

IBMCog001 : IBM Cognos Build Data Marts, Reports and Dashboards

Course Description:

This course is designed to prepare professional real world cognos reports. Teaches participants how to move, merge, consolidate, and transform data from a range of data sources to build and maintain subject-area data marts. In the process, students will create a catalog and add connections to data sources and targets. They will also deliver fact and dimension data to a data mart through the use of builds and the dimensional framework. In addition, students will learn how to automate common functionality and handle complex data issues, such as unbalanced hierarchical structures. It is designed for professional report authors to learn fundamental and advanced report building techniques using relational data models, and methods of enhancing, customizing, and managing professional reports. Attendees will participate in hands-on demos and workshops that illustrate key concepts while learning how to use the product

Course Duration: 30 hours.

Take Away: Student Guide, Lab Guide.

Class Delivery: On-Line (Interactive Web Based)

Getting Started

- Identify the purpose of IBM Cognos Data Manager
- Define data warehousing and its key underlying concepts
- Identify how Data Manager creates data warehouses
- Examine the Data Manager architecture and user interface

Create a Catalog

- Examine the purpose and contents of Data Manager catalogs
- Create a catalog
- Define connections to source and target data
- Access data using SQLTerm
- Configure flat data source files using SQLTXT

Create Hierarchies

- Examine the role of the dimensional framework in Data Manager
- Examine hierarchies and their data sources
- Identify how to create hierarchies from the columns of one table, the rows of one table, and from multiple tables
- Test and view hierarchies
- Create a hierarchy of static date values
- Handle weeks in a date hierarchy

Create Derivations

- Examine derivations
- Apply operators and functions to derivations
- Examine the derivation timing model
- Add derivations to a fact build

Create Conformed Dimensions

- Examine conformed dimensions and their advantages
- Design conformed dimensions
- Create conformed dimensions
- Create data integrity lookups that use conformed dimensions

Customize Reference Structures

- Create hierarchies manually using different approaches
- Examine the features of a hierarchy
- Examine literals
- Set data access for hierarchy levels
- Examine static and dynamic members

- Examine fostering

Process Dimensional History and Late Arriving Facts

- Examine slowly changing dimensions (SCDs)
- Use surrogate keys in SCDs
- Manage type 1 and type 2 changes to dimensional data
- Load historical data for a dimension
- Examine late arriving facts
- Process late arriving facts in a fact build

Transform Data Using Lookups and Derived Dimensions

- Identify when to use lookups
- Identify the requirements for a lookup
- Create a translation lookup
- Create an optional lookup
- Add derived dimensions to fact builds

Customize Data Delivery

- Configure fact and dimension delivery modules
- Create indexes on fact and dimension tables
- Update fact data using keys

Customize Fact Data Processing

- Filter fact data
- Merge duplicate fact data
- Examine fact data integrity checking
- Reject fact data

Aggregate, Filter, and Partition Fact Data

- Aggregate fact data
- Examine aggregate rules
- Vertically restrict fact data
- Horizontally restrict fact data
- Partition fact data

Implement Job Control

- Examine where job control fits into the data warehouse lifecycle
- Create a JobStream
- Add, link, and reposition nodes
- Execute a JobStream and view the results

Automate Functionality Using Commands

- Differentiate between the Command Line Interface (CLI) and Data Manager Designer
- Identify common commands
- Use commands in a batch file
- Examine variables

Customize Functionality with User-Defined Functions and Variables

- Examine user defined functions (UDFs)
- Create an internal UDF
- Create a user-defined variable

Process Unbalanced Hierarchical Data

- Examine balanced, unbalanced, and ragged hierarchies
- Add a recursive level to a hierarchy
- Identify ways to balance a hierarchy and delivered flattened data
- Examine circular references

Pivot Fact Data

- Examine pivoting
- Use the single pivot technique
- Use the advanced pivot technique

Resolve Data Quality Issues

- Identify data quality and cleansing issues
- Handle fostered and unmatched members
- Perform debugging using SQLTerm and functions
- Assess the quality of output data

Organize and Package Data Manager Components

- Export and import components using packages

- Search for components in a catalog using Navigator

Create List Reports

- Format, group, and sort list reports
- Describe options for aggregating data
- Create a multi-fact query
- Create a report with repeated data

Focus Reports Using Filters

- Create filters to narrow the focus of reports
- Examine detail and summary filters
- Determine when to apply filters on aggregate data

Create Crosstab Reports

- Format and sort crosstab reports
- Convert a list to a crosstab
- Create crosstabs using unrelated data items
- Create complex crosstabs using drag and drop functionality

Present Data Graphically

- Create charts containing peer and nested items
- Add context to charts
- Present key data in a single dashboard report

Focus Reports Using Prompts

- Identify various prompt types
- Use parameters and prompts to focus data
- Customize prompts to facilitate users' choices
- Display users' prompt selections in the report

Extend Reports Using Calculations

- Create calculations based on data in the data source
- Add run-time information to the reports
- Create expressions using functions

Present Data Using Maps

- Present data using map reports
- Navigate to another level within a map

Customize Reports with Conditional Formatting

- Create multi-lingual reports
- Highlight exceptional data
- Conditionally render objects in reports

Drill-through Definitions

- Enable users to navigate to related data in IBM Cognos BI
- Parameter-driven drill through vs. dynamic drill through
- Steps to enable drill-through access for a package
- Limit the items that users can drill through from (set scope)

Create Query Reports Based on Relationships

- Create reports by merging query results
- Create reports by joining queries
- Combine data containers based on relationships from different queries

Design Effective Prompts

- Control report displays using prompts
- Specify conditional formatting values using prompts
- Specify conditional rendering of objects based on prompt selection
- Create sorted and filtered reports based on prompt selection

Create Additional Advanced Reports

- Create a report that displays summarized data before detailed data
- Highlight alternate rows in a list report
- Create a report using an external data file
- Use single data items to summarize report information

Enhance User Interaction with HTML

- Create tooltips that clarify report data
- Send emails using links in a report

End-to-End Workshop (Optional)