

Power BI

• 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 **Desktop & DAX**
Power BI **Service**

POWER BI ON-PREMISE COMPONENTS

Power BI **Report Server Desktop**
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)

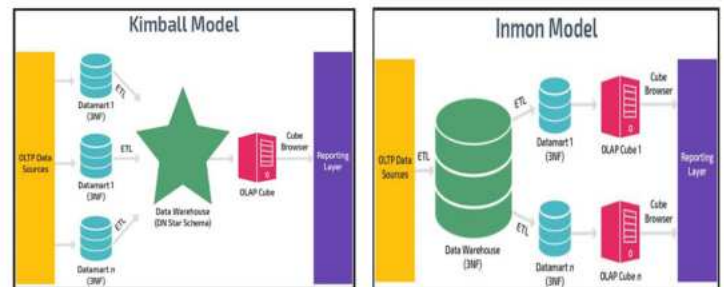
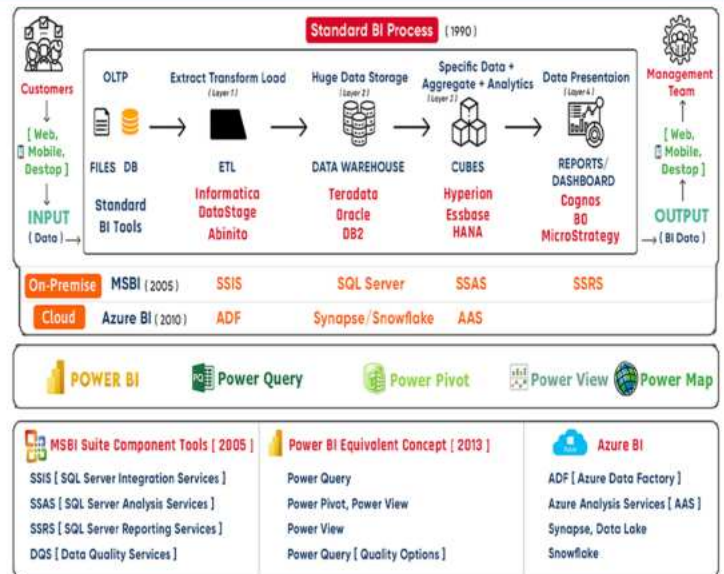
MANDATORY TOPIC 1: POWER BI DEMO & DATA WAREHOUSE FUNDAMENTALS

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

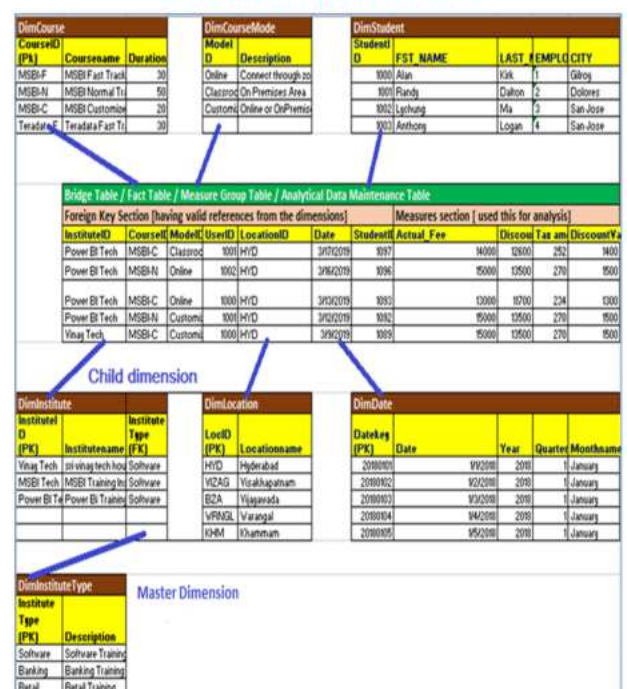


MANDATORY TOPIC 2: DATA MODEL THEORY AND PRACTICAL

[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 examples

Snowflake Schema



TOPIC 1: INSTALLATION [POWER BI DESKTOP, GATEWAY, SERVER, REPORT BUILDER & DAX STUDIO]

