Course Name: Fast Track New Developers

Course Code: ISFST

Duration: 5 Days

Price: £ 2,695

Course Outline:
This course has been designed as a fast track to get new graduates or programmers in other languages, programming in RPG on the system in 5 days. The first two days introduce the fundamentals (Objects, libraries, library lists, jobs, spooled files, PDM, SEU, the DB, physical and logical files, CL programming, Query, SQL etc.) and then 3 days programming in RPG.

Prerequisites:
This course is intended for delegates who have programmed previously but are new to the system. If new to programming, then it is advised that program design concepts have also been covered (ideally by attending the Program Design course).

Course Content:

Objects and Libraries

- Detail objects and libraries
- Qualify object names, find objects on the system
- Detail library lists, how they work and relate to a user
- Use and change library lists
- Introduce the Integrated File System (IFS)
- Understand how the library list relates to a user

Menus and CL Commands

- Use menus
- Use CL commands interactively and in batch, find commands
- Interrogate an interactive job
- Change a jobs attributes
- Track down a submitted batch job
- Display and print spooled files

PDM and SEU

- Use PDM to work with libraries, objects and members
- Customise the default settings for your profile in PDM
- Create and Change source members using SEU
- Use Find/Change options within SEU
- Browse/Copy from spool files and other members within SEU

Introduction to CL Programming

- Understand the structure required for a CL program
- Differentiate between an OPM and ILE CL program
- Decide when to use CL rather than RPG
- Declare and Change variables
- Read and follow basic CL program code
- Log CL program functions for problem solving/audit

The Database and Creating Database Files

- Define the terms PF, LF, external definition
- Interrogate the format and relationships of a database
- Identify fields and keys within an existing database
- Use tools available for viewing data and CPYF
- Understand DDS syntax for creating database objects
- Create a physical file using DDS
- Create a logical file using DDS
- Understand the difference between DDL & DDS
- Understand the relationship between LF and PF
- Add a new field to a physical file using DDS
- Change the attributes of a logical file once it is created

Query and SQL

- Use WRKQRY to write a simple query
- Access the interactive SQL environment
- Use basic SQL function SELECT
- Save and archive SQL statements
- Print SQL results

Report Program Generator (RPG)

- Understand the structure of an RPG-Program
- Use and understand basic H-Spec and F-Spec coding
- Be aware of free format alternatives to H, F, D, P specifications
- Understand the difference between RPG & RPGLE source type
- Understand the difference between fixed and free-format code
- Edit, compile and run a simple RPGLE Program
- Print source code and review compiled program code
- Find errors in source code when compile fails
- Define the terms RPG, ILE, OPM, SEU, PDM

Introduction to RPG Programming

- Use and understand the meaning of:

  DOW… ENDDO, EVAL, READ, UPDATE, RETURN
- Use the BIF's: %TRIM, %FIELDS, %EOF
- Understand the difference between sequential and random file processing
- Intercept end of file condition
- Design and write a basic sequential file processing program
- Copy data and carry out program testing
- Rename variables from external definitions with (PREFIX & RENAME)

Arithmetic and Conditional Processing

- Use and understand the meaning of:

  IF, ELSE,… ENDIF, SETLL, DELETE, SELECT, WHEN,… OTHER,… ENDSL
- Use and understand the operators
     AND OR NOT

Report Program

- Understand basic DDS for a print file
- Understand how print file and RPG interact
- Use and understand the difference between:
  CHGPRTF and OVRPRTF
- Design a report program
- Use and understand WRITE
- Code print file in RPG with OFLIND
- Activate and De-activate Conditioning indicators on device file
- Give meaningful names to conditioning indicators for a device file (INDDS)

Report program and Sub-Totals

- Understand and use:

  CHAIN , CLEAR, BEGSR, ENDSR, EXSR
- Use the built in function %FOUND()
- Check for when a variable has changed
- Include a sub-total into a report

Flexible File Handling

- Use and define a prototyped call: CALLP
- Use QCMDEXC to run CL commands in RPG
- Understand additional file commands:
  SETLL, SETGT, KLIST, KFLD, READE, REDPE, READPE, READP, OPEN, %OPEN()
- New keywords EXTFILE, USROPN, EXTDESC
- Use OVRPRTF from within an RPG Program
- Generate multiple spool file entries from one print file and one program

Enquiry Program

- Understand basic DDS display file coding

- Use and understand the Arithmetic operations: ADD, SUB, MULT, DIV, EVAL, +, -, *, /, +=, -=, *=, /=]

- Use BIF's: %ERROR, %EQUAL

- Use H-Spec Keywords: EXPROPTS, TRUNCNBR

- Code Operational extenders h,r,m,e

Parameters, Variables and BIFF'''s

- Define a program variable (D-Specification)

- Review the basic DCL statement

- Understand and use keywords INZ, LIKE

- Use the BIF's:
  %TRIM, %CHAR, %EDITC, %DEC, %SUBST

- USE figurative constants [*BLANK, *ZEROS]

- Understand legacy eval options & EVALR
  MOVE, MOVEL, Z-ADD, SETON, SETOFF

- Understand need for operational extender p

- Be aware of additional built in functions such as: %XLATE, %CHECK, %CHECKR, %SCAN, %REPLACE, %SCANRPL, %DATE, %TIME, %DIV, %REM

- Code a Main procedure interface and prototype

- Code an enquiry program with 3 screens

- Use the op codes: DOU… ENDDO and EXFMT

- Understand and F-Spec for a display file

- Control/arrest the path of function keys

Linking Programs

- Understand DDS window keywords

- Use a window in an RPG program

- Link programs together

- Use prototyped calls

File Maintenance

- Understand the logic and code a basic file maintenance interactive program
- Understand the concept of record locking
- Intercept record locking errors
- Structure and code validation routines
- Intercept and override DDS validation

Finding Runtime Errors

- Enable a program for debug
- Start debug (STRDBG)
- Set break points and check variables
- Track program logic

Follow on Courses: To further your RPG4 programming skills consider the Introduction to subfiles, Power RPG with SQL and Advanced RPG4 and ILE courses. For suitable candidates, fast track customisations of these courses are also available condensed into 5 days.

Schedule:
2025

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Dates for this course will be scheduled on demand so please email or call for further details.