

Getting Started with IBM i

AS/400 foundations, operations and troubleshooting

FA-0621 · 2 days

Mainframe & Enterprise Systems

Explore IBM i objects, commands, storage and output management, then practise small CL and troubleshooting exercises.

Introduction

This two-day introduction explains IBM i concepts for learners entering an environment with AS/400 heritage. It distinguishes historical system names from the current operating system and introduces objects, libraries, authorities, jobs, database files and the integrated file system.

Participants practise common inspection commands, manage training spool files and write a small CL example. Troubleshooting focuses on interpreting evidence and choosing a safe next step; it does not establish readiness to administer a production system independently.

Learning outcomes

The course teaches participants to:

- Describe the IBM i object-based environment and its AS/400/OS/400 heritage.
- Distinguish disk storage, auxiliary storage pools and main-storage pools at introductory level.
- Inspect objects, libraries, library lists, user profiles and authority relationships.
- Use selected WRK/DSP commands and review a small SQL or file example.
- Manage training spool files and output queues within assigned permissions.
- Write a small Control Language (CL) program or procedure.
- Diagnose an illustrative job, printing, authority or storage issue using logs and status information.
- Explain why production changes, cleanup and recovery require an approved procedure.

Prerequisites

- Basic understanding of operating systems (processes, file systems).
- Basic command-line experience (Linux/Windows CMD/PowerShell or similar).
- Basic database / file concepts: what is a table/file, indexes, logical vs physical.

Basic programming logic is helpful for the CL exercise.

Access to an authorised IBM i training environment with an assigned user profile, permitted training libraries and output queues. Commands and available interfaces are reviewed against that environment's release.

Training outline

1. Day 1 – Platform, Storage and Everyday Inspection

Introduction to AS/400 / IBM i

- AS/400 and OS/400 heritage, subsequent system names, and IBM i as the current operating-system family; separate hardware and operating-system terminology.
- The ecosystem: OS/400 / IBM i versions; Licensed Internal Code (LIC) and its role
- Hardware vs software components: CPU, memory, disk (DASD), controllers; logical view vs physical storage

Storage: Physical & Logical

- Physical storage: disks (DASD), controllers, I/O channels, redundancy / mirroring if applicable
- Single-level storage concepts; distinguish disk/auxiliary storage pools (ASPs) from main-storage pools used by subsystems.
- File systems: traditional database files vs Integrated File System (IFS), stream files, directories
- Inspect sample storage status and usage; distinguish capacity indicators from evidence of hardware health.

Objects, Libraries, Library List, Identity & Authority

- What is an object in IBM i: types of objects (*FILE, *PGM, *CMD, *USRPRF, *JOB, etc.)
- What is a library; difference between system libraries (QSYS etc.), user libraries; naming conventions; library list vs current library vs QTEMP etc.
- User profiles, group profiles, object authority, ownership, identity; what permissions are required, how identity influences access.

Working with Commands & Queries

- Control Language (CL): interactive commands, batch jobs, programs and procedures; explain CLP/CLLE source terminology where relevant.
- Common "work" commands: WRKOBJ, WRKJOB, WRKACTJOB, WRKSPLF, WRKOUTQ, DSP* commands etc.
- Querying data: using SQL, or native query tools if available; reading file definitions, logical vs physical files

2. Day 2 – Output, CL and Troubleshooting

Spooling / Output Management

- What is spooling, spool files; output queues; printer files; how print/output jobs are handled internally
- Common spool commands & operations: display spool, hold / release / delete spool files; adjusting spool priorities; output queue management
- Problems in spooling: jams, prints not coming out, permissions, spool file stuck, spool full etc.

CL for Small Automation Tasks

- CL syntax, parameters and simple control flow; introduce original-program and ILE procedure concepts at awareness level.
- POP (I assume this is Portable Object Program or something else? Clarify) – using it to schedule, wrap commands, batch operations
- Write a small CL example that inspects or manages a designated training spool object; discuss cleanup/backup workflows without changing production libraries.

Troubleshooting Common Issues

- How to diagnose failing or stalled jobs: job logs, message queues, system logs
- Spooling print output failures: permissions, output queues, device descriptions, printer status
- Review capacity and temporary-storage indicators, identify affected objects and escalate using an approved operational procedure.
- Authority errors: object not found, access denied, wrong identity, library list issues
- Library list / library missing issues: current library vs library list; qualified vs unqualified names

Best Practices & Maintenance Tips

- Setting up libraries / library lists properly to avoid confusion

- Review spool/output retention and monitoring policies; do not remove records without authority and retention checks.
- Backup/recovery concepts for objects, libraries and output; distinguish a backup plan from an untested assumption that all data is recoverable.
- Review logging, auditing and monitoring examples; production configuration is outside the training exercise.

3. Guided Exercises Across Both Days

- Exercise: log in, explore library list, find an object, find a file, use WRKOBJ / DSPOBJD etc.
- Generate and manage a designated training spool file; practise permitted hold/release and output-queue operations, including deletion only of disposable training output.
- Write a small CL program for a bounded inspection or training-output task; no broad library cleanup.
- Scenario: user reports output didn't print – walk through diagnosing spooling issue: output queue, device, spool file, permissions, identity etc.
- Scenario: storage nearly full. Inspect prepared evidence, identify candidate contributors and propose a reviewed response rather than indiscriminate deletion.