BMC Mainframe: CICS Transaction Server Systems Administration

COURSE ABSTRACT

COURSE CODE
» MGRS-CITA-2021

APPLICABLE VERSIONS
» Not Applicable

DELIVERY METHOD 🌐
» Instructor-led Training (ILT)

COURSE DURATION 🌐
» 5 Days

PREREQUISITES
» BMC Mainframe: CICS Transaction Server - Concepts & Facilities BMC Mainframe: CICS Transaction Server - Concepts & Facilities
Or equivalent experience
» **Special Note:** Attendees are encouraged to bring along the System Initialization Table macros and Overrides for a couple of production CICS regions. If Transaction Routing and/or Function Shipping is being used then a SIT and Overrides for a TOR, AOR and DOR would be welcome.

RECOMMENDED TRAININGS
» NA

Course Overview

The course is developed and delivered by © RSM Technology.

This five-day course is the definitive administration course for all those who have responsibility for CICS administration on CICS/TS systems.

The course combines formal theory sessions with a series of challenging and progressive exercises. Over the course of the week attendees are given the opportunity to build and operate an actual CICS/TS system from scratch.

Target Audience

Administrators - Those with responsibility for, or interest in, CICS Administration

Learner Objectives

» Describe the CICS architecture, Domain and table structure
» Understand the functions of the Dispatcher Domain and the terms multi-tasking, multi-threading and the importance of the CICS TCBs
» Generate and tailor a CICS system from the supplied jobstreams and describe the function of the CICS system files
» Understand and control the CICS storage layout and the use of the various DSAs
» Describe the Resource Definition On-Line and auto-installation facilities and define and install transactions, programs, program libraries, terminals and files
» Describe and define Transient Data and Temporary Storage queues
» Generate the System Initialisation Table and describe the major parameters that control the region's structure, performance and security
» Use the CICS Intersystem Communication facility to define connections between CICS regions by MRO, ISC and TCP/IP
» Use the transaction CEMT to inquire and modify table entries
» Understand the functions of the CECI transaction
» Describe the functions of the CICS Explorer and Event Processing
» Describe the facilities of CICS Web Services
» Define recovery facilities for the Log Manager to deal with transaction abends and CICS system abends
» Implement the problem analysis functions of CICS dump and trace

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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

CICS/TS Review
» Introduction & Objectives
» What is CICS?
» A Resource Manager
» CICS Tables
» CICS Information Center
» CICS organisation
» Application Support
» Application Services
» CICS Domains
» The Dispatcher Domain (DS)
» CICS versions and releases
» Main Tables
» Creating the CICS datasets

Architecture
» Starting a transaction
» Logging on
» Message Input
» Transaction validation
» Program loading
» Task execution
» Program execution
» Task Termination
» Multi-tasking and multi-threading

» The CICS Dispatcher
» Multiple TCBs

Table Generation
» Resource Definition
» Resource Definition macro
» Using SIT parameters
» RDO components
» Generating Resource Definitions
» The CICS System Definition file
» The CICS Global Catalog DFHGCD
» CSD definition
» Resource Definition Groups
» Group Lists
» Resource commands
» List commands
» General commands
» General Resource Definitions
» Add
» Remove
» Append
» Copy
» Move
» Rename
» Display

» Expand
» Install
» Single resource INSTALL
» Check Group
» DFHCSDUP: The CSD utility program, offline utility program
» DFHCSD EXTRACT command
» Accessing the CSD File from an application program
» CREATing Resource Definitions

CEMT and CECI Transactions
» CEMT The Master Transaction
» The Functions of CEMT
» CEMT: Inquire Menu, CEMT Help
» Syntax checking
» Invoking CEMT from a console
» CEMT Inquire System
» CEMT Inquire Terminal
» CEMT Inquire Task
» Problem determination
» Forcepurge
» Purge
» CEMT Inquire Program
» CEMT Inquire File

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BMC Mainframe: CICS Transaction Server Systems Administration

