

Demonstrating the Business Value of Power BI (PL-900)

DEMONSTRATE HOW TO CONNECT AND CONSUME DATA



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Authenticity of the numbers



Trust in data

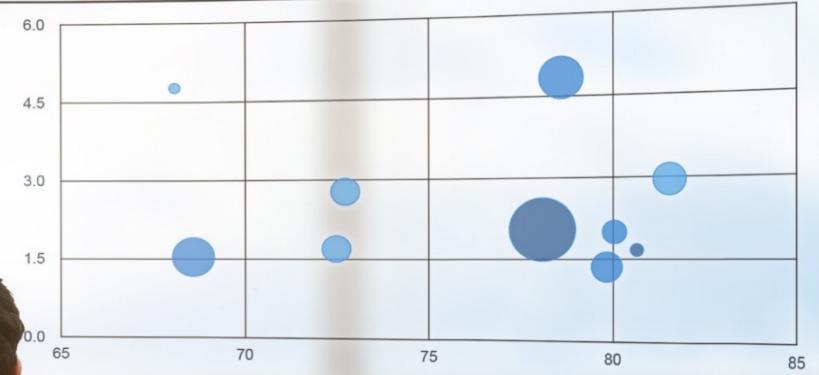
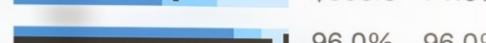
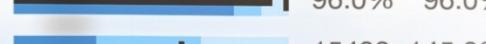




ANALYTICS DASHBOARD

Last Updated:
3 min ago



Evolution	Metric	Actual vs Target		Actual	Target	Products positioning
	Revenue			\$3.4M	82.0%	
	Profit			\$1.2M	108.7%	
	Avg. Order Size			\$850.3	71.0%	
	On Time Delivery			96.0%	96.0%	
	New Customers			15432	145.0%	
	Cust. Satisfaction			98.3%	105.0%	
	Market Share			46.9%	80.0%	

Sales per countries



Top 10 products



Good News! We are going to
study Power BI.



Microsoft
Company

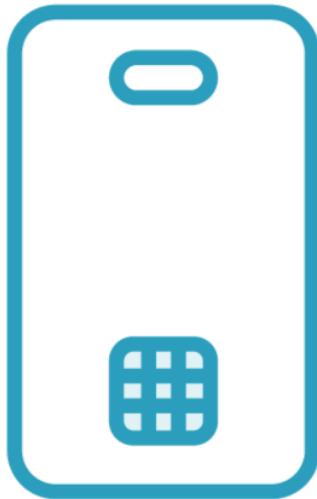
Power BI
Visualization tool



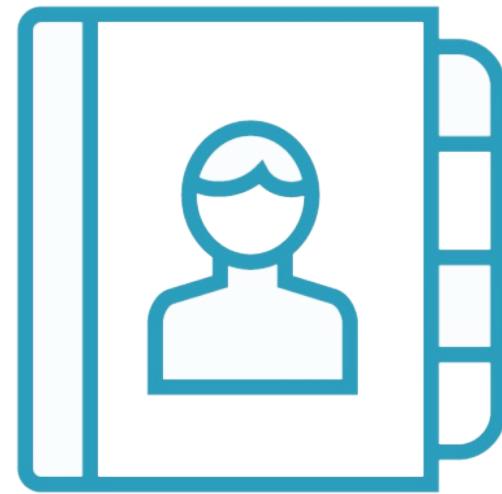
What Is Power BI ?



Analyze



Visualize



Collaborate



Leader in Gartner 2020 Magic Quadrant

Power BI
Visualization Tool

Gartner
Power BI is a leader in 2020 Magic
Quadrant





This course is for everyone!

Intended Audience



Student



Analyst



Senior VP/
Director



A photograph of four young adults on a road trip. Two are seated inside a car, smiling and looking towards the horizon. Outside the car, two more young adults are standing and looking in the same direction. One is pointing upwards. They are all wearing casual clothing and sunglasses. The background is a bright blue sky with some wispy clouds.

Road ahead

What Is Covered in This Course?

