



Microsoft Excel

The Course Content

*"Tell me I'll forget... show me, I'll remember...
let me do it & I'll understand"*

Data lies at the heart of your organisation and its effective use is vital for operational efficiency and competitiveness.

That's why you've invested in a flexible, powerful data & analytics platform.

But the work doesn't stop when your solution goes live.

Business goals change and the value needed from software evolves over time.

This is a reason why Scenario academy offers portfolio of training courses designed to support you throughout your data journey. Scenario Academy courses can be delivered in a format that suits your organization.

The courses have been designed to ensure you are best positioned to extract the maximum value from your investment in analytics, business intelligence and data warehousing systems.



Classroom



On Site



Online



Financial KPI Dashboard

Working Capital



Current Ratio



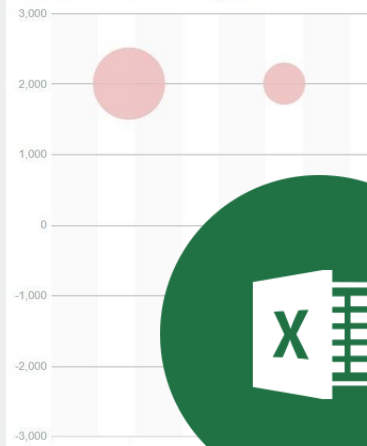
Quick Ratio



Cash Flow Ratio



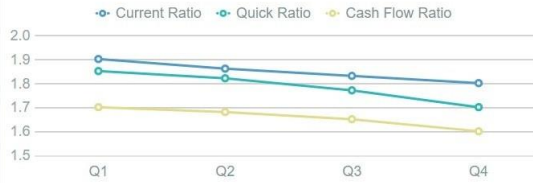
Budget Variance Analysis



Cash	102,000
Accounts Receivable	74,000
Inventory	21,000
Pre-paid Expenses	19,000
Current Assets	216,000

Accounts Payable	82,000
Credit Card Debit	11,000
Bank Operating Credit	37,000
Accrued Expenses	6,000
Taxes Payable	2,000
Current Liabilities	138,000

Liquidity Ratio Analysis



Profit Margin Analysis



Vendor Payment Error Rate



Excel

Excel is the world's most popular data analysis tool. Companies and institutions worldwide use it to transform mountains of raw data into clear insights. Strong Excel skills can open new career paths, make you more employable in various industries, and save hours in your daily tasks.

In this course, you'll develop employable data analyst skills, starting with the Excel basics, what it can do, and the data analysis steps you should follow.

The chapters begin by exploring data; navigate your worksheet and trim and classify your data types. You'll even work with real-world Kickstarter data to use your new-found Excel skills to analyze what makes a successful project.

Later chapters in this course will teach you how to prepare your data by extracting text, preparing date data, and which Excel formulas can help. You'll learn to use 'the most important function in Excel', VLOOKUP, to combine data from different sources before testing your understanding in hands-on exercises.

These Excel skills, functions, and time-saving shortcuts can be applied to any industry, whether you're looking to move to a career in data analysis, or looking to improve your skills in marketing, finance, HR, logistics, and more.

Module 1: Introduction to Microsoft Excel

Getting Started and Exploring Data

- Formatting of text & numbers
 - TRIM
 - CONCATENATE
 - SUBSTITUTE
 - UPPER AND LOWER
 - LENGTH
 - LEFT, RIGHT AND MID
 - Exercises
- Conditional Formatting and Data Validation
- Auto Sum/ Save as Pdf / Freeze Pane
- Arithmetic Functions
 - SUM
 - MIN
 - MAX
 - AVERAGE
 - SUMPRODUCT
 - Exercises
- Named Ranges
- Cell Locking and Referencing
 - Absolute Referencing
 - Relative Referencing
 - Mixed Referencing

Module 2: Data Manipulation with Excel Functions

Lookup Functions

- VLOOKUP
- HLOOKUP
- XLOOKUP
- INDEX-MATCH (Handling VLOOKUP inefficiencies)

