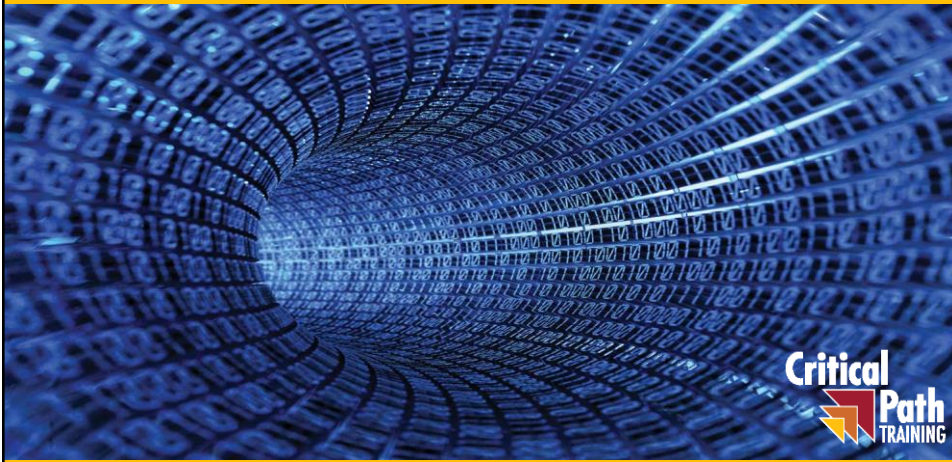# Introduction to the Power BI Platform

Agenda

- Introduction to the Power BI Platform
- Creating a Power BI Test Environment
- Introduction to the Power BI Service
- Creating Datasets, Reports and Dashboards
- Loading a Sample Content Pack

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
  - Machine-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
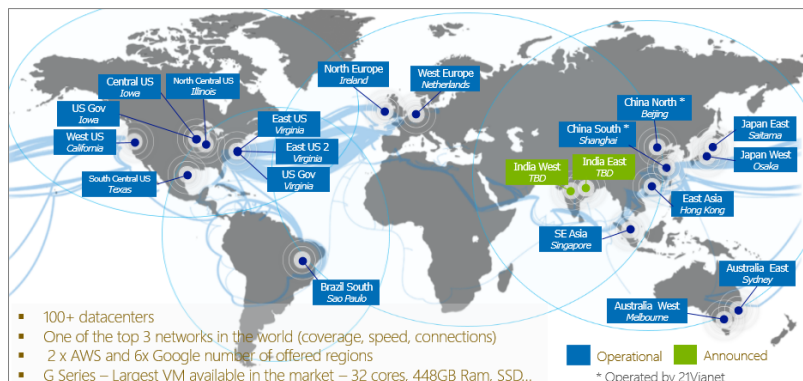
What is Power BI?

- 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
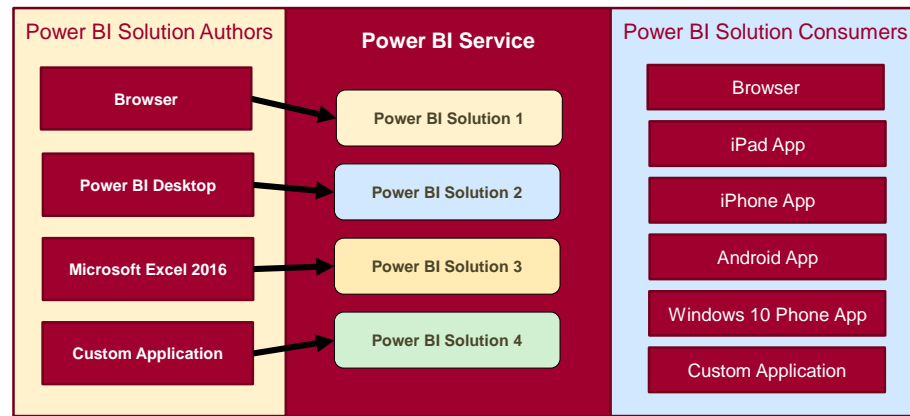 - Power BI solutions have international reach

- 100+ datacenters
- One of the top 3 networks in the world (coverage, speed, connections)
- 2 x AWS and 6x Google number of offered regions
- G Series – Largest VM available in the market – 32 cores, 448GB Ram, SSD...

