

## Session Abstracts - Wednesday, July 22, 2020

### Consuming APIs with JSON, SQL, and RPG – Jim Buck

IBM has done some great things that allow DB2 to process JSON objects. This session shows you “Tips and Tricks” to make your life easier when you start working with JSON data. After a short discussion of the HTTP functions that have been added to SYSTOOLS and how they can be used with the JSON\_TABLE Function, Jim shows the attendee how to work with the SYSTOOLS.HTTPGETCLOB and JSON\_TABLE Functions to consume an API returning a JSON object. If you have tried using these functions many have problems writing the correct SQL/JSON path expressions to extract the data and represent it in a relational table. Jim will help the attendee understand this process with solid examples.

#### Learning Objectives:

- Developers needing clear examples of SQL/JSON path expressions with DB2
- Improve developers understanding of SQL/JSON path expressions with DB2 and JSON
- Improve developers understanding of how to use HTTP functions in SYSTOOLS
- Improve developers understanding of how to use JSON\_TABLE functions

#### Why should you attend the session?

- Want working examples of using DB2 Tools to process JSON
- You’ve struggled with the available JSON documentation
- Want clear examples of SQL/JSON path expressions with DB2

#### Topics covered:

- Free formatting and validation JSON tools
- Using the JSON\_TABLE Function
- Using the SYSTOOLS.HTTPGETCLOB Function

### Tips and Tricks for Advanced Embedded SQL – Birgitta Hauser

SQL has become very powerful. Currently it includes more than 190 scalar functions, and a lot of these functions are not available in RPG or work differently. With embedded SQL we can consume these SQL scalar functions as well as SQL predicates (such as LIKE) directly without accessing any database table or view.

All kinds of documents (for example XML or JSON documents and text files) as well as audio and video files can be stored in the IFS or inserted as large objects into SQL tables. With embedded SQL those files cannot only be copied, but can also be generated and written into the IFS or directly read from the IFS. With embedded SQL it is also possible to construct and execute SQL statements at run time. Unfortunately, it is not possible to use the SELECT ... INTO command dynamically. But there is an alternate, VALUES ...INTO.

In this session you’ll discover all these secrets.

#### Learning Objectives:

In this session you’ll learn some tricks that are not widely known to make embedded SQL more convenient. This session will also show examples how to read and write IFS files with embedded SQL.

**Audience:** Developers who already use embedded SQL and would like to exploit advanced SQL technologies, such accessing IFS files within their embedded SQL programs.

**Level:** Advanced

### **Take Advantage of RPG's DATA-GEN – Scott Klement**

DATA-GEN is an RPG feature that lets you build structured documents. These documents (such as XML and JSON) have become crucial to business applications. They are used with web services, APIs, microservices, and cloud computing among other things. In this session you'll learn how the DATA-GEN feature makes it easier than ever to generate structured documents.

#### **Learning Objectives:**

- Quick review of XML and JSON formats
- Introducing the DATA-GEN concept and philosophy
- Technical details of using DATA-GEN in an RPG program
- Examples that you can download and try for yourself

### **RPG Does Dropbox – Mike Larsen**

Did you know that RPG programs can interact with the Dropbox cloud document sharing site? Come to this session to hear how this marriage of RPG and Dropbox solved a document sharing requirement better and easier than FTP. In this session, you'll see how to share files between IBM i and Dropbox. We'll explore both how to upload documents from IBM i to Dropbox and how to download documents from Dropbox to IBM i using RPG and SQL. You'll also see why this approach worked better for this application than traditional approach using FTP to the IFS.

### **React Front-End JavaScript Framework - Patrick Behr**

React and React Router: A beginner-friendly introduction to creating interactive front-end web applications with React and React Router. We'll explore the fundamentals, such as creating reusable components, dealing with state, and incorporating data, as we go from "Hello World!" to a single-page app with remote data.

