

# Introducing the Power BI Platform



# 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



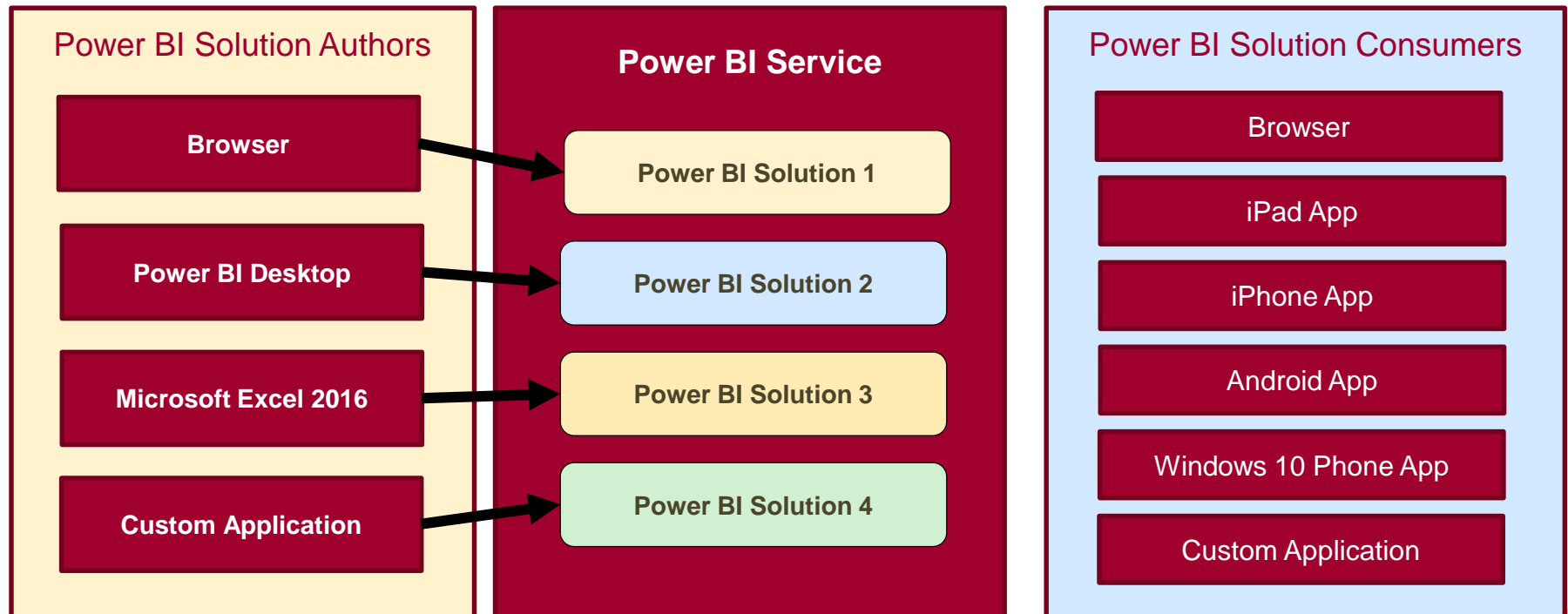
# The Power BI Service

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



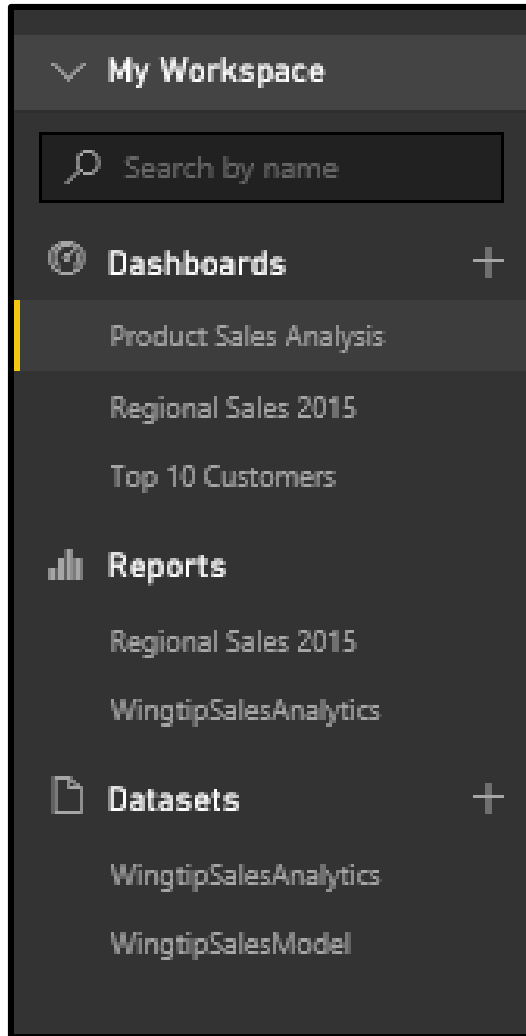
# Power BI Service Architecture

- 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



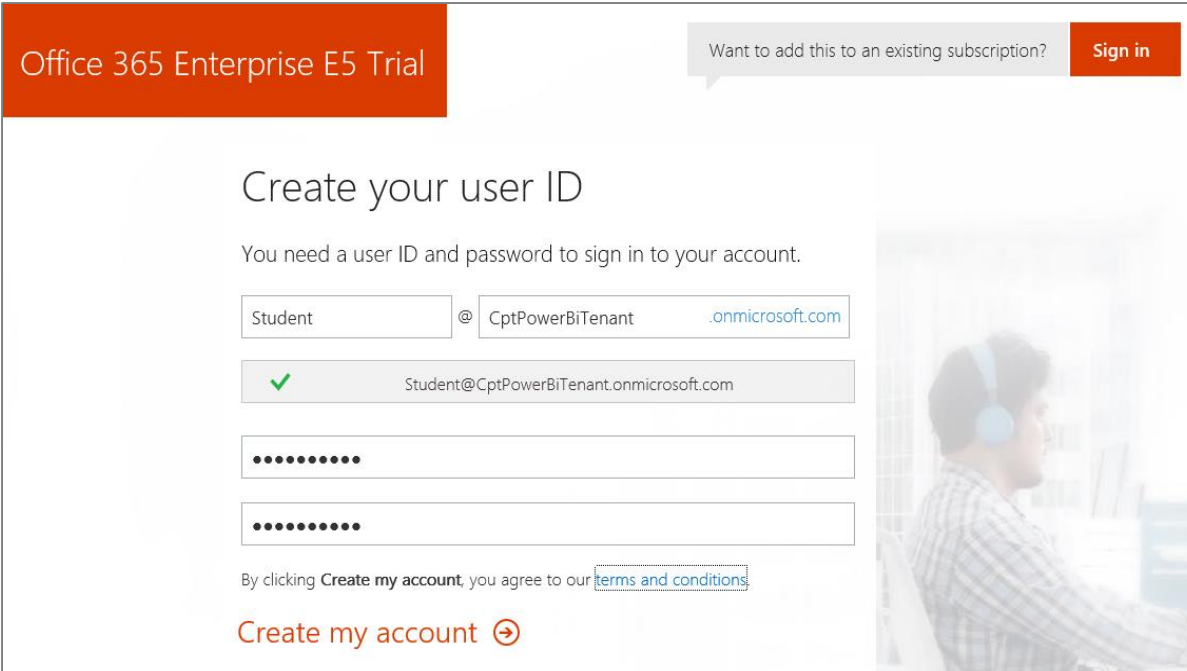
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# Creating a Power BI Testing Environment

- 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.' The form consists of several fields: a 'Student' field, an '@' symbol, a 'CptPowerBiTenant' field, and a '.onmicrosoft.com' field. Below these fields, there is a green checkmark icon and the text 'Student@CptPowerBiTenant.onmicrosoft.com'. There are two password fields, each with a series of dots for masking. At the bottom, there is a link to 'terms and conditions' and a 'Create my account' button with a right-pointing arrow.

Office 365 Enterprise E5 Trial

Want to add this to an existing subscription? [Sign in](#)

## Create your user ID

You need a user ID and password to sign in to your account.

Student @ CptPowerBiTenant .onmicrosoft.com

