

# Introducing the Power BI Platform



# Student Background

- What is your name?
- What are you doing with Power BI?
- Which products have you used
  - Access
  - Excel
  - SQL Server, SSRS, SSAS
  - Others



# Agenda

- Understanding the Power BI Platform
- Creating a Trial Office 365 Tenant for Testing
- Creating Datasets, Reports and Dashboards
- Understanding Power BI Licensing
- Staying in Sync with Monthly Updates



# What is Business Intelligence?

- BI focuses on business health and performance
  - Gather insights into health of business processes
  - Take corrective actions in a timely fashion
- BI projects typically involve the following...
  - Integrate data from multiple sources
  - Perform data transformation and complex calculations
  - Analyze large data sets with rapid query response
  - Create insightful reports and visualizations
  - Provide insights that are “actionable”



# How is the BI Software Industry Changing?

- Software industry is experiencing new proliferation of data
  - Number of telemetry devices is increasing exponentially
  - Device-generated data is providing new business opportunities
  - Example: Uber has used geolocation data to disrupt taxi industry
- Traditional BI and analytics models are being disrupted
  - New analytics capabilities available with new types of data sources
  - Data discovery and unstructured data analytics are new frontiers
  - Demand for self-service BI tools are on the rise
  - Balance of power shifting from IT to business divisions



# What is Power BI?

- What is Power BI?
  - Cloud-based subscription service
  - Environment which promotes self-service BI *to the end user*
  - BI Platform to assists with data import, analysis and visualization
- Power BI benefits from being a cloud-based service
  - It takes only 5 seconds to subscribe to the Power BI service
  - New users can create something significant in 5 minutes or less
- Power BI adoption numbers *(as of Q1 2016)*
  - 5 million subscribers
  - 200,000 organizations
  - 40 different languages





# Power BI Benefits from Microsoft Azure

- Power BI is built on top of Microsoft Azure
  - Power BI solutions can be scaled as required
  - Power BI solutions have global reach



# The Power BI Service

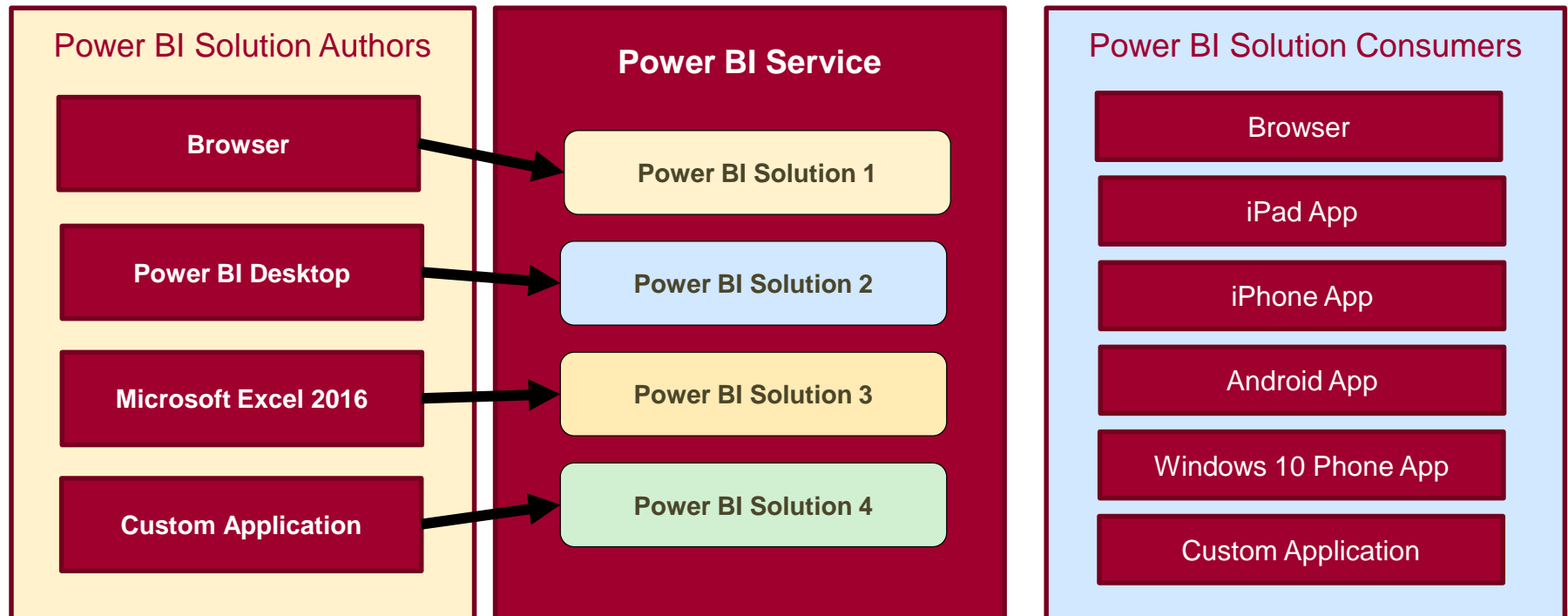
- The Power BI Service
  - Provides cloud-based foundation for Power BI platform
  - Accessible through browser at <https://app.powerbi.com>



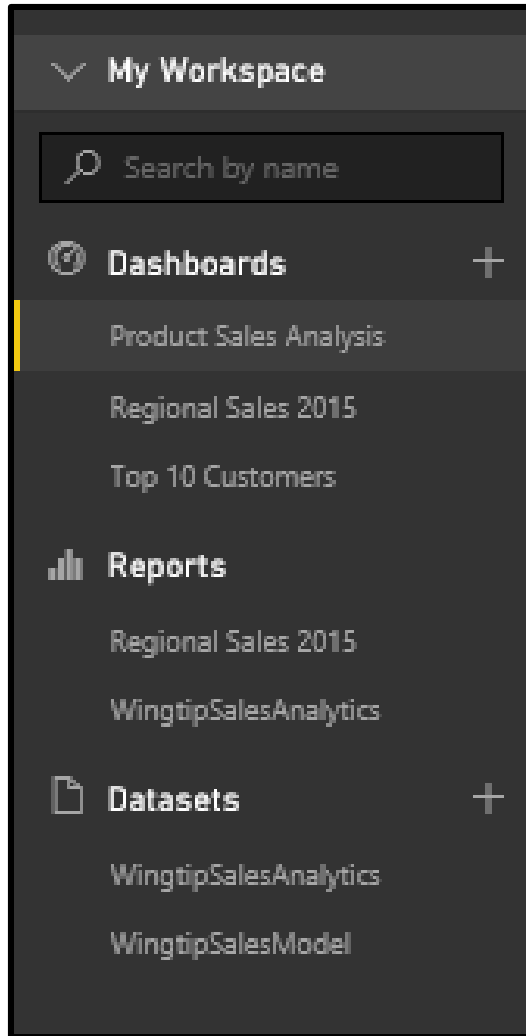


# Power BI Service Architecture

- Power BI support for authors and consumers
  - BI solution authors have a choice in authoring tools
  - BI solutions consumers can use wide range of devices