Logical Functions

- IF
- IFERROR
- IFS
- AND
- OR
- IFNA

Advanced Functions

- COUNT
- COUNTA
- COUNTBLANK,
- COUNTIF
- SUMIF
- NESTEDIF
- COUNTIFS,
- SUMIFS
- SUMPRODUCT
- AVERAGEIF

Module 3: Data Transformation with Power Query

- Get and Transform
- Power Query Editor
- Adding a Column
 - Custom Column
 - Conditional Column
- Convert Date to Month Abbreviation
- Applied Steps
- Pivot and Unpivot Columns
- Text Formatting Functions
 - UPPERCASE, LOWERCASE, TRIM
- Splitting a Column Using Delimiters
- Transpose a Data Table
- Removing Duplicates Using Power Query
 - Combine Queries
 - APPEND
 - MERGE
- The Advanced Query Editor
- Put the Data Back into Excel
- Queries & Connections

Module 4: Data Modelling with Power Pivot

- Sample Data
- How to Get the Excel Power Pivot Add-In
- Insert Pivot Tables

- Drag Fields
- Value Field Settings
- Sorting By Value
- Two-Dimensional Pivot Table
- Applying Filters to a Pivot table
- Grouping Data in a Pivot Table
- Percentage Contribution in a Pivot Table
- Adding Data to the Data Model
- Creating Relationships Between Tables

Module 5: Dashboards and Reports

- Filters
- Dynamic Reports
- KPIs Trackers
- Visual Representation of data
- Trend Analysis
- Text and Logo
- Scenario Analysis



Microsoft Power BI

The Course Content

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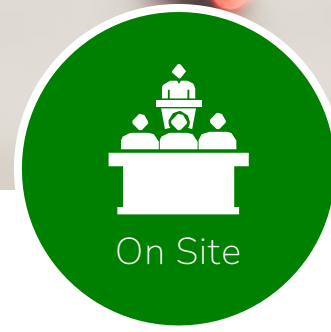
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Sales Dashboard

FISCAL YEAR

2014

2015



REVENUE

\$2,297,201



PROFIT

\$286,397



ORDERS

5009

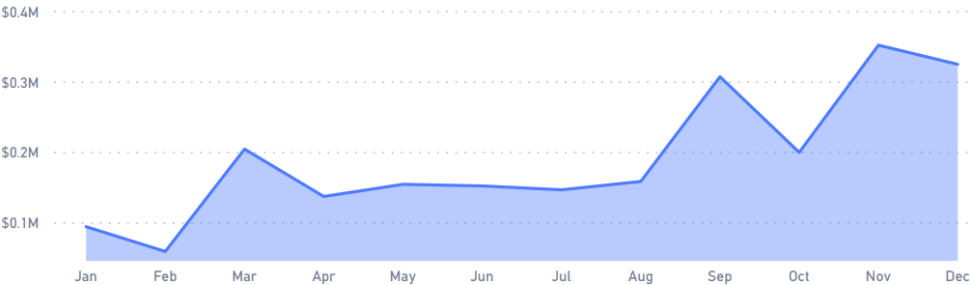


CUSTOMERS

793

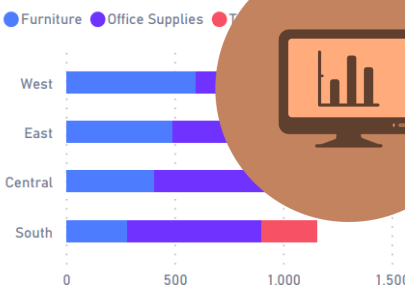
SALES PERFORMANCE

REVENUE BY MONTH



REGION PERFORMANCE

REVENUE



SUB-CATEGORY RANKING

QUANTITY & SALES BY CATEGORY			
Phones	Technology	3,289	\$330,007
Chairs	Furniture	2,356	\$328,449
Storage	Office Supplies	3,158	\$223,844

PERFORMANCE RATIO

REVENUE VS PROFIT



Power BI

Gain a 360° overview of exploring and using Power BI to build impactful reports.

In this course, you'll go from zero to hero as you discover how to use this popular business intelligence platform through hands-on exercises.

Before diving into creating visualizations using Power BI's drag-and-drop functionality, you'll first learn how to confidently load and transform data using Power Query and the importance of data models. You'll also learn to drill down into reports and make your reports fully interactive.

You've got the power!

