Introduction to ILE RPG IV Programming
(RG35)
5 Days (40% Lecture, 60% Workshop)

This class provides an introduction to RPG IV programming on the IBM i (iSeries and AS/400). No previous knowledge of RPG is required or assumed. This course covers both Fixed format and /FREE format, with the most modern language enhancements.

The class focuses on the student's ability to read and maintain existing RPG IV programs, and to create new programs using modern language capabilities. Many RPG legacy capabilities are discussed, with a view to reading, maintaining and enhancing older code.

Prerequisites: A basic knowledge of computer programming as well as these tools from IBM: Source Entry Utility (SEU) and Programming Development Manager (PDM).

Course Outline

Introduction to RPG IV
RPG IV Heritage
RPG IV Specification Types Overview

Data Definition
Data Definition Methods
Definition Specification
Stand Alone Fields and Named Constants
Data Structures and Data Types

Calculations and Character Operations
Arithmetic Operations
Assignment Operations
EVAL Operation and Expressions
RPG IV Built In Functions, e.g. %TRIM %LEN
Overview of /Free format C Specs

Conditional and Iterative Operations
IF/ELSE Operations
SELECT/WHEN/OTHER Operations
DO/DOU/DOW/FOR Operations
ITER/LEAVE Operations

File Processing
Avoiding the Fixed RPG Logic Cycle
File Specifications
Full Procedural Processing
Sequential Processing
Keyed Processing
CHAIN Operation
READ/READP Operations
SETLL/SETGT/READE/READPE
WRITE/UPDATE/DELETE Operations
I/O Error Handling using Built-In Functions
    and Resulting Indicators
Fundamental File Loop
Output Specifications

Advanced File Processing
SETLL and SETGT Operations
Processing Partial Files
Keys and Key Lists

Arrays and Tables
Difference between Tables and Arrays
Defining and Initializing Arrays
Runtime vs. Compile Time Arrays
Using Array Elements
LOOKUP/XFOOT/MOVEA Operations
Using Legacy Tables and %TLOOKUP

Printing Reports
Program Described Printing in O Specs
Externally Described Printer Files
Overview of DDS for Printer Files
Handling Page Overflow

Interactive Workstation Programming
Screen Design Aid and Display File DDS
Screen Record Formats
Using Function Keys
Display of Database Records
Using and Editing Input Output Fields
Fundamental EXFMT Loop

Modular Programming
Using Internal Subroutines
Subroutine Flow of Control
Executing External Programs
CALL Operation
Passing Parameters
*ENTRY PLIST Operation
Using IBM supplied APIs
Running CL commands from RPG IV

Overview of Advanced ILE Concepts
Prototype/Procedure Interface Definition
/Free format CALLP Operation
Static Binding
CRTBNDRPG Command
Creating Modules
Creating Programs with Multiple Modules
Subroutines vs. Sub-procedures

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