# z/OS ICF Catalog Workshop Training

Duration: **3 Day**

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## Overview

This three-day, hands-on course is vital for all z/OS technicians who need to be able to understand and work with the ICF catalog environment. The prime objective is to teach attendees how to evaluate catalog problems and then to take the appropriate and necessary corrective actions. The course also introduces and explains the tools available for catalog recovery.<br><br>This course is also available for one-company, on-site presentations and for live presentation over the Internet, via the Virtual Classroom Environment service.

## Prerequisites

At least one year of experience with z/OS. Familiarity with TSO/ISPF and JCL is essential. VSAM knowledge, as provided on the course **VSAM Essentials Workshop**, is also recommended.

## What You Will Learn

- explain the relationship between the data related components
- detect and isolate the failing component of an ICF catalog
- utilise the available diagnostic tools
- perform appropriate recovery and repair procedures
- list the factors that affect catalog performance.

## Outline

**ICF Environment**

Catalog overview; Catalog search order; Catalog environment; Multi-level aliases; Catalog address space; VTOC and IXVTOC; ICF environment review.

**VSAM File Structure**

VSAM file types; VSAM hierarchy; CI structure and usage; RDF usage; Spanned record RDF usage; BCS - a KSDS; Index CI format; Alternate index; Class exercise - VSAM file structures.

**Catalog Component Structure**

Catalog environment; Basic Catalog Structure (BCS); VSAM Volume Data Set (VVDS); BCS record structure; BCS record types; BCS record cells; Sphere records - cluster; 3.9 Cluster name cell; Ownership cell; Security cell; Data/index name cell; Volume cell; Class exercise - BCS cluster record; Sphere records; Alternate Index name cell; Association cell; Relation cell; Path record; Pass name cell; Truename record; Truename cell; Class exercise - KSDS cluster record; Sphere records - GDG; GDG base name cell; Generating Aging Table (GAT) cell; GDS name cell; Volume cell; Extension name cell; Non-VSAM record and name cell; Alias record and name cell; Catalog connector record and name cell; Class exercise - user catalogs; BCS/VVDS relationship; VVDS record types; VVDS record cells; VVDS record structure; VVCR and extensions; VSAM Volume Record (VVR); VVR header cell; VVR data set info cell; VVR AMDSB

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cell; VVR volume info cell; Class exercise - VVCRs and VVRs; Non-VSAM Volume Record (NVR) and header cell; NVR data set info cell; Volume Table Of Contents (VTOC); VTOC structure; Describing a data set; Managing the volume; VTOC usage; Solving VTOC performance problems: VTOCIX; VTOC index structure; How the index works; VTOC index entry record.

**Problem Diagnosis**

Problem analysis; Data set processing flow; Allocation; OPEN; I/O processing; File extensions; CLOSE; DEALLOC/CATLG; Problem severity; Diagnostic tools; IDCAMS EXAMINE; IDCAMS DIAGNOSE (VVDS); IDCAMS DIAGNOSE (ICFCATALOG); Class exercise - problem diagnosis.

**Backup Techniques & Considerations**

User catalog backup; Export/import; Export/Import advantages; Backup frequency; User catalog strategy; Validation; User catalog backup recap; Master catalogs; Alternate master catalogs; SYSCAT format; Creating an alternate master catalog; VVDS backup; REPRO NOMERGECAT; REPRO MERGECAT; EXPORT DISCONNECT; IMPORT CONNECT with ALIAS; IMPORT CONNECT; Practical exercise.

**Recovery, Repair & Maintenance**

Recovery vs. repair; Entries; Recovery/repair outline; VTOC and IXVTOC; VVDS catalog utility; VVDS delete; VVDS entry - VVCR; VVDS entry - delete VVR/NVR; BCS recovery import; Import BCS; Delete a user catalog; Delete a user catalog with Noforce; Delete a user catalog with Force; Uncatalog a data set; Catalog an existing VSAM object; Delete TRUENAME; Deleting VSAM data sets from a volume; Forward recovery; ICF SMF records; Recovery tips; Practical exercises.

**Performance & Integrity Considerations**

Sizing the BCS; Sizing the VVDS; Sizing the VTOC and index; Catalog performance; Performance - BCS data component; Performance - BCS index component; Performance - CAS; Sharing catalogs with other systems; Catalog SHROPTS; Performance - CDSC; Activating CDSC; Sharing catalogs in a CDSC environment (VVDS); Sharing catalogs in a CDSC environment (ECS); Monitoring and controlling CDSC; CDSC report information; Monitoring catalog performance; VVDS performance; Implementing SYS% conversion; Extended alias support.

**Hands-on lab exercises**