COURSE ABSTRACT

- » Closed Attribute
- » CEMT Inquire TSQ
- » CEMT Inquire Tranclass
- » CEMT Inquire JModel
- » CEMT Inquire JOurnalname
- » CEMT Inquire UOW
- » CEMT SET
- » CEMT SET DUMPDS
- » CEMT P SHUT
- » CEMT P SHUT Immediate
- » CEMT P
- » {DUMP|SNAP} [Title(Xxx)]
- » CEMT DISCARD options
- » The Command Interpreter CECI
- » Using CECI
- » Using Variables with CECI
- » Displaying Large Variables
- » Storing a command

System Initialisation Table
- » Introduction and objectives
- » CICS Initialisation
- » Assembling the SIT
- » SIT parameters
- » .1 Parameters that cannot be coded in the SIT
- » Supplied SIT DFHSIT6£ - CICS/TS 4.2

Dispatching
- » Dispatcher Domain
- » Dispatcher
- » Maximum Task (MXT)
- » Transaction Class (TRANSCLASS)
- » CEDA View Tranclass
- » Group
- » Maxactive
- » Purgethresh (AKCC Abend)
- » Tranclass(name)
- » Task priority
- » Priority Age
- » Region Exit Interval (ICV)
- » Terminal Scan Delay (ICVTSD)
- » Runaway Task Timeout Interval (ICVR)

- » TCB modes
- » Open Transaction Environment
- » MAXOPENTCBS MAXJVMTCBS MAXSSLTCBS
- » FORCEQR={NO¦YES}
- » SSLTCBS
- » OPENTCBS
- » DB2 OTE
- » exploitation
- » Quasi-reentrant and threadsafe programs
- » TCB Switching
- » CICS TS 4.2 OTE enhancements

Defining Transactions and Profiles
- » Transaction definition
- » CEDA define transaction
- » 1 The 'indoubt' Attributes
- » CEDA Define Profile

Defining Programs, Mapsets and Libraries
- » CEDA Define Program
- » Mapset definition
- » Program Autoinstall
- » SIT parameters for Program Autoinstall
- » User-replaceable module COMMAREA
- » Program Autoinstall Models
- » Program Autoinstall Summary
- » Define Library

Program List Table
- » Program List Table
- » DFHPLT Macro
- » 1 DFHPLT TYPE=INITIAL
- » DFHPLT TYPE=ENTRY
- » PROGRAM=DFHDELIM
- » PLTPI programs;
- » PLTSD programs

FILE and LSRPOOL Definition
- » File control terminology
- » File management
- » CEDA Define File
- » CEDA Define Lsrpool
- » 1 Number of Buffers for LSR and NSR

- » Number of Strings for LSR and NSR
- » LSRPOOL attributes
- » Data Tables
- » CICS Maintained Data Table (CMDT)
- » User Maintained Data Table (UMDT)
- » Coupling Facility Data Table (CFDT)
- » Defining Pools and Starting Servers
- » IXCMIAPU CFRM policy definition
- » VSAM Record Level Sharing (RLS)
- » CEDA File Definition for RLS files
- » Read Integrity with RLS files

Storage
- » The CICS Region
- » Read Only DSAs
- » CICS DSAs
- » Shared DSAs
- » User DSAs
- » DSA limits
- » Improved Storage Management
- » DSALIM
- » EDSALIM
- » MEMLIMIT
- » Short on Storage (SOS)
- » Specifying DSA Sizes in the SIT
- » Transaction Isolation
- » DSA extents
- » CEMT Inq system
- » Storage parameters
- » CEMT Inq DSAs

Terminal and Typeterm Definition
- » Terminal Autoinstall
- » Autoinstall SIT parameters
- » CEDA Define Terminal
- » CEDA Define TYPETERM

Intersystem Communications
- » The CICS Region
- » Dynamic Storage Areas
- » Start-up Operands in the SIT
- » VTAM
- » SIT parameters
- » MRO/ISC overview

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COURSE ABSTRACT

» An implementation
» CEMT Inquire VTAM
» Inter System Communication
» Multi-Region Operation /EXCI
» LU 6.2 / MRO connection parameters
» Sessions parameters
» CEMT Inquire Terminal Session
» Inquire Connection
» CEMT Inquire Modeset
» External CICS Interface (EXCI)
» TCPIP connections
» TCPIP connection resources
» CEDA Define IPCONN
» IPCONN Mirror Life
» IPCONN and TCPIPSERVICE
» Connections as seen from both sides

