

# Integrating Power Apps with Power BI



# Agenda

- Power BI Primer
  - Embedding Power BI Dashboard Tiles in PowerApps
  - Extending Power BI Reports using Canvas Apps
  - Surfacing Power BI Reports in a Power Apps Portal



# What is Power BI?

- What is Power BI?
  - A cloud-based analytics service for licensed subscribers
  - Environment which supports and promotes self-service BI
  - Powerful builder tools for importing, modeling and visualizing data
  - Enterprise-grade platform for deploying reports and dashboards
  - On-premises server product supporting subset of cloud features

Power BI  
Service

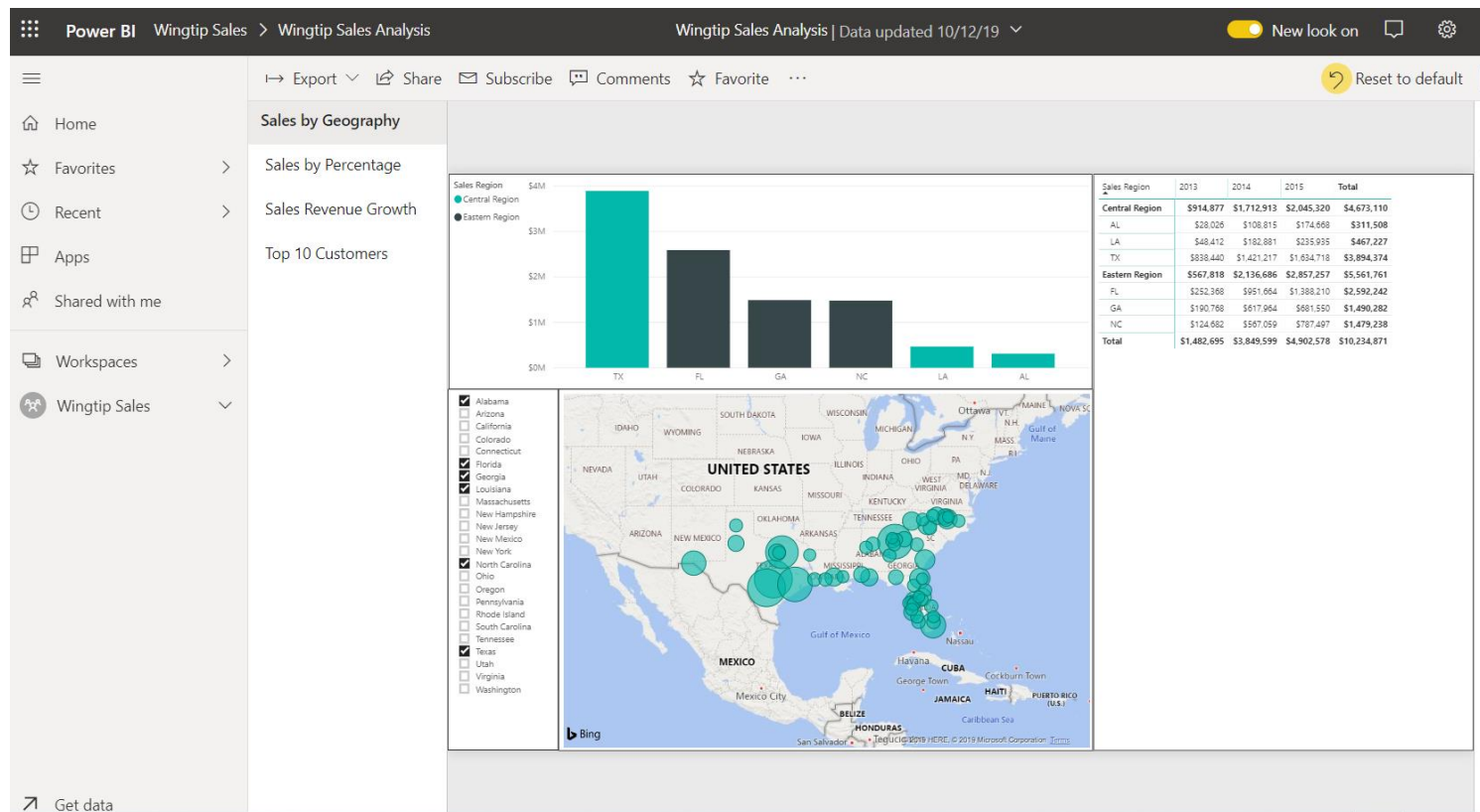
Power BI  
Desktop

Power BI  
Report Server



# The Power BI Service

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



# Central Power BI Concepts

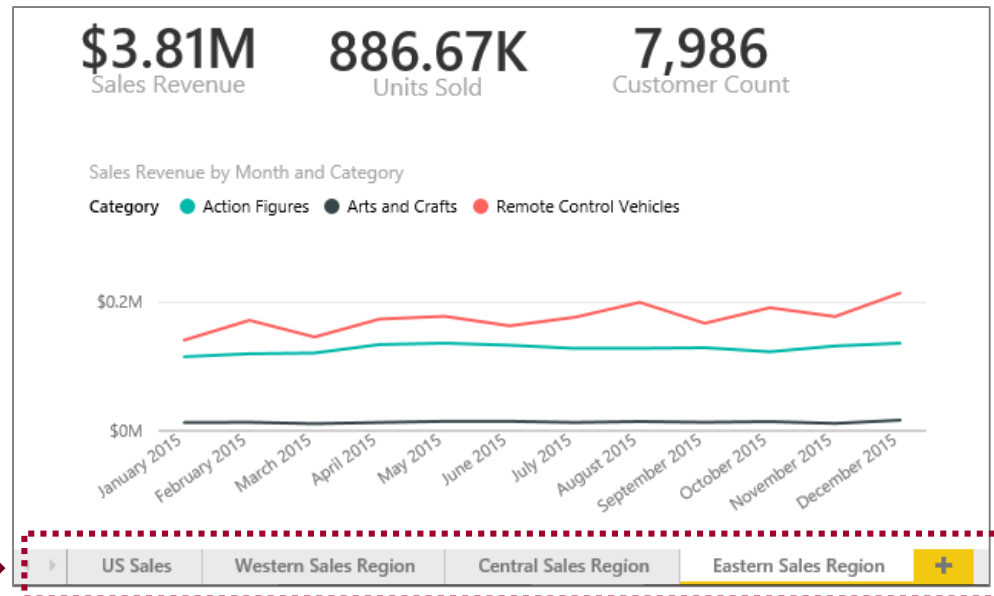
- Workspace
  - Provides user context and asset container
  - Every user has personal workspace
  - Team development requires group workspaces
- Dashboard
  - Consolidated view into reports and datasets
  - Custom solution entry point for mobile users
- Report
  - Collection of pages with tables & visualizations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





