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SAN DIEGO • 2023

# Power BI Dashboards | Beginner

**Your Guides:**  
Robert Newell

# Part I: Introduction



# Introductions

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- Take 5 Minutes
- Turn to a Person Near You
- Introduce Yourself
- Business Cards

# Course Outline

## Overview

- What is Power BI
- Power BI Components
- Data Flow

## Connecting to Data Sources

- Power BI Service Navigation
- Options to Connect to Sources
- Creating a Data Connection

## Reports and Dashboards

- Dashboard Components
- Options to Share Reports and Dashboards

## Creating a Report

- Power BI Desktop Navigation
- Creating a Simple Report Using Power BI Application
- Examples of Using Custom Visuals

## Data Import Options

- Connecting to ODATA and Oracle Server and Extracting Data
- DirectQuery vs. Import

## Data Transformation

- Data Transformation Components
- Data Modeling

## Data Transformation - Advanced

- Creating your own M script for your next advanced report
- M Script Examples

# Session Goal and Objectives

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**Course Goal:** To provide an overview of Power BI functionality in conjunction with Clarity by Broadcom data.

**Course Objectives:** You will learn how to:

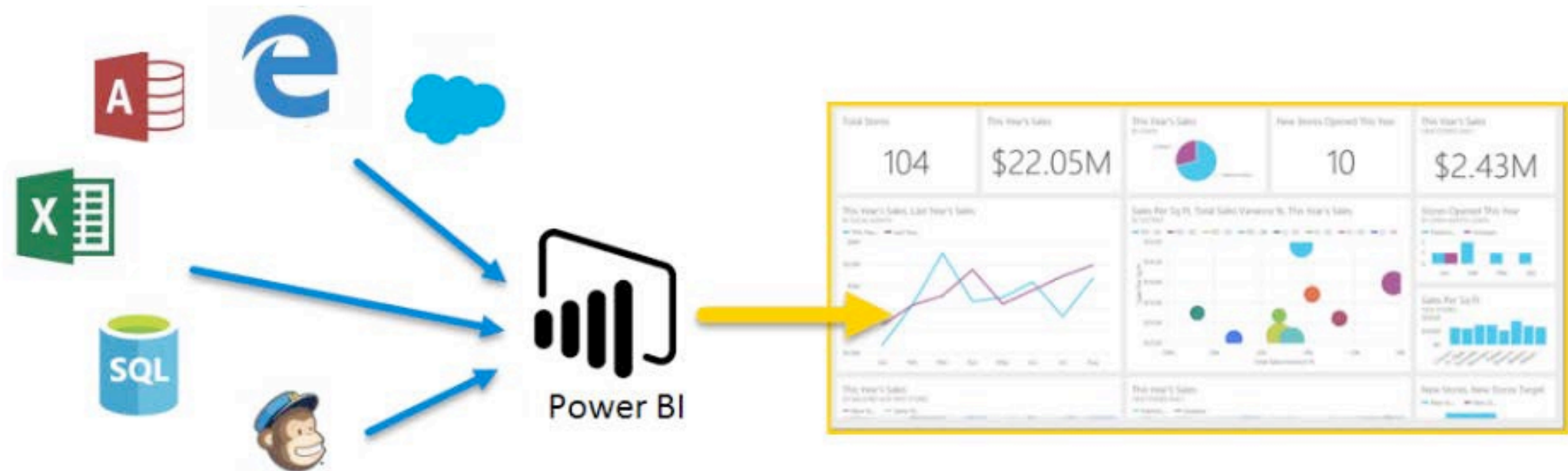
- Understand How Power BI Works with Clarity Data
- Connect to Data Sources
- Create Reports and Dashboard
- Create and Modify M Scripts

# Overview

- What is Power BI
- Power BI Components
- Data Flow

# Overview

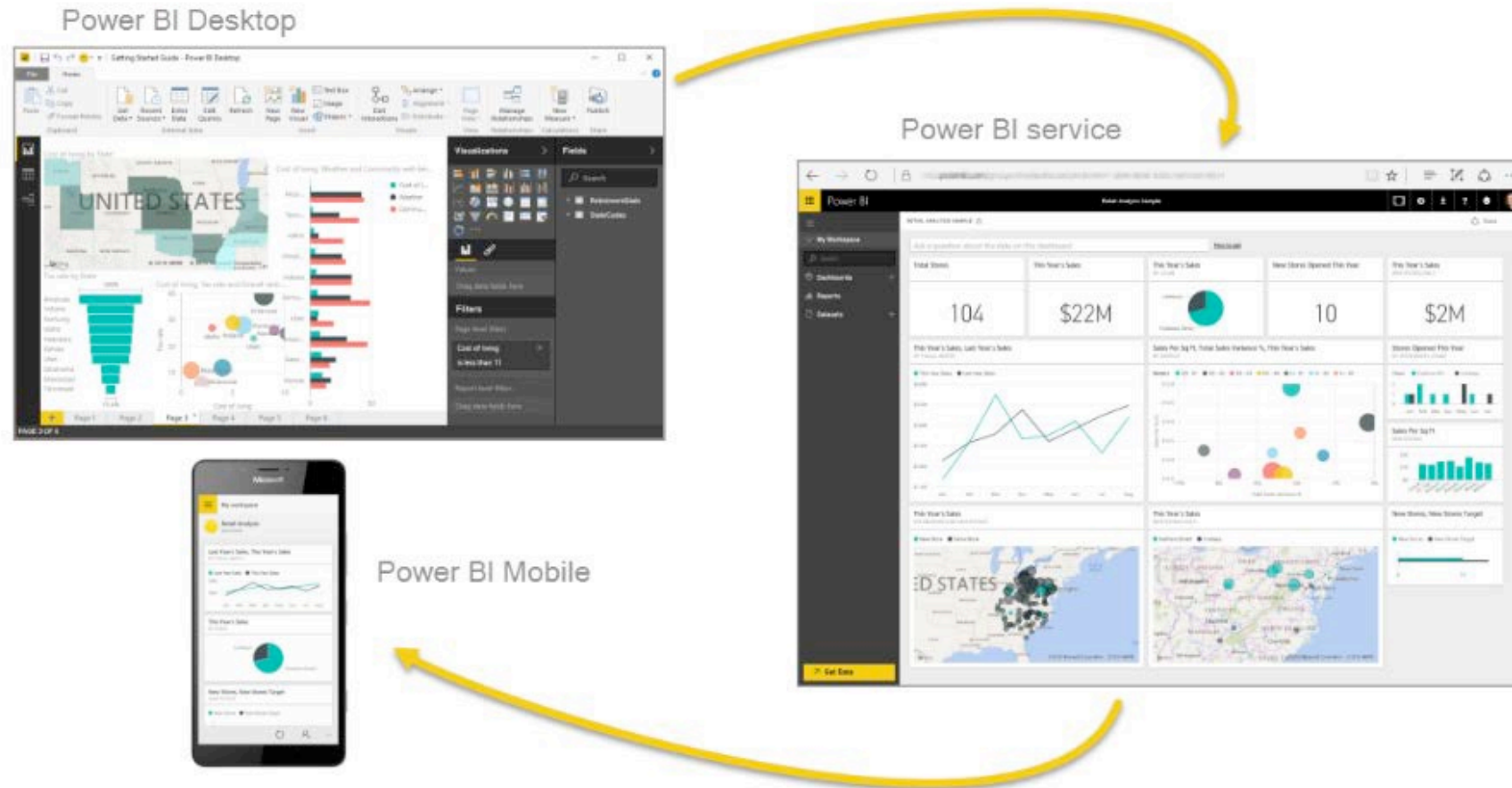
Power BI is a dashboard tool from Microsoft that lets you connect to variety of data sources and create visually stunning and interactive dashboards.