✓ Student@CptPowerBiTenant.onmicrosoft.com

.....

.....

By clicking **Create my account**, you agree to our [terms and conditions](#)

**Create my account** ➔



# 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

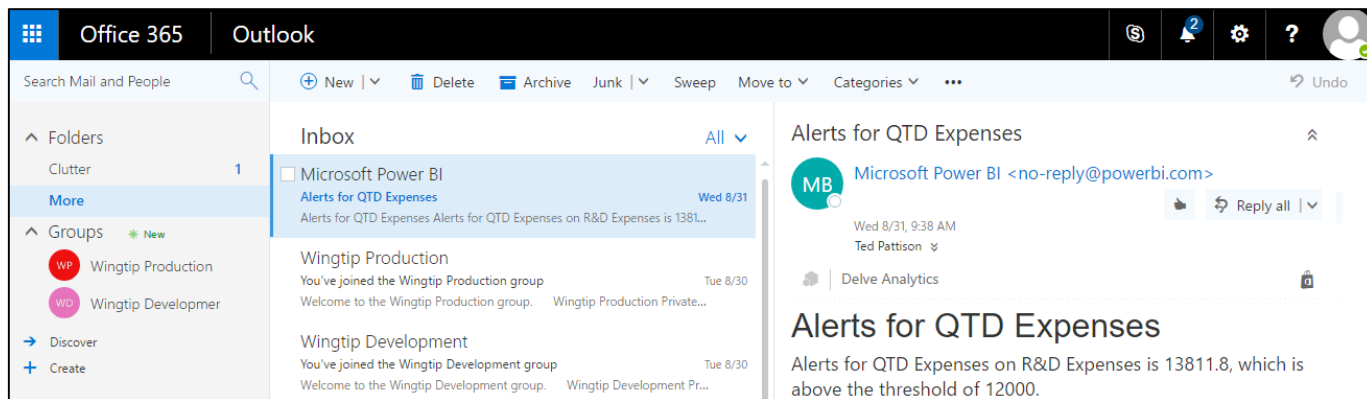
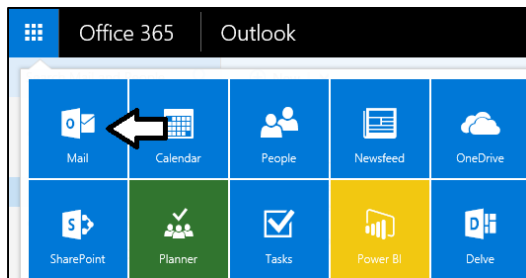
The screenshot displays the Office 365 Admin Center interface. The left-hand navigation pane includes links for Home, Users, Active users (selected), Contacts, Deleted users, Data migration, Groups, and Resources. The main content area is titled 'Home > Active users' and shows a list of active users. At the top of the list, there are buttons for '+ Add a user', 'More', and 'Filters', along with a search bar and an 'Export' button. The user list has columns for 'Display name', 'User name', and 'Status'. Two users are listed: James Bond and Ted Pattison, both with the status 'Office 365 Enterprise E5'. Below the list, there are three informational cards: '+ User' (explaining that users are people in the organization), 'Types of users' (explaining that different user types can use Office 365 in distinct ways), and 'Filters' (explaining how filtering helps keep the list under control).