1. Introduction to Power BI

1.1. Getting Started with Tableau (Business Intelligence)

- What is Tableau
 - Power BI as an integral part of Microsoft Power Platform
 - Power Apps, Power Automate, Power Virtual Agent
 - Power BI vs. Tableau – Gartner's Chart, Forrester, and IDC recognition of Power BI
 - Transitioning from Microsoft Excel
- Understanding Microsoft Power BI
 - Power BI Core Concept
 - Power BI Products and Pricing
 - The 3 Components of Power BI – Power BI Desktop, Power BI Mobile and Power BI Service (Pro)

1.2. Power BI Designer or Power BI Desktop

- Downloading and Installing Power BI Designer or Desktop
- Power BI Desktop vs Power BI Desktop Optimized for Power BI Report Server
- Workflow of Power BI Desktop
- Exploring Power BI Desktop – Ribbons, Canvas, Visualization Pane, Field Pane, Filters, Pages
- Types of Power BI Data Sources
- Getting Data into Power BI from Multiple Sources – Instructor Lead and Student Lead Exercise
 - Importing flat files: Text File (.txt) & CSV File (.csv)
 - Importing Microsoft Excel File (.xlsx)
 - Importing Data from SQL Server Database
 - Power BI Data Connectivity Modes
 - Power BI Import Vs Direct Query mode difference with examples
 - Supplying Database Connection Credentials
 - Connection Options – Windows, Database and Microsoft Account
 - Getting Data from a Webpage into Power BI
 - Merging multiple CSV files from a Folder
 - How to Connect Google Sheet to Power BI
 - Other Sources

1.3. Power BI Reports

- Creating Your First Power BI Reports
 - Import Excel Dataset into Power BI Desktop
 - Create a simple Power BI report
 - How to rename Power BI Dataset
 - How to use Visualization in Power BI?
 - Rename Report Page in Power BI
- Saving a Power BI Report File with Appropriate Name
- Uploading Power BI Designer files
 - Prerequisite
 - Creating a Power BI service account
 - Publish Power BI Report to Power BI Service
 - Explore “My Workspace” and Create a workspace
- Refreshing Data in Power BI
 - Data Sources that Support Refresh in Power BI
 - Limitation of Automatic Page Refresh
 - Enabling page refresh options
 - Setting up a refresh schedule
- Power BI features in Tablet and Mobile
 - Accessing your report and dashboards from Mobile
 - Explore the new features in Mobile & Tablets – Goal Hub, Scorecard, Report Footer, Paginated Reports
- Data Alerts
 - Set data alert in Power BI Service
 - Data alert rules, receiving, managing, and troubleshooting alerts
- Using Annotation in Power BI for Visualization and Story Telling

2. Data Transformation, Data Modelling and Data Visualization

Data Transformation

Power Query Overview

- Query Editor

Shape and Combine Data in Power BI

- Rearrange Badly Structured Sales Data
- Cleaning messy data from the web

Common Query Tasks in Power BI

- Row Management: Keep Rows, Remove Rows, Group Rows, Promote or Demote Column Header
- Column Management: Create Custom and Conditional Column, Pivot and Unpivot Column, Split Column, Choose and Remove Columns, Columns Distribution, and Column Quality
- Replace Value, Merge and Append Queries

Dealing with errors in Power Query

- Remove, Replace and Keep error
- Data Type conversion errors

Data Modelling within Power BI

Create and Manage Relationship in Power BI

- Understanding Primary and Foreign Key Concept
- Create a relationship with autodetect
- Create a Relationship Manually in Power BI
- Edit a relationship
- Delete Relationship in Power BI

Understanding Calculated Columns and Measure

- Creating a Calculated Column
- Creating a Measure
- Creating a measure table
- Move measure to another dataset
- Quick Measure

Data Types in Power BI

- Whole Number
- Decimal Number
- Text
- Date/Time
- True/False

Sort by Columns in Power BI

- Sorting Month Name by Month Number

Visualizing Data in Power BI

Understanding Charts

- Difference between Stacked and Clustered Chart
- Difference between Bar and Chart

Creating Charts

- Tracking business KPIs with Card, and KPI Card
- Using Column, line & Pie Charts to understand business trends
- Sizing business segments with Treemap
- Using Funnel Charts to understand leads conversion rate
- Using Scattered Chart for Sensitivity Analysis
- Importing Custom Visuals from Marketplace
- Using Slicers and Maps

Power BI Dashboard

- Creating a Dashboard
- Publish Dashboard to Power BI Service
- Publish Dashboard to Power BI Report Server
- Sharing a Dashboard to with User
- Setting Automatic Refresh of Data

Natural Language using Q & A

- How to ask question in Power BI Q & A
- Preparing a workbook for Q & A

3. Data Transformation, Data Modelling and Data Visualization

What is DAX?

