**SQL Server 2014 Demo Setup**

**(March 2014)**

**Table of Contents**

[In-Memory OLTP (Old and New skin) 3](#_Toc380575960)

[In-Memory DW 4](#_Toc380575961)

[In-Memory OLTP & In-Memory DW Better Together (based on PASS 2013 Keynote) 4](#_Toc380575962)

[Resource Governor for IO 11](#_Toc380575963)

[SSD Buffer Pool Extension 12](#_Toc380575964)

[Separation of Duties 12](#_Toc380575965)

[Online Database Operations 12](#_Toc380575966)

[Backup to Cloud – Manual with Encryption 12](#_Toc380575967)

[Backup to Cloud – Managed 12](#_Toc380575968)

[Backup to Cloud Tool – Support for Previous Versions of SQL Server 12](#_Toc380575969)

[Data Files in Windows Azure 12](#_Toc380575970)

[Deploy DB to Azure VM Wizard 12](#_Toc380575971)

[Optional Demos 12](#_Toc380575972)

IMPORTANT!

* The demo results depends on the type of hardware used. For optimum result, use system with at least 4 physical CPU cores, 16 GB RAM, and SSD drives. If you have only 4 physical cores, make sure hyperthreading is turned on, such that you have at least 8 logical cores.
* For Hybrid Cloud demos, install Azure Explorer from <http://azurestorageexplorer.codeplex.com/>
* Practice, practice, practice:
* Make sure you run the demo many times beforehand so there is no surprises during actual customer demos
* Time your actual demo time, log file will fill up very fast and performance will drop drastically so don’t run the demo too long

# In-Memory OLTP (Regular and Fancy skin)

1. Setup VM

* Create a new Hyper-V VM with Windows Server 2012 or later. Associate all logical processors with the VM, and give it at least 12GB of memory or 16GB of memory (preferred).
* Install vanilla copy of SQL Server 2014 with database engine with default instance
* For speed, use SSD drive for data and log files. Follow these steps:
* In Hyper-V manager, create two new fixed disks (size 20 GB each) to the VM. Make sure these disks are in different drive than your VM drive to speed up performance. Call one disk SSDData.vhdx and another one SSDLog.vhdx
* Add the disks into the VM
* Inside the VM, mount the new disks to L: and M: for Data and Log Files respectively
* Create L:\Data and M:\Data respectively (Important Note: Give everyone read/write permissions to L: and M: drives so SQL Server services can create mdf, ldf, and temp files in the drives)

2. Copy In-Memory OLTP demo executable

- In the binaries folder, copy all files (DundasWinGauge.dll, Original In-Memory OLTP.exe, and New Skin In-Memory OLTP) into the VM. Just place them on the desktop for easy access.

3. Reset the database

- Open the script, Demo Reset.sql and run it (this might takes several minutes to run). That will create a database called TicketReservations (Important Note: Give everyone read/write permissions to L: and M: drives so SQL Server services can create mdf, ldf, and temp files in the drives)

4. Restore AMR report

- Inside the VM, restore mdw database from the backup file mdw.bak

- Run both MDWFix.sql and MDW\_SprocUsage\_Fix.sql to fix the mdw for RTM

- To show the AMR reports, go to mdw->reports->Management Data Warehouse->Transaction Performance Analysis Overview

5. Run the demo (Regular Skin or Fancy Skin)

- Open In-Memory OLTP.exe or Fancy In-Memory OLTP.exe and run the demo using In-Memory OLTP Demo Steps and Talking Points.docx provided

- To reset the demo, run step 3 above

# In-Memory Columnstore

**Setup**

* Install vanilla copy of SQL Server 2014 default instance with database engine
* Modify AWSetup.sql with paths appropriate for your machine, and run it
* Restores copy of AdventureWorksDW2008Big into 3 HUGE databases (traditional index, non clustered columnstore index, and clustered columnstore index)
* Allow a few hours for index creation

**Demo Preparation**

* Run the AWPopulateCache.sql script to warm up the cache
* Have AWRun.sql ready to run in SSMS

# In-Memory OLTP & In-Memory Columnstore Better Together (based on PASS 2013 Keynote)

## What is Already on the Machine

The following items should already have been configured on the machine:

1. Zoomit
2. SQL Server 2014 named instance named PREPR0D, with SSMS. The instance must be in mixed authentication mode with the sa account enabled. The password for the sa account is assumed to be SQLPass20!3 in the document.

