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

Azure Region	Location
Australia East	New South Wales
Australia Southeast	Victoria
Brazil South	Sao Paulo State
Canada Central	Toronto
Canada East	Quebec City
Central India	Pune
Central US	Iowa
China East	Shanghai
China North	Beijing
East Asia	Hong Kong
East US	Virginia
East US 2	Virginia
Japan East	Tokyo, Saitama
Japan West	Osaka
North Central US	Illinois
North Europe	Ireland
South Central US	Texas
South India	Chennai
Southeast Asia	Singapore
US Gov Iowa	Iowa
US Gov Virginia	Virginia
West Central US	Texas
West Europe	Netherlands
West India	Mumbai
West US	California
West US 2	Utah

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

Power BI Solution Authors	Power BI Service	Power BI Solution Consumers
Browser	Power BI Solution 1	Browser
Power BI Desktop	Power BI Solution 2	iPad App
Microsoft Excel 2016	Power BI Solution 3	iPhone App
Custom Application	Power BI Solution 4	Android App
		Windows 10 Phone App
		Custom Application
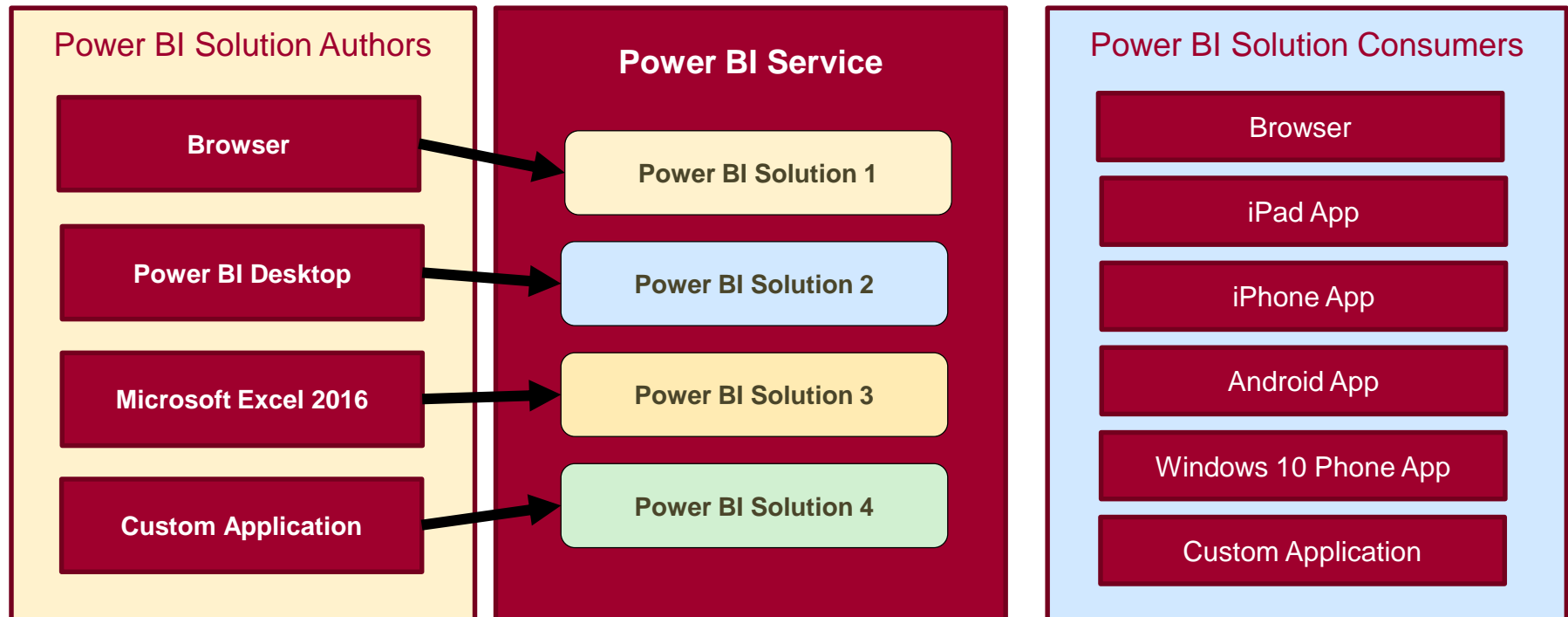
Central Power BI Concepts

My Workspace

🔍 Search by name

⊘ **Dashboards** ＋
- Product Sales Analysis
- Regional Sales 2015
- Top 10 Customers

