

## Series 7 Decision Stream for Data Warehouse Developers

Series 7 Version 2 DecisionStream for Data Warehouse Developers is a five-day, instructor-led course designed for enterprise data mart builders. It will teach users how to move, merge, consolidate, and transform data from a range of data sources to build and maintain subject-area data marts. DecisionStream data mart targets include all the major relational databases and are typically designed to create best practices dimensional data mart solutions (star schema). Specifically, the course deals with the Dimensional Framework, builds, and templates. The Dimensional Framework is a repository for reference structures (dimensions, hierarchies, lookups, and dimension templates) that promotes the reuse of these structures. Builds are units of work that progress through the steps of data acquisition, transformation, and delivery. Templates are objects that define source and target attributes for dimension data.

### Overview

- **Dimensional modeling using DecisionStream**
- **Template development and the Dimensional Framework**
- **Dimension build creation and delivery**
- **Fact build creation and delivery**
- **JobStreams and the data mart development lifecycle**

### Getting Started

- Look at Cognos' approach to data warehousing and the role of DecisionStream in that approach
- Discuss Conformed Dimensions
- Discuss DecisionStream Architecture
- Examine the Interface Elements

### Creating a Catalog

- Discuss the purpose and contents of DecisionStream catalogs
- Create a catalog
- Define connections to source and target data
- Perform basic administration for a catalog
- Use SQLTerm to view data
- Use SQLTXT to configure flat data source files

### Creating Hierarchies

- Discuss the role of the dimensional framework in DecisionStream
- Create hierarchies from three common data structures by using the Hierarchy wizard
- Test a hierarchy
- Use the Date Hierarchy wizard
- Handle weeks in a date hierarchy

### Create Basic Builds

- Discuss DecisionStream builds and build-related terminology
- Create a basic dimension build by using the Dimension Build wizard
- Create a basic fact build by using the Fact Build wizard
- Test and execute a fact build use Cognos PowerPlay to view the contents of a data mart
- Create catalog schema
- Document a catalog

### Conformed Dimensions

- Define conformed dimensions
- Understand how conformed dimensions are used to perform data integrity checking

### Derivations

- Create derivations
- Apply operators and functions to derivations
- Apply derivations in fact builds
- Apply derivations in dimension builds
- Test derivations

### Templates, Lookups and Attributes

- Create a basic template and add attributes
- Create a dimension build that uses a template
- Use a template for dimensional data access
- Discuss lookups and when they should be used
- Reference a lookup in a fact build
- Discuss translation lookups



## Fact Builds

- Discuss conformed facts
- Create a fact build manually
- Add dimensions, measures, and attributes to a fact build

## History Preservation

- Discuss slowly changing dimensions
- Generate and assign surrogate keys
- Use template to manage dimensional changes

## Hierarchical Dimensions

- Use multiple data sources to populate a hierarchy
- Use derivations in hierarchies
- Review Type 1 and Type 2 updates
- Use effective date attributes to enable dimension history

## Facts In Depth Merging

- Understand how DecisionStream acquires data
- Handle duplicate data
- Merge data
- Reject data

## User Defined Functions and Variables

- Identify the significance of user-defined functions
- Work with internal UDFs
- Work with external UDFs

## JobStreams

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

## Facts and History Preservation

- Review Type 2 slowly changing dimensions
- Discuss late arriving facts

- Create a lookup for late arriving facts
- Implement late arriving facts in a fact build

## Aggregation

- Use aggregation functions
- Discuss aggregation exceptions
- Look at considerations when using aggregate tables

## Pivoting

- Discuss pivoting
- Use the single pivot technique
- Use the multi-pivot technique

## Ragged Hierarchies

- Use auto-level hierarchies
- Describe circular references
- Create a ragged hierarchy

## Packaging and Navigator

- Use packages to export components
- Use packages to import components
- Use the Navigator to search for components in a catalog
- Use the Navigator to locate component dependencies

## Resolving Data Quality Issues

- Discuss data quality and cleansing issues
- Handle fostered and unmatched members
- Perform debugging using SQLTerm and functions
- Assess the quality of output data
- Designed an optional lookup

## Troubleshooting and Tuning

- Use build logging to ensure that data marts are being loaded properly perform dimension breaking
- Manage memory and resources
- Export DDL statements



### Delivery In-Depth

- Configure fact, dimension, and metadata delivery modules
- Apply vertical partitioning by subscribing to the elements
- Create indexes on fact and dimension tables
- Update fact data using keys

### The Command Line Interface

- Differentiate between the Command Line Interface (CLI) and DecisionStream Designer
- Use the most common CLI commands
- Execute builds and JobStreams from the command line

### Intended Audience and Prerequisites

This course is intended for developers who are planning a data warehouse or have a data warehousing background. It is designed for the more experienced systems professional involved in the provision of MIS solutions. Typically, this audience includes BI project consultants, project analysts, project leaders, and database administrators.

Participants of this class should have

- Knowledge of Windows 98/ME/2000/XP
- Knowledge of database concepts
- Knowledge of dimensional analysis concepts
- Working knowledge of SQL

