

Build a Dashboard in an Hour Using Microsoft PowerPivot & PowerBI



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Vazi Okhandiar, MCT, PMP, MSCS



25+ years - Software development

15+ years – Teaching

Worked for General Motors, Toyota, EDS, Computer Science Corp

As Application Developer, Database designer, project manager, Web Analytics

Started a Training Company in 2002.

Education:

Microsoft Certified Training

PMP, Project Management Institute

Masters in Computer Science, IIT, Chicago

MBA, University of California, Irvine(UCI)

BS Electrical Engineering, UCI



Agenda

What is PowerBI?

Introduction to PowerPivot

Introduction to PowerBI

Developing a Dashboard with Table, Graph and Maps



Objective

- Introduction to Dashboard
- Importing raw data
- Build Dashboard using:
 - PowerPivot
 - PowerBI
- Q & A



What is a dashboard?



In Information technology, a dashboard is a visualization tool that is similar to a panel for a driver of a vehicle that has data organized and presented in such a way that is easy to read and understand.



Benefit of Digital Dashboards

- Visual presentation of performance measures
- Measure efficiencies/inefficiencies
- Ability to identify and correct negative trends
- Ability to identify new trends.
- Ability to make more informed decision
- Align strategies and organizational goals
- Increase overall revenue



What is PowerPivot?

PowerPivot is an Free add-on for Microsoft Excel that enables user to:

- Import millions of row of data sources into a single Excel workbook
- Create relationships between heterogeneous data
- Create calculated columns and measures using formulas
- Supports Visualize Tool – PivotTable, PivotChart, Slicers, Sparklines

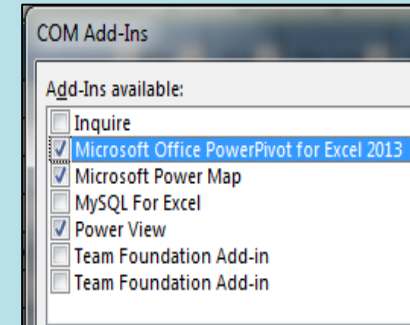


PowerPivot Minimum Requirement

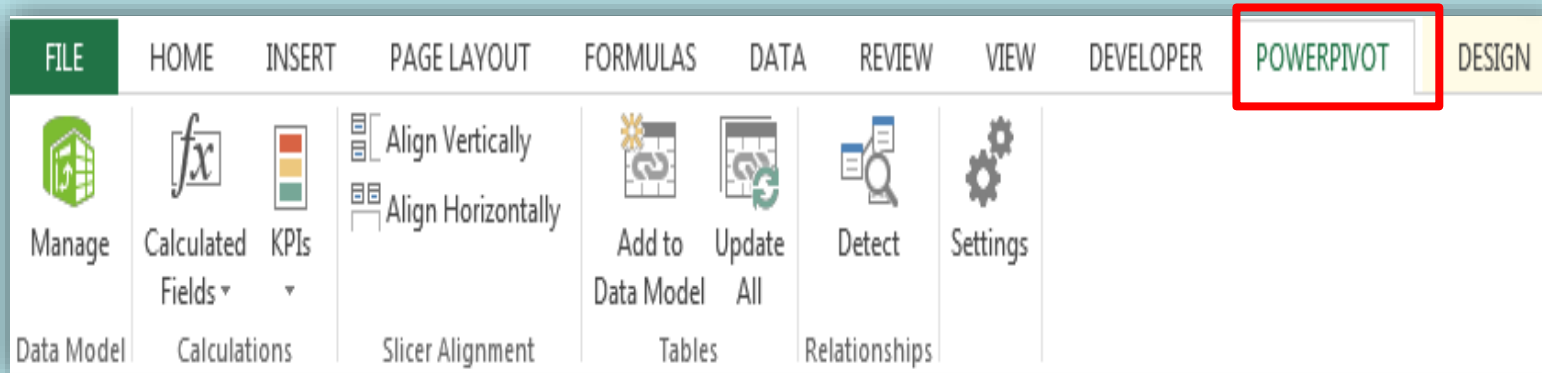
- Excel 2010 Professional (32 bit or 64 bit) or higher
- Windows 7 (32-bit) or higher