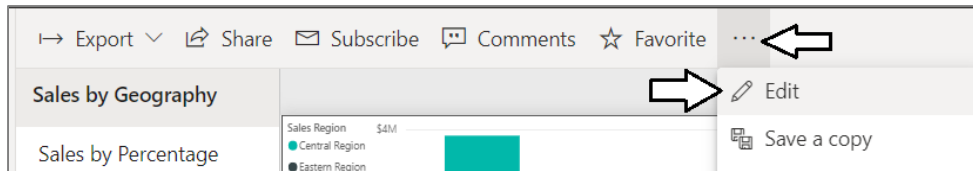
# Reports and Pages

- 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

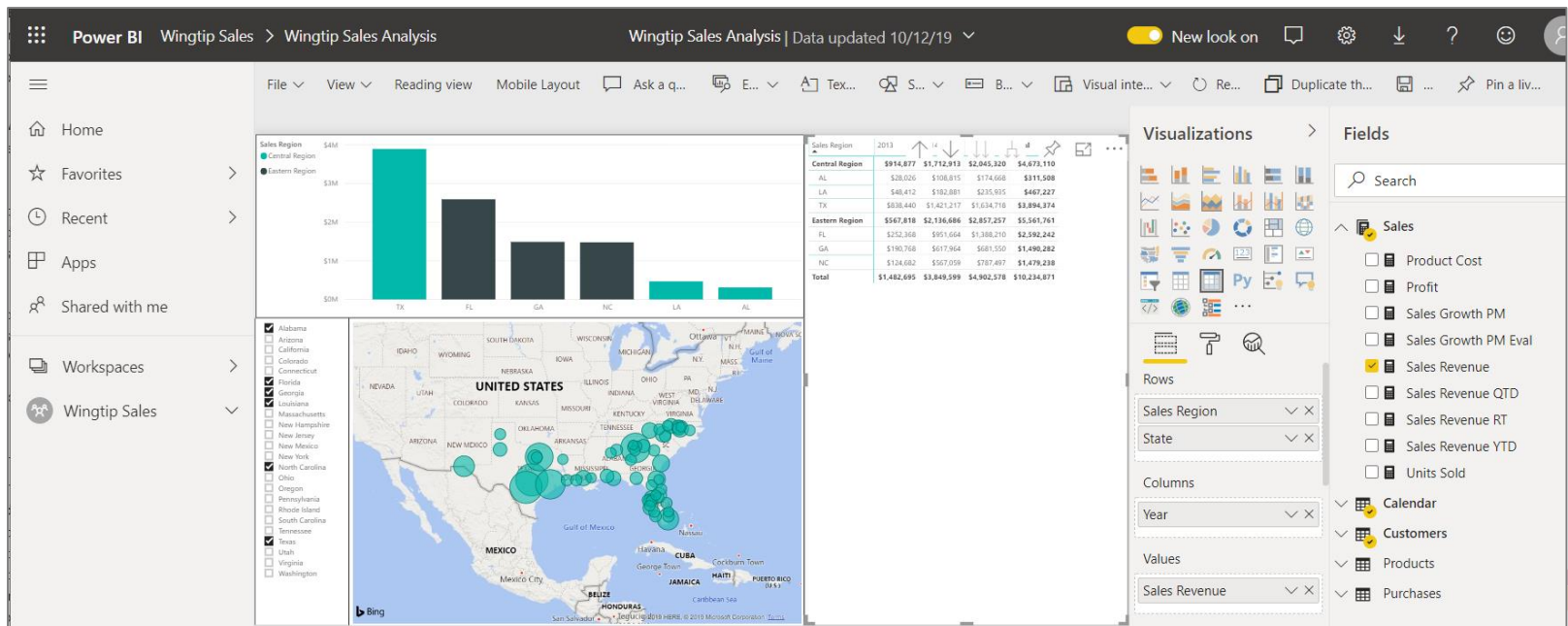


# Report Authoring

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

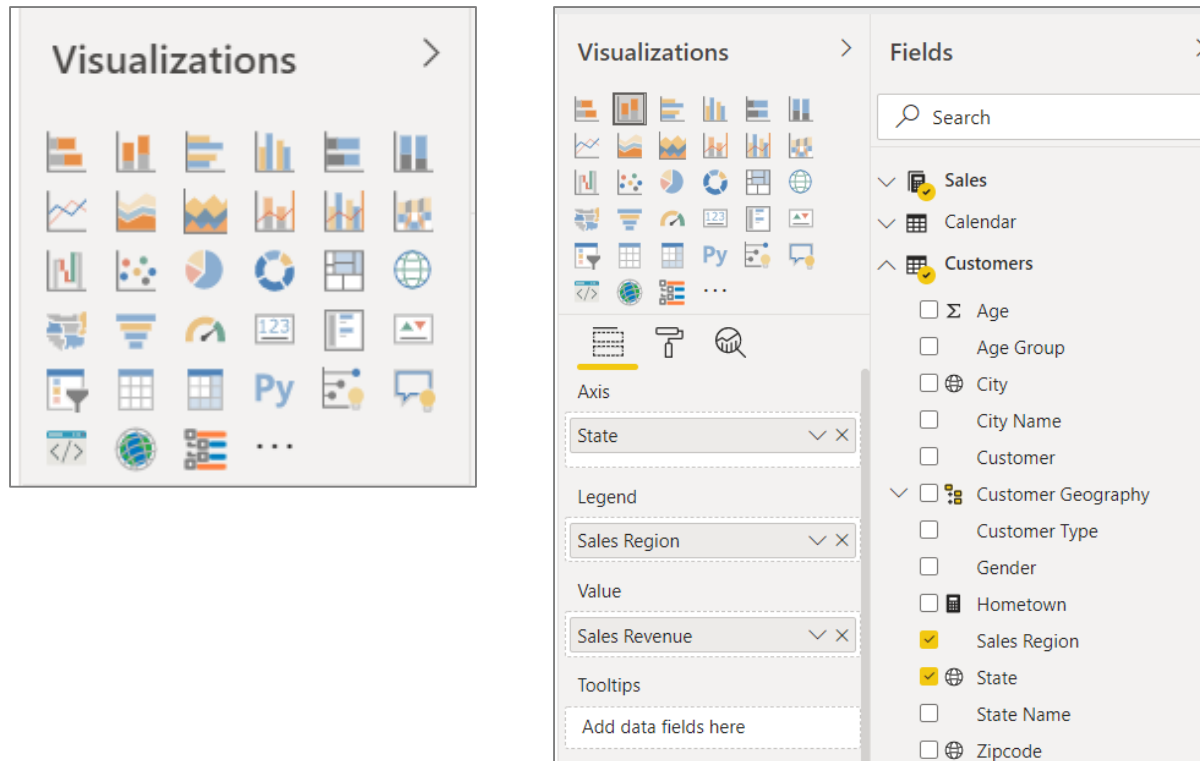


- Report design tools appear on right side of page



# Visuals (aka Visualizations)

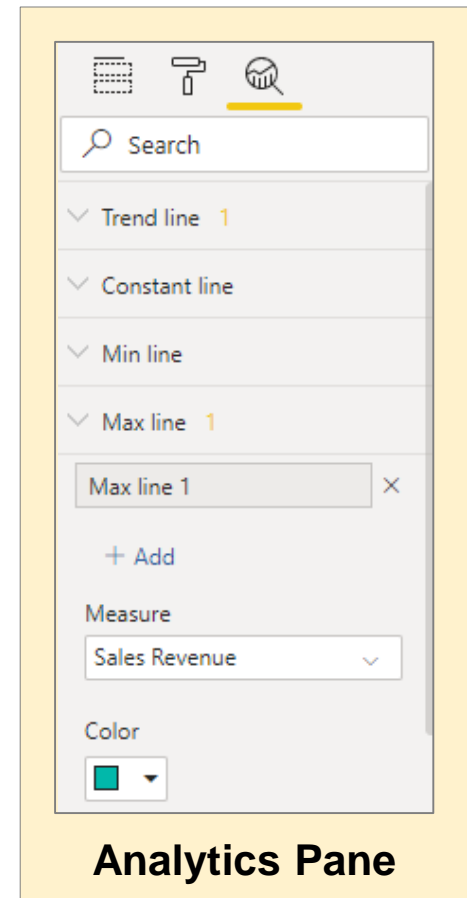
