

# Microsoft Power BI Content

## Module1: Power BI for Data Analyst

### Day-1

1. What is Data?
2. How Data is Getting Generated?
3. What is Information and Features?
4. What is Database?
5. What is ETL Processing?
6. Challenges Of Data
7. Features Of Power BI

### Day-2

8. Introduction to Power BI
9. Power BI Desktop Installation
10. Power BI Desktop – First Experience
11. Introduction to Power BI Components
12. Power BI Components
  - Power Query
  - Power Pivot
  - Power View
  - Power Q&A
13. Getting Data from Excel File
14. Visualization Basics
15. Importance Of Visualizations
16. Basic Charts: Bar & Column Charts
17. Formatting Visual
  - Visual
  - General

### Day-3

18. Slicing & Dicing Introduction
19. Filters Pane
20. Scope Of Filters
  - Report Level
  - Page Level
  - Visual Level
21. Modes Of Filtering
  - Basic
  - Advanced
  - Relative
  - Top N

## Day-4

- 22. Slicers Introduction
- 23. Types Of Slicers
  - Number
  - Text
  - Date
- 24. Slicer Formatting
- 25. Sync Slicers
- 26. Advantage of Sync Slicers
- 27. Drill-Through Page Filters

## Day-5

- 28. Report Page Tooltip
- 29. Edit Interactions
  - Highlight
  - Filter
  - None
- 30. Bookmarks-Saving Stage/Snapshot of Page
- 31. Grouping & Binning
- 32. Button Action Items
- 33. Selection Pane

## Day-6

- 34. Column Family Charts
  - Clustered Column Chart
  - Stacked Column Chart
  - 100% Stacked Column Chart
- 35. Bar Family Charts
  - Clustered Bar Chart
  - Stacked Bar Chart
  - 100% Stacked Bar Chart
- 36. Column vs Bar

## Day-7

- 37. Line Chart
- 38. Combo Charts
  - Primary Axis
  - Secondary Axis
- 39. Ribbon Chart
- 40. Waterfall Chart
- 41. Group Charts
  - Pie Chart
  - Donut Chart
  - Treemap Chart

## Day-8

- 42. Map Visual
  - Using Bing to Find Spots
  - Using Latitude and Longitude
- 43. Filled Map
- 44. Shape Map
- 45. ArcGIS Map
- 46. Single Card
- 47. Multi Row Card
- 48. Adding Custom Visual

## Day-9

- 49. Table Introduction
- 50. Table – Conditional Formatting
  - Background Color
  - Font Color
  - Data Bars
- 51. Matrix
  - Rows
  - Columns
  - Indentation
  - Drill-Down on Rows
  - Drill-Down on Columns

## Day-10

### Module 2: Power Query

- 52. Installation of Power BI Desktop
- 53. Introduction to Power Query
  - Query Editor
  - Ribbon
  - Queries
  - Steps in the Bucket
  - Formula Bar
  - Reading Data from Excel File
  - Reading Data from Csv File
  - Auto Detected Datatypes
  - Changing Datatypes
  - Create Sample Report

## Day-11

### 54. Column Operations

- Choose Columns
- Removing Columns
- Datatype Changes
- Replace Values
- Fill Down
- Fill Up
- Moving Steps

### 55. Taking Only required Columns

### 56. Row Operations

- Filtering on Numbers Data
- Filtering on Text Data
- Filtering on Date Data
- Removing Rows
- Keeping Rows
- Advanced Filtering

## Day-12

### 57. Text Transformations

- Split Column by Delimiter
- Split Column by Number of Delimiters
- Merge (Concatenate)
- Format
- Difference Between Clean & Trim
- Extract
- Exercises

### 58. Numeric Transformations

- Add
- Divide
- Sub
- Multiply
- Is Even
- Is Odd
- Rounding
- Power
- Quare
- Exercises