Launching PowerPivot

- ➡ Activate PowerPivot (File > Option > COM Add-in> Microsoft Office PowerPivot for Excel)

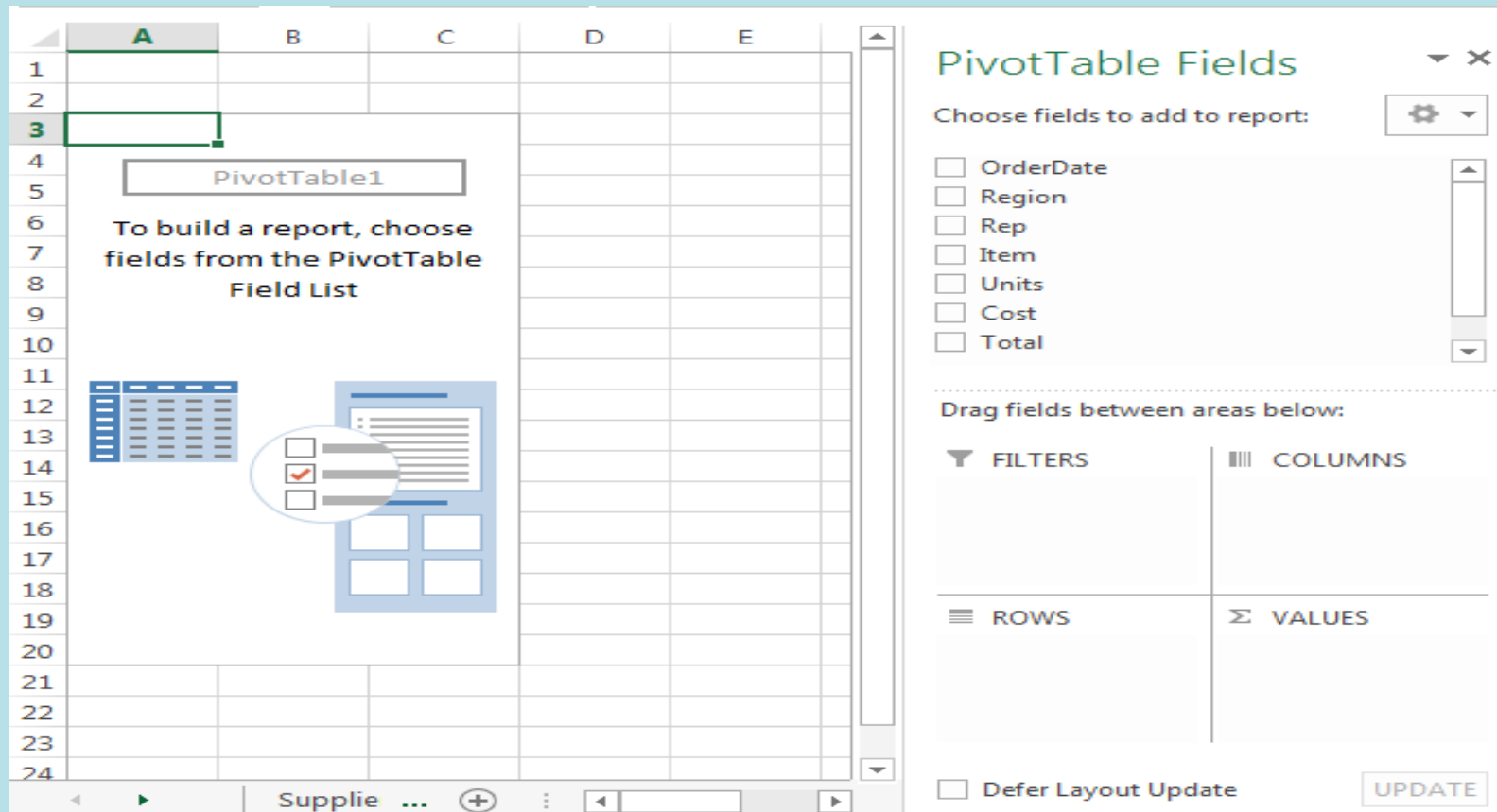


Launch PowerPivot tab on the Excel ribbon



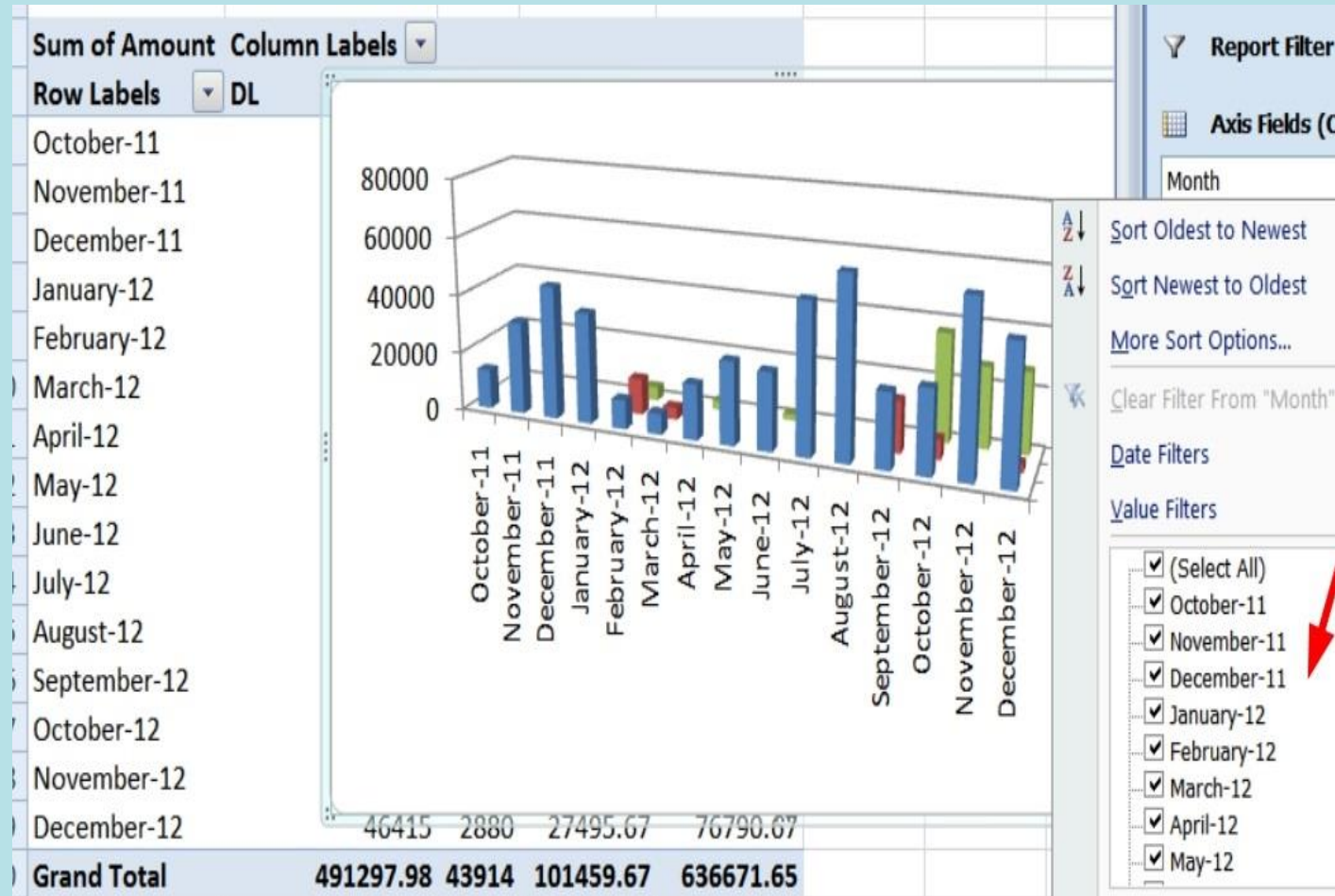
What is PivotTable?