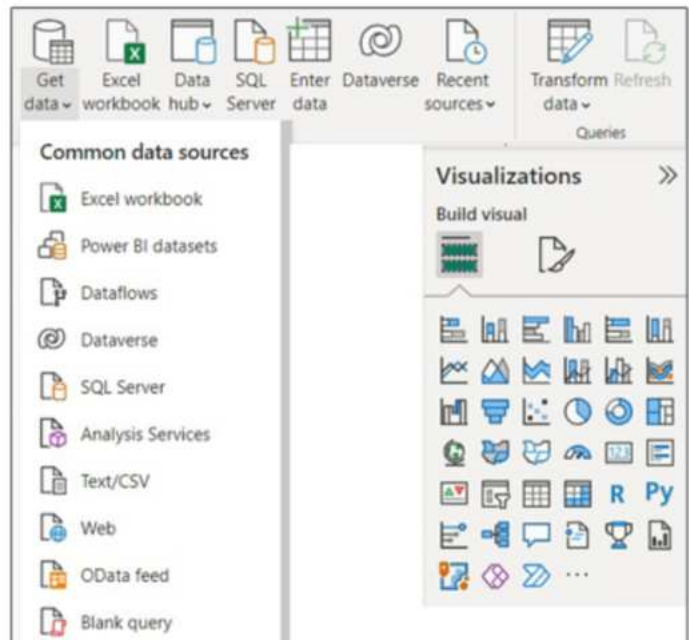
- ▶ Power BI Components
- ▶ Release impact on installation
- ▶ Power BI Cloud Desktop installation
- ▶ Power BI Report Server Desktop installation
- ▶ DAX Studio installation
- ▶ Report Server Installation
- ▶ Paginated Report Builder Installation
- ▶ Gateway Installation



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.
- ▶ Retrieve data from related data bases and cube



TOPIC 4: WORKING 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 Relationships
- 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, Linguistic 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

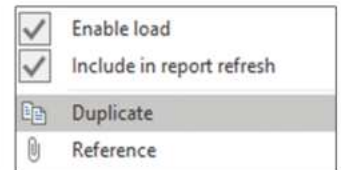
- ▶ Create hierarchies and analyzing data
- ▶ Create Groups (List, Bin)
- ▶ Hide / Unhide columns usage in real-time
- ▶ Consider table as Date Table
- ▶ Expand and collapse columns
- ▶ Incremental refresh & manage aggregations



TOPIC 7: POWER QUERY PROPERTIES [8 types of properties and M-Language]

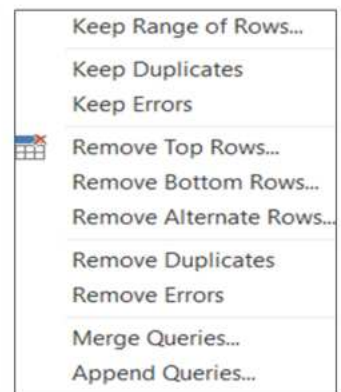
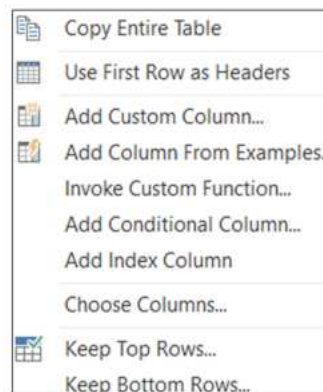
Queries properties [All options –Detailed Practical]

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



Query Properties

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



Column Properties

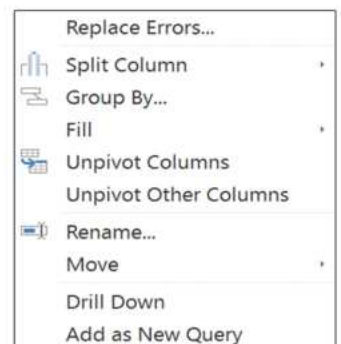
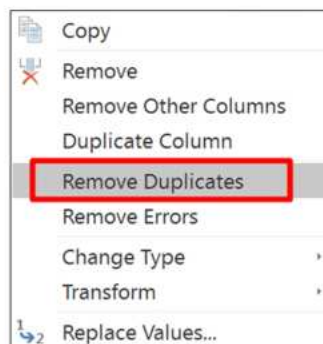
Data types, Different types of data transformations on

- Numeric columns
- String columns (split strings)
- Date columns

Full real-time examples on the data transformations

Filter properties

Working on Number, String, and Date
Various filter options



Parameters properties

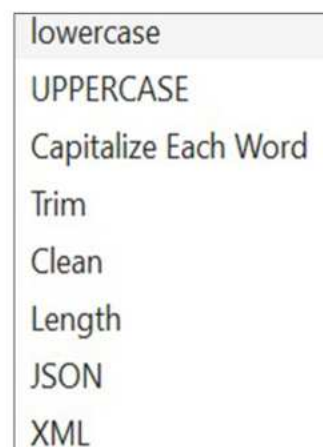
Working on Any, List & Query Parameters
Working on multiple parameters
Working on cascading parameters
Working on cascading parameters

