VINAY TECH

Power BI

AI Enabled Fabric Features Data Analytics

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- Power BI Developer • Data Analytics • Data Scientists
- Real-Time Working • Detailed Subject • Interview Suitable • PL-300 80% Coverage

👤 **Mr. Vinay [12+ years of IT Exp, 6+ in Power BI]**

⏱ **60 hours *(Normal Track)* , Daily 1 hour**

🚻 **Normal / Fast Track / 1 on 1 / Customized**

₹ **Online: Rs. 13,000 ($152) Offline: Rs. 11,000 ($129)**

📅 **7 AM, 8 AM, 9 AM, 10 AM, 5 PM, 6 PM, 7 PM, 8 PM (IST timing)**

INSTITUTE PROVIDES

- ❋ Two **Near Real Time** Projects
- ❋ In-Depth **Theory & Practical** Material
- ❋ Complete **Practical Oriented** Training
- ❋ Mock Interviews

- ❋ Case Studies / User Stories / Sprints
- ❋ Daily **Live Class Videos**
- ❋ **FAQ Tests** in Whatsapp
- ❋ **Resume Preparation** Sessions

MICROSOFT FABRIC

AZURE DATA FACTORY   AZURE SYNAPSE   DATA ACTIVATOR

POWER BI (A component in MS Fabric Suite, with the below concepts)

POWER BI CLOUD COMPONENTS	POWER BI ON-PREMISE COMPONENTS
Power BI **Desktop** & **DAX**	Power BI **Report Server Desktop**
Power BI **Service**	Power BI **Report Server**

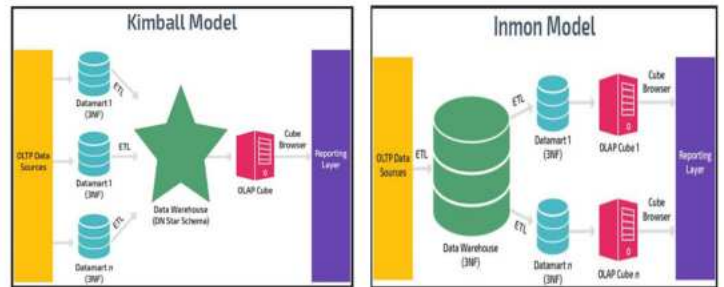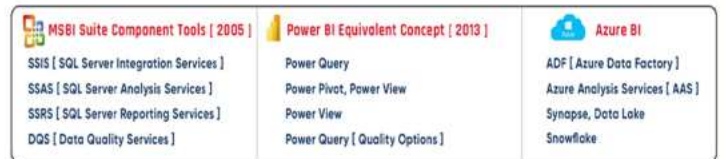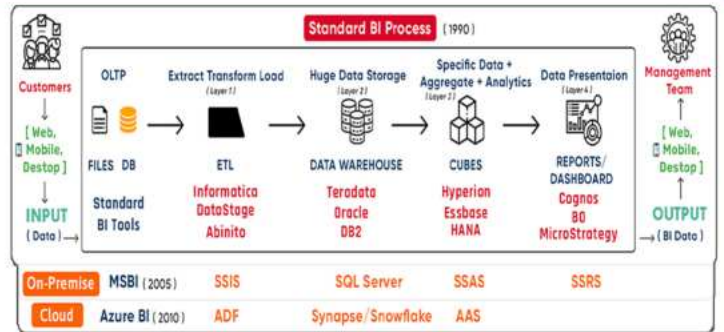| OTHER COMPONENTS	Paginated **Report Builder**, Gateway, Power BI **Embedding**
POWER BI CONCEPTS	Power **Query**, Power **Pivot**, Power **View**, Power **Map**
ADDITIONAL CONCEPTS	**Power Apps** (2 hours), **Power Automate** (2 hours), **SQL Server** (3-4 hours), **Tabular Cubes** (1 hour), **ADF** (1 hour)

MANDATORY TOPIC 1: POWER BI DEMO & DATA WAREHOUSE FUNDAMENTALS

◉ Power BI Demo content
- ▸ Data, Data Availability types in IT
- ▸ IT data storage areas [File stream, Database]
- ▸ Data warehouse, BI definitions and layers
- ▸ Power BI existence in IT, Product services
- ▸ Power BI Features, Self Service BI
- ▸ Power BI Tools and Components
- ▸ On-Premise vs. Cloud
- ▸ Power BI opportunities vs support
- ▸ BI history, MSBI, Azure BI, Power BI
- ▸ OLAP vs. OLTP vs. Insights and Analytics
- ▸ Power BI history, releases and blogs
- ▸ Power BI usage in IT Companies
- ▸ Microsoft Power Platform & Fabric Features