Pivot table is a powerful feature in Excel that allows users to quickly summarize and analyze large amounts of data in a form of a table.



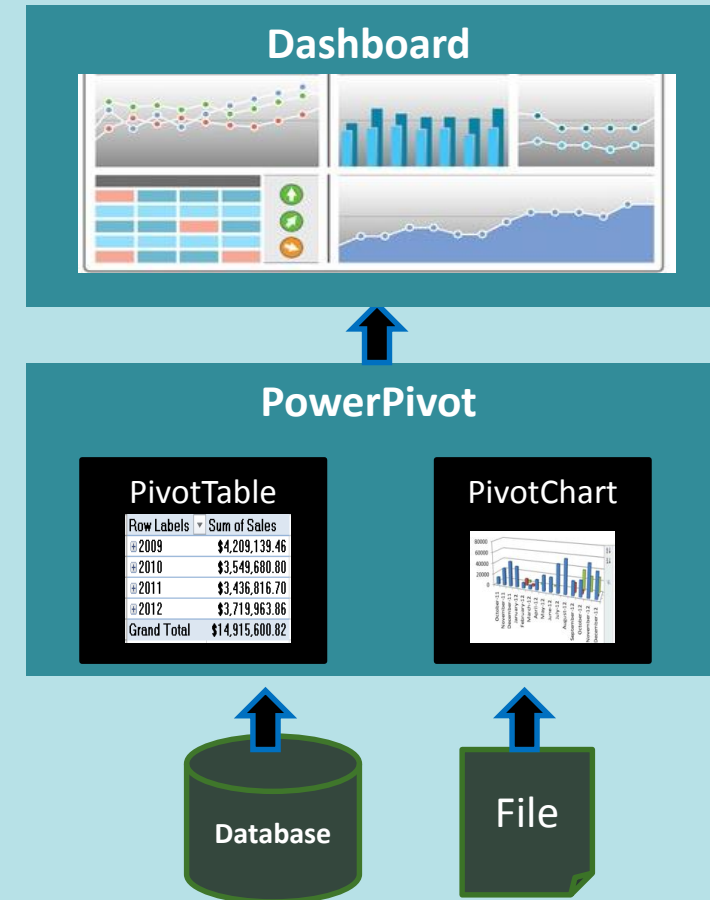
What is PivotChart?

A PivotChart is a visual representation of the pivot table in Excel.



Using PowerPivot

- Start Excel
- Launch PowerPivot
- Load Data
- Prepare Data
- Build dashboard with PivotChart, PivotTable and Slicer



Sample Data

Superstore - Order Table

- Order ID
- Order Date
- Order Priority
- Order Quantity
- Sale
- Discount
- Shipping Method
- Profit
- Unit Price
- Shipping cost
- Customer Name
- State
- Region
- Business Size
- Product Category
- Product Sub Category
- Product Name
- Product Container
- Product Base Margin
- Ship Date



Question?

Who are the top 5 customers?

What are the top 5 products?

Where (state) are they sold?

What were the sales during the month of March for year 2010 and 2011?



Sum of Shipping Cost

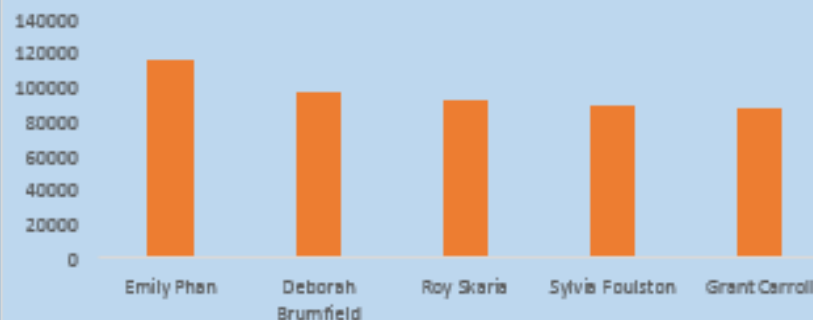
Total Sales per year



Order Date (Year) ▼ Order Date (Month) ▼

Sum of Sales

Top 5 Customers



Region

Atlantic North... Nunavut Ontario
 Prarie Quebec West Yukon

Order Date (Year)