Connect and consume
data

Common components in
Power BI

Build your first
dashboard with Power
BI



Prerequisite



Power BI Desktop

2.81.5831.821 64-bit (May 2020)

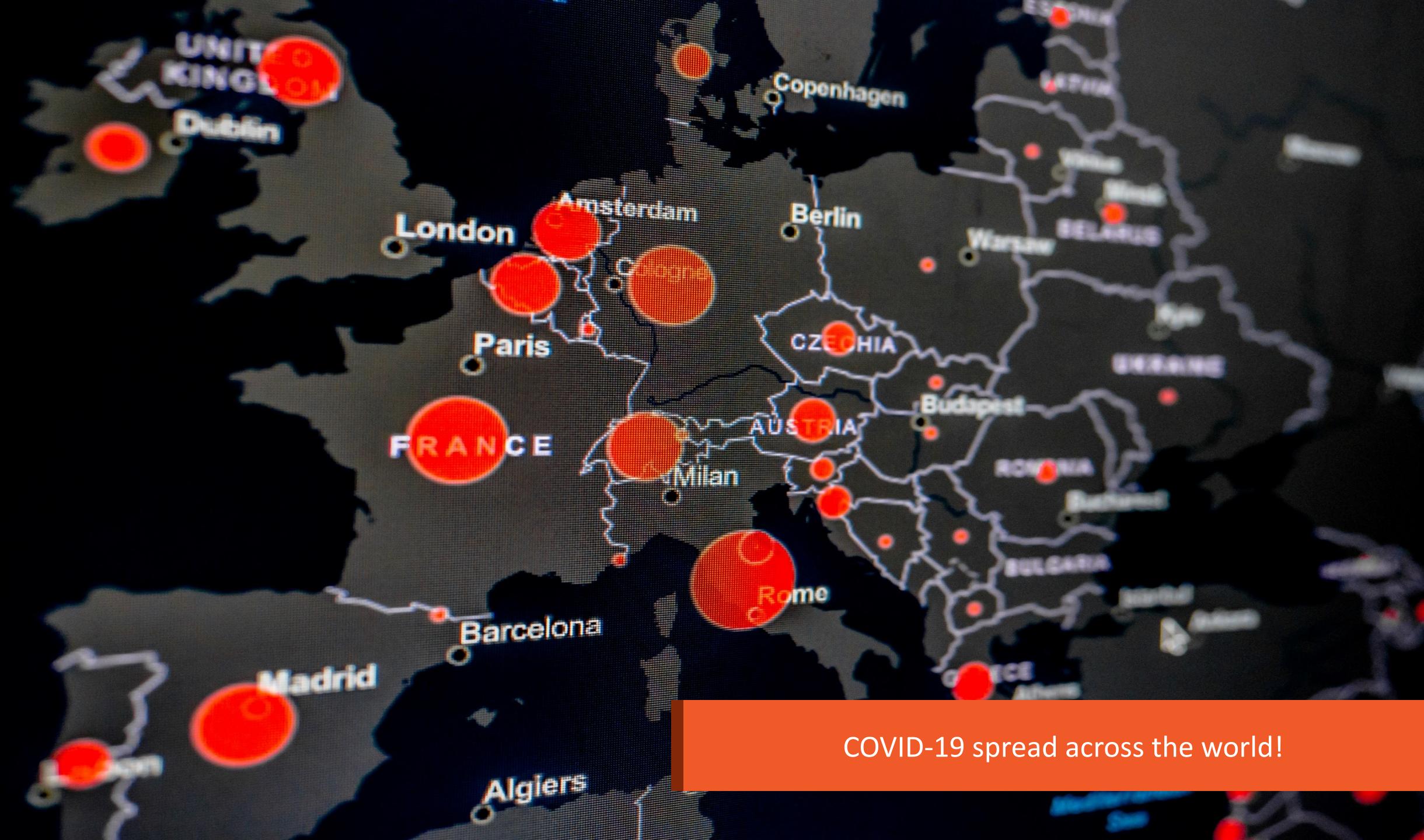
