Step-by-Step Practice Guide: GnuCOBOL to IBM i/z COBOL

STAGE 1: GnuCOBOL Fundamentals

Goal: Be comfortable with COBOL syntax and logic

Topics:

- IDENTIFICATION, ENVIRONMENT, DATA, PROCEDURE divisions

- Data Types (PIC X, PIC 9, REDEFINES, OCCURS)

- Arithmetic operations, IF, EVALUATE, loops

- PERFORM, CALL, subprograms

Practice:

- Payroll calculator

- Loop-based menu system

- Input validation

STAGE 2: Indexed Files and SQLite

Goal: Practice file and DB access - foundation for VSAM/DB2

Topics:

- SELECT, ASSIGN, ORGANIZATION IS INDEXED, ACCESS MODE

- SQLite via GnuCOBOL or C bindings

- OPEN, READ, WRITE, DELETE, REWRITE

Practice:

- Student record system with indexed files

- Password-based login

- Date-based reporting

STAGE 3: IBM i (AS/400) COBOL (PUB400.com)

Goal: Learn IBM i-specific syntax, tools, and database

Setup:

- Register at pub400.com

- Use TN5250 emulator

Topics:

- Member/source management

- STRSEU editing, CRTBNDCBL compiling

- DB2 Tables and DDS

- CL Commands (CPYF, DLTF, WRKOUTQ)

Practice:

- Read/write DB2 table from COBOL

- Embedded SQL

- CL automation

STAGE 4: IBM z/OS COBOL (Hercules MVS or IBM Z Xplore)

Goal: Learn JCL, ISPF, and VSAM under MVS/zOS

Options:

- Hercules MVS TK4-

- IBM Z Xplore (cloud)

Topics:

- ISPF navigation

- JCL structure

- IDCAMS for VSAM

- COBOL/MVS syntax

Practice:

- Define/access VSAM KSDS

- Batch job with JCL

- COBOL sequential dataset

- DB2 embedded SQL

STAGE 5: Tooling & IDEs

Goal: Use enterprise tools like Endevor, RDi, IDz

Tools:

- IBM RDi (for IBM i)

- IBM IDz (for z/OS)

- Endevor for source control

- Zowe Explorer GUI

Practice:

- Edit/compile in IDz

- Use Endevor to manage programs

- Explore datasets and jobs with Zowe

Daily Practice Schedule

Mon-Wed: Code 1 COBOL program

Thu: File/DB interaction

Fri: Deploy/test on real/emulated system

Sat: Review and debug

Sun: Explore new tools (RDi, IDz, Zowe)

Recommended Resources

- GnuCOBOL Manual: https://gnucobol.sourceforge.io/

- PUB400: https://pub400.com

- MVS TK4: https://wotho.ethz.ch/tk4-/

- IBM Z Xplore: https://ibm.biz/zxplore

- YouTube: COBOL Cowboys, IBM Z Tutorials