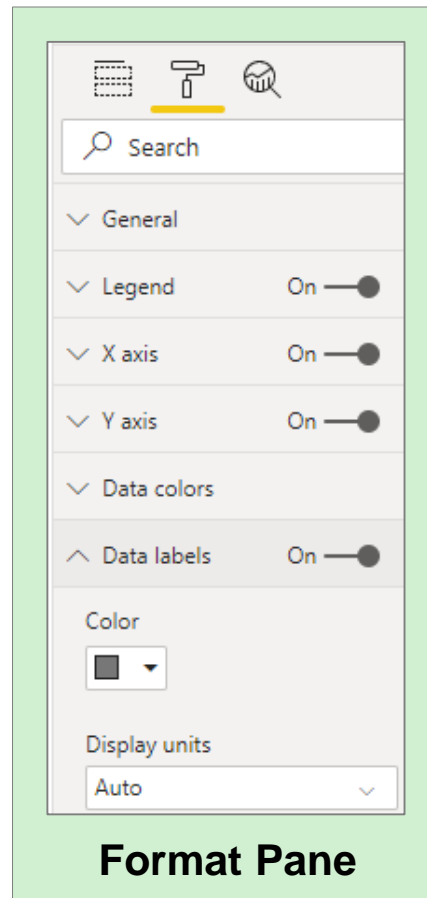
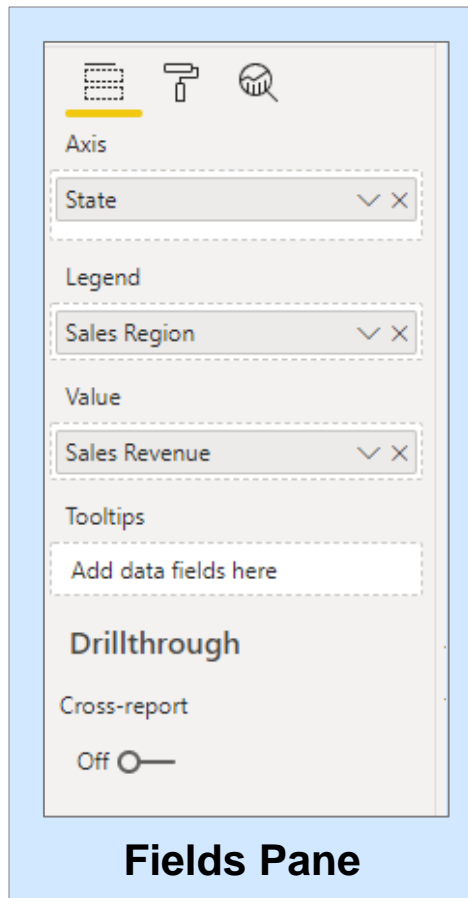
- Reports are designed using visual (aka visualizations)
  - Each visual is based on an underlying visualization type
  - Visualization type can be changed using **Visualizations** pane
  - Visuals configured using fields from tables in **Fields** list





