## In-Memory OLTP Development Demo in SSDT

* Goal/Objective – Migrate Production db from SQL Server 2012 to SQL Server 2014, adding support for in-memory along the way to realize performance benefits from in-memory OLTP
* Setup (You need two machines)
  + Machine 1
    - VS2013 Ultimate
    - SQL Server 2012 – CarDealerDotCom-PROD database running (CDDC\_Start.dacpac)
  + Machine 2 (I use VM)
    - VS2012 SSDT SQL Server 2014 CTP2
    - SLQ 14 CTP2 Instance with additional sa login already added - “CDDCsa”/”password” (needed to authenticate Hekaton proc in case of no corpnet access)
* Step 1 – Migrate DB as-is to SQL Server 2014
  + On machine 1, Open SSOX, show browsing, launch points, etc.
  + Extract dacpac from PROD db using DAC Verbs in SSOX (Schema only)
  + Copy dacpac to machine 2
  + On machine 2 (SSDT CTP2), create new project
  + Import from dacpac
  + Set target platform to SQL Server 2014
  + Change default debug db to local SQL Server 2014 instance/CarDealerDotCom-Debug
    - Use SQL auth -> CDDCsa/password
  + Build/snapshot project to get baseline dacpac
  + F5 project
  + Go to SSOX, browse db, show successful deployment
* Step 2 – Benchmark plain SQL Server 2014 db
  + View code on dbo.Value to show what we will use for benchmarking
  + Open new query on db and insert benchmarking query
    - Edit->Insert File as Text->Step1\_RegularInsert.sql
  + Run query
  + Save result for comparison later
* Step 3 – Add in-memory Table and Benchmark
  + In project, show in-memory table/fg templates
  + View code on dbo.Value
  + Comment out existing definition
  + Insert HK table and FG
    - Edit->Insert File as Text->Step2\_HKFilegroupAndTable.sql
  + Walk through HK syntax
  + F5
  + Look at deployment script, talk about DACFx taking care of HK specifics/data motion
  + Go back to query editor -> Modify comment at bottom of benchmarking script to say inserting into Hekaton table
  + Re-run benchmarking query, take note of result
* Step 4 – Add Natively Compiled Proc
  + Add New item->NC Proc -> dbo.InsertValue
  + Delete template -> Insert Step4\_IntegratedProc.sql as text
  + Show refactor rename, show GTD on dbo.Value reference, FAR to get back to proc
  + Change target platform to SQL11 and show build errors/ SQL Server 2014 specific validation that you are getting
  + F5
  + Via SSOX, right-click and Execute new procerue -> 100000 as variable value
  + Copy result to notepad for comparison of all three
* Step 5 – Schema Compare and publish
  + Right-click on project, schema compare -> Use Baseline snapshot as target
  + Publish Project back out to SQL Server 2014 to break out of debug loo