



BMC Mainframe: Parallel Sysplex Internals & Fundamentals

COURSE ABSTRACT

COURSE CODE

- » MGRS-PSIF-2021

APPLICABLE VERSIONS

- » Not Applicable

DELIVERY METHOD

- » Instructor-led Training (ILT)

COURSE DURATION

- » 3 Days

PREREQUISITES

- » BMC Mainframe: Parallel Sysplex Concepts & Facilities
- » Or equivalent experience.

RECOMMENDED TRAININGS

- » NA

Course Overview

The course is developed and delivered by © RSM Technology.

This three-day course examines the fundamental mechanics of IBM's parallel sysplex architecture at a detailed technical level. It will provide attendees with a full and comprehensive understanding of today's sysplex, an environment that can provide continuous availability for a huge variety of workloads. The course describes in considerable detail the three sets of services involved.

This vital course should be considered the technical 'foundation stone' for all involved with a sysplex at a technical level.

Target Audience

- » Systems Programmers
- » Systems Architects
- » Software Developers

Learner Objectives

- » Describe the Cross-systems Coupling Facility
- » Describe XCF services
- » Explain the principles of data sharing
- » Explain how connection services work
- » Explain how data sharing works
- » Explain how cache, lock & list services work
- » Describe Workload Manager services



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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 the Parallel Sysplex

- » What is a parallel sysplex?
- » XCF, the Cross-systems Coupling Facility
- » Multisystem environments
- » It's not just signalling!
- » But what about data sharing?
- » The Coupling Facility
- » Coupling Facility data - Structures
- » Data sharing services
- » OK, so WHY parallel sysplex?
- » How big!?!
- » A single image environment
- » A sysplex is just a bigger multiprocessor!
- » Dispatching work
- » Recovery and expendability
- » Continuous availability
- » Why the fuss about continuous availability?

XCF Services

- » Managing the sysplex
- » Member status and attributes
- » Joining a group
- » Interrogating XCF
- » Sending and receiving messages

- » Advanced message services
- » Large messages
- » User Status tracking
- » Group Status tracking
- » Leaving a group
- » Abend handling
- » ARM concepts, policies and exit routines
- » Sample Application
- » JESXCF
- » JESXCF services

Data Sharing

- » CF data sharing
- » Coupling Facility data structures
- » CF sharing mechanics
- » Products supporting data sharing
- » XES services
- » Application protocols

Connection Services

- » Connection services overview
- » Permissions to use a structure
- » Allocation of structures
- » First connection
- » Allocation parms
- » Connection failures

- » LISTEN exit
- » Connection States
- » Connection & structure persistence
- » Structure rebuilds
- » Structure Alter and Disposition
- » Disconnecting from a structure
- » CF management services

Cache Services

- » Elements of a cache system
- » Elements of a cache structure
- » Allocation parameters
- » Event suppression
- » Managing the local cache buffers
- » Local Cache Vector
- » Casting out data
- » Cast-out Classes, Storage Classes, Reclaims and Reclaim Vectors
- » Cache Types
- » Synchronous and asynchronous services
- » Physical CF access processing
- » Changed CF requests

Lock Services

- » Elements of a Lock Structure
- » Allocation parameters

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- » Requesting a Lock
- » Resource Request Queue states
- » Contention & false contention
- » Handling contention
- » Exit processing
- » Recovery Management
- » Services and synchronization

List Services

- » Elements of a List Structure
- » List Controls and List Entry Controls
- » Allocation parameters
- » Referencing list entries
- » Serialised lists and lock processing
- » LOCKCOMP processing
- » Synchronous and asynchronous processing
- » Handling lock contention
- » List transition monitoring
- » Sublists and monitoring

- » Event queues and event monitoring
- » List services extensions
- » Secondary keys
- » IXLLSTE, IXLLSTM and IXLLSTC
- » JES checkpoint

Workload Manager Services

- » The continuous availability environment - a review so far
- » WLM's role in the sysplex
- » WLM service definition
- » Setting goals
- » Work-unit types
- » Classifying work
- » WLM Work Manager services
- » Execution Delay Monitoring Services
- » CICS and CICSplex SM
- » Enclaves and the enclave services
- » Enclave vs address space level work

- » SWUQ
- » Enclaves and preemptable SRBs
- » Independent enclaves
- » Dependent enclaves
- » Multisystem enclaves
- » Application Environments
- » AE - the Queuing Manager Model
- » AE - the Routing Manager Model
- » Defining Application Environments
- » DB2 and the Distributed Data Facility
- » Sysplex Routing Services
- » DDF Workload balancing
- » UNIX System Services fork support
- » VTAM generic resources
- » Scheduling environments
- » WLM-managed Initiators