

UNIQUE FEATURES OF VINAY TECH HOUSE:

- COMPLETELY PRACTICAL, REAL TIME AND PROJECT ORIENTED
- RICH THEORY WITH OPTIMIZATION TECHNIQUES
- CERTIFICATION BASED TRAINING***
- PROJECT BASED EXPLANATION ***
- MSBI PROJECT ENVIRONMENT, EXPLAINING MULTIPLE PROJECTS
- RESUME GUIDANCE AND MOCK INTERVIEWS
- TOP NOTCH COMPANIES, MULTIPLE CMM LEVEL COMPANIES DIRECT RECRUITMENT.

ADDITIONAL SESSIONS ALONG WITH TERADATA MAIN COURSE:

- DATAWAREHOUSE FUNDAMENTALS
- DATA MODEL FUNDAMENTALS
- DWH & BI PROJECT ENVIRONMENT EXPLANATION
- MSBI[ETL] TESTING APPROACH
- MSBI PROJECT EXPLANATION

SOFTWARE AND MATERIALS (FREE)

- DEMO SOFTWARE FOR PRACTICE
- PRACTICAL MATERIAL CHAPTER WISE
- SOFTCOPY MATERIAL WITH EACH TOPIC WISE THEORY, DIAGRAMS AND OPTIMIZATIONS
- PDFS AND PPTS WITH DIAGRAMATIC PRESENTATIONS.
- VIDEOS FOR MISSING CLASSES ***

BLOGS

- WWW.MSBIVINAY.BLOGSPOT.IN

PROJECTS

- BANKING PROJECT WITH GALAXY & SNOW FLAKE SCHEMA MODELS
- RETAIL PROJECT WITH STAR SCHEMA & MIXED SCHEMA MODELS
- TELECOM PROJECT WITH 3RD NORMAL MODEL

MSBI (SSIS, SSAS, SSRS, DQS) DEMO, DATA WAREHOUSE & DATA MODEL FUNDAS

IT Data Fundamentals & MSBI Existence

- ❖ Data, Data Availability in IT
- ❖ IT data storage areas
- ❖ Data warehouse, BI definitions and layers
- ❖ MSBI existence in IT, Product services
- ❖ MSBI Tools and Components
- ❖ MSBI Opportunities

Creative visualization through screen shots

MSBI and Competitiveness

- ❖ What are BI, MSBI, and SSBI? Importance in the current Enterprise? Competitive advantages
- ❖ MSBI vs Other BI tools
- ❖ MSBI 2016 Vs Others (2014, 2012, 2008, 2005)
- ❖ Hardware, Software requirements
- ❖ Instances and installation methods

Tools & Utilities to work with MSBI

- ❖ SSDDT, BIDS, SSMS, DQS Client /Server /Installer
- ❖ Sqlserver Profiler, Deployment Wizards
- ❖ Command Line Utilities
 - DTUTIL b) DTUTILEXEC c) RS
 - RSCONFIG e) ASCMD etc...

Data warehousing fundamentals

- ❖ Data definitions
 - (Data, Information, BI, Mining, ODS, DSS, Analysis, OLTP, OLAP, OLCP)
- ❖ Dwh Characteristics, Principles
- ❖ Dwh approaches (Top down/Bottom up)
- ❖ Dwh Life Cycle steps
- ❖ Data Mart & Types
- ❖ Data Processing Types (OLAP)
- ❖ Granularity and various granularities
- ❖ Diff between OLTP and OLAP

Creative visualization through screen shots

Dimensional Modeling Fundamentals

- ❖ Dimension, Dimension Table & types
- ❖ Fact, Fact Table & measures types
- ❖ Fact less fact table
- ❖ Various schemas (Star, Snow Flake, Galaxy & Hybrid)
- ❖ Surrogate key and usages in real time
- ❖ Model, Business, Conceptual, Logical, Physical Data Models

