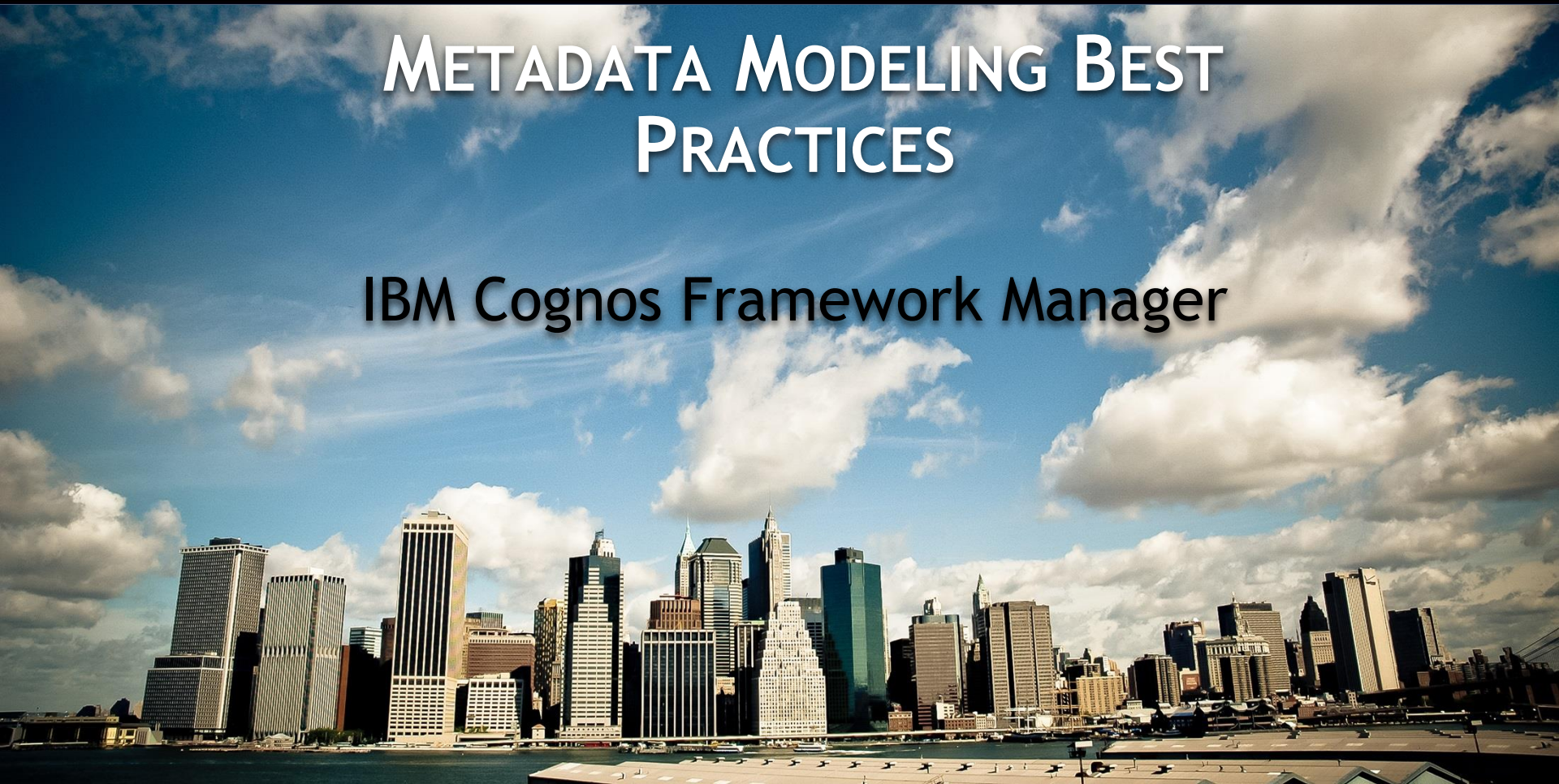




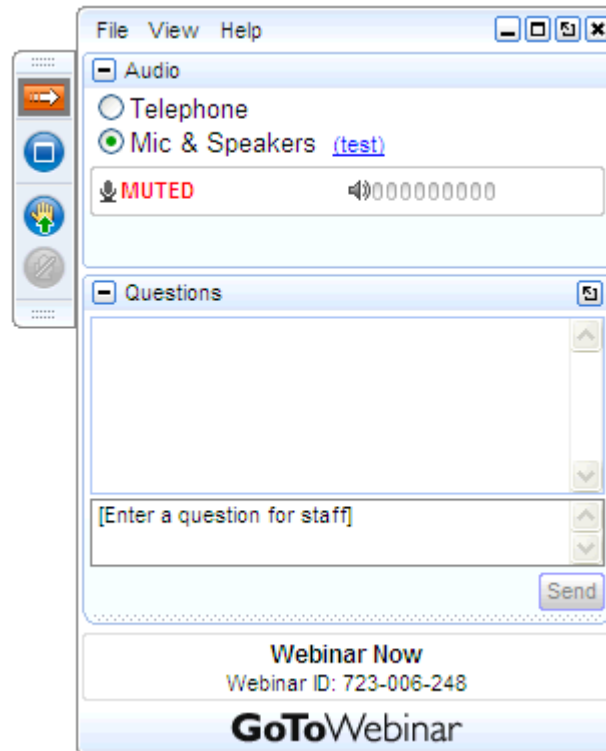
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METADATA MODELING BEST PRACTICES