	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



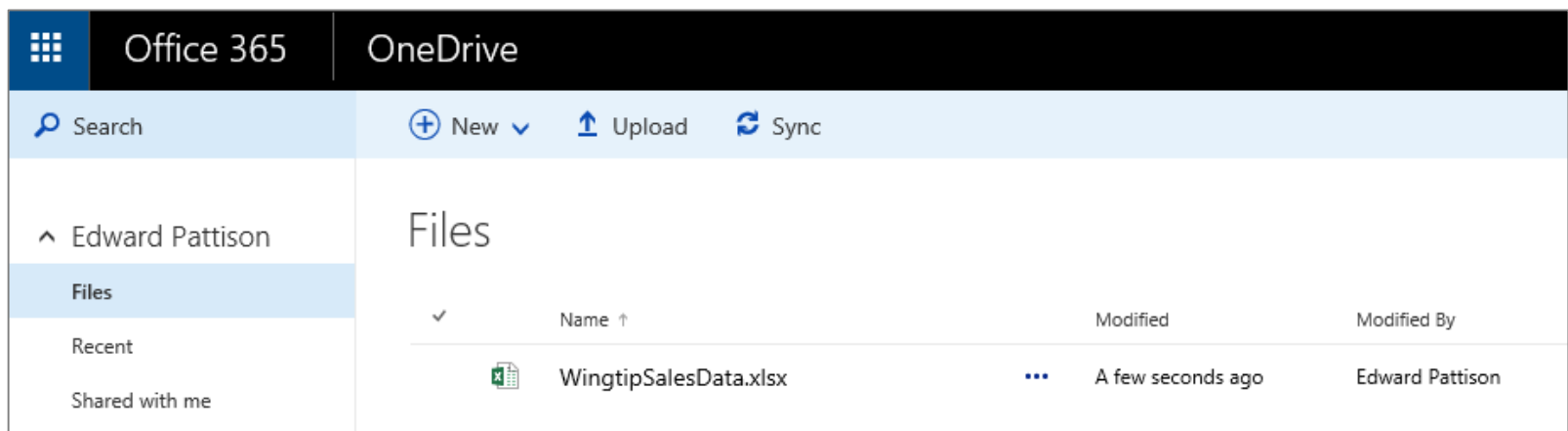
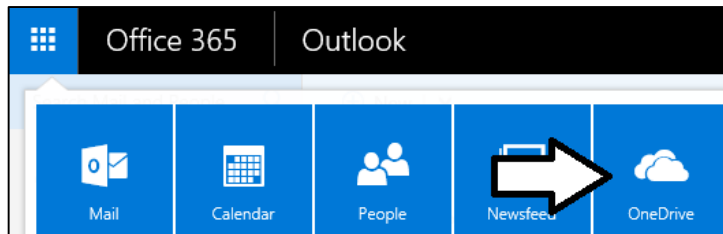
# Accessing Your Office 365 Mailbox

- 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**

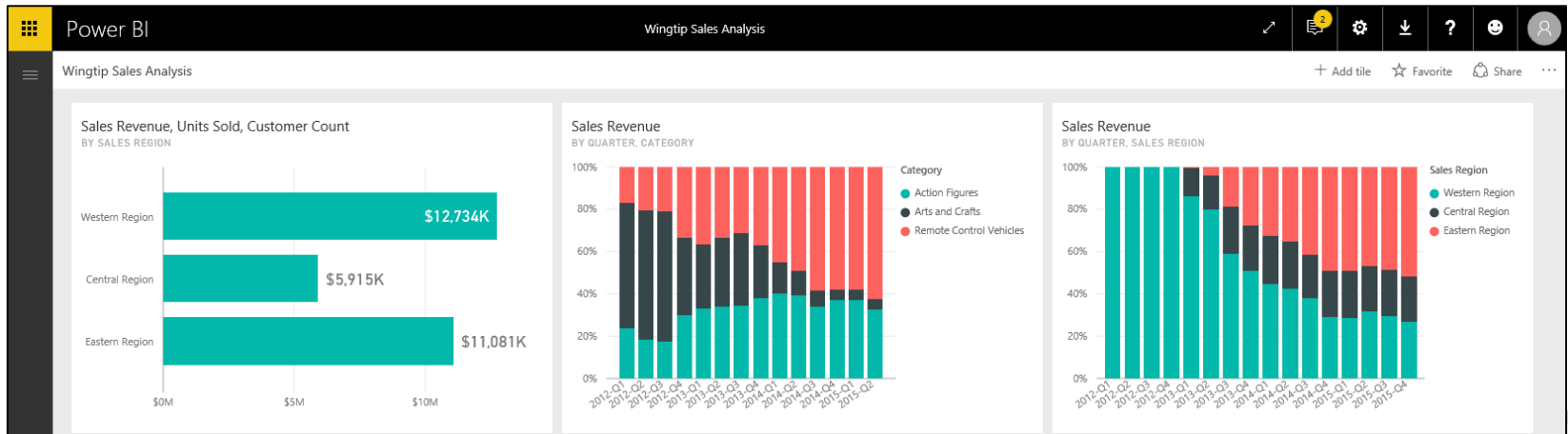
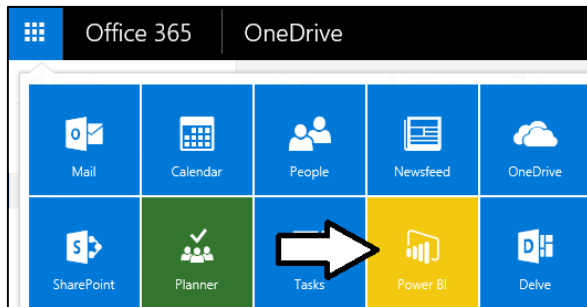
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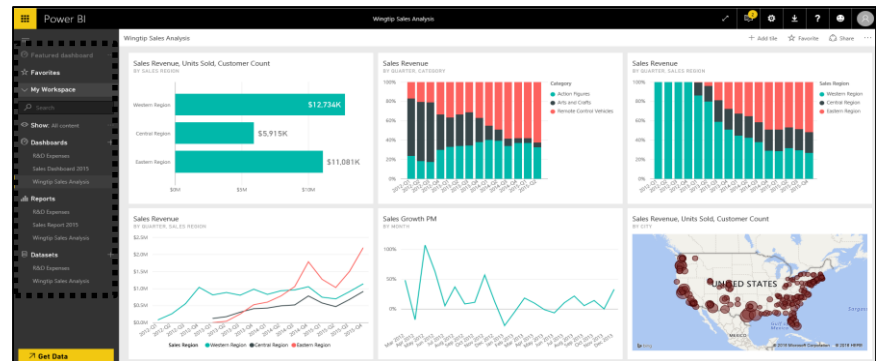
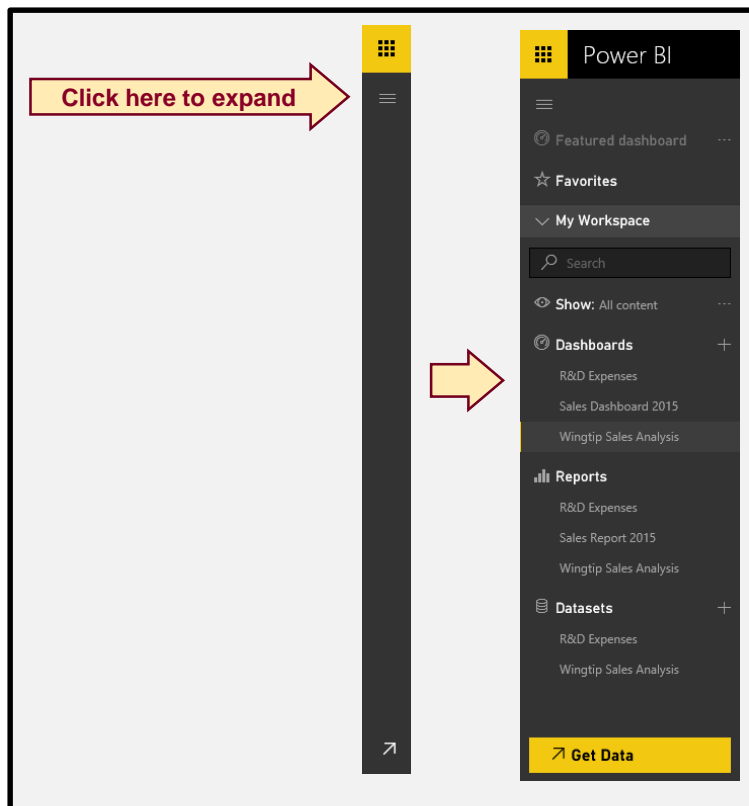
# Navigating to the Power BI Service