Real time project tables, models and tables

DATA QUALITY SERVICES [DQS-4 hours]: 2016 & 2014

Data profiling versus DQS

- ❖ INSTALLING Data Quality Services 2012
- ❖ BUILDING A KNOWLEDGE BASE
- ❖ BUILDING KNOWLEDGE DISCOVERY IN DQS
- ❖ Data Cleansing in DQS
- ❖ Building a Matching Policy in DQS
- ❖ Matching Projects in DQS
- ❖ Activity Monitoring, Configuration & Security in DQS

Practical on Data Quality and Cleansing

SQL SERVER INTEGRATION SERVICES [SSIS (Basic-Advanced):15 hours]:2016 & 2014

SSIS in real-time projects (DWH and OLTP)

- ❖ SSIS resources in the BI and Non BI projects
- ❖ SSIS collaboration with other DWH tools
- ❖ SSIS strengths than contemporary ETL tools
- ❖ SSIS installation (SSDT, SSMS) and observation
- ❖ SSIS real time projects flow and explanation
- ❖ SSIS Development / Support responsibilities
- ❖ SSIS Testing, Deployment, Versioning, Scheduling, Defect Handling
- ❖ Normalization vs demoralization in DWH
- ❖ Dimensional Model (Facts, Dimensions) load

SSIS-2016 Logical & Physical Architectures

- ❖ What is SSIS? Detailed logical architecture and components.
- ❖ SSIS-2016 newly added features, disconnected features, enhancement and break down features
- ❖ SSIS Practical architecture, Solution, Project and Package creations and executions.
- ❖ Connection Managers, Shared Data Sources, Parameters(2012,2014,2016)
- ❖ **Discussion on new Features in SSIS 2016**
 - Balanced Data Distributor,
 - OData v4 data sources & and Bug Fixes
 - Data Feed Publishing Components

Real time DWH-ETL flow and SSIS operations

SSIS resources and responsibilities

ETL operations in SSIS (Data Flow Task) (Extract, Transform and Load)

- ❖ Objective of Dataflow and process flow
- ❖ In memory model and performance tips
- ❖ Aggregate, Data Conversion, Derived column

SSIS ETL, Windows and Sql Server Admin tasks (Control Flow Tasks and Operations)

- ❖ Looping usages (For Each loop, For loop) and various scenarios (Files, Datasets, XMLs, Excels)
- ❖ Transactional operations and Parallel processing implementation using Sequence container
- ❖ Using File System to move, copy, create folders
- ❖ Execute Sql for Single, Multi SQL, Procedure, functions with Various parameters and implementing DML, DDL statements
- ❖ Working on Master, Child Packages using Execute Package task and variables
- ❖ Expression task for evaluations, iterations
- ❖ Using Script task for customized operations
- ❖ Execute process task for Zip, Exe Operations
- ❖ Profiling and cleansing the data using Data Profiler, DQS cleansing operations.
- ❖ Controlling tasks using Precedence Constraints

Real time scenarios and many important tips

Data Loading, Fact and Dimensions load

- ❖ Direct load and components (Truncate & Load)
- ❖ Fast load implementation in SSIS
- ❖ Incremental load in warehouse tables
- ❖ Wizards, Tools, Tasks for different types of load

Practical on these with various approaches

Debugging, Logging and Event handling

- ❖ Trouble shooting and Bottlenecks identification using DataViewer, BreakPoint, Hit count debug methods
- ❖ Real time Logging, usages and observations
- ❖ Log Providers and Catalog Logging.
- ❖ Implementing Basic, Verbose and Performance
- ❖ Event vs Error Handling, real time handling

, Character Map, Audit

- ❖ Merge, Merge Join, Union All, Sort
- ❖ Multicast, Conditional Split, Oledb command
- ❖ Lookup, Fuzzy lookup, Copy column
- ❖ Pivot, Un pivot, Term Extract, Term Lookup
- ❖ CDC, Data Cleansing, Script Component
- ❖ Checksum transformation (2014) real usage

