Consuming OData Services from .NET and JavaScript Clients

Brian Noyes

CTO, Solliance (www.solliance.net)

@briannoyes

pluralsight
hardcore developer training

Outline

- **Consuming OData from .NET clients with WCF Data Services Client**
- **Using Task-Based Async Pattern (TAP) with WCF Data Services clients**
- **Consuming OData from JavaScript clients with JQuery, DataJS, and Breeze**

Consuming with WCF Data Services Client

- **Can generate client proxy code based on OData metadata**
- **Add Service Reference in Visual Studio**
- **DataServiceUtil.exe at the command line**
- **May need to download an updated installer**
  - http://www.microsoft.com/en-us/download/details.aspx?id=35840
  - Released after VS 2012
- **Proxy class exposes DataServiceQueries**
- **Can populate DataServiceCollection for client side change tracking**

Task-Based Async Pattern (TAP)

- **Introduced in .NET 4.5 / WinRT**
  - Can be used in .NET 4 with VS 2012 + Async Targeting Pack
- **Async methods return a Task**
- **Async methods can be "awaited" on**
  - async / await keywords in C#
- **Method pauses execution at an await**
- **Resumes when the async target is complete**
  - On the UI thread if originally on the UI thread
- **Does not block the thread while awaiting**
  - Logically returns early from the method and then re-enters the method on the thread when the async work is done

Using TAP with WCF Data Services Client

- **WCF Data Services Client does not generate TAP based async methods**
  - Begin/End pattern (Asynchronous Programming Model - APM)
- **Can easily wrap APM with TAP**
  - Task.Factory.FromAsync method

Consuming with JQuery, DataJS, and Breeze

- **JavaScript clients can also easily consume OData queryable services as well as update through them**
- **Base support for Web API calls: JQuery**
  - AJAX methods
- **OData formats support: DataJS**
  - Handles ATOM, JSON-Verbose, and JSON-Light
  - Single API for getting to the data results
  - Uses JQuery under the covers to issue the AJAX calls
- **Forming queries on top of an OData queryable: Breeze**
  - LINQ-like syntax in JavaScript
  - Uses DataJS under the covers to handle the OData formatting

Breeze

- **Breezejs.com**
- **Rich data library for JavaScript applications**
- **Call data services**
  - Web APIs or OData
- **Rich queries**
- **Tracks changes**
- **Data bindable**
  - Knockout or other observable libraries
- **Client caching of retrieved data**
- **Acts as a rich data repository that can make the service calls for JS apps**

Summary

- **Easy to consume OData from .NET clients with WCF Data Services Client**
- **Should start using TAP pattern to make the calls asynchronously**
- **JavaScript clients can:**
  - Handle things low level with JQuery AJAX calls
  - Abstract away the OData format with DataJS
  - Have LINQ-like syntax with Breeze