## **Session Abstracts - Thursday, July 23, 2020**

### **Machine Learning on IBM i - Mark Irish**

See how machine learning can enable your business to harness the deeper value of your data. This session will use the latest machine learning software to demonstrate the building of an AI model that can then be deployed to draw new insights. The majority of the talk will focus on native IBM i machine learning software with training and inferencing both being done on the system. IBM Watson Machine Learning in IBM Cloud will also be briefly discussed.

### **PHP Development for IBM i Programmers – Erwin Earley**

This session will include:

- Integrating with IBM, including CL and RPG Programs
- How does SQL work with PHP
- Global variables with SQL
- Best way to connect to Db2

### **Save Time, Money, and Effort with Python Modules - Mike Pavlak**

Python's greatest strength does not lie in the syntax of the language but in the various modules available that bring in existing functionality. In this session we will discuss over 20 of the most popular Python modules that are shipped with Python or are available via third party sites. We'll walk through examples of production applications of many of these python modules to clearly articulate the value of these very power components in the battle to get more out of less in the IBM i development day.

### **Internet of Things - Aaron Magid and Dan Magid**

The number of devices and sensors collecting valuable data is expanding rapidly. Health monitoring devices, handheld data entry systems, transport tracking sensors, cameras, card key systems, mobile phones are just a few of the "things" in the Internet of Things that can send data to our business applications. In this session, we will step through a real world example of setting up the software and connections necessary to collect data from an IoT device. What you learn will help with any IoT effort your organization might want to initiate.

### **Digital Transformation – Eamon Musallam**

Digital Transformation (DT) is possibly the most important thing happening in IT today. In this era of rapid change in technology, and also Covid forcing companies to adapt to the digital world at record pace, DT often makes the difference between businesses thriving and businesses failing. In order for DT to take place, IT systems must be highly modern, highly open, and highly agile. Unfortunately, most legacy IBM i applications do not meet this criteria, and so businesses that run IBM i are often at a disadvantage. The good news is that there are ways to transform and modernize existing IBM i applications, so they can meet the demands of Digital Transformation required. These are far lower cost and lower risk methods than the alternatives of manual re-write or package replacement. This session will provide an overview of Digital Transformation, and how existing IBM i RPG COBOL can be transformed to support DT, taking advantage of modern DevOps, testing, AI and Cloud enablement.

## **Session Abstracts - Friday, July 24, 2020**

### **Extending RPG with Db2 for i Functions – Liam Allan**

This session explores the wealth of non-database capabilities that SQL can achieve for you within your RPG programs. These range from the use of simple SQL scalar functions within your RPG (e.g., for upper/lower translations or math functions) to grabbing IFS text to executing web services – and making sense of the XML or JSON data that often comes back from them.

Learn to exploit the power of basic SQL functions, user-defined functions (UDFs) and some of the Db2 for i Services from your RPG code. It's easier than you think!

### **5 Things You Can't Ignore About Your IBM i – Steve Pitcher**

Are you relying on doing a WRKSYSSTS once a day to understand the true status of your systems?

There's a lot more information in your IBM i that you need to know about.

Have no fear, it's super easy to find!

#### **Major takeaways:**

- Discover what you should *really* be looking at to keep your systems in good order
- Learn the value of SQL and IBM i Services
- Leave with some working code to help you find information

### **The Zen of Using PHP without Zend Server - Alan Seiden and Richard Schoen**

Until this year there was no easy way to develop and deploy PHP web applications natively on IBM i without installing Zend Server. In early 2020, IBM in conjunction with Zend released a new set of FREE Community supported RPM based installers for PHP. The new RPM installers allow PHP to be installed and ready for development within an hour or less. Even though the new RPM versions are available you will need to review your existing application code and usage of DB2 data to make sure your applications will run efficiently under the new IBM i PHP environment. These Community versions of PHP open up a whole new world of support options for PHP on IBM i. Join Richard Schoen and Alan Seiden as they give

you a tour of the new Community IBM i PHP environment and help you decide if you're ready to expand your PHP horizons. You won't want to miss this inspiring PHP technical session.

