

DATE : 15.04.2024

DT/NT :

LESSON : TABLEAU

SUBJECT: INTRODUCTION

BATCH : 247

 techproeducation.com

 +1 (585) 304 29 59



**TECHPRO
EDUCATION**



TABLEAU

Session - 1



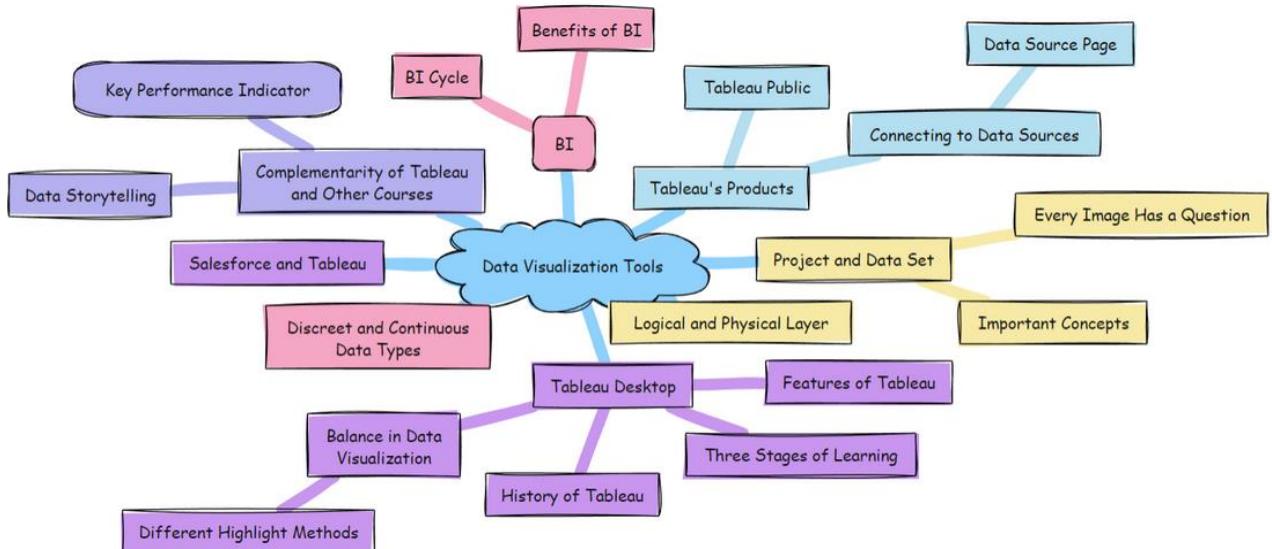
Session - 2 Content



Bugün ne öğreneceğiz?

Introduction

- BI Process
 - Why Tableau
 - Tableau Overall
 - Tableau Interface





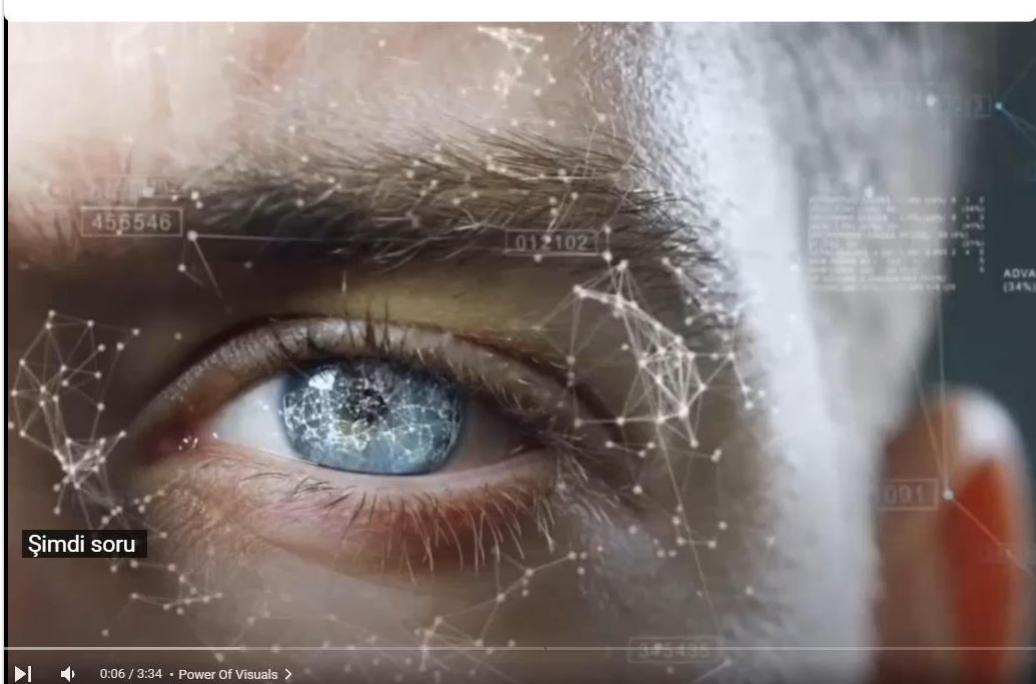
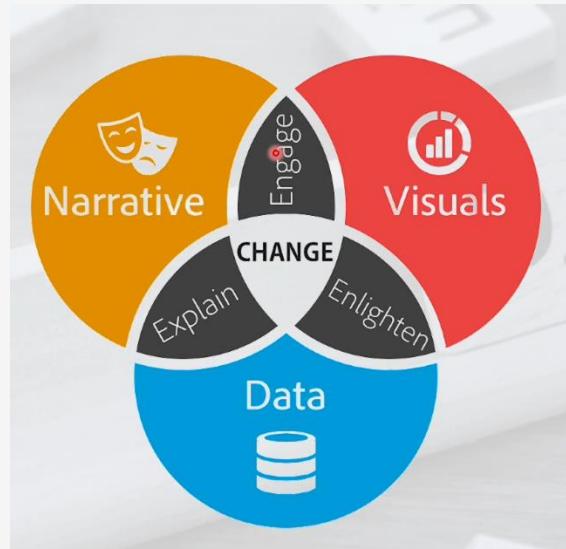
**Önceki dersten
hatırladıklarınızdan
bir cümle yazar
mısınız?**

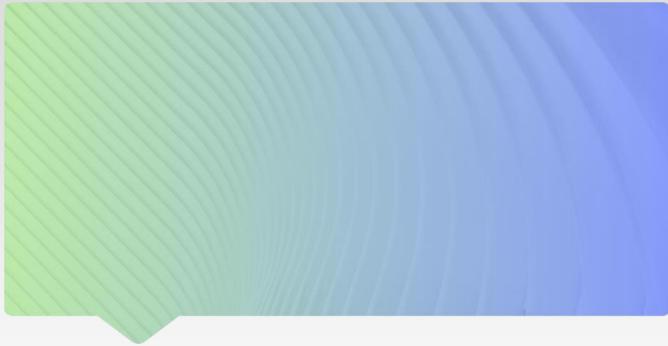


**Sizi bugünü derse
hazırlayacak pre-class
materyalleri ile
antrenman yaptınız
mı?**



Visualization on Data Science





**Tableau Desktop indirdim ve
Desktop'ta kullanıma hazır !!**

Tableau



Content

- Program Overall Content
- Introduction to Tableau Desktop
- Visual analytics
- Calculations
- Combining Table and Data
- Dashboard design

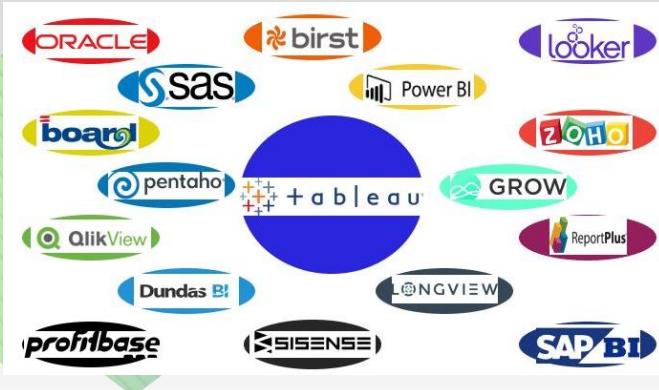
Materials

- PDF document and books
- Tableau Free Training Videos (Official Web Sites)
- LMS PreClass materials

Education Tools

- LMS - Zoom - Slack - Peardeck
- Tableau Public & Desktop
- Kahoot

Project



**Görselleştirme Tools'larından
bildığınız herhangi biri var mı?**



Filmin Sonu

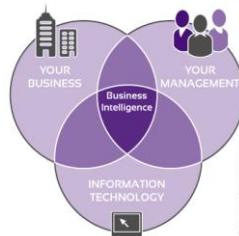
- Bitmiş birkaç projeye gidelim..
- Tableau Public üzerinden bir paylaşım..



What is Business Intelligence (BI) ?

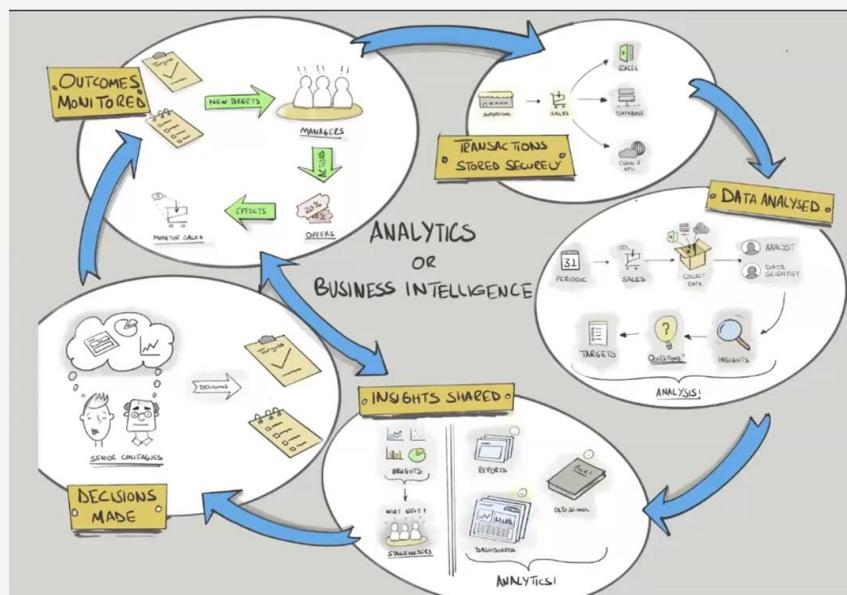
BI Faydaları

- Verilere dayalı iş kararlarının verilmesi
- Hızlı planlama, raporlama ve analiz yapılmasını sağlaması
- Gelir artışına katkıda bulunması
- Veri kalitesini artırması
- Çalışanlarının memnuniyetini artırmaya potansiyeli
- Rekabette avantaj sağlama



TECHPRO EDUCATION

What is Business Intelligence (BI) ?



TECHPRO EDUCATION

BI Process

► BI Süreçleri

- Bu süreçler şunları içerir:
- Veri madenciliği
- Raporlama
- Performans ölçümleri ve kıyaslama
- Açıklayıcı analistik
- sorgulama
- İstatistiksel analiz
- Veri goruntuleme
- Görsel analiz
- Veri Hazırlama



- BI (Business Intelligence) tools typically consists of
 - Databases: Store/query data
 - ETL(Extract Transform and Load) tools: Migrate, manipulate and transform data
 - Data visualization: Understanding and reporting on data
- Companies spend millions of dollars in BI tools every year
- Ideally, these tools must be suitable for non-technical users to master, connect to a wide variety of datasources and provide guidance for rendering the data into useful insights

EDUCATION

KPI nedir ?