# Central Power BI Concepts



- **Workspace**
  - Provides user context and asset container
  - Every user has personal workspace
  - Team development requires group workspaces
- **Dashboard**
  - Consolidated view into reports and datasets
  - Custom solution entry point for mobile users
- **Report**
  - Collection of pages with tables & visualizations
  - Provides interactive control of filtering
- **Dataset**
  - Data model containing one or more tables
  - Can be very simple or very complex



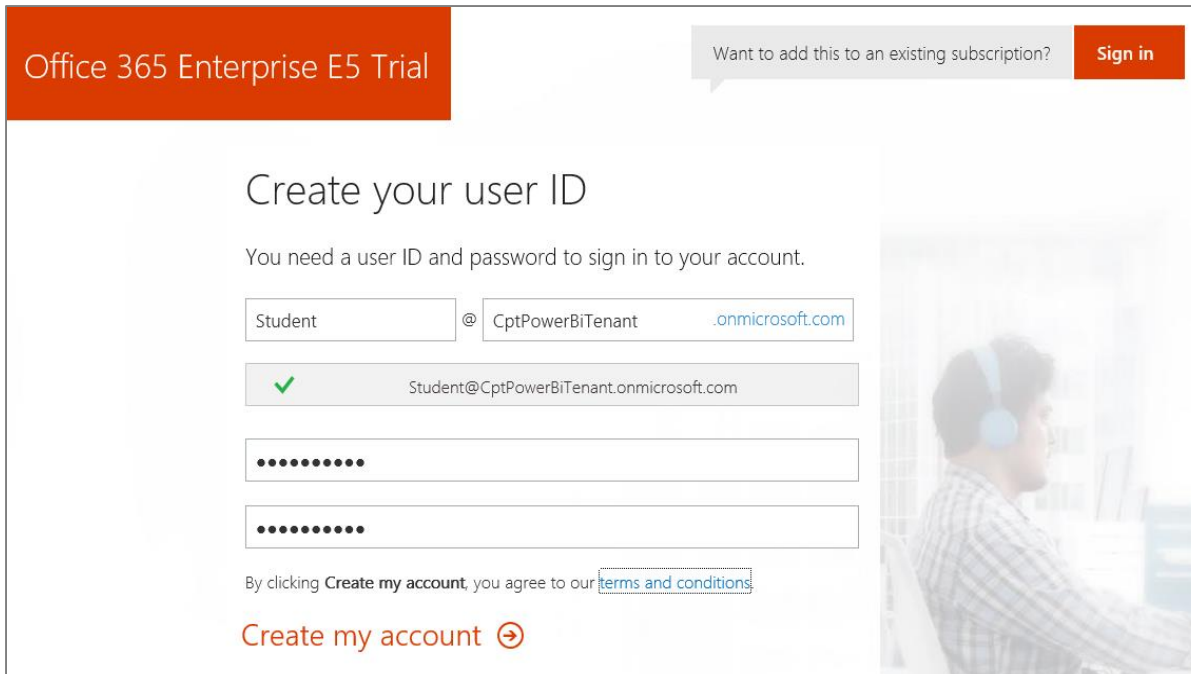
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# Creating a Power BI Testing Environment

- Sign up for an Office 365 Enterprise E5 trial account
  - Creates a new Office 365 tenant
  - Creates an account which is tenant administrator
  - You can create 25 user accounts for testing purposes
  - You can create and test Office 365 unified groups



The screenshot shows the 'Office 365 Enterprise E5 Trial' sign-up page. At the top left, there is an orange banner with the text 'Office 365 Enterprise E5 Trial'. To the right of this banner, there is a grey box with the text 'Want to add this to an existing subscription?' and an orange 'Sign in' button. The main heading is 'Create your user ID'. Below this, it says 'You need a user ID and password to sign in to your account.' There are two input fields: the first contains 'Student' and the second contains 'CptPowerBiTenant.onmicrosoft.com'. Below these fields, there is a green checkmark icon and the text 'Student@CptPowerBiTenant.onmicrosoft.com'. There are two more input fields, both containing dots, representing password fields. At the bottom, it says 'By clicking Create my account, you agree to our [terms and conditions](#)'. Below this, there is an orange 'Create my account' button with a right arrow icon. On the right side of the page, there is a blurred image of a person wearing a headset and working at a computer.



# Office 365 admin center

- Chores to accomplish in Office 365 admin center
  - Learn how to add secondary user accounts for testing
  - Learn how to view and manage groups

The screenshot displays the Office 365 Admin Center interface. The top navigation bar includes the Office 365 logo, the text 'Office 365', and 'Admin center preview'. On the right of the top bar are icons for notifications, settings, and help. The left sidebar contains a navigation menu with options: Home, Users (expanded), Active users (selected), Contacts, Deleted users, Data migration, Groups, and Resources. The main content area is titled 'Home > Active users' and includes a breadcrumb trail. Below the title, there are controls for adding users, a 'More' dropdown, a filter dropdown set to 'All users', a search bar, and an 'Export' button. A table lists active users with columns for checkboxes, display names, user names, and status. Two users are listed: James Bond and Ted Pattison, both with Office 365 Enterprise E5 status. Below the table, there are three informational cards: '+ User' (explaining that users are people in the organization), 'Types of users' (explaining different user types), and 'Filters' (explaining how filtering helps manage the list).

Office 365 Admin center preview

Home > Active users

Power BI Bootcamp Labs

+ Add a user More Filters All users Search Export

<input type="checkbox"/>	Display name ^	User name	Status
<input type="checkbox"/>	James Bond	JamesB@PowerBiBootcamp.onmicrosoft.com	Office 365 Enterprise E5
<input type="checkbox"/>	Ted Pattison	Student@PowerBiBootcamp.onmicrosoft.com	Office 365 Enterprise E5

+ User Types of users Filters

Users are people in your organization who can access Office 365.