Power BI Pro

Power BI Mobile



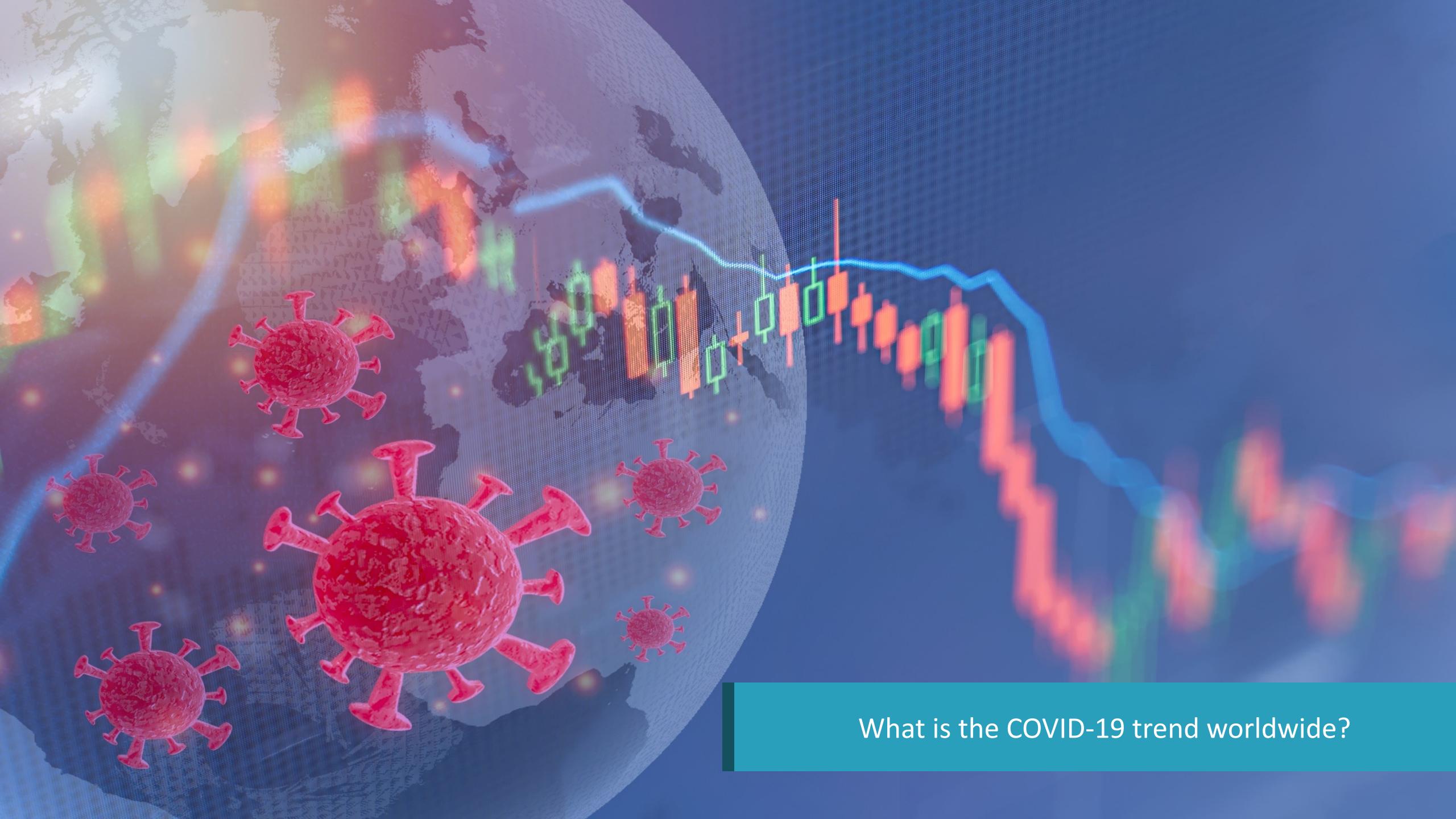
COVID-19: Project Introduction and Related Dataset





COVID-19 spread across the world!





What is the COVID-19 trend worldwide?