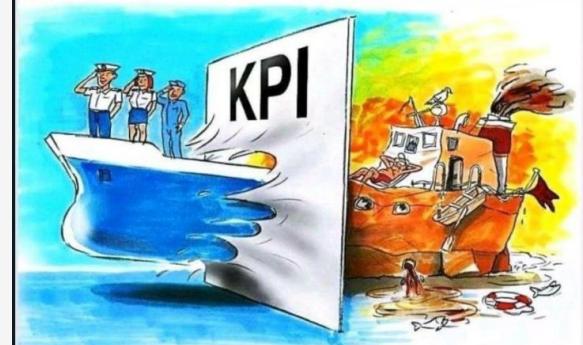
► KPI – Key Performance Indicator

- Bu ay geliriniz ne kadar arttı ?
- Web sitemiz nasıl performans gösteriyor?
- Yeni stok siparişi ne zaman?
- Yeni kampanyanın etkileri nasıl ?
- En çok etkileşim hangi sosyal medya mecrasında ?
- Dönemsel karşılaştırmalar nasıl?



KPI's..

- Finansal Performansla İlgili KPI'lar
- Müşteri ile İlgili KPI'lar
- Pazarlama Performansı ile İlgili KPI'lar
- Operasyonel Performans Ölçümünde Kullanılan KPI'lar
- Çalışan Performansı ile İlgili KPI'lar
- Çevresel ve Sosyal Süreçlilik KPI'ları

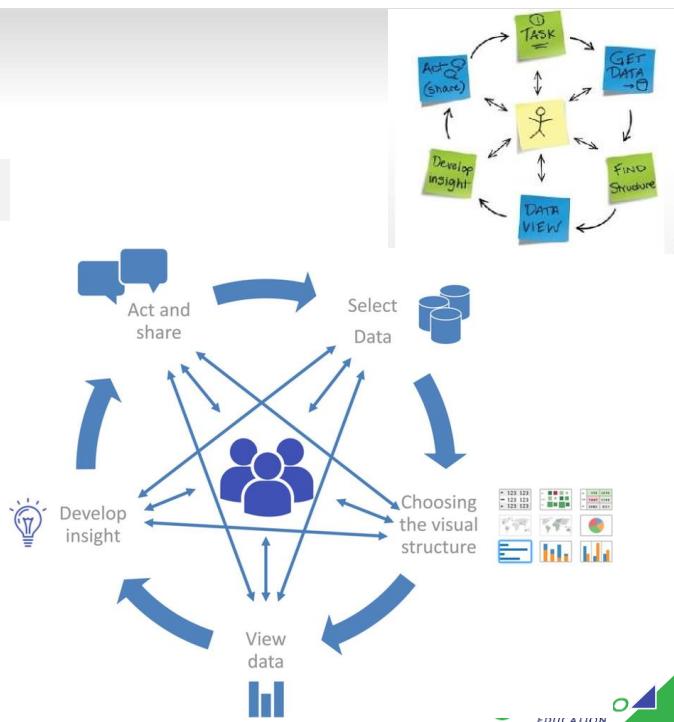


 TECHPRO
EDUCATION

Visual Analysis

Starting to Tableau

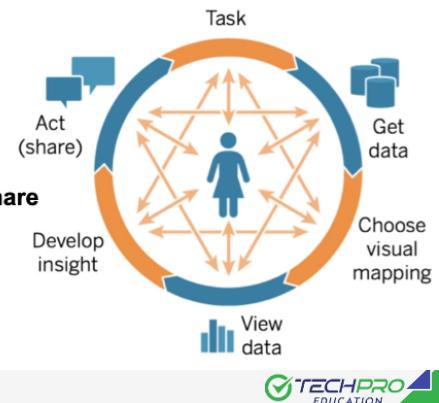
- Görsel analiz çevrimi
 - Task generate
 - Get Data
 - Find Structure
 - View Data
 - Develop Insight
 - Act and Share
 - Task



Visual Analysis

Visual Analytics

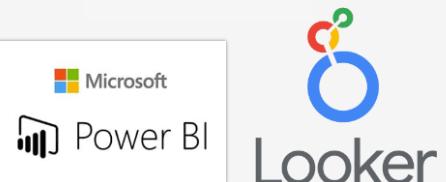
- **What is Visual Analytics?**
- **Visual analytics is a means of exploring and understanding data**
- **A story unfolds from one visual summary to another**
- **Visual analysis is a non-linear process**
- **Later, you can retrace the story to rethink, explore further, and share**
- **Tableau supports and accelerates this analysis process**



TECHPRO
EDUCATION

Data Visualization Tools

	Power BI	Tableau	Qlik Sense	ThoughtSpot	Looker
Full-featured Free Version	Yes	Separate tool	Separate tool	No	No
Development Environment	Desktop	Desktop	Web Browser	Implementation	Cloud
R and Python Supported	Yes	Yes	Yes	R Only	Yes
Dynamic Cross-filtering	Yes	Yes	Yes	No	No
AI-enabled Analytics	Yes	Yes	Yes	Yes	No
Search Analytics with NLP	Yes	Yes	Yes	Yes	No
Data Prep Tools	Yes	Separate tool	Separate tool	Yes	No
Data Modeling Tools	Yes	Separate tool	Yes	Yes	Yes
Preferred Data Model	Star-schema	Flat	Snowflake	Star-schema	Flat
Database Independent	Yes	Yes	Yes	Yes	No
Built-in Row Level Security	Yes	Yes	Yes	No	No
Mixed Model Types	Yes	No	No	Yes	No
Third-party Data Model Access	Yes	No	No	No	No
Commenting & Collaboration	Yes	Yes	Yes	Yes	No
Embedded Analytics	Yes	Yes	Yes	Yes	Yes
Open-source Custom Visualizations	Yes	No	Yes	No	Yes
Native Mobile App	Yes	Yes	Yes	Yes	No



Qlik Sense



ThoughtSpot

TECHPRO
EDUCATION



**Görselleştirme Tools'larından
kullandığınız oldu mu? Yazınız..**

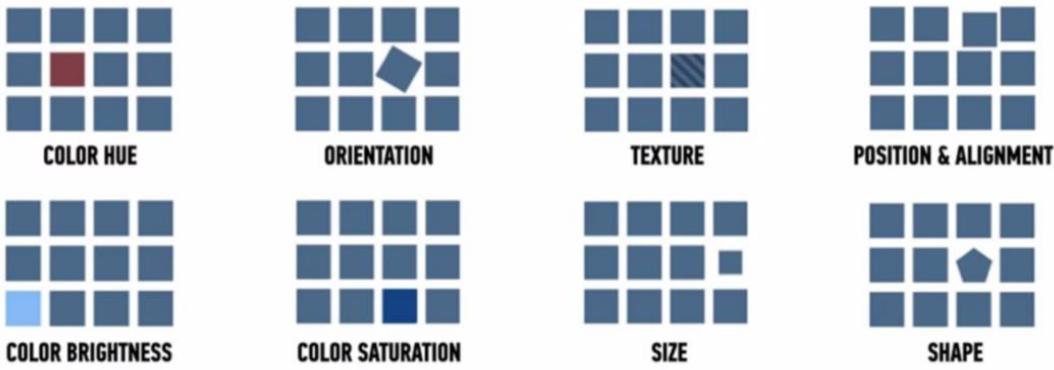
Tableau vs. Power BI



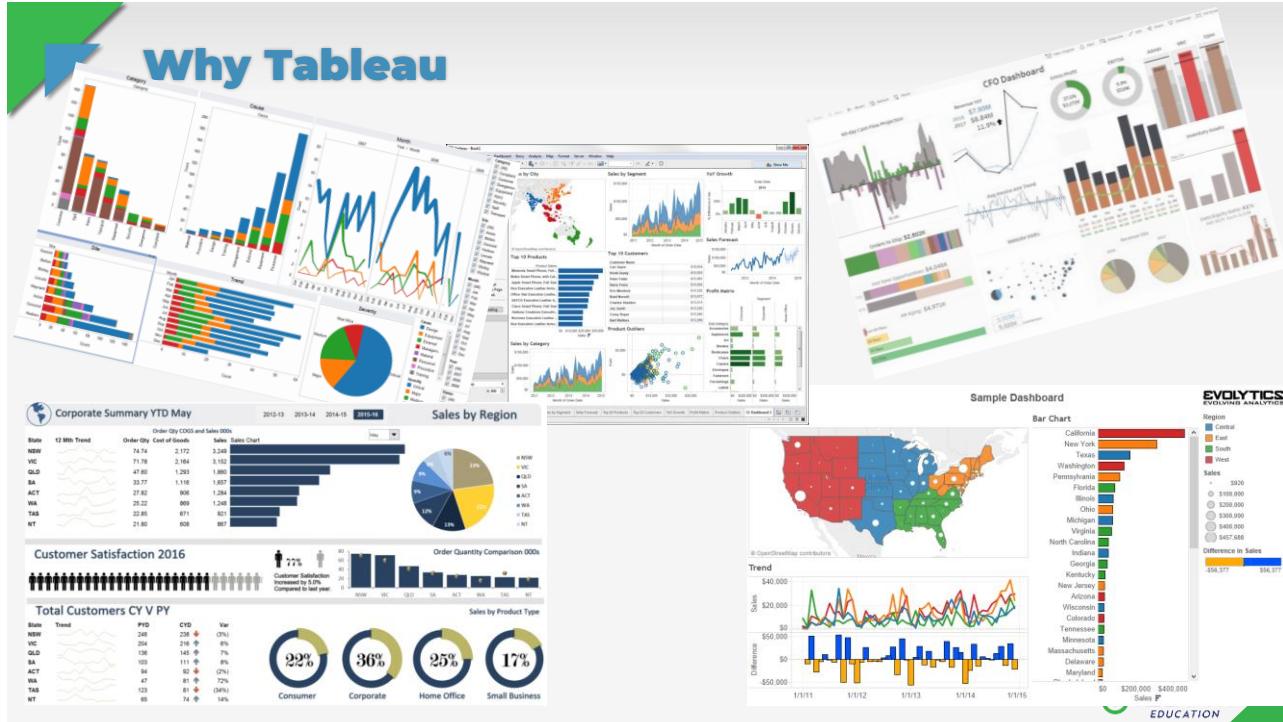
Feature	Power BI	Tableau
Date Established	2013	2003
Best Use Case	Dashboards	Ad-hoc Analysis
Best Users	Average Joe/Jane	Analysts
Licensing	Rigid	Flexible
Investment Required	Low	High
Overall Functionality	Very Good	Very Very Good
Performance With Large Datasets	Good	Very Good
Support Level	Low (Or through partner)	High
Infrastructure	SaaS only	Any
Get Started	Buy Now	Free Trial

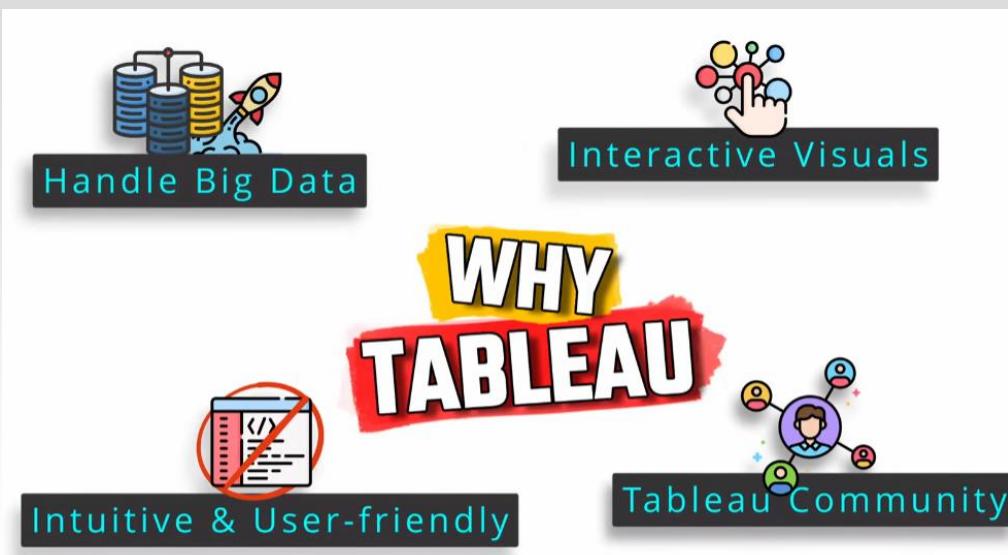
Parameters	Power BI	Tableau
<i>Parent Company</i>	Microsoft	Salesforce
<i>Establishment Year</i>	2013	2003
<i>Learning Curve</i>	Very easy	Little steep
<i>Pricing</i>	Cost-effective	Costly
<i>Usability</i>	Small, medium, and large enterprises	Especially large enterprises
<i>UI</i>	Familiar to Microsoft products	Intuitive and easy-to-use
<i>Security</i>	Raw-level security and roles restriction	Offers raw-level security and set up filters
<i>Underlying language</i>	DAX (Data Analysis Expression)	MDX (Multidimensional Expressions)
<i>Performance</i>	Rich in data visualization, integration, and manipulation	Hypothetical visualization, ad-hoc analysis, capable to handle a huge volume of datasets
<i>Installation</i>	Easy to set up and start	Easy and quick