◉ Data warehouse Fundamentals
- ▸ Data warehouse, Data mart and differences
- ▸ Types of data marts and real-time usage
- ▸ ODS, Stage, EDW, and DW definitions
- ▸ Data Lake and Blob Storages
- ▸ DWH Life Cycles, DWH principles
- ▸ DWH Approaches (INMON and KIMBALL)
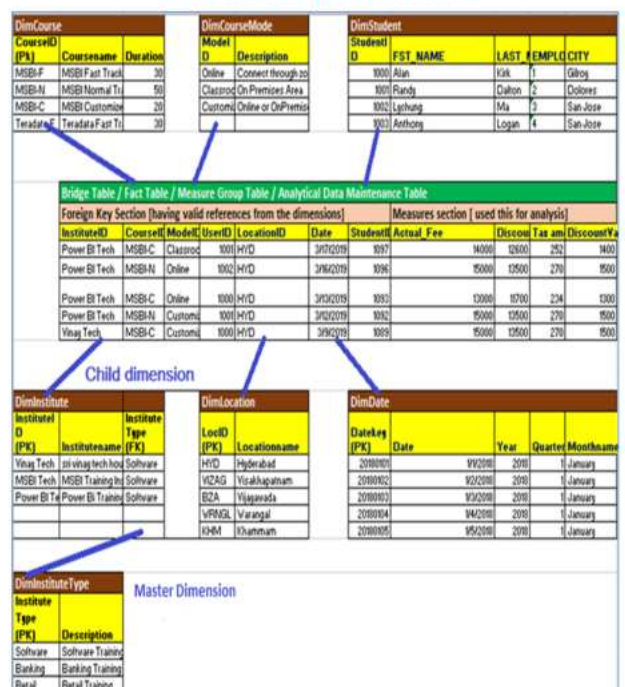- ▸ Data Granularity, Data movement stages

MANDATORY TOPIC 2: DATA MODEL THEORY AND PRACTICAL

◉ [Theory and detailed practical with real-scenarios]
- ▸ Data model, use of data model in Power BI
- ▸ Business, Conceptual, Logical, Physical models
- ▸ Dimension, Dimension table & types
  (Conformed, Roleplay, Degenerated, Junk, SCD)
- ▸ Measures & Types
  (fully additive, semi additive, non additive)
- ▸ Fact table & Types
  (Snapshot, Incremental, Factless fact)
- ▸ Schemas (Star, Snow Flake, Galaxy & Hybrid)
- ▸ Surrogate key and usages in real time
- ▸ 1:1, 1: Many, Many: Many relationships
- ▸ Active, Inactive relationships
- ▸ Single and Bi-directional, Cross filter
- ▸ Advanced properties of fields
  (sort order, date category, aggregators)
- ▸ Snow Flake schema exmaples

Snowflake Schema

TOPIC 1: INSTALLATION [POWER BI DESKTOP, GATEWAY, SERVER, REPORT BUILDER & DAX STUDIO]
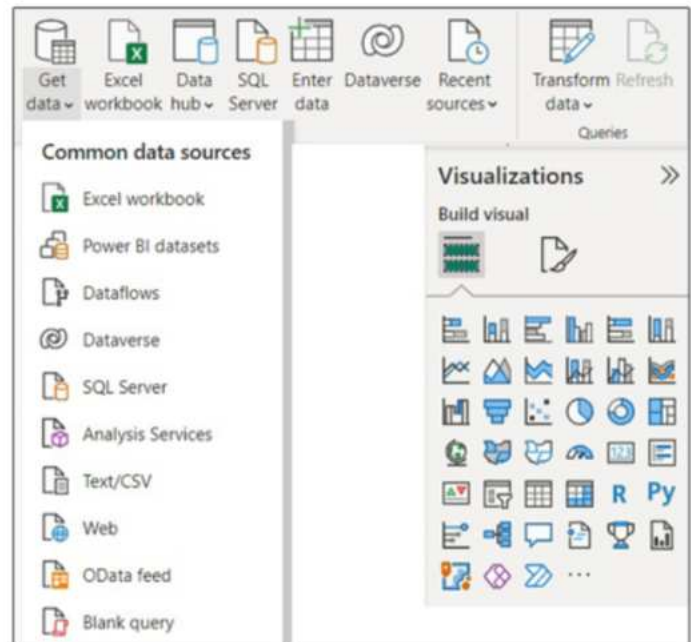
▸ Power BI Components
▸ Release impact on installation
▸ Power BI Cloud Desktop installation
▸ Power BI Report Server Desktop installation
▸ DAX Studio installation
▸ Report Server Installation
▸ Paginated Report Builder Installation
▸ Gateway Installation

