

# Application Development

Whether you are new to the world of i5/OS programming or have been doing it for years, you will find something you need in this Course of Study. Need some basic information about creating files and CL Programs? Want to learn some advanced CL programming? Need some reminders about subfiles and other DDS tricks of the trade? Want to understand ILE from the beginning to the end? This is the course of study for you!! Topics cover everything from basic elements of programming on i5/OS, to Advanced CL Programming through to ILE Binder Language and Message Handling.

<b>Introduction to CL Programming</b>	
<b>21AC: Mon 8 - 9:15, Delta Ballroom B, Opryland Hotel</b>	
<b>ID:250173</b>	
<b>Level:</b> Beginner	This session, which assumes no prior knowledge of CL, discusses the structure and syntax for CL commands and some of the basic uses of a CL program. This is a condensed version of the lectures contained in the Integrated Seminar being offered this conference.
<b>Course:</b> Application Development	
<b>Speaker:</b> Kevin Forsythe DMC Consulting, Inc.	

<b>Externally Described Printer Files</b>	
<b>22MF: Mon 9:30 - 10:45, Cheekwood G, Opryland Hotel</b>	
<b>ID:470027</b>	
<b>Level:</b> Beginner	Session Level: Beginner
<b>Course:</b> Application Development	Externally described printer files (PRTF) offer many advantages to both RPG and COBOL programmers. The advantages include decreased processing time, ability to utilize existing data base file definitions, and DDS--the file definitions used by other file types.
<b>Speaker:</b> Dori Allen Allen Diversified, Inc.	By the end of this session, attendees will understand: <ol style="list-style-type: none"><li>1. Specific advantages of PRTF.</li><li>2. Coding PRTF top/down, left/right.</li><li>3. Major keywords for PRTF.</li></ol>

<b>COBOL Conversation</b>	
<b>21GH: Mon 8 - 9:15, Governor's Ballroom E, Opryland Hotel</b>	
<b>ID:440095</b>	
<b>Level:</b> Beginner	Session Level: Beginner
<b>Course:</b> Application Development	Just as those who program in every other language on the iSeries, the COBOL programmer faces a host of challenges. However, due to the smaller number of COBOL coders and COBOL code, the COBOL programmer has fewer resources available. This session will discuss frequently misunderstood concepts within COBOL such as indicators and the I/O feedback area. It will also address the ways in which COBOL shops can network and find additional resources.
<b>Speaker:</b> Dori Allen Allen Diversified, Inc.	By the end of this session, attendees will be able to understand: <ol style="list-style-type: none"><li>1. Why to use COBOL on the iSeries.</li><li>2. Common COBOL technical issues.</li><li>3. The available resources.</li></ol>

<b>V6R1: Reducing Support Costs for Your ILE Applications</b>	
<b>22MG: Mon 9:30 - 10:45, Cheekwood H, Opryland Hotel</b>	
<b>ID:480172</b>	
<b>Level:</b> All	A significant cost for many applications is the ongoing servicing (reporting and isolation) of problems within the application. This session, which is intended for application programmers, covers tools that are available in i5/OS to help reduce these costs.
<b>Course:</b> Application Development	The tools include: <ol style="list-style-type: none"><li>1. Sending of meaningful messages using Message Handling APIs.</li><li>2. Monitoring for error situations using the Monitoring APIs.</li><li>3. Gathering of error related data using the Problem Log APIs.</li><li>4. Gathering of performance data using Performance Explorer APIs.</li><li>5. Gathering of trace data using QTRC APIs.</li></ol>
<b>Speaker:</b> Bruce Vining Bruce Vining Services, LLC	Examples will be provided using many of these APIs from ILE RPG, ILE COBOL, ILE C, and ILE CL.  Prerequisite: Knowledge of one or more of these languages.

## GUI Tips - Challenges of Application Modernization

23CE: Mon 11 - 12:15, Canal E, Opryland Hotel

 SILVER  
ID:410063

**Level:**  
All

**Course:**  
Application  
Development

**Speaker:**  
Trevor Perry  
KMR Systems  
Corporation

GUI-enabling a legacy application requires planning and forethought, along with an appropriate methodology, a deployment strategy, and effective user training. This session will outline the challenges and potential pitfalls of a GUI project.

This session will cover:

1. GUI and its impact on your organization.
2. Methodology and deployment strategies.
3. Required user training and reduced resistance to change.

## FTP Automation on i5/OS

25MB: Mon 2 - 3:15, Hermitage B, Opryland Hotel

56GH: Thu 3:30 - 4:45, Governor's Ballroom E, Opryland Hotel

ID:540053

**Level:**  
All

**Course:**  
Application  
Development

**Speaker:**  
Thibault  
Dambrine  
Shell Canada  
Limited

This session has 3 sub-topics:

- FTP Primer: Understanding the FTP Protocol
- FTP Automation
- FTP Tips & Techniques

By the end of this session, attendees will:

1. Understand how FTP works.
2. Create automated file transfers using FTP.
3. Create auditing structures to monitor FTP transfers in and out of a System i host.

## So Long SEU!

26CE: Mon 3:30 - 4:45, Canal E, Opryland Hotel

ID:404228

**Level:**  
Beginner

**Course:**  
Application  
Development

**Speaker:**  
Susan  
Gantner  
Partner400

Are you still using the same toolset you used 10+ years ago: SEU, PDM, SDA, RLU, etc? If so, this session is custom-made for you. If you have been wondering about any of the following questions, come to this session for guidance from someone who's been there.