Operational   Announced
* Operated by 21Vianet

The Power BI Service

- The Power BI Service
  - Provides cloud-based foundation for Power BI platform
  - Accessible to subscribers through https://app.powerbi.com
  - Provides cross-browser experience for BI solution consumers
 - Provides limited support to BI solution authors
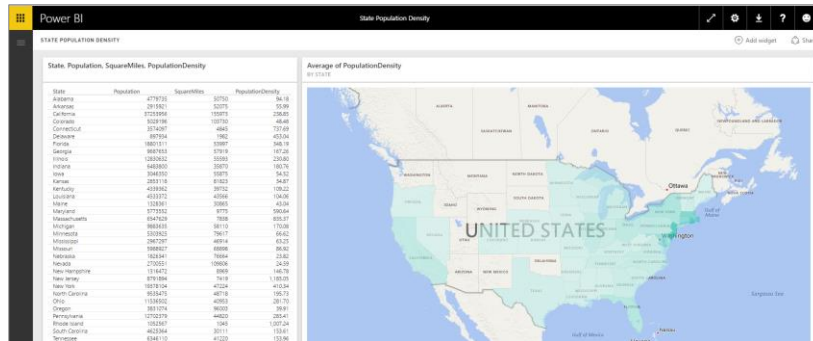
Power BI Service Architecture

- Power BI support for authors and consumers
  - BI solution authors have a choose 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

Power BI Workspaces

- Power BI manages user context using workspaces
  - User is always running within the scope of a specific workspace
  - Every subscribers has a Personal workspace (i.e. My Workspace)
  - Group workspaces can be created for team-based authoring

- Workspace is container with three collections
  - Dashboards
  - Reports
  - Datasets
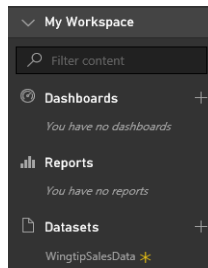
Central Power BI Concepts

- Workspace
  - Provides user context (personal workspaces & group workspaces)

- Dashboard
  - Dashboard provides consolidated view into reports and datasets
  - Provides entry point in custom solution for Power BI consumers

- Report
  - Report is a collection of pages containing visuals
  - Report visual can be pinned to a dashboard

- Dataset
  - A data model containing one or more tables
  - Can be very simple or very complex

Tabular Database Model

- Power BI Datasets based on Tabular Database model
  - Provides less-complicated alternative to multidimensional model
  - You model tabular databases using Power Pivot and DAX

- Tabular Data Model based on xVelocity Database Engine
  - Desktop version of xVecocity in Excel with Power Pivot add-in
  - Desktop version of xVecocity in Power BI Desktop
  - Server-side version of xVelecity included with SSAS
  - Cloud-based version of xVecolicty runs in Power BI service

Power BI Tools

- Power BI service using a standard web browser
  - Import datasets
  - Design reports and dashboards
  - Create content packs
  - No dataset authoring tools
- Power BI Desktop
  - Create datasets using Power Query
  - Model datasets using Power Pivot and DAX
  - Design reports
  - Publish PBIX files from local desktop to Power BI service
- Microsoft Excel 2016
  - Similar feature set to Power BI Desktop for Power Query and Power Pivot
  - Contains extra features, charts and visuals not supported Power BI
  - An complete BI solution can be embedded in a Excel workbook file

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Creating a Power BI Testing Environment

- • Sign up for an Office 365 trial account
  - • Creates a new Office 365 tenant
  - • Sign up account you use becomes tenant administrator
  - • You can add up to 25 user accounts
  - • User can be configured trial licenses for Office 365 and Power BI

