view of an entity.

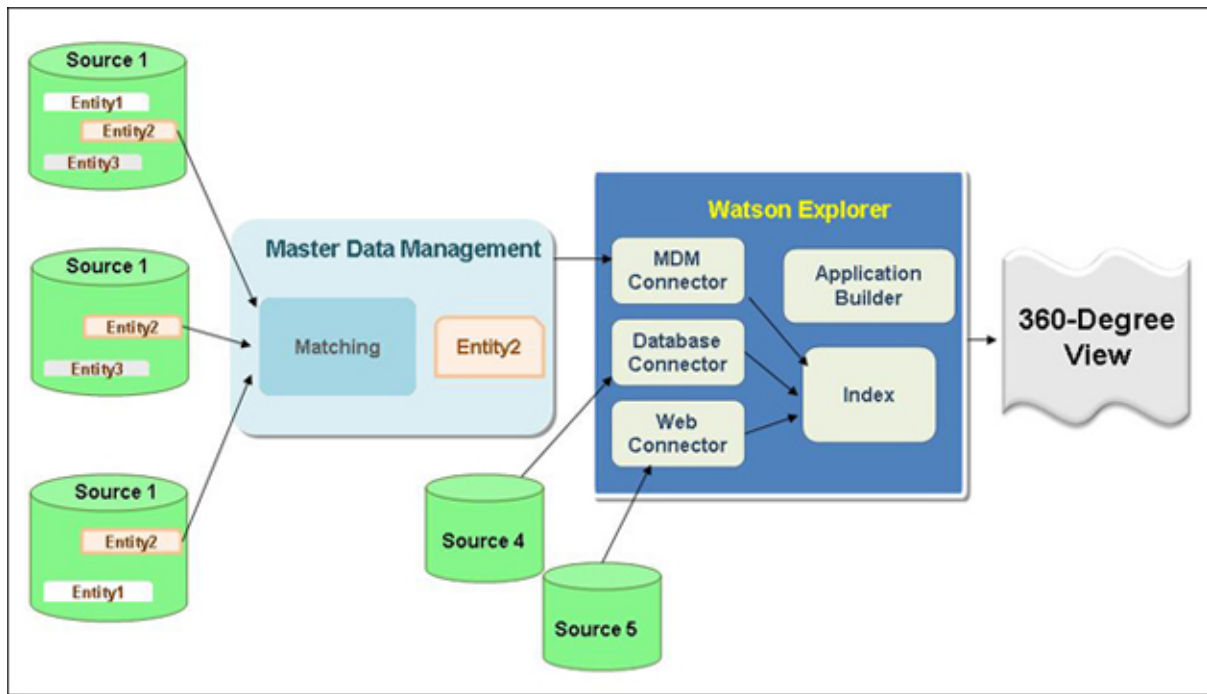


Figure 3. 360-degree view solution architecture

Usage scenarios

InfoSphere Master Data Management customers gain additional value by capitalizing on Watson Explorer.

Citizen services

Government agencies face demands from taxpayers to provide access to information in an intelligent, citizen-centric manner. For example, someone that is involved in a home-remodeling project does not want to provide the same information to the local planning commission and then to the permit department. Those departments should be able to access each other's information seamlessly.

Citizens expect the same level of integrated service from government agencies as they receive from top-rated service companies.

By integrating Watson Explorer with MDM, governments are empowered with a complete, citizen-centric, e-Government application solution (Figure 4). InfoSphere MDM provides government services with the agility and flexibility to receive and share information rapidly. With the addition of Watson Explorer, they provide access to a current, accurate, and complete view of citizen and business information, making it possible for them to respond to constituent needs in real time.

Both governments and citizens save time and money, and taxpayer satisfaction increases.

Citizens gain the following advantages:

- Easy access to government information and services
- Instantaneous feedback on issues and topics
- Able to engage in dialogs with officials

Seamless interoperability exists across agencies and departments, enabling officials to accomplish the following improvements:

- Share and view the same information about individuals.
- Reduce administrative costs.
- Increase efficiencies and service levels.

The screenshot displays a user profile for 'George' with the following sections:

- Healthcare Information:** A table listing test results.