- Should I consider using a Windows-based toolset to replace SEU, SDA, etc.?
- Why should I change? After all, I know SEU and SDA really well after all this time.
- How would such a change affect my productivity - both long and short-term?
- Which toolset should I use: The older CODE toolset, the RSE toolset in WDSC or the RSE toolset in the new RDi toolset announced with V6R1?
- What old habits should I be looking to break when I move to one of the new toolsets?

See what you've been missing all these years and learn why you should kick your SEU habit. You'll find out just how much more productive and fun your programming job can be!

## Line Up For Data Queues

26GB: Mon 3:30 - 4:45, Governor's Chamber E, Opryland Hotel

ID:440093

**Level:**  
Beginner

**Course:**  
Application  
Development

**Speaker:**  
Dori Allen  
Allen Diversified,  
Inc.

Session Level: Beginner

Data Queues are an important technique on i5/OS, but they can be very frustrating for people new to the system.

This session will explain:

1. What a data queue is.
2. What an API is.
3. How to create a data queue.
4. How to send to a data queue.
5. How to read from one.

Some theory will be covered, including why use a data queue and performance issues.

## Rich Client Success Stories

26MD: Mon 3:30 - 4:45, Cheekwood C, Opryland Hotel

ID:520094

**Level:**  
All

**Course:**  
Application  
Development

**Speaker:**  
Brendan Kay  
Look Software Pty  
Ltd

This session will provide details of successful production systems offering the benefits of rich client interfaces and the stability and features of existing i5/OS applications. It will show the tools that can be used to take advantage of rich display features, desktop integration, web services support and offline application support.

By the end of this session, attendees will be able to:

1. Understand what functionality is typically expected in a rich client.
2. Explain practical examples of how rich clients can integrate with existing i5/OS applications.
3. Understand how to enrich i5/OS applications to support rich clients.

## INTEGRATED SEMINAR [LAB]: Intro to CL Programming

31LC: Tue 8 - 4:45, Bayou E, Opryland Hotel

ID:520193

**Level:**  
All

**Course:**  
Application  
Development

**Speaker:**  
Kevin  
Forsythe  
DMC Consulting,  
Inc.

Integrated Seminars provide in-depth education on a specific subject and are part of the general conference. Signing up for an Integrated Seminar is a commitment for a full day of the conference; be sure to stay for the entire seminar so you won't miss critical education! There is no additional fee and no advance registration, but seats are limited. Attend this seminar on a first come, first served basis.

### ABSTRACT:

The CL seminar will feature alternating sections of lecture and lab. Each lab assignment reinforces the lesson in the preceding lecture. The topics start simply and become increasingly complex, with each exercise building on the previous.

The topics covered include:

1. A basic introduction to CL, the SEU editor, and compile options.
2. Defining and working with variables.
3. An introduction to the ISDB debugger.
4. Message handling, including SNDPGMMSG and SNDUSRMSG.
5. Passing parameters to and from CL programs.
6. Error handling.
7. Structured Programming with IF, DO, DOUNTIL, DOWHILE, DOFOR, and SELECT.
8. Subroutines.
9. Overrides.
10. Application support commands such as CPYF, CHKOBJ, CRTDUPOBJ, and ADDLIBLE.
11. File handling including multiple files.
12. Screen handling.
13. Working with Outfiles.

## Agile Software Development: A Developers Overview

31MD: Tue 8 - 9:15, Cheekwood C, Opryland Hotel

ID:540092

**Level:**  
All

**Course:**  
Application Development

**Speaker:**  
Brendan Kay  
Look Software Pty Ltd

Learn how 'Agile' development principles allow you to create software that is easy to maintain and enhance. Understand the common misconceptions that may limit the success of your development projects. Find out whether agile development principles can assist your existing projects.

By the end of this session, attendees will be able to:

1. Understand agile software development principles and practices.
2. Apply agile development practices to existing projects.
3. Determine which agile development practices are suitable for various projects.

## V6R1: What's New in System APIs in V6R1

31CA: Tue 8 - 9:15, Canal A, Opryland Hotel

ID:540145

**Level:**  
All

**Course:**  
Application Development

**Speaker:**  
Bruce Vining  
Bruce Vining Services, LLC

System APIs, in the forms of callable services and exit points, continue to grow with every release. This session, which is intended for application programmers, covers new (@170) and changed (>250) system APIs that are available in i5/OS to help in application development.

The session will cover:

1. UIM Exit Programs for User Customization
2. Set User Function
3. Inquiry Message Exit Handler
4. Trace APIs
5. Overview of Some of the Other New APIs
6. Overview of Some of the Changed APIs

Prerequisite: Knowledge of one or more of these languages: ILE RPG, ILE CL, and ILE COBOL.

## ILE Introduction

33GH: Tue 11 - 12:15, Governor's Ballroom E, Opryland Hotel

ID:400972

**Level:**  
Beginner

**Course:**  
Application Development

**Speaker:**  
Susan Gantner  
Partner400

This session introduces the basics of the Integrated Language Environment's static binding and Activation Group concepts. This information is fundamental to using ILE to develop modular applications. Using a simple application example, we will illustrate how and why to create modules, bound ILE programs and Service Programs. We'll see the advantages that Binding Directories offer in the process. We'll take a high level look at Activation Groups - what they are and how they can be used. This session forms the foundation for the more advanced ILE sessions offered at COMMON.