TOPIC 2: WORKING WITH POWER BI DESKTOP AND CONNECTING TO MULTIPLE DATA SOURCES

◉ **[Theory and Complete Practical]**

▸ Desktop over view and building blocks of PBI Desktop
▸ Connecting to various sources and retrieving data
   1. Flat files
   2. CSV files
   3. JSON files
   4. Databases (SQL Server & Oracle)
   5. Excel files
   6. Web
   7. Analysis Services Models
     (Tabular & Multi-dimensional)
   8. Azure SQL database and DWH
   9. Python Script
   10. M-Retrieval
   11. Multiple files load at a time

TOPIC 3: WORKING WITH DATABASES, CUBES, MODES & CHANGING MODES

▸ Working on data modes[very detailed]
   Import
   Direct Query
   Connect Live
   Mixed mode
   Changing modes
▸ Differences between Load and Edit options.
▸ Retrive date from related data bases and cube

Live Connection   Direcy Query   Import

SSAS Tabular   Database

TOPIC 4: WORKNG ON POWER BI DESKTOP COMPONENTS

▸ Power Query, Power Pivot
  Power View, Power Map

Query   Pivot   View   Map

TOPIC 5: POWER VIEW MENU TAB OPTIONS–RIBBON OPTIONS & REAL–TIME

◉ **File Tab [All options-Detailed Practical]**

a) New, Open, Save report
b) Export **Power BI Template** (PBIT), PDF
c) Import Power BI Template, Power Query, View, Model, Visual files
d) Options and Settings & About

◉ **Home Tab [All options- Detailed Practical]**

a) External Data:

Get Data, Recent Sources, Enter Data
b) Transform data & edit parameters
c) Publishing to cloud service
d) Prop data AI (2025)
e) Quick sources
f) Sensitivity

◉ **Insert Tab [All options - Detailed Practical]**

▸ **Visuals:** New Page, New Visual, More Visuals
▸ **AI Visuals:** Key Influencers, Decomposition Tree, Smart Narrative, Q & A
▸ **Elements:** Text box, Buttons, Shapes, Image
▸ **Power Platform:** Paginated Report, Power Apps, Power Automate
▸ **Sparklines:** Add a Sparkline

◉ **Format Tab [All options-Detailed Practical]**

a) Edit interactions for the visual for **cross highlighting, cross filtering**, and none options.

b) Bring forward, send backward etc... visual option **(Z-Order)**

◉ **Data / Drill Tab [All options-Detailed Practical]**

a) Drill down report creation
b) Drill one level down, multiple levels, & data drill
c) Visual table, Data point table

◉ **View Tab [All options -Detailed Practical]**

▸ Report **Phone Layout** / Desktop View Show Gridlines, Snap Objects to Grid Locking Objects on the surface
▸ **Bookmarks** creation, viewing, & using in Dashboard Selection Pane [Hiding and showing objects]
▸ **Slicer and Sync Slicers** explanation with practical Performance analyzer test run
▸ **Scale to fit:** Page view, **Mobile:** Mobile layout, Page options
▸ **Show panes:** Filters, Bookmarks, Selection, Performance Analyzer, Sync slicers

◉ **Modeling Tab [All options-Detailed Practical]**

a) **Relationships:** Manage Relationsips
b) Create roles and implement **row-level security** & **dynamic row-level security**
Page Refresh: Change detection
Parameters: New parameter
Security: Manage roles, View as
Calculations: New measure, Quick measure, New column, New table
Q & A: Language, Lunguistic Schema

◉ **HELP Tab [All options-Detailed Practical]**

a) Guided learning, documentation, training videos, **blogs, communities**, Power BI for developers, **support** and consulting services

◉ **External tools tab**

DAX studio

◉ **Optimize tab (2024)**

Refresh, Pause, Preset, Optimization

TOPIC 6: POWER BI DATASET PROPERTIES
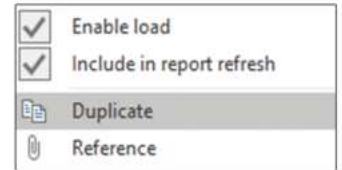
▸ Create hierarchies and analyzing data
▸ Create Groups (List, Bin)
▸ Hide / Unhide columns usage in real-time
▸ Consider table as Date Table
▸ Expand and collapse columns
▸ Incremental refresh & manage aggregations