- 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

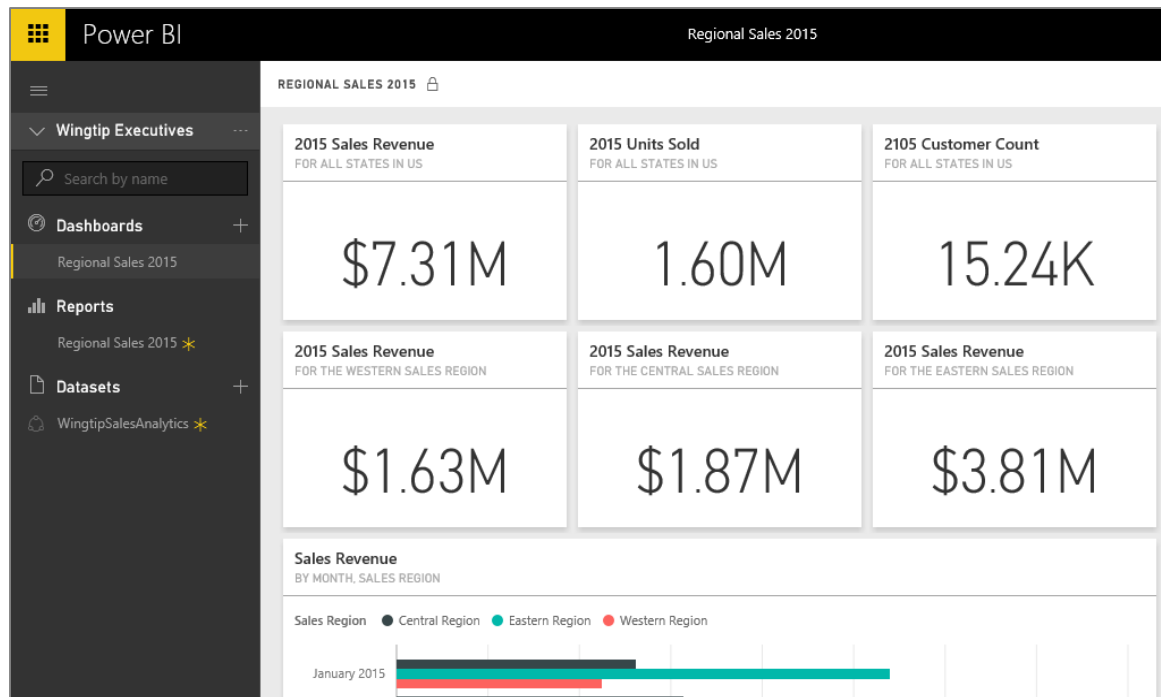
- Left flyout navigation menu is central to user experience
  - Displays links to visible dashboards, reports and datasets
  - Allows user to move between workspaces