About the Dataset



09-09-2020

Cumulative COVID cases
worldwide

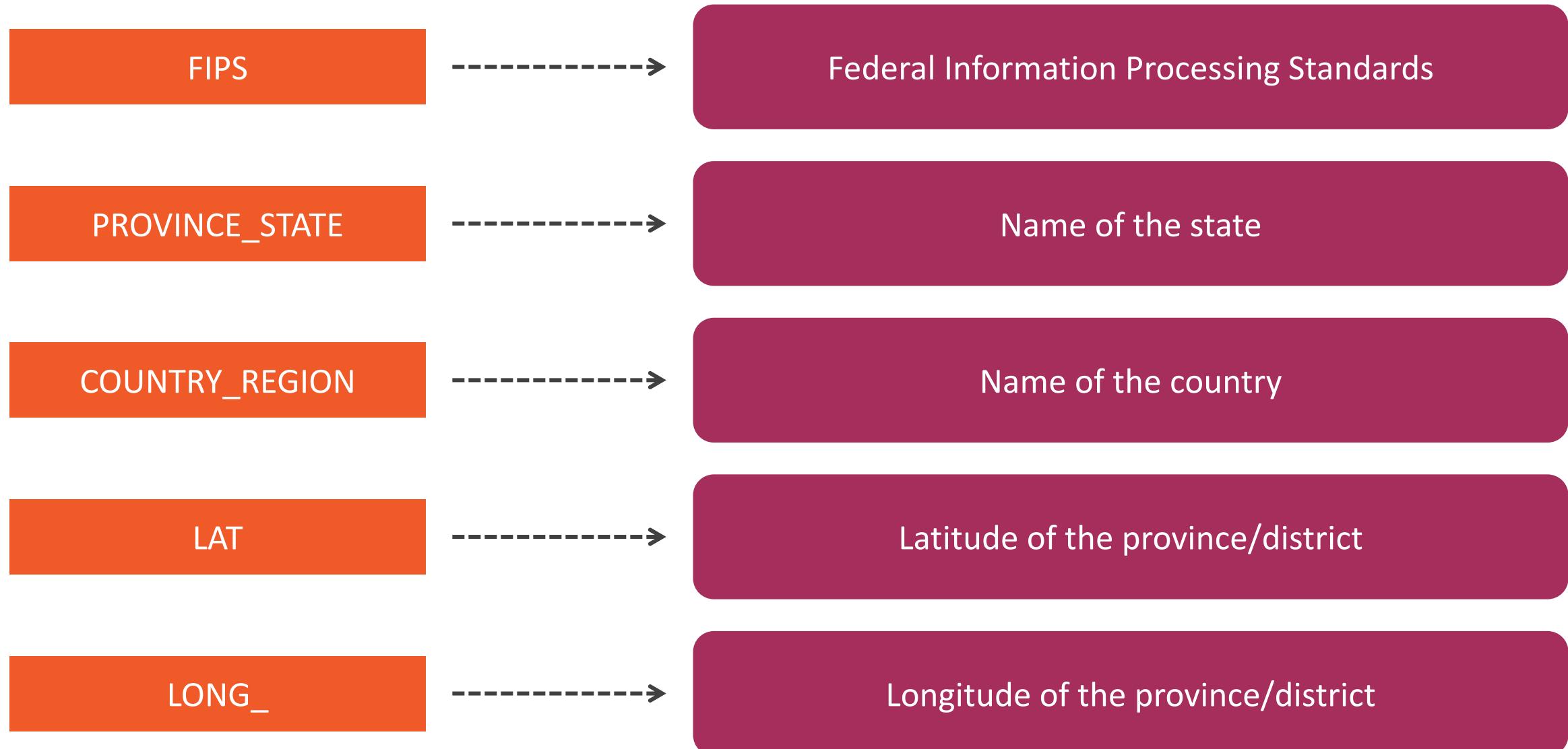


