IMS Basic Programming Techniques

Course Summary

Description

Students will gain an understanding of the hierarchical concepts of IMS; the IMS database structures and their impact on programs; the process of defining database structures; database access and update methods; methods of validating database access and updates; and, commonly used command codes.

Objectives

At the completion of this course, the student will be able to:

- Understand the basic IMS components (DBD and PSB)
- Be able to code batch IMS programs the read, insert, update and delete IMS databases
- Code all required programs such as calls, entry, SSAs (qualified and unqualified) and PCBs in the linkage section
- Understand how to work within a hierarchical structure
- Understand and utilize command codes including path calls

Topics

- Database Definition
- Program Specification Block
- CALL Statement and its Parameters
- Linkage Section of a COBOL Program
- RETRIEVE Functions (GU, GN, GNP)
- UPDATE Functions (ISRT, REPL, DLET)

Audience

Programmers responsible for writing application programs which will access IMS databases.

Prerequisites

Experience with a high level programming language such as COBOL, PL/1 or C. Experience with TSO/ISPF. Experience with program compilation procedures.

Duration

Three – five days (more intensive labs in longer format)

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Course Outline

I. Introduction to IMS Concepts
- A. File structures
- B. Hierarchial concepts
  1. SEGMENT
  2. FIELD
  3. Sequence field
  4. Search key
  5. Parent
  6. Child
  7. Root segment
  8. Database record
  9. Twins
  10. Maximums

II. Basic Database Definition
- A. The purpose
- B. Components
- C. DBD statement
- D. DATASET statement
- E. SEGM statement
- F. FIELD statement
- G. Other optional statements
  1. LCHILD statement
  2. XDFLD statement
- H. Other required statements
  1. DBDGEN statement
  2. FINISH statement
  3. END statement

III. Program Specific Block
- A. The purpose
- B. Application views
- C. Control statements
- D. PCB statement

III. Program Specific Block
- E. SENSEG statement
- F. SENFLD statement
- G. PSBGEN statement

IV. Program Components
- A. IMS and the program
- B. IMS interface
- C. Program setup overview
- D. Program communication blocks
- E. ENTRY statement
- F. CALL statement

V. Get Calls
- A. GU
- B. GN
- C. GNP

VI. Update Calls
- A. Insert
- B. Replace
- C. Delete

VII. JCL Considerations
- A. Compilation JCL
- B. Execution JCL

VIII. IMS Workshop
- A. IMS workshop
  1. Client
  2. Consultant
  3. Problem
  4. Solution
- B. Procedures
- C. Database description
- D. Useful Copy Book members

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