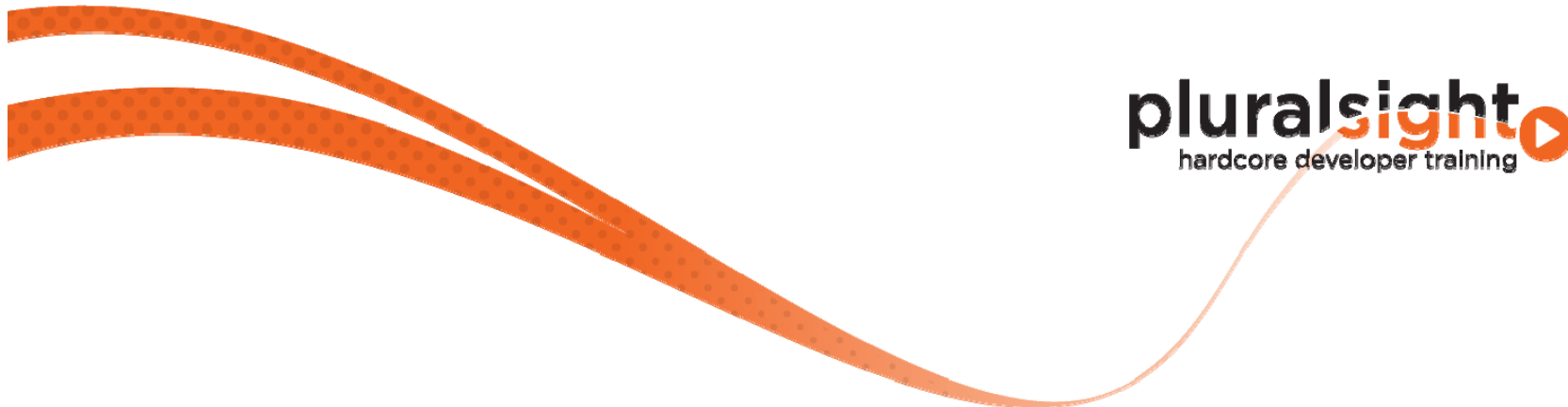


SQL Server: Advanced Extended Events

Module 5: Advanced UI Features

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Introduction

- The new UI for Extended Events in SQL Server 2012 makes using Extended Events significantly easier
- The basic UI features were covered in Module 4 of the Introduction to Extended Events course
- Advanced analysis using grouping and aggregating, and merging of files, can simplify problem identification when the event sessions have been designed to leverage these UI features
- In this module we'll cover:
 - Grouping and aggregating data
 - Merging files
 - Designing event sessions for advanced analysis

Grouping and Aggregating Data

- **Post-collection analysis of data is simplified through native grouping and aggregation of data in the UI**
- **Does not work for live data viewing while the stream is connected**
- **Grouping can be performed on one or multiple columns that exists in the data generated by an event session**
- **Aggregations can be defined for one or multiple columns that exists in the data generated by an event session**
 - Results can be sorted based on a single column aggregate to identify the highest impact based on the grouping definition

Merging Files

- Provides the ability to merge the contents of multiple event files into a single data set
- Useful for scenarios where an event session has started and stopped multiple times, or when tracing interactions between multiple instances
 - Eg. Availability Groups, Service Broker conversations, etc.
- Can also merge Extended Events output with Server Audit output

Designing Event Sessions for Advanced Analysis

- **Using the `sqlserver.query_hash` and/or `sqlserver.query_plan_hash` actions for grouping simplifies ad hoc workload analysis**
 - Previously required using third-party tools like ReadTrace or ClearTrace
 - Useful for identifying short duration, high frequency events and their cumulative impact on the server
- **Creating multiple sessions with different definitions using `TRACK_CAUSALITY` allows for correlation across multiple files**
 - Event files can be created using the `event_file` target or by saving `event_stream` data from the live data view to separate files

Summary

- **Leveraging the new UI features can greatly simplify analysis of the data collected**
 - Can replace the need for third-party tools for ad hoc workloads
 - Leveraging the power of .NET to process event XML and aggregate data is often faster than performing similar operations in Transact-SQL with XML
- **Merging files can simplify diagnosing complex problems across interconnected systems**
- **The next module will look at:**
 - Extended Events .NET API