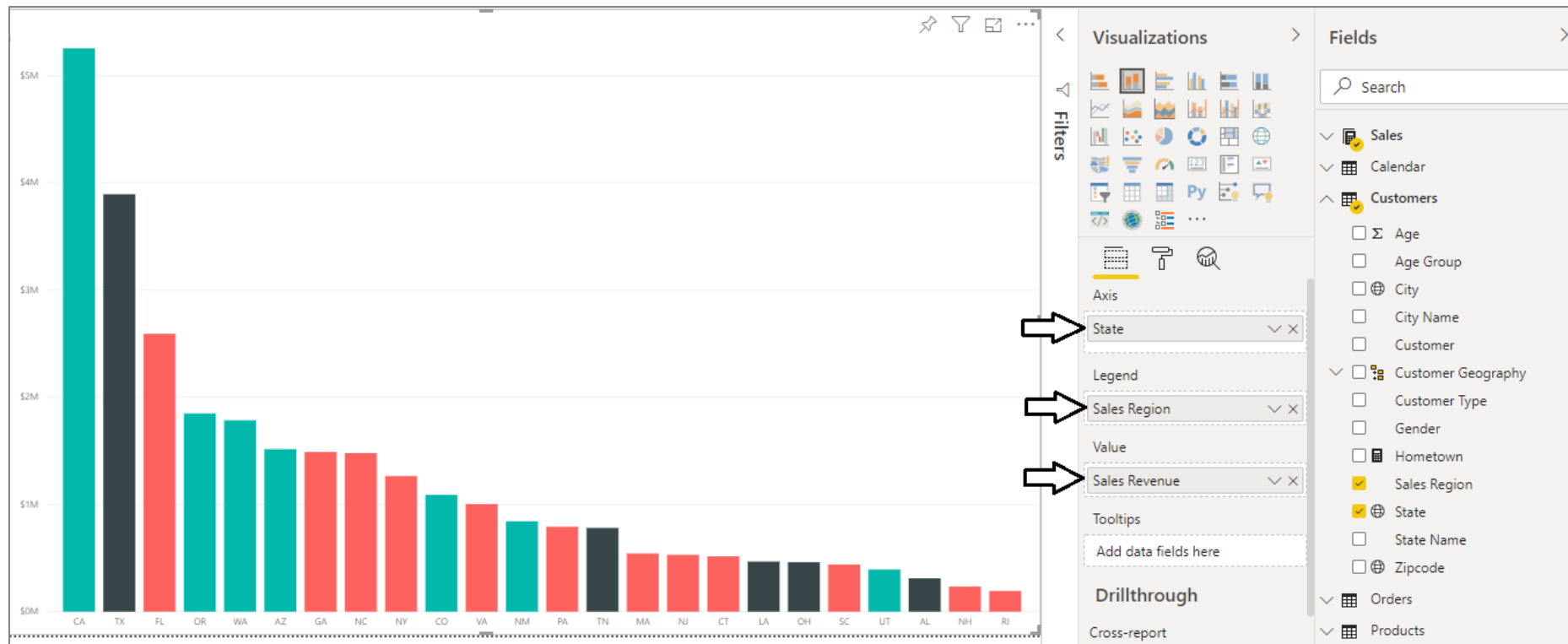
# Editing Visual Properties

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



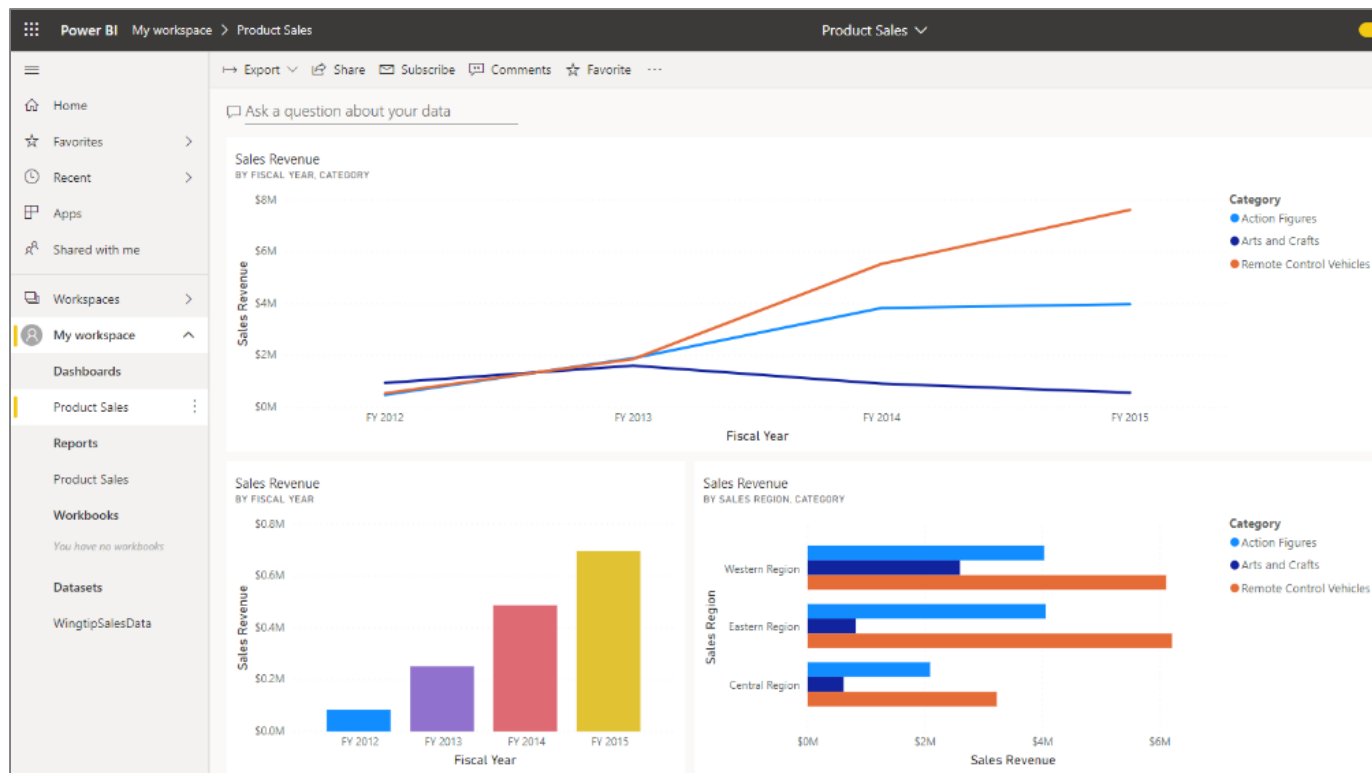
# Report and Datasets

- Each report is based on single underlying dataset
  - **Fields list** in report designer shows tables and fields