IBM Cognos Framework Manager



GoToWebinar Control Panel



Submit questions here

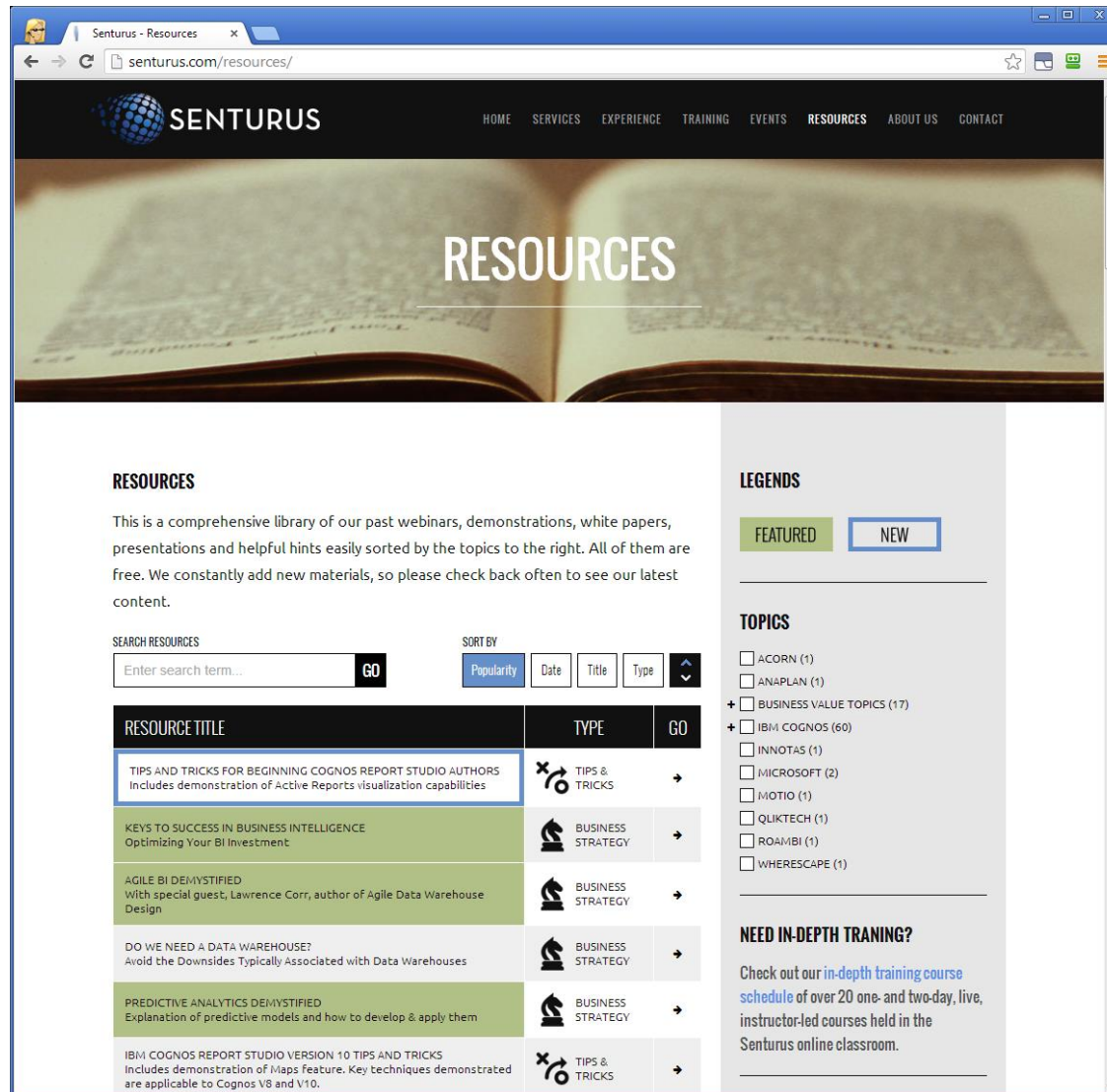
Click arrow to restore full control panel