# Overview

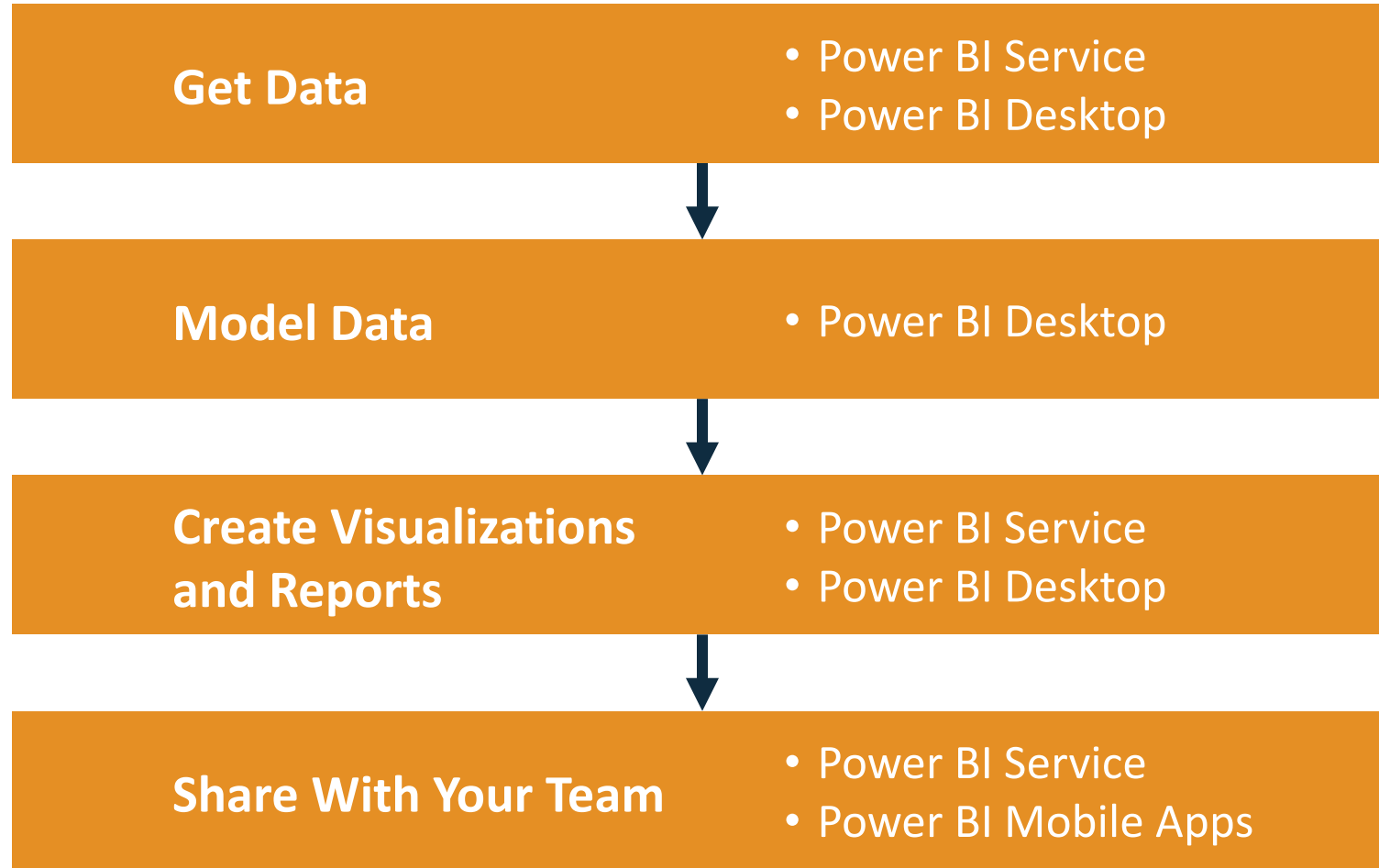
Power BI has 3 main components:





# Overview

## Development Approach



# PowerBI Service

- Power BI Service Navigation
- Options to Connect to Sources
- Creating a Data Connection

# PowerBI Service Navigation

Power BI My workspace

Search

Build your first report

- Add and prepare your data
- Generate a premade report
- Customize to suit your needs

Add data to start building a report

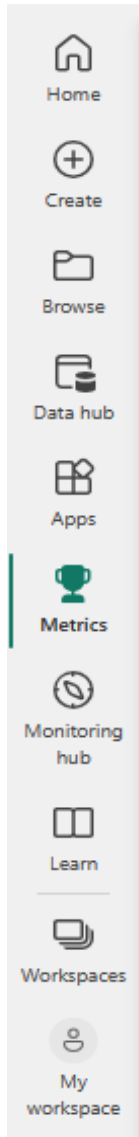
Paste or manually enter data

Pick a published dataset

Don't see the source you're looking for? [Download the desktop app.](#)



# Menu Links



- **Home:** Default landing page when you log in to the Power BI service. It's a great starting point for viewing and navigating your content.
- **Create:** This is where you can start creating new content. You can create reports, dashboards, and more. The options available depend on your license.
- **Browse:** This is a new navigation tab that provides sub-navigation for lists that were previously available individually. On this page, you can access the Recent, Favorites, and Shared with me lists.
- **Data Hub:** This hub helps you find, explore, and use data items in your organization, such as datasets, datamarts, and their related reports.
- **Apps:** This is where all apps that have been shared with you or that you've installed are stored. You can go directly to your apps by selecting Apps on the navigation pane.
- **Metrics:** Provides a way to curate and track key business objectives, promoting accountability, alignment, and visibility within organizations.
- **Monitoring Hub:** This hub enables users to monitor various Microsoft Fabric activities, such as dataset refresh and Spark Job runs and many others, from a central location.
- **Learn:** This is where you can find learning resources and tutorials about Power BI.
- **Workspaces:** This is where you can collaborate on Power BI content with your colleagues. Then you can publish the finished app to large groups of people in your organization.
- **My Workspace:** This is your private sandbox for learning and experimenting. Only you can see your workspace.

# Metrics

The metrics section of Power BI service can be a powerful tool for project and portfolio management reporting when used with data provided by Clarity by Broadcom. Here are some potential use cases:

- **Track Key Business Objectives:** Metrics in Power BI allow customers to curate their metrics and track them against key business objectives<sup>1</sup>. This can be particularly useful in project and portfolio management where you might want to track objectives such as project completion rates, resource utilization, or budget adherence.
- **Promote Accountability and Visibility:** The feature enhances data culture by promoting accountability, alignment, and visibility for teams and initiatives within organizations. For instance, you can create scorecards for different projects or teams and monitor their progress in real time.
- **Hierarchical Views:** Power BI supports cascading scorecards that roll up along hierarchies set up in your scorecard. This can be useful for viewing data at different levels of your organization or project structure. For example, you might have a hierarchy based on project stages or OBS units.

