

DB2 UDB[®] for Overview

Course No.

1091

Description

This course provides a comprehensive introduction to the concepts and components of DB2 UDB[®]. It outlines the many features of DB2 UDB[®] as they relate to the Z/OS and OS/390 environment.

Audience

This course is recommended for Application Developers, Analysts and Technical Support Personnel who will be working directly with DB2 UDB[®] for Z/OS or OS/390, and for non-technical and management personnel that need awareness of tool capabilities.

Prerequisites

Participants are required to have general working knowledge of data processing. While not required, previous database experience with Network or Hierarchical databases is beneficial. Any previous experience with relational databases would be beneficial as well, but is not required.

Objectives

- Understand relational concepts as they relate to Z/OS and OS/390
- Understand the basic structure of SQL statements: DDL, DML, DCL
- Understand Scalar Functions, Column Functions
- Study search arguments in the WHERE clause:
- Review embedded SQL in COBOL or PL/I programs
- Discuss a host variable
- Discuss the precompile, compile, link and bind procedures
- Understand a stored procedure
- Become familiar with catalog statistics, RUNSTATS and EXPLAIN output
- Become familiar with locking and other DB2 UDB[®] factors which affect performance
- Investigate other DB2 UDB[®] capabilities including Dynamic SQL, Call Attachment Facility and QMF
- Become familiar with Large Objects which are used to support Audio Visual Data
- Discuss DBA topics including Partitioned Tablespaces
- Become familiar with Sysplex Technology and Data Sharing

Major Topics

- SQL Overview
- Database from a DBA's point of view
- DB2 UDB[®] Application Program Construction
- Preparing DB2 UDB[®] Programs
- Expanding Your DB2 UDB[®] Horizons
- DB2 UDB[®] Locking and Performance

Duration

1 day



Course Contents

1. DB2 UDB® Overview

- What DB2 UDB® Is
- How DB2 Interfaces with Applications
- Components of a DB2 UDB® Database
- DB2 UDB® “World” Example
- String Data Types
- Binary Data Types
- Numeric Data Types
- Date/Time Data Types
- Attribute Qualifiers
- Check Constraints
- Relationships
- A View
- Views
- ‘Special’ Data Types
- Table/View Names
- Synonyms and Aliases
- A DB2 UDB® Subsystem

2. SQL Overview

- SQL, Syntax Rules
- DDL, DCL, DML
- Static
- SQL
- Terminology
- SELECT Clauses
- SQL SELECT Clause
- Selecting All Rows and Columns

3. SQL WHERE Clause

- WHERE Clause
- Examples of Simple Predicates
- Compound Predicates with AND and OR
- Three Value Logic
- Null Values
- Ranges, with Between
- Lists, with IN
- Using and Expression in the IN Clause
- String Matching, with Like

4. DB2 from DBA’s Perspective

- Creating DB2 UDB® Objects
- Tablespace Types
- DB2’s Unit of I/O – The Page
- Index
- DB2’s Index Structure

5. DB2 Application Programs

- DCLGEN

- Single-Row COBOL
- PL/I
- SELECT in a C Program
- Variables in Programs
- Numeric Variables
- Coding Rules and Conventions
- SQLCA
- WHENEVER
- Handling Null Values
- INSERT Example – COBOL
- INSERT Example PL/I
- Inserting Variable – Length Columns
- UPDATE Examples
- DELETE Examples
- Inserting Null Columns
- Rows Affected

6. Preparing DB2 UDB® Programs

- Program Preparation
- Using Plan, Packages & Collections
- Bind and Rebind
- Deleting Unused Plans and
- Packages
- Bind Options
- Anomalies
- Consistency Token
- Versions of Packages
- Summary of Key Precompiler Options

7. Expanding Your DB2™ Horizons

- BLOBS
- CLOBS
- DBCLOBS
- LOB Locators
- Using LOBs in A Program
- LOB Functions
- Other Large Object Facts
- Stored Procedures
- V6 Enhancements to Stored Procedures
- Dynamic SQL in Programs
- Data Sharing

8. DB2 UDB® Locking and Performance

- Locking
- SQL Performance Factors
- Access Paths and EXPLAIN
- Catalog Tables Updated by RUNSTATS
- Access Paths and EXPLAIN

