

## CICS/TS Command Level Coding

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### Course Summary

#### Description

Students will learn to write online application programs using CICS Command Level Interface. They will learn the fundamentals of program control, VSAM file processing, Terminal I/O, as well as program testing and debugging techniques. This course can be taught on current release of CICS/TS or any previous release.

#### Topics

- Definition and Overview of CICS
- Basic Architecture and Processing Concepts
- System Tables (PPT, PCT, FCT)
- Control and User Areas
- Program Design Considerations
- Technical Communication (Including BMS)
- File Operations (READ, WRITE, DELETE and browse options)
- Program and Task Communication
- Advanced File I/O and BMS (Basic Mapping Support)
- Debugging use CEDF (CICS Execution Diagnostic Facility)

#### Audience

Programmers and programmer/analysts who have a need to develop effective and efficient on-line systems

#### Prerequisite

- Experience with COBOL coding techniques
- Experience with VSAM
- Experience with TSO/ISPF
- Experience with IMS and/or DB2 is helpful, but not required

#### Duration

Five Days

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### Course Outline

#### I. *Introduction to CICS*

- A. CICS On-Line Systems & Architecture
- B. CICS - Customer Information Control System
- C. Region Components
- D. Storage Cushion
- E. CICS/VS Characteristics
- F. Conversational
- G. Pseudo Conversational

#### II. *CICS System Considerations*

- A. CICS System Considerations
- B. CICS Functions
  - 1. Supervisory Functions
  - 2. Data Management Functions
- C. CICS Multi-tasking & Multi-threading
- D. System Control Tables
- E. Program Control Table - DFHPCT
- F. Processing Program Table - DFHPPT
- G. File Control Table - DFHFCT
  - 1. REVIEW QUESTIONS

#### III. *CICS Program Preparations*

- A. Translation Process
- B. EIBLK Linkage Section Area

#### IV. *COBOL Considerations*

- A. Modes
  - 1. Move Mode
  - 2. Locate Mode
- B. Length Special Register
- C. Return-Code Special Register
- D. Return Options from VS COBOL II Program
- E. Call Statement from VS COBOL II Program
- F. Restrictions
- G. Working-Storage
- H. Working-Storage COMMAREA
- I. Special Copy Members
- J. Working-Storage COMMAREA - DFHCOMMAREA
- K. Notes on DL/I Under CICS
  - 1. REVIEW QUESTIONS

#### V. *Basic Mapping Support*

- A. CICS Communication Methods
- B. Basic Mapping Support - BMS
- C. BMS Macros

- D. Sample Physical Map
- E. Sample Symbolic Map
- F. Symbolic Map

#### VI. *CICS Terminal Control*

- A. Terminal Control & BMS Commands
- B. Command Function
  - 1. REVIEW QUESTIONS
    - Lab 1

#### VII. *CICS Program Control Commands*

- A. Program Control Commands
- B. Command Function
- C. Exception Conditions

#### VIII. *CICS File Control*

- A. File Access
- B. File Control Commands
- C. READ Command Function
- D. WRITE Command Function
- E. REWRITE Command Function
- F. DELETE Command Function
- G. UNLOCK Command Function
- H. STARTBR Command Function
- I. RESETBR Command Function
- J. READNEXT Command Function
- K. READPREV Command Function
- L. ENDBR Command Function
  - 1. REVIEW QUESTION

#### IX. *CICS Condition Control Commands*

- A. Condition Control Command Functions
- B. HANDLE AID Command Function
- C. Manually Handling PF Keys
- D. HANDLE CONDITION Command Function
- E. Manually Handling Conditions
- F. IGNORE CONDITION Command Function
- G. PUSH HANDLE Command Function
- H. POP HANDLE Command Function
  - Lab 2

#### X. *CICS Temporary Storage Control Commands*

- A. TEMPORARY STORAGE CONTROL Command Function
- B. WRITEQ TS Command Function
- C. READQ TS Command Function
- D. DELETEQ TS Command Function

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### Course Outline (cont.)

#### **XI. CICS Transient Data Control Commands**

- A. TRANSIENT DATA Control Command Function
- B. WRITEQ TD Command Function
- C. READQ TD Command Function
- D. DELETEQ TD Command Function

#### **XII. Program Debugging**

- A. Programming Debugging Considerations
- B. CEDF
- C. System Recovery Program - DFHSRP
- D. HANDLE ABEND Command Function
- E. ABEND Command Function
  - Lab 3

#### **XIII. Appendices**

- A. Appendix A - CEMT Commands
- B. Appendix B - Execute Interface Abend Codes
- C. Appendix C - INTERTEST Commands
- D. Appendix D - Exception Conditions
- E. Appendix E - Execute Interface Block
- F. Appendix F - Standard List DFHB