### **What's New and Great about IBM i Security – including V7R4 – Carol Woodbury**

Many new security features have been introduced into IBM i throughout the years. Carol will discuss these features in depth and include examples for Row and Column Access Control (RCAC) and her favorite, Authority Collection which was introduced in V7R3 and V7R4. Carol will provide practical tips for using these as well as discuss other enhancements such as new auditing values and security-related IBM i services.

### **What's New with Db2 Web Query, the Foundation for IBM i Analytics - Doug Mack**

There is always something new happening with IBM i Analytics. Db2 Web Query provides that foundation whether its IBM i based analytics or dealing with data prep and data integration with cloud or open source data science-y stuff. New EZ-Report simplifies using SQL to build reports over IBM i services or deal with more challenging data relationship issues with SQL OLAP Extensions. Conversion tools simplify moving existing reports from legacy reporting tools. Tired of run away queries - use Db2 Web Query's governor to keep queries at bay, or build reports over IBM i Services to monitor other SQL processes on your system to catch the "bad boys."

## **Session Abstracts - On-Demand Sessions (by Speaker)**

### **Node.js & Db2 . . . Best Friends? – Liam Allan**

Interested in how you can use Node.js to create a service layer? How about using Node.js to create a web application? How about both of those, using data from your Db2 for i database?

This talk will cover the different database connectors for talking to Db2 for i and show the many different ways to represent data.

### **Failure to Modernize – The Real Cost – Jim Buck**

Jim wrote an article for COMMON called the "*A Perfect Storm*" This article discussed the low enrollment rates for Information Technologies classes in the United States. **Fast forward to 2020, Information Technology education in colleges has made a comeback.** Now there is a shortage of qualified young IT professionals with enterprise skills.

The shortage of young IBM i Professionals will be a significant challenge to you and your company. Learn what your company needs to do assure access to the next generation of IBM i Professionals. Jim will discuss what will attract young IT professionals to your company and how your company can be assured that there are young people trained in the technologies needed for the future of your company. This shortage will affect careers and bottom lines companies.

- Understand the current and future IT job market.
- Understand the college environment.
- Understand what young IT professionals are looking for.
- What your company needs to do to attract the next generation of IT professionals.

### **PASE at a Good Pace - Erwin Earley**

What the heck is PASE anyway? Is it QP2TERM? Is it QSH? BASH? It's none of the above! These technologies live in the Portable Application Solutions Environment for i, or PASE for i. PASE allows one to port IBM AIX applications to the IBM i. Basically, PASE allows for a UNIX like environment on the IBM i, and this session will cover everything you need to know about this powerful tool at a pace everyone

can understand.

1. Learn what PASE really is.
2. Find out the power PASE unlocks.
3. Awesome PASE. Curated list of awesome applications.

### **PASE Yourself – A Practical Guide to PASE - Erwin Earley**

With the preponderance of Open Source Solutions on IBM i growing, the importance of being able to work in the PASE environment cannot be overstated. We will start by showing how the Open Source enablement packages are implemented in PASE. From there we will look at how to setup the user environment for PASE, establish a container in PASE, manage open source solutions in PASE, and understand the shell constructions available in the PASE environment. We will also take a look at a couple of open source languages that are implemented in PASE, how to install them and their IBM i related components and how to develop applications that leverage Db2 data. This session is designed to provide a practical approach to learning PASE and is designed to allow you to implement exercises/solutions in your home environment to help you set the PASE for exploring and working with open source solutions in PASE on IBM i.

### **Linux Administration Part 1 - Erwin Earley**

You've decided to embrace Linux in your shop but not sure how to administer it – this session is for you. This session will take a look at a number of administration topics including installation, boot process, Linux devices, virtual file systems, storage management, user management and Linux file systems.

### **Linux Administration Part 2 - Erwin Earley**

Part 2 of the Linux Administration topic will continue where part 1 left off and take a look at administration topics such as working in the Linux shell, managing software packages, security, network management, monitoring and troubleshooting, and Linux management tools.

### **Node-RED: Build Apps in Minutes! – Jesse Gorzinski**

Node-RED provides a low-code solution for building applications in a visual manner. It excels at dashboards, REST APIs, IoT, and more. Come to this session for a primer of this fascinating technology and learn about all it can do!