AGENDA

- Welcome and Introduction
- Framework Manager Demonstrations:
 - Multi-tiered Design
 - What are the Import, Design, and Presentation Layers?
 - Row-level Security
 - Use Session Parameters from your Authentication Provider
 - Use Query Macros
 - Understand OLAP Over Relational and the Value of Dynamic Query Mode
- More Resources
- Q&A

PRESENTATION SLIDE DECK ON WWW.SENTURUS.COM



The screenshot shows the 'Resources' page of the Senturus website. The page features a dark header with the Senturus logo and navigation links. The main content area has a large 'RESOURCES' title over a background image of an open book. Below this, there is a section titled 'RESOURCES' with a descriptive paragraph. A search bar and sorting options are provided. A table lists various resources, including tips and tricks for Cognos Report Studio, keys to success in business intelligence, agile BI demystified, and predictive analytics demystified. A sidebar on the right contains a 'LEGENDS' section with 'FEATURED' and 'NEW' tabs, and a 'TOPICS' section with a list of topics and their counts. At the bottom of the sidebar, there is a section for 'NEED IN-DEPTH TRAINING?' with a link to a training course.

RESOURCES

This is a comprehensive library of our past webinars, demonstrations, white papers, presentations and helpful hints easily sorted by the topics to the right. All of them are free. We constantly add new materials, so please check back often to see our latest content.

SEARCH RESOURCES

SORT BY

RESOURCE TITLE	TYPE	GO
TIPS AND TRICKS FOR BEGINNING COGNOS REPORT STUDIO AUTHORS Includes demonstration of Active Reports visualization capabilities	TIPS & TRICKS	→
KEYS TO SUCCESS IN BUSINESS INTELLIGENCE Optimizing Your BI Investment	BUSINESS STRATEGY	→
AGILE BI DEMYSTIFIED With special guest, Lawrence Corr, author of Agile Data Warehouse Design	BUSINESS STRATEGY	→
DO WE NEED A DATA WAREHOUSE? Avoid the Downsides Typically Associated with Data Warehouses	BUSINESS STRATEGY	→
PREDICTIVE ANALYTICS DEMYSTIFIED Explanation of predictive models and how to develop & apply them	BUSINESS STRATEGY	→
IBM COGNOS REPORT STUDIO VERSION 10 TIPS AND TRICKS Includes demonstration of Maps feature. Key techniques demonstrated are applicable to Cognos V8 and V10.	TIPS & TRICKS	→

