

**Chapter 1: Introduction**

You will learn:

- Traditional file organization versus database organization.
- Components of IMS-DL/I: DBD: Database Descriptor Block, PSB: Program Specification Block, PCB: Program Communication Block, ACB: Application Control Block.
- DL/I concepts.
- Application view.

**Chapter 2: IMS-DLI Structure**

You will learn:

- Database hierarchy.
- DL/I Database segments.
- DL/I Database records.
- Parent and child segments.
- Twins and siblings.
- Segment limits and sensitivity.
- Processing options.
- Key (sequence) field.
- Search field.
- DBDGEN process.
- PSBGEN process.

**Chapter 3: Program Structure and Interface to IMS**

You will learn:

- Program structure and interface to IMS/VS.
- Application Program Interface with DL/I.
- PCB mask.
- Calls to DL/I.
- Segment Search Arguments: Unqualified and qualified.
- Segment Search Argument command codes.
- Status codes returned after database calls.
- DL/I COBOL program structure.
- Execution JCL.

**Chapter 4: Database Retrieval Calls**

You will learn:

- Retrieving segments from a DL/I database.
- The GET-UNIQUE (GUbb) call.
- The GET-HOLD-UNIQUE (GHUb) call.
- Status codes returned after a GET-UNIQUE Call
- GET-NEXT (GNbb) calls.
- GET-NEXT (GNbb) call.
- GET-HOLD-NEXT (GHNb) call.
- Status Codes Returned After GNbb or GHNb call.
- GET-NEXT-WITHIN-PARENT (GNP) calls.
- GET-NEXT-WITHIN-PARENT (GNP) call.
- GET-HOLD-NEXT-PARENT (GHNP) call.
- Status codes returned after a GNPb call.
- Processing options for retrieval calls.
- Position after retrieval calls.
- PCB MASK value after a successful retrieval call.
- PCB MASK value after an unsuccessful retrieval call.

**Chapter 5: Database Update Calls**

You will learn:

- The DELETE (DLET) call.
- Status code returned after a DLET CALL.
- GET-HOLD-UNIQUE delete sequence.
- Position after a Delete call.
- REPLACE (REPL) call.
- Status codes returned after REPLACE call.
- Position after a Replace call.
- GET-HOLD-UNIQUE Replace sequence.
- INSERT (ISRT) call.
- Status codes returned after an INSERT call.
- Processing options for INSERT Call for the Load.
- Loading the database.
- Single and multiple step load.

**Chapter 6: Advanced Techniques**

You will learn:

- Command codes.
- Retrieving a path.
- Replacing after a path call.
- Deleting after a path call.
- Inserting a path.
- Boolean operators.
- Multiple positioning.

**Chapter 7: Characteristics of a DL/I Database.**

You will learn:

- Characteristics of a DL/I database.
- Database access methods.
- HSAM.
- SHSAM.
- HISAM.
- SHISAM.
- GSAM.
- HDAM.
- Pointers - HDAM.
- Physical structure - HDAM.
- DL/I database reorganization utilities.

**Chapter 8: Logical Relationships and Searching**

You will learn:

- Logical relationships.
- Secondary indexes.
- Secondary index segments.
- Secondary index for processing.
- Processing a database with secondary indexing.

**Chapter 9: System Service Calls**

You will learn:

- System service calls.
- CHKP/CHECKPOINT.
- Symbolic/extended CHKP CALL format.
- XRST/RESTART.
- XRST CALL format.
- The DL/I log.
- Log CALL format.
- STAT (STATISTICS).
- Statistic types.

**Chapter 10: DL/I Debugging Aids**

You will learn:

- DFSDDLTO - DL/I test program.
- Status statement format.
- Comment statement format.
- Call statement format.
- PCB Compare statement format.
- User I/O area compare statement format.
- DL/I trace.
- Trace control statement format.