Real time scenarios, Business Logics

Custom Operations, Complex issues & situations

Implementing SCDs, CDC in DWH using restarts, transactions and data tracking

- ❖ Using Check points to configure restarts and preserve operations
- ❖ Implementing Transactions for historical and business evaluations
- ❖ Implementing Slowly Changing Dimensions in Data warehouse using No, Full and Partial changes
- ❖ No history tracking of dimension (Type1)
- ❖ Full history track and methods (Type2)
- ❖ Partial history track and need (Type3)
- ❖ Manual Implementation of SCDs, Incremental (Delta) Loading.
- ❖ Change data capture in data warehouse tables for the events insert, update and delete on OLTP

Real time scenarios and important tips

Versioning and scheduling in DWH projects

- ❖ SSIS versioning, other versioning tools
- ❖ SSIS Scheduling, other versioning tools
- ❖ Jobs, Proxy and Sqlserver agent account

Practical explanation on versioning and scheduling

Error identification, Bottleneck resolutions

Command Line Utilities Utilization

- ❖ Various environments operations of packages using a) DTUTIL b) DTEXECUI c) DTEXEC

Practical execution with configurations

Configurations and Parameters in DWH

- ❖ Various ways of configuring SSIS packages (Legacy)
- ❖ User interactions to the packages for incremental load
- ❖ Parameters and environments in Catalog Database

Real time handling, configuring and passing values

Security, Deployment in real time projects

- ❖ Security in various ways (Password protection & Role based security), DBA role in security
- ❖ Package deployment using manifest file (File System, Sqlserver deployment)
- ❖ Project deployment using Catalog database (SSDB) and explaining various features

Bottlenecks, Performance Tuning

- ❖ Production issues in real time, other pkg issues
- ❖ Bottleneck, various ways to identify bottlenecks
- ❖ Tuning Source, Destination, Transformation, Package and System level.
- ❖ Data pipeline optimization, in memory model
- ❖ Execution trees, memory buffer optimization

Real time issues with detailed explanation

Real time errors, memory issues and system issues

SQL SERVER ANALYSIS SERVICES [SSAS (Basic-Advanced):15 hours]: Includes 2016 & 2014

SSAS in real-time projects (DWH & BI)

- ❖ SSAS resources in the BI projects
- ❖ SSAS collaboration with other DWH tools
- ❖ SSAS strengths than contemporary tools
- ❖ SSAS installation (SSDT, SSMS) and observation
- ❖ SSAS real time projects flow and explanation
- ❖ SSAS Development / Support responsibilities, SSAS Processing
- ❖ SSAS Testing, Deployment, Versioning, Scheduling and Defect Handling
- ❖ Normalization vs demoralization in DWH
- ❖ Dimensional Model (Facts, Dim) process

BISM (Business Intelligence Semantic Model) role in analysis and data mining

- ❖ SSAS 2016, 2014 and 2012 discussions.
- ❖ Installation of SSAS, Analysis Modes
- ❖ Multidimensional model and real time usage
- ❖ Tabular mode and real time usage
- ❖ Power Pivot and real time usage
- ❖ Over view of SSBI, Multidimensional Model, Tabular Model and Power Pivot
- ❖ Power Pivot for Excel and Share Point
- ❖ What is OLAP, Types of OLAP (MOLAP, ROLAP, DOLAP, HOLAP)
- ❖ Sample project, Modeling, Designing & Solution
- ♦ Detailed diagrammatic presentation
- ♦ Visualizations on multi-dimensional & tabular

Multi-dimensional model (Cube Data mart) creation in real time with various settings

- ❖ Developing Analysis Services Multi Dimension Corporate Solution with SSDT tools, Command lines.