📊 **Reports**
- Regional Sales 2015
- WingtipSalesAnalytics

📄 **Datasets** ＋
- WingtipSalesAnalytics
- WingtipSalesModel
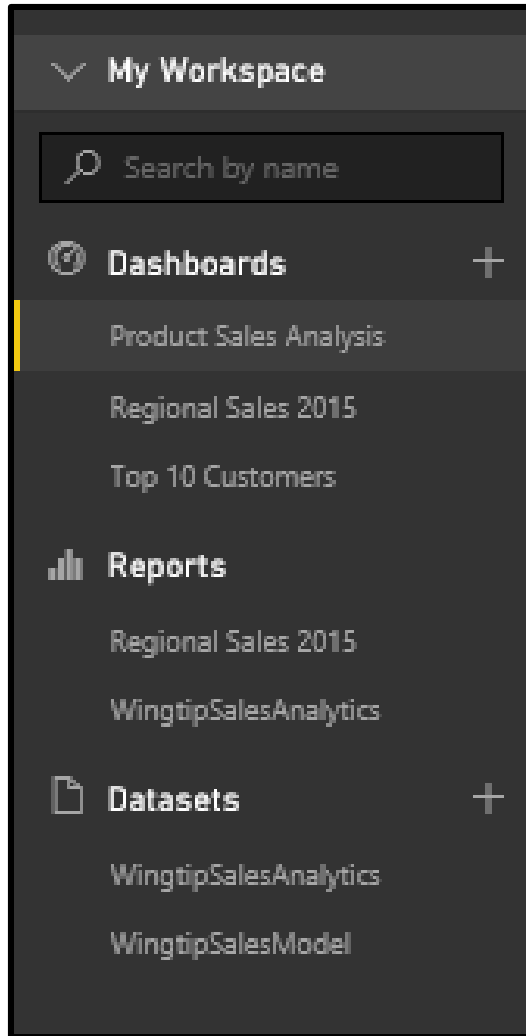
- Workspace
  - Provides user context and asset container
  - Every user has personal workspace
  - Team development requires group workspaces

- 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
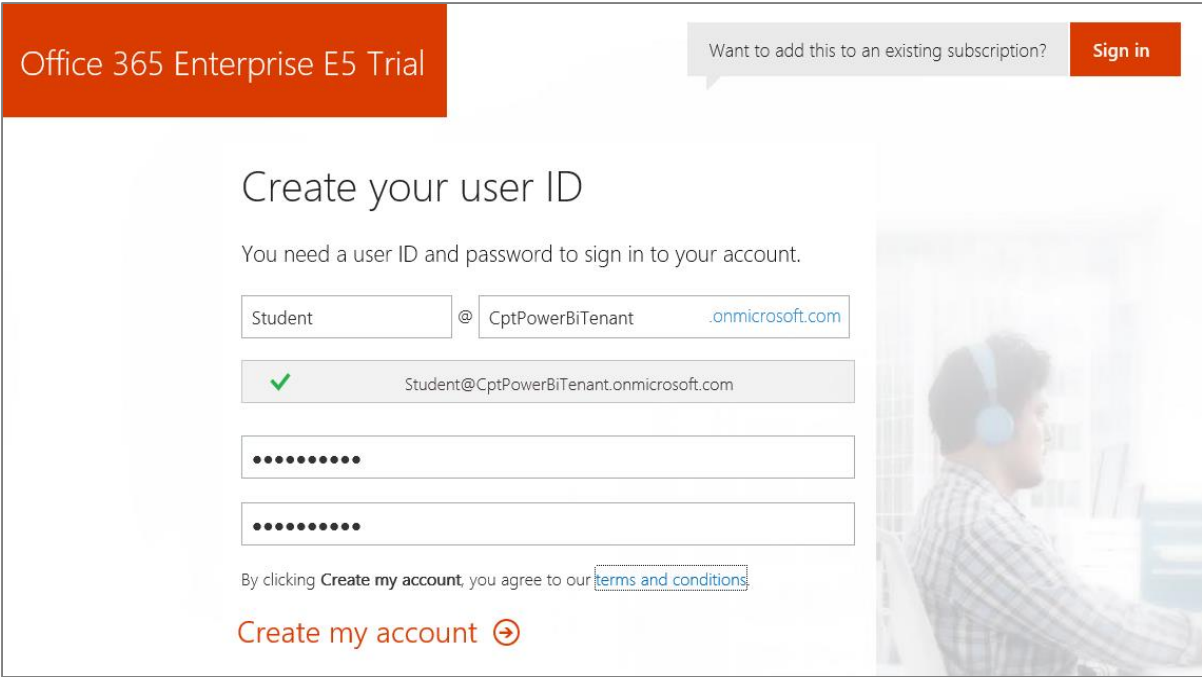
Agenda

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- ➢ Creating a Trial Office 365 Tenant for Testing
- • Creating Datasets, Reports and Dashboards
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- • Staying in Sync with Monthly Updates

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

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

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
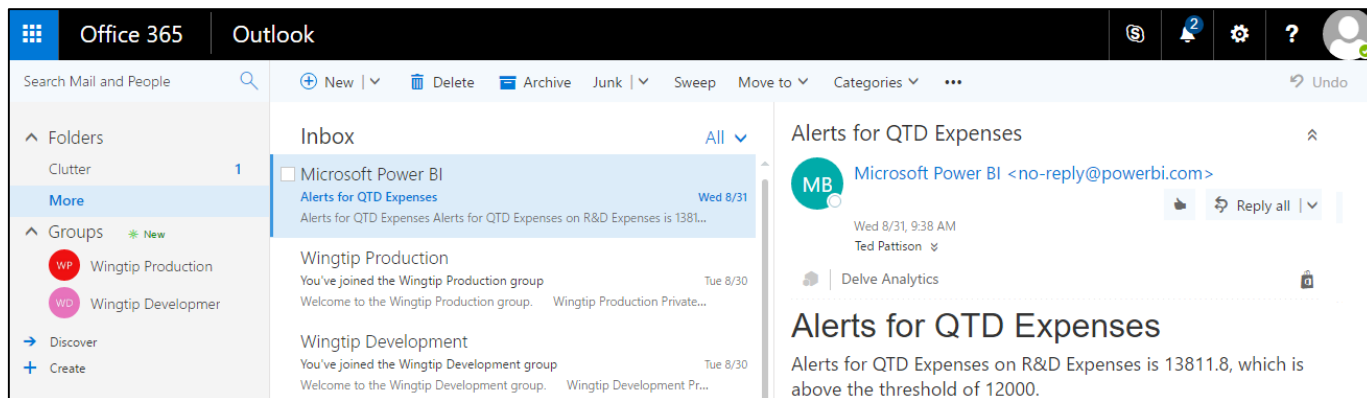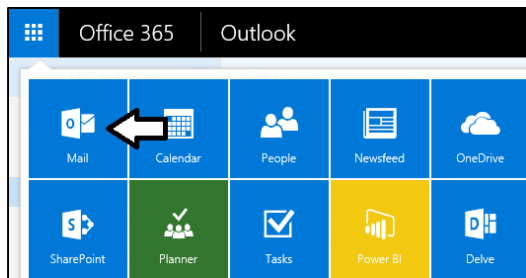
Uploading Data Files to OneDrive for Business