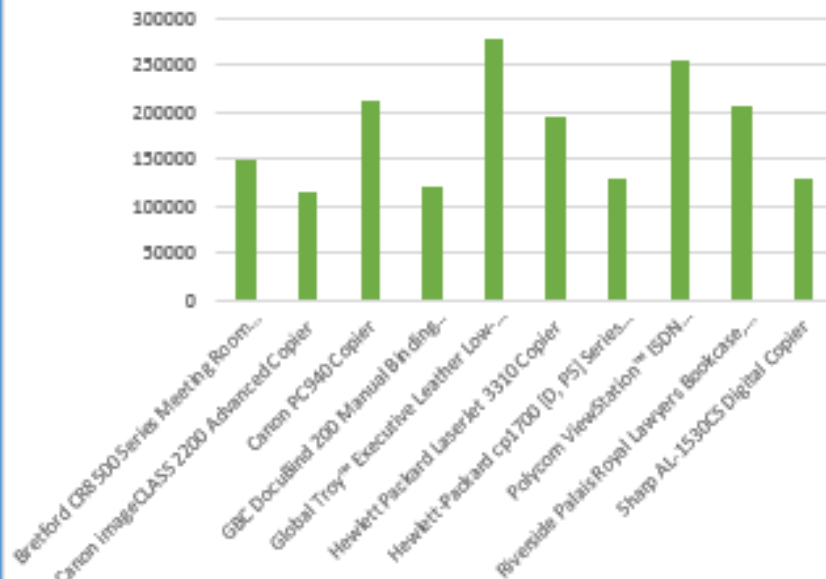
2009 2010 2011 2012

Order Date (Month)

Jan Feb Mar
 Apr May Jun
 Jul Aug Sep
 Oct Nov Dec

Sum of Sales

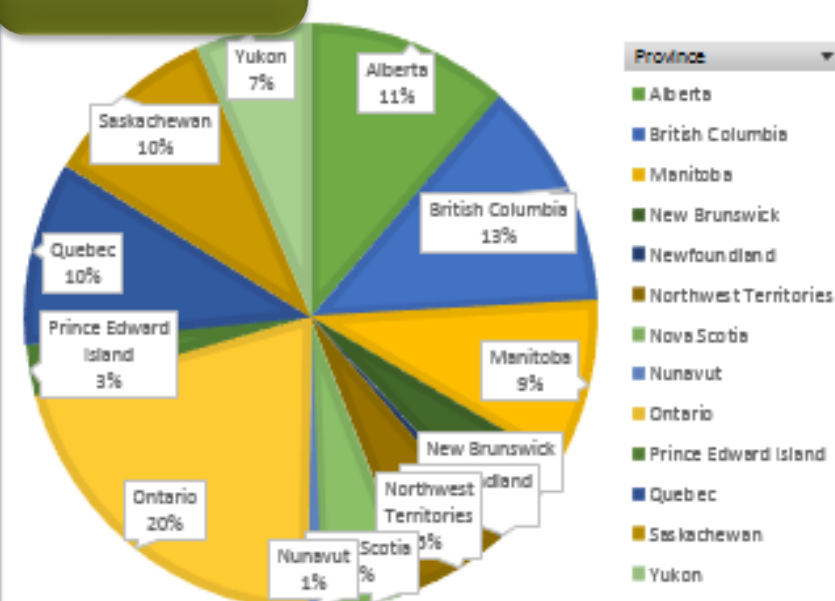
Top10 product Sold



Product Name ▼

Demo

SALES BY STATE



Province

Alberta British Col... Manitoba
 New Bruns... Newfoundl... Northwest...
 Nova Scotia Nunavut Ontario
 Prince Ed... Quebec Saskache...
 Yukon

What is Power BI?