Faster retrieval of data using Aggregates design and Usage based optimization

- ❖ Working with Designing Aggregations
- ❖ Normal Mode and advanced mode
- ❖ Usage based optimization

Practical on this with performance observations

Working with MDX and components

- ❖ What is MDX, MDX Fundamentals
- ❖ Identifiers, Expressions, Literals
- ❖ Data Types, Operators
- ❖ Functions (twelve types of functions)
- ❖ MDX language reference DDL, DML etc...
- ❖ MDX multi-function operators
- ❖ Sub cube expressions
- ❖ Member, Measure, Tuple, Set features
- ❖ Advanced Time and Date functions for cumulative preceding and following analysis
- ❖ MDX expressions in SSDT
- ❖ MDX Querying against OLAP Cube

- ♦ Explaining with various queries and examples
- ♦ Dedicated material and more practical oriented
- ♦ Many functions, features explanation practically

(Due to space issue, all features are not mentioned)

Data Analysis Extensions [DAX]

- ❖ Need of DAX in tabular models, Excel
- ❖ Expressions in DAX
- ❖ Identifiers, Literals and Operators
- ❖ Functions and various types of functions

- ♦ Explaining with various queries and examples
- ♦ Dedicated material and more practical oriented
- ♦ Many functions, features explanation practically

(Due to space issue, all features are not mentioned)

❖ Data source view creation

- ♦ Add / Remove tables
- ♦ Design / Diagram panes
- ♦ Named calculations
- ♦ Named Queries
- ♦ Relationships

❖ Identifying dimensions with types (Date, Time, Regular, Scenario etc...)

❖ Creating, Deploying and Processing of cubes

- ♦ **Class room cube creation with practical**
- ♦ **Real time cube creation and explanation**

Kimball approach of Facts, Dimensions add / removal (configuring measures and dimensions)

- ❖ Working with Measures, Measure Groups, Members and Dimensions in data warehouse
- ❖ Maintaining measures in analytical format using various properties
- ❖ Configuring Dimensions, taking all attributes, composite keys, Duplicate Attribute Keys
- ❖ Discretization feature, Sort order
- ❖ Hierarchies, levels, members, performance improvement features implementation
- ❖ Linking dimensions , gathering/ collecting calculations, KPIs and actions
- ♦ **Complete practical on these concepts**
- ♦ **Detailed coverage of each concept with its**
 - **features (not mentioned due space issue)**

Semantic operations on Cube and its functionalities in DWH

- ❖ Writing various calculations using MDX
- ❖ Preparing script with multiple members
- ❖ Pros and cons of various members
- ❖ Implement Key Performance Indicators for effective report analysis

SSAS Deployment, real time methods

- ❖ BIDS / SSDT deployment
- ❖ SSAS deployment wizard
- ❖ XMLA method of deployment
- ❖ Backup and Restore
- ❖ SSAS synchronization wizard
- ❖ AMO objects (Analysis Services Management Objects)

SSAS Cube and MDX Performance tuning

- ❖ Production issues while cube processing
- ❖ Memory, Time and threads issue at MDX
- ❖ SSAS Database and Cube Audits - Query Logs
- ❖ Security Audits and Need for Optimizations
- ❖ DB Audits, Usage Based Optimization
- ❖ Aggregations, Usage Based Optimization Options (MOLAP) and Filters
- ❖ Partitions, Query binding
- ❖ Named Calculations, Queries and Named Sets
- ❖ Flight Recorder Settings, Query Logs
- ❖ Data Sampling Intervals and MDX Query Tuning Process
- ❖ 100% Aggregations (FULL), CPU and Space Thresholds
- ❖ Proactive cache solution for fresh update
- ❖ Lazy Aggregations & UBO in Partitions, Performance Settings
- ❖ Writeback option to save OLTP analysis
- ❖ Writeback Partitions - Cube & Dim, UPDATES
- ❖ Using MDX Expressions and Queries for Writeback. Advantages
- ❖ Writeback Tables. MDX Transactions - COMMIT / ROLLBACK
- ❖ Subcube - Creation, Advantages Usage. MDX Query Plans
- ❖ Subcube - DESCANDANTS, PARENT & MEMBER Functions
- ❖ SSAS threads, taking required number of threads
- ❖ SSAS Trace Monitoring and Sql server Profiler
- ♦ **Explaining by taking a real time situation**
- ♦ **Many functions, features explanation practically**

- ❖ Pull model analysis with Actions.
- ❖ Implementing Perspectives/Translations to restrict visibility and for multi-language translation

Effective relationships (Dim & Fact)

- ❖ Working with Dimension Usage Wizard
- ❖ Real time usages of various relationships (Regular, Referenced, Fact etc...)