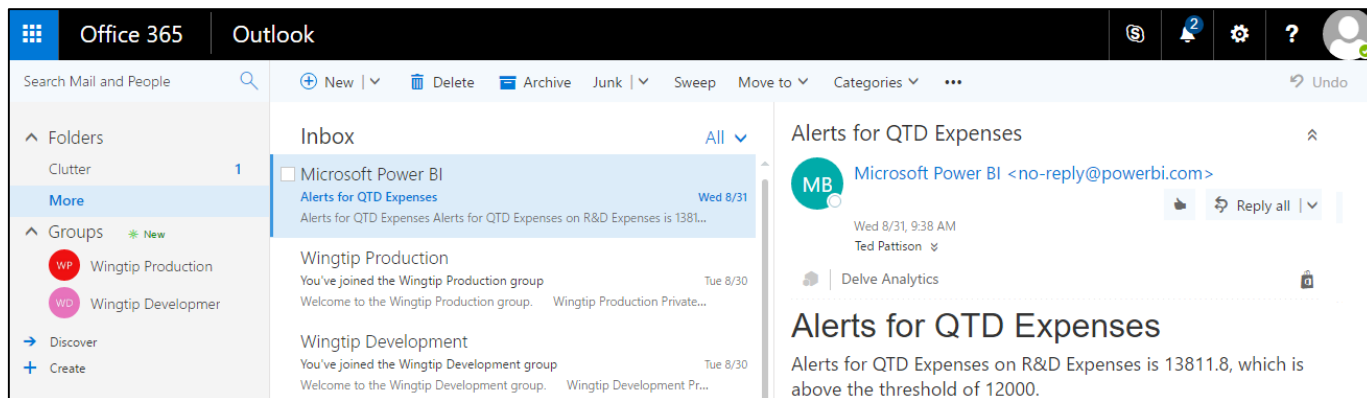
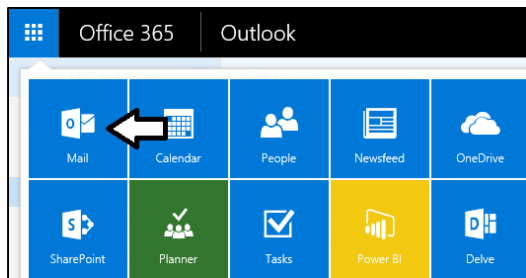
Different types of users and accounts can use Office 365 in distinct ways.

Learn how filtering will help you keep this list under control – before it gets too long.



# Accessing Your Office 365 Mailbox

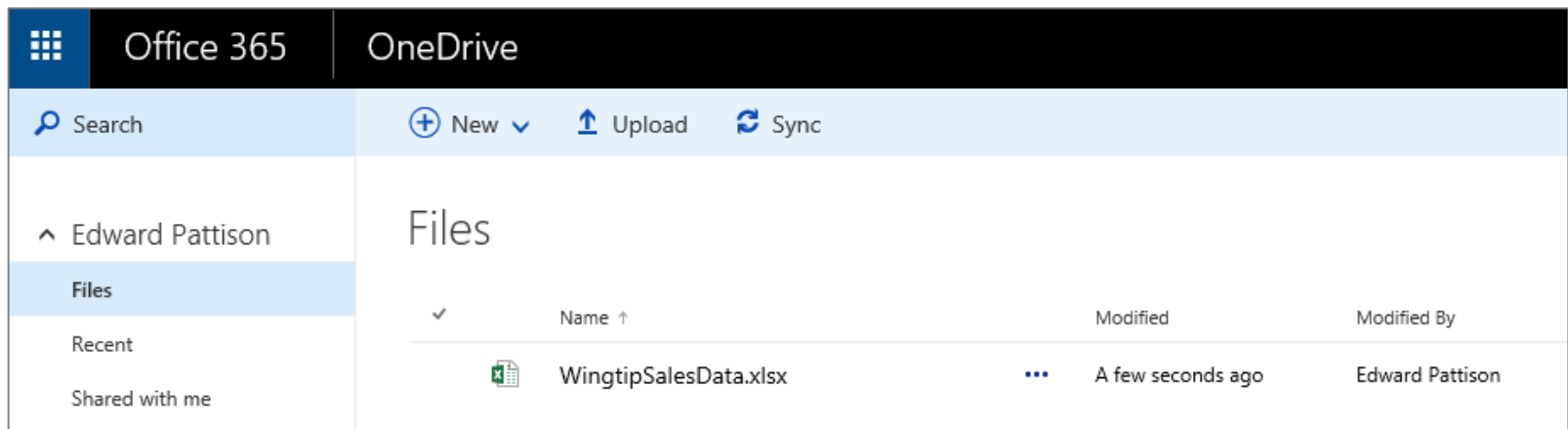
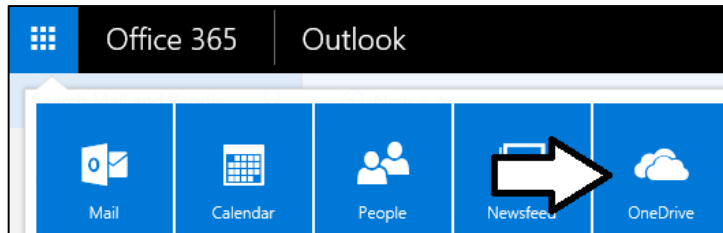
- Make sure you can access your Exchange Inbox
  - Accessible in browser using Outlook Web App (OWA)
  - View messages sent by Power BI service
  - View and interact with Office 365 groups





# Uploading Data Files to OneDrive for Business

- Preferred location for data files consumed by Power BI service
  - Excel workbooks
  - CSV files
  - PBIX files created using Power BI Desktop





**DEMO**

# **Managing Users and Subscriptions in the Office 365 admin center**

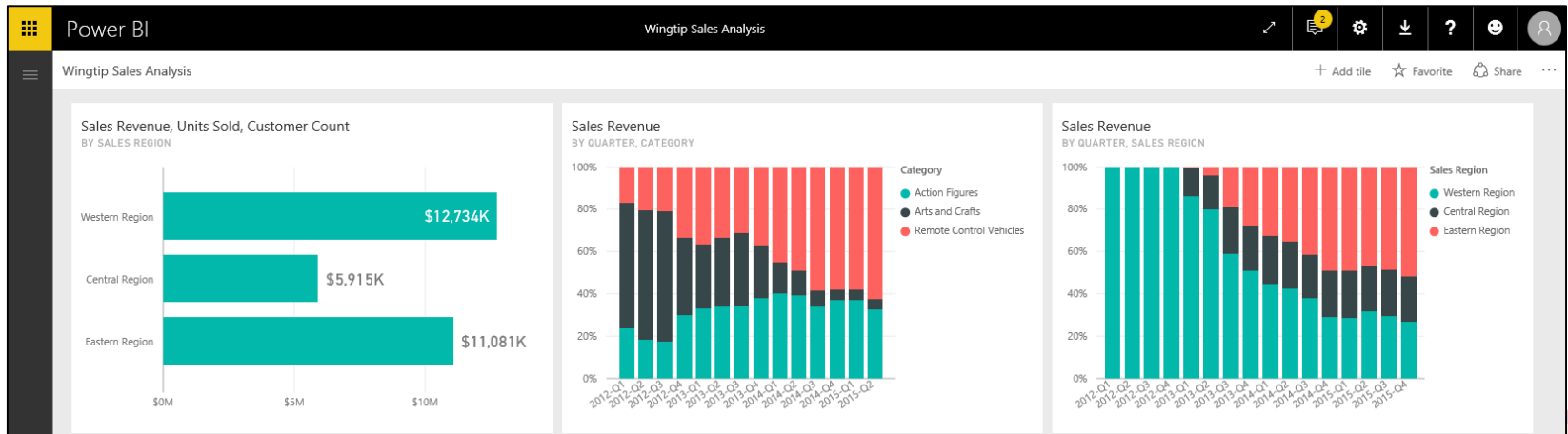
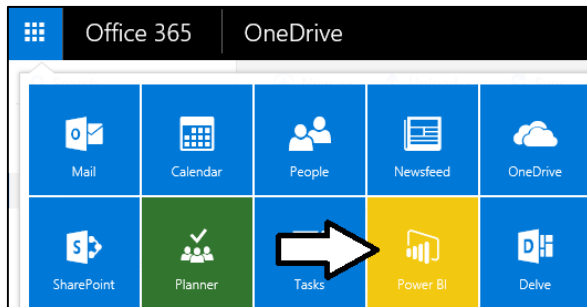
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# Navigating to the Power BI Service