# Connecting to Data Sources

- Power BI Service Navigation
- Options to Connect to Sources
- Creating a Data Connection



# Connecting to Data Sources (Legacy)

## Options to Connect to Sources

- SaaS solutions
- Azure services
- Custom content packs
- Custom connections
- On-premise SAS data
- Excel workbooks
- CSV files
- Power BI Desktop files

**Get Data**

Need more guidance? [Try this tutorial](#) or [watch a video](#)

**Content Pack Library**

- My organization**  
Browse content packs that other people in your organization have published.  
[Get](#)
- Services**  
Choose content packs from online services that you use.  
[Get](#)

**Import or Connect to Data**

- Files**  
Bring in your reports, workbooks, or data from Excel, Power BI Desktop or CSV files.  
[Get](#)
- Databases**  
Connect to live data in Azure SQL Database and more.  
[Get](#)

# Connecting to Data Sources (Updated)

The image displays the Power BI Desktop interface. On the left, the 'My workspace' sidebar is visible with options like Home, Create, Browse, Data hub, Apps, Metrics, Monitoring hub, Learn, Workspaces, and My workspace. The main area shows a 'Build your first report' section with instructions: 'Add and prepare your data', 'Generate a premade report', and 'Customize to suit your needs'. Below this is the 'Add data to start building a report' section with two options: 'Paste or manually enter data' and 'Pick a published dataset'. A link 'Download the desktop app.' is provided for users who don't see their source.

On the right, the 'Get Data' dialog box is open, showing a list of data sources. The 'Excel Workbook' option is selected. The list includes: All, Excel Workbook, Text/CSV, XML, JSON, Folder, PDF, Parquet, SharePoint folder, SQL Server database, Access database, SQL Server Analysis Services database, Oracle database, IBM Db2 database, IBM Informix database (Beta), IBM Netezza, and MySQL database. The dialog also shows 'Certified Connectors' and 'Template Apps' tabs, and 'Connect' and 'Cancel' buttons.

# Reports and Dashboards

- Dashboard Components
- Options to Share Reports and Dashboards



# Reports and Dashboards

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## Dashboard Components

- Dashboard are high level view of some key KPI of one or more reports. Reports are pinned to a live page which then adds it to a new or existing Dashboard.
- An entire report can be published or individual visualizations from multiple reports.

# Sharing Reports and Dashboards

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## Options to Share Reports and Dashboards

- Publish reports to the web
- Share dashboards
- Duplicate and modify shared dashboards (personal versions)
- Export to multiple formats
- Print
- QR code

# Sharing Reports and Dashboards

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- Share Reports and Dashboards
- Workspace Collaboration
- Share via Link
- Share from Power BI Mobile Apps
- Share from Power BI Desktop with OneDrive and SharePoint Integration



# Licensing

## Scenario

You create a report in Power BI Desktop (.PBIX). Then you publish it to your My Workspace on the Power BI service.

You create a report in Power BI Desktop (.PBIX) and share the PBIX file to other people who open the file in Power BI Desktop

You create a report in Power BI Desktop (.PBIX) and publish it to a shared workspace in the Power BI service.

You're sent a link to a report hosted on the Power BI service and want to view it.

## Creator

As a creator, you only need the free Desktop app and a free Power BI license to publish to your My Workspace in the Power BI service for your own use. A paid Power BI Pro or PPU license is required to share content in My Workspace with others.

No licensing needed, only the Power BI Desktop app to be downloaded and installed.

Paid license needed to publish to shared workspaces.

You need a paid license to share a link. You need a free license to share a link to a report that is in Premium capacity.

## Consumer

Consumers can't see content in other people's My Workspace unless the owners decide to share. To see shared My Workspace content requires a paid license.

No licensing needed, only the Power BI Desktop app to be downloaded and installed.

Paid license required to view the content unless the workspace is hosted in Premium capacity. For workspaces in Premium capacity, the consumer only needs a free license to view that report.

A paid license is required to view the report unless the report is hosted in Premium capacity. For reports hosted in Premium capacity, the consumer only needs a free license to view that report.

# Reports and Dashboards

## Steps to Share

### Publish to Web

- Do not use this option as it will allow access to dashboard to public

### Share

- Grant/Revoke access to colleagues in the organization
- It will warn you if you have entered an email address outside the organization

### Create Workspaces (Pro only)

- Public or Private groups
- Edit or View only groups

### Create Apps (Pro Only)

- Entire Organization
- Specific Individual or Groups

# Data Import Options

- DirectQuery vs. Import
- Connecting to ODATA and Oracle Server and Extracting Data

# Data Import Options

Connecting to ODATA and Oracle Server and Extracting Data



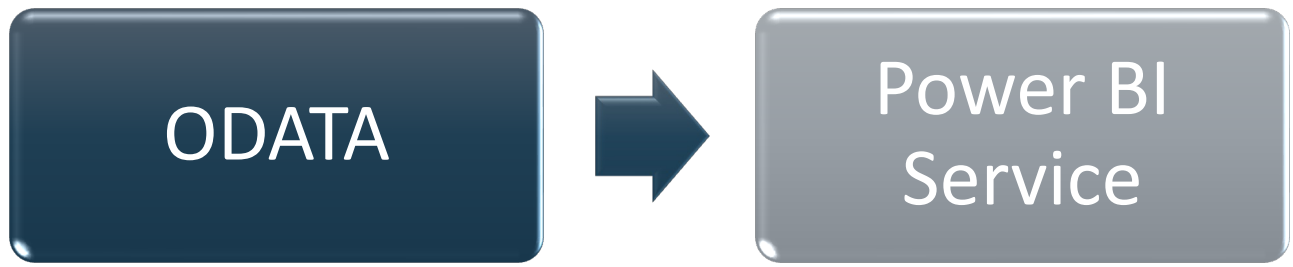
OData Feed



Oracle database



# Data Refresh – On Premise vs On Demand Clarity

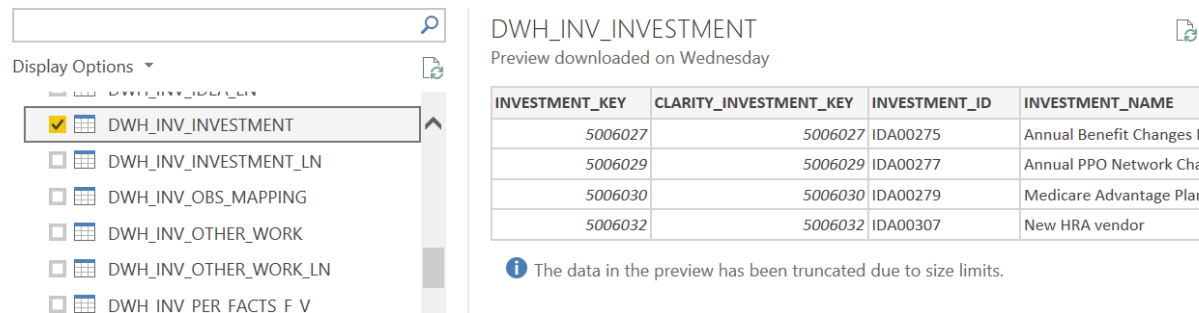


# Connecting to Odata Feed

Here are the steps to create a dashboard:

- Open your Power BI Desktop instance
- Select OData feed option under GetData
- Enter the Odata URL provided by your admin and click on OK
- Enter the username & password and click on Connect to authenticate
- Odata Table Navigator opens. Select the tables required for your dashboard and click on Load

