

Introduction to ILE RPG IV Programming

Course Summary

Description

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.

Topics

- Introduction to RPG IV
- Data Definition
- Calculations and Character Operations
- Conditional and Iterative Operations
- File Processing
- Advanced File Processing
- Arrays and Tables
- Printing Reports
- Interactive Workstation Programming
- Modular Programming
- Overview of Advanced ILE Concepts

Audience

This course is designed for those wanting an introduction to RPG IV programming on the IBM i (iSeries and AS/400).

Prerequisites

Before taking this course, you should have a basic knowledge of computer programming as well as these tools from IBM: Source Entry Utility (SEU) and Programming Development Manager (PDM).

Duration

Five days

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Course Outline

- I. Introduction to RPG IV**
 - A. RPG IV Heritage
 - B. RPG IV Specification Types Overview
- II. Data Definition**
 - A. Data Definition Methods
 - B. Definition Specification
 - C. Stand Alone Fields and Named Constants
 - D. Data Structures and Data Types
- III. Calculations and Character Operations**
 - A. Arithmetic Operations
 - B. Assignment Operations
 - C. EVAL Operation and Expressions
 - D. RPG IV Built In Functions, e.g. %TRIM %LEN
 - E. Overview of /Free format C Specs
- IV. Conditional and Iterative Operations**
 - A. IF/ELSE Operations
 - B. SELECT/WHEN/OTHER Operations
 - C. DO/DOU/DOW/FOR Operations
 - D. ITER/LEAVE Operations
- V. File Processing**
 - A. Avoiding the Fixed RPG Logic Cycle
 - B. File Specifications
 - C. Full Procedural Processing
 - D. Sequential Processing
 - E. Keyed Processing
 - F. CHAIN Operation
 - G. READ/READP Operations
 - H. SETLL/SETGT/READE/READPE
 - I. WRITE/UPDATE/DELETE Operations
 - J. I/O Error Handling using Built-In Functions and Resulting Indicators
 - K. Fundamental File Loop
 - L. Output Specifications
- VI. Advanced File Processing**
 - A. SETLL and SETGT Operations
 - B. Processing Partial Files
 - C. Keys and Key Lists
- VII. Arrays and Tables**
 - A. Difference between Tables and Arrays
 - B. Defining and Initializing Arrays
 - C. Runtime vs. Compile Time Arrays
 - D. Using Array Elements
 - E. LOOKUP/XFOOT/MOVEA Operations
 - F. Using Legacy Tables and %TLOOKUP
- VIII. Printing Reports**
 - A. Program Described Printing in O Specs
 - B. Externally Described Printer Files
 - C. Overview of DDS for Printer Files
 - D. Handling Page Overflow
- IX. Interactive Workstation Programming**
 - A. Screen Design Aid and Display File DDS
 - B. Screen Record Formats
 - C. Using Function Keys
 - D. Display of Database Records
 - E. Using and Editing Input Output Fields
 - F. Fundamental EXFMT Loop
- X. Modular Programming**
 - A. Using Internal Subroutines
 - B. Subroutine Flow of Control
 - C. Executing External Programs
 - D. CALL Operation
 - E. Passing Parameters
 - F. *ENTRY PLIST Operation
 - G. Using IBM supplied APIs
 - H. Running CL commands from RPG IV
- XI. Overview of Advanced ILE Concepts**
 - A. Prototype/Procedure Interface Definition
 - B. /Free format CALLP Operation
 - C. Static Binding
 - D. CRTBNDRPG Command
 - E. Creating Modules
 - F. Creating Programs with Multiple Modules
 - G. Subroutines vs. Sub-procedures