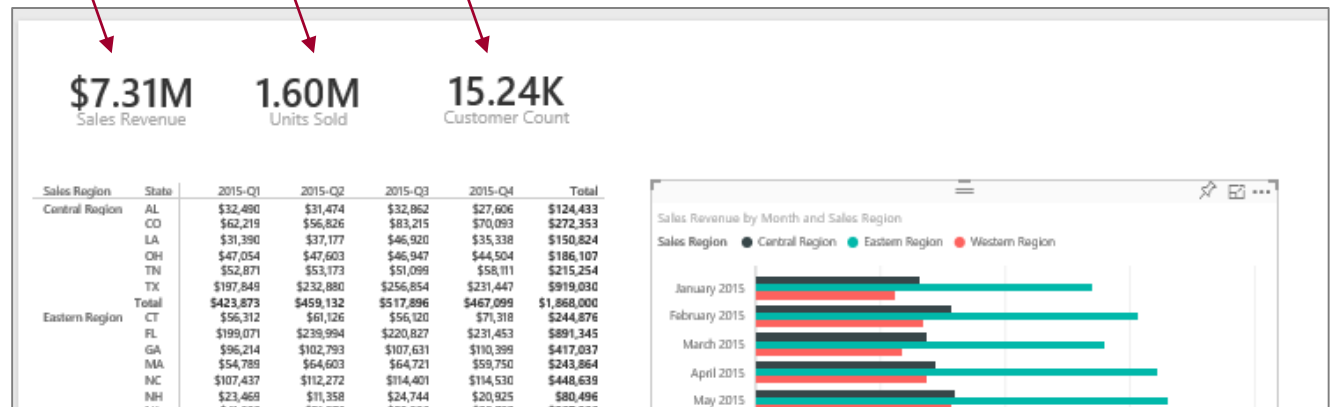
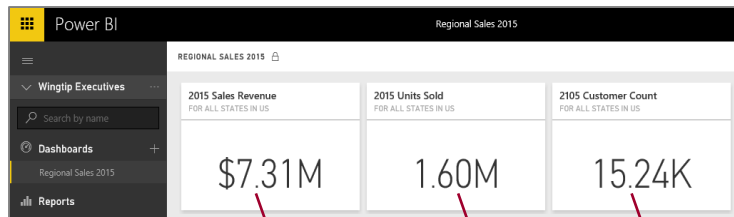
# Dashboards and Tiles

- 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

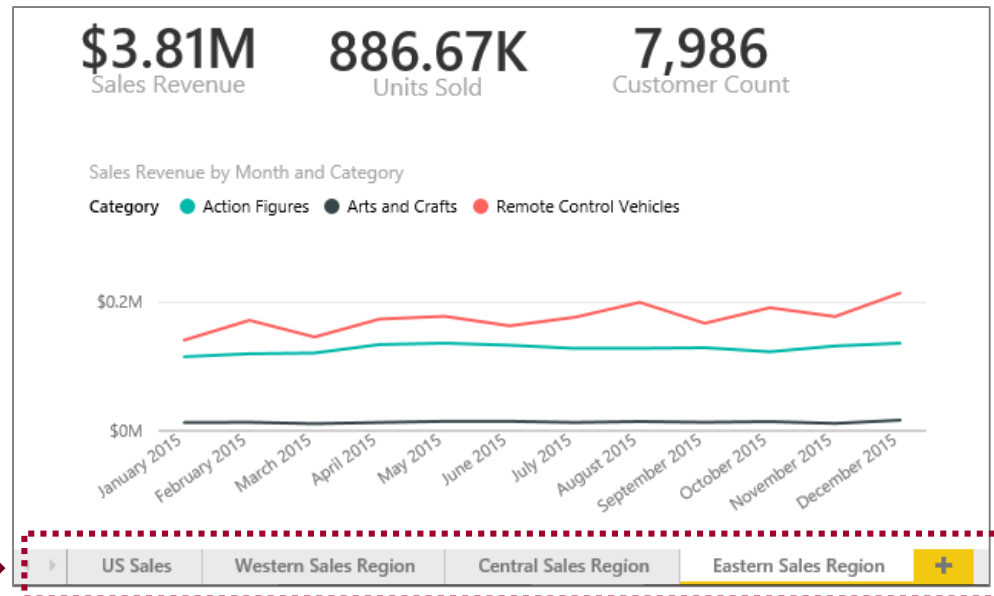
- Dashboards link users to reports
  - Dashboard tiles designed to provide high-level view
  - Clicking tiles drills down into report to see more detail





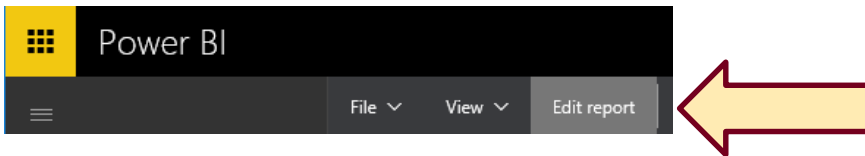
# Reports and Pages

- 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



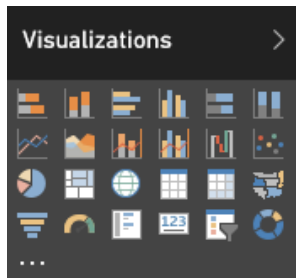
- Report design tools appear on right side of page

A screenshot of the Power BI report in edit mode. The report is titled 'Wingtip Sales Analysis' and is displayed in 'Reading view'. The main content area shows a table with 5 rows of product data. On the right side, the 'Visualizations' and 'Fields' panes are visible, showing various design tools and data fields. The 'Fields' pane shows a search bar and a list of fields including 'Sales', 'Calendar', 'Customers', 'Products', 'Category', 'Pct of All Products', 'Pct of Product Category', 'Pct of Product Subcat...', 'Product', 'Product Category', 'Product Image', 'Product Rank', 'Subcategory', and 'Purchases'. The 'Visualizations' pane shows a list of visual types and a 'Values' section with 'Product Rank', 'Product', 'Product Image', and 'Sales Revenue'. The 'Filters' section shows 'Product(All)', 'Product Image(All)', 'Product Rank is less than or equal to 5', and 'Sales Revenue(All)'.