Visualization Realities



Why Tableau

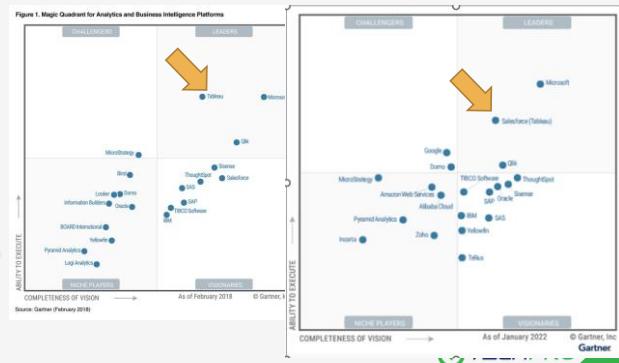




Why Tableau

Tableau ile

- verilerinizi keşfeder,
- analiz eder,
- ardından bulgularınızı sunar ve
- iş arkadaşlarınızla, ortaklarınız veya müşterilerinizle paylaşırınsız.
- Herkes sürükle ve bırak yöntemiyle verileri analiz edebilir.
- Verilerinizi dakikalar içinde bağlayabilir ve görselleştirebilirsiniz.
- Yüksek düzeyde etkileşimli Dashboardlar (birkaç grafikten oluşur) oluşturabilir ve bunlarla etkileşimi sağlayabilirsiniz

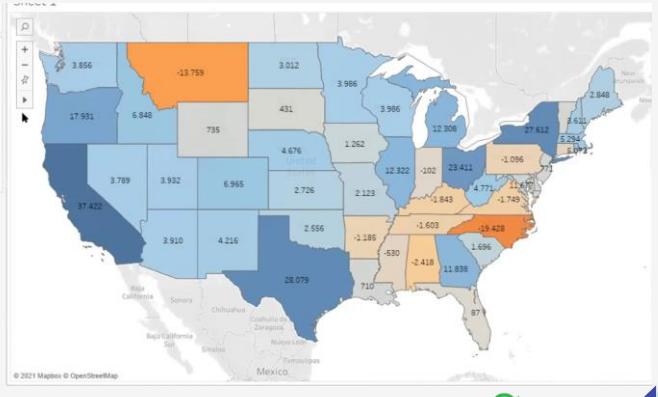


Challenge Time



00:00.00

Sıfır Başlat



- Online kronometre için tıklayınız.

TECHPRO
EDUCATION

Loading Tableau

Yükleme İçin Kullanılacak Web Sayfaları:

- TABLEAU DESKTOP** (14 gün deneme süreli) - <https://www.tableau.com/products/trial>
- TABLEAU PUBLIC KURULUMU** (Ücretsiz sürüm) - <https://public.tableau.com/s/>
- TABLEAU FOR STUDENTS** (ÖĞRENCİ İÇİN) - <https://www.tableau.com/academic/students>
- TABLEAU FOR TEACHING** (EĞİTMEN İÇİN) - <https://www.tableau.com/academic/teaching>

!! Kurulum için
gerekli
doküman
ayrıca
paylaşılmıştır.

TECHPRO
EDUCATION

About Tableau..

Tableau

- **Tableau is a BI data visualization software**
- **Uses drag-and-drop interface to transform data into visually appealing dashboards**
- **Founded at Stanford University in 2003 and recently sold to Salesforce for \$15B**
- **Tableau products query relational databases, online analytical processing cubes, cloud databases, and spreadsheets to generate graph type data visualizations**
- **These interactive visualizations are presented on a dashboard**



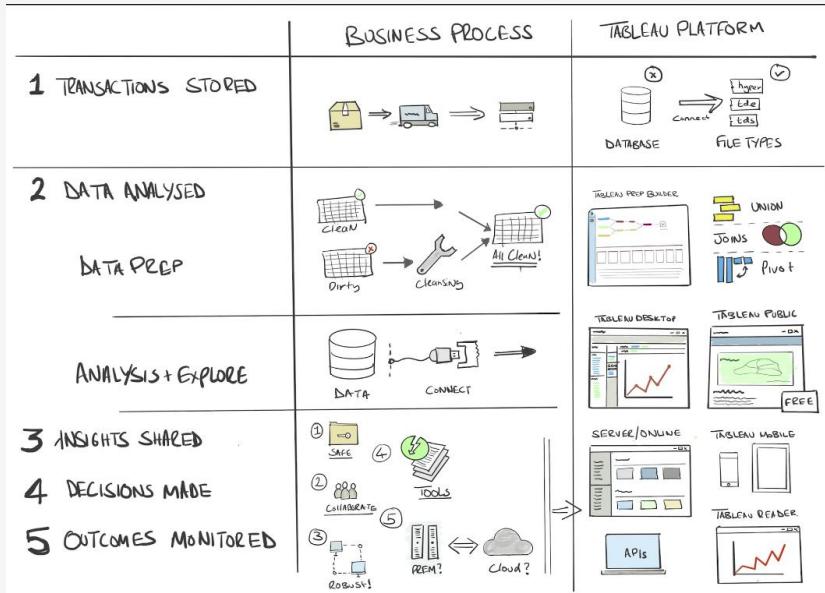
Traditional vs. Tableau

Traditional vs. Tableau

Traditional Method	Tableau
Requires specific programming skills	No programming skills required
Focused on only one type of database	Combines different types of database spreadsheets, databases, cloud data, and even big data such as Hadoop
Time consuming	Time saving
Decision makers have to ask the IT people to retrieve any information from the database	Decision makers can directly use the dashboard to retrieve any information from the database
Largely depends on Query languages	Query is done behind the scene
Combining different types of database is difficult	Different types of databases can be combined easily
Not every business intelligence tool offers interactive dashboard	Interactive dashboard is easy to build and it makes data visualization quick and efficient
Comparatively expensive	Comparatively affordable
Mostly designed for large businesses	Perfect BI solution for small, medium, and large businesses, and even for non-profits



Business Process vs. Tableau Process



 TECHPRO
EDUCATION

Tableau Products

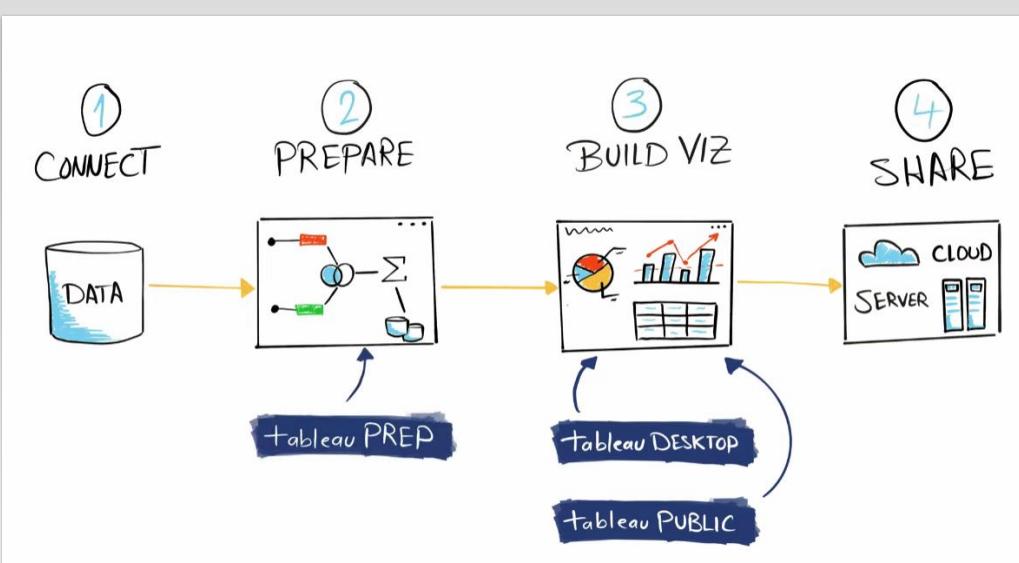
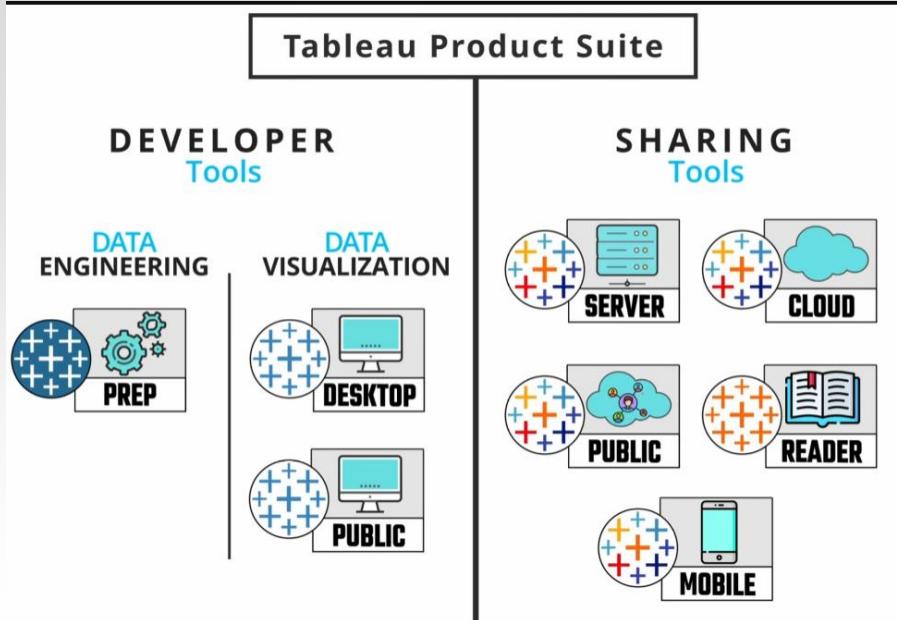
Tableau Ürünleri

- Tableau Desktop
- Tableau Prep
- Tableau Server
- Tableau Online



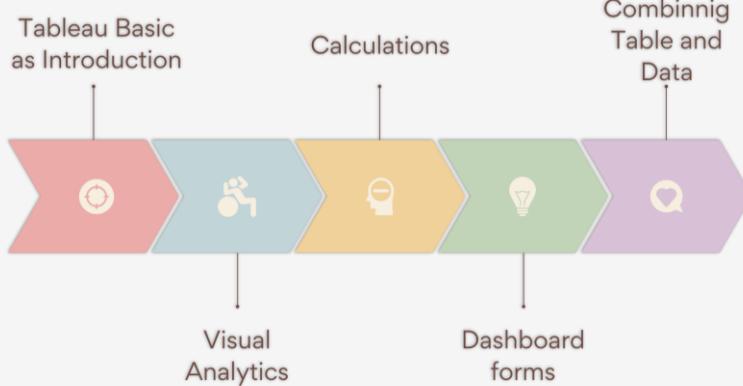
Tableau, Akademik hakkında bilgi için
tıklayınız...