Location	Date/Time	Clinic
DAY29 TEST LAB	13 May 2012 @ 1100	C&P CHRISTIE
DAY29 TEST LAB	17 June 2012 @ 1300	DIABETIC-BURKE
Pre-appointment activity: 17 June 2012 @ 0800 LAB		
DAY29 TEST LAB	26 July 2012 @ 1600	GERIATRICS
DAY29 TEST LAB	2 Aug 2012 @ 1300	C&P CHRISTIE
- Military Service History:** A table listing service records.

Service	Start	End	Rank	Character
Army	06/11/1968	03/26/1976	COL	Honorable
Army	02/22/1980	02/21/1984	COL	Honorable
Army	01/11/1987	08/24/1993	COL	Unknown
Army		25/2004	COL	Unknown
- Personal Information:** Fields for First Name (George), Middle Initial (R), Last Name (H), Suffix (Senior), Date of Birth (01 Mar), Gender (Male), Marital Status (Married), and Occupation (Retired).
- Wellness Reminders:** A list of upcoming health checks: Prostate Screening (DUE NOW), Colon Cancer Screening (DUE NOW), and Influenza Vaccine (30 Oct 2012).
- Comments:** A comment from Theodore G. regarding retirement and address changes.

Figure 4. Example of citizen-centric application capitalizing on InfoSphere MDM and Watson Explorer

Banking

Banks focus on building customer relationships, yet few can deliver the customer insight that can be used to take action on all channels to transform operational processes. Customer and product information is still fragmented across multiple systems. Without an authoritative master record of their customers and products, banks might struggle to provide consistent service across all channels. This situation can inhibit their ability to sell the most appropriate products to customers or to reduce operating expenses. InfoSphere MDM enables banks to use this strategic vision by helping them make high-value core information available across the enterprise to support critical business processes.

Customers want (and have been given) more ways to interact with their banks. Individuals no longer interact solely with a single local branch. They can call and do business on the web and through mobile applications. Banks must ensure that local branches, call-center customer representatives, and online systems can access all customer information that was collected through all previous interactions. This capability provides a seamless experience for customers, reduces attrition, and drives new sales. InfoSphere MDM enables banks to implement cross-channel integration and match the channel to the individual. For example, a client with a few accounts and lower balances might prefer to use the self-service channel to avoid additional fees. Another customer with a complex financial situation might be willing to pay a higher price for service if they can speak to a service representative in person.

InfoSphere MDM also helps banks recognize customers across multiple systems and provides customers with a complete view of their assets across channels. The result is a consistent experience, whether the customer is banking at the branch, online, or by mobile phone. At the same time, banks can use InfoSphere MDM to help reduce costs, streamline customer information processing, simplify client onboarding and new account setup, and eliminate duplicate mailings.

InfoSphere MDM makes it easy to manage a customer's privacy across channels, and generate accurate and timely reports for regulatory compliance. Centrally managing the hundreds of reference tables that are associated with regulations might help a bank save millions of dollars, significantly improve data quality, and reduce (by weeks) the time that is required to complete all of the necessary reports. Because it helps companies consolidate information, InfoSphere MDM can also streamline business processes. For example, a financial institution wanted an aggregate customer view to enable new marketing strategies and increase the number of products that are owned per customer. This company deployed InfoSphere MDM to integrate data from eight business systems to develop a more accurate view of its customers. The project helped increase the marketing effectiveness of the company's rewards programs and its account penetration.

Integrating MDM with Watson Explorer can further enable an institution to capitalize on internal and external documents and social data. This approach might further enhance its marketing effectiveness by making additional information about the customer available to client representatives, as shown in Figure 5.

