

CI1010 – CICS/TS Command Level Programming

Course Synopsis	Duration:	Five (5) days
	Audience:	Application programmers who will be coding CICS applications.
	Prerequisites:	It is strongly recommended that the student have at least one (1) year of programming experience, understand IBM’s JCL and have experience in TSO/SPF or equivalent.
	Delivery Method:	Instructor led, Hands-on workshops

Brief Description	<p><i>An entry-level CICS training course designed to provide the accomplished COBOL programmer with all the tools necessary to code, test and debug CICS programs. The student will become familiar with the concepts and terminology of on-line, interactive, database / data communications systems. Through the extensive use of case studies and hands-on workshops, the student will build a multi-program system using terminal communications, screen mapping, program communications, as well as file processing, intermediate storage and the concept of multi-tasking. The computer will be used to run class problems programmed by students. This provides a useful workshop orientation to the course.</i></p>
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Course Objectives What You'll Learn	<p>The student will learn how to effectively design and code applications in an on-line environment, as well as proper error handling techniques. In addition, upon completion the student will be able to:</p> <ul style="list-style-type: none"> • Describe the major components of CICS • Describe the functions of CICS tables • Code programs that create efficient data streams which result in better response times
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Topics Covered	<table style="width: 100%;"> <tr> <td style="vertical-align: top;"> <p>I. Introduction</p> <ul style="list-style-type: none"> • What is CICS? • Multi-Programming/Multi-Tasking/Multi-Threading • Definitions • Batch vs. On-Line • CICS Management • CICS System Components </td> <td style="vertical-align: top;"> <p>II. Overview - Program, Transactions and Tasks</p> <ul style="list-style-type: none"> • Program Control Table (PCT) • Processing Program Table (PPT) • CICS Command-Level Program Preparation • The Command Level Translator <ul style="list-style-type: none"> – Command Level Program Preparation – Translator & Compiler Options • Execute Interface Block • Command Syntax </td> </tr> </table>	<p>I. Introduction</p> <ul style="list-style-type: none"> • What is CICS? • Multi-Programming/Multi-Tasking/Multi-Threading • Definitions • Batch vs. On-Line • CICS Management • CICS System Components 	<p>II. Overview - Program, Transactions and Tasks</p> <ul style="list-style-type: none"> • Program Control Table (PCT) • Processing Program Table (PPT) • CICS Command-Level Program Preparation • The Command Level Translator <ul style="list-style-type: none"> – Command Level Program Preparation – Translator & Compiler Options • Execute Interface Block • Command Syntax
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CI1010 – CICS/TS Command Level ProgrammingTopics
Covered Continued**III. Screen Handling - Terminal Control and Basic Mapping Support (BMS)**

- Attribute Byte
 - Standard Attributes
 - Modified Data Tag (MDT)
 - ATTRIBUTE BYTE FORMAT
 - Default Colors
 - Extended Attributes
 - Extended Color
 - Highlighting
 - Field Validation
 - Programmed Symbols
- DFHBMSCA
- Maps & Mapsets
 - MAPSET (DFHMSD)
 - Fields - (DFHMDF)
 - Field Suffix
- SEND MAP Command
- RECEIVE MAP Command
- EXCEPTION CONDITIONS FOR BMS
- Terminal Control SEND
- Terminal Control RECEIVE
- EXCEPTION CONDITIONS FOR Terminal Control

IV. Program Control

- Application Program Levels
- RETURN Command
 - Pseudo-Conversational
- LINK Command
- XCTL Command
- COMMAREA with LINK

V. Debugging and Testing with CICS/EDF

- EDF screens
- Invocation
- Termination
- Information available at breakpoints
- Sample session

VI. File Requests Processing

- CICS File Control
- VSAM Files in CICS
- Performance
- Controlling VSAM Files
- File Integrity
- READ Command
- Alternate Index Processing
- WRITE Command
 - MASSINSERT
- DELETE Command
- REWRITE Command
- UNLOCK Command
- Browsing Files
 - Performance Considerations
 - STARTBR Command
 - READNEXT Command
 - READPREV Command
 - RESETBR Command
 - ENDBR Command
- Exception Conditions

VII. Handling Errors

- HANDLE CONDITION
- IGNORE CONDITION
- NOHANDLE
- RESP and RESP2 codes
- HANDLE ABEND
- Logical Unit of Work concepts
- SYNCPOINT Command

VIII. Temporary Storage Services

- Definition
- Types of Temporary Storage
- Usage of Temporary Storage
- WRITEQ TS Command
- READQ TS Command
- DELETEQ TS Command

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Covered Continued**IX. Transient Data Processing**

- Types of Queues
 - Intra-Partition
 - Extra-Partition
- Defining the Queues
 - Destination Control Table (DCT)
- WRITEQ TD Command
- READQ TS Command
- DELETEQ TD Command

X. Interval Control

- Starting New Tasks
- START Command
- RETRIEVE Command
- CANCEL Command
- ASKTIME
- FORMATTIME
- Interval Control Exception Conditions

XI. Other CICS Functions and Features

- Storage Getmain and Freemain
- ENQ
- DEQ
- SPOOL commands
- SET and INQUIRE commands
- CICS startup
- CICS termination