  - Fields added to a visual's data roles in **Fields pane**



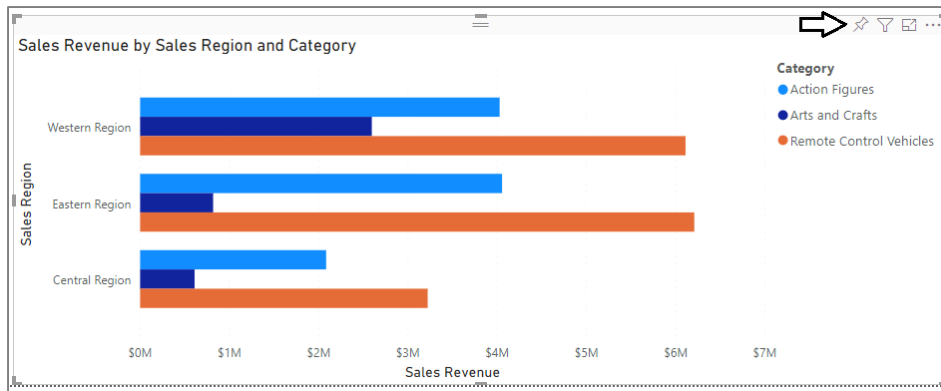
# Dashboards and Tiles

- Dashboard is a collection of tiles
  - Tiles can be created by pinning visual from a report
  - Tiles can be created by pinning Q&A search result