The following items should exist on your virtual machine:

1. C:\PASS keynote demo. This is where the source and executable for the demo are located. Also, backup files will exist under this directory. This directory will include the following files and folders

|  |  |
| --- | --- |
| File/Folder Name | Purpose |
| Fabrikam\_Back.bak | A full backup of the demo database in its initial state. |
| Fabrikam\_Dev.bak | A full backup of the website database in its initial state. |
| Fabrikam\_MDW.bak | A full backup of performance data collector for AMR tools |
| demo\_reset.sql | The reset script for the demo. |
| memoryoptimization.sql | The script to convert a table to memory-optimized table. Will be shown on SSMS during demo. |
| nativecompilation.sql | The script to convert a stored procedure to natively-compiled stored procedure. Will be shown on SSMS during demo. |
| DemoFramework2013.exe | The workload driver exe. |
| config.xml | The driver configuration XML file. |
| conversion-step1.sql | The script file the driver uses to make the first conversion. |
| conversion-step2.sql | The script file the driver uses to make the second conversion. |
| conversion-step3.sql | The script file the driver uses to make the final conversion. |
| PassWebApp | The directory where all the files for the website is contained. |

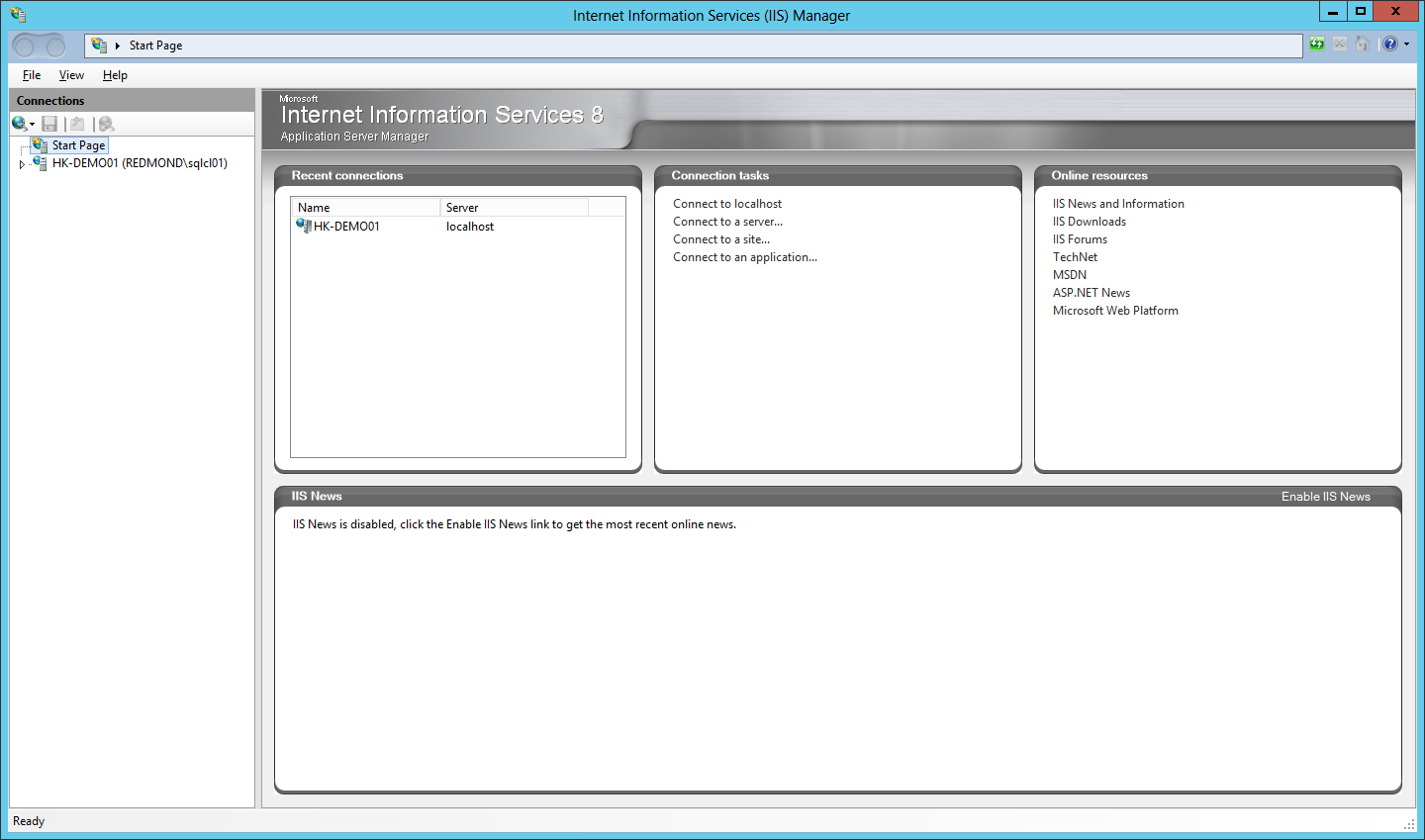
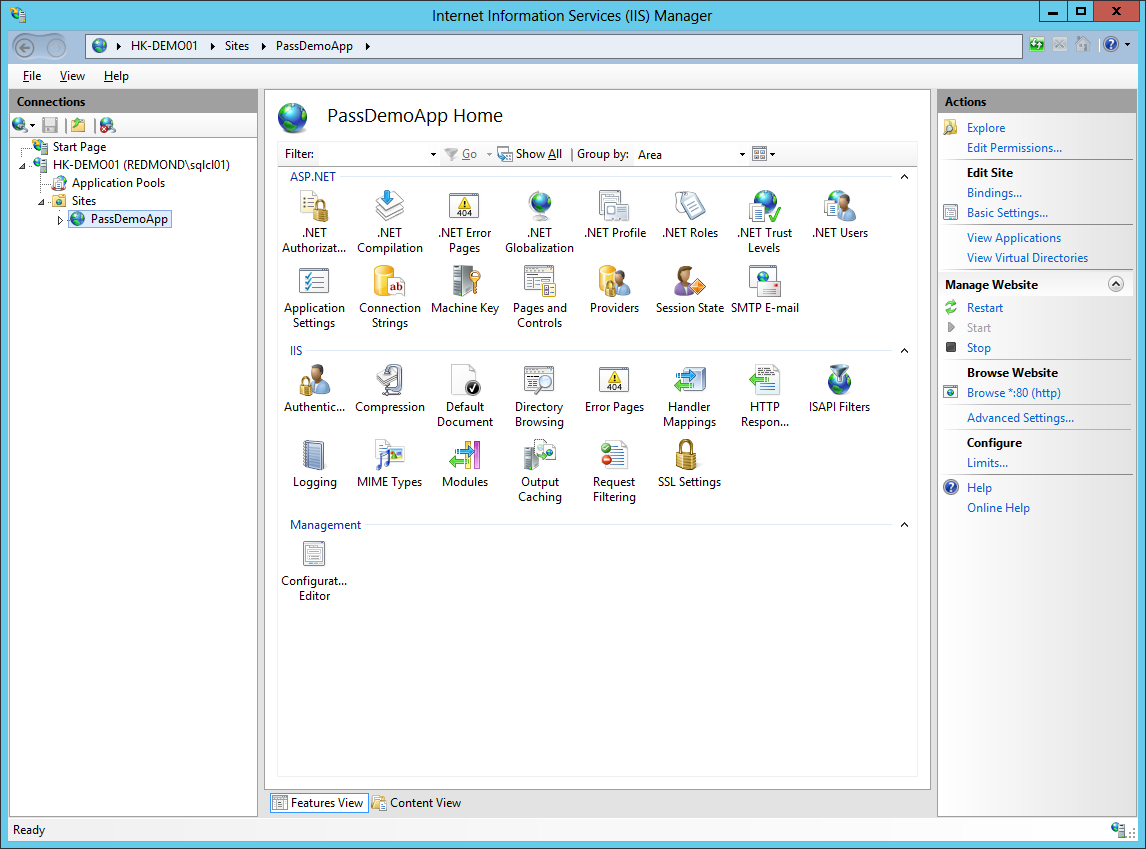
1. Create directories L:\Data and M:\Log. These directories will be used to deposit data and log files for our databases. L: and M: drive should be mapped to SSD drives.
2. Restore Fabrikam\_MDW.bak database so you can show AMR tools.