## V6R1: Where No CL Has Gone Before

33AD: Tue 11 - 12:15, Delta Ballroom C, Opryland Hotel

ID:500032

**Level:**  
Advanced

**Course:**  
Application Development

**Speaker:**  
Greg Veal  
Greg Veal Consulting

The enhancements made to the i5/OS Control Language (CL) compiler in V5R3, V5R4, and V6R1 have enabled CL application programs to call almost all of the program-level API's and procedure-level API's that IBM ships with i5/OS. This session will explore some of these API's, and consider some examples of applications which were previously "uncharted territory" for CL application developers.

By the end of this session, attendees will be able to:

1. Understand many key CL enhancements added in V5R3, V5R4, and V6R1.
2. Understand the types of APIs that CL can now call that used to be unreachable from CL.
3. Use the example programs as the basis for extending their own CL programs.

## The Art of Debugging: Thinking Outside the Developer's ToolBox

33GG: Tue 11 - 12:15, Governor's Ballroom D, Opryland Hotel

ID:500115

**Level:**  
Beginner

**Course:**  
Application Development

**Speaker:**  
Charles Guarino  
Central Park Data Systems, Inc.

A program ends in error. The users and management are frustrated. Reports are printing incorrectly, or the database is out of sync. This session explores the many tricks and techniques available to the programmer to help improve the debugging cycle and problem resolution. We'll also step by step debug a program using both the green screen debugger and the new one available in WDS.

i5/ OS provides the programmer a wealth of information in problem determination. Learn how to quickly identify this information, and use it constructively and creatively to find the cause of everyday problems. Some examples discussed are how to create a bullet proof test environment, break a running program loop without ending a program, and using the system debugger effectively.

By the end of this session you'll learn how to get around some of the "gotchas" you encounter day after day. Real world field tested examples that you can take back and use immediately.

## ILE: Static Binding Decisions

35GH: Tue 2 - 3:15, Governor's Ballroom E, Opryland Hotel

 SILVER  
ID:404324

**Level:**  
Intermediate

**Course:**  
Application Development

**Speaker:**  
Susan Gantner  
Partner400

Now that you know how to do static binding and create service programs, you may have some questions. This session will answer these questions:

1. How do I decide when to bind by copy vs. using a service program?
2. How many Service Programs should I have, and why?
3. What is the impact of static binding on application maintenance?

Prerequisite: Session ILE Introduction (400972) or equivalent knowledge.

## Test-Driven Development - A Developers Overview

35ME: Tue 2 - 3:15, Cheekwood F, Opryland Hotel

ID:540094

**Level:**  
All

**Course:**  
Application Development

**Speaker:**  
Brendan Kay  
Look Software Pty Ltd

Test-Driven Development (TDD) provides a new approach to application development to produce high quality software which actually requires LESS manual testing. TDD provides developers with an environment to allow escape from the restrictions imposed by legacy code. TDD is particularly helpful in projects involving multiple developers.

By the end of this session, attendees will be able to

1. Understand the fundamental concepts of Test-Driven Development.
2. Apply TDD practices to existing projects.
3. Determine which TDD tools are suitable for their projects.

## Introduction to XML

36AE: Tue 3:30 - 4:45, Delta Ballroom D, Opryland Hotel

 BRONZE  
ID:406056

**Level:**  
Beginner

**Course:**  
Application Development

**Speaker:**  
Susan Gantner  
Partner400

XML is becoming a core technology for representing and exchanging data in a wide variety of applications, including those targeting the Internet. This session provides a tutorial on what XML is and provides a foundation for the later sessions in the conference dealing with XML technologies.

In this session, attendees will learn:

1. XML concepts and terminology, including XML, DTD, Schema, XSL
2. Options for handling XML in iSeries based applications.
3. How XML is used in applications and potential future applications.

## WDS Sc Tidbits Of Goodies

36MB: Tue 3:30 - 4:45, Hermitage B, Opryland Hotel

ID:540024

**Level:**

Intermediate

**Course:**

Application  
Development

**Speaker:**

Aaron Bartell  
Krengel  
Technology

Session Level: Intermediate

Have you been using WDS Sc but are looking for little tidbits to make you even more productive? Everything from modifying the max memory allowed, to learning the best font for viewing RPG code, to the best plugins! Come and see what I love best about WDS Sc and how to customize it to suit a programmers needs. If you have a tip for your fellow WDS Sc RPG programmer, please bring it with you to this session and let your voice be heard!

By the end of this session, attendees will:

1. Have a better understanding of features in WDS Sc.
2. Be able to take some very tangible ROI back to their manager.
3. Understand the many shortcuts available in WDS Sc.

## Rational Developer for System i: Using the Remote Systems Explorer for RPG & COBOL

37AD: Tue 5 - 6:15, Delta Ballroom C, Opryland Hotel

ID:450152

**Level:**

Advanced

**Course:**

Application  
Development

**Speaker:**

Inge Weiss  
IBM Corporation

Rational Developer for System i (RDi) now includes the graphical Application Diagram and Screen Designer tools previously only shipped in the advanced edition of WDS Sc. The Application Diagram creates diagrams that represent the structure of RPG, COBOL and CL applications; providing both a call graph view and an ILE bindings view. The Screen Designer Technology Preview provides a graphical, point and click way to design DDS display files. This session provides a demonstration of the many current and upcoming features of the Application Diagram and Screen Designer, including their seamless integration with the latest RDi tools, such as the Remote Systems Lpex editor.

