

# Sybase Adaptive Server Enterprise (5 Days) CTI 203

*This course is designed to develop query skills necessary to effectively interact with Adaptive Server Enterprise 12.5. Participants will learn ANSI SQL and utilize Transact-SQL extensions to create stored procedures, triggers and cursors. Key features of SQL are also covered. Exercises and lab sessions reinforce the learning objectives and provide participants the opportunity to gain practical hands-on experience.*

*Required Prerequisites: Familiarity with Relational Database Management Systems (RDBMS) concepts, proficiency in standard SQL.*

*Minimum hardware requirements (per student): 500 MHz Pentiums (or comparable), OR Sun Solaris workstations with 512 MB RAM and 2 GB free hard disk space. Internet access.*

*Software requirements: Sybase ASE 12.5 or later. Sun's Java Development Kit (JDK) 1.2 or later. Windows NT or later, or Solaris 2.8. or later.*

*Microsoft PowerPoint and Internet access on Instructor's workstation for presentation purposes.*

## **Module 1: Relational Database Concepts**

- Life Cycle Development Phases
- Sybase ASE 12.5 Architecture and Structure
- Theoretical, Conceptual and Physical Aspects of a Relational Database
- Sybase ASE Implementation of a Relational Database Management System (RDBMS)
- How SQL is Used in the Sybase Product Set
- Developing and Writing SQL Commands
- Creating Reports and Commands
- Querying Database
- Managing and Grouping Data

## **Module 2: Adaptive Server Client**

- Selection Capabilities
- Using the Client to Create Simple Commands
- Using the Client to Create and Format Simple Reports
- Improving Readability of Output
- Queries and Input Variables
- Script Files

## **Module 3: Advantage SQL**

- Using the Client to Create Tables and Columns
- Using the Client to Insert Rows of Data
- Using the Client to Develop Subqueries to Answer Complex Questions
- Using the Client to Join Tables to Form and Process Virtual Tables
- Using the Client to Define Objects and Abstract Data Types

## **Module 4: Tables and Indexes**

- Creating Tables
- Sybase Data Types
- Altering Table Definitions
- Dropping, Renaming and Truncating Tables
- Constructing and Building Indexes
- Rebuilding Index Structures
- Modifying and Querying Tables
- Inserting Rows into a Table
- Updating Rows in a Table
- Deleting Rows from a Table

## **Module 5: Optimize Queries**

- Specialized Subqueries
- Describing Subqueries
- Listing Types of Subqueries
- Using Correlated Subqueries
- Using MultiColumn Subqueries
- Subqueries and Null values
- Subqueries in the FROM clause

## **Module 6: Temporary and System Tables**

- Contents of Temporary Tables
- How Temporary Tables are Used
- Contents of System Tables
- Locating and Viewing Information in System Tables
- How System Tables are Used

## **Module 7: Constraints and Data Integrity**

- Overview of Referential Integrity
- How Constraints Help Maintain Referential Integrity
- Primary Key vs. Foreign Key Constraints
- Not Null Constraint
- Range-Checking Constraints
- Creating and Maintaining Constraints

## **Module 8: Functions, Variables, and Flow Control**

- Available Functions
- Character, Number and Date Functions
- Conversion Functions – What they Are and How They Are Used
- Using Control Statements
- Using Built-in Functions to Manipulate Information

## **Module 9: Transactions and Locking**

- Controlling Transactions
- Transaction Processing
- Read Consistency
- Implicit Locking Constraints

## **Module 10: Stored Procedures and Triggers**

- Overview of Stored Procedures
- Creating Stored Procedures
- Invoking Stored Procedures from Transact-SQL Statements
- Stored Procedures that Use Parameters
- Locating and viewing Stored Procedures in the Database
- Overview of Triggers
- Creating and Using Triggers
- Locating and Viewing Triggers in the Database

## **Module 11: Cursors**

- Overview of Cursors
- Creating Cursors
- Using Cursors in Transact-SQL Statements
- Iterating over Cursors

## **Module 12: Review and Summary**