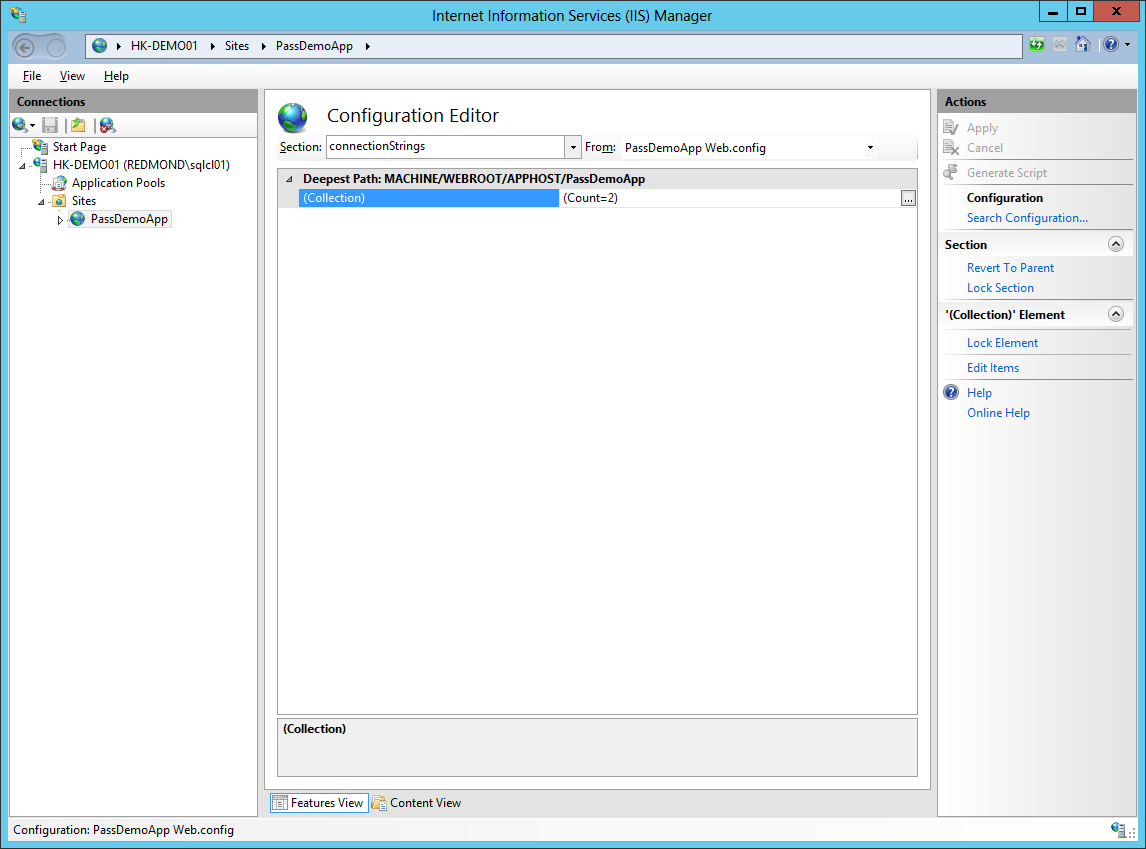
## What You Need to Do