Navigator

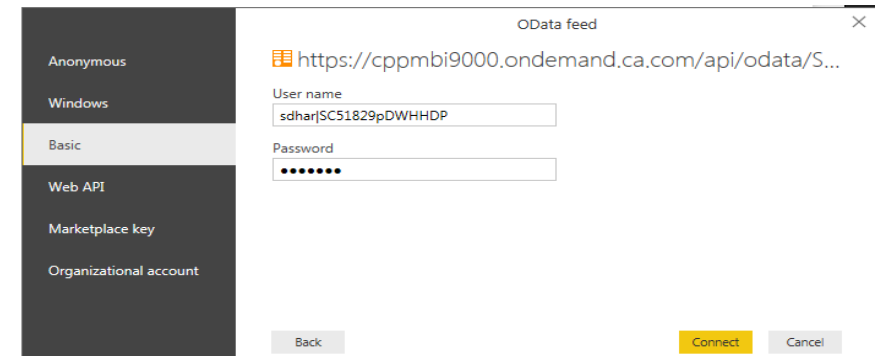
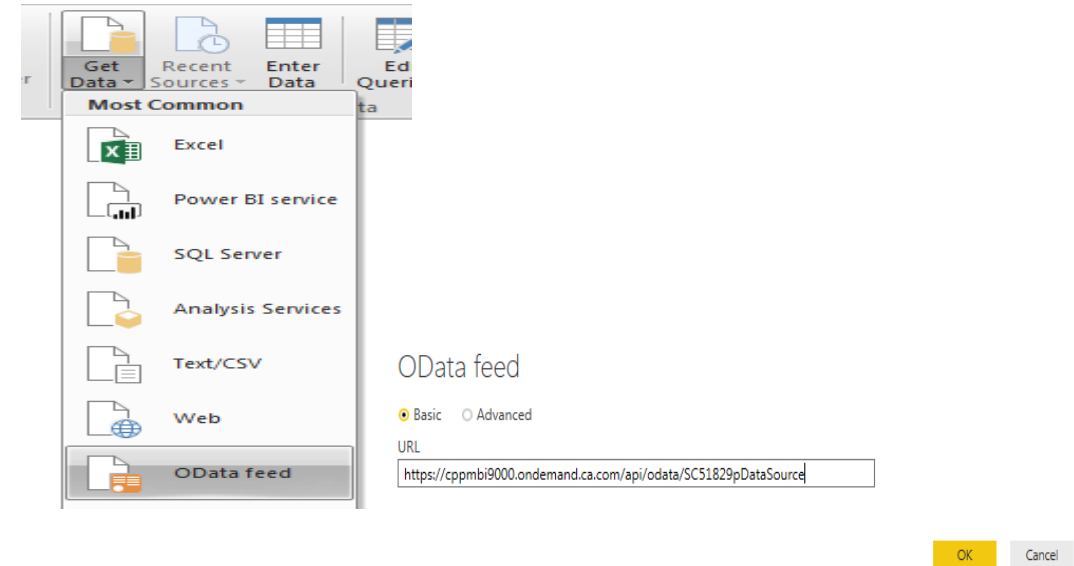


DWH\_INV\_INVESTMENT  
Preview downloaded on Wednesday

INVESTMENT_KEY	CLARITY_INVESTMENT_KEY	INVESTMENT_ID	INVESTMENT_NAME
5006027	5006027	IDA00275	Annual Benefit Changes I
5006029	5006029	IDA00277	Annual PPO Network Che
5006030	5006030	IDA00279	Medicare Advantage Plar
5006032	5006032	IDA00307	New HRA vendor

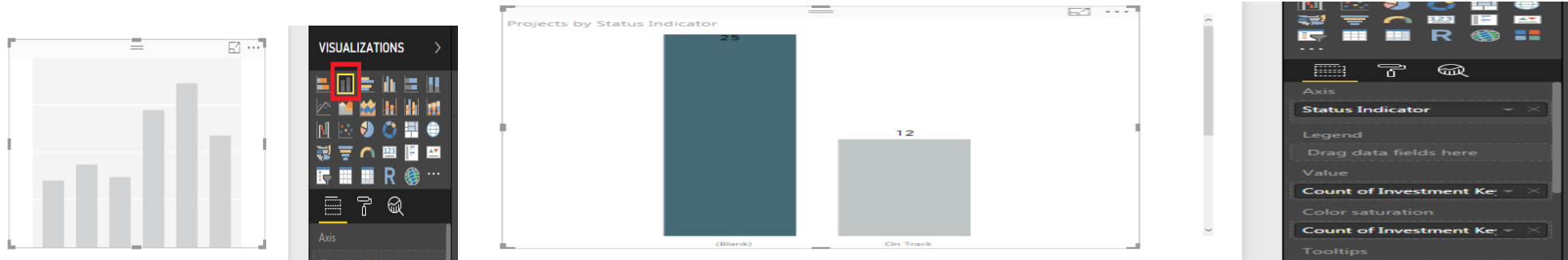
*The data in the preview has been truncated due to size limits.*

- Selected Tables gets loaded and power BI canvas opens up.

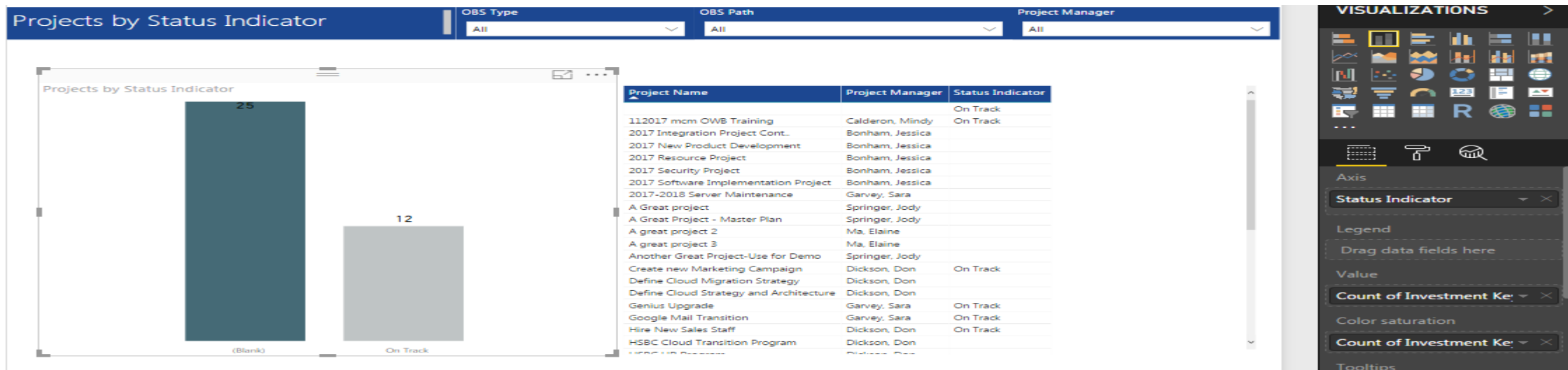


# Connecting to Odata Feed

- Select the required visualization and drag the fields from the tables on to the settings to generate a meaningful visualization.

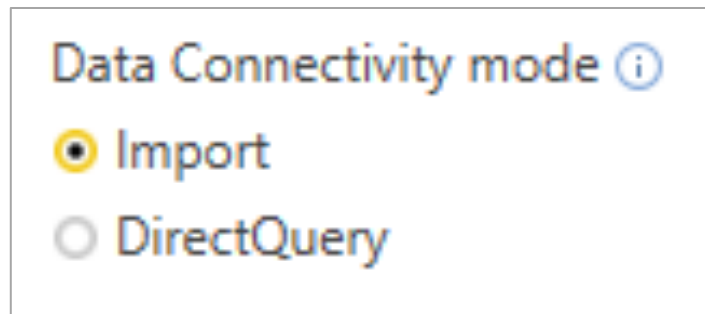


- You can group related visualizations under a single dashboard. Save the dashboard after completion.



