



BMC Mainframe: IMS Essentials

COURSE ABSTRACT

COURSE CODE

» MGRS-IMSE-2021

APPLICABLE VERSIONS

» Not Applicable

DELIVERY METHOD

» Instructor-led Training (ILT)

COURSE DURATION

» 4 Days

PREREQUISITES

» A general understanding of the IBM enterprise server (mainframe) computing environment and an appreciation of application development concepts is assumed.

RECOMMENDED TRAININGS

» NA

Course Overview

The course is developed and delivered by © RSM Technology.

This course offers a comprehensive introduction to IMS for all those new to the IMS environment. It provides ideal cross-training for application support specialists from disciplines such as CICS, COBOL, JAVA, or Db2.

The course introduces and explains all areas of IMS databases in both the Batch and Online environments, including data access using the DL/I Language Interface and the maintenance of data integrity using the DBRC feature.

Written exercises reinforce the formal theory sessions. These include the analysis of sample applications and use of the procedures and utilities required to recover from various application and system failures.

Target Audience

All those working in IMS Applications and Database Development, or any systems and operations personnel who require an understanding of the IMS environment

Learner Objectives

- » Describe the architecture of IMS batch and online systems
- » Analyse database and communication calls
- » Identify appropriate logical and physical database design features
- » Describe the structure of secondary indexes and logical relationships
- » Use IMS utilities to backup, restore, and reorganize the database
- » Discuss the facilities available in IMS to provide data integrity and system availability
- » Trace the flow of a transaction through an IMS system



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COURSE ACTIVITIES

- » Classroom Presentations
- » Demonstration

BMC MAINFRAME INFRASTRUCTURE AND PLATFORMS LEARNING PATH

- » <https://www.bmc.com/education/courses/find-courses.html#filter/%7B%22type%22%3A%22edu-specific-types-159150236%22%7D>

CERTIFICATION PATHS

- » This course is not part of a BMC Certification Path

DISCOUNT OPTIONS

- » Have multiple students? Contact us to discuss hosting a private class for your organization
- » [Contact us for additional information](#) 

Course Modules

Introduction to IMS

- » Why Use a Database?
- » Database types
- » Hierarchical terminology
- » Processing path
- » Accessing data
- » Database implementation
- » IMS online environment
- » Message Format Services (MFS)
- » Utilities
- » Logging
- » Operational responsibilities

Introduction to Batch Programming

- » DL/I Language Interface
- » Program Specification Block (PSB)
- » IMS Call Format
- » Function code
- » Record retrieval Workshop

Advanced Database Programming

- » Update processing
- » Command codes
- » PCB Addressing
- » Boolean SSAs

- » Workshop

Binder Database Environment

- » Program Specification Block (PSB)
- » PSB statements
- » PCB
- » PROCOPTs
- » PSB generation
- » ACB generation
- » PSB/program relationships
- » Batch JCL
- » Workshop

Database Implementation - 1

- » DBD
- » Database Organisation and Access Methods

Database Implementation - 2

- » Secondary indexing
- » Secondary data structure
- » Stand-Alone processing
- » Things to consider
- » Logical relationships

Database Implementation - 3

- » An introduction to HALDB features and processing options

Database Backup and Recovery

- » Logging
- » Image Copy
- » Reorganisation
- » Database Recovery Control (DBRC)
- » associated tools and utilities

IMS/TM Concepts & Facilities

- » IMS/DC configuration
- » Control (CTL) region
- » DL/I Separate Address Space (DLISAS)
- » Database Recovery Control (DBRC)
- » Message Processing Region (MPR)
- » Batch Message Processing (BMP) region
- » Message scheduling
- » Logging.

IMS Online Programming – 1

- » Message Processing Program (MPP)
- » Transaction codes & flow
- » Input message segment
- » Output message segment

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- » IMS message calls
- » IO PCB mask
- » Common status codes
- » Workshop

Message Format Services

- » MFS control blocks
- » DIF/DOF coding
- » MID/MOD coding
- » Attributes
- » Message management

IMS Online Programming – 2

- » Alternate PCB
- » Using Alternate PCB
- » Transaction switching
- » Conversational programming
- » Using Checkpoint/Restart
- » Workshop

Fast Path

- » General characteristics
- » Fast Path EMH
- » Data Entry Database (DEDB)
- » Main Storage Database

Online IMS System Recovery and Restart

- » Logging
- » Restart Data Set (RDS)
- » Archiving
- » Contents of the Log
- » Normal restart
- » Emergency restart

Sharing Data and Data Sharing

- » Sharing access - the problem
- » Sharing access - solutions
- » Control region / DLISAS
- » Program isolation
- » Locking

- » Deadlock resolution
- » Data sharing
- » Database-Level Sharing
- » Block-level sharing
- » DBCTL

IMS Operations

- » Operational considerations
- » Operations planning
- » Starting IMS
- » Stopping IMS
- » Online change facility
- » Controlling IMS

IMS Performance Management

- » DB performance
- » DB monitor
- » Database buffer pools
- » DC performance