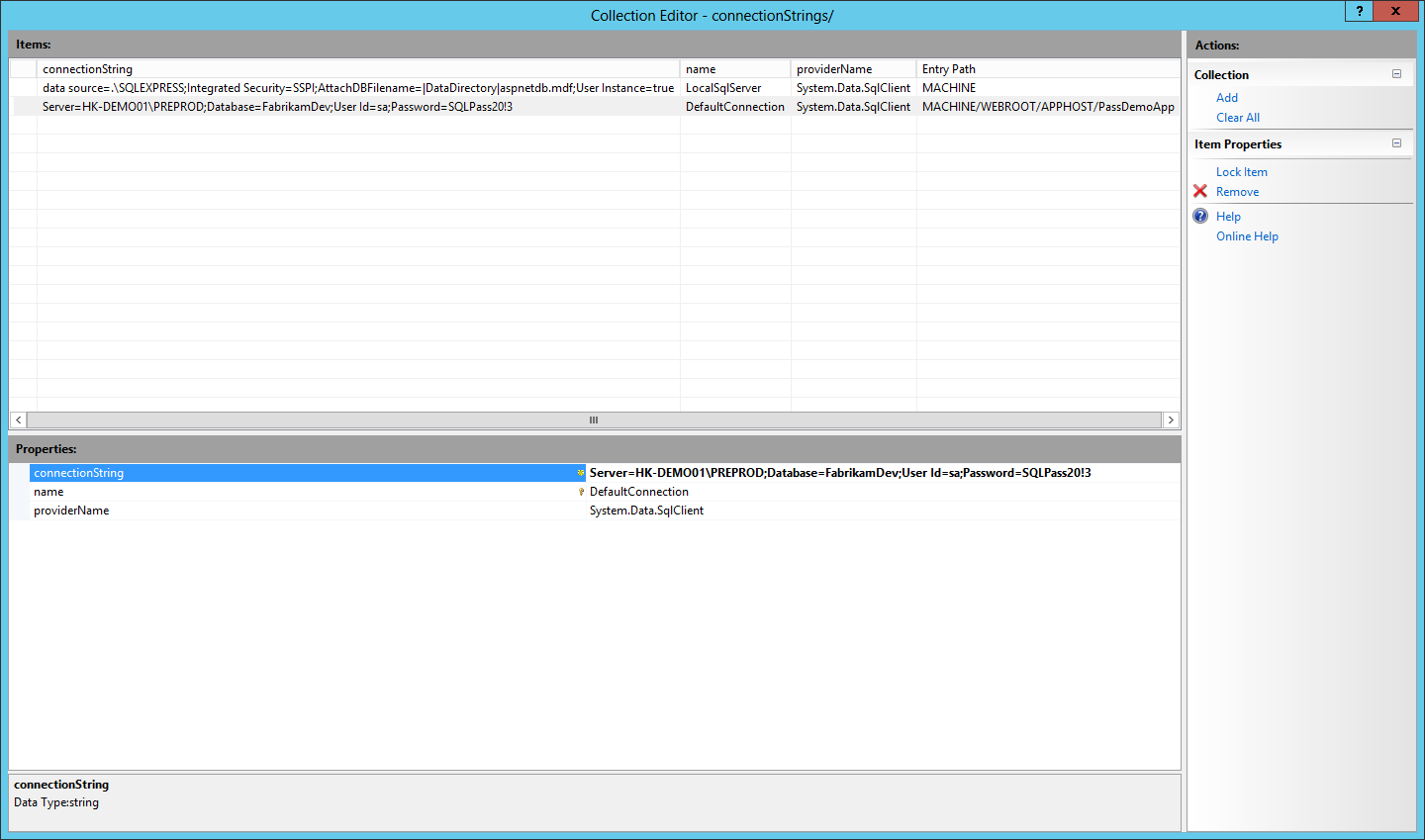
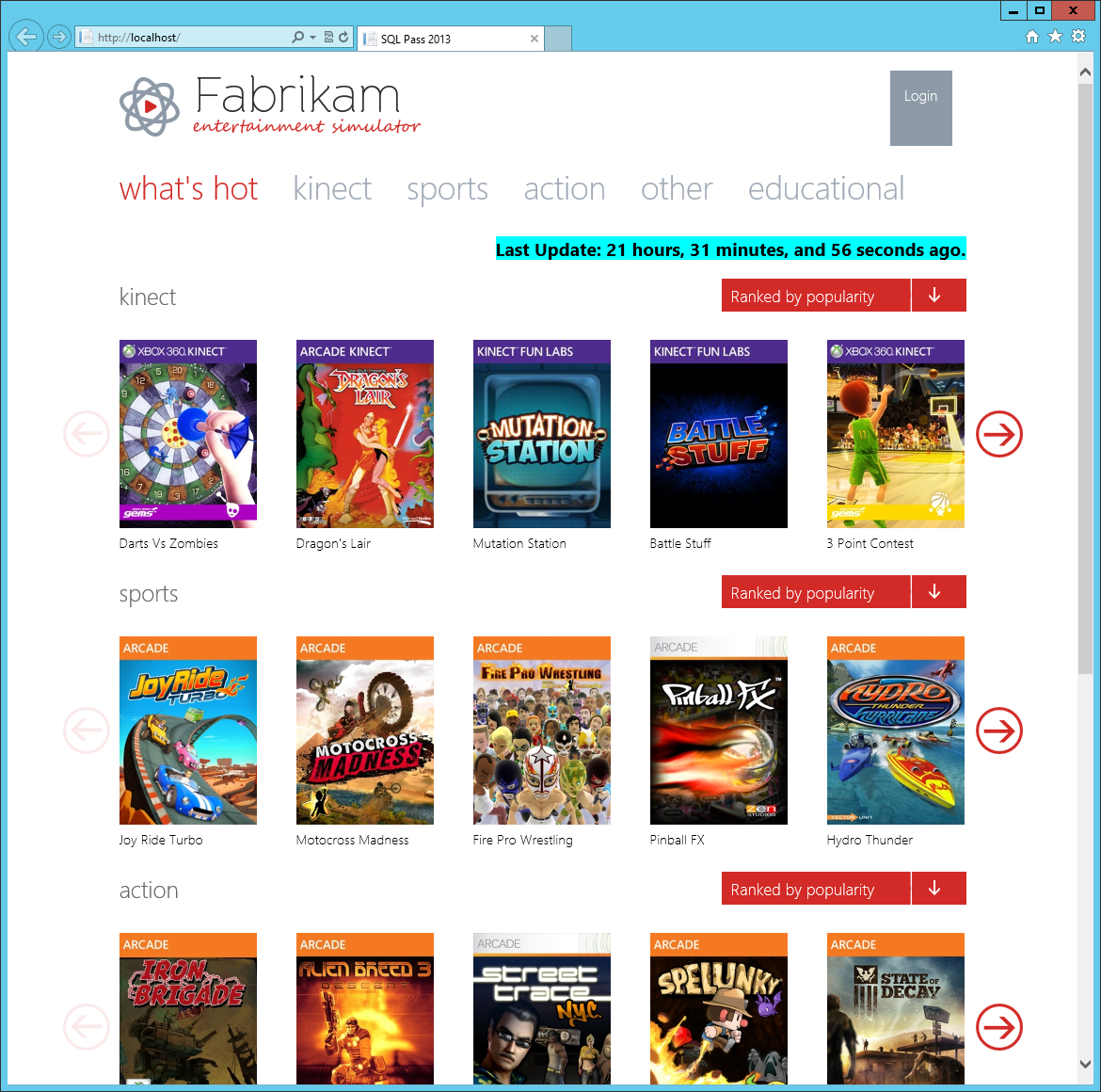
### Set up IIS