Working on multiple tables to show practical

Parallel processing of data using Fact Partitions and various ways of processing

- ❖ Implementing Partitions (Table and Query)
- ❖ Usage of various storage modes
- ❖ Automatic processing using Proactive Caching.
- ❖ Cube, Fact and Dimension table processing (Full, Clear, Data, Incremental, Add, Index, Update, Default etc...)

Practical on this with performance observations

(Due to space issue, all features are not mentioned)

SSAS-TABULAR MODEL CONCEPTS

- ❖ Workspace Database , Workspace Server , Direct Query , Backup to disk
- ❖ Installation steps , error mechanisms and error rectification process
- ❖ Creating a tabular model and setting model properties
- ❖ Adding data to the model , renaming tables, filtering columns
- ❖ Rename Columns
- ❖ Monitoring relationships , Providing relationships
- ❖ Create Hierarchies
- ❖ Create partitions
- ❖ Create perspectives
- ❖ Create Roles
- ❖ Create KPIs
- ❖ Deployment
- ❖ Using in Excel Power Pivot and PowerView

- ◆ Explaining by constructing a real time tabular model
- ◆ Many functions, features explanation practically

(Due to space issue, all features are not mentioned)

SQL SERVER REPORTING SERVICES [SSRS (Basic-Advanced):15 hours]: 2016 & 2014

SSRS in real-time projects (DWH-BI, OLTP)

- ❖ SSRS resources in the BI and OLTP projects
- ❖ SSRS various visualizations for analysis
- ❖ SSRS and general Report Life Cycle Steps
- ❖ SSRS collaboration with other DWH tools
- ❖ SSRS strengths than contemporary tools
- ❖ SSRS installation (SSDT, SSMS) and observation
- ❖ SSRS real time projects flow and explanation
- ❖ SSRS Development / Renderer responsibilities, SSRS Subscriptions
- ❖ SSRS Publishing, and real time scheduling

SSRS Architecture and Components

- ❖ SSRS 2016, 2014 and 2012 discussions.
- ❖ SSRS Reporting Components (Report Server, Report Manager, and Databases etc...)
- ❖ SSRS Models (Push and Pull)
- ❖ SSRS report store and retrieve flow

SSRS Administration (Tools and Configuration files) and Management

- ❖ RS Manager Configuration Tool
- ❖ Configuration Files for install and configure
- ❖ SharePoint mode of explanation & install
- ❖ Create / modify Report manager / Server / Database Creation and Monitoring
- ❖ Start / Stop report server

Working with various Report facilities

- ❖ Report Server Wizard
- ❖ Report Server Project
- ❖ Report Builder
- ❖ Power View
- ❖ Dashboard

Report Design, Sub Reports & Groups

- ❖ Designing Wizard based Reports

Report Security and Upgrades

- ❖ Data Source Security Credentials
- ❖ Report Server Security Levels
- ❖ Security Options and Report Users
- ❖ Content Manager and My Reports
- ❖ Cloning Report Roles and Schedules
- ❖ Report Browser and Report Publisher
- ❖ Report (RDL) Configuration Options
- ❖ Managing Configurations Files
- ❖ RSConfig & Encryption (snk) Keys
- ❖ SSRS Reports Upgradations
- ❖ Scale-out Deployments in SSRS

Share point server, Power View with SSRS

- ❖ Managing RDL and RDLX Reports
- ❖ Comparing PowerView and Report Builder
- ❖ Drillthrough Report Management Options
- ❖ Migrating Reports with SSRS and Excel
- ❖ Migrating Reports from 2012,2014 to 2016

Working with report layout and design

- ❖ Sub totals /Full totals
- ❖ Page Breaks
- ❖ Page Footer/Header
- ❖ Table Header/Footer
- ❖ Sorting
- ❖ Grouping
- ❖ Applying Colors, Fonts etc...