- Preferred location for data files consumed by Power BI service
  - Excel workbooks
  - CSV files
  - PBIX files created using Power BI Desktop
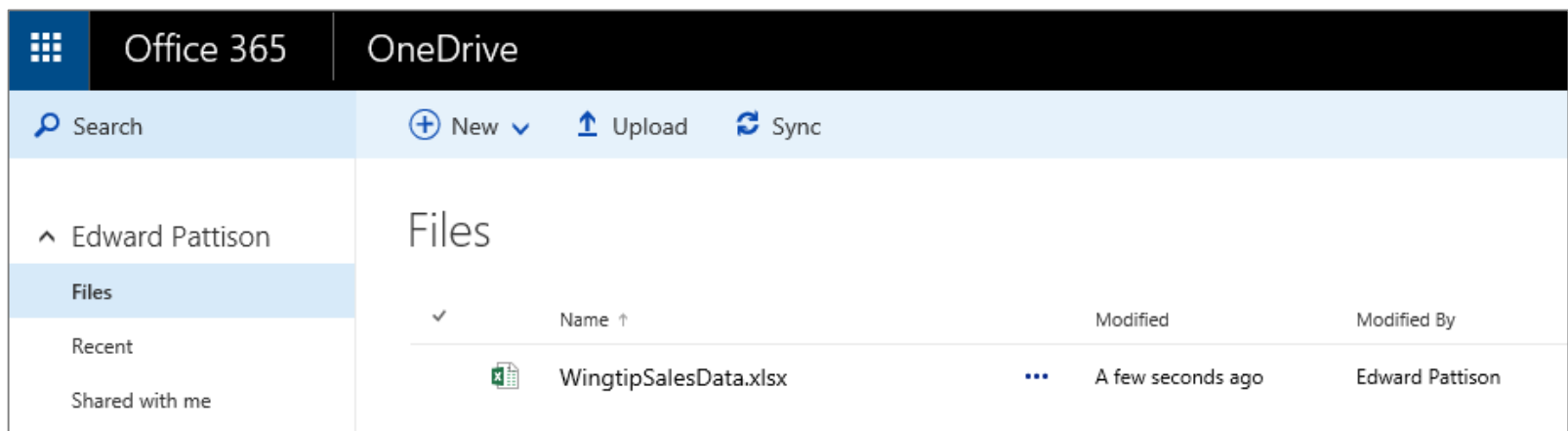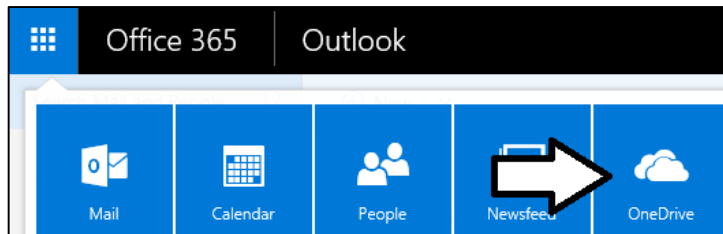
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Managing Users and Subscriptions in the Office 365 admin center

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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
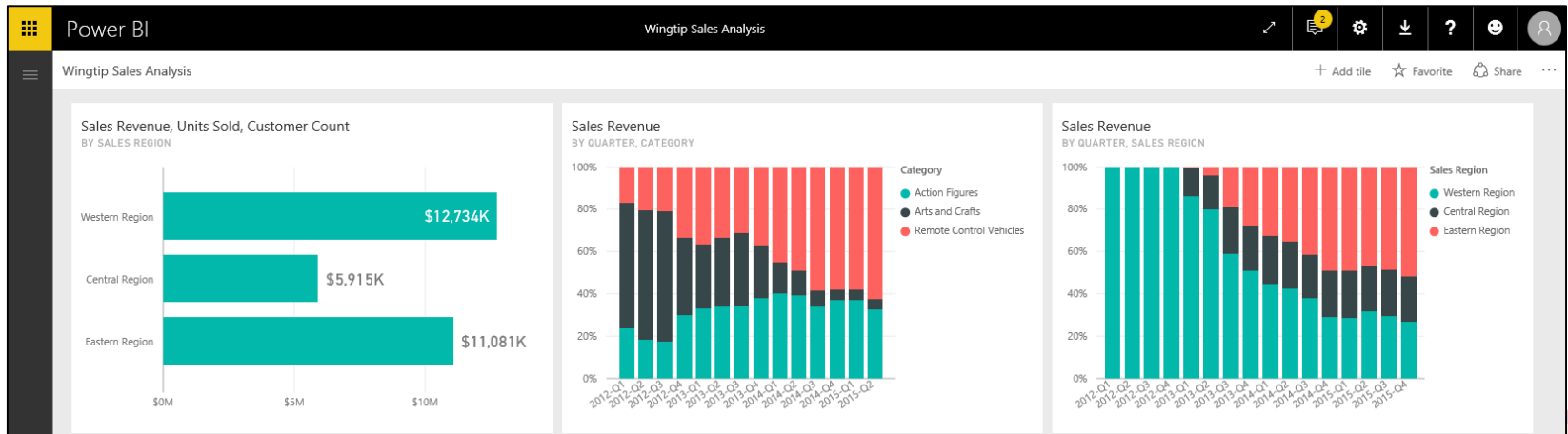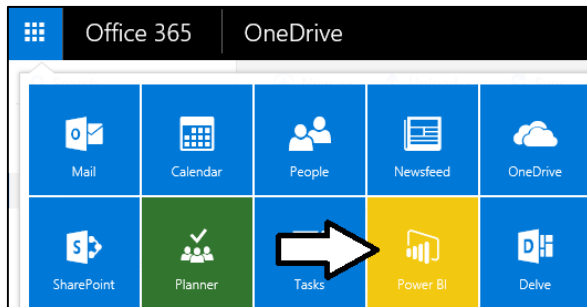
The Left Navigation Pane

