

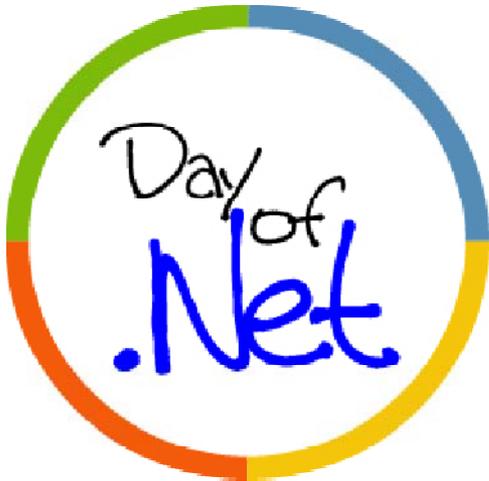
Avoiding Database Entropy

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You've developed your database and deployed your code. Now you need to add the features everyone else wanted. The more you add to the scope of the project, the more you realize your database design isn't going to cut it. You refactor your code—why not refactor your database. Come to learn practical ways to change your production database without tearing your hair out.

Who paid for this event?

Thank You!



Microsoft®

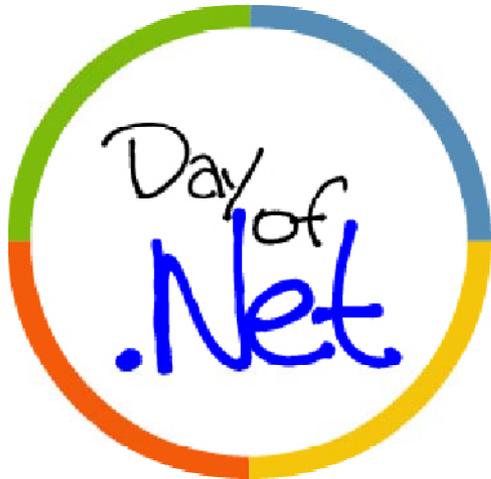


Learn More. Go Further.



Who organized this event?

**User
Groups!**



Detroit, MI
(Southfield)



Toledo, OH

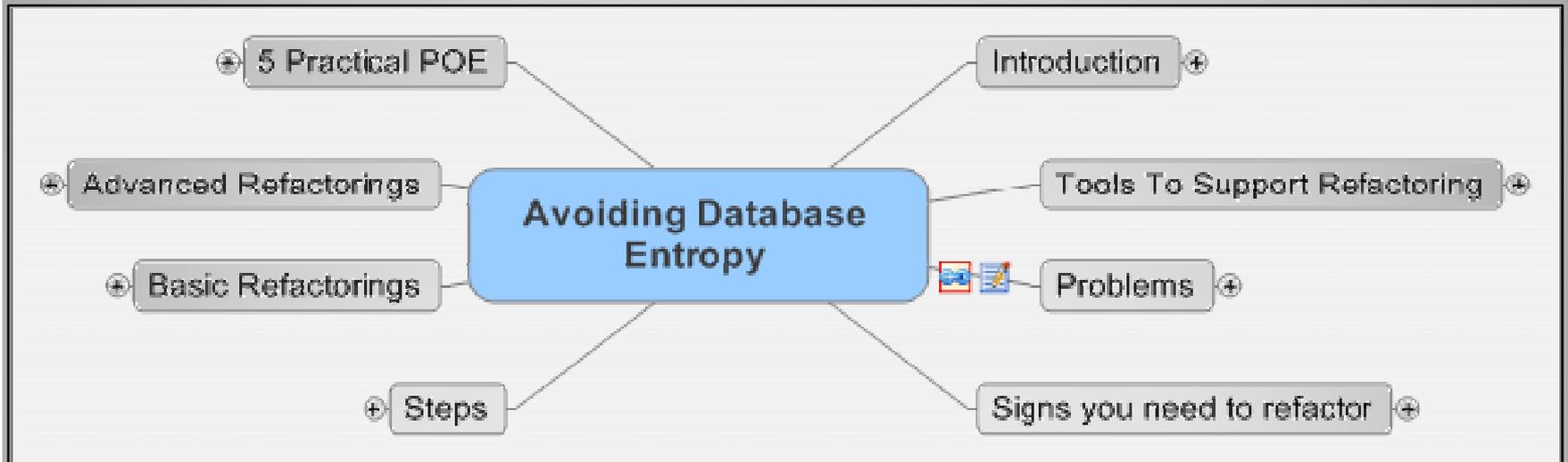


Ann Arbor, MI



Sign up sheets are in the hallway!