1. Discover what Node-RED is
2. Learn about Node-RED's capabilities

### **One Order of Code Refactoring with a Side of RDi – Charles Guarino**

Sloppy code, beautiful code. They both produce the same results, so who cares how it looks? If you have heard this before, or are living with this scenario, this is a MUST ATTEND session. How bad can source code be since it never rusts? Or does it? Learn about code refactoring (aka "modernization") with discussion to help rejuvenate old code into maintainable, flexible and scalable components. We will also review how RDi can assist in this process.

### **Db2 for i Web Services? Yes i Can! – Birgitta Hauser**

In a modern world, information gets exchanged over the web. A request is put and an answer is returned. We do not care where the data is located. On the i data is stored within a relational database. Data access occurs with native I/O or SQL. What if we could receive the request and provide the data directly by executing a SQL statement? Wouldn't that be great? With Release 7.4 the HTTP Web Administration GUI interface can now be used for deploying SQL Statements as REST APIs while the IBM Db2 acts as RESTful service provider.

## **Learning Objectives:**

In this session you'll learn how to

- Create the integrated web services server
- Deploy the SQL statements as a RESTful web service, including how to define the database properties and how to depose the SQL statements for each HTTP-method
- Manage the deployed services

**Audience:** Programmers and database administrators/engineers who have to provide and consume webservices and want to do it directly without SQL, i.e. without an additional program.

## **Access Client Solutions (ACS) – Run SQL Script Interface – Birgitta Hauser**

SQL becomes more and more the standard for accessing data located within database tables. Access Client Solutions (ACS) and within ACS the Run SQL Script Interface has become the strategical product for executing SQL Statements. With ACS Run SQL Scripts multiple connection with different properties, such as library lists can be defined. Multiple SQL Statements can be recorded, executed and saved. ACS Run SQL Script includes a nice coloring and formatting (that can be configured) for SQL Statements. As of late Content Assist was included, i.e. prompting and selecting tables/views and/or columns from within SQL Statements. The result of a SELECT statement cannot only be displayed in the same of a different window, but also converted into \*.csv, Excel and other data formats ... and much more. This session will show how to use ACS Run SQL Scripts effectively.

## **Learning Objectives:**

In this session you'll get an overview, what you can do with the ACS Run SQL Script Interface. You will learn:

- how to configure and use different connections.
- how to record, format and execute your SQL-Statements
- how to check whether your SQL Statement conform the SQL Standard
- how to save the result of a SELECT statement in \*.csv or Excel and other data formats
- how to prompt tables/views and columns from within SQL Statements
- how to analyze your SQL-Statements with Visual Explain
- how to use the included examples and save your own examples
- how to update data by modifying the result set of a SELECT statement
- ... and much more

**Audience:** Programmers and database administrators/engineers who have to work with the data in physical files or tables. This session may be critically interesting for everybody who no longer want to use the outdated interfaces of STRSQL and Client Access for windows.

## **5 SQL Tips – Birgitta Hauser**

SQL becomes more and more important, because it has become the standard for accessing data located within relational databases. Quite often however we are faced with apparently small things which make live awkward. In this way I'll offer several tips and tricks, you may or may not know, which can help when working with SQL.

- Searching for % or \_ characters in Strings
- Removing (only) leading and trailing characters from a string
- Calculating with SQL
- Editing numeric Values
- Converting numeric Dates/Time Values into SQL Date and Time Data Types and vice versa

## **SQL Performance Analysis – An Introduction – Birgitta Hauser**

SQL becomes more and more the standard for accessing data in physical files or SQL tables. Contrary to native I/O where the programmer specifies a physical or logical file that is to be used, in SQL it is the Query Optimizer who decides whether an index is used or whether the complete table/file is read. Long running queries are a nuisance, but what is the reason why an SQL statement performs badly? Is there any way to affect the query optimizers decisions?