Your First Stop - Office 365 admin center

- What will you need to do in Office 365 admin center?
  - Purchase 30 trial for Power BI Pro
  - Configure your Power BI License
  - Add a secondary user account for testing
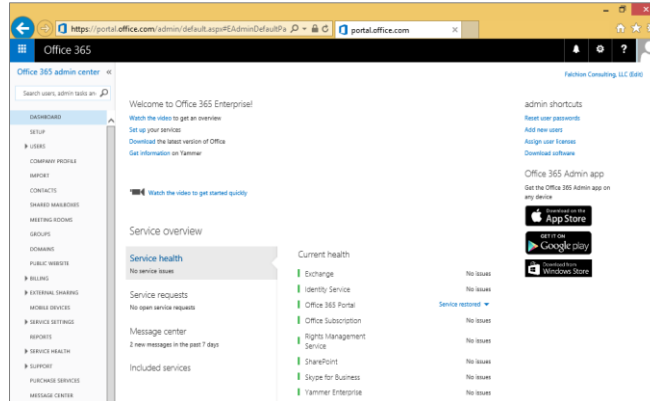
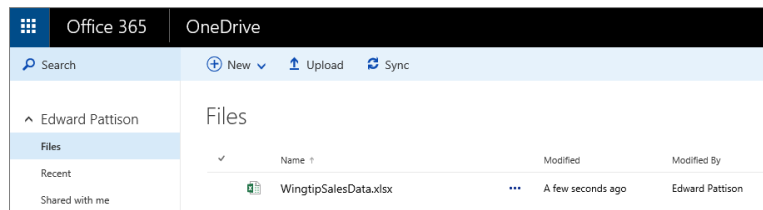## Add a Secondary User for Testing

Accessing Your Office 365 Mailbox

- Make sure you can access your Office 365 Inbox
  - View messages sent by Power BI service
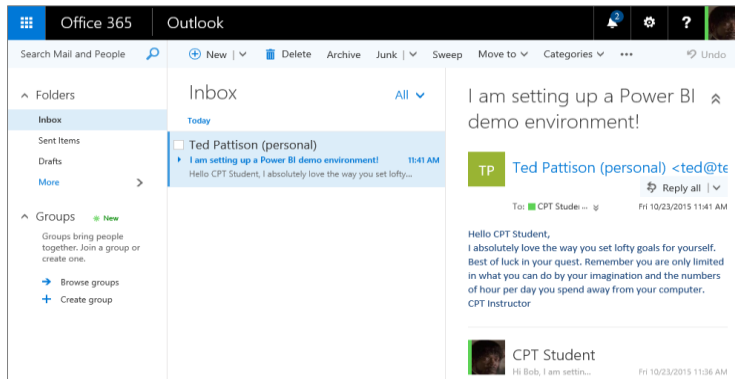
Uploading Data Files to OneDrive for Office 365

- 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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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
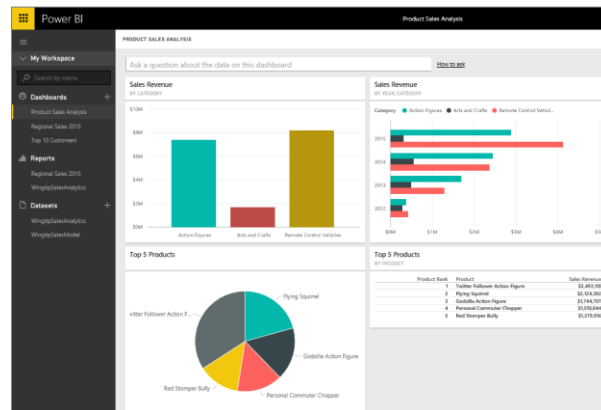
The Navigation Pane

- Navigation pane is central to user experience
  - Displays links to visible dashboards, reports and datasets
  - Allows user to move between workspaces
 - Allows user to create new group workspace
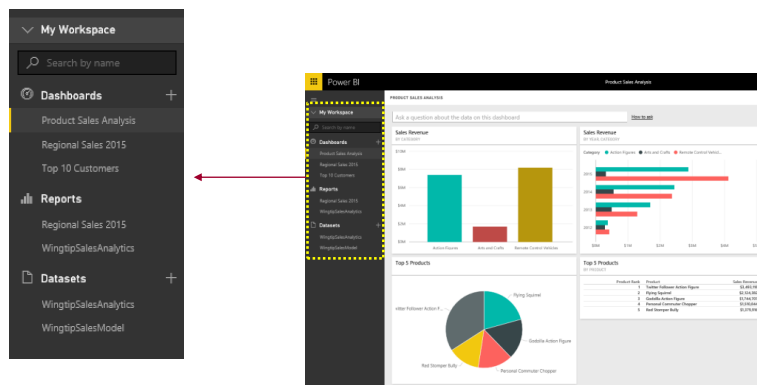
Dashboards and Tiles