TCP/IP & Web Services
» What is a Web Service?
» Terminology
» Service requesters and providers
» A provider example
» Overview of service provider
» SOAP
» Web Services Description Language (WSDL)
» CICS Web Services Assistant
» Resources for Web Services support
» CICS Web Services resource definition
» TCPIPSERVICE definition
» URIMAP
» URIMAP definition
» URIMAP: - general options, - server options, - client options, - pipeline options, - Atom options, JVMserver options
» URIMAP validity matrix
» PIPELINE definition
» Web Services - define WEBSERVICE
» Document
» templates
» CEDA define DOCTEMPLATE
» Securing Web Services
» Sample analysers

» SSL SIT parameters
» Connection Security and SSL
» The SSL Handshake
» SSL encryption
» SSL authentication
» SSL SIT parameters
» Configuring CICS to use SSL - DFH$RING
» Final review of CICS Web Service

CICS Explorer
» Administrative interfaces to CICS
» Objectives
» Administrative interfaces
» CICS Explorer introduction
» How to get the CICS Explorer
» Using the CICS Explorer in 'Single Server' mod
» Setting up an SMSS
» First start of CICS Explorer
» Connecting to CICS
» When connected to CICS
» The CICS Explorer screen

Event Processing
» Event Processing
» Event Processing support
» Event Processing terminology
» Event Processing architecture - an overview
» Events - the big picture overview
» CICS bundles
» Resources for EVENTs
» More resources for EVENTs
» Yet more resources for EVENTs
» What needs to be done to 'capture an event'
» Terminology
» What is a bundle?
» More, what is a bundle?
» What is a manifest?

Transient Data
» Transient Data overview
» Transient Data SIT parameters

» TD=({3|decimal_value}[,{3|decimal_value}])
» TDINTRA=
» {NOEMPTY|EMPTY}
» Intrapartition Transient Data Queues
» Extrapartition Transient Data Queues
» Automatic Transaction Initiation (ATI)
» CEDA Define TDQUEUE
» Extrapartition parameters
» Extrapartition queues
» Intrapartition parameters
» Indirect parameters
» IBM-supplied TD Queues?

Temporary Storage
» Temporary Storage overview
» SIT parameters for Temporary Storage
» Temporary Storage Coupling Facility Pool
» CFRM policy
» MAIN vs AUX vs CF Temporary Storage
» CICS TSQs
» TSMODEL attributes
» Temporary Storage Browse Transaction (CEBR)
» CEBR Help
» CEBR commands

Security
» Security overview
» Security SIT parameters
» The sign-on transactions
» CESN
» CESL
» Sign off transaction CESF.

Initiation and Termination
» CICS datasets
» CICS initial start
» CICS cold start
» CICS Normal Shutdown
» CICS warm start
» DFHRMUTL utility program
» CICS EMERgency restart

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Log Manager Domain
- CICS system log
- Defining logstreams
- Creating a logstream
- Shunting
- Log Manager
- CICS autojournaling
- CICS user journaling
- Logging for multiple CICS Regions
- Coupling Facility logging
- IXCMIAPU utility
- DASD-only logging
- Log streams
- SIT parameters for logging
- Log Tail Trimming
- Offloading

CICS Problem Analysis
- CICS Messages
- Transactions useful in problem analysis
- CSFE
- CICS Dumps
- Transaction Dumps
- Transaction Dump utility DFHDUvrm
- System Dumps
- Interactive Problem Control System (IPCS)
- CICS660 components
- CICS tracing
- CETR Transaction
- Trace Utility Program

Db2
- CICS External Resource Management
- Starting the CICS Db2 Attachment Facility

- Db2 threads
- Defining Db2 Resources
- DB2CONN Resource
- DB2ENTRY Resource
- DB2TRANS Resource

CICS-DBCTL
- RSM Technology 2021
- DBCTL introduction
- Database Resource Adapter
- DBCTL TCB support
- DBCTL Virtual Storage requirements
- Defining DBCTL to CICS
- SIT parameters for DBCTL
- RDO resources

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