LEGENDS

TOPICS

- ☐ ACORN (1)
- ☐ ANAPLAN (1)
- ☒ BUSINESS VALUE TOPICS (17)
- ☒ IBM COGNOS (60)
- ☐ INNOTAS (1)
- ☐ MICROSOFT (2)
- ☐ MOTIO (1)
- ☐ QLIKTECH (1)
- ☐ ROAMBI (1)
- ☐ WHERESCAPE (1)

NEED IN-DEPTH TRAINING?

Check out our [in-depth training course schedule](#) of over 20 one- and two-day, live, instructor-led courses held in the Senturus online classroom.

Introduction: Today's Presenters



Greg Herrera
President & Co-Founder
Senturus



Albert Valdez
Vice President - Learning Solutions
Senturus



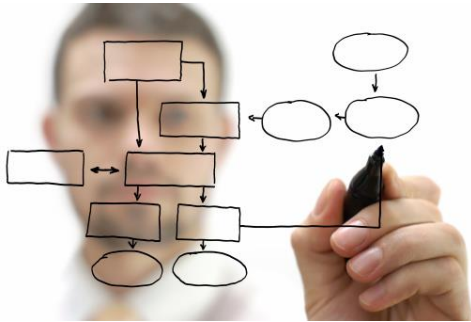
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SENTURUS INTRODUCTION

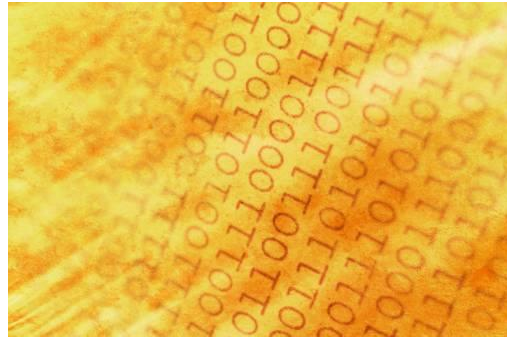
WHO WE ARE

SENTURUS: BUSINESS ANALYTICS CONSULTANTS

Creating Clarity from Chaos



Business
Intelligence



Enterprise Planning



Predictive Analytics

Our Team:

Business depth combined with technical expertise.
Former CFOs, CIOs, Controllers, Directors, BI Managers

750+ CLIENTS, 1500+ PROJECTS, 13+ YEARS



DEMONSTRATION CONTEXT

- All demonstrations are based on the standard IBM Cognos 10.2.1 Great Outdoors Sample package
- Demonstrations are valid for ALL supported versions of IBM Cognos Business Intelligence
- These exercises are part of what we teach in our classroom, specifically from our Metadata Modeling Best Practices with Framework Manager course



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BEST PRACTICES FOR PROJECT DESIGN

ADVANTAGES OF MULTI-TIERED METADATA

METADATA MODELING BEST PRACTICES

- **Use a multi-tiered design**
- Establish query item properties and relationships early on (in the first tier)
- Plan your design with consideration to how the IBM Cognos query engine generates SQL
- Define Model Query Subjects as either a “true” Dimension or a “true” Fact
- **Relate Facts to one another through one or more Conformed Dimensions**
- Review and carefully define Determinants
- Define Package and Object-level Security
- Create a user-friendly Presentation
- Use Dimensional Modeling techniques where appropriate

METADATA MODELING BEST PRACTICES

- Multi-tiered design
 - Use Namespaces and Folders to organize your Query Subjects
 - Start with an Import View
 - There should be at least 2 tiers, however
 - A Three-tiered design offers some advantages

ADVANTAGES OF THE THREE-TIERED DESIGN

- Import Layer:
 - All database objects are represented here exactly as they appear in the physical data, making references between this metadata and the database simple and obvious
 - All base relationships should be defined in this layer
- Design Layer:
 - Establish the “dimensional design” that will guide the query engine toward more predictable results
 - Use Model Query Subjects, Merging, Aliasing, and other techniques to enforce desired query behaviors
- Business Layer
 - Create value-added features such as embedded and stand-alone Calculations and Filters
 - Implement user-accepted naming and presentation conventions