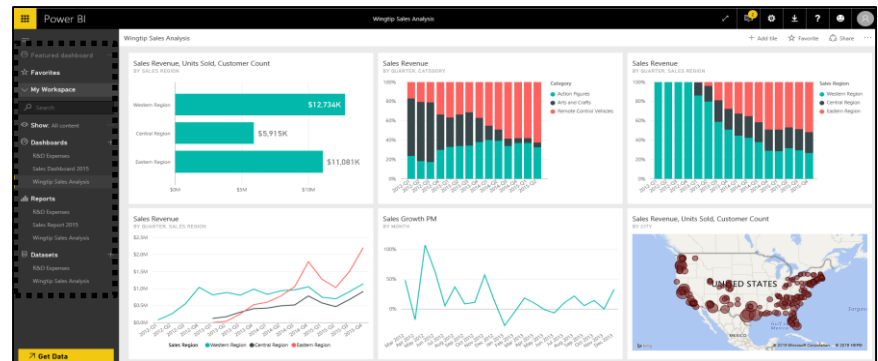
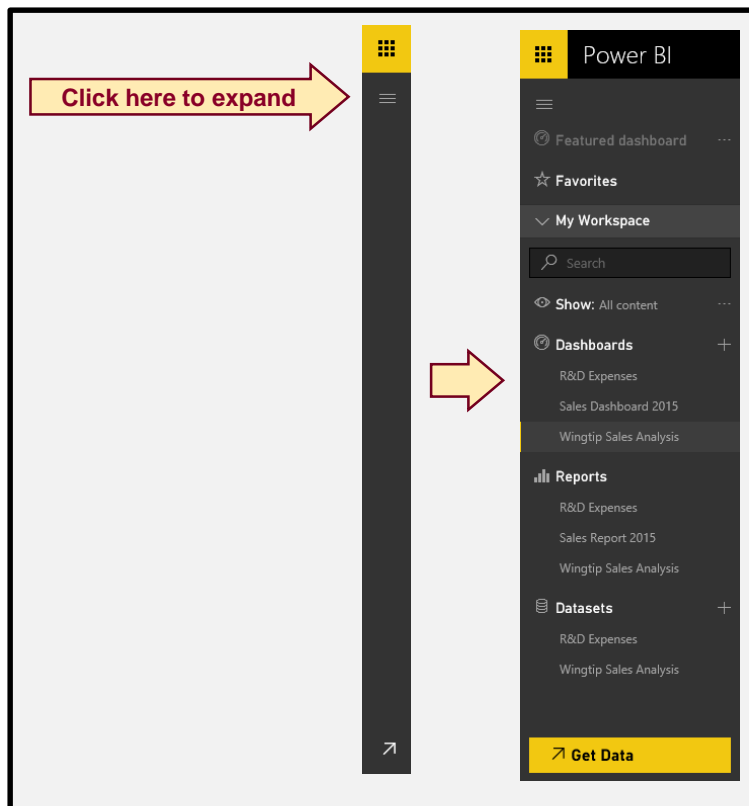
- Power BI service is accessible through browser
  - Logged in user runs in context of a specific workspace
  - Provides user with access to dashboards, reports and datasets





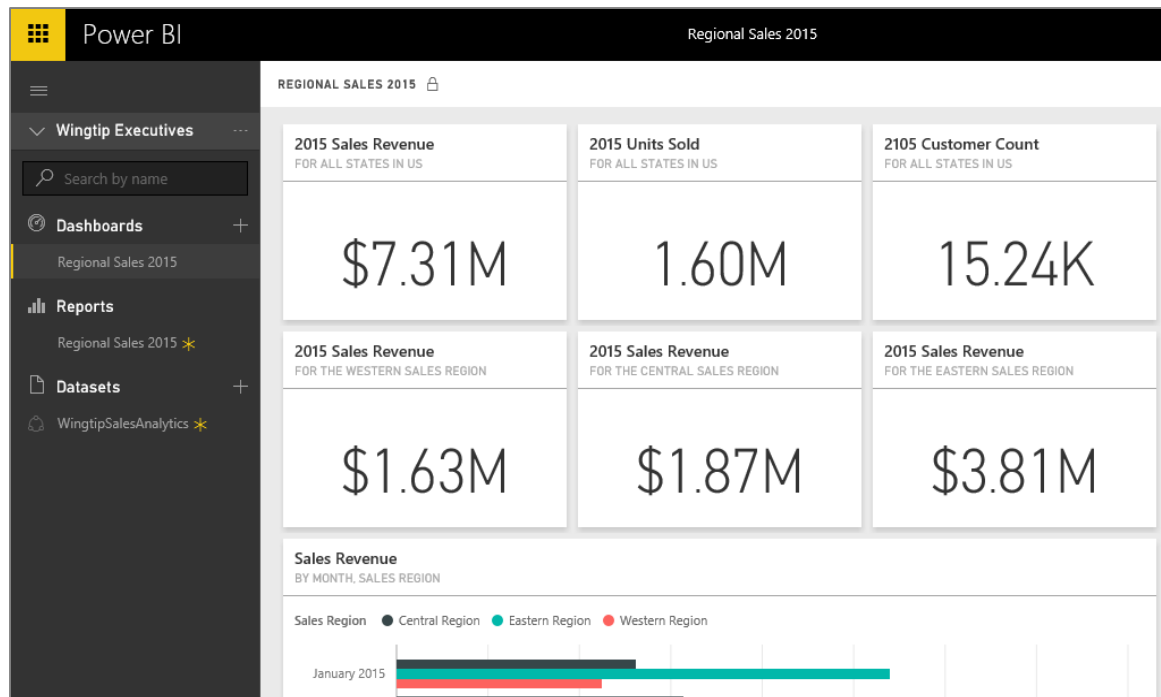
# The Left Navigation Pane

- Left flyout navigation menu is central to user experience
  - Displays links to visible dashboards, reports and datasets
  - Allows user to move between workspaces



