

COURSE ABSTRACT

Course Code

- C010

DELIVERY METHOD

- Ez-Learn Virtual Instructor Led Training (EVILT)

COURSE DURATION

- 30 Hrs

PREREQUISITES

- None

RECOMMENDED TRAININGS

- Batch of People (Online)

Assembler Programming

Course Overview

1. Learn all the required fundamentals of Assembler Programming language
2. Learn how to debug Assembler Programs
3. Learn how to integrate with COBOL, CICS, DB2, VSAM.
4. Learn how to read the dump

Target Audience

1. Mainframe Development Professionals in Assembler Modules
2. Modernization professionals using Assembler Module
3. System Programmers
4. Any Mainframe Developer who wishes to learn Advanced Programming

COURSE ACTIVITIES

- Expert Trainers with real time experience.
- More hands on Practice sessions with emphasize on debugging and error fixing
- Real time scenarios to cover Abend handling

Assembler Programming -LEARNING PATH

<https://www.ez-learn.global/assembler-programming/>

Course Modules

Program coverage	
SL.no	Topics
1	Language Overview - Language Hierarchy, Assembler Program Components, Program Components
2	Machine Concepts – Byte, Nibble, Words, Central Processing Unit (CPU) – PSW, Condition codes Instruction Address – Registers, Base Registers, Volatile Registers
3	S/390 Addressing and Instructions - Addressing, Machine Instruction Formats, Assembler Language Formats
4	The Program Development Process - Assembler Language Syntax, The Assembly Process
5	Data Representation – Binary, Packed decimal, Instructions ALC Basics – ALC coding rules, statements, comments, common instructions Assembler Instructions – TITLE, EJECT, SPACE, COPY, END.
6	Defining Data - The Define Storage (DS) Instruction, The Define Constant (DC) Instruction, Literals DS Instruction, Duplication factor, DC instruction Machine Instructions – MVC, CLC, B.
7	Basic MVS/ I/O Facilities (Intermediate Level) - Defining Data Sets, Data Transfer
8	Macros MACRO Instructions – OPEN, GET, PUT, CLOSE, DCB, ALC Program Organization
9	Data Manipulation Instructions - Load and Store Instructions, Move Instructions
10	Comparing and Branching - Decision Making in Assembler, Compare Instructions, Branching, Building Structured Constructs.
11	Fixed-Point Binary Arithmetic - Decimal to Binary Conversion, Addition and Subtraction, Multiplication, Division
12	Looping (Advanced Level) - The Iterative Loop, Address Arithmetic, Processing Arrays.
13	Condition Structures – EQU(Equate),MVI(Move Immediate) , CLI(Compare Logical Immediate),CP(Compare Decimal) ,BC(Branch on condition)
	Decimal Instructions - AP Instruction, SP, ZAP(Zero and Add), PACK , UNPK, OI,MP,DP, SRP

14	Subprogram Linkage – The calling program , Statics Versus Dynamic Calls, Static Calls, Dynamic Calls, Address Constants(ADCONS) , Pointing to the Parm list, Checking the Return code
15	LTR instruction(load and Test Register), CH,-Dynamic Calls using LOAD,BALR
16	Logical and Shift Instructions - Boolean Operations, Shifting Instructions, Testing Bit Values
17	Subroutines – BAL, ST, L, BR, AP, SP
18	Linkage, Parameters and Registers, Multiple Base Registers. TR,TRT,BXLE,EX,IC
19	External Subroutines - Linkage conventions, DSECT - External Versus Internal subroutines, Directives.
20	Declarative Macro - DCB OPEN,CLOSE,READ,WRITE
21	Testing and Debugging - Finding Assembly Errors, Finding Execution Errors VSAM MACROS - KSDS,ESDS
22	Advanced topics - Integrating with COBOL, CICS, DB2, VSAM
23	Assembler Debugging and dump reading