

Enterprise COBOL: Intermediate

Course Description:

This is the second course of a multi-part series that teaches the basics of Enterprise COBOL application development. It focuses on a variety of programming approaches to sequential I/O and sophisticated report writing and error handling as well as date processing and table processing.

Duration: 5 to 10 days

(Course length depends on the experience and background of the students.)

Participants:

Experienced programmers responsible for developing and maintaining COBOL application programs.

Course Objectives:

As a result of taking this course, you will be able to:

- Make appropriate use of copybooks
- Create new data sets using Transaction Master Logic
- Create complex reports such as multi-level control break reports
- Code tables, indices, subscripts, intrinsic functions, and appropriate compile options
- Search tables using SEARCH, SEARCH ALL and PERFORM

Course Prerequisites:

Students need to have completed the Enterprise COBOL Programming: Introduction course, and have basic experience with z/OS JCL for JES2 or JES3, and TSO/ISPF.

Format:

Lecture and hands-on computer workshops. Throughout the course, students perform many hands-on workshops and coding exercises to reinforce the material presented in lectures.

Topic Outline:

Conditional Processing with EVALUATE

- EVALUATE (object EVALUATE)
- EVALUATE (logical EVALUATE)
- Next Sentence vs. Continue
- Periods

Binary Numbers in COBOL

- USAGE IS COMP
- Data Type comparison
- Big Binary, COMP-5 and TRUNC(BIN)
- Efficient coding of COMP numbers

Structured Programming Logic for Application Programs

- Functional Decomposition
- Structured COBOL Code
- Chaining, Coupling and Cohesion

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Structured Walkthrough

- What is a Structured Walkthrough
- How to Conduct one
- Benefits

Logic for Simple Reports

- Headers, Column Headers and Footers
- Counting Detail lines
- Creating Test Data

Logic for Validation and Error Reports

- Error Reports
- Validating Input Data
- Defensive Programming, I/O counters
- Page # of # Reports

Logic for One-Level Control-Break Reports

- One-Level Control Break Logic
- **Cover Pages and Trailer/Summary Lines**
- Creating Test Data

Advanced Reports and Dates

- Multiple-Level Control Break Logic
- Today's Date – Using ACCEPT
- Pseudo Registers for Dates
- Intrinsic Functions for Dates
- Creating Test Data

Copybooks and Compiler Options for Debugging

- COPY and Other Compiler Directing Statements
- COPYLIB JCL – SYSLIB DD
- COPY xxx REPLACING xxx BY xxx
- EJECT and SKIP
- TEST and SSRANGE compiler options for debugging

Logic for Transaction Master Updates

- Transaction Master Update Logic
- Creating Test Data

One-Dimensional Tables

- Table Processing
- Table Definition, Fixed Length
- Subscripts and Indexes
- Display Index Value
- Initialize a Table
- Loop Through a Table

Enterprise COBOL: Intermediate, *continued*

Searching a Table

- Searching Using PERFORM
- Linear SEARCH
- Binary SEARCH ALL

More Table Processing

- Subscripts
- Indexing Vs. Subscripting
- SSRANGE Debug Option
- Table Efficiencies