Continent_Country_Mapping

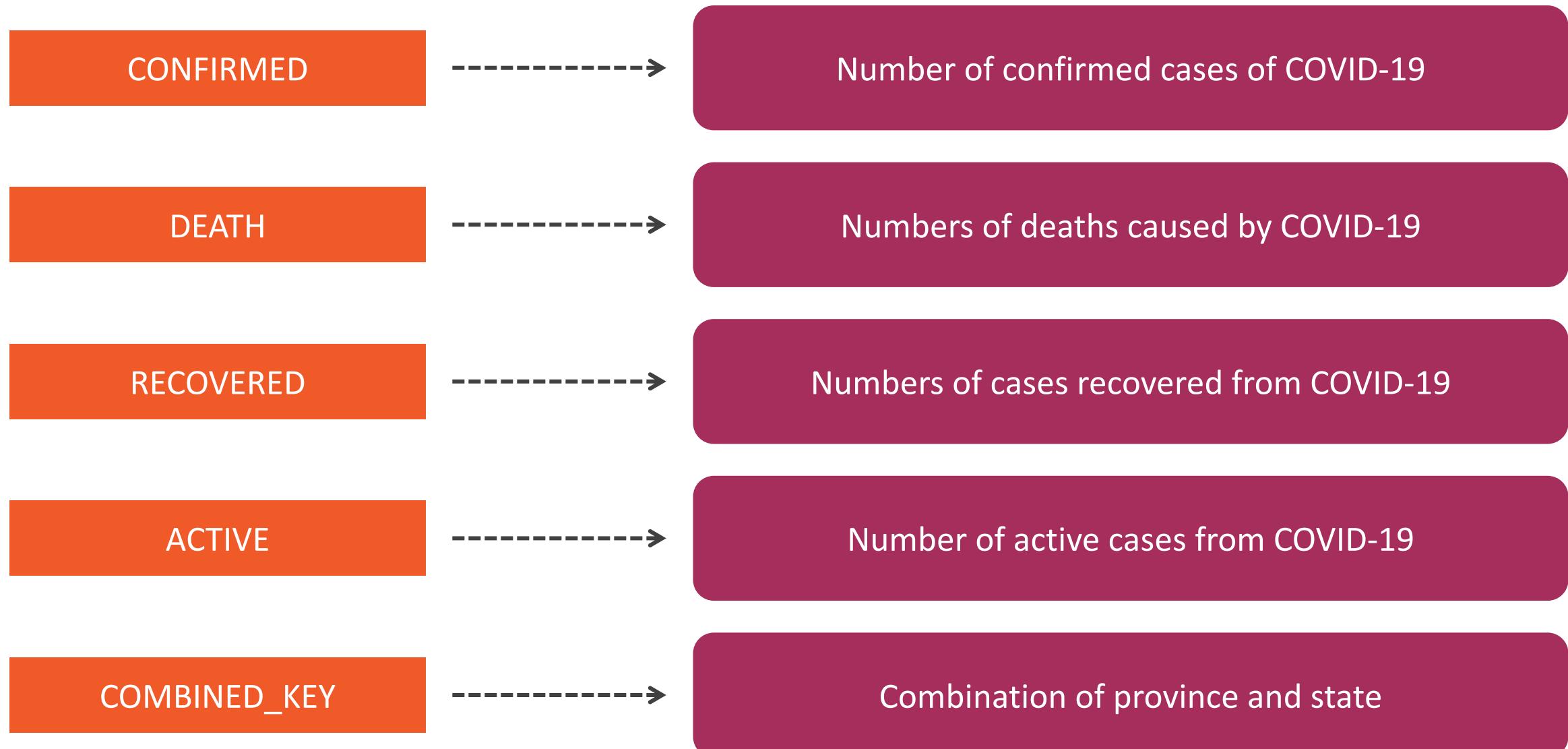
Mapping file between continent and
country