- First released to the general public on July 24, 2015
- It is a cloud-based business analytics service that enables anyone to visualize and analyze critical business data with greater speed, efficiency, and understanding.



Power BI

Based

- Power Query - connects to external data, transforms data, and creates a data model
- Power Pivot - used to perform powerful data analysis in Excel, bringing self-service business intelligence to the desktop
- Power View – used to create pretty, interactive data presentations





Power BI Desktop

Free Download Microsoft BI Desktop version from
<https://powerbi.microsoft.com/en-us/get-started/>

Getting started with Power BI Desktop

Less data prep, more data wow

Visually explore your data with a freeform drag-and-drop canvas, modern data visualizations, and simple report authoring.

DOWNLOAD FREE >



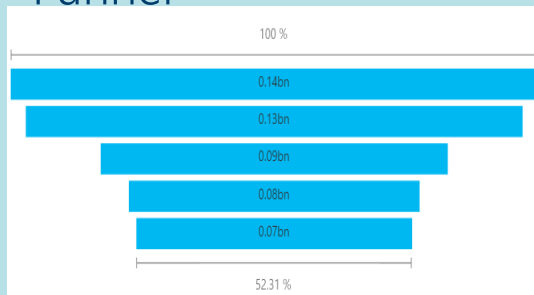
Power BI Desktop

- Create rich interactive reports with Power BI Desktop
- Companion for use with the Power BI service
- Connect to, share, & visualize data
- Effortlessly publish interactive visual reports to users of Power BI
- Access the data on the go with Power BI Mobile apps.