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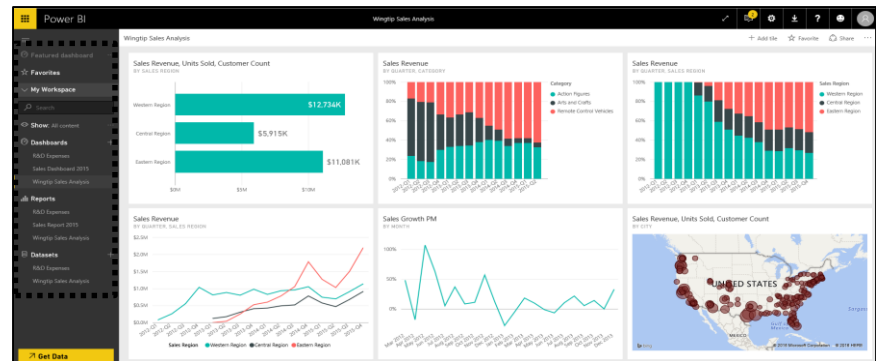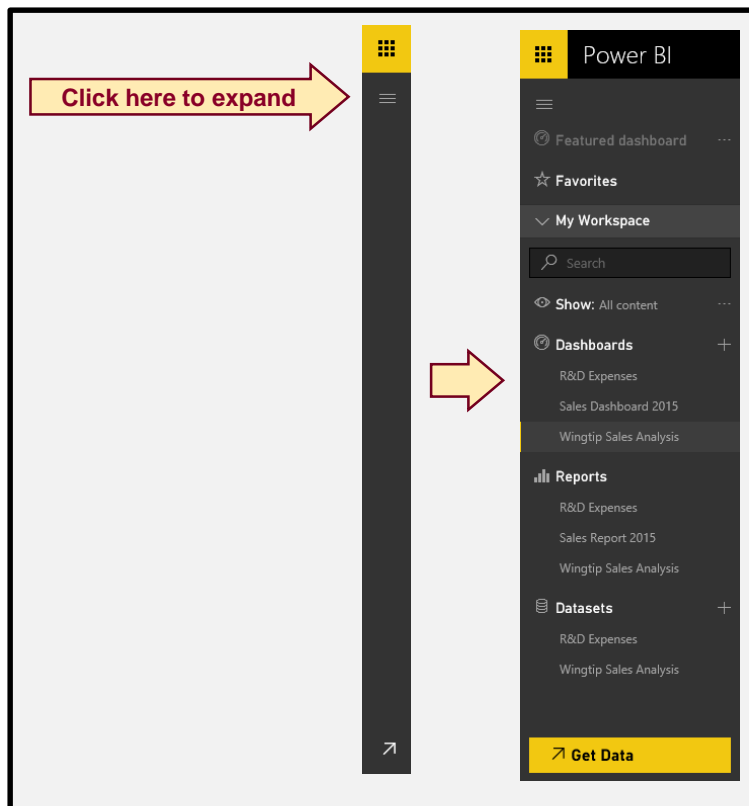
Dashboards and Tiles

