Workshop	
Name	SQL Server 2014 New Features
Duration	2 Day
Participants' Entry Profile	DBA's responsible for designing and developing HA/DR solutions in an organization. Developers having 3-4 years of experience in SQL Server 2012/2008R2 development.
Objectives	Participants will gain a good knowledge of High Availability and Disaster Recovery solutions in SQL Server, Performance improvements for OLTP and OLAP. This course also covers how SQL Server 2014 and its cloud readiness.
Training Methodology	The workshop will follow Synergetics methodology of **Concept Visualization** **Active Experimentation** **Application Development**. The workshop will be **100% Hands-On** with each participant having access to system during the session Some topics are only Demo as mentioned in the contents

Setup Requirements	
Hardware and Software Requirements	**Hardware Requirement- standalone installation** Pentium i3/i5/i7 with Virtualization support 16 GB RAM 250 GB Free Hard Disk Space Open Internet Access **Software Requirement** Operating Systems - Windows Server 2008 R2 SP1 /Windows Server 2008 SP2 / Windows Server 2012 Microsoft IIS 7.x or above Internet Explorer 7.0 or above .Net FrameWork 4.0 PowerPivot for Excel Addin Master Data Services Excel Addin Visual Studio 2012/2013 Report Builder 3.0 Microsoft SQL Server 2014 Sql Server Data Tools SQL Server Sample databases Participants must have Azure Account
Training Lab Requirements	Whiteboard Recommended size - 6 feet by 4 feet Whiteboard markers – Red, Blue, Green, Black Video Projector (1024 X 768 resolutions**)**

Course Contents

Day 1

Optimizing OLTP Data with SQL Server 2014

Database developers and architects engaged in the increasingly difficult task of achieving the best performance of database applications. SQL Server 2014 addresses these needs, optimizing for both OLTP and Data Warehousing workloads using In-Memory OLTP and Column store Indexes, allowing you to realize the fullest potential of your database systems and underlying hardware.

- **In Memory OLTP**
  - In Memory OLTP Overview
  - In Memory Data Architecture
  - Stored Procedures
  - Concurrency Control

- **Column Store Index**
  - Uses of Column Store Index
  - Architecture of Column Store Index
  - Column Store v/s Row Store
  - Non-clustered column store Index
  - Clustered column store Index
  - Querying Column Store Index
  - Updating data in a Column Store index
    - Clustered
    - Non-Clustered

Day 2

Data management for Mission Critical Operations

The data explosion is happening at every level across every imaginable device, application and individual. Maximum uptime, data availability and level of compliance are simply expected in mission critical applications. This session looks at building highly available data solutions with disaster recovery capabilities provided by SQL Server 2014 enhanced Always-ON features, including Availability Groups, partial containment and contained users.

- **Availability Enhancements**
  - AlwaysOn Capabilities
  - AlwaysOn - SQL Server Failover Cluster Instances
  - AlwaysOn - Availability Groups
  - AlwaysOn – Availability Group Listener

- **SQL Server HA and DR Design Patterns, Architectures, and Best Practices**

- **SQL Server 2014 and Cloud Integration**
  - HA-DR with Microsoft Azure – Hybrid Scenario
  - SQL Server data files in Microsoft Azure
  - Backup to cloud
  - Deploying databases to Microsoft Azure