- DAX in the World of Excel
- Cells vs Tables

Introducing DAX

- Understanding DAX calculations
- Common DAX Functions

Basic Table Functions

- What are Table Functions
- Table Expressions
- Understanding FILTER
- Understanding VALUES AND DISTINCT

Understanding Aggregate Functions and Measures

- Table Expressions
- Understanding FILTER
- Understanding VALUES AND DISTINCT
- Understanding the row context
- Using SUM
- Using COUNT
- Using AVERAGE in a calculated column
- Using columns in a measure

CALCULATE and CALCULATE TABLE

- Understanding CALCULATE
- Understanding the filter context
- CALCULATE examples
- Filtering a single column
- Filtering with complex conditions
- Using CALCULATE TABLE

DAX Examples

- Finding percentages
- Overall Totals

Time Intelligence Calculations

- Time Intelligence Calculations
- What is time intelligence?
- Building a Date table
- Handling multiple relationships to the Date table
- Aggregating overtime (Year-to-date|Quarter-to-date|Month-to-date)
- Calculating SAMEPERIODLASTYEAR

4. Power BI Administration

1. Overview

- The Global admin role
- The Power BI service admin role
- Key aspects of Power BI administration

2. Automating Reports and Dashboards

- Listing reports and dashboards
- Exporting reports
- Copying reports
- Creating reports and dashboards

3. Automating Workspaces

- Listing workspaces and their contents
- Creating workspaces
- Adding and removing users

5. Capstone Project



Structure Query Language

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SQL – Structured Query Language

Microsoft SQL Server is one the most popular Relational Database Management System (RDBMS) used in Microsoft universe. It can be used for data storage as well as for data retrieval for applications which can be either on desktop or Web/Browser

In this course you will learn how to build database using Data Definition Language Statements, perform basic CRUD operations using Data Manipulation Language statements like Insert, Update and Delete Write data into the database.

You will gain a wholistic understanding – starting from how data is stored within SQL Server then how to create your own database objects and more

- We will have real-life missions in the end which would require you to perform tasks similar to ones you would get at an actual company

You will be able to use SQL for your own projects, for clients or for your current job

The screenshot displays the Microsoft SQL Server Enterprise Manager interface. On the left, the Object Explorer shows the database structure for AdventureWorks2019, including tables and views. The central pane shows a SQL query in the SQL Query Editor, which is a SELECT statement with a subquery. The query is as follows:

```
14 SELECT
15     pvt.[SalesPersonID]
16     ,pvt.[FullName]
17     ,pvt.[JobTitle]
18     ,pvt.[SalesTerritory]
19     ,pvt.[2002]
20     ,pvt.[2003]
21     ,pvt.[2004]
22 FROM (SELECT
23     soh.[SalesPersonID]
24     ,p.[FirstName] + ' ' + COALESCE(p.[MiddleName], '') + ' ' + p.[LastName] AS [FullName]
25     ,e.[JobTitle]
26     ,st.[Name] AS [SalesTerritory]
27     ,soh.[SubTotal]
28     ,YEAR(DATEADD(m, 6, soh.[OrderDate])) AS [FiscalYear]
29 FROM [Sales].[SalesPerson] sp
```

Below the query, the Results pane shows the output of the query, which is a table with 7 columns: SalesPersonID, FullName, JobTitle, SalesTerritory, 2002, 2003, and 2004. The table contains 12 rows of data, starting with Michael G Blythe and ending with Rachel B Valdez. The status bar at the bottom indicates that the query was executed successfully.