Tools Learning Information Step

Tableau Learning Flow Infograph



Differences with Tool and Theoric Learning

Hatırlatma

- Yeni bir Tool öğrenirken şu noktalar önemli
 - Instructor ile aynı anda yapınca bazı noktalar kaçırılabilir
 - Detaylar dikkatle dinlenilmeli ve hatırlatıcı notlar düşülmeli
 - Uygulama için size yeterli zaman olacaktır



Tableau Timeline

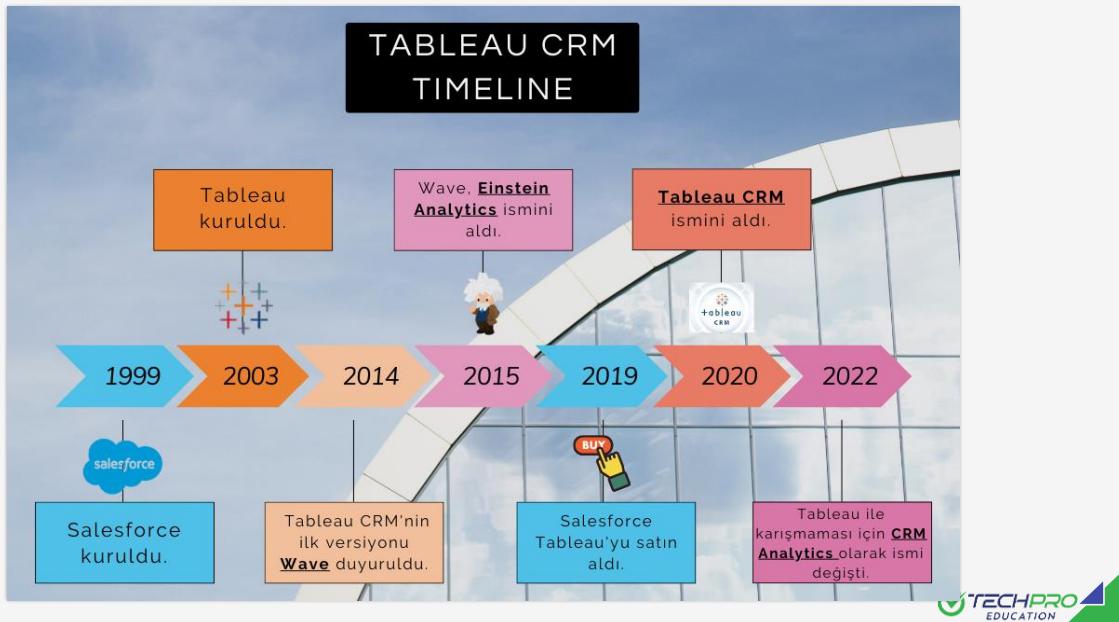


Tableau vs Tableau CRM

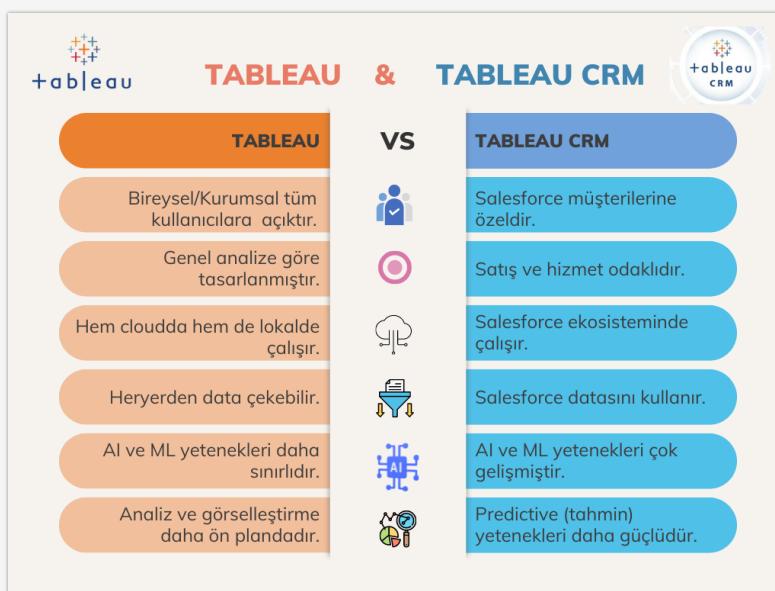


Tableau Fundamentals

Tableau Basics

Dataset Definition

Dataset nedir (Tableau için)

- Görselleştirme için kullanılacak database'dır.
- Data tipleri
 - E-tablolar
 - Relational veritabanları
 - Cloud verileri
 - Diğerleri

01	Spreadsheets, Flat Files	<ul style="list-style-type: none"> ▪ Microsoft Excel ▪ Google Sheets ▪ csv, text file
02	Relational Databases	<ul style="list-style-type: none"> ▪ MySQL, MSSQL Server, PostgreSQL
03	Cloud Data	<ul style="list-style-type: none"> ▪ AWS ▪ Microsoft Azure ▪ Google Cloud
04	Other	<ul style="list-style-type: none"> ▪ Spatial Files ▪ Statistical Files ▪ PDF files



[Tableau'da kullanılan tüm data tipleri için tıklayınız..](#)

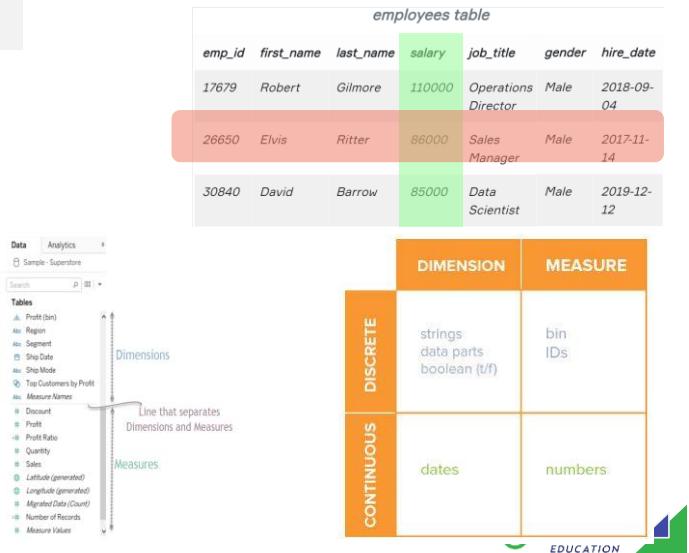
Fields



Fields - Alanlar

- Tableau'da kolon veya sütun terimini kullanmıyoruz, bunun yerine field – alan tabirini kullanıyoruz
- Dimensions
- Measures

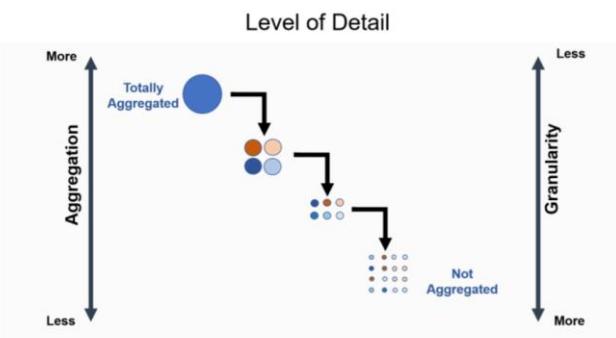
Dimensions	Measures
Qualitative data	Quantitative data
Names, dates, or geographical data	Numeric & quantitative values



Row-Level Record

Row-level Record kavramı

- Satır düzeyinde kayıt Tableau'da çok önemli bir kavramdır
- Veri setimizin en küçük parçası gibi düşünülebilir
- Granularity kavramı
- Aggregation kavramı



Level of Detail

Level of Detail

Tableau Overall Workflow

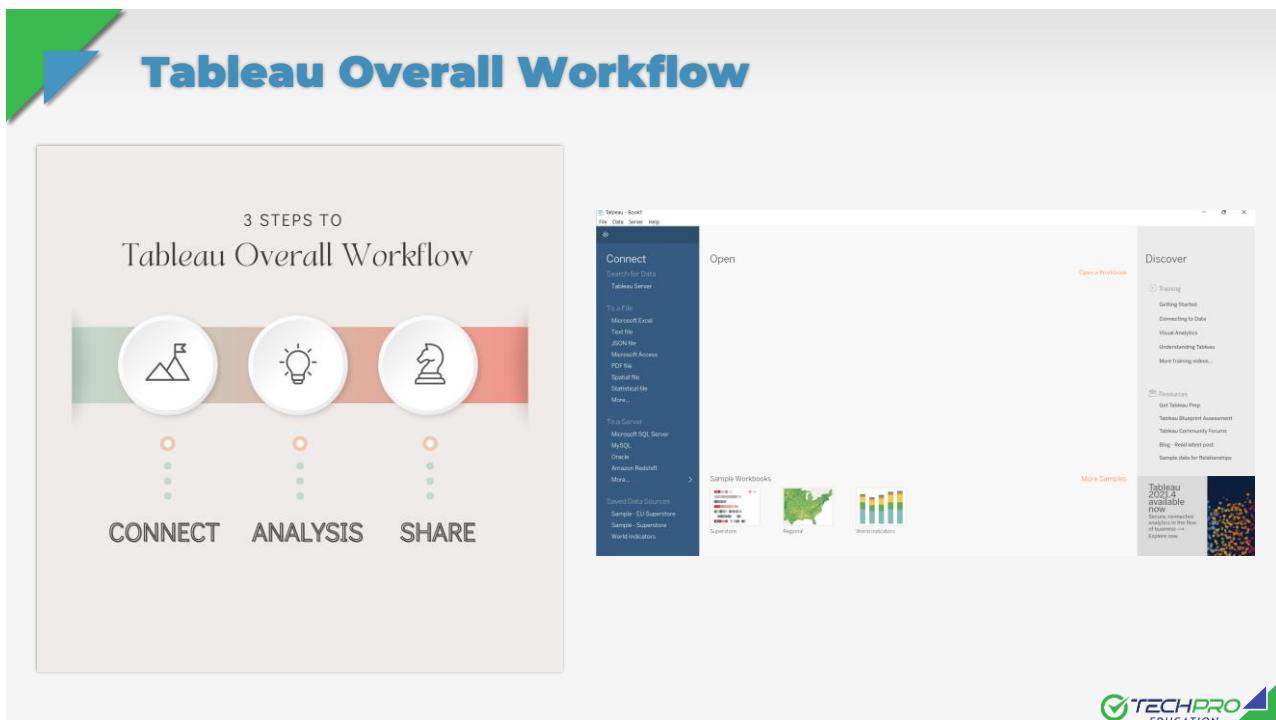


Tableau Desktop Start Page



Connect Pane

► Bağlantı paneli

- **Search for Data:**
- **To a File,**
- **To a Server,**
- **Saved Data Sources.**



Open Pane + Discover Pane

The screenshot shows the Tableau interface with the 'Open' pane on the left and the 'Discover' pane on the right.

Open Pane:

- Open:** A grid of thumbnail previews for various workbooks, including 'filter', 'Bookt', 'BookD00', 'EF1', 'EF12019', 'EFI Tableau Work B...', 'EF1B', 'Data', 'show_data_across...', 'create_a_weighted...', 'World Indicators', 'test3', 'test2', 'test1', 'Book5', 'Book4', 'Book3', 'Book2', and 'Superstore'.
- Sample Workbooks:** Previews for 'Superstore', 'Regional', and 'World Indicators'.
- More Samples:** A link to view more sample workbooks.

Discover Pane:

- Discover:** A sidebar with links to 'Training', 'Getting Started', 'Connecting to Data', 'Visual Analytics', and 'Understanding Tableau'.
- Resources:** Links to 'Get Tableau Prep', 'Blog - Read latest post', 'The NEW Community Forums', and 'Sample data for Relationships'.
- Tableau Conference is Over. Ish.**: A message with a link to 'Watch again or enjoy it for the first time here. →' and a thumbnail for the Tableau Conference 2023.
- Update to 2020.3.1 Now**: A button to update the software.

Data Connection

The screenshot shows the Tableau interface with the 'Data Connection' pane on the left and the 'Discover' pane on the right.

