

## MicroStrategy Engine Essentials Training

### Course Summary

#### Description

This course explores the logic and behavior of the MicroStrategy engine. Students learn how the engine generates Structured Query Language (SQL) for a variety of reporting scenarios. After an overview of the MicroStrategy engine architecture, students focus on the SQL generated by the MicroStrategy engine for common reporting requirements such as advanced metrics, set qualification filters, and analytical engine features.

Students also explore ways to tune and optimize the MicroStrategy engine through the use of VLDB (Very Large Database) properties. Students learn what VLDB properties are and how they can be defined at different levels of a MicroStrategy project. Students review the most commonly used VLDB properties in certain categories, such as indexing, joins, pre/post statements, query optimizations, and tables.

Throughout the course, students gain hands-on practice via a series of exercises.

#### Topics

- Introduction to the MicroStrategy engine
- Basic optimizations
- Templates
- Metrics
- Filters
- The analytical engine
- Introduction to VLDB properties
- VLDB Properties

#### Audience

This course is for those wanting understand the logic and behavior of the MicroStrategy engine.

#### Prerequisites

There are no prerequisites for this course.

#### Duration

Two days

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### Course Outline

- I. Introduction to the MicroStrategy engine**
  - A. The MicroStrategy engine at a glance
  - B. SQL generation process
- II. Basic optimizations**
  - A. Multipass SQL
  - B. Composing optimized SQL
  - C. Intermediate tables
- III. Templates**
  - A. Attributes
  - B. Hierarchies
  - C. Consolidations
  - D. Custom groups
  - E. Custom group banding
- IV. Metrics**
  - A. Level metrics
  - B. Order of resolution: hierarchies in metrics
  - C. Nonaggregatable metrics
  - D. Conditional metrics
  - E. Transformation metrics
  - F. Nested metrics
  - G. Metric join types
- V. Filters**
  - A. Attribute qualification
  - B. Set qualification
- VI. The analytical engine**
  - A. Report limits
  - B. Subtotals
  - C. Compound metrics
  - D. Evaluation order
  - E. Analytical functions
- VII. Introduction to VLDB properties**
  - A. VLDB properties defined
  - B. The VLDB properties editor
- VIII. VLDB Properties**
  - A. Governing VLDB properties
  - B. Indexing VLDB properties
  - C. Joins VLDB properties
  - D. Pre/Post statements VLDB properties
  - E. Query optimizations VLDB properties
  - F. Select/insert VLDB properties
  - G. Tables VLDB properties
  - H. Dynamic sourcing VLDB properties