- 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
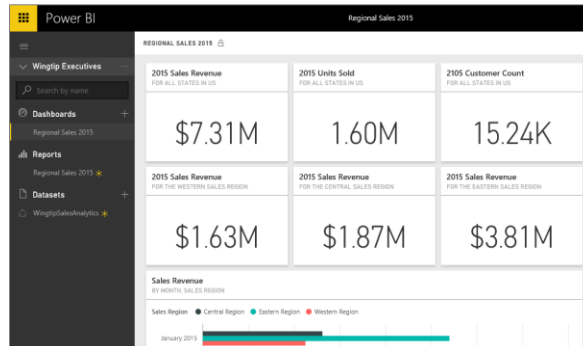
Dashboards and Reports

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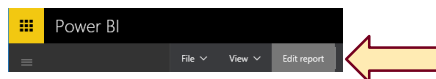 - Clicking tiles drills down into report to see more detail
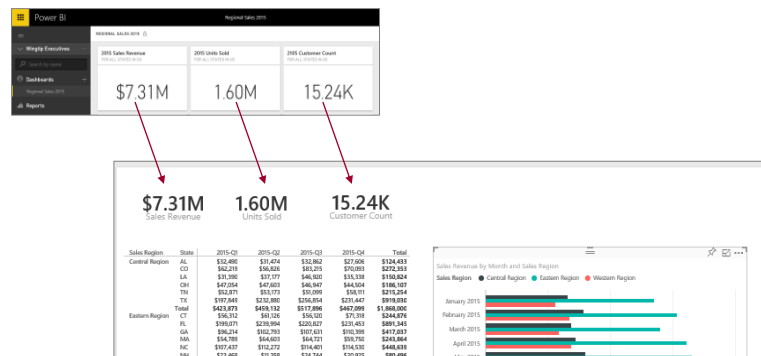
Reports and Pages

- Reports contain one or more pages
  - A report can be designed with a single page
  - A report can be designed with many pages
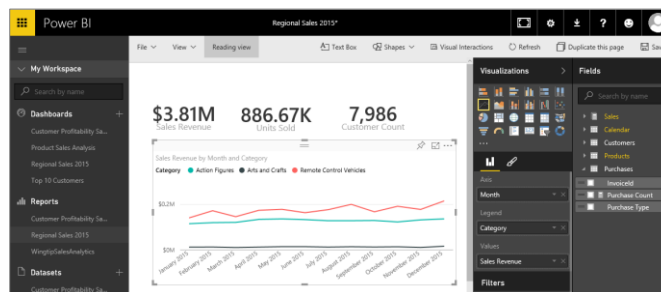 - Tabbed navigation located at bottom of report view
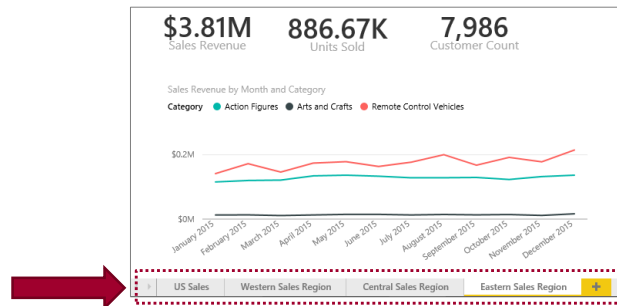
Report Authoring

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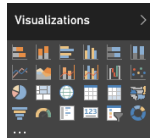 - Click Edit report to switch to edit mode

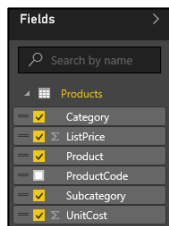 - Report design tools appear on right side of page

Visuals (aka Visualizations)

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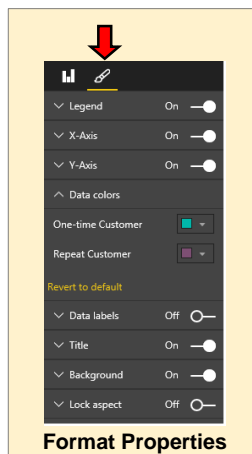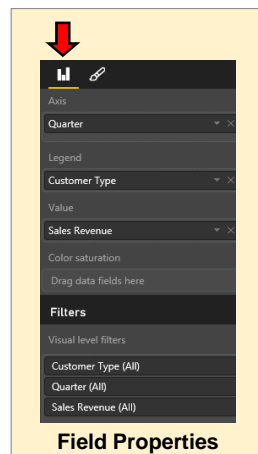 - Visualization type can be changed using **Visualizations** pane