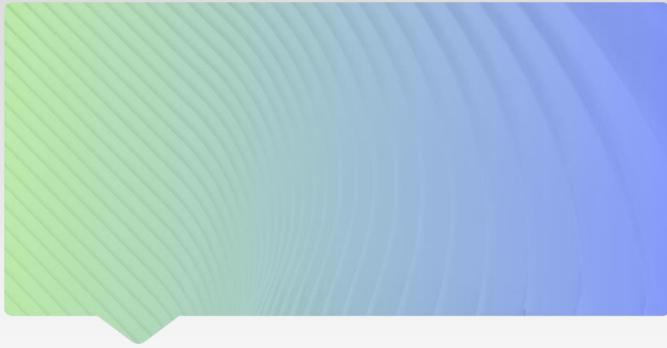
Data Connection Pane:

- Connect:** Options include 'Search for Data', 'Tableau Server', 'To a File' (with 'Microsoft Excel' selected), 'Text file', 'JSON file', 'Microsoft Access', 'PDF file', 'Spatial file', 'Statistical file', and 'More...'.
- To a Server:** Options include 'Microsoft SQL Server', 'MySQL', 'Oracle', 'Amazon Redshift', and 'More...'.
- Saved Data Sources:** Options include 'Sample - EU Superstore', 'Sample - Superstore', and 'World Indicators'.

Discover Pane:

- Discover:** A sidebar with links to 'Training', 'Getting Started', 'Connecting to Data', 'Visual Analytics', and 'Understanding Tableau'.
- Resources:** Links to 'Get Tableau Prep', 'Tableau Blueprint Assessment', 'Tableau Community Forums', 'Blog - Read latest post', and 'Sample data for Relationships'.
- Tableau 2021.4 available now**: A message with a link to 'Secure, connected analytics in the flow of business →' and a thumbnail for Tableau 2021.4.

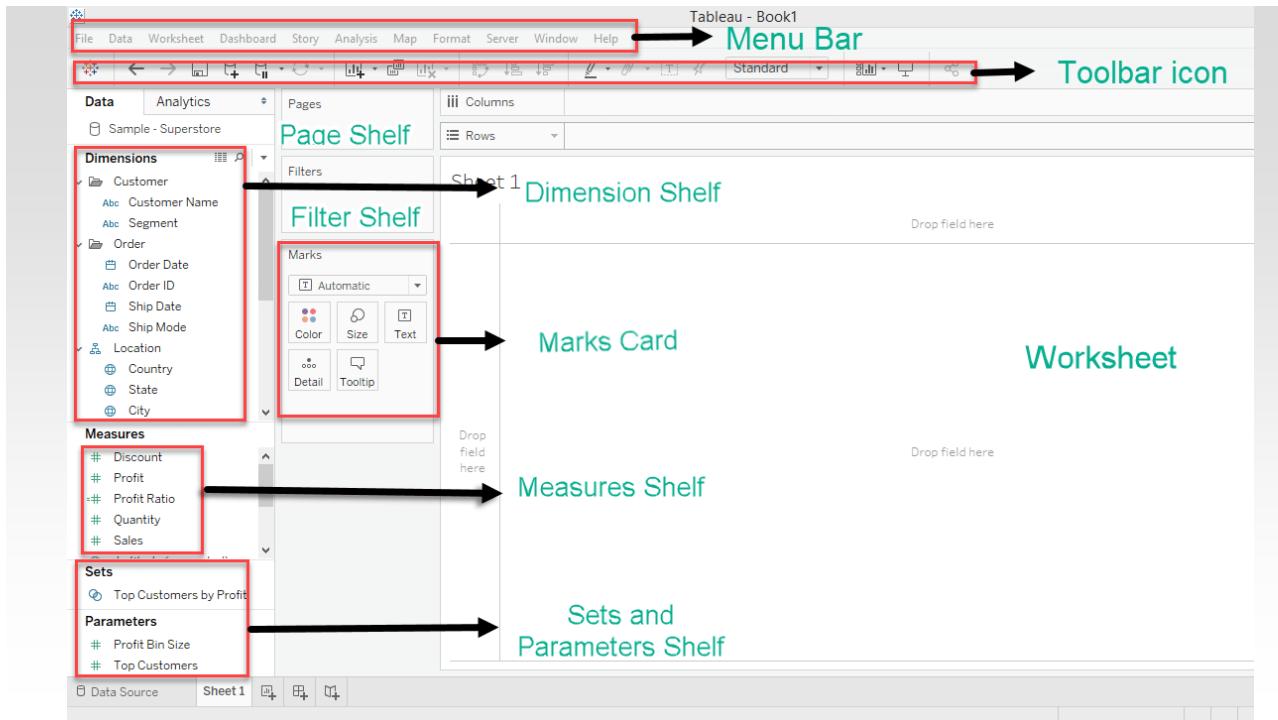
A yellow arrow points from the 'Microsoft Excel' option in the 'To a File' section of the Data Connection pane towards the 'Discover' pane.



Data Setine bağlandım

Tableau Data Source Page

The screenshot shows the Tableau Data Source Page interface. On the left, the **Left Pane** displays a list of sheets: Orders, People, Returns, and a New Union. A green box labeled **1 Left Pane** highlights this area. The main workspace is titled **Sample - Superstore (2)**. It features a **Canvas** area where tables can be dragged, indicated by a green box labeled **2 Canvas**. Below the canvas is a **Metadata grid**, shown as a green box labeled **4 Metadata grid**. A large green arrow points from the **3 Data grid** (highlighted in a green box) towards the **Metadata grid**. The bottom of the screen shows the **Data Source** and **Sheet 1** tabs.



The screenshot shows the Tableau interface with two windows open:

- Dashboard View:** Shows a single sheet titled 'Sample - Superstore (2)' with a placeholder 'Drag tables here'.
- Worksheet View:** Shows a sheet titled 'Orders (Sample - Superstore (3))' with the following details:
 - Connections:** Sample - Superstore (3) Microsoft Excel
 - Sheets:** Orders, People, Returns, New Union
 - Fields:** Row ID, Order ID, Order Date, Order Status, Ship Date, Ship Mode, Customer ID, Customer Name
 - Data Preview:** A table showing 21 fields and 9994 rows with the following data:

	Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer ID	Customer Name
1	CA-2016-152156	8.11.2016	11.11.2016	Second Class	CG-12520	Claire Gute	
2	CA-2016-152156	8.11.2016	11.11.2016	Second Class	CG-12520	Claire Gute	
3	CA-2016-138688	12.06.2016	16.06.2016	Second Class	DV13045	Darrin Van Huff	
4	US-2015-108966	11.10.2015	18.10.2015	Standard Class	SO-20335	Sean O'Donnell	
5	US-2015-108966	11.10.2015	18.10.2015	Standard Class	SO-20335	Sean O'Donnell	
6	CA-2014-115812	9.06.2014	14.06.2014	Standard Class	BH-11720	Brosina Hoffmar	

Animasyonlu anlatım sayfası

Drag and Drop

B - Sample - Superstore

The screenshot shows the Tableau Data Source interface for 'Book1'. On the left, the 'Connections' pane shows 'Sample - Superstore (Microsoft Excel)'. The 'Sheets' pane lists 'Orders', 'Returns', 'Orders', 'Returns', and 'New Union'. The main area displays two tables: 'Orders' and 'Returns', connected by a line. A placeholder text 'Drag tables here' is visible above the tables.

B - Orders+ (Sample - Superstore)

The screenshot shows the Tableau Data Source interface for 'Book1'. On the left, the 'Connections' pane shows 'Sample - Superstore (Microsoft Excel)'. The 'Sheets' pane lists 'Orders', 'Returns', 'Orders', 'Returns', and 'New Union'. The main area displays a single table named 'Orders+'. Below the table, a 'Go to Worksheet' button is highlighted with a callout. The table has columns: Row ID, Order ID, Order Date, Ship Date, Ship Mode, Customer ID, Customer Name, Segment, Country/Region, City, State, Postal Code, Region, and Product ID. The data includes rows from CA-2018-152156 to US-2017-118983.

Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer ID	Customer Name	Segment	Country/Region	City	State	Postal Code	Region	Product ID
1	CA-2018-152156	8.11.2018	11.11.2018	Second Class	00-12520	Claire Gute	Consumer	United States	Henderson	Kentucky	42420	South	FUR-BG-100C
2	CA-2018-152156	8.11.2018	11.11.2018	Second Class	00-12520	Claire Gute	Consumer	United States	Henderson	Kentucky	42420	South	FUR-CH-100C
3	CA-2018-138688	12.06.2018	16.01.2018	Second Class	DV-13045	Damn Van Huff	Corporate	United States	Los Angeles	California	90032	West	OFF-LA-1000
4	US-2017-108986	11.10.2017	18.10.2017	Standard Class	SO-20385	Sean O'Donnell	Consumer	United States	Fort Lauderdale	Florida	33311	South	FUR-TA-1000
5	US-2017-108986	11.10.2017	18.10.2017	Standard Class	SO-20385	Sean O'Donnell	Consumer	United States	Fort Lauderdale	Florida	33311	South	OFF-ST-1000
6	CA-2018-115812	9.06.2016	14.06.2016	Standard Class	BH-11710	Brianna Hoffman	Consumer	United States	Los Angeles	California	90032	West	FUR-PU-1000
7	CA-2018-115812	9.06.2016	14.06.2016	Standard Class	BH-11710	Brianna Hoffman	Consumer	United States	Los Angeles	California	90032	West	OFF-FA-1000
8	CA-2016-115812	9.06.2016	14.06.2016	Standard Class	BH-11710	Brianna Hoffman	Consumer	United States	Los Angeles	California	90032	West	TEC-PH-1000
9	CA-2018-115812	9.06.2016	14.06.2016	Standard Class	BH-11710	Brianna Hoffman	Consumer	United States	Los Angeles	California	90032	West	OFF-BI-1000
10	CA-2018-115812	9.06.2016	14.06.2016	Standard Class	BH-11710	Brianna Hoffman	Consumer	United States	Los Angeles	California	90032	West	OFF-AP-1000
11	CA-2018-115812	9.06.2016	14.06.2016	Standard Class	BH-11710	Brianna Hoffman	Consumer	United States	Los Angeles	California	90032	West	FUR-TA-1000
12	CA-2016-115812	9.06.2016	14.06.2016	Standard Class	BH-11710	Brianna Hoffman	Consumer	United States	Los Angeles	California	90032	West	TEC-PH-1000
13	CA-2019-114412	15.04.2019	20.04.2019	Standard Class	AA-12480	Andrew Allen	Consumer	United States	Concord	North Carolina	28027	South	OFF-PA-1000
14	CA-2018-161389	5.12.2018	10.12.2018	Standard Class	IM-2570	Irene Maddox	Consumer	United States	Seattle	Washington	98103	West	OFF-BI-1000
15	US-2017-118983	22.11.2017	26.11.2017	Standard Class	HD-14815	Harold Paulsen	Home Office	United States	Fort Worth	Texas	76126	Central	OFF-AA-1000

Tableau - Book1

The screenshot shows the Tableau interface with several labeled components:

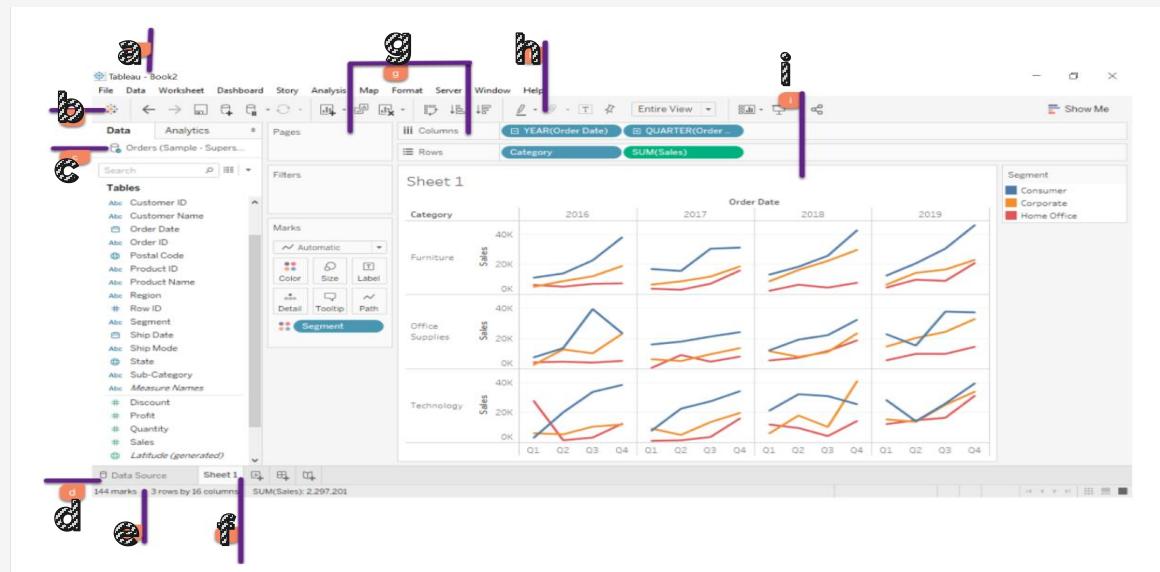
- Menu Bar**: Located at the top, highlighted with a red box.
- Toolbar icon**: Located at the top right, highlighted with a red box.
- Page Shelf**: A sidebar on the left containing navigation links like Data, Analytics, and Sample - Superstore.
- Dimensions**: A section under the Page Shelf containing Customer, Order, Location, and Sets.
- Measures**: A section under the Dimensions section containing Discount, Profit, Profit Ratio, Quantity, and Sales.
- Sets**: A section under the Dimensions section containing Top Customers by Profit.
- Parameters**: A section under the Dimensions section containing Profit Bin Size and Top Customers.
- Filter Shelf**: A shelf at the top of the main workspace.
- Marks Card**: A card on the Filter Shelf showing options for Color, Size, Text, Detail, and Tooltip.
- Dimension Shelf**: A shelf on the left side of the main workspace.
- Worksheet**: The main workspace area where data is visualized.
- Measures Shelf**: A shelf on the right side of the main workspace.
- Sets and Parameters Shelf**: A shelf at the bottom of the main workspace.