## Considerations for Successful ILE Implementation

37GH: Tue 5 - 6:15, Governor's Ballroom E, Opryland Hotel

 **GOLD**  
ID:520183

**Level:**

All

**Course:**

Application  
Development

**Speaker:**

Paul Tuohy  
ComCon

Although it is very rare that the implementation of any two ILE projects are exactly the same, there are many ground rules that are required in all implementations. This session discusses some of the considerations for a successful ILE implementation, including how to control and manage the development environment, development tools to use, design considerations (Activation Groups, Binding Directories, using Service Programs), and documenting procedures.

## ILE: Binder Language and Service Programs

41GH: Wed 8 - 9:15, Governor's Ballroom E, Opryland Hotel

 **BRONZE**  
ID:404309

**Level:**

Intermediate

**Course:**

Application  
Development

**Speaker:**

Susan  
Gantner  
Partner400

ILE Service Programs contain signatures which are used to supply a 'level checking' mechanism between ILE programs and the Service Programs they reference. Using ILE Binder Language is the way to gain more control over these signature values to ensure programs continue to work, without rebinding after changing a service program.

In this session, attendees will learn how to:

1. Create and compile this binder language.
2. Use it effectively to control signatures.
3. Hide procedures and data in the service program.

Prerequisites: Session ILE Introduction (400972) and session ILE: Static Binding Decisions (404324).

## What's the Use? A Guide to Understanding Use Cases

41AE: Wed 8 - 9:15, Delta Ballroom D, Opryland Hotel

ID:500039

**Level:**  
All

**Course:**  
Application  
Development

**Speaker:**  
Vanessa  
Grose  
IBM Corporation

Use cases - one aspect of the Unified Modeling Language (UML) - describe small pieces of functionality in a software system from an external perspective. Use cases offer an avenue for exploring, gathering, and clarifying requirements for a wide range of applications written in a wide range of languages - be they object-oriented or imperative, web-based or web-free. If you want your customers to be able to get what they want out of your software, then use case analysis is for you.

In this session, we will:

1. Discuss the purpose and value of use cases.
2. Identify different user classes for a software application.
3. Generate use case diagrams and use case narratives based on a web application.
4. Explore some templates and tools for use case development.

## V6R1: Migrating RPG Applications to EGL

41MA: Wed 8 - 9:15, Hermitage A, Opryland Hotel

ID:540070

**Level:**  
All

**Course:**  
Application  
Development

**Speaker:**  
Karlheinz  
Peter  
PKS Software

This session shows how RPG applications can be migrated to IBM's new Enterprise Generation Language (EGL) in smooth steps.


EGL is IBM's new business application development language that opens new opportunities to RPG developers and protects investments into existing RPG assets.

By the end of this session, attendees will understand:

1. The value of EGL for RPG developers.
2. The process of migrating RPG to EGL.
3. How RPG and EGL can work together.

## ILE: Activation Groups

43GH: Wed 11 - 12:15, Governor's Ballroom E, Opryland Hotel

 **BRONZE**  
ID:404318

**Level:**  
Advanced

**Course:**  
Application  
Development

**Speaker:**  
Susan  
Gantner  
Partner400

ILE Activation Groups provide the ability to limit the scope of things like file overrides, shared open data paths and commitment control transactions to a specific subset of programs in a job.

In this session, attendees will learn:

1. How this scoping works.
2. The effect of using different types of activation groups.
3. Tips for using Activation Groups effectively.

Prerequisite: A complete understanding of the concepts covered in session ILE Introduction (400972).

## The Integrated i5/OS Debugger

43CE: Wed 11 - 12:15, Canal E, Opryland Hotel

ID:404596

**Level:**  
All

**Course:**  
Application  
Development

**Speaker:**  
Inge Weiss  
IBM Corporation

Any development environment is incomplete if it does not feature a good source-level debugger.

The Eclipse based i5/OS development tool includes the Integrated i5OS debugger. It provides the full power of the green-screen system debugger, while offering the simplicity and convenience of the Eclipse workbench.

In this session, learn:

1. How the debugger integrates with the RSE.
2. How to use many of the debugger's features.

## OPEN LAB: Linux on System i

43LB: Wed 11 - 12:15, Bayou D, Opryland Hotel

44LB: Wed 12:30 - 1:45, Bayou D, Opryland Hotel

ID:420087

**Level:**  
Advanced

**Course:**  
Linux

**Speakers:**  
Erwin L. Earley  
IBM Corporation  
David Vasta  
Atlas Copco

This is a work-at-your-own-pace open lab.

Linux on System i provides a flexible/vibrant platform for the implementation of cutting-edge infrastructure and e-business solutions including file serving, network infrastructure (DNS, DHCP, Firewall), database connectivity and web front ending existing DB2 for i5/OS data sources. This lab provides the opportunity to become more familiar with general Linux features as well as configuration of the Sytem i for implementation of Linux-based solutions.

This open lab contains the following modules:

1. Setting up System i for Linux (520290)
2. Installing SLES 10 (520291)
3. Installing RHEL 5 (520292)
4. Exploring basic Linux Concepts (Shell, File System, User Commands) (490135)
5. System Administration (520293)
6. Shell Scripting (520294)

## Introduction to the Unified Modeling Language

43AD: Wed 11 - 12:15, Delta Ballroom C, Opryland Hotel

ID:500038

**Level:**  
All

**Course:**  
Application Development

**Speaker:**  
Vanessa Grose  
IBM Corporation

Building robust, secure, maintainable software requires a solid design. The Unified Modeling Language (UML) is a collection of simple, elegant diagrams that allow you to express software design in a standardized format.