1. Open Server Manager, and click “Manage” 🡪 “Add Roles and Features”
2. In the wizard, proceed to “Select Server Roles” page, and select “Web Server”.
3. Click “Next” till you reach the page “Web Server Role (IIS)”, then click “Next” to get to the page “Select role services”.
4. In addition to the default selections, select the following items under “Application Development”:
   1. .NET Extensibility 4.5
   2. Application Initialization
   3. ASP.NET 4.5
   4. ISAPI Extensions
   5. ISAPI Filters
5. Click “Next” and then click “Install”.

### Set up Web Site

1. In File Explorer, navigate to C:\inetpub.
2. Create new folder “PassDemoApp”.
3. Copy the content of C:\PASS keynote demo\PassWebApp to C:\inetpub\PassDemoApp.
4. Start “Internet Information Services (IIS) Manager” from the Start Menu. You will see a screen like so: 
5. On the “Connections” pane on the left, expand the node with the machine name (e.g. SQLPASSDEMO1), and then expand “Sites”.
6. Delete the “Default Web Site” node by right clicking on it and select “Remove”. Then right click on “Sites” and select “Add Website…”
7. Enter the following parameters:
   1. Site Name: PassDemoApp
   2. Physical Path: C:\inetpub\PassDemoApp
8. Click “OK”. Then select the “PassDemoApp” node under “Sites” in the left pane: 
9. Select and open Configuration Editor. In the dropdown box labelled “Section”, select “connectionStrings”, then click on the “(Collection)” row in the box below and click the “…” button to the far right:

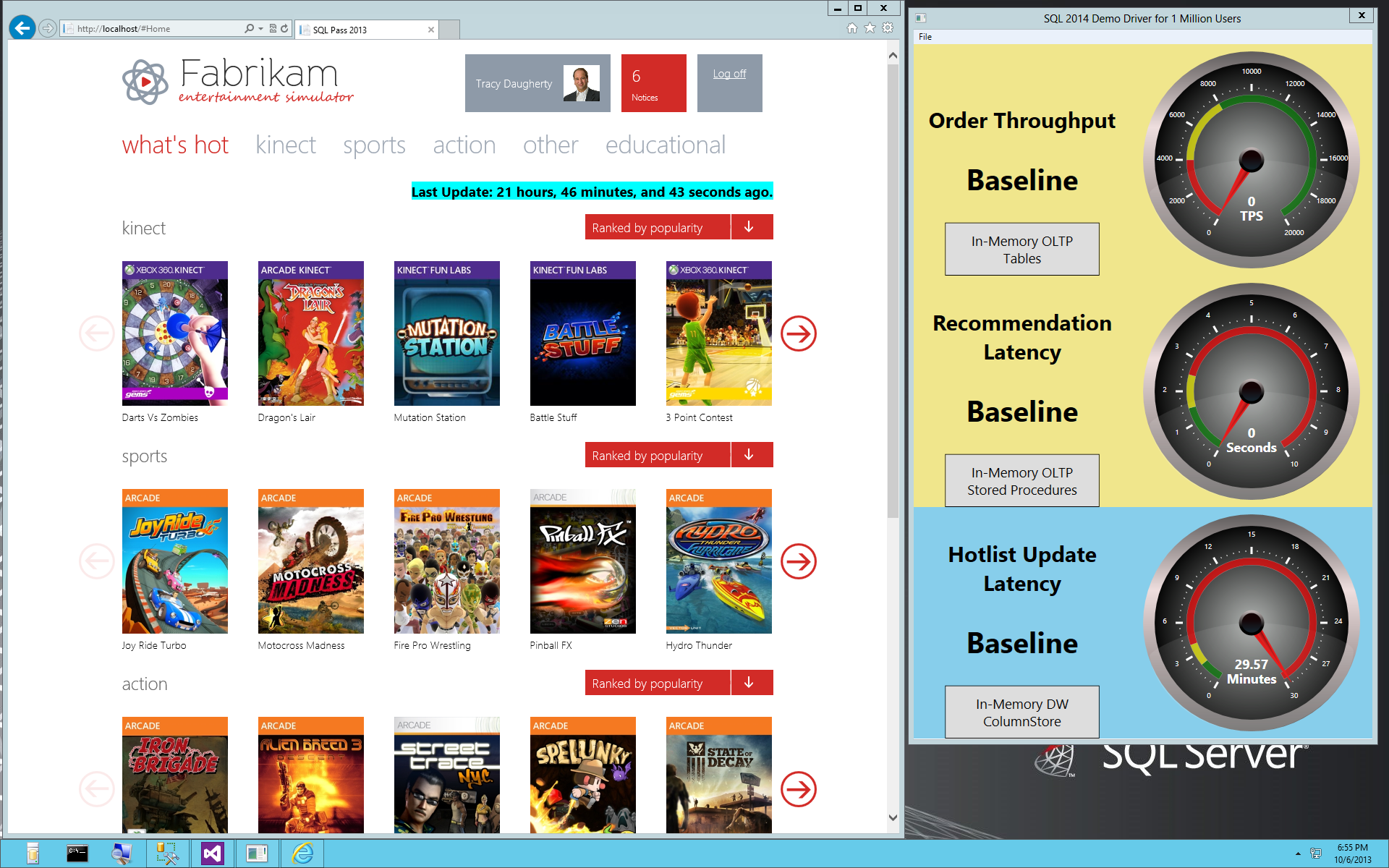


1. Edit the second connection string. It should be similar to the following form:  
   Server=SQL2014\PREPR0D;Database=FabrikamDev;User Id=sa;Password=SQLPass20!3
2. Close the window, then click on “Sites” to the left again. You will be prompted to save. Save.
3. Open Internet Explorer and visit <http://localhost/>. The website is successfully set up if you see the following screen: 
4. If the images do not show up, most likely you have an issue with your connection string. Check the connection string has the correct machine name, instance name, database name, user name and password. As the website uses a different windows credential, Integrated Security will not work here.

### Set up the Demo

1. Restore Fabrikan and FabrikamDev into the right data and log drives (could take 10 minutes or more)
2. Run convertion-test.sql to reset the demo
3. Look at config.xml file to make sure you are pointing to the right instance
4. Open Internet Explorer and type in <http://localhost/>. The web application will appear. Log in as Tracy Daugherty and type in a random character string as password.
5. Close demo\_reset.sql in SSMS. Open both memoryoptimization.sql and nativecompilation.sql. In Object Explorer in SSMS, expand “Fabrikam” 🡪 “Tables”.
6. Execute DemoFramework2013.exe and move it to the right of the screen (1920x1080).
7. Make sure:
   1. The window for DemoFramework2013.exe is always fully visible,
   2. Internet Explorer window is not obscured by DemoFramework2013, and
   3. SSMS window should have the same size as the Internet Explorer window.
8. On DemoFramework2013.exe, click “File” 🡪 “Start Demo” to start the workload.