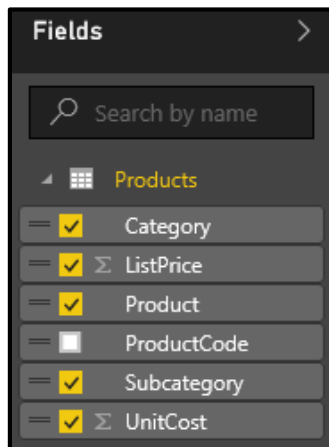
Product Rank	Product	Product Image	Sales Revenue
1	Godzilla Action Figure		\$1,379,383
2	Twitter Follower Action Figure		\$920,244
3	Captain America Action Figure		\$408,883
4	Perry the Platypus Action Figure		\$313,270
5	Spiderman Action Figure		\$287,516

# 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

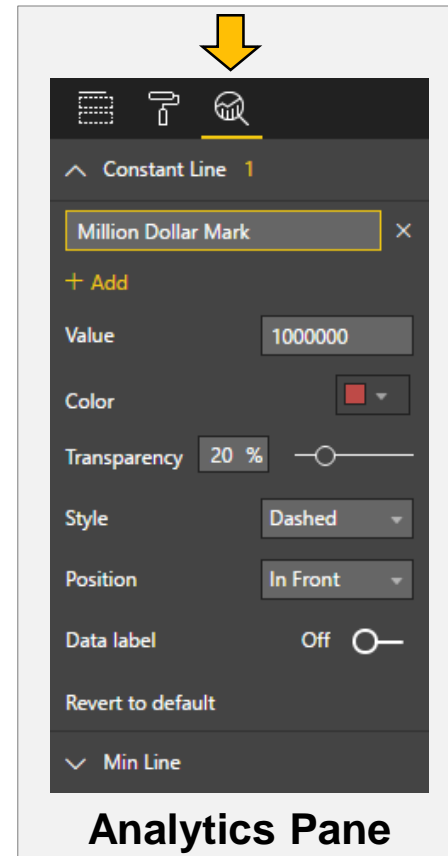
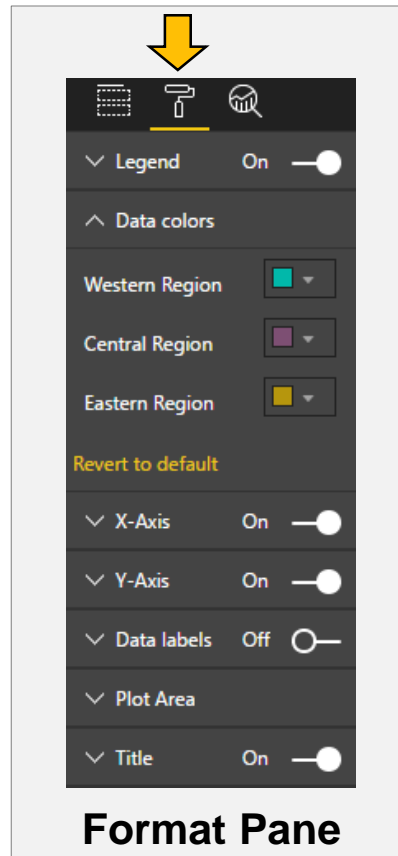
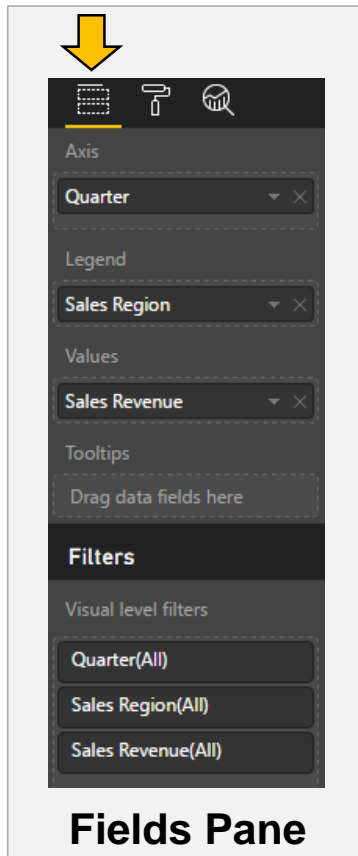


- Visuals creating by using fields from tables inside **Fields** list



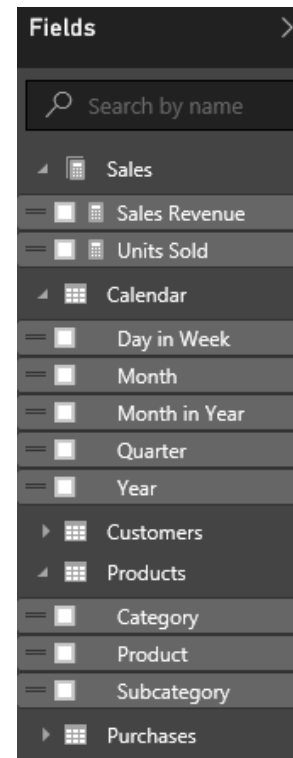
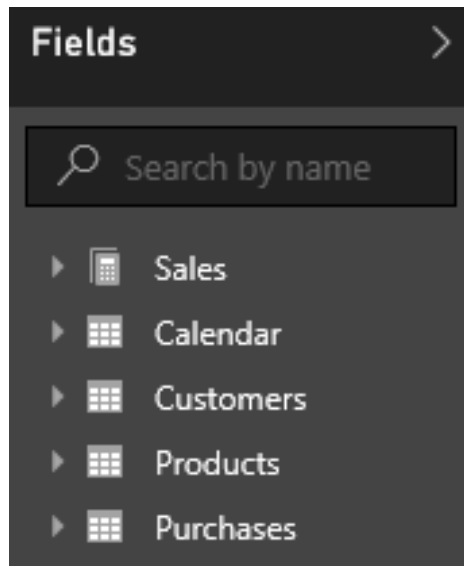
# Editing Visual Properties