By the end of this session, attendees will be able to:

1. Recognize the value of abstraction in software design.
2. Identify different types of UML diagrams, including activity diagrams, use case diagrams, collaboration diagrams, and class diagrams.
3. Understand the purpose of different UML diagrams, motivated by a Java web application.
4. Understand a variety of development tools that incorporate the UML, including WebSphere and Rational.

Come catch a glimpse of the power of abstraction and standardization in software design!

## Rational Software Delivery Platform

43CA: Wed 11 - 12:15, Canal A, Opryland Hotel

ID:500105

**Level:**  
Beginner

**Course:**  
Application Development

**Speaker:**  
George Voutsinas  
IBM Corporation

Rational has a complete suite of tools for i5/OS that can be used to modernize all aspects of your enterprise, including asset management, architecture, skills and application development infrastructure. This session covers the IBM Rational Software Delivery Platform and how it extends modern application lifecycle management to i5/OS.

## Application Recovery and Other Tricks: Thinking Outside the Developer'sToolBox

43GE: Wed 11 - 12:15, Governor's Chamber B, Opryland Hotel

ID:510026

**Level:**  
Intermediate

**Course:**  
Application Development

**Speaker:**  
Charles Guarino  
Central Park Data Systems, Inc.

A well rounded programmer not only knows how to code efficiently, but also how to research and resolve those errors that are bound to occur. Attend this fast paced and entertaining session to learn many field tested techniques that are essential for application recovery and problem solving. Real world examples you can take back and use immediately.

Topics in this session include:

1. A quick way to create test data from production.
2. Making the best use of system job logs.
3. A method to predetermine record format level checks.
4. Effective methods for verifying and comparing file updates.
5. Creating a free application cross reference.
6. A quick and clever way to fix invalid decimal data errors in your database.

## V6R1: Advanced CL Programming Techniques

43MG: Wed 11 - 12:15, Cheekwood H, Opryland Hotel

ID:520207

**Level:**  
All

**Course:**  
Application  
Development

**Speaker:**  
Greg Veal  
Greg Veal  
Consulting

This session is aimed at professional i5/OS programmers who want to expand their CL programming skills. The examples incorporate CL enhancements introduced in the V5 releases.

We will explore CL programming topics such as:

1. Parameter passing pitfalls with SBMJOB.
2. Database file processing using outfiles.
3. Display file processing using Message subfiles.
4. Using QCMDCHK and QCMDEXC with selective prompting.
5. Use of message 'sender' information and 'message data'.
6. CL in the ILE Environment.

## A Practical Approach to Developing Tomorrow's Applications

43GC: Wed 11 - 12:15, Governor's Chamber D, Opryland Hotel

ID:540109

**Level:**  
Intermediate

**Course:**  
Application  
Development

**Speaker:**  
David W.  
Shirey  
Shirey Consulting  
Services

We know the next generation of end user applications will involve flexible front ends and encapsulated business logic. But is it as simple as just coding in PHP, Java, etc? Truth be told, developing high-quality user applications for tomorrow's systems requires using a number of techniques and tools that are not commonly used today. This presentation will outline the what and why, putting you on the path to tomorrow's development cycle.

By the end of this session, attendees will:

1. Understand the use of metrics in fine tuning the design process.
2. Understand the benefits and drawbacks of the iterative development cycle.
3. Use the elements of program design and separation of function.

## Introduction to Subfiles

44MC: Wed 12:30 - 1:45, Cheekwood A/B, Opryland Hotel

ID:430094

**Level:**  
Beginner

**Course:**  
RPG IV

**Speaker:**  
Dori Allen  
Allen Diversified,  
Inc.

Session Level: Beginner

Subfiles are an i5/OS basic. They are used to display lists of information via a screen. Usually this is static data; eg, lists of accounts, payment history, invoice line items, etc. Subfiles involve the use of a HLL such as RPG or COBOL, traditional files such as PF or LF, and display file DDS to define the data and its visual presentation. A basic subfile inquiry program will be reviewed along with its display file DDS. Using the Dori Allen Cookbook Guide to Subfile Coding, I will discuss and explain each piece. This presentation will also be presented with COBOL code for the COBOL audience.

By the end of this session, attendees will be able to:

1. Understand the basic 8 DDS subfile keywords.
2. Understand the difference between a subfile control format and a subfile data format.
3. Be able to write a simple subfile program.

## ILE by Example

44GH: Wed 12:30 - 1:45, Governor's Ballroom E, Opryland Hotel

 **GOLD**  
ID:440074

**Level:**  
Advanced

**Course:**  
Application  
Development

**Speaker:**  
Paul Tuohy  
ComCon

This session takes a small sample RPG IV application and examines the issues involved in integrating it into an ILE application. This includes decisions on Dynamic Binding, Static Binding, Bind by Copy or Reference, structure of Service Programs, Binder Language, Binding Directories, and Activation Groups.

By the end of this session, attendees will be able to:

1. Understand the benefits of ILE.
2. Understand the decision process in using the components of ILE.

Prerequisite: Attendees must have a basic understanding of the components of ILE.

## What's New in System APIs for V5R4

44CC: Wed 12:30 - 1:45, Canal C, Opryland Hotel

ID:500174

**Level:**  
All

**Course:**  
Application  
Development

**Speaker:**  
Bruce Vining  
Bruce Vining  
Services, LLC

Attend this session for a review of the new and changed APIs to be found in release V5R4 of i5/OS. This is not an introduction in how to use System APIs, rather it provides an overview of what new functions are provided to you with the latest release of i5/OS. Examples will be provided in RPG, COBOL, C, and CL for some of the more interesting new APIs.