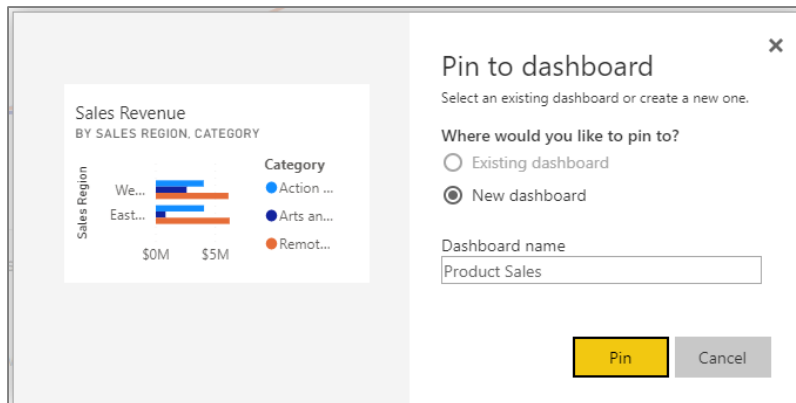


# Creating Dashboards

- Dashboards contain tiles
- Tiles created from visuals using thumbtack button

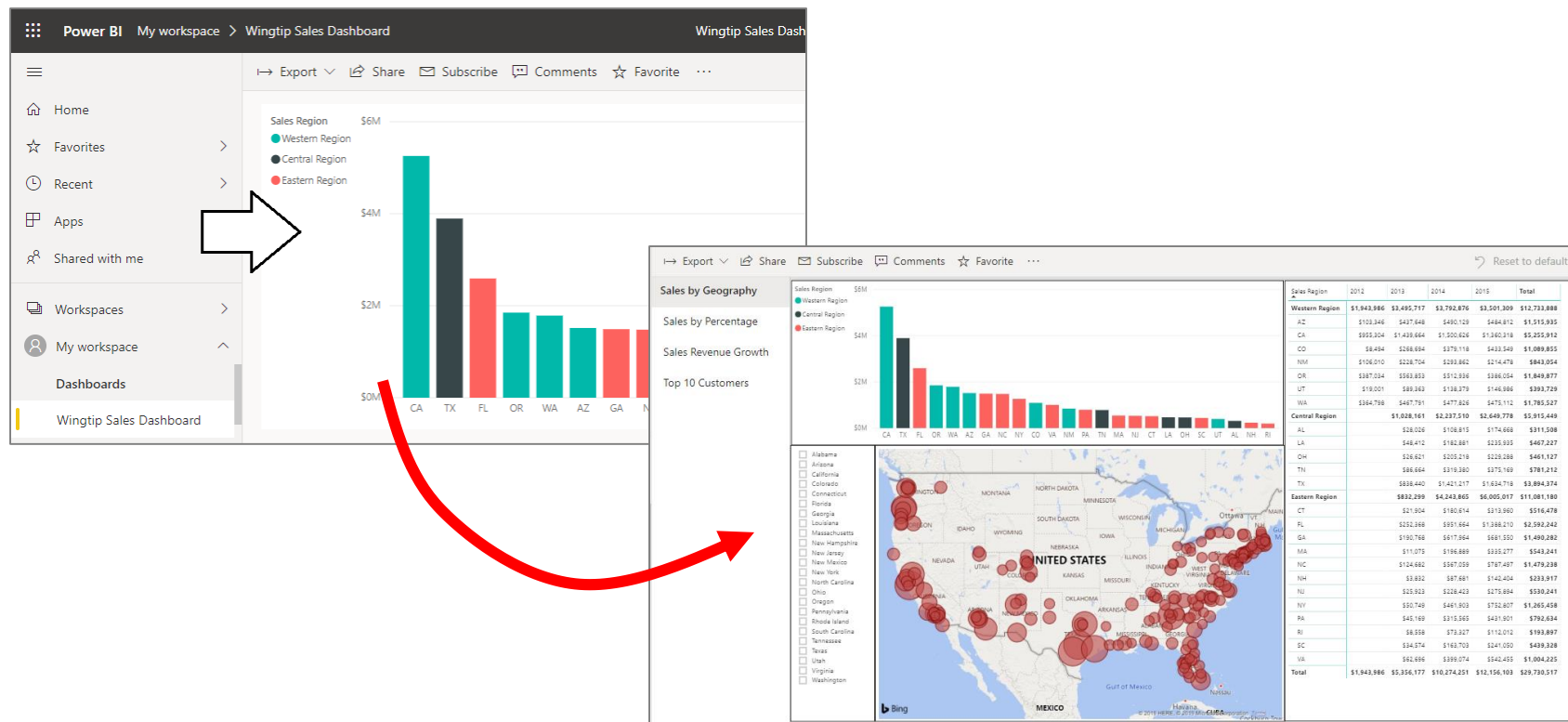


- New tiles can be added to new or existing dashboard



# 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







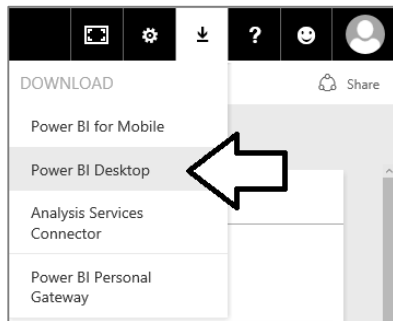