Undo process

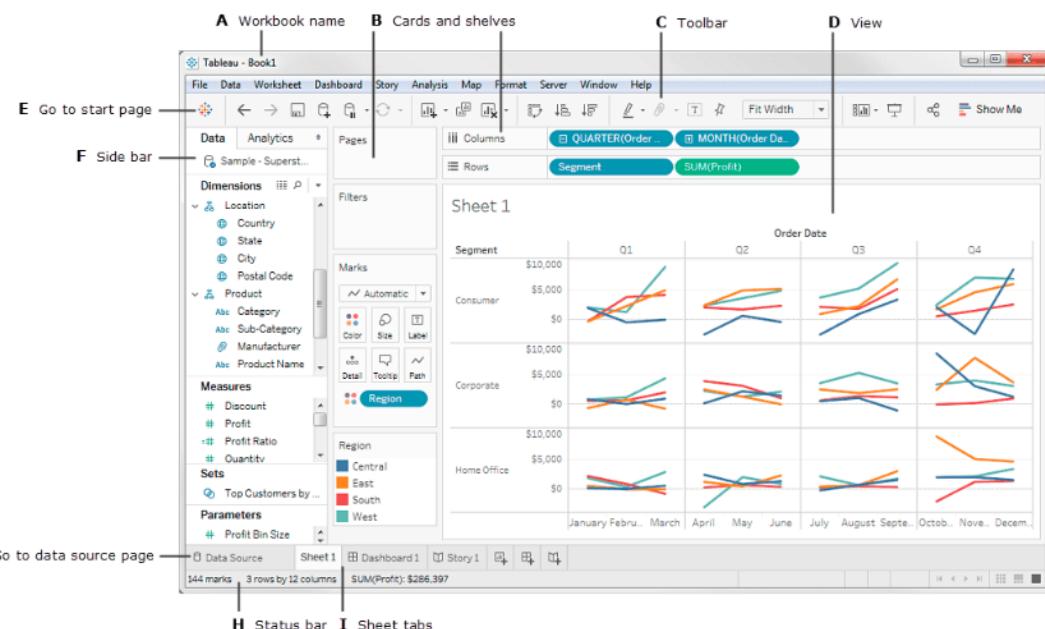
The screenshot shows the Tableau interface with the following elements:

- File**: A dropdown menu at the top left.
- Connections**: A section on the left showing a connection to "Orders (Sample - Superstore)".
- Sheets**: A section on the left showing available sheets: Orders, People, Returns, and New Union.
- Orders**: A sheet currently selected, showing a list of orders with columns: Row ID, Order ID, Order Date, Ship Date, Ship Mode, Customer ID, Customer Name, Segment, Country/Region, City, State, Postal Code, Region, and Product ID.
- Undo**: A large button in the center-right area.
- Data Source**: A button at the bottom left.
- Toolbar icons**: Standard Tableau toolbar icons at the bottom.

Tableau Workspaces

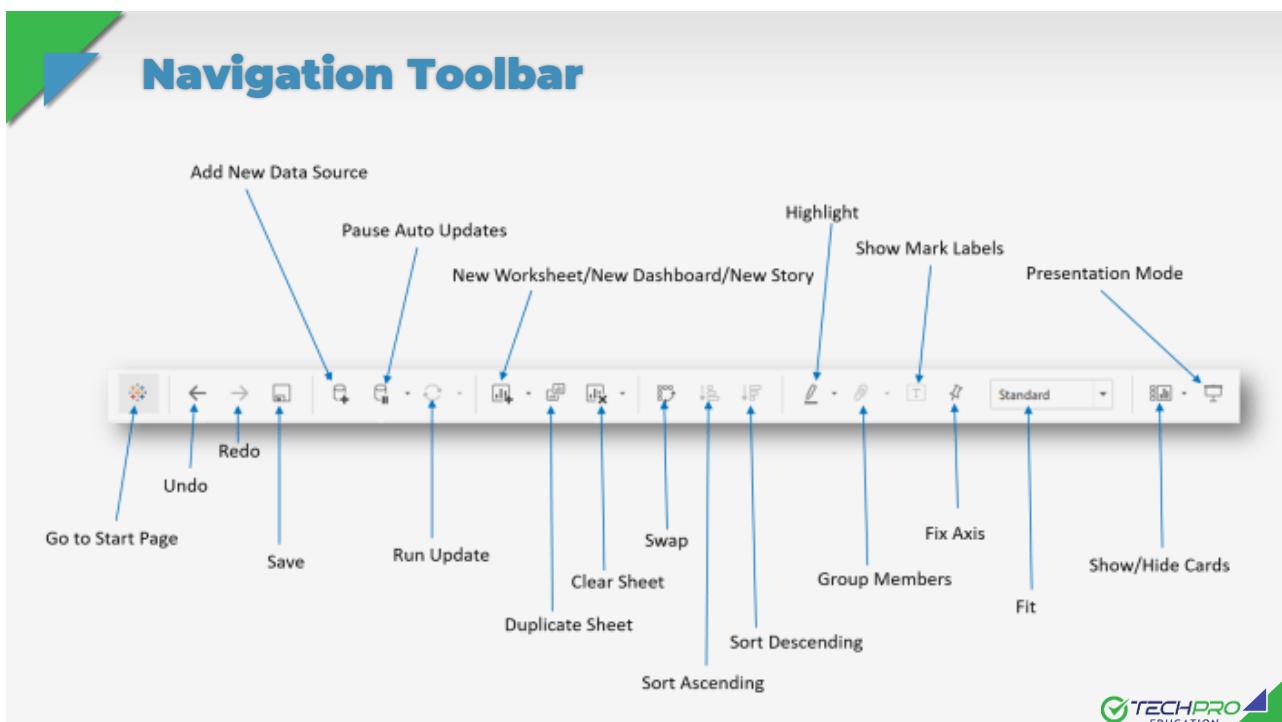


TECHPRO
EDUCATION



The screenshot shows the Tableau desktop application with a sample worksheet titled "Sample Worksheet". The worksheet displays three bar charts showing Sales and Discount over time for different product categories: Furniture, Office Supplies, and Technology. The interface includes a Data Pane on the left containing sections for Dimensions, Measures, Sets, and Parameters. Annotations highlight several key components:

- Go to Start**: Located in the top-left corner of the menu bar.
- Data Pane**: A sidebar on the left side of the interface.
- Pills**: A section in the Data Pane where dimensions and measures are listed.
- Fit**: A button in the top-right corner of the interface.
- Show Me**: A button in the top-right corner of the interface.
- Dimensions**: A section in the Data Pane.
- Measures**: A section in the Data Pane.
- Sets**: A section in the Data Pane.
- Parameters**: A section in the Data Pane.
- Data Source**: A section in the Data Pane.
- Shelves**: A section in the Data Pane.
- View**: A button in the top-right corner of the worksheet area.
- Displayed Filter**: An annotation pointing to the filter pane on the right side of the interface.
- Legends**: An annotation pointing to the legend area at the bottom of the worksheet.
- Status Bar**: An annotation pointing to the status bar at the bottom of the interface.



Toolbars Tryings

The screenshot shows the Tableau desktop interface with a bar chart titled "Sales". The Y-axis is labeled "Sales" and ranges from 0K to 900K. The X-axis categories are "Techn., Furnit., Office". The chart displays three bars with values: 836,154 for Techn., 742,000 for Furnit., and 719,047 for Office. The "Category" field is selected in the Rows shelf, and "SUM(Sales)" is selected in the Values shelf. The "Data" tab is selected in the top navigation bar.

Category	Sales
Techn.	836,154
Furnit.	742,000
Office	719,047



The screenshot shows the Tableau desktop interface with a blank sheet titled "Sheet 1". The "Data" and "Analytics" tabs are selected in the top navigation bar. The left sidebar shows the "Tables" section with fields like Category, City, Country, Customer ID, etc. The "Marks" card is set to "Automatic". On the right, there is a grid of visualization icons, and a message at the bottom right says "Select or drag data Use the Shift or Ctrl key to select multiple fields".



Data Pane

Data Bölmesi

- **Dimensions** qualitative yani nitel değerler içerir (isimler, tarihler veya coğrafi veriler vb.).
- **Measures** sayısal, quantitative nicel değerler içerir .. Satış, kar, sıcaklık, miktar vb

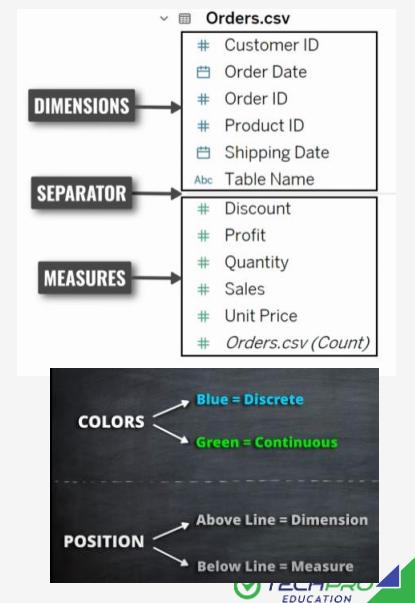
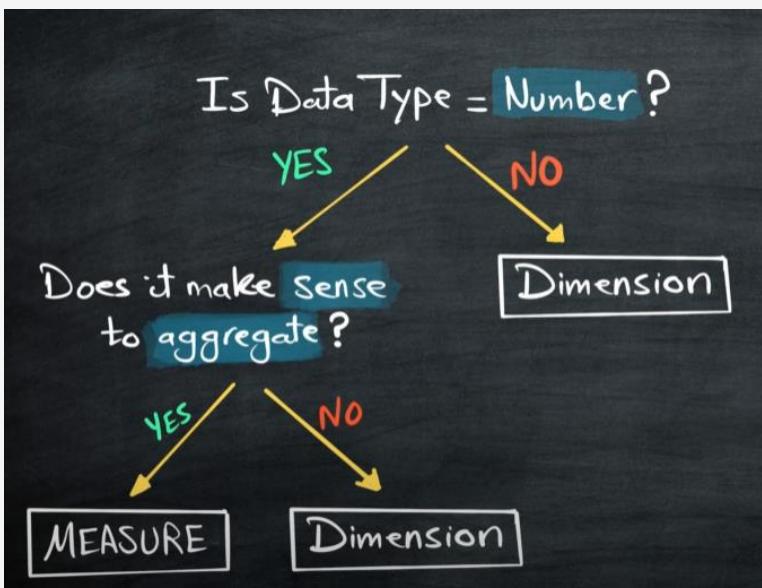
The screenshot shows a sidebar titled "Tables" with various data items listed. A vertical dashed line separates the "Dimensions" section from the "Measures" section. Labels with arrows point to this line: "Dimensions" points to the top part above the line, and "Measures" points to the bottom part below the line.