TOPIC 7: POWER QUERY PROPERTIES [8 types of properties and M-Language]
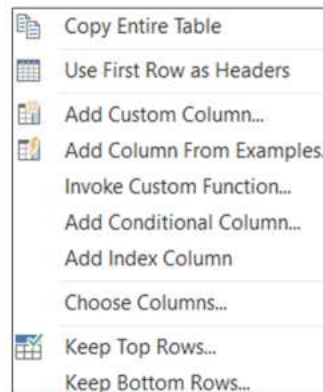
◉ **Queries properties [All options –Detailed Practical]**

a) Real-time practical on duplicates and references
b) Create groups to classify tables
c) Refreshing table data and enabling data to tables
d) Creating reusable functions

Copy	Enable load
Paste	Include in report refresh
Delete	Duplicate
Rename	Reference

◉ **Query Properties**

a) Perform data transformations by adding, removing and retaining columns, duplicates, error
b) Working on reusable functions
c) Merging multiple queries
d) Joining multiple queries to get matched, unmatched and both matched and unmatched rows.

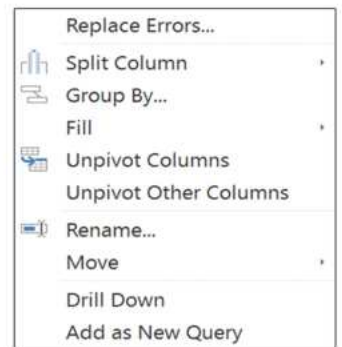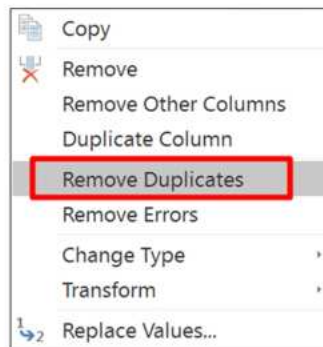|	
Copy Entire Table	Keep Range of Rows...
Use First Row as Headers	Keep Duplicates
Add Custom Column...	Keep Errors
Add Column From Examples...	Remove Top Rows...
Invoke Custom Function...	Remove Bottom Rows...
Add Conditional Column...	Remove Alternate Rows...
Add Index Column	Remove Duplicates
Choose Columns...	Remove Errors
Keep Top Rows...	Merge Queries...
Keep Bottom Rows...	Append Queries...

◉ **Column Properties**

Data types, Different types of data transformations on
a) Numeric columns
b) String columns (split strings)
c) Date columns
Full real-time examples on the data transformations

◉ **Filter properties**

Working on Number, String, and Date
Various filter options
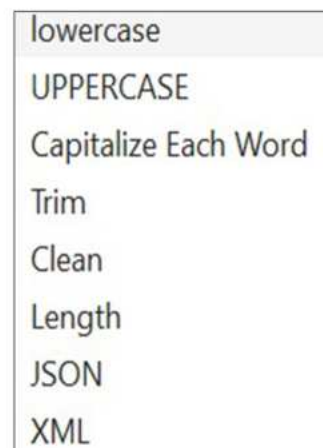
◉ **Parameters properties**

Working on Any, List & Query Parameters
Working on multiple parameters
Working on cascading parameters
Working on cascading parameters

Copy	Replace Errors...
Remove	Split Column
Remove Other Columns	Group By...
Duplicate Column	Fill
Remove Duplicates	Unpivot Columns
Remove Errors	Unpivot Other Columns
Change Type	Rename...
Transform	Move
Replace Values...	Drill Down
	Add as New Query

◉ **Miscellaneous Transformations**

Transpose rows, reverse rows,
Pivot & Unpivot
View options [monospaced font, column profiling,Column distribution, performance monitoring]

◉ **Mash up (M) language**

Syntax, protocols, variables & conventions
Let, In, semicolon, and other functions

lowercase	Round
UPPERCASE	Absolute Value
Capitalize Each Word	Factorial
Trim	Base-10 Logarithm
Clean	Natural Logarithm
Length	Power
JSON	Square Root
XML	Text Transforms

TOPIC 8: POWER BI VIEWS, FILTERS, VISUALS AND VISUAL FORMATING OPTIONS

◉ **Types of views in PBI Desktop**

a) Report View b) Data View
c) Relationship View, **d) DAX Query view (2024)**

◉ **Working with different level of filters**

a) Visualization level b) Page level c) Report Level
d) Drill though page level
e) Drill through cross report level