# Dashboards and Tiles

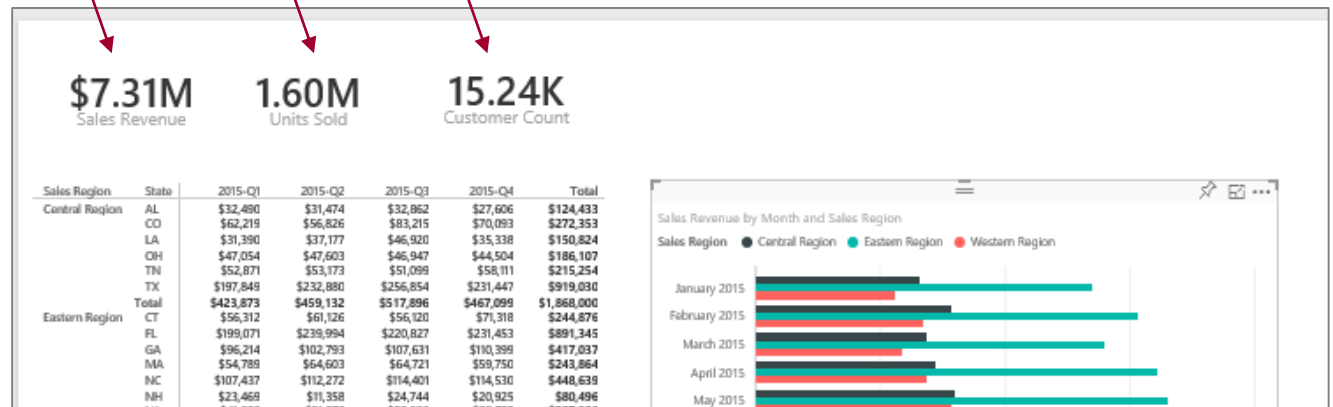
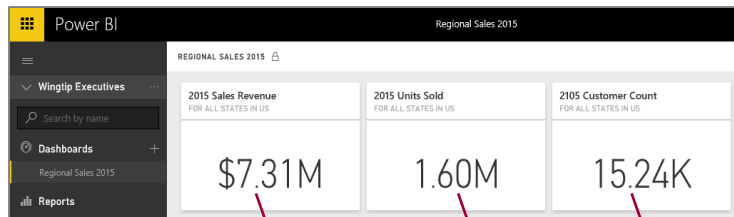
- Dashboard is a collection of tiles
  - Tile can be created by pinning visual from a report
  - Tile can be created by pinning query result from dataset





# Dashboards and Reports

- Dashboards link users to reports
  - Dashboard tiles designed to provide high-level view
  - Clicking tiles drills down into report to see more detail



# Reports and Pages

- Reports contain one or more pages
  - A report can be designed with a single page
  - A report can be designed with many pages
  - Tabbed navigation located at bottom of report view
  - Each report is associated with exactly one dataset



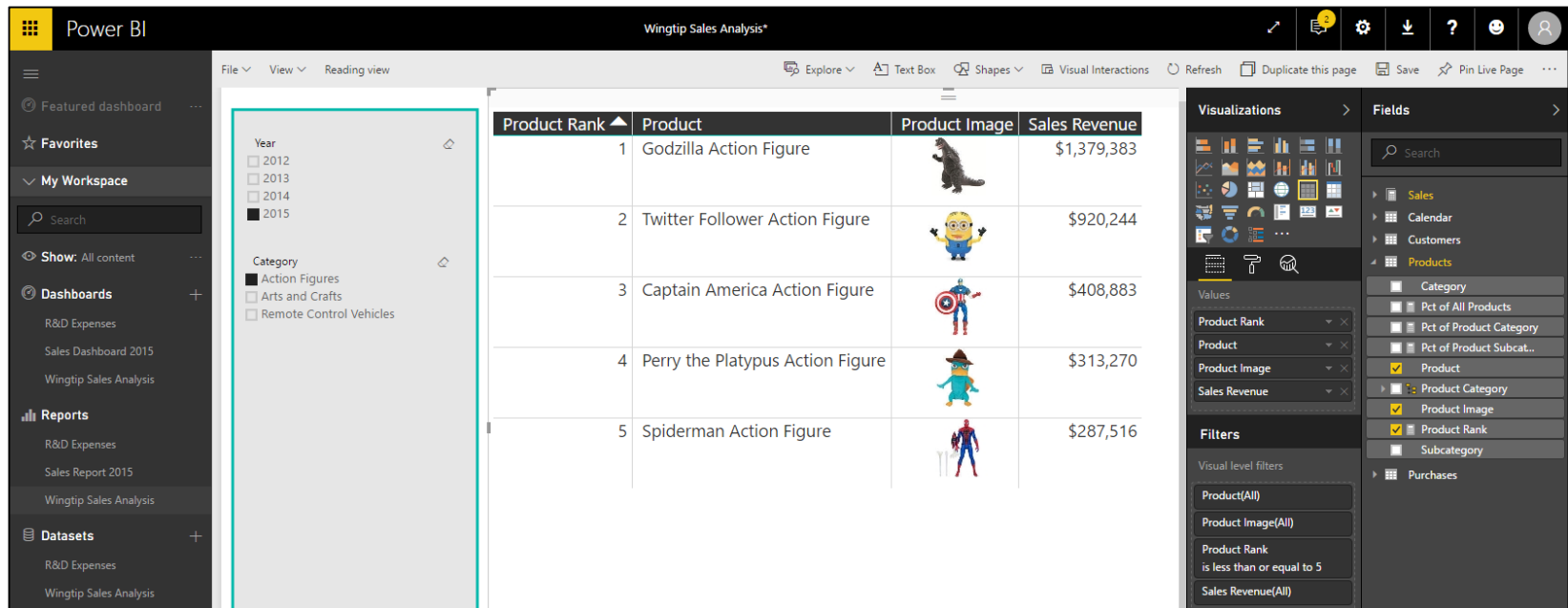




# Report Authoring

- Report initially opens in reading view
  - Click Edit report to switch to edit mode



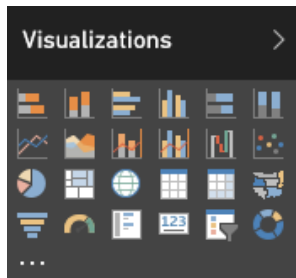
- Report design tools appear on right side of page

The image shows the Power BI report in edit mode. The left sidebar contains navigation options like 'Featured dashboard', 'My Workspace', 'Dashboards', 'Reports', and 'Datasets'. The main area displays a table of product sales data. The right sidebar shows the 'Visualizations' pane with various chart types and the 'Fields' pane with a list of data fields. The table data is as follows:

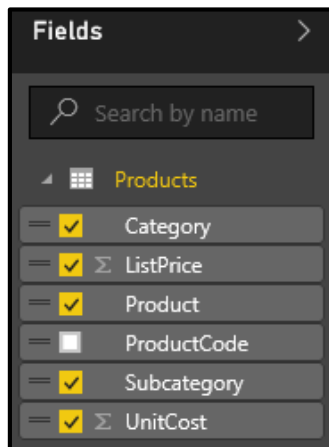
Product Rank	Product	Product Image	Sales Revenue
1	Godzilla Action Figure		\$1,379,383
2	Twitter Follower Action Figure		\$920,244
3	Captain America Action Figure		\$408,883
4	Perry the Platypus Action Figure		\$313,270
5	Spiderman Action Figure		\$287,516

# Visuals (aka Visualizations)

- Reports are designed using visual (aka visualizations)
  - Each visual is based on an underlying visualization type
  - Visualization type can be changed using **Visualizations** pane

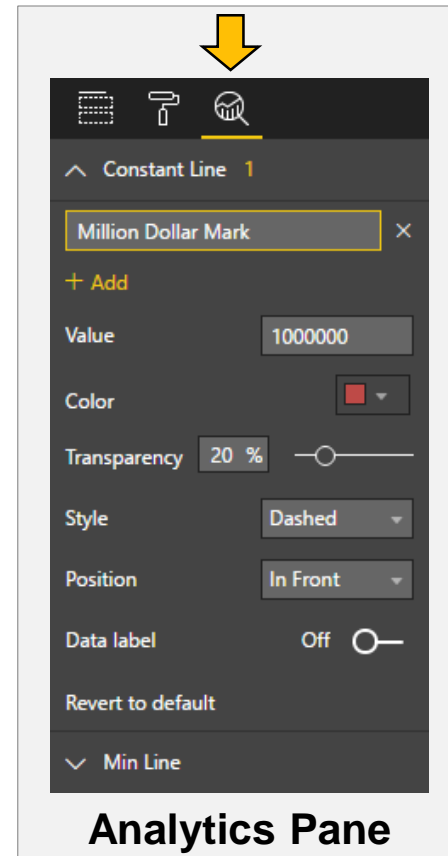
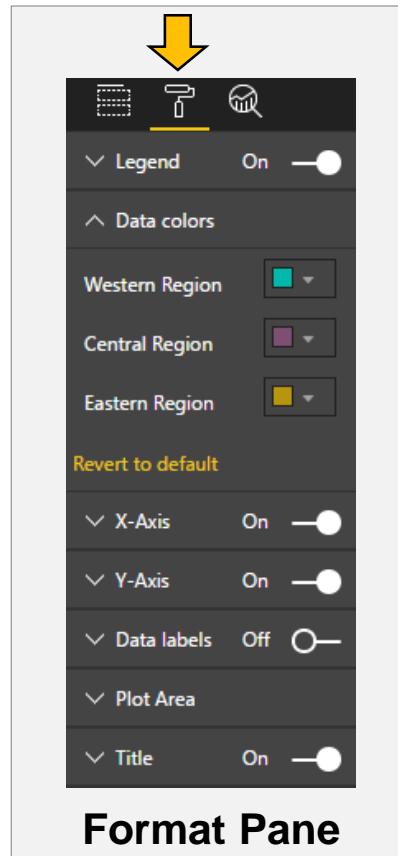
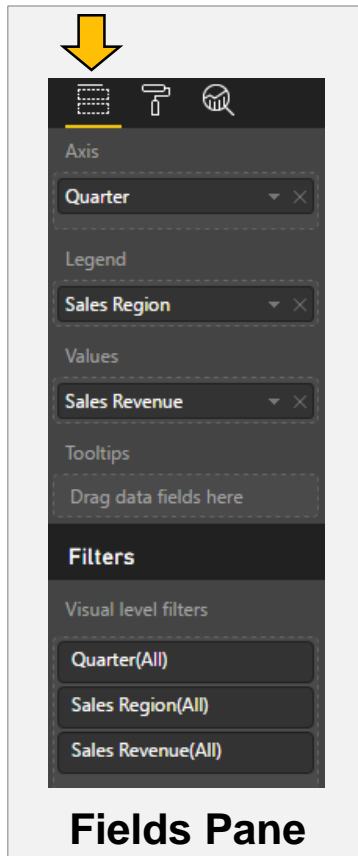


- Visuals creating by using fields from tables inside **Fields** list



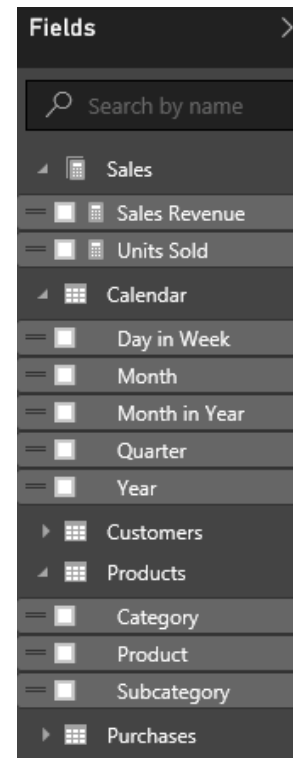
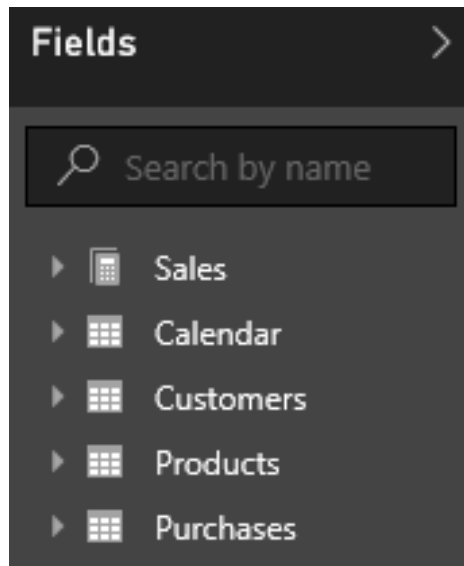
# Editing Visual Properties

- Visual properties modified using three property panes
  - Visual properties vary greatly depending on type of visualization