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



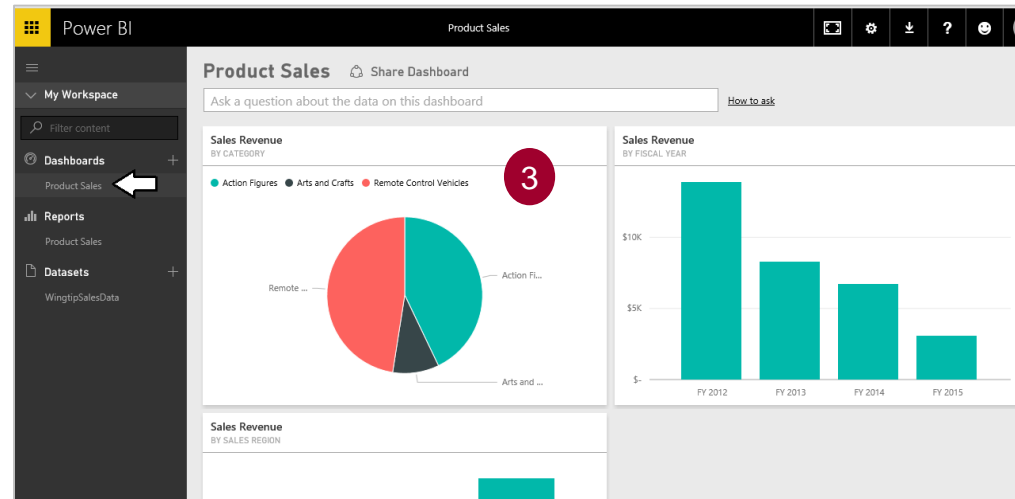
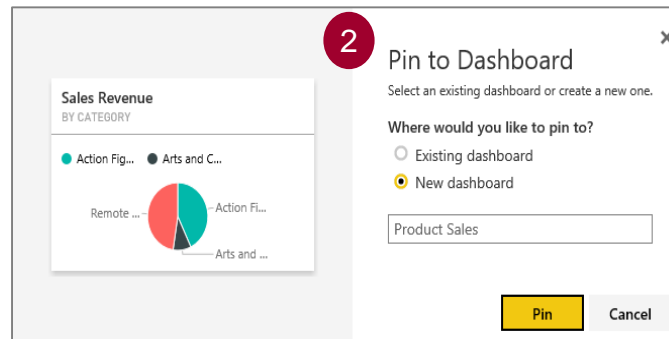
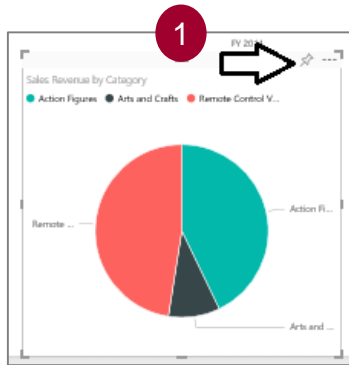
# Report and Datasets

- 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



# Agenda

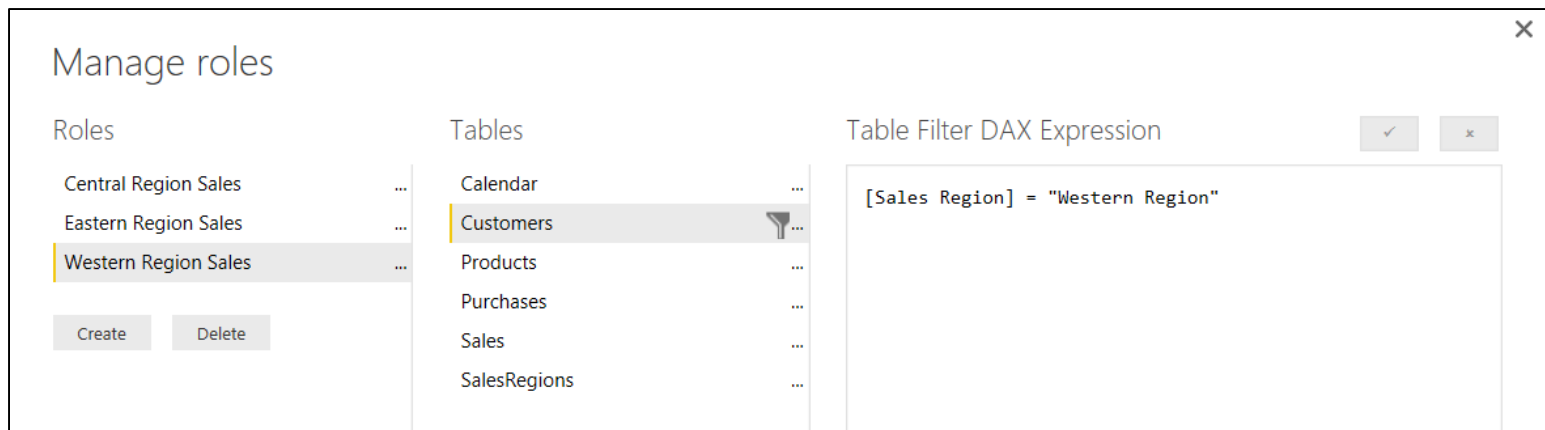
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# What Is Row-level Security (RLS)

