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Advanced SQL workshops – Birgitta Hauser, "The Queen of SQL", Germany
18 – 19 September 2023

Venue - The New Fox, Brusselbaan 182, 1790 Affligem, Tel.: +32 477/62.47.42

Easily reached via the E40 highway, exit 19a Affligem.
Spacious parking space available by the side of The New Fox.
http://www.thenewfox.be/

Agenda
Monday 18 September,

09:30 – 10:00 – welcome coffee
10:00 – 11:20 - Generating and Consuming JSON with SQL
11:20 – 11:40 – Coffee break
11:40 – 13:00 - Generating and Consuming JSON with SQL (continued)
13:00 – 14:00 – Buffet, sitting lunch
14:00 – 15:20 - SQL and IFS
14:00 – 15:40 – Coffee break
15:40 – 17:00 - SQL and IFS (continued)

Tuesday 19 September,

09:30 – 10:00 – welcome coffee
10:00 – 11:20 - SQL Programming Language - An Introduction
11:20 – 11:40 – Coffee break
11:40 – 13:00 - SQL Programming Language - An Introduction (continued)
13:00 – 14:00 – Buffet, sitting lunch
14:00 – 15:20 - Data Centric - Moving Business Logic into the Database
14:00 – 15:40 – Coffee break
14:00 – 17:00 – Data Centric - Moving Business Logic into the Database (continued)
17:00 - … Closing drink

Fees:
Both days – sessions, coffees, lunches and event end drink – Members: €350 + VAT, Non-members: €475 + VAT
One day alone – sessions, coffees, lunch and event end drink if Tuesday - €200 + VAT, Non-members: €300 + VAT

Hotel stay if needed (reserve early the hotel is rather demanded):
Standard room - €105, **Comfort room** - €125
Reservation – Call +32 477/62.47.42 or send e-mail to hotel@thenewfox.be mentioning Common Belgium

Register NOW, seats are limited

Bio **-** Birgitta Hauser is passionate of IBM i and its predecessors since 1992. She graduated with a business economics diploma, and started programming on the AS/400 in 1992. She worked and works as traditional RPG Programmer but also as Database and Software Engineer, focusing on IBM i application and database modernization. Currently she is an independent consultant and works in Consulting, Application Modernization on IBM i and especially Database Modernization on Db2 for i. She also provides individual programming on IBM i to her customers. Additionally, she also works in education as a trainer for RPG and SQL developers.

Since 2002 Birgitta has frequently spoken at the COMMON User Groups and other IBM i and Power Conferences in Germany, other European Countries, USA and Canada. In addition, she is co-author of two IBM Redbooks and also the author of several articles and papers focusing on RPG and SQL for the ITP Verlag (a German publisher), IT Jungle Guru and IBM DeveloperWorks. In 2015 she received the John Earl Speaker Scholarship Award. In 2018 she received the Al Barsa Memorial Scholarship Award and since 2020 IBM recognized her as IBM Champion.

Generating and Consuming JSON with SQL

Abstract - JSON (Java Script Online Notation) is a data exchange format like XML, however JSON is simpler, less verbose and can be faster parsed than XML. In this way, JSON becomes more and more important especially when data is exchanged by RESTful web services. The use of XML declines in favor of JSON.

With Release 7.3 TR 3 scalar and aggregate functions were integrated into SQL on Db2 for i, for generating JSON objects, arrays, literals and for combining JSON components into complete hierarchical JSON-documents. Since 7.5 TR 1 it is even possible to modify/update JSON Documents/Data

With the JSON_TABLE table function on the other hand JSON documents can be parsed, converted into a relational representation and data picked specifically out. Additional scalar functions allow SQL to directly access JSON documents located within the IFS (Integrated File System) or in source physical file members.

Last but not least, IBM provides SQL http-functions for getting access to web services. In composition with the JSON_TABLE function, the JSON answers returned by web services can be consumed within a SELECT-Statement.

Learning Objectives - Learn what scalar functions for string manipulation are available and how they can be used for concatenating, converting, splitting strings.

For more complex searches learn which regular expression functions are available and how they can be used.

Register NOW, seats are limited

SQL and IFS

Abstract - SQL is great for accessing data located in a relational database. But in a modern world it is also necessary to consume data that is located in the IFS (Integrated File System) or provided by web services

With each Technology Refresh IBM introduces and enhances Db2 for i Services. With Release 7.4 Technology Refresh 3 IBM provides new SQL Stored Procedures for reading data from and writing Data into the IFS.

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In composition with other SQL Functions it is easy to scan through IFS files or decompose *.csv files or JSON files or XML documents located in the IFS.

Learning Objectives - In this session, you'll learn how to write data to the IFS and how to read IFS files, by using no other programming language than SQL.

It will be also demonstrated how to access and decompose *.csv files located in the IFS without copying them into a physical file or SQL table.

Register NOW, seats are limited

SQL Programming Language - An Introduction

Abstract - SQL is much more than a query language. Besides querying and manipulating data in database objects and generating those database objects, SQL also provides all kinds of commands and constructs, for writing and executing programs. With the SQL Programming Language, Stored Procedures, Triggers and User Defined (Table) Functions can be written, without knowing anything else than SQL commands!

Learning Objectives - This workshop will give you an introduction into the SQL Programming Language. The procedure and function create options and controls are explained. You'll learn how to structure the source code within the routine body, how to define variables and cursors, what control statements are available, how to read data row by row in a loop, how to receive and return parameter values and result sets and how to handle errors. Besides the pure coding you'll get also a short introduction into the development tools.

Data Centric - Moving Business Logic into the Database

Abstract - When talking about application modernization database most think about converting from DDS to DDL and redesigning the database ... and yes, this might be the final goal.

But there is much more ... because we never can touch the database without respect to the application and vice versa. We have to move from an application-centric thinking to a data centric thinking. In short, instead of coding everything in whatever programming language, we should move as much business logic as possible into the database. It may even include foreign data that is provided and accessed by Web-Services. But ...what does that mean? At first, using encapsulated (complex) SQL Statements wrapped in SQL Views or User Defined Table Functions, externalizing Data Access, adding constraints and triggers, Row And Column Access Control (RCAC) ...

With all these techniques, we cannot only reduce our source code to a minimum but also secure our data!

Learning Objectives - Discover how to move business logic into the database, what methods are available and learn how the applications can be slowly transformed from application centric to data centric.

Register NOW, seats are limited

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