- 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
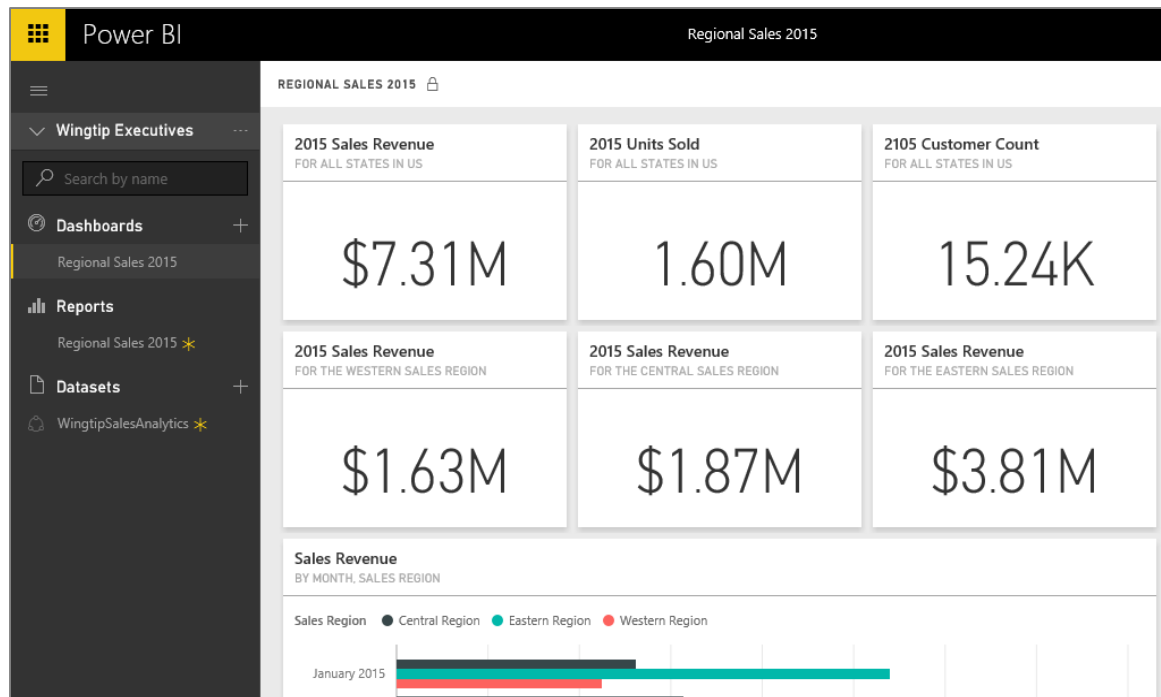
Dashboards and Reports

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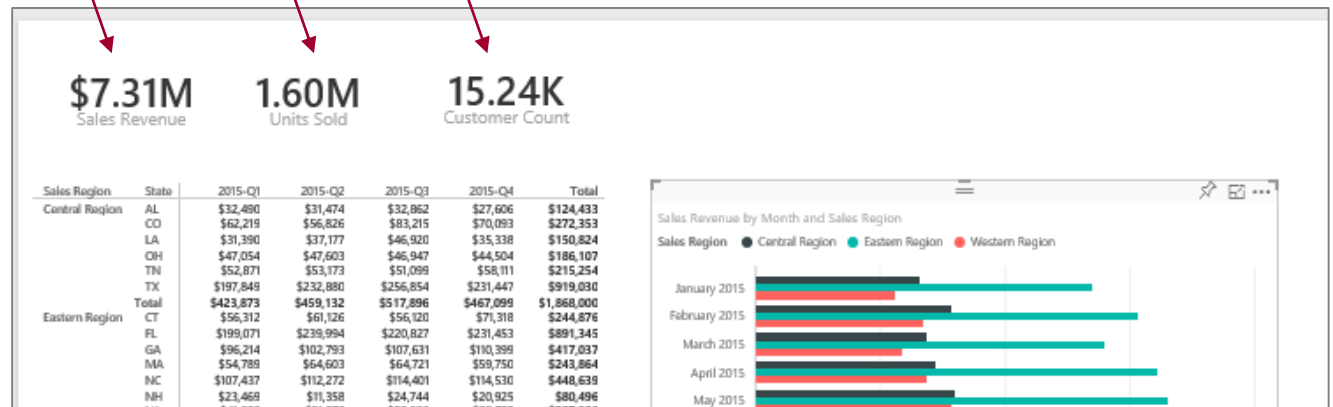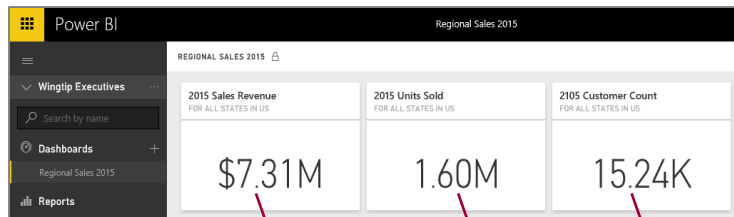
Reports and Pages

- 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

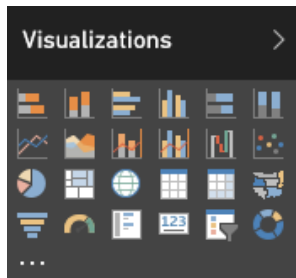 - Report design tools appear on right side of page

Visuals (aka Visualizations)

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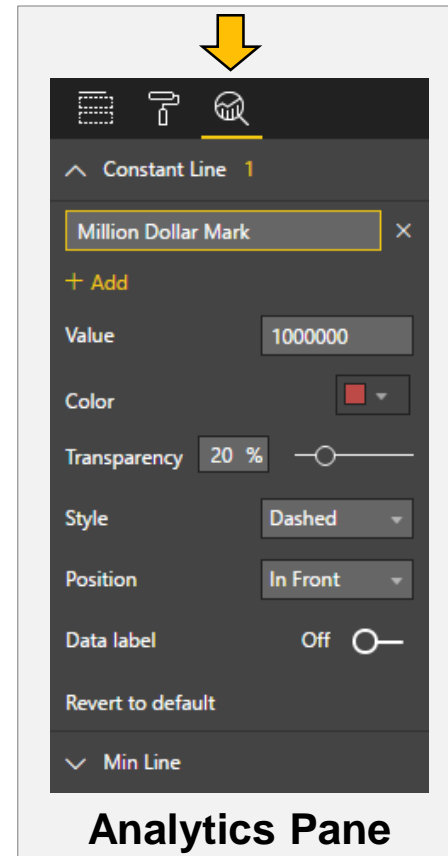