◉ **Data Display Visuals**

Card, Multi-row, Table, Matrix, New -card **(2024)**

◉ **Simple KPI visuals**

KPI, Gauge, Bullet Chart

◉ **More categories visuals**

Charts
Rounded charts : Pie, donut
Bar: Stacked, Clustered, 100% Stacked
Trend: Line, Area, Stacked Area, Ribbon,
        Mixed Charts, Rectangle Tree Map,
        Funnel, Scatter, Waterfall
Maps (Bubble, Filled, Shape, ARCGis, **Azure map 2024**)
AI Visuals: Key-influencer, De-composition,
            Smart Narrative, QA
Others: Sparklines, Metric, Paginated Report, R, Python
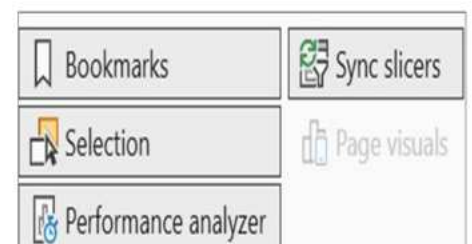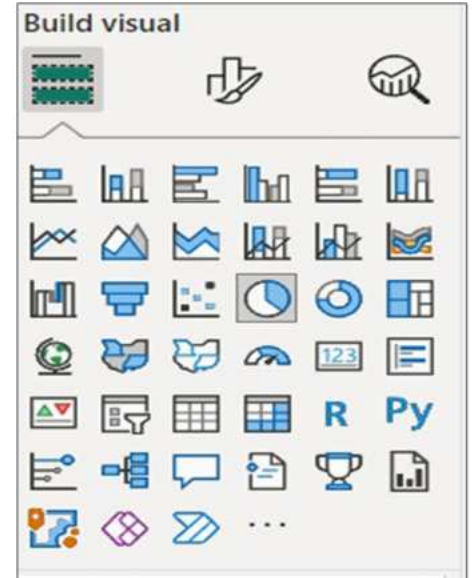
◉ **Custom Visuals**

a) Bullet Chart b) Chiclet Slicer c) Hierarchy Slicer
   d) Gantt Chart e) Histogram Chart f) Dual KPI
   g) Scroller

◉ **Non field visuals**

a) Image b) Textbox c) Shapes d) Button actions
Actions: Bookmark, page navigation, back , QA,
URL, apply slicers & clear slicers

◉ **Visual Interactions**

a) Slicers: types, usages, sync slicer
b) Filers & types
c) Edit Interactions
d) Parameters & What-if parameters

TOPIC 9: POWER BI CLOUD SERVICE (app.powerbi.com)

◉ WEB PORTAL NAVIGATIONS

1) Navigation pane
2) Portal URL explanation
3) App Launcher
4) Settings
5) Help & Support
6) Feedback
7) Account Information

◉ WORKSPACES

▸ My workspace and properties
▸ User app workspaces and properties
▸ Workspace Settings and Roles
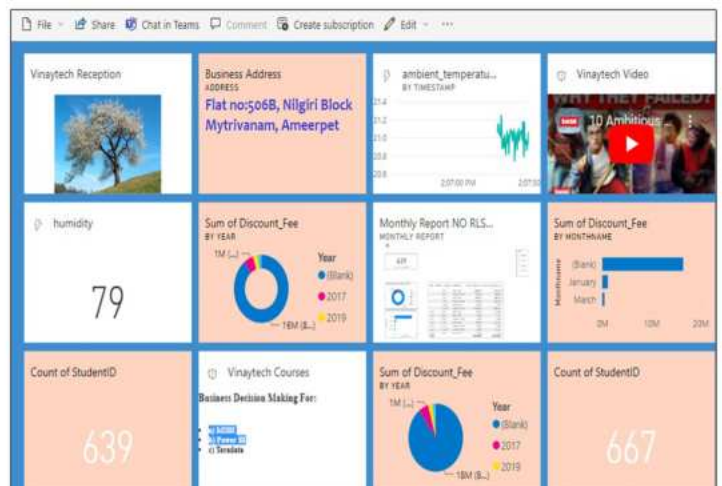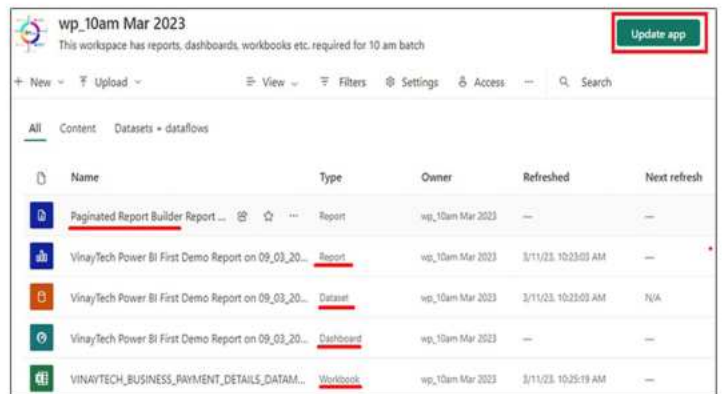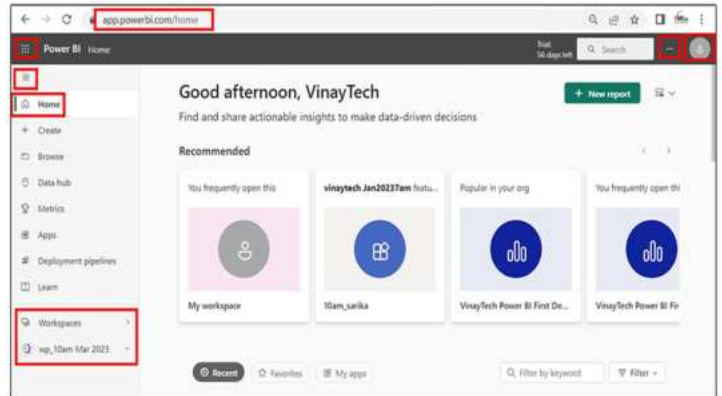▸ Workspace Access