## Day-13

### 59. Date Transformations

- Year
- Start of Year
- End of Year
- Quarter
- Start of Quarter
- End of Quarter
- Month
- Start of Month
- End of Month
- Days In Month
- Name of Month
- Adding Date from Date Time Column
- Adding Time from Date Time Column
- Age
- Time Transformation-Hour, Minute, Second

## Day-14

### 60. Add Column Transformation

- Add Column vs Transform
- Index Column
- Column By Examples
- Add Custom Column

### 61. Combine Queries

- Introduction
- Inner
- Left Outer
- Right Outer
- Full Outer
- Left Anti & Right Anti
- Best Practices
- Fuzzy Merging

## Day 15

### 62. Reading Data from Multiple Files

### 63. Reading Data from Website

### 64. Data Appending

### 65. Data Aggregation

### 66. Data Pivoting

### 67. Data Unpivoting

## Day-16

### Module 3: SQL Server Basics

- 68. Introduction to SQL Server
- 69. Installation of SQL Server
- 70. Installation of SSMS
- 71. Restoring Sample Database
- 72. Overview of Database

## Day-17

- 73. Data Querying from Table
- 74. Order of SELECT Statement
- 75. Execution Order of SELECT Statement
- 76. Taking Required Columns
- 77. WHERE clause

## Day-18

- 78. Functions Introduction
- 79. Numeric Functions
- 80. Text Functions

## Day-19

- 81. Date Functions
- 82. GROUP BY
- 83. Aggregate Functions

## Day-20

- 84. Data Joining Introduction
  - Inner Join
  - Left Outer Join
  - Right Outer Join
  - Full Outer Join
  - Self-Join

## Day-21

- 85. Writing SELECT in Place of Table Name
- 86. Common Table Expressions

## Day-22

- 87. Generating Row Numbers
- 88. Generating Ranks
- 89. Windows Functions
  - ROW\_NUMBER()
  - RANK()
  - DENSE\_RANK()

## Day-23

- 90. Writing Complex Queries
  - With Joins
  - Sub Queries
  - Common Table Expressions (CTE's)
  - Temporary Tables
  - Table Variables
- 91. Creating Stored Procedure
  - Without Parameters
  - With Parameters

## Day-24

- 92. Reading Data from SQL Server
  - Import
  - Direct Query
  - Import vs Direct Query

## Day-25

### Module 4: Data Modelling with Power BI

- 93. Introduction to Power Pivot
- 94. Star Schema
  - Fact Tables
  - Dimension Tables
- 95. Relationship Between Tables
- 96. Types of Relationships
  - One to One
  - One to Many
  - Many to One
  - Many to Many

## Day-26

- 97. Star Schema – Designing
- 98. Creating Relationships
  - Auto Detect
  - Drag & Drop
  - Manage Relationships
- 99. Creating All Measures
- 100. Apply Best Practices to Modelling

## Day-27

- 101. Snowflake Schema – Introduction
- 102. Snowflake Schema – Designing
- 103. Converting Snowflake to Star

## Day-28

- 104. Integrated Schema
  - Star Schema + Star Schema
  - Star Schema + Snowflake Schema
  - Snowflake Schema + Snowflake Schema
- 105. Integrated Schema – Designing
- 106. Cross Filter Directions
  - Single
  - Both

## Day-29

- 107. Calculations Introduction
  - New Column
  - New Measure
  - New Table
- 108. DAX Introduction
  - Syntax of DAX
  - Naming in DAX
  - Operators & Operands
  - Logical Operations
  - Over View of Functions in DAX
- 109. Math Functions
  - ASB()
  - INT()
  - DIVIDE()
  - POWER()
  - ROUND
  - ROUNDDOWN
  - ROUNDUP

## Day-30

- 110. Text Functions
  - UNICODE()
  - UNICHAR()
  - LOWER()
  - UPPER()
  - CONCATENATE()
  - COMBINEVALUES()
  - LEFT()
  - RIGHT()
  - FIND()
  - SEARCH()
  - MID()
  - LEN()