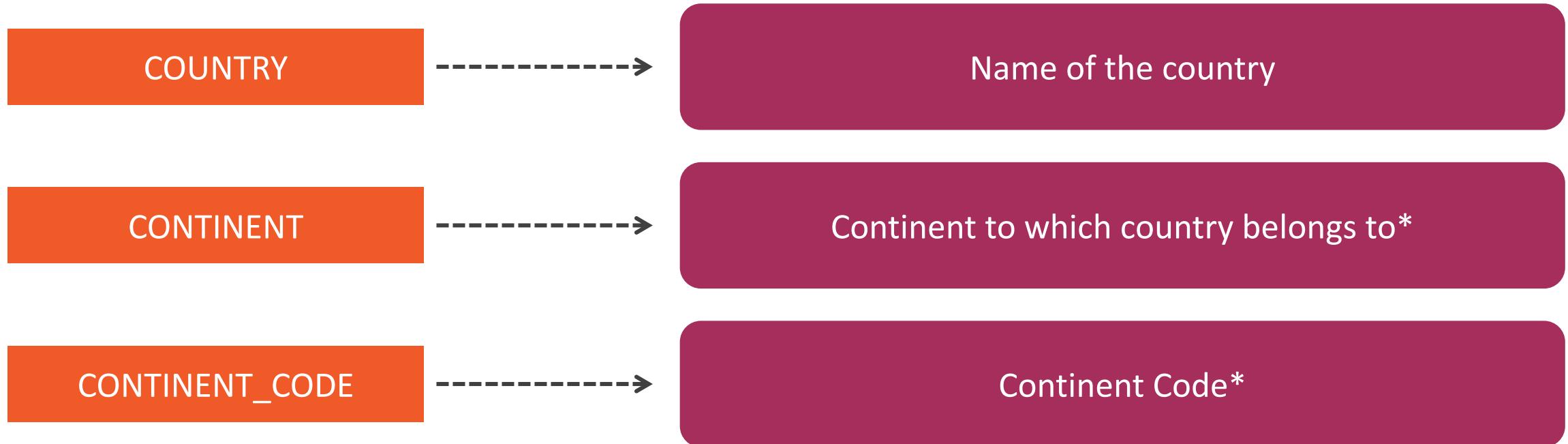
File 1: CSV Dataset File



File 1: CSV Dataset File



File 2: Mapping File



*Accuracy of the mapping cannot be verified



Insights Types

What are the total number of COVID-19 cases?

Which country has the highest number of COVID-19 cases?

Which continent has the highest number of COVID-19 cases?

Global distribution of COVID-19 cases

How many fatal cases due to COVID-19?

What is the recovery rate for COVID-19 across the world?