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



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

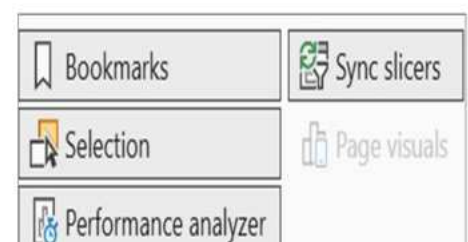
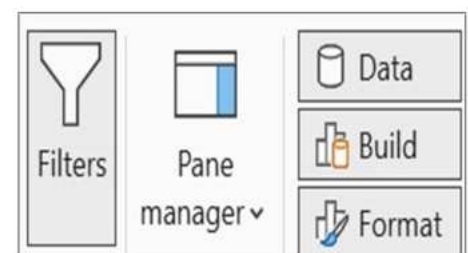
- a) Bullet Chart b) Chiclet Slicer c) Hierarchy Slicer
- d) Gantt Chart e) Histogram Chart f) Dual KPI
- g) Scroller

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

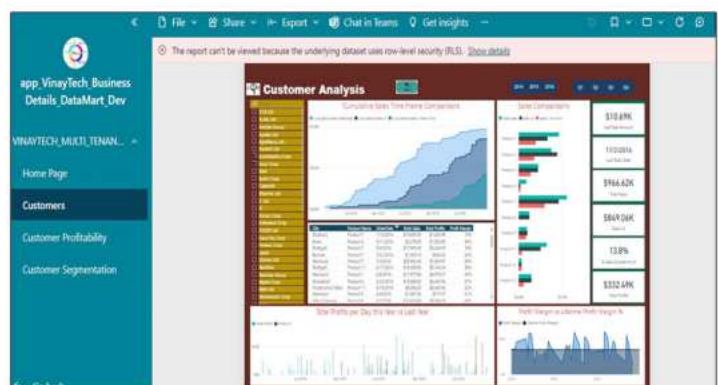
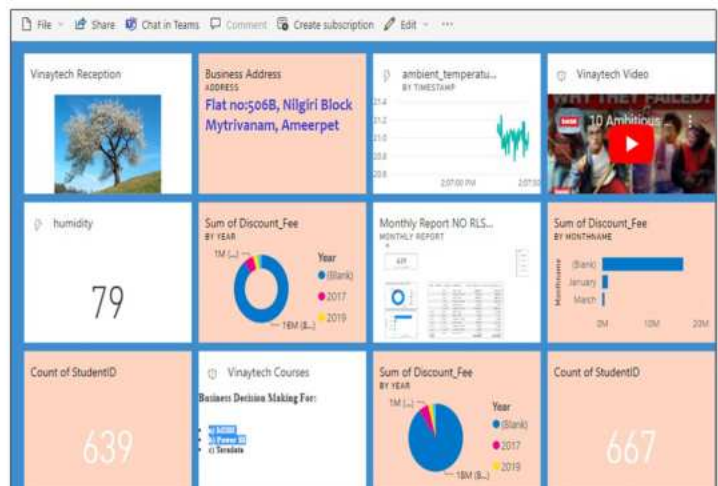
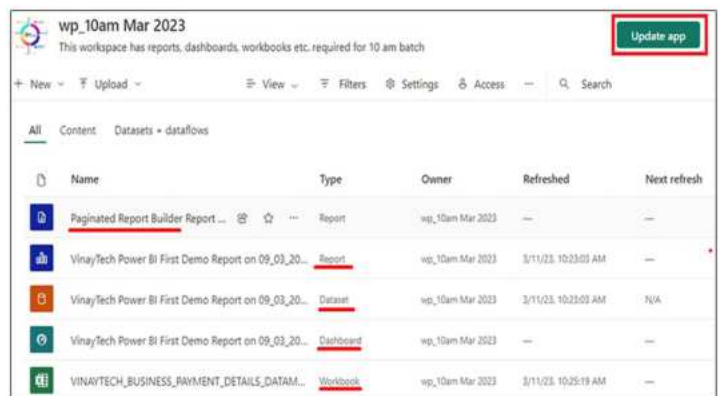
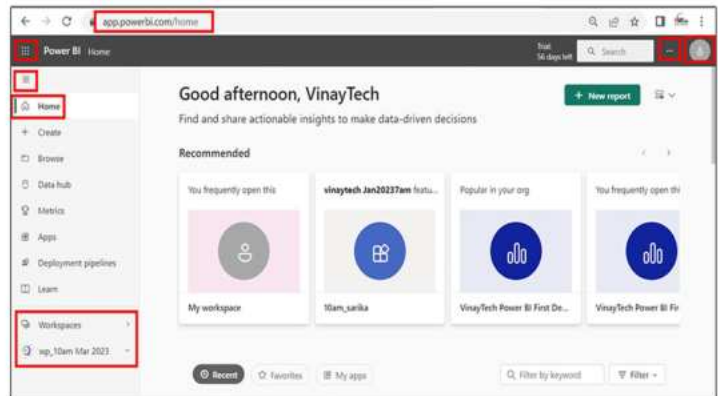
- ▶ Create dashboards
- ▶ Add the below tiles
 - a) Image tile
 - b) Text box tile
 - c) Video tile
 - d) Streaming tile
 - e) Live page tile
 - f) Visual tile
 - g) Book mark tile
 - h) Workbook tile
 - i) Insight tile
 - j) Usage Metrics tile
- ▶ Share and Subscribe dash board
- ▶ Refresh Dashboard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