  - Visuals creating by using fields from tables inside **Fields** list
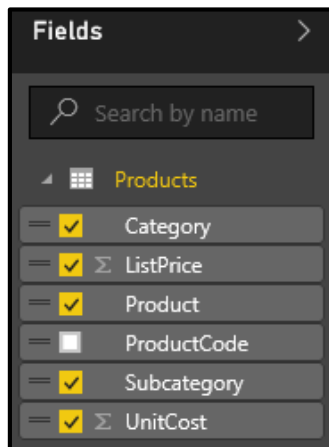
Editing Visual Properties

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

Fields Pane

Format Pane

Analytics Pane
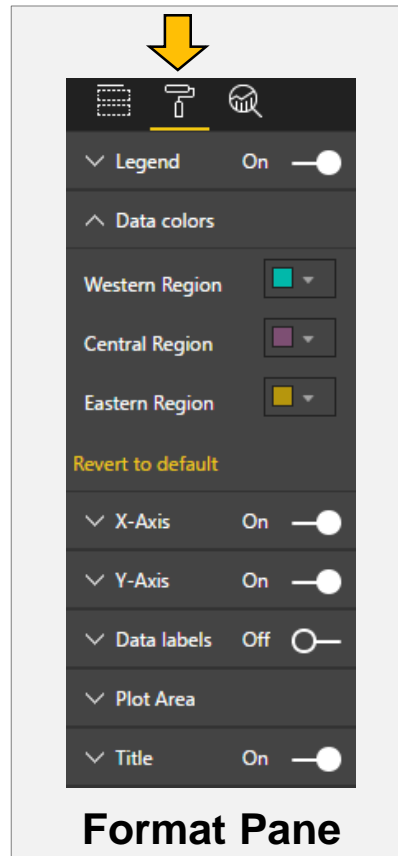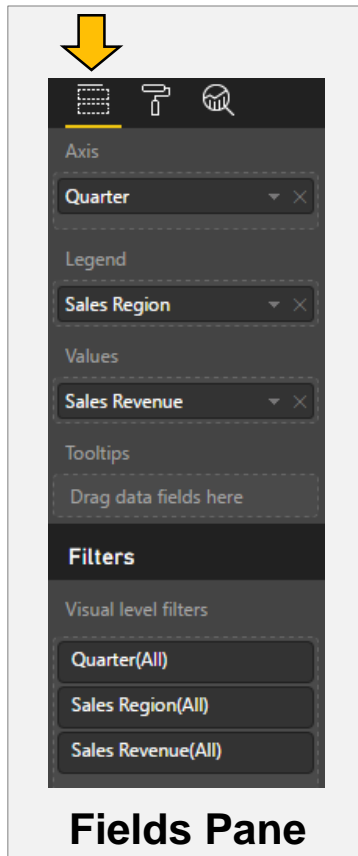
Report and Datasets

- 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
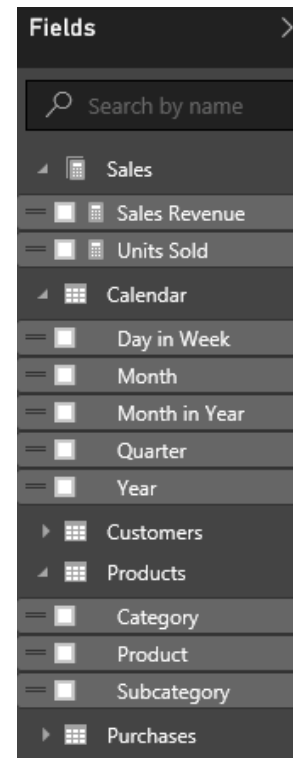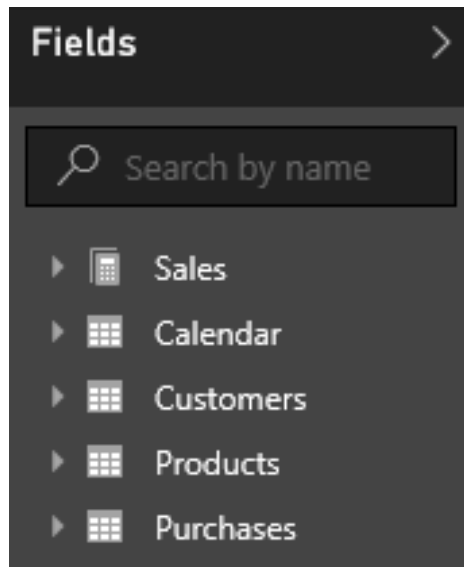
Creating Dashboards