## OPEN LAB: ILE

45LB: Wed 2 - 3:15, Bayou D, Opryland Hotel

46LB: Wed 3:30 - 4:45, Bayou D, Opryland Hotel

ID:450117

**Level:**  
All

**Course:**  
Application  
Development

**Speakers:**  
Susan  
Gantner  
Partner400  
Jon Paris  
Partner400

This work-at-your-own-pace open lab offers you the choice of the following individual modules. Each module is intended as a follow-on to a lecture session, as listed below.

1. Static Binding (400969), which is intended as a follow-on to lecture session ILE Introduction (400972).
2. Activation Groups (410225), which is intended as a follow-on to lecture session ILE: Activation Groups (404318).
3. Binder Language (403730), which is intended as a follow-on to lecture session ILE: Binder Language and Service Programs (404309).

## Rational Developer for System i: RPG & COBOL Tools; RSE Advanced

45CC: Wed 2 - 3:15, Canal C, Opryland Hotel

ID:450155

**Level:**  
Advanced

**Course:**  
Application  
Development

**Speaker:**  
Inge Weiss  
IBM Corporation

The Remote System Explorer provides rich functions for creating and maintaining of RPG, COBOL, DDS, and CL code. If you understand the basics, then come to this session to learn how to customize the environment. Learn also about iSeries Projects. There are many additional functions and features that can make your day to day development work even more effective and more fun.

## What's With These ASCII, EBCDIC, Unicode CCSIDs?

45CE: Wed 2 - 3:15, Canal E, Opryland Hotel

ID:510061

**Level:**  
Intermediate

**Course:**  
Application  
Development

**Speaker:**  
Bruce Vining  
Bruce Vining  
Services, LLC

In today's business world there is a growing need to exchange data with other users that might be working in different languages and environments. This might involve using Unicode to accept and display Russian and Japanese data from a 5250 RPG application, or general data that needs to be received or sent in batch to an AIX application. This session explains what CCSIDs are and why they are important. During the session you will see how to use built-in facilities of i5/OS to work with other systems using encodings such as ASCII, EBCDIC, and Unicode. Samples are provided in RPG, COBOL, C and CL.

By the end of this session, attendees will be able to:

1. Convert data using the iconv API.
2. Support Unicode in a 5250 environment.
3. Support Unicode in a DB2 environment.

## Jazz for System i

46GB: Wed 3:30 - 4:45, Governor's Chamber E, Opryland Hotel

ID:540077

**Level:**  
All

**Course:**  
Application  
Development

**Speaker:**  
Satish  
Gungabeesoon  
IBM Corporation

The Jazz Project is a collaboration between IBM Rational and IBM Research to build a scalable, extensible, team collaboration platform for seamlessly integrating tasks across the software lifecycle. This session discusses the architecture and capabilities of the Jazz Team Platform and demonstrates Jazz in action. See how the Jazz Team is leveraging Eclipse to produce an extensible client- server platform. Come and learn about this exciting new technology that is shaping the future of the System i application development lifecycle!

## CL Enhancements - Past, Present and Future

**47CA: Wed 5 - 6:15, Canal A, Opryland Hotel**

**ID:500033**

**Level:**  
Advanced

**Course:**  
Application  
Development

**Speaker:**  
Greg Veal  
Greg Veal  
Consulting

In V5R3 and V5R4, IBM delivered many often-requested and long-awaited enhancements to the i5/OS Control Language (CL). This session will give you a sneak peek at a large number of additional CL enhancements being considered for releases of i5/OS beyond V5R4. Session attendees will be given a survey to let them rate each of these enhancements. This feedback will be used by i5/OS development to help prioritize new CL enhancements.

## ASP.Net and i5/OS for Dummies

**47GB: Wed 5 - 6:15, Governor's Chamber E, Opryland Hotel**

**ID:520055**

**Level:**  
Beginner

**Course:**  
Web  
Applications:  
Business  
Decisions

**Speaker:**  
Richard  
Schoen  
RJS Software  
Systems

This session will introduce i5/OS developers to a fast track roadmap for developing web based applications and web services using ASP.Net in conjunction with i5/OS database connectivity and access to existing programs written in RPG and CL. Build value into your system by showing the network guys how i5/OS can be used as a database backend for real-time web applications and web services.

By the end of this session, attendees will be able to:

1. Download and install FREE Visual Studio 2008 Express Edition.
2. Create a simple ASP.Net subfile web application.
3. Connect, read and update i5/OS data from an ASP.Net web application.
4. Demonstrate what they've learned with concrete sample web application.