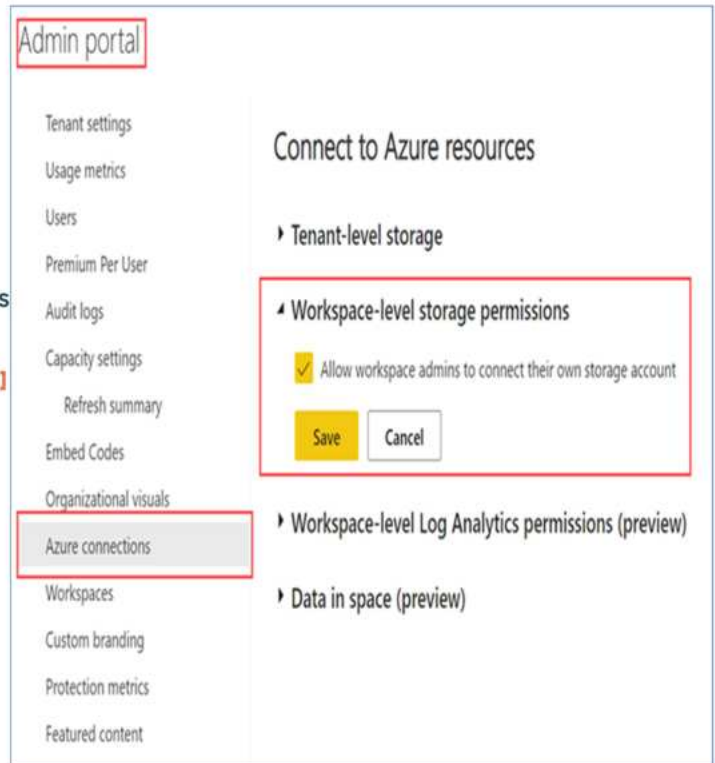
- ▶ Edit Report, Mobile and Web View
- ▶ Quick Insights and Usage Metrics
- ▶ Persistent Filters and Cross Report
- ▶ Share, Subscribe, and Refresh
- ▶ Lineage view, View Related
- ▶ Comments and ChatinTeams
- ▶ Manage Permissions

● SCORECARDS AND METRICS

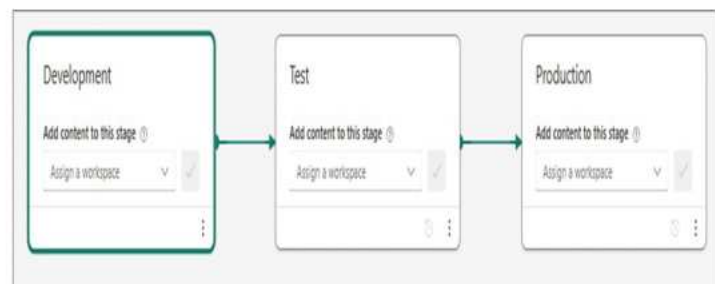
- ▶ Scorecard and Metrics or Goals
- ▶ Refresh Metrics

● DATAFLOWS

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



The screenshot shows the 'Admin portal' interface. On the left, a sidebar lists various settings: Tenant settings, Usage metrics, Users, Premium Per User, Audit logs, Capacity settings, Refresh summary, Embed Codes, Organizational visuals, Azure connections (highlighted with a red box), Workspaces, Custom branding, Protection metrics, and Featured content. The main area is titled 'Connect to Azure resources' and includes options for 'Tenant-level storage', 'Workspace-level storage permissions' (with a checkbox 'Allow workspace admins to connect their own storage account' checked and 'Save'/'Cancel' buttons), 'Workspace-level Log Analytics permissions (preview)', and 'Data in space (preview)'.



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,
- Isempy, 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
- ▶ make.powerautomate.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

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

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

SUBSCRIBE TO OUR YOUTUBE

@ Vinay Tech House

For Regular Updates on Demos (Free)

Follow us on Instagram / Facebook

@VINAYTECHHOUSE

For more information, Call us on: +91 9859 831 831

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