**DEMO**

# **Creating Reports and Dashboards using the Power BI Service**



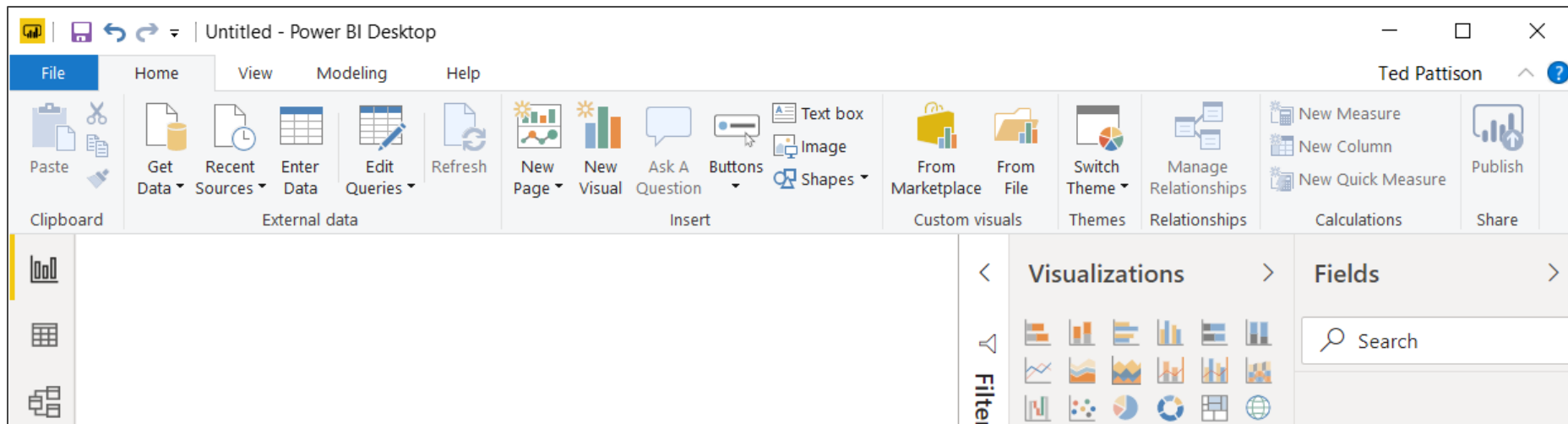
# Installing Power BI Desktop

- Power BI Desktop quick & easy to install over the Internet
  - Select Power BI Desktop option from Power BI Download menu
  - Power BI Desktop downloads & installs in less than a minute