Dimensions
Profit (bin)
Region
Segment
Ship Date
Ship Mode
Top Customers by Profit
Measure Names

Measures
Discount
Profit
Profit Ratio
Quantity
Sales
Latitude (generated)
Longitude (generated)
Migrated Data (Count)
Number of Records
Measure Values



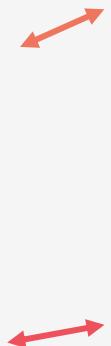
Dimension & Measure Criteria



Data Pane

The screenshot shows the Tableau Data pane with the title "Orders+ (Sample - Superstore (3))". Below it is a search bar and a filter icon. The "Tables" section lists various fields: Category, City, Country, Customer ID, Customer Name, Order Date, Order ID, Postal Code, Product ID, Product Name, Region, Row ID, Segment, Ship Date, Ship Mode, State, Sub-Category, Discount, Profit, Quantity, Sales, and Orders (Count). A red arrow points from the first callout box to the "Tables" section.

Dimension'i verilerimizdeki ayrıntıları kategorilere ayırmak, bölgelere ayırmak, parçalara ayırmak ve ortaya çıkarmak için kullanıyoruz



Measure, buradaki field lar üzerinden birleştirme ve diğer hesaplamaları yapmak için kullanıyoruz

Dimension vs Measure

tableau	Dimensions	Measures
Definition	Descriptive Values	Quantitative Values
Example	Category, Country, ID	Sales, Profit, Quantity
Aggregation	Can Not be aggregated	Aggregate [SUM, AVG, MIN, MAX]
Data Types	[String, Date, Boolean, Number] ABC TIF #	[Number] #
Role of Analysis	Filtering, Grouping, Organising Data	Calculations & Numerical Analysis
Granularity	LOD: Level of Details	Determine Quantity being Measured

Data Pane

Data Bölmesi

- **Measure Values field**
- **Measure Names field**
- **NameofTable(Count) field**

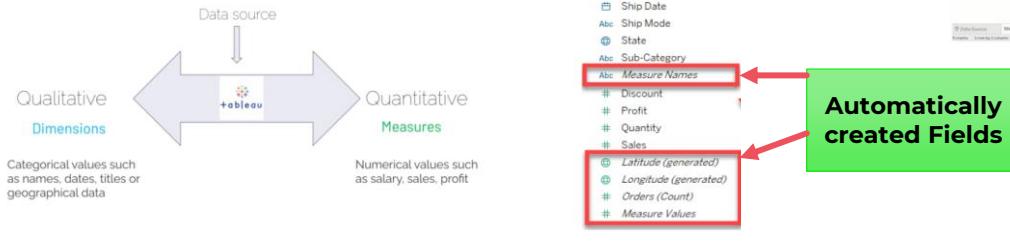


Tableau Data Types

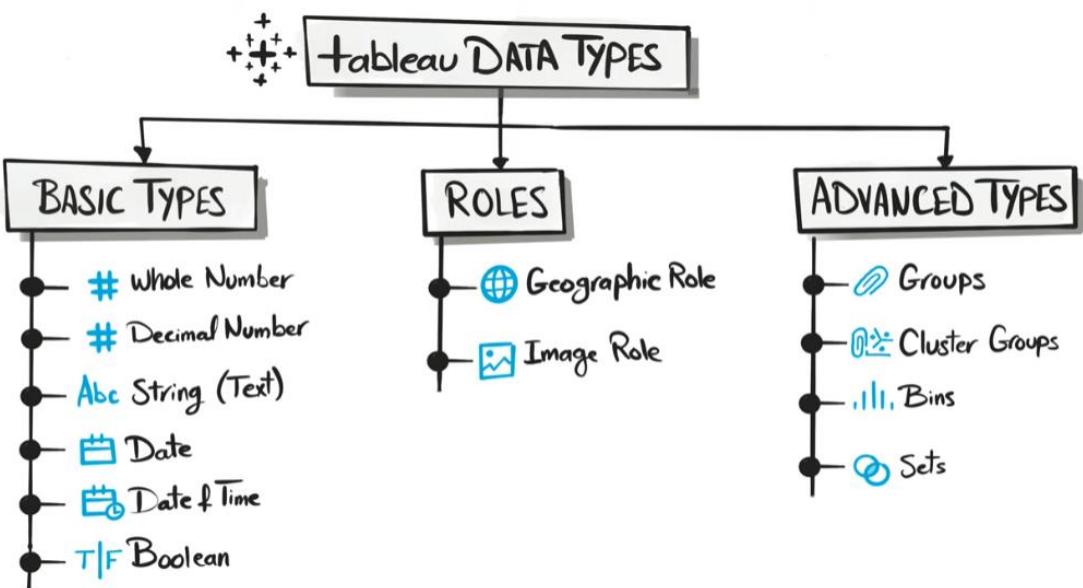


Tableau Data Types – Basic Types

BASIC TYPES	
# Number (whole)	1234
# Number (Decimal)	35.98
Abc String (Text)	Hello World!
Date	20/08/2025
Date & Time	20/08/2025 18:20:58
T/F Boolean	TRUE, FALSE



Data Pane

Veri bölmesi

- Mavi simge, field'in discrete olduğunu gösterir.
- Yeşil simge, field'in continuous olduğunu gösterir.

Data Type	Icon
String values (Text)	Abc
Integer values (Numbers)	#
Date values (DD/MM/YYYY or MM/DD/YYYY)	Date
Date & Time values	Date & Time
Boolean values (True or False; relational)	T/F
Geographic values (Region, Postal code etc.)	Globe
Cluster group or mixed values	Cluster

Icon	Data type
Abc	Text (string) values
Date	Date values
Date & Time	Date & Time values
#	Numerical values
T/F	Boolean values (relational only)
Globe	Geographic values (used with maps)

The field contains text values – Category
City
Country/Region
Customer ID
Customer Name
Order Date
Order ID
Postal Code
Product ID
Product Name
Region
Row ID
Segment
Ship Date
Ship Mode
State
Sub-Category
Measure Names

The field contains geographical data and has been assigned a geographic role –
Customer ID
Customer Name
Order Date
Order ID
Postal Code
Product ID
Product Name
Region

The field contains date values –
Date
Date & Time
Order Date
Order ID
Postal Code
Product ID
Product Name
Region
Row ID
Segment
Ship Date
Ship Mode
State
Sub-Category
Measure Names

The field contains numeric values –
Discount
Quantity
Sales
Latitude (generated)
Longitude (generated)
Orders (Count)
Measure Values



Discrete vs. Continuous



Rows
BLUE PILL - DISCRETE
GREEN PILL - CONTINUOUS
RED PILL - ERROR

Blue pill	Green pill	Blue pill	Green pill
DISCRETE	CONTINUOUS	DISCRETE	CONTINUOUS
individually separate and distinct	forming an unbroken whole, without interruption	Product Category	Revenue
treated as finite	treated as an infinite	Segment	Population
generally add headers to the view	generally add axes to the view	Country	Profit
Furniture Office Supplies Technology	Jan 2018 Feb 2018 Mar 2018 Apr 2018 May 2018 Jun 2018 Jul 2018 Aug 2018	Age	Age

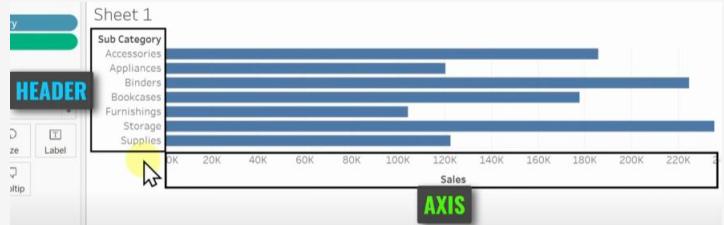
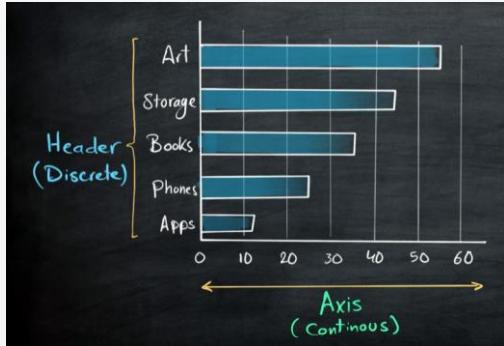


Discrete vs Continuous

Discrete	Continuous	Discrete	Continuous
Disconnected & Separated Values	Connected & unbroken chain of Values	11 Values	∞ Values



Discrete vs Continuous

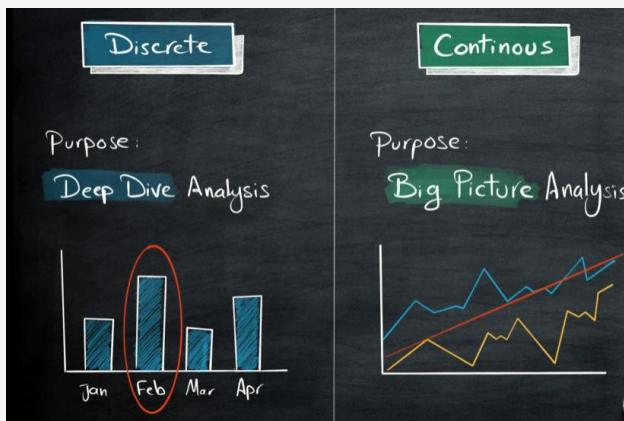


HEADER
Shows All Members of a Field Individually

AXIS
Shows Range of Values Between Start and End Values

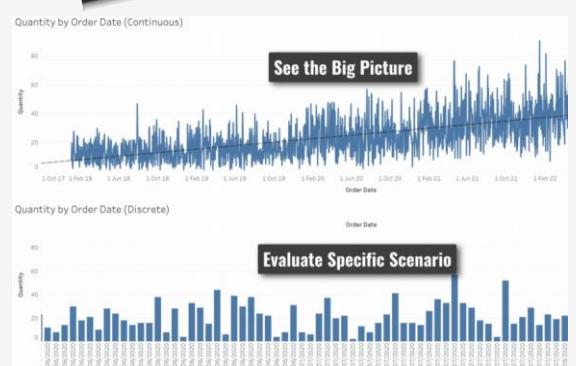


Discrete vs Continuous



CONTINUOUS
Helps Seeing the Big Picture | Trends Analysis

DISCRETE
Helps Analyse Specific Problems | Deep Dive Analysis



Discrete vs Continuous

tableau	Discrete	Continuous
Definition	Disconnected values 	Connected values 
Example	[0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10]	[1, 1.1, 1.2, 1.3, 1.4, ..., 2] ∞
Colors	Blue Pill 	Green Pill 
Filters	Distinct values 	Range value 
Views	Header	Axis
Sorting	Many sorting options	Limited Sorting Options
Purpose	Specific Scenario Deep Dive	Big Picture Trends Analysis



PearDeck time..

Order ID deki veri tipi
hangisidir ?

Discrete vs. Continuous

The 4 Roles of Fields

Tables

- Country/Region
- Abc Customer ID
- Abc Customer Name
- Abc Order Date
- Abc Order ID
- Postal Code
- Abc Product ID
- Abc Product Name
- Abc Region
- # Row ID
- Abc Segment
- Ship Date
- Abc Ship Mode
- State
- Abc Sub-Category
- Abc Measure Names

Measures

- # Discount
- # Profit
- # Quantity
- # Sales

Dimensions with a data type of String or Boolean cannot be continuous

Dimension DISCRETE

Dimension CONTINUOUS

Measure DISCRETE

Measure CONTINUOUS

CHPRO
EDUCATION

The screenshot shows the Power BI Data Flow interface with two main panes: the data source page and the data pane.

Data source page: Shows a preview of the "Orders (Sample - Superstore)" table with columns: Order ID, Order Date, Ship Date, Ship Mode, Customer ID, Customer Name, Order Priority, Freight, Postage, Freight Prepaid, Ship Country, Region, and Product ID.