## What the Final Result Should Look Like

At the end of the setup process, the screen should look like the following:

# Resource Governor for IO

Step 0: Install vanilla copy of SQL Server 2014 default instance with database engine

Step 1: Restore 2 databases "Customer1DB" and "Customer2DB".

Step 2: Set the password for the system administrator Login "sa" to "Yukon900"

Step 3: Use Perf Counter to monitor Disk Read IO/Sec counter inside SQLServer:Resource Pool Stats

# SSD Buffer Pool Extension

No need to setup, proceed to demo guide to run the demo

# Separation of Duties

No need to setup, proceed to demo guide to run the demo

# Online Database Operations

No need to setup, proceed to demo guide to run the demo

# Backup to Cloud – Manual with Encryption

No need to setup, proceed to demo guide to run the demo

# Backup to Cloud – Managed

No need to setup, proceed to demo guide to run the demo

# Backup to Cloud Tool – Support for Previous Versions of SQL Server

Step 1: Install the SQL Server Backup to Microsoft Windows Azure tool. Download from <http://www.microsoft.com/en-us/download/details.aspx?id=40740>

Step 2: Install previous version of SQL Server (such as 2008)

Step 3: Restore a sample database for backup purposes (e.g AdventureWorksLT2008). Download the sample database from <http://msftdbprodsamples.codeplex.com/>

Step 4: Once installed, configure a sample backup location (e.g. C:\AzureBackup)

# Data Files in Windows Azure

No need to setup, proceed to demo guide to run the demo

# Deploy DB to Azure VM Wizard

No need to setup, proceed to demo guide to run the demo

# Optional Demos

No need to setup, proceed to demo guide to run the demo