## Day-31

- 111. Getting Parts of Text
  - Without Variables
  - With Variables
- 112. Other Text Functions
  - EXACT
  - TRIM()
  - REPT
  - REPLACE
  - SUBSTITUTE()

## Day-32

- 113. Date Functions
  - DATE()
  - CALENDAR()
  - CALENDARAUTO()
  - YEAR()
  - MONTH()
  - DAY()
  - WEEKNUM()
  - QUARTER()
  - EOMONTH()
  - ENDOFMONTH()
  - ENDOFQUARTER()
  - ENDOFYEAR()
  - STARTOFMONTH()
  - STARTOFQUARTER()
  - STARTOFYEAR()
- 114. Time Functions
  - TODAY()
  - NOW()
  - HOUR()
  - MINUTE()
  - SECOND()

## Day-33

- 115. Logical Functions
  - OR()
  - AND()
  - NOT()
  - IF()
  - TRUE()
  - FALSE()
  - IF.EAGER()
  - SWITCH()
  - COALESC()

## Day-34

116. Information Functions
- CONTAINSTRING()
  - CONTAININGSTRINGEXACT()
  - HASONEFILTER()
  - ISFILTER()
  - ISBLANK()
  - ISEVEN()
  - ISODD()
  - ISFILTERED()
  - ISNUMBER()
  - ISTEYX()
  - SELECTEDMEASURE()
  - USERNAME
  - USERPRINCIPALNAME
117. Filter Functions
- ALL()
  - FILTER()
  - CALCULATETABLE()
  - KEEPFILTERS()
  - REMOVEFILTERS()
  - LOOKUPVALUES()
  - SELECTEDVALUES()
  - CALCULATE()
  - ALLSELECTED()
  - ALLEXCEPT()

## Day-35

118. Aggregate Functions
- SUM()
  - COUNT()
  - MIN()
  - MAX()
  - AVERAGE()
  - SUMX()
  - MINX()
  - MAX()
  - AVARAGEX()
  - COUNTX()

## Day-36

119. Time Intelligence Functions
  - DATESMTD()
  - DATESQTD()
  - DATESYTD()
  - PREVIOUSMONTH()
  - PREVIOUSQUARTER()
  - PREVIOUSYEAR()
  - NEXTMONTH()
  - NEXTQUARTER()
  - NEXTYEAR()
  - TOTALMTD()
  - TOTALQTD()
  - TOTALYTD()
  - SAMEPERIODLASTYEAR
120. Other Functions
  - SUMMARIZE()
  - ADDCOLUMNS()
  - SELECTEDCOLUMNS()
  - SUMMARIZEDCOLUMNS()

## Day-37

### Module 5: Power BI Administration

121. Power BI Components
122. Power BI Service Components
  - Dataset
  - Report
  - Dashboard
123. Workspace
124. Publish
125. What is Gateway
  - Enterprise
  - Personal
  - Installing Gateway

## Day-38

126. Import Data Schedule Refresh
127. DirectQuery Connection
128. LiveConnection

## Day-39

129. Creating Report with Existed Dataset
  - By Power BI Service
  - By Power BI Desktop
130. Sharing

- Report Sharing
  - Dashboard Sharing
  - Power BI Apps
  - Publish to Web
131. Security

#### Day-40

132. Microsoft Fabric Introduction
133. Creating Lakehouse
134. Creating Model
135. Getting Data from Lakehouse with Power BI Desktop
136. Creating Measures

#### Day-41

137. Dataflows in Microsoft Fabric
138. Create Model on AdventureWorksDW
139. Create Measures in the LakeHouse

#### Day-42

140. Project Explanation

#### Day-43

141. Project Implementation – Phase-I

#### Day-44

142. Project Implementation – Phase-II

#### Day-45

143. Resume Preparation
144. Roles & Responsibilities
145. Interview Questions – Discussion
146. Miscellaneous Items