◉ DASH BOARD TEMPLATE

▸ Create dashboards
▸ Add the below tiles
　a)Image tile
　b)Text box tile
　c)Video tile
　d)Streaming tile
　e)Live page tile
　f)Visual tile
　g)Book mark tile
　h)Workbook tile
　i)Insight tile
　j)Usage Metrics tile
▸ Share and Subscribe dash board
▸ Refresh Dashboard
▸ Manage Alerts
▸ Tile & dashboard properties

◉ APP WORKSPACES (or) CONTENT PACK

▸ Create, modify, and delete appspace
▸ Add content (show or hide)
▸ Audience (organization or users)
▸ Additional Settings (copy, build)
▸ Publish and Update app
▸ Browse App in Web, Desktop and Mobile
▸ END USER EXPERIENCE PROVIDED

◉ SETTINGS (ADMIN OPERATIONS)

1) Manage gateways & sources
2) Admin portal
3) item settings, Language settings, QA
4) Manage group storage
5) Manage Personal Storage

⏩

◎ DATASET PROPERTIES

▶ Refresh (on-demand and scheduled)
▶ Security (Row Level Security)
▶ Download, Generate reports, Paginated reports
▶ Dataset Settings (Gateway and others)
▶ Parameters & Data Source Credentials
▶ Data Connections
▶ Cache Settings > QA Settings > Manage Permissions

◎ POWER BI GATEWAYS [STANDARD AND PERSONAL]

▶ Download and Install Power BI Gateways
▶ Install & Configure Gateways
▶ Add Data Sources
▶ Desktop, Service, and Mobile App
▶ Refresh (on-demand, scheduled and automated)
▶ Gateway trouble shooting
▶ Refresh Flat Files & data bases

◎ DEPLOYMENT PIPELINES

▶ Deployment and Deployment pipelines
▶ New and updates entities deploy
▶ Settings, Access, History of pipelines

◎ REPORT PROPERTIES

▶ Edit Report, Mobile and Web View
▶ Quick Insights and Usage Metrics
▶ Persistent Filters and Cross Report
▶ Share, Subscribe, and Refresh
▶ Lineage view, View Related
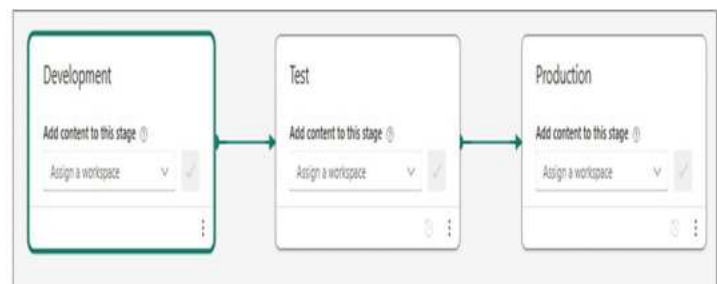▶ Comments and ChatinTeams
▶ Manage Permissions

◎ SCORECARDS AND METRICS

▶ Scorecard and Metrics or Goals
  Refresh Metrics

◎ DATAFLOWS

▶ Create and modify dataflow
▶ Power Query Operations
▶ Common Data Model [CDM] usage
▶ Save and Use Dataflow
▶ Refresh (On-demand, Scheduled, Incremental Refresh)

Admin portal

Tenant settings
Usage metrics
Users
Premium Per User
Audit logs
Capacity settings
  Refresh summary
Embed Codes
Organizational visuals
Azure connections
Workspaces
Custom branding
Protection metrics
Featured content

Connect to Azure resources

▸ Tenant-level storage

▴ Workspace-level storage permissions

☑ Allow workspace admins to connect their own storage account

[Save] [Cancel]

▸ Workspace-level Log Analytics permissions (preview)