# Data Import Options

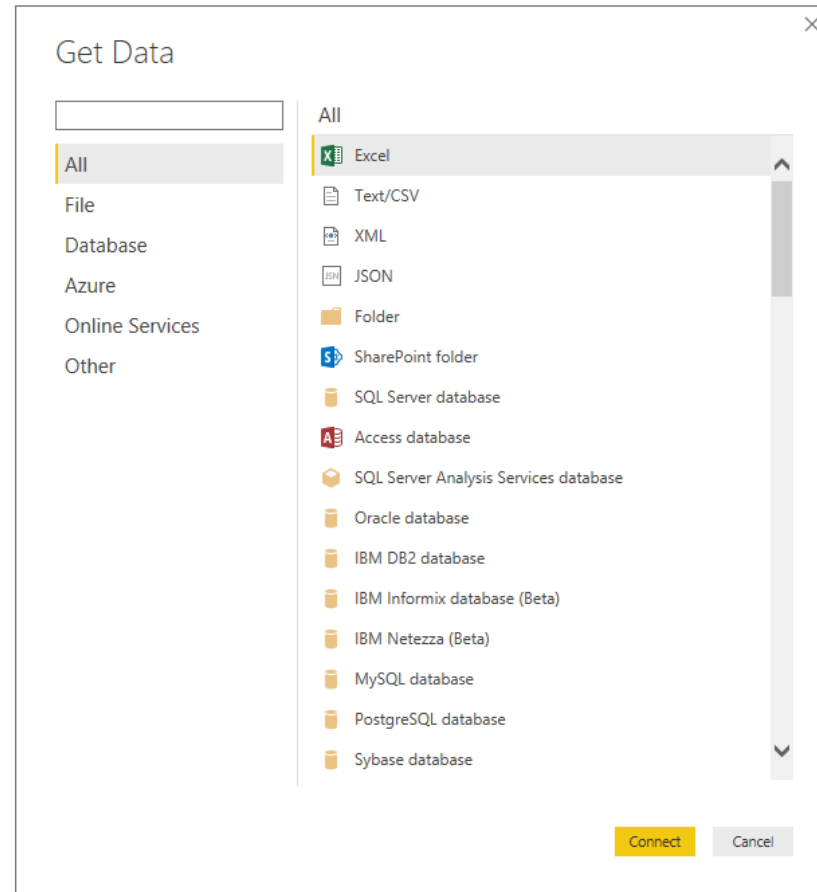
DirectQuery vs. Import [Oracle]





# Data Import Options

## Connecting to a Source



# Creating a Report

- Power BI Desktop Navigation
- Creating a Simple Report Using Power BI Application
- Examples of Using Custom Visuals

# Creating a Report

### Late Milestones

OBS Type: Corporate Department OBS | OBS Path: All

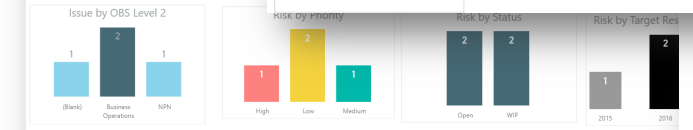
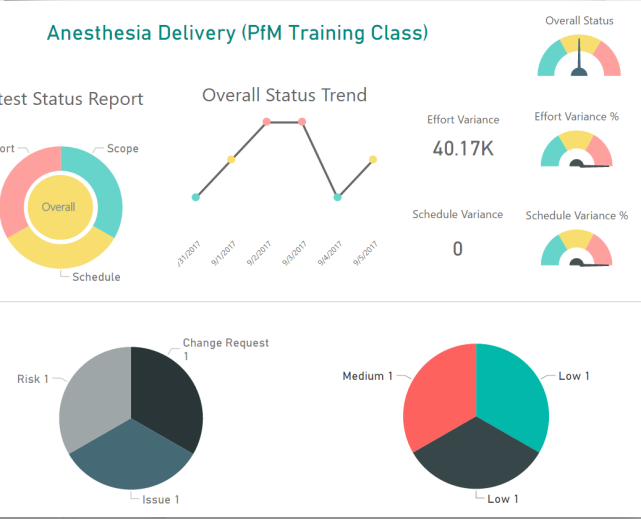
Investment ID	Investment Name	Milestone Name	Investment Manager	Status	Base Finish Date
PRS1000	A Fantastic Project (PfM Tr...	Analyze Phase Complete	Flanagan, Christopher	Not Started	Monday, April 20, 2017
PD1012	Atropa Retina Scan - Proj...	Business Case Complete and Go to Development	Miles, Paul	Not Started	Monday, August 14, 2017
PD1002	Aurascopic JIA - Project	Business Case Complete and Go to Development	Miles, Paul	Not Started	Monday, August 14, 2017
PD1003	Brightlight 3000 - Project	Business Case Complete and Go to Development	Miles, Paul	Not Started	Friday, October 9, 2017
PD1009	Diagnostic ECG - Project	Business Case Complete and Go to Development	Angelo, Michael	Not Started	Thursday, September 14, 2017
PD1015	Echo Cardiography 3000 - ...	Business Case Complete and Go to Development	Angelo, Michael	Not Started	Thursday, September 14, 2017
PD1010	Hourscopic Imaging 1000 - ...	Business Case Complete and Go to Development	Miles, Paul	Not Started	Tuesday, August 11, 2017
PD1004	Magnisia 4000 - Project	Business Case Complete and Go to Development	Angelo, Michael	Not Started	Tuesday, August 11, 2017
PD1016	Molecular Imaging 4000 - ...	Business Case Complete and Go to Development	Angelo, Michael	Not Started	Tuesday, August 11, 2017
PD1014	Molecular Imaging 6000 - ...	Business Case Complete and Go to Development	Nunez, Angel	Not Started	Tuesday, August 11, 2017
PD1008	MIR 3000 - Project	Business Case Complete and Go to Development	Tennison, Peter	Not Started	Tuesday, August 11, 2017
PD1011	Nuclear Cardiology 2200 - ...	Business Case Complete and Go to Development	Angelo, Michael	Not Started	Tuesday, August 11, 2017
PD1005	PET Rn - Project	Business Case Complete and Go to Development	Craig, Allen	Not Started	Tuesday, June 9, 2017
PD1006	Sonara XT - Project	Business Case Complete and Go to Development	Miles, Paul	Not Started	Tuesday, August 11, 2017
PD1013	Ultrasound V4500 - Project	Business Case Complete and Go to Development	Angelo, Michael	Not Started	Tuesday, August 11, 2017
PD1007	Vidium 2000 - Project	Business Case Complete and Go to Development	Craig, Allen	Not Started	Monday, November 13, 2017
PR1006	2015 eCommerce Portal Pt...	Closing Phase Gate Complete	Ajya, Vishal	Not Started	Friday, February 19, 2016
PR1001	4G Upgrade Readiness	Closing Phase Gate Complete	Reed, Henry	Not Started	Tuesday, September 13, 2016
PR1016	Automated Security Enhanc...	Closing Phase Gate Complete	Berks, Paul	Not Started	Thursday, September 13, 2016

Select OBS Type  
Corporate Department OBS  
Organizational

Select OBS  
 Product Development | NPN

Select Project  
 (Blank)  
 2015 eCommerce Portal Proposal  
 2015 Finance Management Applicati...  
 2015 Infrastructure Improvements  
 2015 Lean Six Sigma Project  
 2015 Mobile Advertising  
 2015 New Product Development  
 2015 Professional Services Catalog  
 2015 Restructure Architecture virtual ...  
 2015 Security Compliance  
 2015 Spring Franchise Manager Rele...  
 4G Upgrade Readiness