- ## Dashboards contain tiles
  - ### Tiles created from visuals on report pages
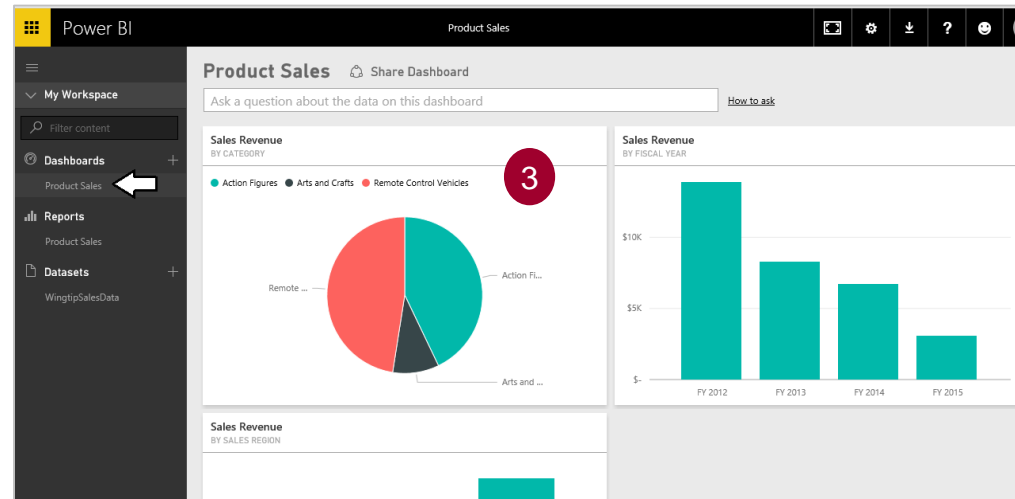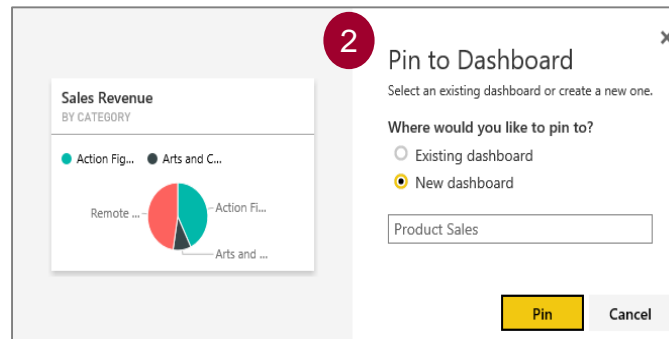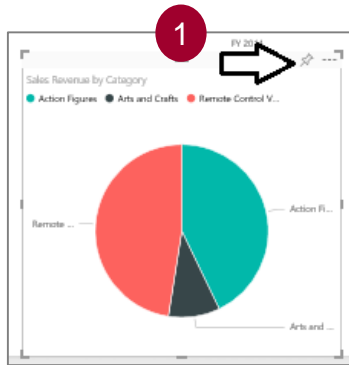
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Getting started with Datasets, Reports and Dashboards

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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
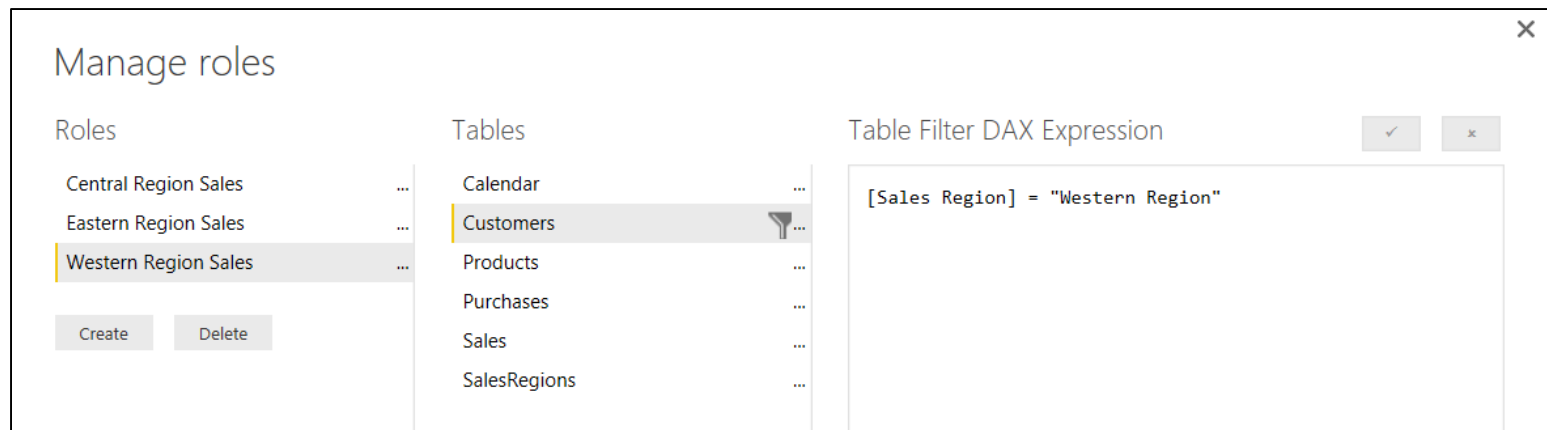
Other Recent Updates to Power BI Platform