## OPEN LAB: V6R1 Application Development with RDi SOA

**51LC: Thu 8 - 9:15, Bayou E, Opryland Hotel**

**52LC: Thu 9:30 - 10:45, Bayou E, Opryland Hotel**

**53LC: Thu 11 - 12:15, Bayou E, Opryland Hotel**

**54LC: Thu 12:30 - 1:45, Bayou E, Opryland Hotel**

**55LC: Thu 2 - 3:15, Bayou E, Opryland Hotel**

**56LC: Thu 3:30 - 4:45, Bayou E, Opryland Hotel**

**ID:430247**

**Level:**  
All

**Course:**  
RPG IV

**Speakers:**  
Claus Weiss  
IBM Corporation  
George  
Voutsinas  
IBM Corporation  
Satish  
Gungabeesoan  
IBM Corporation  
Inge Weiss  
IBM Corporation

The following modules are offered during this work-at-your-own-pace open lab:

1. Using the Remote System Explorer and iSeries Projects (450153)
2. Working Off-line With iSeries Projects (480156)
3. Using EGL to Create a Web Application for i5/OS (520278)
4. Calling RPG/COBOL Programs from EGL (540211)
5. Creating and Consuming Web Services in EGL (540212)

## APIs at Work

**51MD: Thu 8 - 10:45, Cheekwood C, Opryland Hotel**

**ID:510097**

**Level:**  
Intermediate

**Course:**  
Application  
Development

**Speaker:**  
Bruce Vining  
Bruce Vining  
Services, LLC

System APIs can appear daunting at first, but when you dig a bit deeper you realize that there are really just a few API concepts that once learned allow you to easily access hundreds of APIs. This session will go through the pros and cons, Do's and Dont's of Retrieve, List, Open List, and Unix-type APIs. Examples used in the session will be based on RPG with the session handout providing the same examples in CL, COBOL, and C. The first half of this session will focus on i5/OS unique APIs (Retrieve, List, and Open List) while the second half will focus on industry standard Unix-type APIs such as those used with the Integrated File System and Sockets.

## V6R1: Intermediate CL Programming

52MF: Thu 9:30 - 12:15, Cheekwood G, Opryland Hotel

ID:250082

**Level:**  
Intermediate

This session is intended for intermediate CL programmers who can write simple CL programs and want to take the next step.

**Course:**  
Application  
Development

In this session, attendees will learn about:  
1. Various approaches to coding and debugging.  
2. Tools from the TAA Productivity Tools product.

**Speaker:**  
Jim Sloan  
Jim Sloan, Inc

## VB.Net and i5/OS for Dummies

52GA: Thu 9:30 - 10:45, Governor's Ballroom A, Opryland Hotel

ID:520054

**Level:**  
Beginner

This session will introduce i5/OS developers to a fast track roadmap for developing Windows applications using VB.Net in conjunction with i5/OS database connectivity and access to existing programs written in RPG and CL. Build value into your system by showing the network guys how i5/OS can be used as a database backend for real-time graphical applications.

**Course:**  
Application  
Development

**Speaker:**  
Richard  
Schoen  
RJS Software  
Systems

By the end of this session, attendees will be able to:

1. Download and install FREE Visual Studio 2008 Express Edition.
2. Create a simple VB.Net subfile application.
3. Connect, read and update iSeries data from a VB.Net Program.
4. Demonstrate what they've learned with concrete sample programs.

## Running ASP.Net Web Apps and Web Services Natively on i5/OS

53MA: Thu 11 - 12:15, Hermitage A, Opryland Hotel

ID:500132

**Level:**  
All

**Course:**  
Web  
Applications:  
Development  
Tools

**Speaker:**  
Richard  
Schoen  
RJS Software  
Systems

VB.Net and Apache Tomcat seem like an unlikely pair for creating web applications or web services that run natively on i5/OS. This session will cover how to use Microsoft Visual Studio.Net, VB.Net and ASP.Net to create web applications and web services that can be automatically compiled as Java byte code and run natively on i5/OS using the Apache Tomcat Web Server. We'll also walk through the steps needed to deploy Apache Tomcat on i5/OS. For i5/OS developers who find Java to be too difficult to learn and implement, Microsoft Visual Studio is the usual alternative, however until recently there was no good way to use Visual Studio for development yet run the resulting applications natively on i5/OS. Attendees will walk away with new knowledge on how to combine the ease of use of Visual Studio with the power of i5/OS.

## Get Up and Running with RSE

53CE: Thu 11 - 12:15, Canal E, Opryland Hotel

ID:520182

**Level:**  
All

**Course:**  
Application  
Development

**Speaker:**  
Susan  
Gantner  
Partner400

Have you become convinced that it's time to take a look at using RSE (the Remote Systems Explorer part of WDS)? In this session, we'll look at how to make the transition from SEU and PDM for RPG development to this modern toolset.

We'll cover how best to take advantage of the productivity features in RSE as well as covering some tips for installing and getting started with the tools. We'll also include information on keyboard shortcuts, handy third party plug-ins, and more.

Join Susan for an in-depth look at how to get a quick start to using RSE to do your i5/OS development in the future. After all - you have nothing to lose but your application backlog!

## IBM Rational Testing Tools

53GB: Thu 11 - 12:15, Governor's Chamber E, Opryland Hotel

ID:540076

**Level:**  
All

**Course:**  
Application Development

**Speaker:**  
Inge Weiss  
IBM Corporation

Learn more about IBM Rational's comprehensive suite of testing tools. Rational have tools to manage requirements, tools to track the testing and success of the tests, tools to build manual test scripts, and tools to automate testing of both 5250 and web applications. Learn how to test smarter, finish faster. Improve testing scope and depth while shortening test time with Rational tools. Tools covered in this session will include Requisite Pro, Manual Tester, Functional Tester, and Functional Tester Extension for 5250.

## Agile Software Development: A Practical Guide to Essential Practices

53MG: Thu 11 - 12:15, Cheekwood H, Opryland Hotel

ID:540093

**Level:**  
All

**Course:**  
Application Development

**Speaker:**  
Brendan Kay  
Look Software Pty Ltd

Learn the essential techniques required to use 'Agile' software development to increase the quality of your programs at the same time as making maintenance easier. Learn the specific techniques and skills required to implement agile development successfully. Establish a thorough knowledge of how agile development can improve your software products.