Select RIC Status  
 Open



Investment Name	Issue Name	Investment Manager	Issue ID	Owner	Target Resolution Date	Status	Priority
KL CWB Project 1234	a'spodjgajdg	Lockwood, Karl	IS1092	Lockwood, Karl	Wednesday, April 27, 2016	WIP	Low
CLR Demo Project	new issue from the risk	Rice, Christi	IS1094	Rice, Christi	Monday, April 24, 2017	Open	Medium
JH Project-Financial Mgmt Overview	Risk 1 to Issue 1	Hoaldridge, Jon	IS1091	Hoaldridge, Jon	Thursday, February 11, 2016	WIP	High
Anesthesia Delivery (PfM Training Class)	Test Issue Objectives from Risk	Tennison, Peter	IS1090	Joshi, Navdeep	Friday, October 23, 2015	Open	Low



Investment ID	Issue ID	Issue Name	Target Resolution Date	Probability	Priority
PR1052	IS1089	Requirements to be freed on time		Low	Low
PN1011	IS1090	Test Issue Objectives from Risk	23-Oct-15	Low	Low
PR1083	IS1091	Risk 1 to Issue 1	11-Feb-16	High	High
PR1094	IS1092	a'spodjgajdg	27-Apr-16	Low	Low
PR1165	IS1094	new issue from the risk	24-Apr-17		Medium

### All Risks

Target Resolution Date: 10/10/2015 - 4/24/2017

OBS Type: Business Transformation Group  
Corporate Department OBS  
Corporate Location OBS  
Organizational

Risk Count: 11

Risk by Priority:

Risk by Status:

Risk by Target Resolution Date:

Investment ID	Investment Name	Risk Name	Investment Manager	Risk ID	Owner	Status	Priority	Target Resolution Date
PN1011	Anesthesia Delivery (PfM Training Class)	Test Risk Objectives	Tennison, Peter	RS1077	Joshi, Navdeep	Open	Medium	Friday, October 23, 2015
PR1016	Automated Security Enhancements	Key Resource not available	Berks, Paul	RS1073	Administrator, System	Open	High	Saturday, October 10, 2015
PR1052	Test-MK	Requirements to be freed on time	Administrator, System	RS1074	Administrator, System	Open	High	Tuesday, October 13, 2015
					Administrator, System	Open	Medium	Tuesday, October 13, 2015
					Hoaldridge, Jon	Open	High	Thursday, February 11, 2016
					Hoaldridge, Jon	Closed	Low	Thursday, February 11, 2016
					Calderson, Mandy	Open	High	Friday, June 3, 2016
					Rice, Christi	WIP	Medium	Monday, April 24, 2017
					Administrator, System	Open	High	Friday, November 10, 2015
					Administrator, System	Open	Low	Tuesday, November 10, 2015

Task Performance:

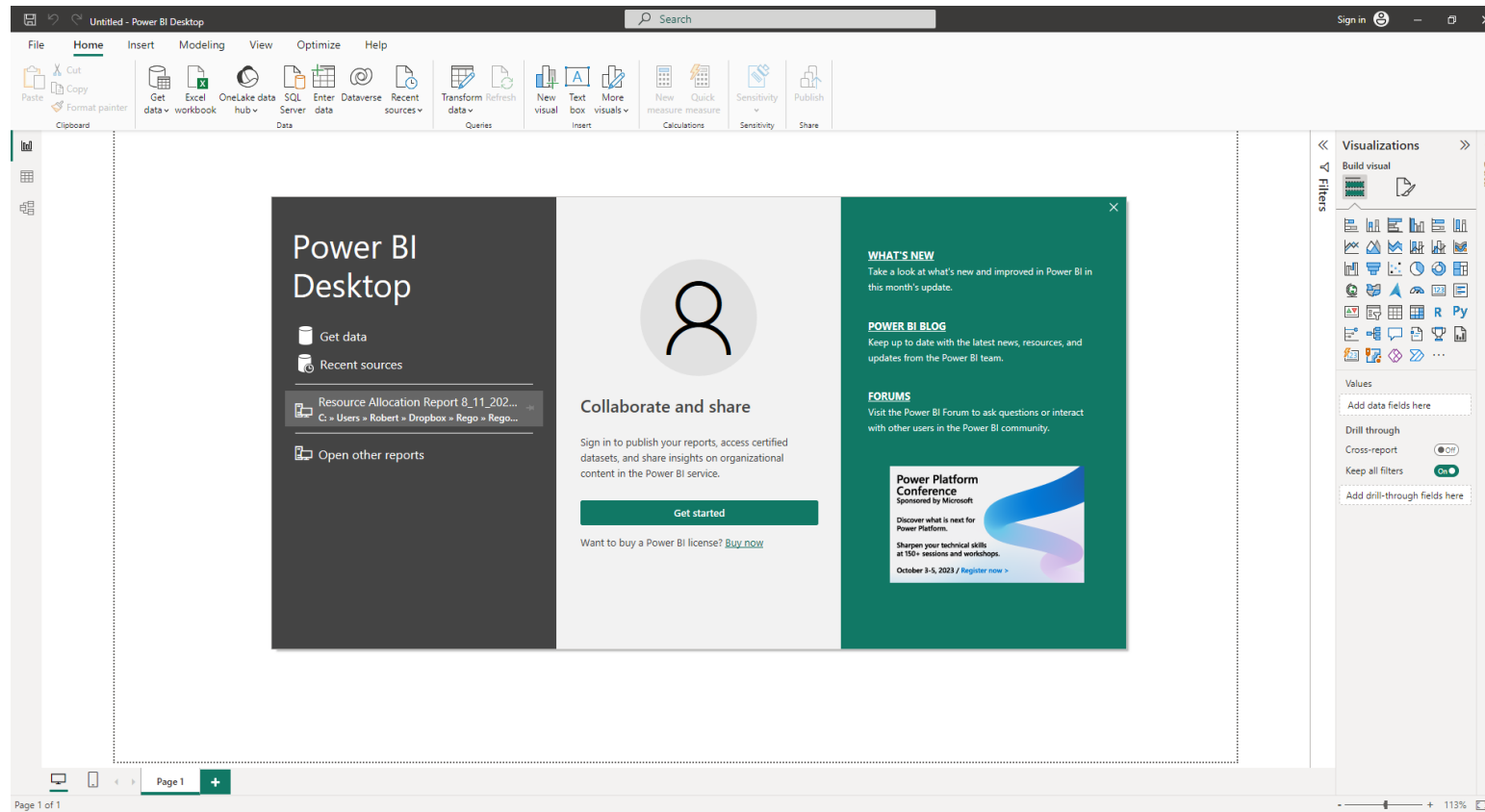
Timesheet Performance:

Allocation by Type:

Investment ID	Risk ID	Risk Name	Target Resolution Date	Probability	Priority
PR1016	RS1073	Key Resource not available	10-Oct-15	Low	High
PR1052	RS1074	Requirements to be freed on time	13-Oct-15	Medium	High
PR1052	RS1075	Resource availability	13-Oct-15	High	Medium
PN1011	RS1077	Test Risk Objectives	23-Oct-15	High	Medium
PRS1000	RS1078	Low Risk Sample	10-Nov-15	Low	Low
PRS1000	RS1079	Medium Risk Sample	10-Nov-15	Medium	Medium
PRS1000	RS1080	High Risk Sample	10-Nov-15	High	High
PR1083	RS1082	Risk 1	11-Feb-16	Medium	High