Data pane: Shows the "Data type change in the data source page" table with 13 rows. The "Type" column indicates the data type for each column. A dropdown menu on the right shows the available data types: Number (decimal), Number (whole), Date & Time, Date, String, Boolean, Default, and Geographic Role.

Row ID	Type	Order ID	Order Date	Ship Date	Ship Mode	Customer ID	Customer Name	Order Priority	Freight	Postage	Freight Prepaid	Ship Country	Region	Product ID
1	Number (decimal)	1	1/1/2010	1/1/2010	Second Class	A1-00001	Alfreds Futterkiste	Normal	10.00	0.00	0.00	Germany	Central Europe	10001
2	Date	2	1/1/2010	1/1/2010	Second Class	A1-00002	Centro de实际上是	Normal	10.00	0.00	0.00	Spain	Central Europe	10002
3	String	3	1/1/2010	1/1/2010	Second Class	A1-00003	Ernesto Halpern	Normal	10.00	0.00	0.00	United Kingdom	United Kingdom	10003
4	Boolean	4	1/1/2010	1/1/2010	Second Class	A1-00004	La Dali	Normal	10.00	0.00	0.00	United Kingdom	United Kingdom	10004
5	Default	5	1/1/2010	1/1/2010	Standard Class	A1-00005	Magazzino Italiano	Normal	10.00	0.00	0.00	Italy	Central Europe	10005
6	Geographic Role	6	1/1/2010	1/1/2010	Standard Class	A1-00006	Monica Center	Normal	10.00	0.00	0.00	United Kingdom	Central Europe	10006
7	Default	7	1/1/2010	1/1/2010	Standard Class	A1-00007	Recreacionista	Normal	10.00	0.00	0.00	United Kingdom	Central Europe	10007
8	Default	8	1/1/2010	1/1/2010	Standard Class	A1-00008	Siستان و بلوچستان	Normal	10.00	0.00	0.00	United Kingdom	Central Europe	10008
9	Default	9	1/1/2010	1/1/2010	Standard Class	A1-00009	Siستان و بلوچستان	Normal	10.00	0.00	0.00	United Kingdom	Central Europe	10009
10	Default	10	1/1/2010	1/1/2010	Standard Class	A1-00010	Siستان و بلوچستان	Normal	10.00	0.00	0.00	United Kingdom	Central Europe	10010
11	Default	11	1/1/2010	1/1/2010	Standard Class	A1-00011	Siستان و بلوچستان	Normal	10.00	0.00	0.00	United Kingdom	Central Europe	10011
12	Default	12	1/1/2010	1/1/2010	Standard Class	A1-00012	Siستان و بلوچستان	Normal	10.00	0.00	0.00	United Kingdom	Central Europe	10012
13	Default	13	1/1/2010	1/1/2010	Standard Class	A1-00013	Siستان و بلوچستان	Normal	10.00	0.00	0.00	United Kingdom	Central Europe	10013

Data pane: Shows the "Data type change in the data pane" table with 13 rows. The "Type" column indicates the data type for each column. A dropdown menu on the right shows the available data types: Number (decimal), Number (whole), Date & Time, Date, String, Boolean, Default, and Geographic Role.

Row ID	Type	Order ID	Order Date	Ship Date	Ship Mode	Customer ID	Customer Name	Order Priority	Freight	Postage	Freight Prepaid	Ship Country	Region	Product ID
1	Number (decimal)	1	1/1/2010	1/1/2010	Second Class	A1-00001	Alfreds Futterkiste	Normal	10.00	0.00	0.00	Germany	Central Europe	10001
2	Date	2	1/1/2010	1/1/2010	Second Class	A1-00002	Centro de实际上是	Normal	10.00	0.00	0.00	Spain	Central Europe	10002
3	String	3	1/1/2010	1/1/2010	Second Class	A1-00003	Ernesto Halpern	Normal	10.00	0.00	0.00	United Kingdom	United Kingdom	10003
4	Boolean	4	1/1/2010	1/1/2010	Second Class	A1-00004	La Dali	Normal	10.00	0.00	0.00	United Kingdom	United Kingdom	10004
5	Default	5	1/1/2010	1/1/2010	Standard Class	A1-00005	Magazzino Italiano	Normal	10.00	0.00	0.00	Italy	Central Europe	10005
6	Geographic Role	6	1/1/2010	1/1/2010	Standard Class	A1-00006	Monica Center	Normal	10.00	0.00	0.00	United Kingdom	Central Europe	10006
7	Default	7	1/1/2010	1/1/2010	Standard Class	A1-00007	Recreacionista	Normal	10.00	0.00	0.00	United Kingdom	Central Europe	10007
8	Default	8	1/1/2010	1/1/2010	Standard Class	A1-00008	Siستان و بلوچستان	Normal	10.00	0.00	0.00	United Kingdom	Central Europe	10008
9	Default	9	1/1/2010	1/1/2010	Standard Class	A1-00009	Siستان و بلوچستان	Normal	10.00	0.00	0.00	United Kingdom	Central Europe	10009
10	Default	10	1/1/2010	1/1/2010	Standard Class	A1-00010	Siستان و بلوچستان	Normal	10.00	0.00	0.00	United Kingdom	Central Europe	10010
11	Default	11	1/1/2010	1/1/2010	Standard Class	A1-00011	Siستان و بلوچستان	Normal	10.00	0.00	0.00	United Kingdom	Central Europe	10011
12	Default	12	1/1/2010	1/1/2010	Standard Class	A1-00012	Siستان و بلوچستان	Normal	10.00	0.00	0.00	United Kingdom	Central Europe	10012
13	Default	13	1/1/2010	1/1/2010	Standard Class	A1-00013	Siستان و بلوچستان	Normal	10.00	0.00	0.00	United Kingdom	Central Europe	10013

CHPRO EDUCATION

Sample – Hands On..

Sample – Hands On..

Samples..

- Birlikte yapalım.. Önce sizler..

Samples..

- Birlikte yapalım.. Önce sizler..

Sheet-4

Sub-Category

Sub-Category	Sales
Furniture	321,446
Chairs	291,844
Tables	206,969
Storage	192,413
Binders	182,239
Books	154,128
Access	131,936
Paper	95,705
Furnishings	86,674
Art	77,216
Supplies	55,476
Electronics	32,406

Sheet 4

Category / Sub-Category

Category / Sub-Category	Sales
Furniture	321,446
Chairs	291,844
Tables	206,969
Storage	192,413
Binders	182,239
Books	154,128
Access	131,936
Paper	95,705
Furnishings	86,674
Art	77,216
Supplies	55,476
Electronics	32,406

TECHPRO

CSV dosyası ile çalışma

The screenshot shows a Microsoft Excel interface. On the left, a 'To a File' dialog box is open, listing options like Microsoft Excel, Text file (highlighted), JSON file, Microsoft Access, PDF file, and Spatial file. In the center, a file list shows 'Order_Details_data.csv' selected. On the right, a context menu for 'Order_Details_data.csv' includes 'Text file...', 'Convert to Union...', and other options.

Order_Details_data.csv

Field separator: Space

Text qualifier: Comma

Character set: Semicolon

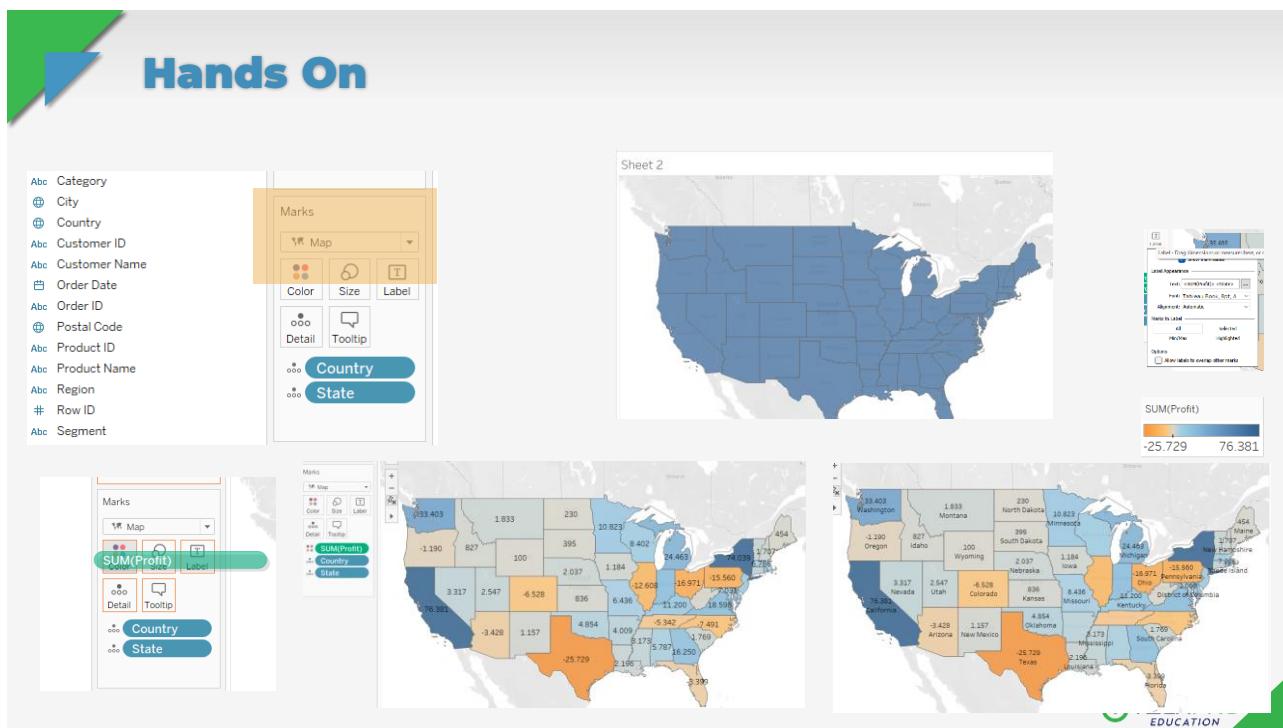
Locale: Other



Challenge time

Dersin başındaki görseli şimdî siz hazırlayınız.

Hands On



Data Type - Image Role

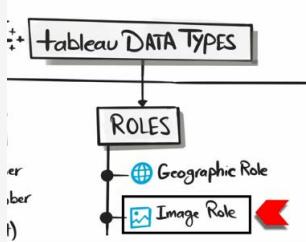


Tableau 2022.4

RELEASED 12/2022 | TABLEAU 2022.4 RELEASE NOTES

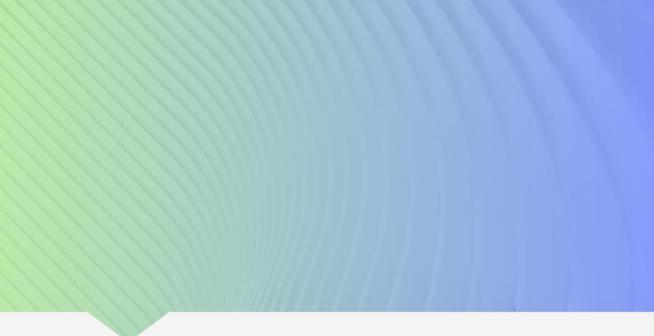
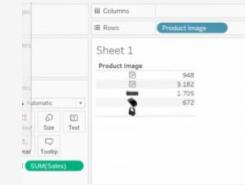
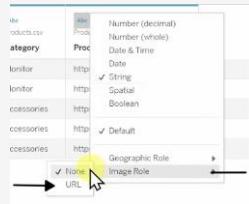
abilities to save you time and effort. Highlights include Tableau External Tableau Community, and more.

al Actions context: Image Role Add data-driven images at scale



Image Requirements

- Supported Image Extensions: **.png, .jpeg, or .jpg**
- URL must begin with: **http** or **https**
- Image File must be **> 128 kb**



Bugün neler öğrendik...



Next Session



Graphical Represent

- Patterns
- Frequency Table
- Bar Chart
- Pie Chart
- Histogram

Sonraki derste ne öğreneceğiz?