Before using any analysis tool, it is important to know what steps must be performed when executing a SQL statement. How do the query optimizer and the statistics manager work together? What is the difference between a full and pseudo open? ... and much more. The ACS (IBM I Access Client Solutions) SQL Performance Center provides multiple interfaces for recording information about SQL queries and for analyzing the collected data, such as Visual Explain, SQL Plan Cache (Snapshots) or SQL Performance Monitors.

In this session you'll get a short introduction into the SQL Performance Analysis

### **Learning Objectives:**

Before using SQL Performance Analysis Tools, you'll learn several details about the Query Optimizer, about the Statistics Manager and how you can affect the query optimizer's decisions. You'll get an introduction into the SQL Performance Center included in IBM i Access Client Solutions (ACS).

### **Audience:**

Programmers and database administrators/engineers who are faced with problems with long running SQL queries and have to optimize those queries or applications.

**Level:** Advanced

## **How to Install Node.js and Set Up Loopback – Mark Irish**

A complete step-by-step tutorial on how to install Node.js on the system and get connected to Db2 for i. Mark will demonstrate how to download the required software, install the right packages for Node.js, configure the ODBC connection correctly, and then how to write some basic JavaScript to get data from Db2 for i into the Node.js process. This session will also show how to set up LoopBack to create REST APIs for Db2 for i tables and views, and will be useful for anyone interested in using Node.js for serving up data through REST APIs.

## **Overloading Subprocedures in RPG – Scott Klement**

One of the coolest new features in ILE RPG is the ability to overload your prototypes! With overloading, you can accept differing parameter types while keeping the same routine name. Overloading can be used with programs, but the biggest value comes when using it with subprocedures. This session explains the concept of overloading and why it should be used. It provides technical details of how to use RPG's OVERLOAD keyword to implement overloading in RPG.

## **RPG Does Email and Texts – Mike Larsen**

In this session, you'll see how to send emails and text messages from IBM i using RPG and CLP. You'll learn how to send plain text messages, messages with attachments, and you'll even see how to include emoji's in your messages!

## **Putting IBM i Services to Work with Db2 Web Query – Doug Mack**

IBM i Services are SQL interfaces into IBM i system information. Intended for a systems administrator or developer, these services make it way simpler to build a reporting structure around monitoring information about your system utilization, spool files, security attributes, netstat information, even reverse

engineer a spool file into a PDF or Excel format. Because these are SQL based interfaces, combined with the new EZ-Report function in Db2 Web Query you can create reports in minutes.

This session will discuss and show you not only what sample reports over IBM i services already come with Db2 Web Query, but how you can extend those to build your own. Need a report that is regularly scheduled to monitor the top xx ODBC jobs, or list out the user profiles that have \*ALLOBJ authority? This is VERY easy to create the initial report (and synonym) and use as is, or enhance in a number of ways (like add it to a dashboard)!

### **Enterprise-Ready JavaScript with TypeScript - Aaron Magid and Dan Magid**

With virtually no compile-time restrictions, you can write JavaScript code just about any way you want. When you're working on a small, personal project, this feature allows you to prototype extremely quickly. But what about enterprise projects with large developer teams? In those cases, more standardization is required. TypeScript allows your JavaScript projects to graduate to the enterprise level, keeping your code organized, maintainable, and helping you eliminate bugs. In this session, you will learn how to set up TypeScript, and the basics of programming with TS.

#### **Attendees will:**

1. Be able to install and configure TypeScript for enterprise development
2. Understand why TypeScript is key for production-worthy JavaScript
3. Learn the basics of programming with TypeScript so they can get started

### **IBM i In the Cloud Now! - Aaron Magid and Dan Magid**

How would you like to stop paying for excess capacity on your IBM i that is only used when there are occasional spikes in demand? Would you like to create snapshots of your entire machine (applications, data, user settings, network settings, etc.) along with any attached Windows or Linux servers with just a click of a mouse? Would you like to eliminate the expense and headache of managing on-premise hardware while ensuring you are always running with the latest technology? Would you like to eliminate tapes and VTLs by using Cloud backups? If so, now you have the opportunity to get all these things by moving some or all of your IBM i workloads to the Cloud. IBM, Google, Microsoft and a variety of smaller companies are all now offering IBM i in the Cloud. In this session we will cover how to move workloads into the Cloud and how you can take advantage of Cloud capabilities like capacity on demand, pay only for what you use, create system snapshots with a click of the mouse, checkpoint and restart application testing with instant cloning, BRMS backups to the Cloud and geographically dispersed HA/DR. We will give you a live demo of running an IBM i in the Cloud.

