

## Introduction to the Teradata Database Training

### Course Outline

#### **Module 0 – Introduction**

- Course Objectives
- Course Description
- Course Outline

#### **Module 1 - Teradata Database Overview**

- What is the Teradata Database?
- Teradata Parallel Architecture
- Relational Database Advantages
- Teradata Database Manageability
- Teradata Database Features
- Review Questions

#### **Module 2 - Relational Database Concepts**

- What is a Database?
- Logical/Relational Modeling
- Relational Databases
- Normalized Data Model vs. Star Schema Model
- Primary Keys
- Foreign Keys
- Answering Questions with a Relational Database
- Relational Advantages
- Review Questions

#### **Module 3 - Teradata and the Data Warehouse**

- Evolution of Data Processing
- Row vs. Set Processing
- Response Time vs. Throughput
- The Advantage of Using Detail Data
- Data Warehouse Usage Evolution
- Active Enterprise Intelligence
- Active Data Warehousing
- The Data Warehouse
- Data Marts
- Review Questions

## **Module 4 - Components and Architecture**

- Major Components of the Teradata Database
- The Parsing Engine (PE)
- The BYNET
- The Access Module Processor (AMP)
- What is a Node?
- Teradata Virtual Storage
- Teradata Virtual Storage Concepts
- Storage Performance vs. Data Temperature
- Teradata with Hybrid Storage
- Multi-Temperature Data Example
- Teradata Compression Comparison
- Layers of the Data Warehouse Architecture
- Linear Growth and Expandability
- Review Questions

## **Module 5 - Databases and Users**

- Databases and Users Defined
- Teradata Database Objects
- Teradata Database Space
- Space Management
- Database Security
- Review Questions

## **Module 6 - Data Distribution and Access**

- How Does the Teradata Database Distribute Rows?
- Primary Key (PK) vs. Primary Index (PI)
- Primary Indexes
- Defining the Primary Index
- Row Distribution via Hashing
- UPI Row Distribution
- Unique Primary Index (UPI) Access
- NUPI Row Distribution
- Non-Unique Primary Index (NUPI) Access
- Highly Non-Unique NUPI Row Distribution
- Partitioned Primary Index (PPI)
- Multi-Level Partitioned Primary Index (MLPPI)
- What is a NoPI Table?
- Teradata Columnar

- Teradata Columnar Benefits
- Review Questions

### **Module 7 - Secondary Indexes and Full Table Scans**

- Secondary Indexes
- Defining a Secondary Index
- Join Indexes
- Other Types of Secondary Indexes
- Primary Index vs. Secondary Index
- Full-Table Scans
- Review Questions

### **Module 8 - Fault Tolerance and Data Protection**

- Locks
- Transient Journal
- Fallback
- Down AMP Recovery Journal
- RAID Protection
- Cliques
- Hot Standby Nodes (HSN)
- Archiving and Recovering Data
- Review Questions

### **Module 9 - Client Tools and Utilities**

- Teradata Tools and Utilities Overview
- Query Tools
  - BTEQ
  - Teradata SQL Assistant
  - Teradata Studio
- Load and Unload Utilities
  - FastLoad Utility
  - MultiLoad Utility
  - FastExport Utility
  - TPump Utility
- Teradata Parallel Transporter
- Teradata Parallel Transporter Operators
- System Management Components
- Workload Management Overview
- Workload Management Components

- Workload Management Architecture
- Viewpoint Workload Management Portlets Overview
- What is Teradata Viewpoint?
- Viewpoint Data Collection Service
- Viewpoint Architecture
- Viewpoint Portal and Portlets
- Teradata Workload Analyzer
- Teradata Unity
- Teradata Multi-Systems Manager (TMSM)
- Management and Monitoring Architecture
- Teradata Data Mover
- Analyst Tools
  - Teradata Visual Explain
  - Teradata System Emulation Tool
- Review Questions