▸ Data in space (preview)

Development — Add content to this stage ⓘ — Assign a workspace
Test — Add content to this stage ⓘ — Assign a workspace
Production — Add content to this stage ⓘ — Assign a workspace

On-premises data gateway
One gateway for multiple cloud services and experiences

Cloud services

Azure Analysis Services | Azure Logic Apps | Power BI | PowerApps | Microsoft Flow

Gateway Cloud Service
- Encrypts and stores data source credentials and on-premises data gateway details
- Routes queries and results between cloud services, on-premises data gateway, and data source

Azure Service Bus

On-premises data gateway
- Decrypts data source credentials and connects to data source
- Sends queries to data source and returns the results to gateway cloud service

On-premises data sources

SQL Server | SQL Server Analysis Services | Other data sources | Files, SharePoint

TOPIC 10: DAX [DATA ANALYSIS EXPRESSIONS] DAX Expression, Query Language & DAX Studio (10 hrs)

◎ DAX Language General Topics & Advanced

- ▸ Syntax and usage
- ▸ Naming conventions, parameters
- ▸ Operators, functions (15 categories)
- ▸ **Context transition** (row, column, filter, multi-row)
- ▸ DAX Queries, DAX Studio and SSMS
- ▸ DAX FAQS, Optimization & Standards

◎ DAX Functions [Very Detailed Practice]

- ▸ Good material provided for all the functions
  a) Date b) Filter c) Math & Trig d) Statistical
  e) Table Manipulated f) Informational
  g) Relationship h) Logical i) Parent Child
  j) Time Intelligence j) INFO Function
  h) Windows Functions (2022 Dec)
  i) NEW Functions (2024)
  Statements: Evaluate, Define, Var, Order By

◎ DATE FUNCTIONS

- ▸ Calendar, Calendarauto, Day, Month, Year
  YearFrac, Date, Time, DateValue, TimeValue,
  Edate, EOMonth, Weekday, WeekOfMonth
  Today, UTCToday, Now, UTCNow, DateDiff

◎ TIME INTELLIGENCE FUNCTIONS

- ▸ DatesBetween, DatesInPeriod,
  ClosingBalanceofmonth, Quarter, Year
  OpeningBalanceOfMonth, Quater, Year
  Datesytd, Datesqtd, Datesmtd
  Totalqtd, Totalmtd, Totalytd ,DirstDate,
  FirstNonBlankDate, LastDate,
  Lastnonblankdate, NextDay, NextMonth,
  NextYuarter, NextYear, ParallelPeriod,
  SamePeriodLastYear, PreviousDay,
  PreviousMonth, Quarter, Year
  StartOfMonth, Quarter Year

◎ LOGICAL FUNCTIONS

- ▸ And, Or, Not, Iferror, If, Switch, In,
  True , False, Coalesce

◎ PARENT & CHILD FUNCTIONS

- ▸ Path, Pathlength, Pathcontains,
  Pathreverse, PathItem

  **Practice DAX on Power BI Desktop,
  DAX Studio and Tabular Model Cube
  Instances**

◎ FILTER FUNCTIONS

- ▸ Addmissingitems, Filter, Filters,Distinct,
  Values, Countrows, All, Allexcept, Earlier,
  Earliest, KeepFilters, Remove filters,
  Calculate, Calculatetable, AllSelected,
  AllNoBlankRow

◎ RELATIONSHIP FUNCTIONS

- ▸ Related, Relatedtable, UseRelationship,
  Crossfilter, ContainsStringExact

◎ INFORMATION FUNCTIONS

- ▸ ContainsRow, Contains, ContainsString,
  Iseven, Isodd, Istext, UserName,
  UserPricipalName, LookUpValue, IsError,
  IsNonText, IsNumber, IsLogical, Isinscope,
  Isonorafter,Hasonefilter, IsCrossFiltered

◎ AGGREGATE FUNCTIONS

- ▸ Sum, Sumx, Average, AverageX, AverageA,
  Max,MaxX,MaxA, Min, Minx,MinA,Count,
  CountX, CountA, CountBlank, DistantCount,
  DistantCountNoBlank, Product, ProductX,
  Courtrows, Approximate, Distinctcount

◎ MATH AND TRIG FUNCTIONS

- ▸ Round, MRound, Roundup, Rounddown, Rand,
  RandBetween , Sqrt, Trunc, In, Ceiling, Floor,
  Gcd, Lcd, Exp, Fact, Even, Odd, ABS, Convert,
  Currency, Sign