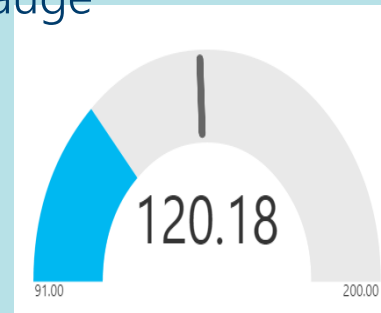


Visual Tools

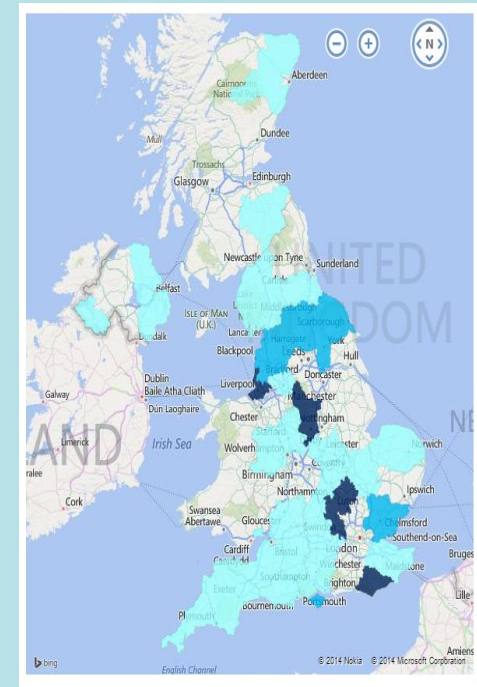
Funnel



Gauge



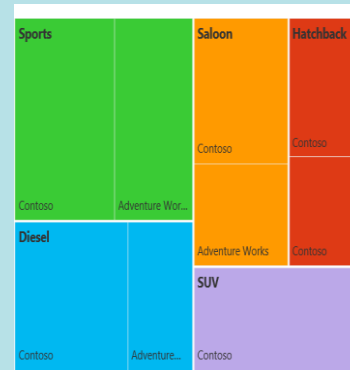
Fill Map

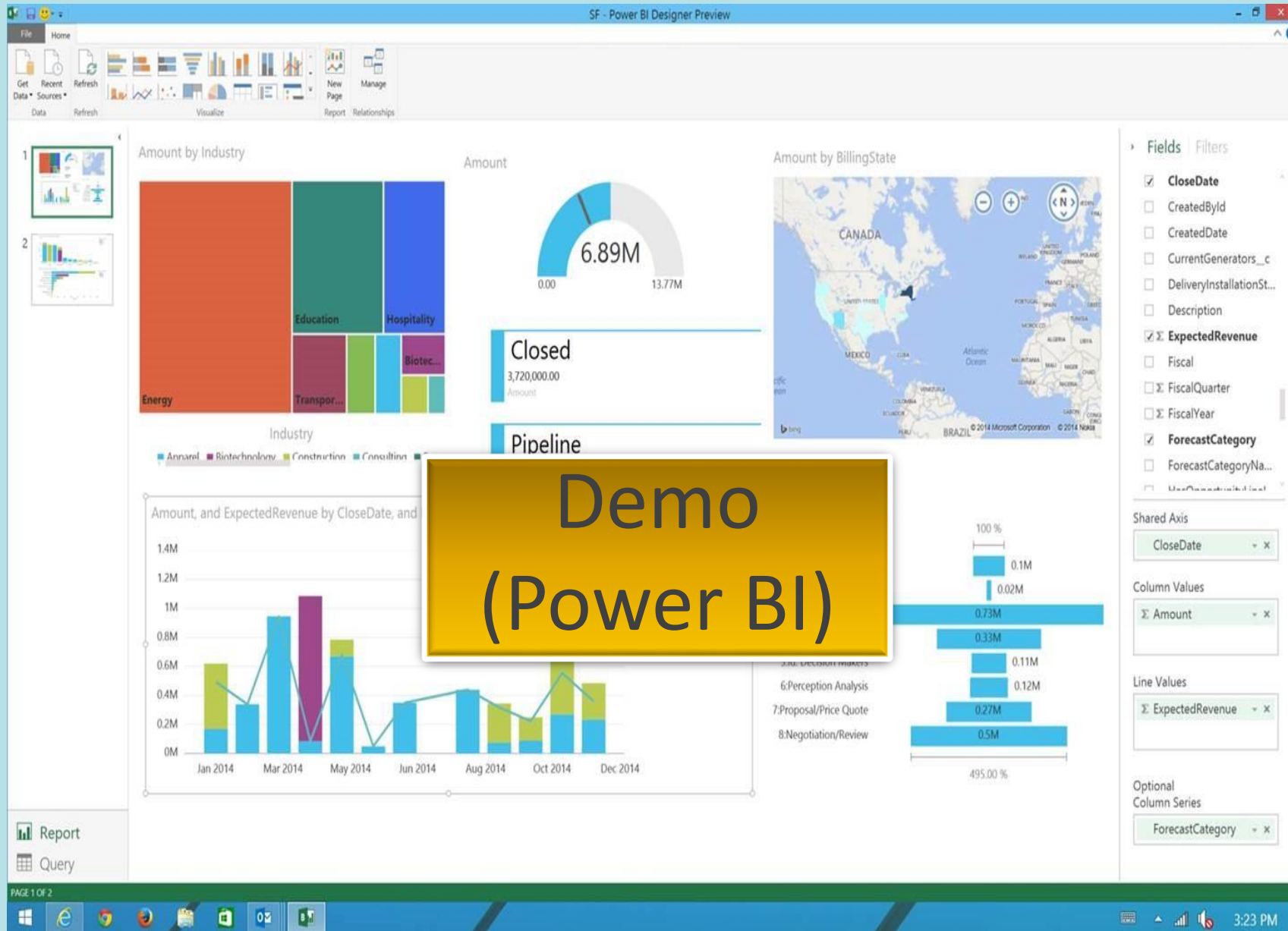


Combo Chart



Tree Map





New Power BI Visualizations

(<https://store.office.com/en-us/appshome.aspx?productgroup=PowerBI>)



Sankey Chart

Flow diagram where the width of the series is proportional to the quantity of the flow

[Learn more](#)

Free



Mekko Chart

A mix of 100% stacked column chart and 100% stacked bar chart combined into one view

[Learn more](#)

