SQL SERVER TRAINING CURRICULUM

Complete SQL Server 2000/2005 for Developers

- Management and Administration Overview

- Creating databases and transaction logs

- Managing the file system

- Server and database configuration

- Backup and recovery

- Creating Server Objects Tables

- Data integrity constraints

- Views

- Indexes

Transact-SQL Foundation Concepts

- Variables and data types

- Assignment expressions

- Null handling

- Stored Procedures Transact-SQL or T-SQL

- Creating and maintaining stored procedures

- Variables

- Parameters

- Logic

- Error handling

- Cursors Basic syntax

- Cursor types

- Cursor options

- User-Defined Functions User-defined functions vs. stored procedures

- Views and stored procedures

- Transactions Transactions overview

- Syntax

- Behavior

- Triggers Types

- Design challenges

- AFTER

- INSTEAD OF

- Optimization Performance problems

- Tools

- Resolve performance problems

Complete SQL Query for Developers

- Quick Intro to SQL Query Basics Establish baseline knowledge required elsewhere in course

- Elements of the SELECT statement

- Optional clauses

- Learn how to learn more, efficiently and effectively

- Advanced SQL Query Tactics Everything you need to know about JOINS

- UNION queries

- GROUP BY queries

- Sub-queries

- Data Manipulation Statements Insert statements

- Update statements

- Delete statements

- Manipulation over JOINS

- Working with Views Nature and purpose of views

- Creating and modifying view

- Limitations and cautions

- Calling Stored Procedures and Functions Calling a procedure for effect versus data

- Using parameters

- Calling a user-defined function

- Task-Oriented Queries Finding unmatched or missing records

- Finding duplicates

- Calculating running sums

- Changing a primary key

Complete SQL Server Reporting Services

- Introducing SQL Server Reporting Services Tour of Features

- Reporting Services Architecture

- Reporting Services Terminology

- Reporting Services Editions

- Taking Reporting Services for a Spin

- Creating Reports Deconstructing Reporting Services

- Shared Data Sources

- Creating Reports from Scratch

- Calculations and Formatting Creating Expressions

- Using the Global Collections

- Formatting Items

- Conditional Formatting

- Grouping and Sorting Creating Groups

- Calculating Totals and Percentages

- Interactive Sorting

- Creating Drill-Down Reports

- Report Parameters Creating Report Parameters

- Creating Drop-Down Parameters

- Multi-Valued Parameters

- Debugging Parameter Issues

- Creating Matrix Reports and Charts Creating a Basic Matrix Report

- Matrix Subtotals

- Creating a Basic Chart

- Exploring the Charting Possibilities

- Managing Reporting Services Deploying Reports and Data Sources

- Exporting Reports and Printing

- Using the Web-Based Report Manager

- Using SQL Server Management Studio-based Reporting Services Manager

- Reporting Services Security Two Parts to Reporting Services Security

- Securing Access to Reports

- Data Source Security

- Programming Reporting Services The Many Reporting Services APIs

- Integrating Reporting Services into Applications using URL Access

- Using the Report Viewer Controls

- Advanced Reporting Services Programming Using the Reporting Services Web Service

- Working with Custom Assemblies

- Snapshots and Subscriptions Caching and Snapshots

- Creating Standard Subscriptions

- Creating Data-Driven Subscriptions

- Managing Subscriptions

- Ad-Hoc Reporting with Report Builder The Report Builder Architecture

- Creating Report Model Projects

- Running Report Builder

Complete SQL Server 2005 Administration

- Installing and Configuring SQL Server 2005 Preparing to install SQL Server

- Installing SQL Server

- Managing a SQL Server 2005 Installation

- Managing Databases and Files Planning databases

- Creating databases

- Managing databases

Disaster Recovery Planning a Backup Strategy

- Backing Up User Databases

- Restoring User Databases

- Recovering Data from Database Snapshots

- System Database and Disaster Recovery

Managing Security Overview of SQL Server Security

- Securing the Server Scope

- Securing the Database Scope

- Managing Keys and Certificates in SQL Server

- Monitoring SQL Server Viewing Current Activity

- Using System Monitor

- Using SQL Server Profiler

- Using DDL Triggers

- Using Event Notifications

- Transferring Data Overview of Data Transfer

Introduction to SQL Server Integration Services

Using SQL Server Integration Services

Automating Administrative Tasks Automating Administrative Tasks in SQL Server 2005