ADVANTAGES OF THE THREE-TIERED DESIGN

- Why?
 - Use **metadata** to your advantage!
 - Query logic is controlled by our design, not restricted by the physical limitations of the database
 - Referential metadata creates a “buffer” between the physical model and that which is used by our authors
 - Changes to our Database layer in order to address changes in the physical data can be made without impacting existing reports, or the end-users’ view of the model
 - Simplify the modeling process by isolating certain tasks within their respective layer



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BEST PRACTICES FOR PROJECT DESIGN

**ADVANTAGES OF MULTI-TIERED METADATA
DEMONSTRATION**



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ROW-LEVEL SECURITY

USING SESSION PARAMETERS AND QUERY
MACROS

PARAMETERIZED SQL

- Typical application of this technique is to create dynamic filtering based on user attributes
- We can use a Parameter Map and Query Macros in combination with unique user account attributes to enforce these rules in the metadata
- Session Parameters:
 - Attributes unique to each user's session
 - Derived from your Authentication Provider

PARAMETERIZED SQL

- Parameter Map:
 - We can use three types of Parameter Maps
 1. Manually key in the values in the project
 2. Import from an external text file (.txt, .csv)
 3. Reference a query subject (db table)
- Query Macros:
 - `#$UserLookup{$account.personalInfo.userName}#`
 - Several functions available allowing us to create dynamic expressions



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ROW-LEVEL SECURITY

SESSION PARAMETERS AND QUERY MACROS
DEMONSTRATION



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OLAP IN FRAMEWORK MANAGER

SETTING UP FOR SUCCESS

OLAP IN FRAMEWORK MANAGER

- In the Cognos version 8 release, we were introduced to Dimensionally Modeled Relational (DMR) capabilities
- What happened?
 - Run-time OLAP presents significant query response challenges in large data environments
 - Guess what? We ALL live in large data environments!
- What's changed?
 - There is a shift in the architecture strategy, adding more query processing capacity on the application tier
 - Dynamic Query Mode presents a new approach to query processing

OLAP IN FRAMEWORK MANAGER

- Dynamic Query Mode
 - Next-generation, Java-based query mode
 - Query optimizations to address query complexity, data volumes and timeliness expectations with improved query execution techniques
 - Significant improvement for complex OLAP queries through intelligent combination of local and remote processing and better MDX generation
 - Security-aware caching
 - New data Interfaces leveraging 64 bit processing
 - Take advantage of increased capacity of 64-bit in-memory processing
 - Ease of maintenance with query visualization

OLAP IN FRAMEWORK MANAGER

- Why are OLAP sources important?
 - True MDX-style analytics and reporting provide tremendous benefits to end-users
 - Drill-up/Drill-down functionality is built-in to the data source, encouraging simple, intuitive data investigation
 - Access to MDX functions and gestures in reporting tools allows for more dynamic reports, dashboards, and analyses
 - Data Exploration and Data Discovery are the next level of analytics (move beyond reporting!)



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OLAP IN ACTION

**OLAP vs. RELATIONAL FOR SELF-SERVICE
AUTHORS - DEMONSTRATION**

OLAP IN FRAMEWORK MANAGER

- What needs to be done to enable DQM?
 - Cognos 10.x? - you own it
 - The Query Service spawns its own java process, consumes resources whether you use it or not
- Data Sources
 - Must configure the JDBC Connection and copy the requisite driver to the Cognos library
- Framework Manager
 - DQM can be switched on at the Project or the individual Package level
- System Administration
 - Configure Query Service resources, optimize application tier components to maximize throughput