Power BI Primer



Building Blocks of Power BI

DATASETS

Collection of data

VISUALIZATION

Visual representation of data

REPORTS

Collection of visuals spanning one/multiple pages

TILES

Single visualization on a report or dashboard

DASHBOARDS

“Single page” collection of visuals from a report



Power BI Common Components

Power BI Desktop



Local

Power BI Service



Cloud

Power BI Mobile



Mobile app





Journey of Power BI Developer



Benefits of Power BI

Multiple Platforms

Desktop, Browser, Cloud & Mobile

Data Storytelling

Rich personalized dashboards helps in data storytelling

Faster Reporting

Prebuilt visualization templates

Operational Efficiency

Saves time, effort and resources

Easy Integration

SharePoint, Excel, Power BI App



Understand the Interface of the Power BI Desktop



Interface of Power BI Desktop

Data View

Collect data and wrangle data

Model View

Build your data model

Report View

Build your visualizations



Connect to Data

Heterogeneous Sources

Load Data

Inspect Data

Explore Data

Understand Data

Data View



Tables

Columns

Relationships

Model View



Stunning Visualizations

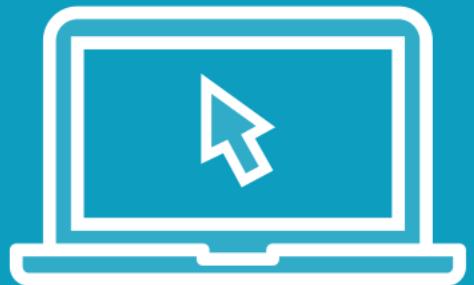
Interactive Reports

Generate Insights

Report View



Demo



Power BI Desktop Interface



Fourth Component: Power BI Editor



Clean Data

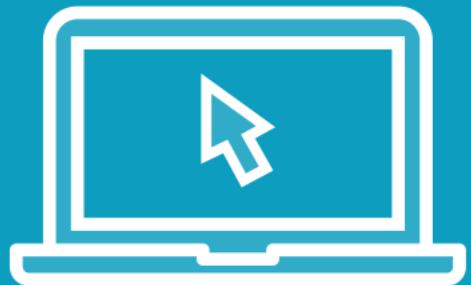
Wrangle Data

Transform Data

Power BI Editor



Demo



Power BI Query Editor



Interface of Power BI Desktop

Data View

Collect data and wrangle data

Model View

Build your data model

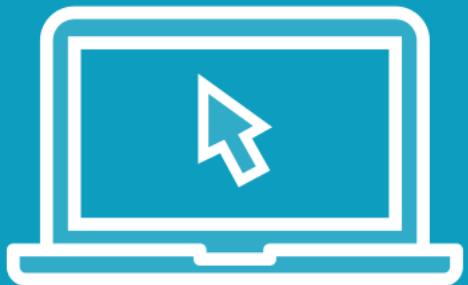
Report View

Build your visualizations

Power BI Query Editor



Demo

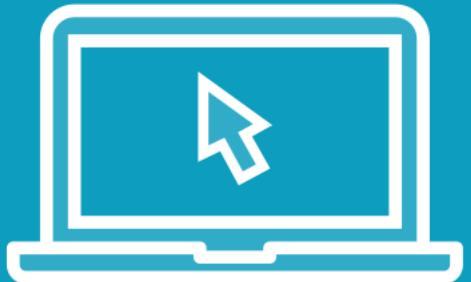


Data View: Connect to Data

- Heterogeneous Data Source
- Load the Data



Demo

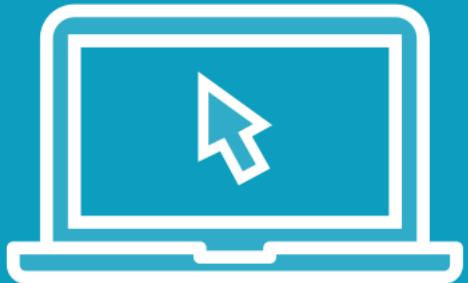


Power BI Editor: Data Transformation at “Row” Level

- Use First Row as Header
- Use Header as First Row
- Filter Rows
- Remove Duplicates
- Remove Blank Rows
- Replace Values



Demo



Power BI Editor: Data Transformation at “Column” Level

- Remove Columns
- Rename Columns
- Change Column Types
- Split Columns
- Custom Columns



Power BI Editor: Combine Multiple Data Sources



Difference between Append and Merge

APPEND

MERGE

UNION

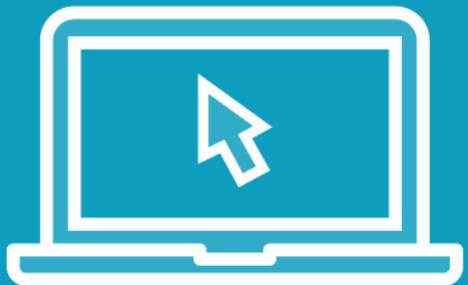
JOIN

Additional Rows

Additional Columns & Rows



Demo



Power BI Editor: Combine

- Append
- Merge



Power BI Editor: Pivot and Unpivot Data



Difference between Pivot and Unpivot Data

Pivot Data

Uses values in the selected column to
create a new column

Unpivot

Translates all unselected data into
attribute value pair



Example of Unpivot Data

Country	Total Cases	Active Cases
Italy	20	0.1
France	30	0.12



Unpivot Data

Country	Attribute	Value
Italy	Total Cases	20
Italy	Active Cases	0.1
France	Total Cases	30
France	Active Cases	0.12

“Attribute” and
“Value” as column
names added by
Power BI



Example of Pivot Data

Country	Total Cases
Italy	20
France	30

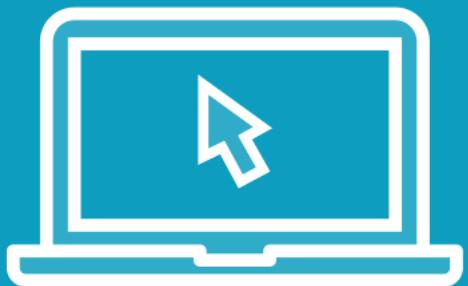


Pivot Data
by selecting “country
column”

