

Chapter 1: Fundamentals of DB2

You will learn:

- History of DB2.
- Benefits and use of DB2.
- DB2 environment and subsystems.
- Relationship between DB2 and other systems: TSO, CICS, IMS.
- Products that work with DB2.
- Role and purpose of SQL: Structured Query Language.
- Java Database Connectivity and Embedded SQL for Java programs.
- Role and purpose of tables and base tables.
- DB2 objects: views, aliases, and indexes.
- DB2 UDB clients.
- Privileges.

Chapter 2: Structured Query Language

You will learn:

- Code and test SQL with SPUFI.
- Prepare programs to be precompiled, compiled (assembled) and linked.
- Structure and features of DB2I.
- SQLCA record and its usage.

Chapter 3: Retrieval and Update Operations

You will learn:

- How to search for rows.
- How to perform calculations in an SQL statement.
- The basic functions provided by DB2.
- How to perform character manipulation on the SQL statement.
- How to summarize the result table.
- How to sort the result table.
- Advanced techniques for selecting data.
- Coding union and subqueries.
- Inserting single and multiple rows into a table.
- Delete single or multiple rows from a table.
- Update single or multiple rows in a table.

Chapter 4: SQL Functions

You will learn:

- Numerical, character, and date functions.
- How to differentiate between similar functions.
- How to code with column and scalar functions.
- How to check for nulls in functions.
- String manipulation within the column list or the predicates.
- Coding nested functions.

Chapter 5: Table and View Design

You will learn:

- SQL statements for creating a table.
- Column data types and their usage.
- Information needed for table design.
- Performance issues related to table design.
- Internal structure of a table.
- How to create an index and its related options.

Chapter 6: Embedded Retrieval and Update Operations

You will learn:

- The SELECT statement and its clauses.
- How to use host variables within a host language.
- Cursor manipulation with a program.
- How to perform character manipulation on the SQL statement.
- How to incorporate the INSERT into a COBOL / ALC program.
- How to embed the DELETE onto a COBOL / ALC program.
- How to embed the updates onto a COBOL / ALC program.

Chapter 7: DB2 Architecture

You will learn:

- Physical format of a DB2 page.
- The relationship between the index and the data.
- Different types of indexes.

Chapter 8: Locking

You will learn:

- What resources can be locked.
- The scope, duration, and lifetime of a lock.
- How to influence the lock size and duration.
- Types of locks.

Chapter 9: Performance

You will learn:

- How to extract performance information from the DB2 catalog.
- Access strategies used by DB2 and how the programmer can influence the selection process.
- Performance considerations associated with the various types of indexes.

Chapter 10: EXPLAIN Command

You will learn:

- How to create the PLAN_TABLE used by the EXPLAIN.
- Use the EXPLAIN statement to determine the characteristics of an SQL statement before and after it is executed.
- Significant information provided by the EXPLAIN.

Chapter 11: Query Management Facility

You will learn:

- How to run QMF to display reports from SQL statements.
- Commands for running, saving, and manipulating QMF objects.
- How to use QBE for extracting data.