Free



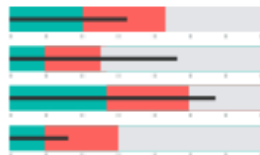
Word Cloud

Create a fun visual from frequent text in your data

[Learn more](#)

Free

MONITOR YOUR DATA [See more](#)

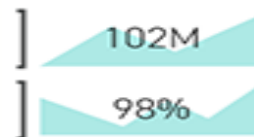


Bullet Chart

A bar chart with extra visual elements to provide additional context. Useful for tracking goals

[Learn more](#)

Free



Dual KPI

Efficiently visualizes two measures over time, showing their trend on a joint timeline

[Learn more](#)

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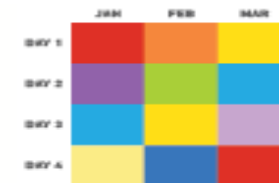


Table Heatmap

Compare data easily and intuitively using colors in a table

[Learn more](#)

Free



Power BI Free versus Paid

<https://powerbi.microsoft.com/en-us/pricing/>

Author	Share and collaborate	Scale large deployments
<p>Power BI Desktop</p> <p>Free</p> <p>DOWNLOAD FREE ></p>	<p>Power BI Pro</p> <p>\$9.99</p> <p>per user per month</p> <p>TRY FREE ></p>	<p>Power BI Premium</p> <p>Capacity pricing</p> <p>per node per month</p> <p>PLAN YOUR COSTS ></p>
<p>Connect to hundreds of data sources</p> <p>Clean and prepare data using visual tools</p> <p>Analyze and build stunning reports with custom visualizations</p> <p>Publish to the Power BI service</p> <p>Embed in public websites</p>	<p>Build dashboards that deliver a 360-degree, real-time view of the business</p> <p>Keep data up-to-date automatically, including on-premises sources</p> <p>Collaborate on shared data</p> <p>Audit and govern how data is accessed and used</p> <p>Package content and distribute to users</p>	<p>Gain dedicated capacity you allocate, scale, and control</p> <p>Distribute and embed content without purchasing per-user licenses</p> <p>Publish reports on-premises with Power BI Report Server</p> <p>Unlock more capacity and higher limits for your Pro users</p>



PowerBI: Cloud collaboration and sharing

Power BI

Cloud collaboration and sharing

Use Power BI Pro to share and distribute reports with others, without any complicated setup. Get started now with a free 60-day trial of Power BI Pro.

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Power BI Report Server

On-premises report deployment

Deploy and distribute interactive Power BI reports—and traditional paginated reports—within the boundaries of your organization's firewall.

LEARN MORE >



Stay connected from any device



- ➔ Native apps for iPad, iPhone, and Windows devices
- ➔ Receive alerts to important changes in your data
- ➔ Share and collaborate with colleagues and take immediate action



Summary

Topic covered:

- Importing data
- Developing Dashboard with PowerPivot
 - Adding PivotTable/PivotChart
 - Using Slicer to link PivotTable and PivotChart
- Developing Dashboard with PowerBI



Q & A



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Power BI Price: <https://powerbi.microsoft.com/en-us/pricing/>

Visuals Library: <https://store.office.com/en-us/appshome.aspx?productgroup=PowerBI>

Local User Groups

Orange County User Group

2rd Thursday of each month

bigpass.pass.org

Los Angeles User Group

3rd Thursday of each odd month

sql.la

San Diego User Group

1st & 3rd Thursday of each month

meetup.com/sdsqllug

meetup.com/sdsqllbig

Malibu User Group

3rd Wednesday of each month

sqlmalibu.pass.org

Los Angeles - Korean

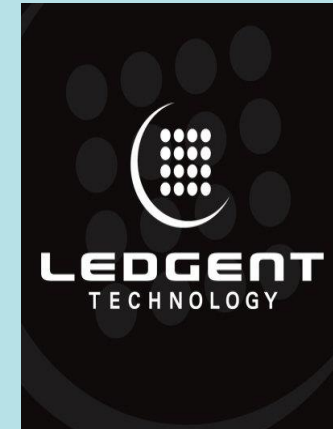
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sqlangeles.pass.org



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