# Report and Datasets

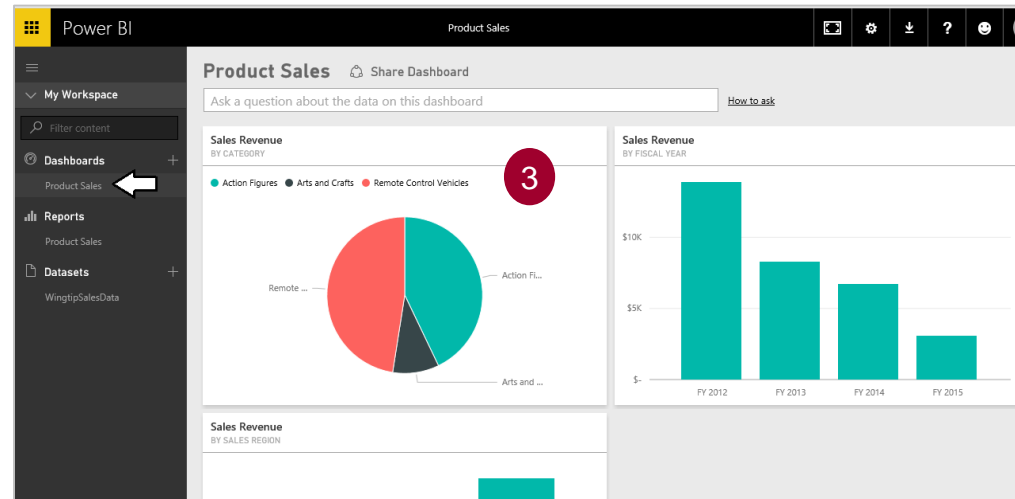
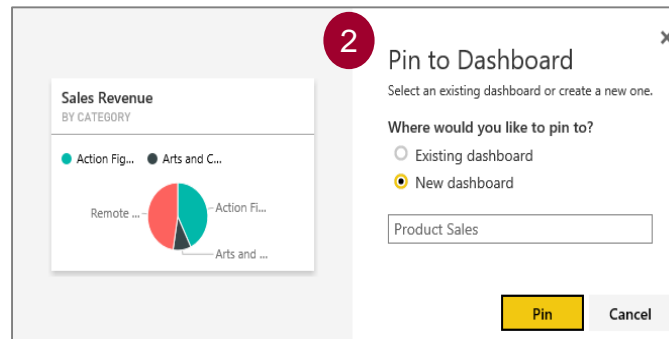
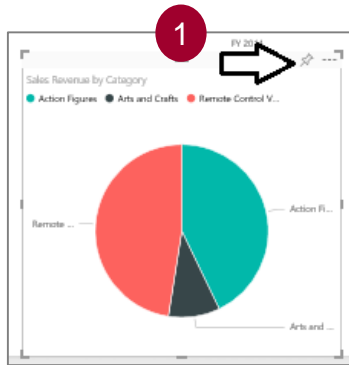
- Each report is based on an underlying dataset
  - **Fields** list in report designer shows tables and fields
  - Report author sees tables & fields as dataset consumer





# Creating Dashboards

- Dashboards contain tiles
- Tiles created from visuals on report pages





**DEMO**

# Getting started with Datasets, Reports and Dashboards

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# Power BI Standard versus Power BI Pro

- Power BI offer licenses for two different subscriptions
  - Standard license is free
  - Pro licenses is \$10 per month or free with Office 365 E5
  - Power BI pricing is much lower than the competition (e.g. Tableau)

	Power BI Standard	Power BI Pro
Data capacity limit	1 GB	10 GB
Incoming Data Streams	10K rows/hour	1M rows/hour
Ability to refresh a dataset	Daily	Hourly
Consume live data with interactivity	NO	YES
Access on-premises data with gateway	NO	YES
Use Group Workspaces	NO	YES
Use Organizational Content Packs	NO	YES
Use Row-level Security (RLS)	NO	YES
Access a DirectConnect Dataset	NO	YES





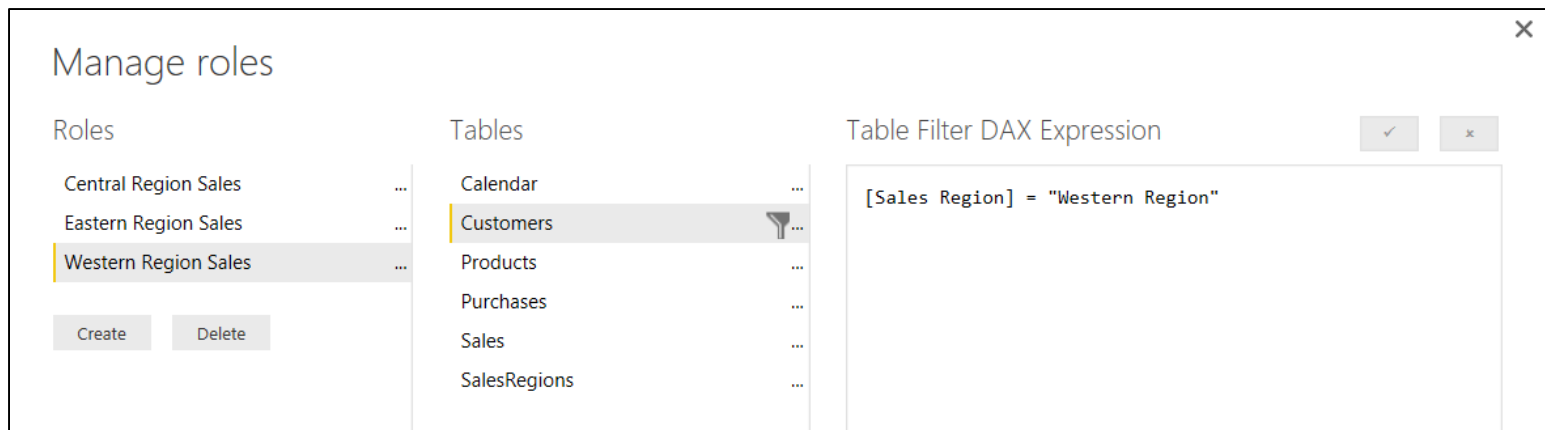
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# What Is Row-level Security (RLS)

- Security features for restricting user access
  - Introduced into preview in February of 2016
  - RLS feature set changed in summer of 2016
  - Configuring RLS now requires Power BI Desktop
  - RLS requires all users to have Power BI Pro license
  - This course covers RLS in Module 6 and Module 7





# Other Recent Updates to Power BI Platform

- Power BI Platform has added stream of new features
  - Predefined styles for tables and matrices
  - Conditional Formatting in Tables
  - Quick Calc
  - Customizable tooltips
  - Trend lines and constant lines
  - Conditional columns in queries
  - Drill actions in visuals
  - Built-in Date Hierarchies

State Name	Sales Revenue
Alabama	\$311,508
Arizona	\$1,515,935
California	\$5,255,912
Colorado	\$1,089,855
Connecticut	\$516,478
Florida	\$2,592,242
Georgia	\$1,490,282
Louisiana	\$467,227
Massachusetts	\$543,241
New Hampshire	\$233,917
New Jersey	\$530,241
New Mexico	\$843,054
New York	\$1,265,458
North Carolina	\$1,479,238
Ohio	\$461,127
Oregon	\$1,849,877
Pennsylvania	\$792,634
Rhode Island	\$193,897
South Carolina	\$439,328
Tennessee	\$781,212
Texas	\$3,894,374
Utah	\$393,729
Virginia	\$1,004,225
Washington	\$1,785,527
<b>Total</b>	<b>\$29,730,517</b>