◎ STATISTICAL FUNCTIONS

- ▸ Permut, Rank.eq, Rankx, Sampl,
  Statistical data, Operation functions

◎ TABLE MANIPULATION FUNCTIONS

- ▸ AddColumns, AddMissingItems, CrossJoin,
  CurrentGroup, DataTable, DetailRows,
  DistinctColumn, DistinctTable, Except,Filters,
  Generate, GenerateSeries, Groupby,
  DataTable, Except, Intersect, Union,
  Symmarize, Summarizecolumn,
  GenerateSeries, NaturalInnerJoin,
  NaturalLeftOuterJoin, Crossjoin, Treatas,
  Isempty, Row SelectColumns, Values,

◎ TEXTUAL FUNCTIONS

- ▸ Blank, Code,Unichar,Concatenate,
  Combinevalues, Cacatinatex, Trim, Rept,
  Replace, Substitute, Find, Search, Format,
  Mid, Left, Right, Value, Upper, Lower

◉ **INFO FUNCTIONS**
▸ INFO.View.Measures, INFO.View.Columns, INFO.view.Tables

◉ **WINDOWS FUNCTIONS (2022)**
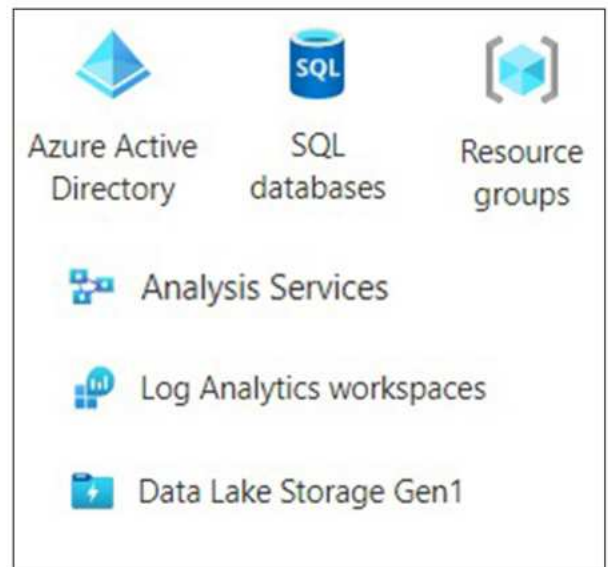▸ INDEX, OFFSET, PARTITION, WINDOW

◉ **NEW FUNCTIONS (2024)**
▸ FIRST, LAST, PREVIOUS, NEXT, RANK, ROWNUMBER, LINEAST, MATCH

TOPIC 11: ADDITIONAL SESSIONS [MICROSOFT FABRIC UNDERSTANDING, AZURE SESSIONS]

◉ **AZURE SESSIONS**
▸ Azure cloud and introduction
▸ Azure portal, resources, and resource groups
▸ Azure account creation and pay-as-you-go
▸ Azure SQL Database, Data warehouse, & Analysis Services Databases
▸ Azure Blob and Data Lake Storages Introduction
▸ Azure Data Factory [ADF] Introduction
▸ ADF- Pipelines, Sources, Sync, and Azure Log Analytics Workspace
▸ Azure Active Directory [AAD]

Azure Active Directory

SQL databases

Resource groups

Analysis Services

Log Analytics workspaces

Data Lake Storage Gen1

TOPIC 12: POWER AUTOMATE, POWER APP & POWER BI EMBEDDING

◉ **[Theory and Complete Practical]**

▸ Microsoft Power Automate [Microsoft flow]
▸ Power Automate overview
▸ Flow.microsoft.com understanding with accounts and components
▸ Scheduling the Dataset refresh
▸ Implement set of operations using flow EMAIL, Dataset Refresh, Power Apps

◉ **[Theory and Complete Practical]**

▸ Power Apps Overview
▸ Make.powerapps.com understanding
▸ Understanding different apps [Canvas, Model Driven, Portal from Blank]
▸ Power Apps few scenarios practice
▸ APP showing Power BI Report [Embedding] APP to connect to report and edit details. Create and manage a data form from OneDrive.

Basic Material and Live Class Videos Shared

A Big Thank you

Power BI
FIRST DEMO

Taught by
MR. VINAY

1:02:49

Get the Best Power BI Training in
Hyderabad | Free Demo #1

To watch
our Latest Demos

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COURSES WE OFFER

POWER BI

DATA ANALYST/ ANALYTICS

MICROSOFT FABRIC

SQL SERVER

ADE / AZURE BI

ADF: AZURE DATA FACTORY

ADB: AZURE DATA BRICKS

MSBI

POWER APPS

POWER AUTOMATE

INFORMATICA

EXCEL

PYTHON

For Regular Updates on Demos (Free)

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504, Nilgiri Block, Adithya Enclave, Beside Ameerpet Metro, Hyderabad