- Configuring the SQL Server Agent

- Creating Jobs and Operators

- Creating Alerts

- Managing Multiple Servers

- Managing SQL Server Agent Security

- Maintaining High Availability Introduction to High Availability

- Implementing Server Clustering

- Implementing Database Mirroring

- Implementing Log Shipping

Introduction to Replication Overview of Replication

Replication Scenarios

Complete SQL Server 2005 Integration Services

- A Guided Tour of SSIS Understanding SSIS

- Exploring and Executing an SSIS Package in BIDS

- Exploring and Executing a Package in BIDS

Introduction to Control Flow Overview of Control Flow in SSIS

- Control Flow Tasks

- Workflow Tasks

- Other SQL Server Operations Tasks

- Precedence Constraints

- Data Processing Tasks

Introduction to Data Flows Data Flow Overview

- Data Flow Pipeline

- Data Flow Sources

- Data Flow Destination

- Data Viewers

Data Flow Transformations

- Variables and Configurations Understanding Variables

- Using Variables in Control Flow

- Using Variables in Data Flow

Understanding Property Expressions

- Using Property Expressions

- Understanding Configurations

- Using Configurations

- Using Variables and Configurations between Packages

- Advanced Control Flow Advanced Control Flow Overview

- Using Containers

- Transactions Support in SSIS

Additional Control Flow Tasks

- Error Logging and Handling Error Logging and Handling Overview

- Checkpoints

- Package Logging

- Event Handling

Advanced Data Flow Synchronous Transformations

- Asynchronous Transformations

- Working with Error Outputs

- Using Advanced Transformations

- Package Deployment Overview of Deploying Packages

- Deployment Challenges

Create a Package Deployment Utility

- The Package Installation Wizard

- Deploy a Package to the File System

- Deploy a Package to SQL Server

- Redeploying Updated Packages

- Package Management Overview of Package Management

- Managing Packages with DTUtil

- Managing packages with SQL Server Management Studio

- Executing Packages

- Scheduling packages with SQL Server Agent

- SSIS Security

Introduction to Scripting and Custom Components Extending SSIS Capabilities Through Code

- The SSIS Scripting

- Scripting in Control Flows

- Scripting in Data Flows

- Scripting Compilation

- Custom SSIS Components

- Best Practices Best Practices for Using SSIS

- Best Practices for Package Design

- Data Flow Best Practices

- Beyond ETL: Other Scenarios for SSIS Using SSIS Beyond ETL

- Migrating SQL Servers with SSIS

- SQL Server Maintenance Plans

- Working with Analysis Services

- Folder and File Management

- Working with the Windows Event Log

Complete SQL Server 2005 Analysis Services

- What Is Microsoft BI? Core concept - BI is the cube or UDM

- Example cube as seen using Excel pivot table

- MS BI is comprehensive - more than Analysis Services on SQL Server

- Demonstration of SQL Reporting Services with cube as data source

- OLAP Modeling Modeling source schemas-stars and snowflakes

- Understanding dimensional modeling- Dimensions (Type 1, 2, or 3) or rapidly changing

- Understanding fact (measures) and cube modeling

- Other types of modeling-data mining etc...

- Using SSAS in BIDS Understanding the development environment

- Creating Data Sources and Data Source Views

- Creating cubes - using the UDM and the Cube Build Wizard

- Refining Dimensions and Measures in BIDS

- Intermediate SSAS KPIs

- Perspectives

- Translations - cube metadata and currency localization

- Actions - regular, drill-through and reporting

- Advanced SSAS Using multiple fact tables

- Modeling intermediate fact tables

- Modeling M:M dimensions, Fact (degenerate) dimensions, Role-playing dimensions, writeback dimensions

- Modeling changing dimensions - Dimension Intelligence w/ Wizard

- Using the Add Business Intelligence Wizards - write-back, semi-additive measures, time intelligence, account intelligence

- Cube Storage and Aggregation Storage topics - basic aggregations, MOLAP

- Advanced Storage Design - MOLAP, ROLAP, HOLAP

- Partitions - relational and Analysis Services partitions

- Customizing Aggregation Design - Processing Design

- Rapidly changing dimensions / ROLAP dimensions

- Welcome to the Real Time - Proactive Caching

- Cube processing options

- Beginning MDX Basic syntax

- Using the MDX query editor in SQL Server Management Studio \Most-used Functions & Common tasks

- New MDX functions

- Intermediate MDX Adding calculated members

- Adding scripts

- Adding named sets

- .NET Assemblies

- SSAS Administration Best practices - health monitoring

- XMLA scripting (SQL Mgmt Studio)

- Other Documentation methods

- Security - roles and permissions

- Disaster Recovery - backup / restore

- Clustering - high availability

Introduction to Data Mining What and why?

- Examples of using each of the 9 algorithms (MS Clustering, MS Decision Trees, Naïve Bayes, MS Sequence Clustering, MS Time Series, MS Association Rules, MS Neural Network)

- Data Mining dimensions

- Data Mining clients

- Processing mining models

Introduction to Reporting Clients Excel 2003 Pivot Tables

- SQL RS & Report Builder

- SPS RS web parts & .NET 2.0 report viewer controls

- Business Scorecards 2005 & ProClarity

- Future Directions - Integration with Office 12 SharePoint 12 and AS

- Report Center (type of dashboard) uses KPIs, Reports, Excel Web, Filter

- Excel Services 12 and AS (Web Services)