Dataset features and performance tips

- ❖ Shared dataset usage
- ❖ Table, Query, Procedure options
- ❖ Import from File, Refresh Fields, Time Out
- ❖ Calculated fields, Query Fields
- ❖ Filter usage in real time
- ❖ Parameters in the dataset

- ❖ Custom Reports and Report Groups
- ❖ Column groups and row groups
- ❖ Child column and row groups
- ❖ Row Drilldown and Column Grouping
- ❖ Advanced and Static Options in SSRS
- ❖ Chart Based Reports and Images
- ❖ Using SSRS Expressions & Global Fields

OLTP and OLAP Reports in SSRS

- ❖ Table Reports, Tablix Properties
- ❖ Gauge Reports, Indicator Reports
- ❖ Pie Charts, Bars and Spark Lines
- ❖ Report Testing and Auto Refresh
- ❖ Map Reports and Report Dashboards
- ❖ Multiple Chart Areas in Dashboards
- ❖ Report Dashboard & Limitations
- ❖ Report Scorecards with SQL Queries
- ❖ Sparkline, Databars in Reports
- ❖ Lines, Placeholder usages in reports
- ❖ Images acquisition in the reports
- ❖ Exporting RDL Reports in SSRS

Excel, Map, Cube, XML Reports

- ❖ Excel reporting with DAX
- ❖ XML reporting with / without XSD
- ❖ Map Reports and Stored Procedures
- ❖ Indicators with Map Reports
- ❖ Designing Reports using OLAP DBs
- ❖ Identifying KPIs and Measures
- ❖ MDX Queries with Cube Reports
- ❖ MDX Filters with Sub Reports
- ❖ Scorecards with MDX and DAX
- ❖ Sub Reports versus Report Actions
- ❖ Accessing and Controlling Reports

Report Model, Builder & Power View

- ❖ Report Model and Features
- ❖ Model and DataSets use in Report Builder
- ❖ Chart and Map Wizard in Report Builder
- ❖ Report Parts and Web Services
- ❖ Report Designer Vs Report Builder
- ❖ Publishing Report Parts with RB
- ❖ Stored Procedures with Report Builder
- ❖ Report Downloads and Edit Options

Working with Report Definition Language (RDL)

- ❖ Identifiers, Operators, Expressions
- ❖ Functions (Built in, Date, Mathematical and String)
- ❖ Report, Group variables with expressions

Drill Down, Drill through Analysis and Parameterization

- ❖ Parameterized Reports (a. Non Queried b. Queried c. Multivalued d. Cascading e)NO parameters)
- ❖ Dynamic Report Parameters and Filters
- ❖ Dependent Parameters & Usage
- ❖ Multi Valued Nullable Parameters
- ❖ Report Filters - Options and Types
- ❖ Toolbox Filters and Limitations
- ❖ Sub Reports and Report Actions
- ❖ Parent-Child Report Parameters
- ❖ Jump from one to another using drill through
- ❖ Hierarchical analysis using drill down

Report Manager administrative features

- ❖ New folders, Data Sources, Folder Security
- ❖ Web site options, schedules, security
- ❖ Linking reports, Download and Replace of reports based on CR documents
- ❖ Maintaining history of reports
- ❖ Report security
- ❖ Report Parts in Report Builder

Report processing, rendering performance tuning tips

- ❖ Report issues at production
- ❖ Publishing and Executing Reports
- ❖ Observing Execution Logs, Execution log views
- ❖ Creating cached Instances, cache refreshment
- ❖ Creating snapshots
- ❖ Live report features
- ❖ Subscription reports (Normal, Data driven)
- ❖ SSRS components optimization

Email: vinaytechhouse.info@gmail.com Contact: +91 9573168449/040 66638869 Website: www.vinaytechhouse.com

- ❖ Power Pivot & PowerView Addins
- ❖ Power View for RDLX Reports
- ❖ Understanding Data Models
- ❖ Tables, Charts and Data Bars
- ❖ SparkLines and Data-Mashup
- ❖ Report Builder Vs PowerView
- ❖ New ReportBuilder Extensions
- ❖ ReportBuilder Mobile Edition

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