	SalesPersonID	FullName	JobTitle	SalesTerritory	2002	2003	2004
1	275	Michael G Blythe	Sales Representative	Northeast	NULL	NULL	NULL
2	276	Linda C Mitchell	Sales Representative	Southwest	NULL	NULL	NULL
3	277	Jillian Carson	Sales Representative	Central	NULL	NULL	NULL
4	278	Garrett R Vargas	Sales Representative	Canada	NULL	NULL	NULL
5	279	Tsui Michael Reiter	Sales Representative	Southeast	NULL	NULL	NULL
6	280	Pamela O Ansman-Wolfe	Sales Representative	Northwest	NULL	NULL	NULL
7	281	Shu K Ito	Sales Representative	Southwest	NULL	NULL	NULL
8	282	José Edvaldo Saraiva	Sales Representative	Canada	NULL	NULL	NULL
9	283	David R Campbell	Sales Representative	Northwest	NULL	NULL	NULL
10	284	Tete A Mensa-Annan	Sales Representative	Northwest	NULL	NULL	NULL
11	286	Lynn N Tsoflias	Sales Representative	Australia	NULL	NULL	NULL
12	288	Rachel B Valdez	Sales Representative	Germany	NULL	NULL	NULL

Module 1:- Introduction to Basic Database Concepts

In this module we learn about Basic concepts and advantages of DBMS and limitations of file management system ,and also about 3 data base models

- What is Data, Field, Record and database?
- Limitations of File Management System.
- Basic Concepts of Advantages of DBMS.
- Exploring Relational DBMS
- Understanding Client and Server

Module 2: Introduction to SQL Server

In this module we learn about SQL Server, history of SQL server ,types of system databases, communication between frontend and backend and sql server editions.

- What is SQL Server Version history and different editions
- Basic Features Components and Tools
- Starting and Stopping SQL Server Instances / Services
- Introduction to Management Studio
- Types of System Databases in SQL

Module 3: Introduction to SQL

In this module we learn about types of sql statements, databases in sql server, how to create a database, datatypes in sql server, and about DDL Statements.

- Basics of SQL Types of SQL Statements
- DDL, DML, DQL, DCL and TCL
- Create Database using Management Studio
- Datatypes in SQL Server
- Exploring DDL Statements on Table using Management Studio

Module 4: DDL and DML Statements

In this module we learn about how to create a table, alter and drop a table ,and about DML statements ,like insert update and delete statements.

- Why write statements in Frontends?
- Create, Alter and Drop Table Insert,
- Update and Delete Statement
- Truncate Statement

Module 5: Working with Queries (DQL)

In this module we learn about select statement, top, distinct string and arithmetic expressions,

- Sorting the data and about sub queries and where clause(condition).
- Understanding Select Statement
- Usage of Top, Distinct, Null etc...keywords
- Using String and Arithmetic Expressions
- Exploring Where Clause with Operators
- Using Advanced Operators
- Sorting data using Order By clause
- Working with basic of Sub Queries

Module 6: Aggregate Functions

In this module we learn about how to use aggregate functions like SUM, MEAN, MAX, AVG what is difference between having and where clause, group by clause rollup and cube operator.

- Using functions in Queries
- COUNT, SUM, MIN, MAX, AVG
- GROUP BY and HAVING Clause

Module 7: Joins and Set Operations

In this module we will know about joins and types of joins how to join the tables and about

Sub queries ,types of operators like union ,intersect and except and how to add the tables and relationship between them.

- Introduction to Joins
- Inner Join
- Outer Join
- Self Join
- Cross Joins
- Co-related Sub Queries
- Set Operations using Unions, Intersect and Except

Scenario Academy

We are, an expert-led people and enterprise transformation company. We help organizations leverage analytics to improve business metrics and individuals looking to improve their analytics capabilities for better performance in their current role.

We have helped organizations develop both cloud-based and on-prem data infrastructure and business intelligence platform that is leveraged by commercials, operations, supply chain and executives for improved business decisions.

We are largely inspired by the need to help develop good great workforce for fast growth companies.

Our Clients includes First Bank, Chrysalis Capital, Green Africa, Kwale Hydro-carbon, Aero Contractors Ltd., Synlab, Nairametrics, ValueJet, amongst others.

For more information, call us on
Mobile: 08076774912
Mobile: 08142322660
or email training@scenarioacademy.com

“Tell me and I forget, teach me and I may remember, involve me and I learn.”

– Xun Kuang