OLAP IN FRAMEWORK MANAGER

- JDBC Drivers - what to do?
 - Go here:
http://www.ibm.com/developerworks/data/library/cognos/infrastructure/cognos_specific/page529.html
 - Basically, you download and copy the requisite JDBC driver to both the ..\v5dataserver\lib and the ..\p2pd\web-inf\lib directories
 - Make sure you only have ONE version of the driver in the library!
 - Specific instructions for each database type are detailed in the above document



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OLAP IN FRAMEWORK MANAGER

**CONFIGURE DATA SOURCE CONNECTIONS AND
JDBC DRIVERS**

UPCOMING EVENTS

www.senturus.com



CREATING USER-FRIENDLY COGNOS ACTIVE REPORTS

ADVANCED REPORTING TECHNIQUES

July 10, 2104 - 10 AM PT / 1 PM ET / 17:00 GMT - 90 minutes

[DETAILS](#)



CHOOSING THE RIGHT REPORTING TOOL FOR THE JOB

COGNOS WORKSPACE VS TRADITIONAL STUDIOS VS ACTIVE REPORTS


July 24, 2104 - 10 AM PT / 1 PM ET / 17:00 GMT - 90 minutes

[DETAILS](#)

Pre-Announcement:

August 7th IBM Cognos Dynamic Cubes Webinar

COGNOS TRAINING OPTIONS

 **SENTURUS**

HOME RESOURCES EVENTS **TRAINING** SERVICES EXPERIENCE ABOUT US CONTACT

OVERVIEW

REAL-WORLD TRAINING

COURSE SCHEDULE

CUSTOM TRAINING

REAL INSTRUCTORS, REAL TIME, REAL LEARNING

There's nothing virtual about our public online training courses. Senturus' instructors are live online, so attendees can ask questions and get real-time answers as if they were in a physical classroom. Students may also interact with each other. As they practice each new skill, the instructor will be able to see their screens and offer guidance. Classes are small enough for personal attention: typically 6 to 10 students take part, and each receive a hard-copy of the materials in advance.

UPCOMING COURSES


SEARCH TRAINING

Enter search term... **GO**

SORT BY

Date Product Focus Title

PRODUCT	VERSION	FOCUS	TITLE	DATES	GO
COGNOS	10.2	REPORT STUDIO	REPORT STUDIO AUTHORIZING BEGINNING AND INTERMEDIATE	FEB - FEB 25 26	→
COGNOS	10.2	REPORT STUDIO	REPORT STUDIO AUTHORIZING ADVANCED	FEB 27	→

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- System Administration
- Active Reports Authoring
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Special Offer: \$100 off Training

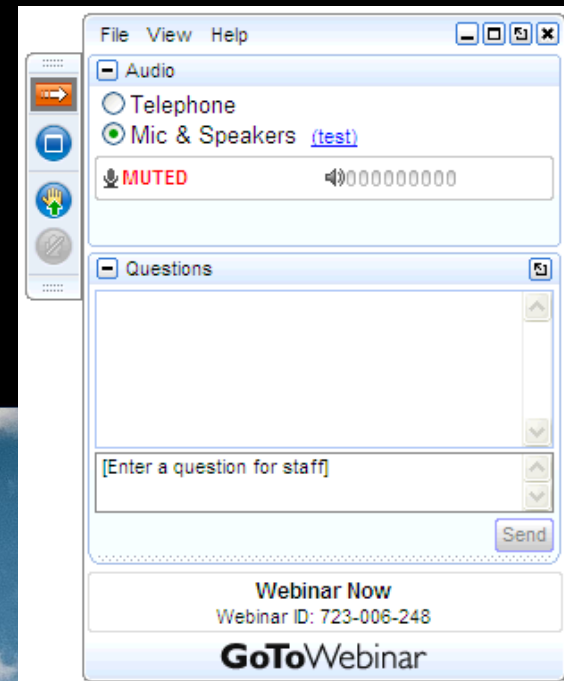
Framework Manager Metadata Modeling Best Practices

June 23-25 or August 25-27

Coupon code: frameworkmanager100



Q & A





Thank You

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