SAP - Performance and Tuning: Adaptive Server Enterprise 16.0
Query Optimization

Skills Gained

- Explain optimization tools and their use
- Discuss the steps involved in executing code from input to return of result set
- Use code to pass hints to the Optimizer
- Perform tasks to evaluate the behavior of the optimizer
- Implement the most efficient data-change and data-retrieval T-SQL code in your queries and stored procedures
- Force optimization steps on the Optimizer

Who Can Benefit

- Developer
- Developer Consultant

Prerequisites

- Essential:
  - EDB116 or equivalent knowledge
- Recommended:
  - None

Course Details

Course Content

- Principles of Performance and Tuning
  - Defining Performance and Tuning Terms
- Defining Tuning Methodology
- Query Processing and Execution
  - Identifying the Client and Server Relationship
  - Defining the Query Scheduling Process
  - Defining the Optimization Process
- The Tuning Toolbox
  - Using Diagnostic Tools for Tuning
  - Using Non-Session Tools for Tuning
  - Using Syntax Commands for Tuning
- Table Structures
  - Identifying Table Structures
  - Partitioning Tables
- Index Structures
  - Designing an Index
  - Creating Function-Based Indexes
  - Defining an Index Partitioning Strategy
- Optimizer Statistics
  - Creating Optimizer Statistics
  - Examining Optimizer Statistics
  - Managing Optimizer Statistics
  - Tuning Statistic Maintenance
- Query Optimization
  - Identifying the Phases of the Optimization Process
  - Controlling the Optimizer
  - Determining Compatibility Issues
- Access Method Optimization
  - Optimizing Access Methods
  - Determining Query Strategies
  - Estimating the Costs of Queries
- Joins
  - Analyzing Joins
  - Tuning Joins
- Parallelism
  - Examining Parallel Query Plans
  - Configuring Parallelism
  - Examining Runtime Adjustments
  - Troubleshooting Parallelism Issues
- Additional Optimization Techniques
  - Using Optimization Techniques
  - Defining Optimization Components
- Optimizing Operators
- Using Aggregate Processing

- Data Modifications
  - Inserting Tables
  - Deleting Tables
  - Updating Tables and Indexes

- Stored Procedure Optimization
  - Optimizing Stored Procedures
  - Troubleshooting Stored Procedure Issues
  - Costing Temporary Tables in Stored Procedures
  - Tuning Stored Procedures

- Optimizer Statistics Tuning
  - Tuning Column Statistics
  - Creating Simulated Statistics

- Abstract Plans
  - Defining Abstract Plans
  - Creating Abstract Plans
  - Tuning Abstract Plans

- Performance Monitoring
  - Forcing the Optimizer
  - Monitoring Query Plan Performance

Notes
- The course material is available in English only
- This course prepares you for the Development Consultant Certification exam

Course based on software release
- SAP ASE 16.0