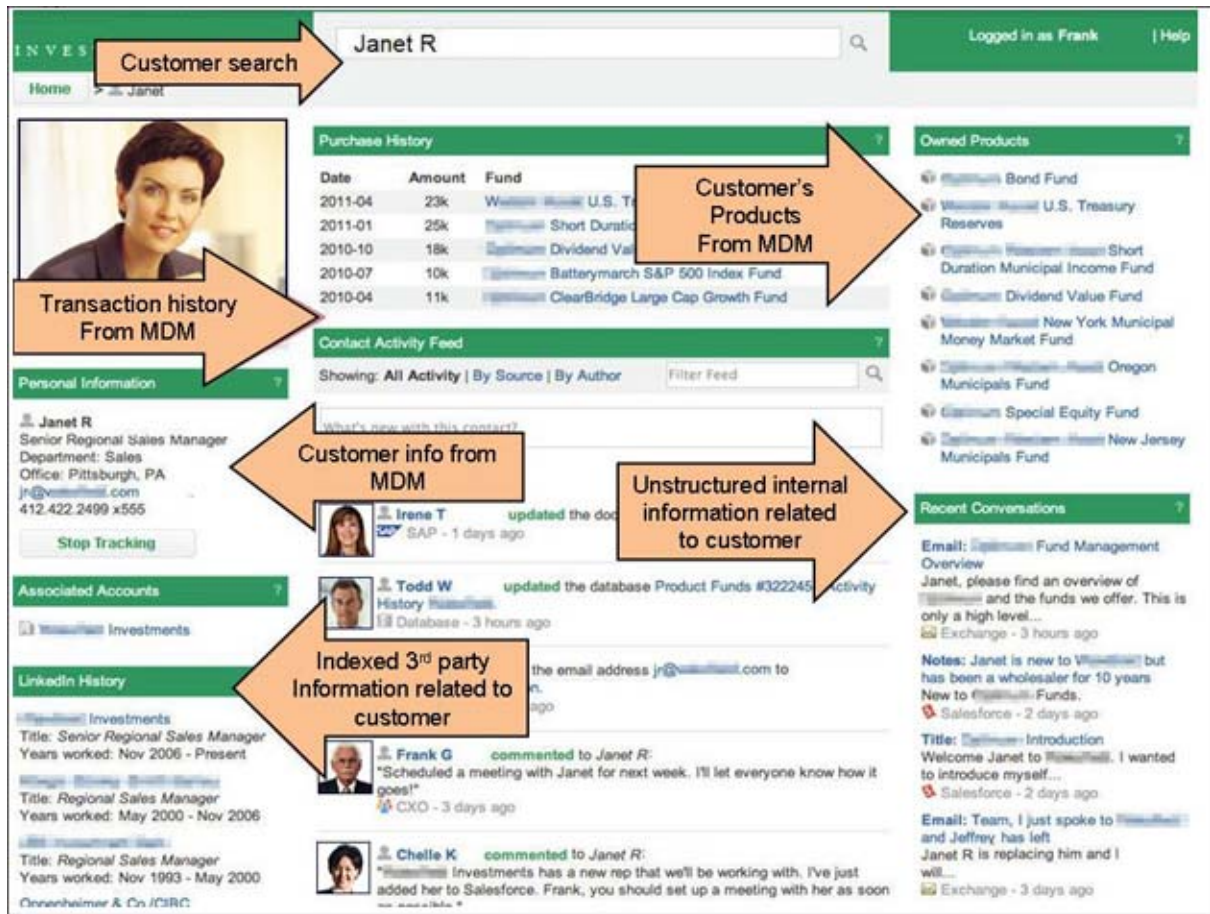


Figure 5. Example of a client representative window when looking up or engaging with a customer

Supported platforms

A wide variety of platforms and combinations are possible for IBM Watson Explorer and InfoSphere MDM solutions. You can find detailed information about the exact platforms that are supported within the documentation for both products:

- Watson Explorer:
http://www-01.ibm.com/support/knowledgecenter/SS8NLW_9.0.0/dataexplorer_9.0.0.html
- InfoSphere MDM
<https://ibm.biz/BdFiFE>

Ordering information

InfoSphere Master Data Management V11.3 has several editions:

- InfoSphere Master Data Management Enterprise Edition
- InfoSphere Master Data Management Advanced Edition
- InfoSphere Master Data Management Standard Edition
- InfoSphere Master Data Management Collaborative Edition
- InfoSphere Master Data Management Reference Data Management
- InfoSphere Master Data Management Custom Domain Hub Stand Alone

InfoSphere MDM ordering information is shown in Table 1.

