

Session Abstracts for Saturday, July 27, 2019

Continental breakfast and lunch are included!

Application Modernization Database Workshop – Birgitta Hauser – 9:00 AM – 3:00 PM

Today, when we talk about application modernization, most think about having to reface their application and going mobile. New technologies will be used to change the layout and programs will be rewritten. ... but what will a nice design be worth if the base, i.e. the underlying database is still in your grandfather's style, grown over the years with lots of redundancies? In this workshop you will learn why to go from DDS to SQL, what are the benefits of SQL over DDS. Techniques for converting and redesigning your existing grown over the time database into a modern normalized database will be shown. In a modern environment database objects can and must be accessed from multiple interfaces and programming languages. For guaranteeing data integrity and security business logic and security rules should be moved into the database.

Learning Objectives: Discover the advantages of SQL over DDS and the SQL enhancements within the last releases. Replace DDS described physical files with SQL Tables. Use SQL Indexes for native I/O instead of DDS described keyed logical files. Move business logic into database by using SQL views, materialized query tables and referential integrities. Add row and column access control (RCAC) for avoiding unauthorized data access. Start using instead of triggers to allow a further redesign of the existing data base.

Audience: IT Managers, project leaders, programmers and database administrators who are currently working with an old "grown over time" database and want to modernize this database, without destroying the current applications. This presentation will also be valuable for those who need to design the database for a new project.

Agenda:

- Modernization Goals
- Moving Business Logic into Database
- DDS described logical files versus Views versus Indexes
- Views
- Binary Radix Tree Indexes
- Encoded Vector Indexes
- DDS described physical files versus SQL Tables
- Unique Identifier (Identity columns, RowId, Sequences, Generate_Unique)
- CREATE OR REPLACE – From DDS to SQL
- Row and Column Access Control (RCAC)
- Temporal Tables
- Journaling and Commitment Control
- Constraints and Referential Integrities
- System and SQL Trigger
- Instead Of Trigger

Level: Advanced

Getting Started with Linux & Shell Programming Workshop – Erwin Earley – 9:00 AM – 3:30 PM

Schedule:

9:00AM – 9:10AM	Introduction to Workshop
9:10AM – 10:30AM	Setting up Linux on Power
10:30AM – 10:45AM	Break
10:45AM – 12:00PM	Linux Administration Part 1
12:00PM – 12:45PM	Lunch Break
12:45PM – 2:00PM	Linux Administration Part 2
2:00PM – 2:15PM	Break
2:15PM – 3:30PM	Shell Programming

Setting up Linux on Power Systems

So, you've decided to take the plunge and explore Linux on your Power system but don't know where to start? This session will explore how to install Linux on a Power system, both PowerVM as well as the KVM hypervisor will be covered as well as hosting Linux I/O from an IBM i instance.

Linux Administration Part I

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 Installation
- Boot Process
- Exploring Linux Devices
- Virtual File Systems
- Storage Management
- User Management
- Linux File Systems

Linux Administration Part 2

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.

- The Linux Shell
- Software Management
- Linux Security
- Network Management
- Monitoring & Troubleshooting
- Linux Management Tools

Shell Programming

If you are going to work in the Linux operating system, or PASE for that matter, then understanding how to program in the shell is an important skill that you must possess. This session will introduce you to the basic shells that are available and go through a number of programming constructions including looping, functions, and I/O processing.

Python – Hands-on Lab – Mike Pavlak – 9:00 AM – 5:00 PM

Python is a language that has been perceived as infrastructure or plumbing in the IT department, much like CL. While this is an excellent use for Python, it has emerged as a strategic language for application development, too.

In this workshop we'll explore the implementation, syntax and application use cases of Python on IBM i. From a fundamentals perspective you will get hands on experience using the command line, shell environment, script creation, storage and execution. As we progress through the workshop, we will delve into Db2 data access and program calls using XML Service as well as a brief tour of frameworks.

Then we'll wrap things up with how open source applications built in Python can add value to your IT environment.

Node.js – Hands-on Lab/Workshop – Jesse Gorzinski and Aaron Magid – 9:00 AM – 4:00 PM

Node.js is one of the fastest growing runtimes and is being used by enterprises to quickly deliver differentiating solutions which take full advantage of the cloud. Join us for a day of education and hands-on experience. In the morning, you will receive education about the many benefits of using Node.js. You will also learn how to connect Node.js to Db2 for i using the IBM-provided open source libraries. You will also learn how to obtain support.

After lunch, you will get some hands-on experience as we will teach you how to use JavaScript and develop your first project with Express.js, a popular web application framework. From there we will cover important tools for Enterprise-level Node.js such as TypeScript, a type-safe language useful for developing more robust applications.

Finally, we will demonstrate the power of Loopback, a highly-extensible framework by IBM that excels at quickly generating APIs that connect back-end services to requests. We will teach Node.js in terms that RPG developers are familiar with, and demonstrate why Node.js is a perfect match for doing business on your IBM i.