**So you think
you know SQL?**



Avoiding Database Entropy

Introduction

Database Agnostic

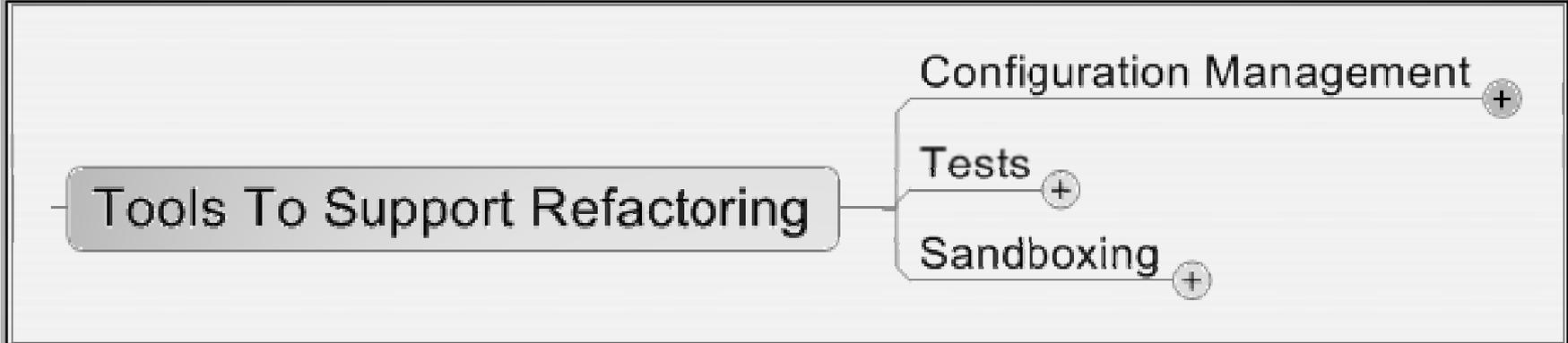
Refactoring Explained



Database Environments



Introduction



Tools To Support Refactoring

- RedGate (www.red-gate.com)
 - SQL Compare
 - SQL Refactor
- Idera (www.idera.com)
 - Change Manager
 - Compliance Manager
 - SQL Config
- Microsoft VSTS for DBAs
 - TFS and VSS Integration

Tools List

Problems

Team/Business Culture

Lack of Tools/Hardware/Software

Politics

Problems

Signs you need to refactor

Fear of change

Multipurpose column

Multipurpose table

Redundant Data

Too Many columns

Too Many Rows

"Smart" Columns



Coupling

Signs you need to refactor

- Verify
- One Step at a time
- Test
 - Before
 - During
 - After
- Implement
- Migrate
- Version Control
- Deploy

Steps

**So you think
you know SQL?
Part 2**

- + Rewrite Bad SQL
 - + Move Column
- + Common Format
- + Introduce Function

Basic Refactorings

Basic Refactorings

- LEARN SQL

Rewrite Bad SQL

- Single App
 - Insert Column
 - Copy Data
 - Delete Column

Move Column

- Multiple App
 - Insert Column
 - Add Sync Triggers
 - After Time Lag

Move Column

- Sometimes changes data
- Sometimes changes semantics

Common Format

- Common calculations in one place
- What's appropriate

Introduce Function



Advanced Refactorings

- Reasons

- RI
- Code Lookup
- Constraint
- Code Descriptions

Add Domain Table

- Implementation Steps
 - Structure
 - Create Table
 - Create Data
 - Create Foreign Key

Add Domain Table

- **Reasons**

- Data Warehousing
- Corporate Standards
- Code Complexity

Standardize Data

- Implementation Steps
 - Identify values
 - Identify where values are
 - Update Code

Standardize Data

5 Practical PC

Dynamic SQL

Poor Group By

Select *

SCC Scripts

Test Data/Sandbox

5 Prac

- SCC Schema
- Select *
- Fix Incorrect Group By
- Dynamic SQL
- Sandbox for Dev and Test

Where to get started