- 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
Total	$29,730,517

Power BI Team Blog

- Power BI Team Blog is an Essential Resource

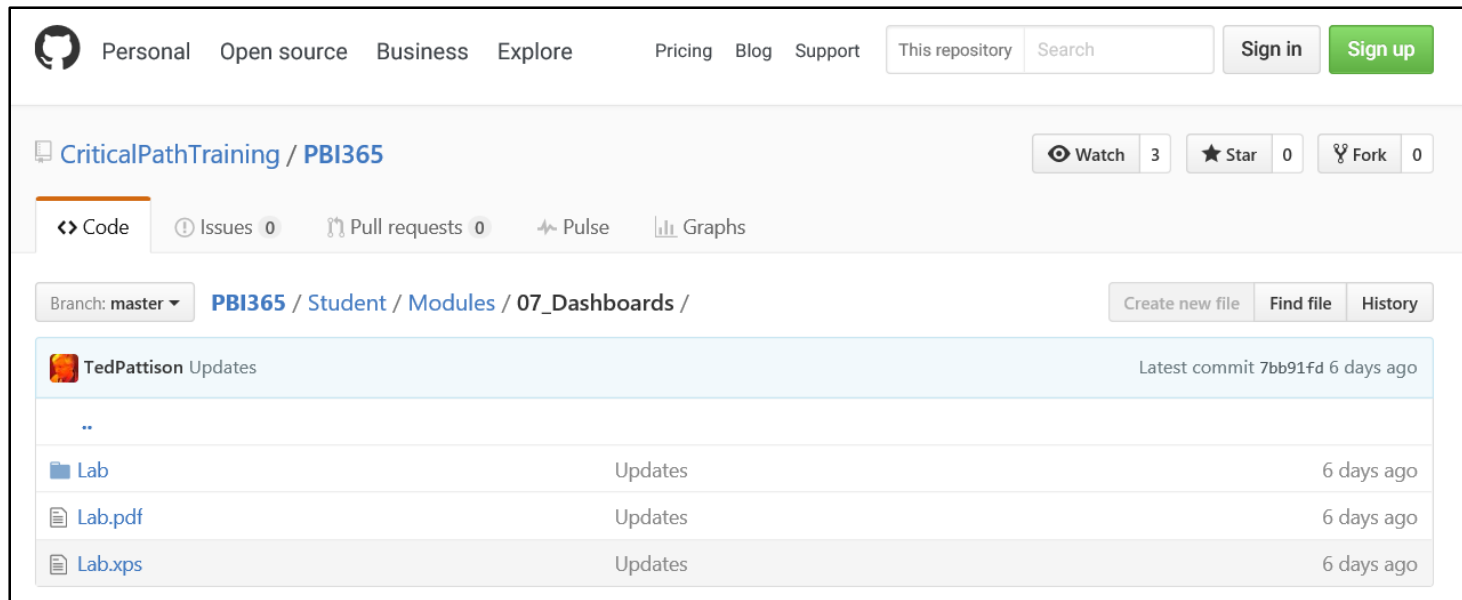https://powerbi.microsoft.com/en-us/blog/

- Be on the lookout for monthly updates
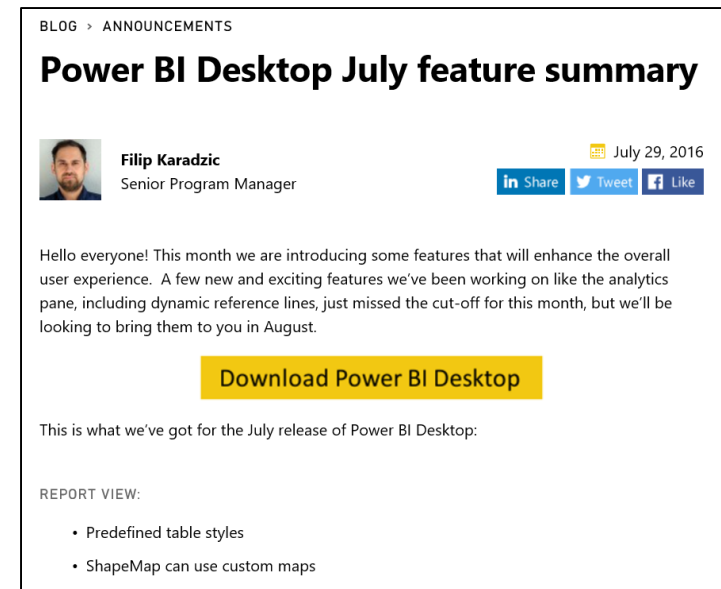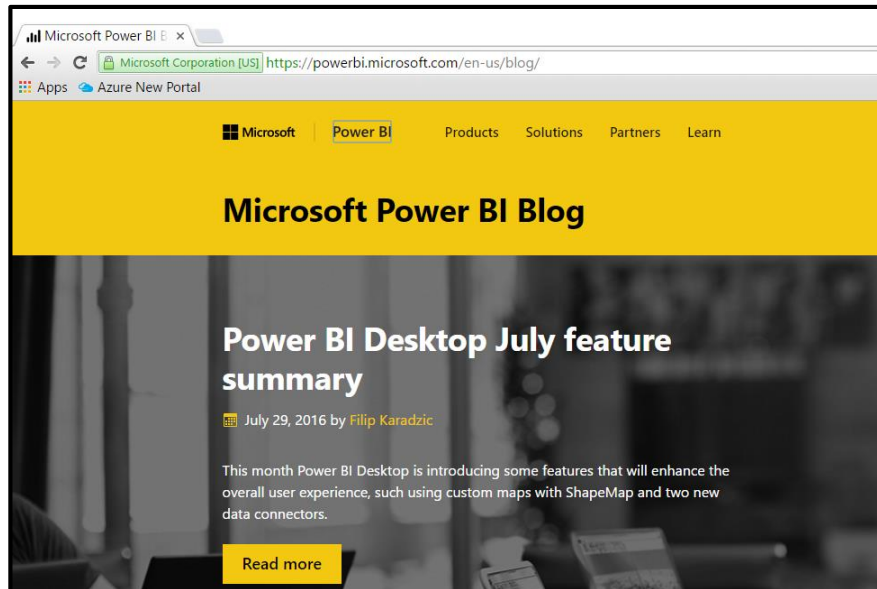
Live Labs for PBI365

- 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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