### **How to be a RockStar System Admin with Navigator for i - Pete Massiello**

IBM Navigator for i is a powerful new tool to better manage your i environment. Get expert advice for installation and set up to make sure you get this powerful tool up and running at peak efficiency. Step through the functionality of this product and learn how to leverage the Performance Data Investigator to turn the collection services data into graphs you can use to identify performance issues. Learn ways to protect your system from intrusions, as well as close security holes such as FTP. See how this tool can help you select and install Logical files on your system to improve performance. Learn about the enhancements to this valuable tool in the release of version 7.3, while we see how this tool provides tips and techniques for better and more easily managing your IBM i.

#### **Learning Objectives:**

- 1) Learn how to close down various TCP/IP servers like FTP from intruders.
- 2) How to use the Index Advisor to improve performance.

- 3) Identify if someone is trying to access your IBM i with Intrusion Detection.
- 4) Performance Management graphs.

### **RPG's XML-INTO, DATA-INTO & DATA-GEN Family of Operations – Barbara Morris**

Today's RPG can greatly simplify dealing with non-traditional data - such as XML, JSON, CSV or any other format that may appear in the future. XML-INTO and DATA-INTO allow RPG programs to parse formatted data and populate RPG data structures with the contents. Need to generate formatted data from RPG data structures? DATA-GEN accomplishes that.

Come to this session to learn more about the data transformation potential of this family of operations to simplify data interchange.

### **30 PHP Tips in 60 Minutes – Mike Pavlak**

This discussion looks at the most popular tweaks, hacks and just plain good practices for the IBM i PHP community to enjoy. Sometimes you just need a shopping list of things to watch out for and many of the tips that are scattered throughout these presentations are consolidated in a single place. Performance, security and best practices and more will be discussed. Common tips useful to all PHP shops. Common mistakes to overcome with PHP in most shops.

### **Intro to Python – Mike Pavlak**

Come get your first look at Python and learn some of the basics! Also, learn about the product offerings that enable you to do software development with the language on the platform. Upon completing this class, you will be able to acquire, install, and use the language on IBM i, as well as extend its power using contributions from the larger open source community. We will also explore DB2 Data Access and IFS file system access as primary use cases for Python on IBM i.

#### **Learning Objectives:**

- 1) Installation of Python.
- 2) Multiple methods of use and access
- 3) DB2 data access from Python

### **Rapid Fire Admin - Steve Pitcher**

This overflowing session is designed to help ensure every IBM i administrator and operator has at least a backpack full of valuable tips for when they return home. From command line to shell to IBM Navigator for i, Steve will sprint through these tips at a pace of at least two tips per minute, for at least 150 tips! This session is updated every quarter with new and relevant information so that you don't miss good foundational tips but are keeping up with what updates IBM is releasing on a regular basis.

### **Anatomy of a Security Failure – Steve Pitcher**

After the dust settles after a security breach, the next logical questions are: "What happened and how can we prevent it from happening again?" We will deconstruct a number of security failures that will provide lessons that you can take home and put to use immediately.

### **Building Reusable APIs - Stephanie Rabbani**

When should I use an API? What are the benefits of writing APIs? This talk will cover when to use Web APIs to access your data, as well as some tips on how to write a Web API that is flexible and designed to last. Using code examples in multiple languages, I will share lessons recently learned from working on a large integration project with Salesforce.

## **Creating APIs in 5 Minutes with Node.js & Loopback - Stephanie Rabbani**

We will install Loopback and the brand new IBM i Loopback connector, and use it to create an API accessing db2, lightning fast! We will use the rest of the time to expand on this demo and eat chocolate. Come see how quickly you can deliver your data with Node and Loopback.

