



IBM TRAINING

Advanced Ibm Rpg Iv Programming Language Course

Master advanced IBM RPG IV programming. Develop robust business applications and enhance your iSeries skills for enterprise solutions.

DURATION

Flexible

LEVEL

Intermediate

FORMAT

Instructor-Led

- Globally Recognized Certification

- Expert-Led Hands-On Training

- Flexible Scheduling

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COURSE OVERVIEW

This "Advanced IBM RPG IV Programming Language Course" is meticulously designed for experienced IBM i professionals and developers looking to elevate their proficiency in modern RPG IV programming. It delves deep into the sophisticated capabilities of the language, moving beyond foundational syntax to explore advanced ILE concepts, robust database integration with DB2, and seamless interoperability with contemporary technologies. Participants will master complex data structures, advanced SQL techniques, sophisticated error handling, and the art of integrating RPG IV applications with web services and external systems, thereby unlocking the full potential of the IBM i platform.

Upon completion, attendees will possess the expertise to design, develop, and maintain highly efficient, scalable, and modern business applications on the IBM i. The course emphasizes best practices for code optimization, debugging, and application modernization, ensuring that developers can transform legacy systems into agile, high-performing solutions. This advanced training will not only sharpen your technical skills but also significantly enhance your value to organizations leveraging IBM i, preparing you for critical roles in application development and system modernization.

Level	Intermediate
Vendor	IBM

COURSE CURRICULUM

01 Module 1: Advanced ILE Concepts and Program Structures

- In-depth ILE (Integrated Language Environment) architecture review
- Working with binding directories, modules, and service programs
- Advanced procedure calls, parameter passing (BYVAL, BYREF, prototyped parameters)
- Activation groups and their impact on application design
- Program entry procedures (PEP) and main procedures

02 Module 2: Sophisticated Data Handling and Database Integration

- Complex data structures: qualified, LIKEDS, LIKERECD, and nested data structures
- Handling varying-length fields and large objects (LOBs)
- Advanced embedded SQL (SQLRPGLE) techniques: cursors, dynamic SQL, stored procedures
- Transaction management and journaling for data integrity
- Accessing external files and APIs from RPG IV

03 Module 3: Robust Error Handling and Debugging Methodologies

- Implementing structured error handling with MONITOR/ON-ERROR blocks
- Using APIs for logging and error reporting (e.g., QCMDEXC, QSYSMSG)
- Advanced debugging techniques using STRDBG and the IBM i debug perspective
- Programmatically managing exceptions and unexpected conditions
- Best practices for developing resilient RPG applications

04 Module 4: Integrating RPG IV with Modern Technologies

- Consuming and providing web services (SOAP, REST) using RPG IV
- Parsing and generating XML and JSON data structures
- Leveraging HTTPAPI and other open-source tools for connectivity
- Calling Java methods from RPG (JNI) for extended functionality
- Interfacing with external systems and applications

Module 5: Performance Tuning, Security, and Modernization Strategies

- 05**
- Optimizing RPG IV code for performance and efficiency
 - Database performance tuning on DB2 for i
 - Implementing security best practices in RPG applications
 - Strategies for modernizing legacy RPG applications
 - Utilizing modern RPG free-form syntax and coding standards

CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

- > **Senior IBM i Application Developer**
- > **IBM i Modernization Specialist**
- > **RPG IV Solutions Architect**

FREQUENTLY ASKED QUESTIONS

Q: What specific prerequisite knowledge of RPG IV is essential for someone to benefit maximally from this advanced course?

This advanced course assumes a solid foundation in core RPG IV programming, including familiarity with free-form syntax, basic ILE concepts (modules, service programs), fundamental database operations (READ, WRITE, CHAIN, SETLL), and control flow statements. Participants should be comfortable writing and debugging intermediate-level RPG programs before enrolling.

Q: How will this course specifically equip me to integrate existing IBM i applications with modern web services and other non-IBM i platforms?

This course dedicates significant modules to advanced integration techniques. You will learn to consume and provide web services (REST/SOAP) directly from RPG IV, parse/generate XML and JSON data, and utilize tools like HTTPAPI. Furthermore, it covers methods for calling Java methods from RPG and interfacing with external APIs, providing practical skills for seamless cross-platform communication and application modernization.

Q: Beyond just learning new syntax, what deeper understanding or specific strategies will I gain to significantly improve the performance and maintainability of complex RPG IV applications?

Beyond syntax, you will gain a profound understanding of ILE architecture's impact on performance, learn advanced SQL optimization techniques for DB2 on i, and explore code refactoring strategies for maintainability. The course covers performance profiling, effective use of activation groups, advanced error logging, and modern coding standards that collectively contribute to writing highly performant, robust, and easily maintainable complex RPG IV applications.

ABOUT COMPUTER PRIDE



East Africa's Premier IT Training Center

With over 15 years of excellence, Computer Pride delivers globally recognized certification programs from leading technology vendors. Located on Kenyatta Avenue in Nairobi's CBD, our state-of-the-art facilities and expert instructors have empowered thousands of professionals across East Africa.

15+

Years of Excellence

10,000+

Professionals Trained

50+

Vendor Certifications

READY TO ENROL?

Take the next step in your technology career.

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