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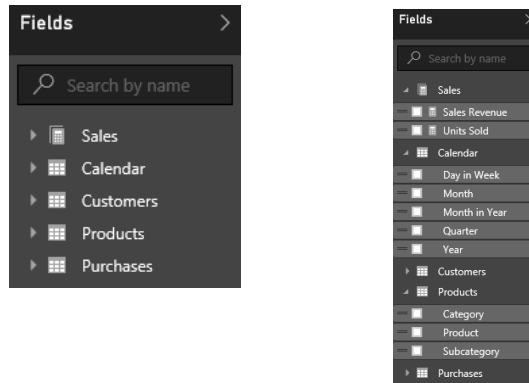

Editing Visual Properties

- Visuals have Field properties and Format properties
  - Visual properties vary depending on visualization type

Field Properties

Format Properties

Report and Datasets

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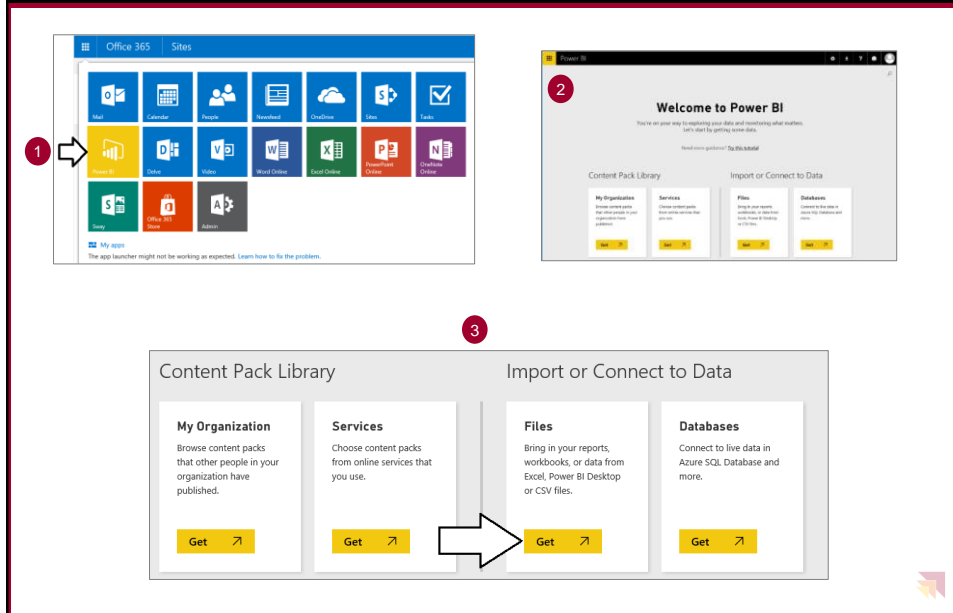 - Report author sees tables & fields as dataset consumer

Agenda

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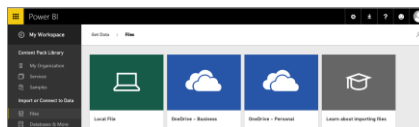- Loading a Sample Content Pack

Getting Started with the Power BI Service

Importing a Dataset

- Connect to files in OneDrive

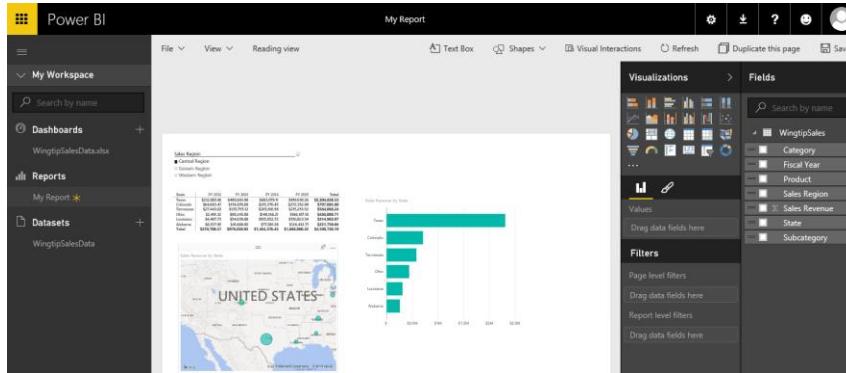- Select the file and click Connect
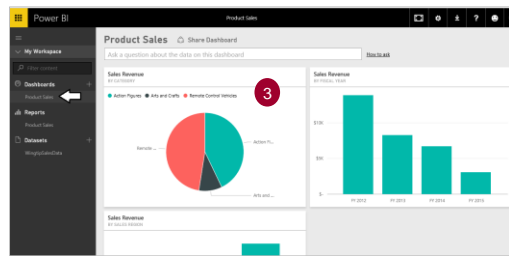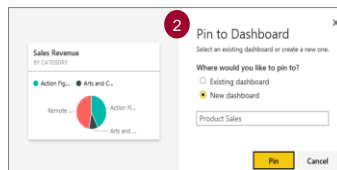

