

## **VSAM COBOL Programming**

### **Course Summary**

#### **Description**

This course is designed to teach application developers to write COBOL programs to access VSAM files in Key Sequence via primary key and via alternate keys, to access ESDS and (optionally) RRDS VSAM files, and to write and update each type of VSAM file. The course presents the necessary logic for dynamic access and updating of data and contrasts that with sequential file access and update.

#### **Objectives**

At the end of this course, students will be able to:

- Write COBOL programs that access VSAM datasets dynamically and randomly.
- Describe CICS considerations when accessing VSAM datasets. (Optional).
- Write CICS COBOL programs that access VSAM datasets. (Optional).

#### **Topics**

- Highlights of COBOL Programming with VSAM files
- VSAM for COBOL Programmers
- Programming with AIXs
- Performance Considerations
- CICS Considerations

#### **Audience**

This course is designed for application programmers.

#### **Prerequisites**

- Working knowledge of COBOL programming and the IDCAMS utility
- If CICS portion is presented, then a working knowing of CICS programming is also required

#### **Duration**

Two days

## VSAM COBOL Programming

### Course Outline

#### I. Highlights of COBOL Programming with VSAM files

- A. SELECT clauses
- B. FD and 01 code
- C. JCL
- D. File status fields
- E. Procedure Division verbs
- F. Open, Write, Start, Read, Read Next, Rewrite, Delete, Close
- G. Flow of logic
- H. Programming differences between KSDS, ESDS, and RRDS

#### II. VSAM for COBOL Programmers

- A. COBOL View of VSAM
- B. VSAM Comparison
- C. COBOL Code Summary
- D. File-Control Phrases
- E. ASSIGN Clause
- F. Organization Clause
- G. Record Key Clause
- H. Relative Key
- I. Access Mode
- J. File Status
- K. SELECT Examples
- L. JCL
- M. FD in File Section
- N. File Status in Working-Storage
- O. File Status Example
- P. Procedure Division Verbs
- Q. Open Statement
- R. Read Statement
- S. Start
- T. Current Record Pointer
- U. Class Exercises
- V. Class Exercise Solutions
- W. Write
- X. Rewrite
- Y. Delete
- Z. Common VSAM File Status Codes
- AA. VSAM Example
- BB. Summary: KSDS
- CC. Additional Processing
- DD. Update ESDS Records
- EE. Update KSDS Records
- FF. Update RRDS Records

#### GG. VSAM Examples

- HH. KSDS Create/Load Example
- II. ESDS Create/Load Example
- JJ. ESDS Read Example
- KK. ESDS Update Example
- LL. ESDS Append Example

#### III. Programming with AIXs

#### IV. Performance Considerations

#### V. CICS Considerations