### **Learning Objectives:**

1. What is Loopback and how can it work for me?
2. How can I create a quick and secure REST API?

## **R U Wanting to Learn About R – Stephanie Rabbani**

Love data? Check out “R,” a programming language for number crunching and analytics. R enables business users and developers to test financial models, assess risk, and analyze trends, then to translate the results into print-quality charts and graphs. Free and open source, R is available with IBM i 7.4. Empower your business with R.

## **Pass the Flask and Quickly Pour IBM i Python Web Applications – Richard Schoen**

If you’ve been itching to see what all the fuss is about, but haven’t had time to open the Flask, attend this session by Richard Schoen to learn how to jump start your web development with the Flask web framework. Python has been available for the past several years on IBM i as part of the open source packages for IBM i. Created back in 1989, about the time the AS/400 appeared, the Python language has gone on to become one of the more popular open source development languages for speedy app creation on all platforms including IBM i, Windows, Linux and Mac servers. As a Python based web development framework Flask is flexible and easy to get started with for beginning web developers and existing IBM i developers alike. You can go from installation to a “Hello IBM i” app in 7 lines of code. In this session we will cover everything from installation and getting started to best practices. We will also review and provide the source to a sample Flask application you can install and start using right away on your IBM i to get more familiar with Flask and identify some use cases in your own shop. You won’t want to miss this inspiring Flask technical session to see how the IBM i has been bitten by Python and Flask can be the elixir that cures all that ails you.

## **ODBC Your Open Source – Alan Seiden**

ODBC is quickly becoming the strategic way for web applications to access Db2 data and RPG program logic on IBM i. With the new, native ODBC driver on IBM i, developers are excited to code locally on their PCs, then deploy the same code to IBM i for production. Learn best practices for using ODBC with open source languages, including Node.js, PHP, and Python, and how to convert from language-specific middleware functions to ODBC.

### **Learning objectives:**

1. How to install and configure ODBC on IBM i
2. How ODBC can help you develop software that can run on any platform while accessing IBM i data
3. How to use ODBC from the various languages safely and effectively, avoiding common mistakes

## **Web Server Magic on IBM i – Alan Seiden**

Anyone creating web or mobile applications, or APIs, can benefit from the techniques shown here:

- Do I need a web server? Which one is best for me?
- Securing your site
- Apache and Nginx tips and tricks
- HTTPS encryption (SSL/TLS), including using the free Let’s Encrypt

- Create user-friendly and search-engine friendly URLs over any web application
- What if you become popular? (performance and handling a large number requests)

**Learning Objectives:**

- Understand how to secure the Apache web server on IBM i
- Learn to use Apache's most useful features, including search engine optimization, logging, and virtual hosts

**Audience:**

Administrators and developers seeking to prepare their systems for web applications, improve performance, and improve security.

**Everything They Never Taught You! – Steven Wolk**

Ok, maybe we're setting the bar a little high by saying EVERYTHING, but did you ever feel like all the people around you seem to just KNOW things, things you don't? Sure, you're a wiz with SQL, and no one codes RPG like you do, but when it comes to people skills, to working in teams, to communicating well, to building your career... Well, they never taught you THAT! Come to this session to learn everything you've been missing out on.

**Learning Objectives:**

Attend this session to learn to:

- \* Collaborate more effectively with other team members
- \* Resolve conflict with coworkers
- \* Improve your relationship with your boss
- \* Negotiate to get what you want
- \* Effectively market yourself in your current position
- \* Communicate better with everyone
- \* Understand EVERYTHING THEY NEVER TAUGHT YOU!

**Configuring ACS to Use TLS Using the New DCM GUI – Carole Woodbury**

Whether you've never used it before or you're a seasoned veteran of DCM (Digital Certificate Manager), this session is for you!. Recent TRs (Technology Refreshes) have delivered a fresh, new GUI interface for DCM. Carol will show how to use this new interface to manage certificates (create, request, assign, check for expiring, etc). She will then configure Access Client Solutions (ACS) to use these certificates. A new interface for securing communications – woo hoo!