- Choose between Import or Connect

Designing Reports

- Power BI service provides browser-based report designer
  - Report contains one o more pages
  - Pages contain visuals (aka visualizations)
  - Visuals display fields from underling data model

Creating Dashboards

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

DEMO

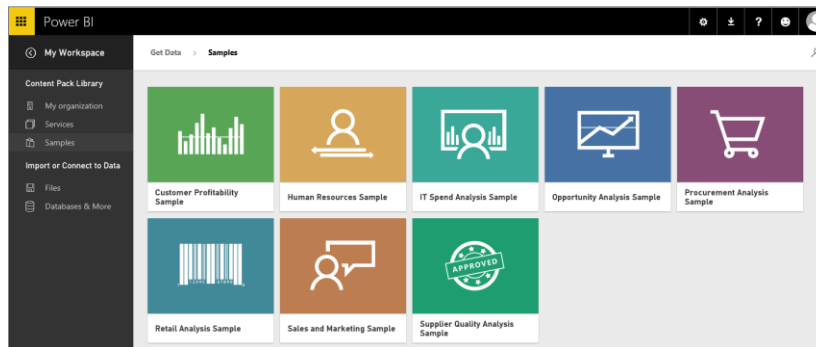**Getting started with Datasets, Reports and Dashboards**

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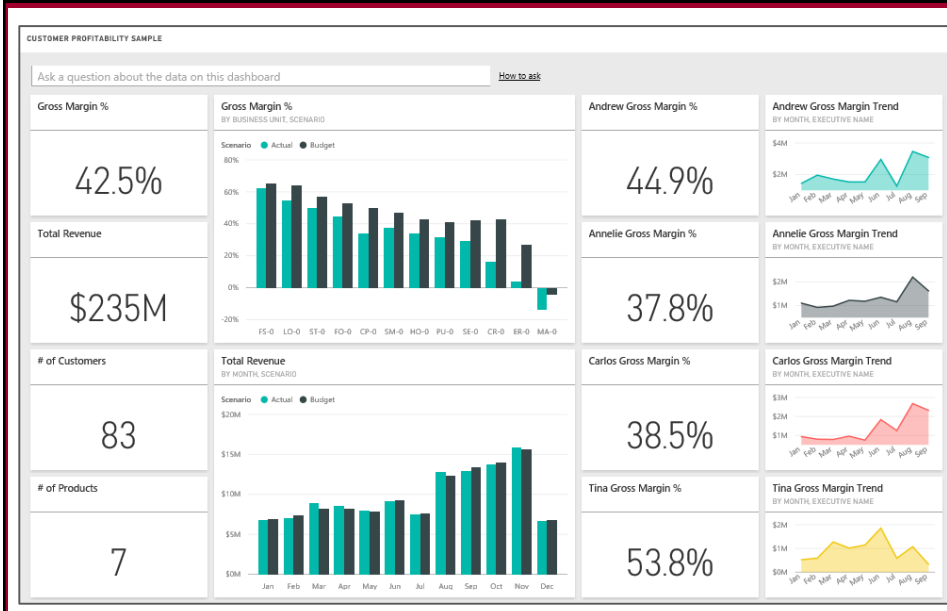- ➢ Loading a Sample Content Pack

Power BI Sample Content Packs

- Power BI service offers sample BI solutions
  - Each sample installs in seconds
  - Samples provide examples of dashboards, reports and datasets
  - Provides sample solutions for common BI solution scenarios

Customer Profitability Dashboard Sample

Summary

- ✓ Introduction to the Power BI Platform
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