Table 1. Ordering part numbers and feature codes of InfoSphere MDM

Program name	PID number	Charge unit description
IBM InfoSphere Master Data Management V11.3	5725-E59	Per resource value unit

Watson Explorer 9.0 consists of several editions, and is only available through IBM Passport Advantage:

- IBM InfoSphere Data Explorer Standard Edition
- IBM InfoSphere Data Explorer Enterprise Edition

Watson Explorer ordering information is shown in Table 2.

Table 2. Ordering part numbers and feature codes of Watson Explorer

Program name	PID number	Charge unit description
IBM InfoSphere Data Explorer 9.0	5725-117	Per resource value unit

To find the complete ordering information, go to the ordering information website:

<https://ibm.biz/BdFiF4>

Related information

For more information, see the following documents:

- *Building 360-Degree Information Applications*, SG24-8133:
<http://www.redbooks.ibm.com/redpieces/abstracts/sg248133.html>
- 5 Things to Know about IBM Watson Explorer 9.0.0.3:
<https://ibm.biz/BdFiP9>
- 5 Things to Know about IBM InfoSphere MDM Probabilistic Matching Engine for InfoSphere BigInsights™ 11.3.0:
<https://ibm.biz/BdFiEJ>
- *A Practical Guide to Managing Reference Data with IBM InfoSphere Master Data Management Reference Data Management Hub*, SG24-8084:
<http://www.redbooks.ibm.com/abstracts/sg248084.html>
- *Smarter Modeling of IBM InfoSphere Master Data Management Solutions*, SG24-7956:
<http://www.redbooks.ibm.com/abstracts/sg247956.html?Open>

- *Aligning MDM and BPM for Master Data Governance, Stewardship, and Enterprise Processes*, SG24-8059:
<http://www.redbooks.ibm.com/abstracts/sg248059.html?Open>
- *Implementing IBM InfoSphere Change Data Capture for DB2® z/OS® V6.5*, REDP-4726:
<http://www.redbooks.ibm.com/abstracts/redp4726.html?Open>

Also, product information is available at the following websites:

- IBM InfoSphere Master Data Management product page:
<http://www-03.ibm.com/software/products/en/infosphere-master-data-management>
- IBM InfoSphere Master Data Management V11.3 documentation:
http://www.ibm.com/support/knowledgecenter/SSWSR9_11.3.0
- IBM Watson Explorer product page:
<http://www.ibm.com/smarterplanet/us/en/ibmwatson/explorer.html>
- IBM Offering Information page (announcement letters and sales manuals):
http://www.ibm.com/common/ssi/index.wss?request_locale=en

On this page, enter IBM Watson Explorer or IBM InfoSphere Master Data Management, select the information type, and then click **Search**. On the next page, narrow your search results by geography and language.

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 give 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.

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. 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. 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.

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 measurement may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

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.

© Copyright International Business Machines Corporation 2014. All rights reserved.

Note to U.S. Government Users Restricted Rights -- Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

This document was created or updated on December 5, 2014.

Send us your comments in one of the following ways:

- Use the online **Contact us** review form found at:
ibm.com/redbooks
- Send your comments in an e-mail to:
redbooks@us.ibm.com
- Mail your comments to:
IBM Corporation, International Technical Support Organization
Dept. HYTD Mail Station P099
2455 South Road
Poughkeepsie, NY 12601-5400 U.S.A.

This document is available online at <http://www.ibm.com/redbooks/abstracts/tips1208.html> .

Trademarks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. These and other IBM trademarked terms are marked on their first occurrence in this information with the appropriate symbol (® or ™), indicating US registered or common law trademarks owned by IBM at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of IBM trademarks is available on the Web at <http://www.ibm.com/legal/copytrade.shtml>.

The following terms are trademarks of the International Business Machines Corporation in the United States, other countries, or both:

BigInsights™
DB2®
IBM Watson™
IBM®
InfoSphere®
Redbooks®
Redbooks (logo)®
Watson™
z/OS®

The following terms are trademarks of other companies:

Linux is a trademark of Linus Torvalds in the United States, other countries, or both.

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