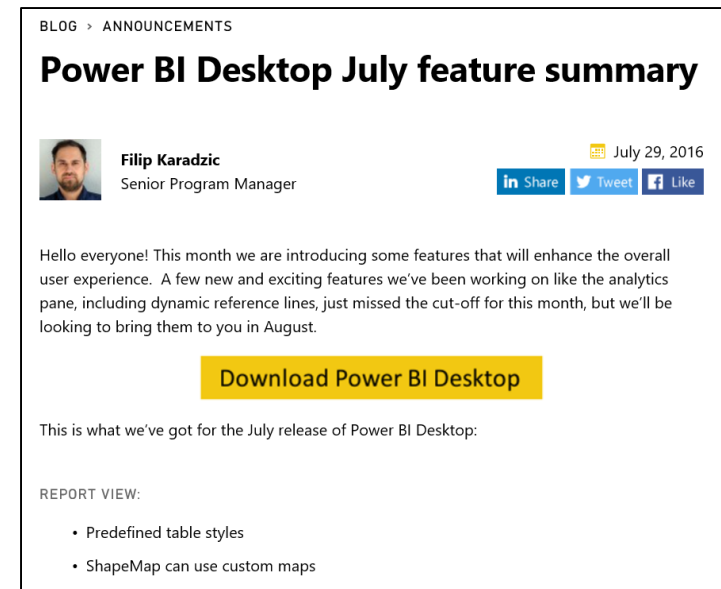
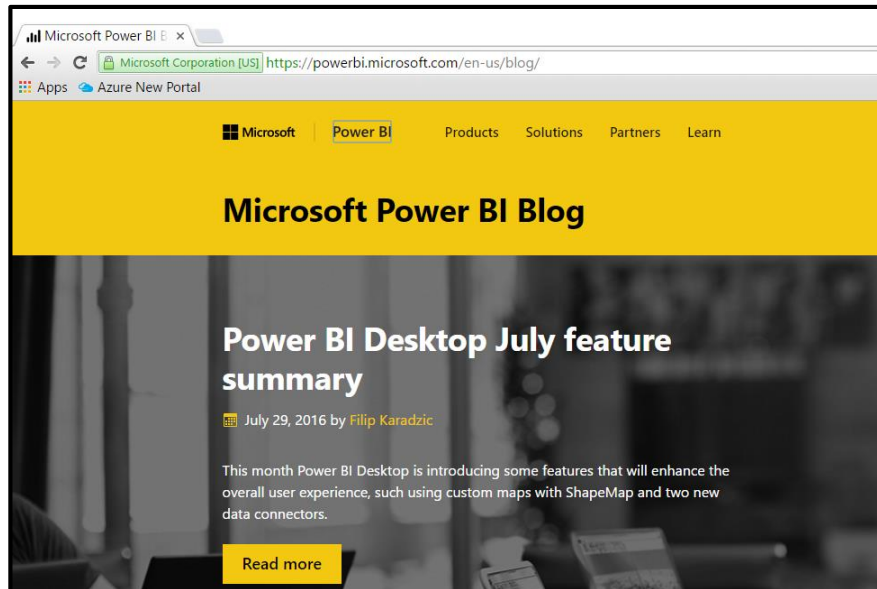


# Power BI Team Blog

- Power BI Team Blog is an Essential Resource

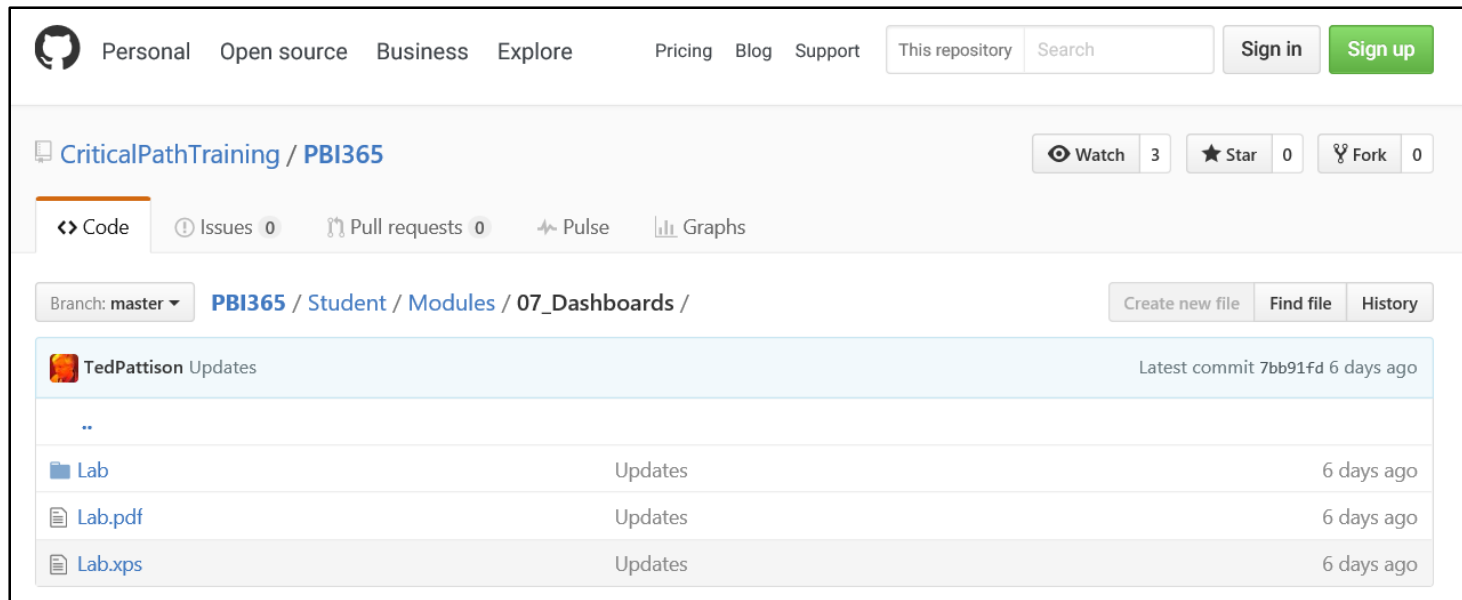
<https://powerbi.microsoft.com/en-us/blog/>

- Be on the lookout for monthly updates



# Live Labs for PBI365

- Student files for this course maintained in GitHub
  - Students files updated on a monthly basis
  - Lab write-ups available in PDF and XPS formats
  - Go to <https://github.com/CriticalPathTraining/PBI365>



# Summary

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