

## MicroStrategy Engine Essentials

### Overview:

This two-day course explores the logic and behavior of the MicroStrategy Engine. Students learn how the MicroStrategy Engine generates Structured Query Language (SQL) for a variety of reporting scenarios. The course begins with an overview of the MicroStrategy Engine architecture. Next, students study the basic optimizations that the MicroStrategy Engine uses within each SQL clause. The majority of the course focuses on studying 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 techniques for tuning and optimizing 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 study 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 through a series of exercises.

### MicroStrategy Products Covered:

- MicroStrategy Desktop
- MicroStrategy OLAP Services

### Cost:

- US\$1,300 per person, or 2 LUs

### Number of Days:

- 2 days

### Who Should Attend:

- Report Developers
- Anyone who has an interest in learning how to use VLDB properties to tune the MicroStrategy Engine for optimal performance

### Prerequisites:

- MicroStrategy Desktop: Advanced Reporting course

### Topics:

- Introduction to the MicroStrategy Engine
  - The MicroStrategy Engine at a Glance
  - SQL Generation Process
- Basic Optimizations
  - Multipass SQL
  - Composing Optimized SQL
  - Intermediate Tables
- Templates
  - Attributes
  - Hierarchies
  - Consolidations
  - Custom Groups
  - Custom Group Banding
- Metrics
  - Level Metrics
  - Order of Resolution: Hierarchies in Metrics
  - Nonaggregatable Metrics
  - Conditional Metrics
  - Transformation Metrics
  - Nested Metrics
  - Metric Join Types
- Filters
  - Attribute Qualification
  - Set Qualification
- The Analytical Engine
  - Report Limits
  - Subtotals
  - Compound Metrics
  - Evaluation Order
  - Analytical Functions
- Introduction to VLDB Properties
  - Governing VLDB Properties
  - Indexing VLDB Properties
  - Joins VLDB Properties
  - Pre/Post Statements VLDB Properties
  - Query Optimizations VLDB Properties
  - Tables VLDB Properties