By the end of this session, attendees will be able to:

1. Understand how agile software development principles and practices translate into action.
2. Choose which agile development practices will enhance existing projects.
3. Determine how to capitalize on the benefits of Agile Software Development.

## There's Gold in Them Thar Hills: Making the Most of an RPG Dump

53CC: Thu 11 - 12:15, Canal C, Opryland Hotel

ID:540098

**Level:**  
Intermediate

**Course:**  
Application Development

**Speaker:**  
Charles Guarino  
Central Park Data Systems, Inc.

This session focuses primarily on reading an RPG formatted dump and identifies all information provided by the system. In addition, learn how to interpret the results to prevent future errors using simple error trapping techniques. Finally, we'll review several commands that provide the programmer with useful system and database information, which is valuable for debugging.

By the end of this session, attendees will be able to:

1. Make the best use of an RPG formatted dump, and some methods to guarantee one is generated.
2. Understand the somewhat cryptic RPG values returned by the system.
3. Understand how the data on a formatted dump correlates to data available during program execution.

## Test-Driven Development - A Practical Guide to Essential Practices

54MG: Thu 12:30 - 1:45, Cheekwood H, Opryland Hotel

ID:540095

**Level:**  
All

**Course:**  
Application Development

**Speaker:**  
Brendan Kay  
Look Software Pty Ltd

Learn how to apply Test-Driven Development (TDD) to your development projects and produce high quality software with LESS manual testing. Understand the TDD practices and techniques that allow you to focus more on development and less on maintenance. Learn the practical steps to apply TDD to projects with legacy code and multiple developers.

By the end of this session, attendees will be able to

1. Apply the principles of Test-Driven Development to real world projects.
2. Determine how TDD can be used in your environment.
3. Develop a detailed understanding of TDD in practice.

## An Alternative to Externally Described Printer Files

54CC: Thu 12:30 - 1:45, Canal C, Opryland Hotel

ID:540107

**Level:**  
All

**Course:**  
Application  
Development

**Speaker:**  
Ted Holt  
Guild Companies,  
Inc.

No matter how much hardware and software technologies change, some things always stay the same. A prime example is the generation of columnar reports. Whereas columnar reports were once printed on green-bar paper, nowadays they show up in spreadsheets, PDF files, and web browsers. This session presents a way to write report programs that are easily modified as business requirements change. For example, if you use this method to increase the width of a column, headings and totals automatically adjust to the new detail line format.

By the end of this session, attendees will be able to:

1. Understand the problems inherent in building columnar reports with output specs and DDS.
2. Use a template program that takes most of the work out of writing report programs.
3. Create report programs that easily adapt to changing requirements.

## The Renaissance Wave Continues with Oracle JD Edwards World Product Roadmap & Strategy

54MC: Thu 12:30 - 1:45, Cheekwood A/B, Opryland Hotel

ID:540221

**Level:**  
All

**Course:**  
Application  
Development

**Speaker:**  
Fabio Araujo  
JD Edwards World

Would you like to find out why over 120 customers are in motion with JD Edwards World A9.1? Better yet, join Fabio Araujo, Director of Product Marketing - JD Edwards World, and learn how dozens of livecustomers are benefiting from this amazingly rich A9.1 release. Also discussed will be the JD Edwards World strategy and roadmap, which include integrations with other Oracle products that expand your JD Edwards World investment. As always, we will have some fun and show to you how JD Edwards World continues to deliver great value to its customers after 30 years.

## OPEN LAB: Want Help with Your Commands?

55LB: Thu 2 - 3:15, Bayou D, Opryland Hotel

56LB: Thu 3:30 - 4:45, Bayou D, Opryland Hotel

ID:500067

**Level:**  
All

**Course:**  
Application  
Development

**Speaker:**  
Greg Veal  
Greg Veal  
Consulting

This is a work-at-your-own-pace open lab.

IBM Control Language (CL) commands all have online help, and its possible for YOUR commands to have online help too. In fact, support is included in the i5/ OS operating system, starting in V5R3, that makes adding help to your own CL commands downright EASY.

Bring along a save file with your own CL commands or text files with your command definition source and you can "test drive" this new support for yourself. Sample command source will be available as well.

By the end of this session, attendees will be able to:

1. Use i5/ OS support to easily create online command help.
2. Understand how the drudge work of adding online help to their own CL commands has been eliminated.
3. Use i5/ OS support to generate web (HTML) documentation from their online command help.

This lab contains the following modules:

1. Adding Online Command Help (520244)
2. Web Documentation (520245)

## Practical Application Modernization

56CD: Thu 3:30 - 4:45, Canal D, Opryland Hotel

ID:540121

**Level:**

All

**Course:**

Application  
Development

**Speaker:**

Ray Bernardi  
ARCAD Software

Managing change as you modernize applications that have been implemented over many years on i5/OS means using new tools and bringing cross-platform development teams together. In support of a practical, systematic approach to application modernization, Ray Bernardi, Solutions Architect at ARCAD Software, will show you how analysis and change management tools can help you organize your development and ensure the integrity of your applications, whether you are working with RPG, RPGLE, SQL, Java, .net, or other Web technologies.

By the end of this session, attendees will be able to:

1. Apply certain application modernization "best practices."
2. See how software tools can improve productivity and software quality.
3. Evaluate software tools for application analysis and change management purposes.