# Creating a Report

## Power BI Desktop Navigation



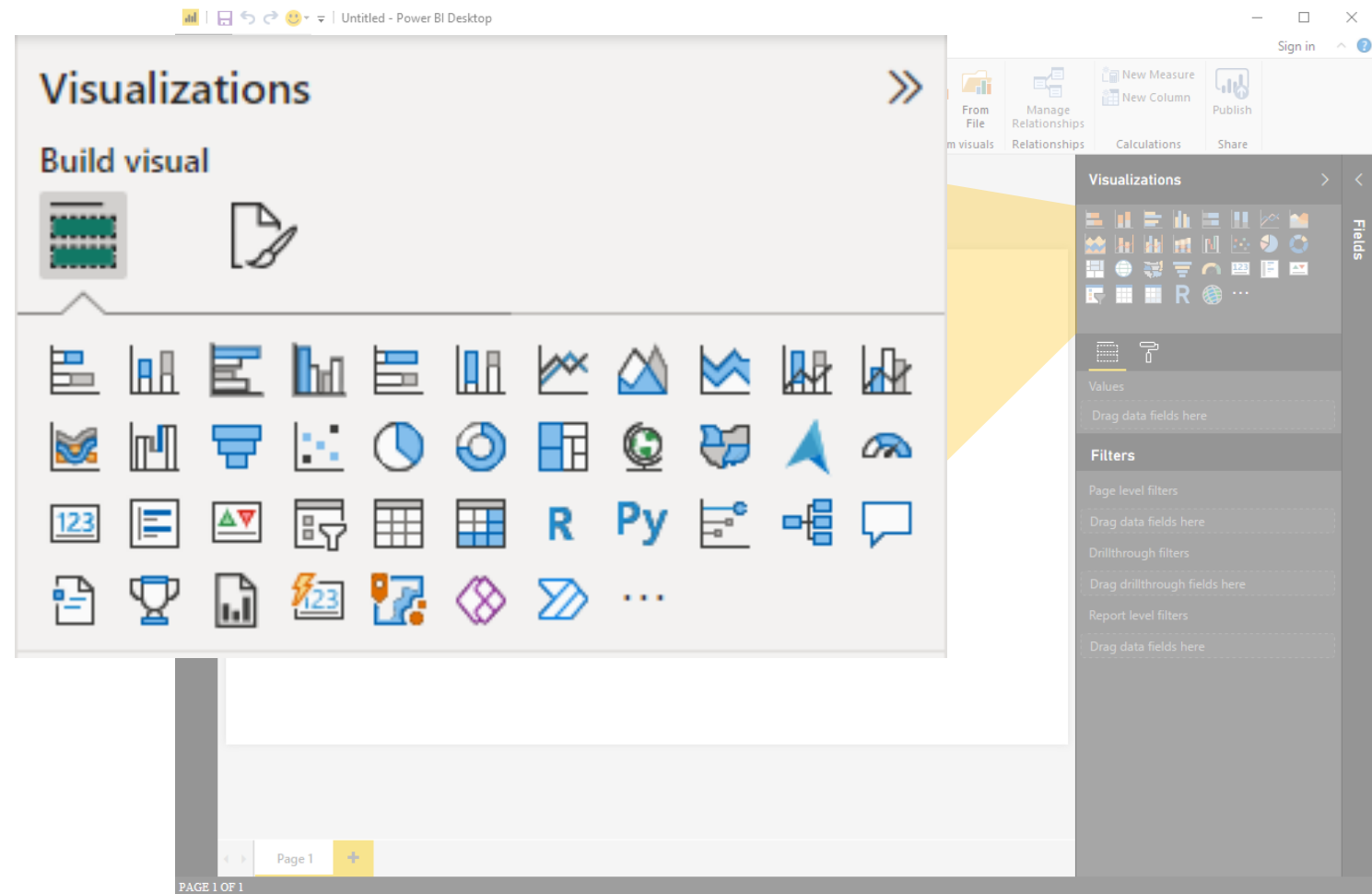


# Reports and Dashboards

## Dashboard Components

### Chart Visualizations

- Bar chart
- Column chart
- Line chart
- Area chart
- Pie chart
- Combo chart
- Bubble chart
- Scatter chart
- Donut chart
- Gauge chart
- Funnel chart
- Waterfall chart



# Visuals

## Examples of Custom Visuals

**Visualizations** >>

**Build visual**

Get more visuals

- Import a visual from a file
- Remove a visual
- Restore default visuals

Value

Add

Drill

Cross

Keep all filters

Add drill-through fields here

**Power BI visuals**

By clicking 'Add' and/or 'Download Sample' and downloading a visual, you agree to the provider's Terms and Conditions and Privacy Policy on the visual's page and agree Microsoft can share your account details to provider for their transactional purposes. Use of Microsoft's AppSource is subject to the [Microsoft Commercial Marketplace Terms](#) and [Privacy Statement](#).

All visuals Organizational visuals AppSource visuals

Search

Explore all available visuals to magnify your business insights [Learn more](#)

Filter by All

Sort by Popularity

<p>Zebra BI Cards Zebra BI ★★★★★(17)</p>	<p>Drill Down Combo ... ZoomCharts ★★★★★(10)</p>	<p>Sunburst by Power... TRUVIZ INC ★★★★★(5)</p>	<p>accoPLANNING Ent... Accobat AS ★★★★★(11)</p>	<p>Shielded HTML Vie... Nova Silva ★★★★★(1)</p>
<p>Advanced Trellis / S... xViz LLC ★★★★★(5)</p>	<p>Text Filter Microsoft Corporation ★★★★★(177)</p>	<p>SuperTables Apps for Power BI ★★★★★(5)</p>	<p>Chiclet Slicer Microsoft Corporation ★★★★★(240)</p>	<p>Timeline Slicer Microsoft Corporation ★★★★★(239)</p>
<p>different</p>	<p>Tree</p>	<p>Power K</p>	<p>Blue circle</p>	<p>Grey bar</p>

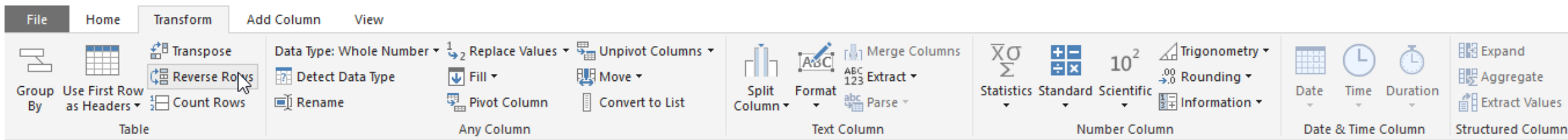
# Data Transformation

- Data Transformation Components
- Data Modeling

# Data Transformation

## Data Transformation Components

- Use first row as header
- Split the field or concatenate fields
- Replace values null with blanks
- Group data
- Pivot/unpivot columns
- Aggregate functions
- Format columns