- 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>



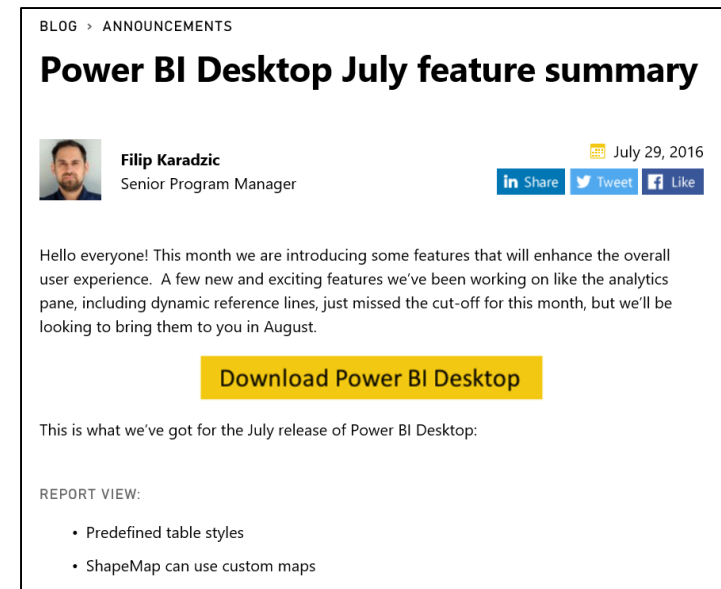
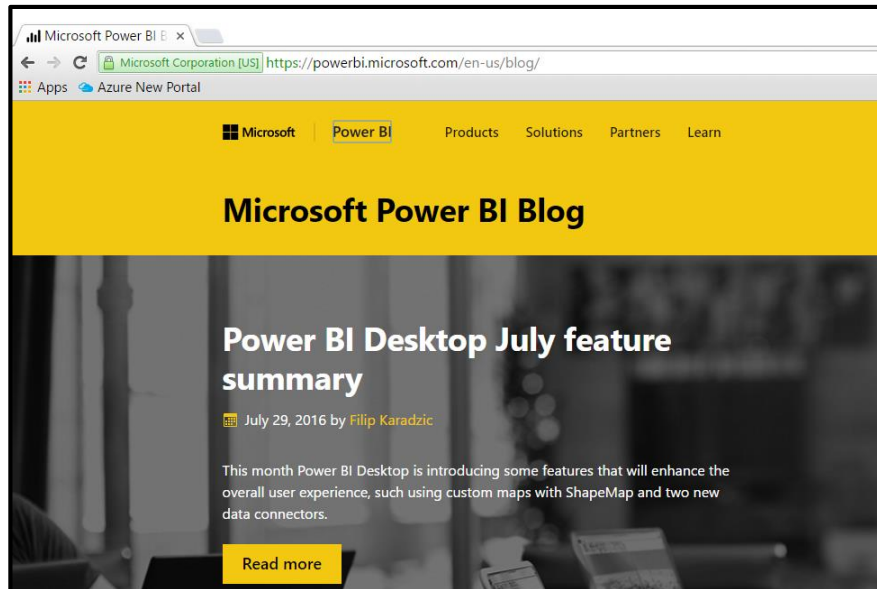


# Power BI Team Blog

- Power BI Team Blog is an Essential Resource

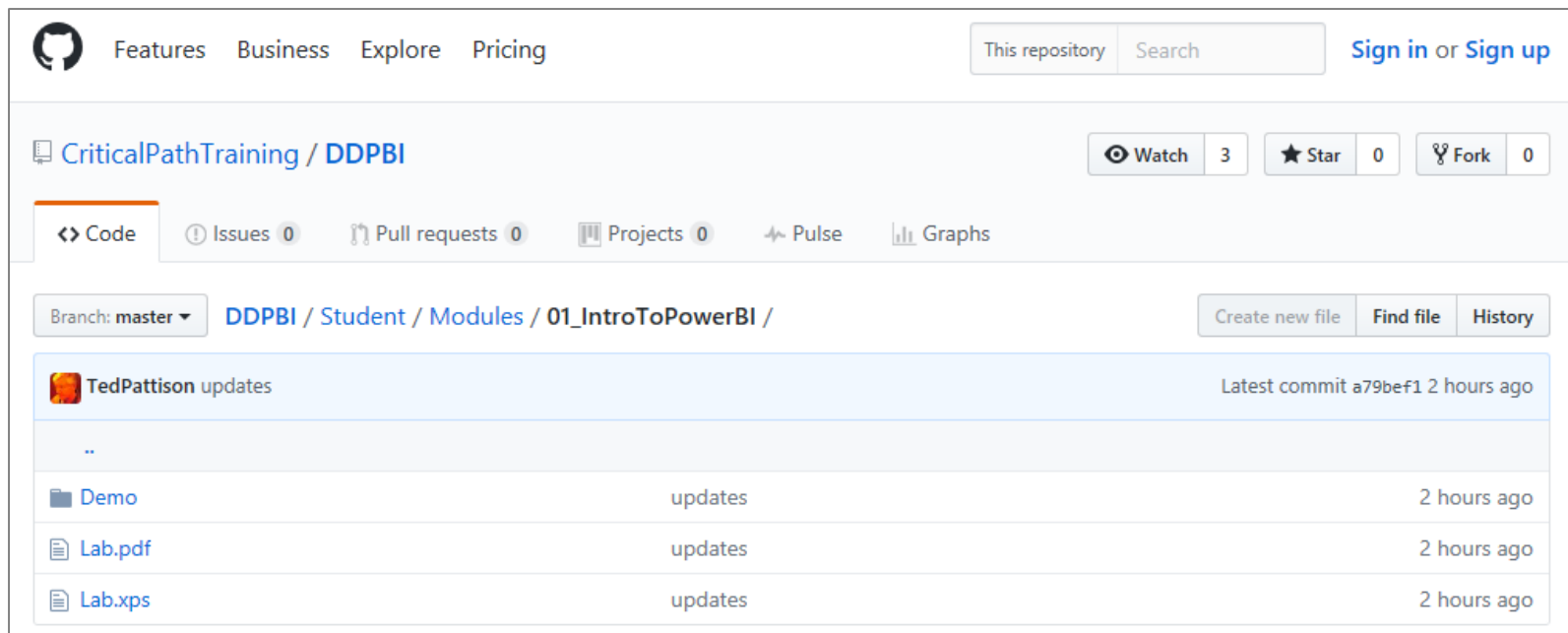
<https://powerbi.microsoft.com/en-us/blog/>

- Be on the lookout for monthly updates



# Live Labs for DDPBI

- 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/DDPBI>



The screenshot shows the GitHub repository page for `CriticalPathTraining / DDPBI`. The repository has 3 watchers, 0 stars, and 0 forks. The main branch is `master`. The current path is `DDPBI / Student / Modules / 01_IntroToPowerBI /`. The file list shows the following files and their latest commit information:

File	Commit	Time
..		
Demo	updates	2 hours ago
Lab.pdf	updates	2 hours ago
Lab.xps	updates	2 hours ago



# Summary

- ✓ Understanding the Power BI Platform
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