Italy	France
20	30



Demo



Power BI Editor: Pivot & Unpivot Data



Module Summary



Summary

BUILDING BLOCKS OF POWER BI

DATASET

VISUALIZATION

REPORTS

TILES

DASHBOARD

JOURNEY OF POWER BI DEVELOPER

Create

Power BI Desktop

Power BI Service

Power BI Mobile

Publish

Share

TYPES OF VIEWS

DATA VIEW

MODEL VIEW

REPORT VIEW

Model and Report View will be covered extensively in upcoming modules

Summary

CONNECT DATA

LOAD DATA

POWER BI EDITOR

TRANSFORM DATA

ROW LEVEL

COLUMN LEVEL

APPEND

MERGE

PIVOT

UNPIVOT



Explain Common Components of Power BI



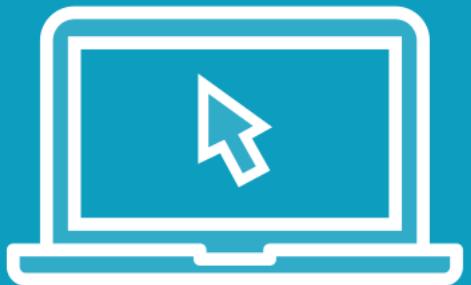
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Demo



Power BI Editor: Aggregate Functions



Compare and Contrast Power BI Common Components



VISUALIZATION

DATASETS

REPORTS

TILES

DASHBOARDS

APPS

VISUALIZATION

DATASETS

REPORTS

TILES

DASHBOARDS

APPS

VISUALIZATION

DATASETS

REPORTS

TILES

DASHBOARDS

APPS



What's covered in previous Module?

Data View

Collect data and wrangle data

Model View

Build your data model

Report View

Build your visualizations

Power BI Query Editor



What's covered in previous Module?

Data View

Collect data and wrangle data

Model View

Build your data model

Report View

Build your visualizations

Power BI Query Editor



What we shall cover in this module?

Data View

Collect data and wrangle data

Model View

Build your data model

Report View

Build your visualizations

Power BI Query Editor

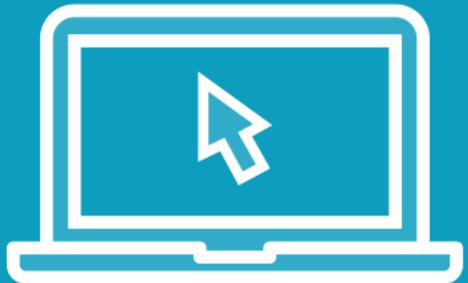


To be scripted

Model View: Build the Data Model



Demo



To be scripted

Model View: Build the Data Model



Report View: Describe pages and the uses of visualization Control



Visualization Controls

Bar Chart

Extremely popular, used to compare objects or things across categories

Line Chart

Leveraged to find trends over a period of time, find seasonal patterns, etc.
Popularly used in time series data.

Pie Chart

Should be used when you want to compare one category against the complete dataset

Scatter Chart

Should be used when you want to track anomalies or patterns in data

Maps

For showcasing location, geographies to capture the geographical imagination of the users

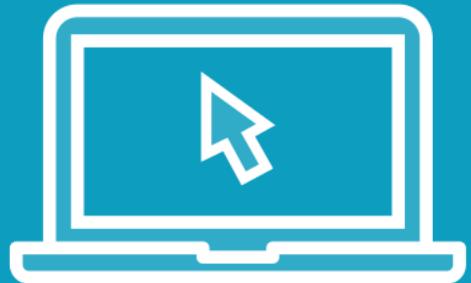
Slicers

Visual Canvas Filters used in Power BI

Many more visualization controls
in Power BI, to know more let's go
to Report View Interface



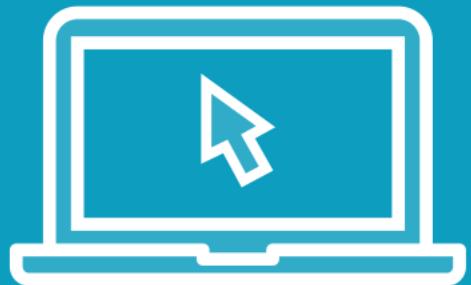
Demo



Report View: Bar Chart



Demo



Report View: Bar Chart



Overview



Power BI components

- Power BI Desktop
- Power BI Services
- Power BI Mobile

Connect to multiple data sources

Clean, combine, and transform data

Pivot and aggregate data