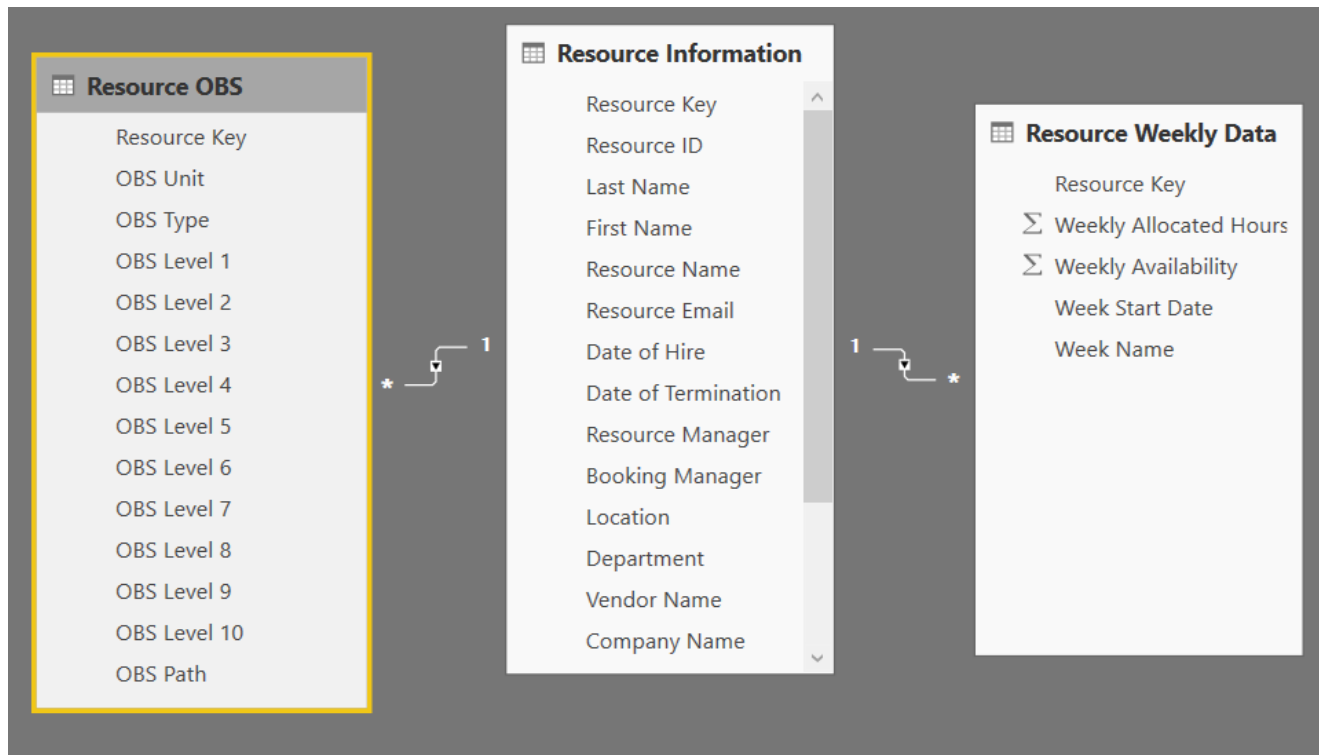




# Data Transformation

## Data Modeling

- Import multiple tab from Excel or Create multiple queries
- Join the tables

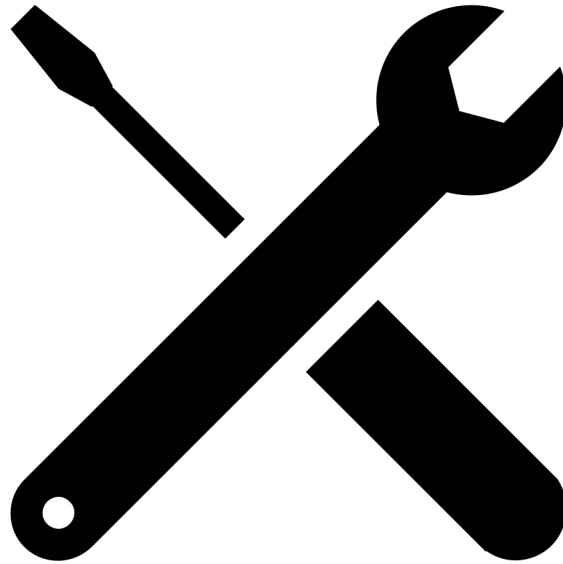


# Data Transformation - Advanced

- Creating your Own M Script
- M Script Examples

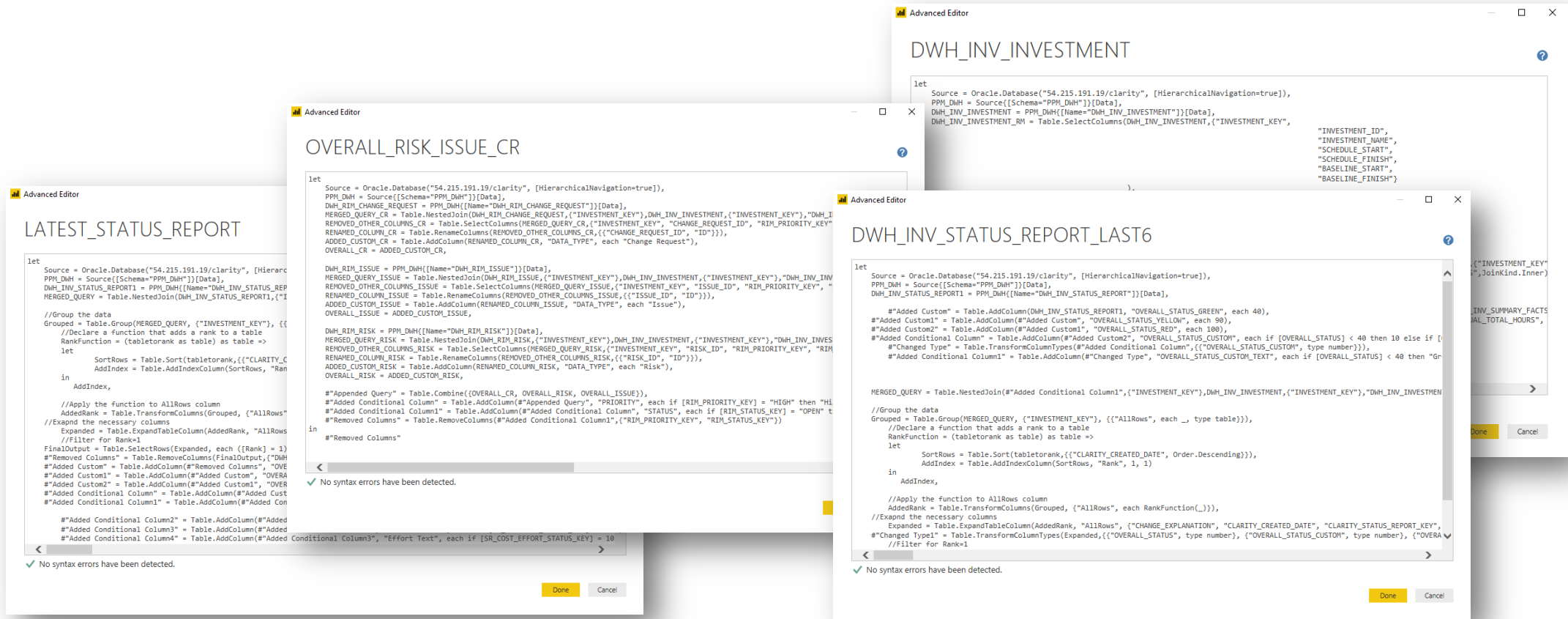
# Data Transformation - Advanced

Creating your own M script for your next advanced report



# Data Transformation - Advanced

## M Script Examples





# Questions?





# Surveys

Please take a few moments to fill out the class survey.  
Your feedback is extremely important for future events.



# Thank You For Attending regoUniversity

## Instructions for PMI credits

- Access your account at pmi.org
- Click on **Certifications**
- Click on **Maintain My Certification**
- Click on **Visit CCR's** button under the **Report PDU's**
- Click on **Report PDU's**
- Click on **Course or Training**
- Class Provider = **Rego Consulting**
- Class Name = **regoUniversity**
- Course **Description**
- Date Started = **Today's Date**
- Date Completed = **Today's Date**
- Hours Completed = **1 PDU per hour of class time**
- Training classes = **Technical**
- Click on **I agree** and **Submit**



Let us know how we can improve!  
Don't forget to fill out the class survey.



### Phone

888.813.0444



### Email

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### Website

[www.regouniversity.com](http://www.regouniversity.com)