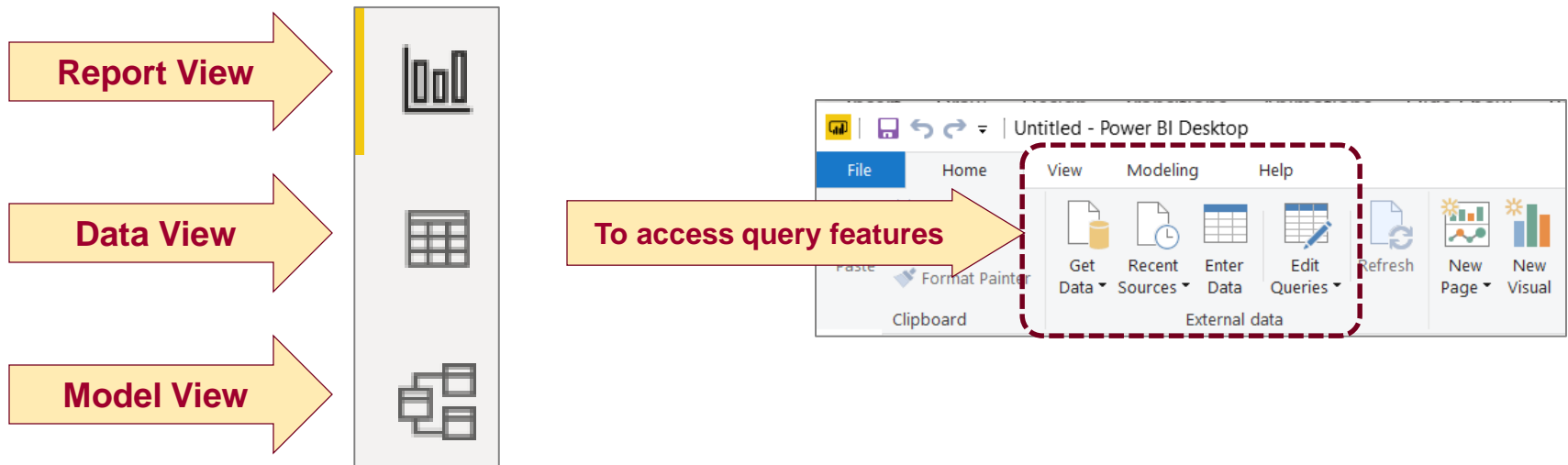
# Working with Power BI Desktop

- Power BI Desktop is a Windows application
  - Work is saved and published in terms of PBIX projects
  - You can work on multiple projects at once
  - Each project runs in its own Power BI Desktop instance
  - Power BI Desktop can freeze up or act buggy
  - Quit & restart Power BI Desktop if it acts strangely



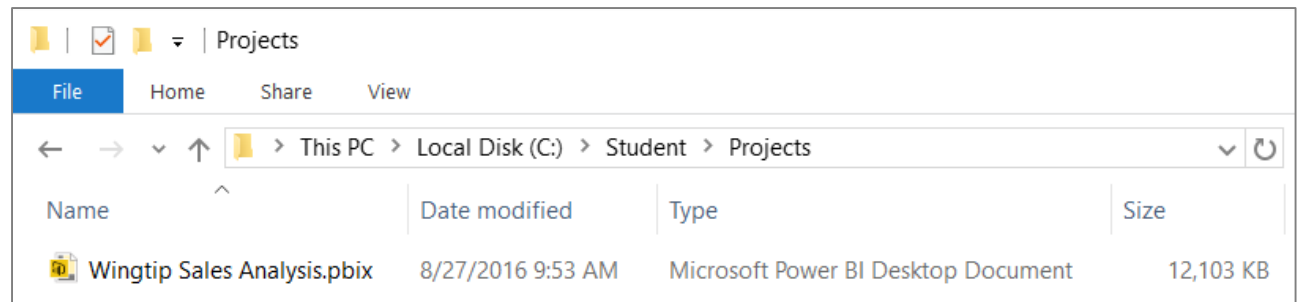
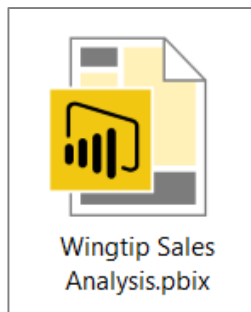
# Getting Around in Power BI Desktop

- What do you need to learn to use Power BI Desktop?
  - Query features for importing data
  - Designing data model & writing DAX expressions
  - Designing reports with Power BI Desktop report designer
- Navigating between view modes



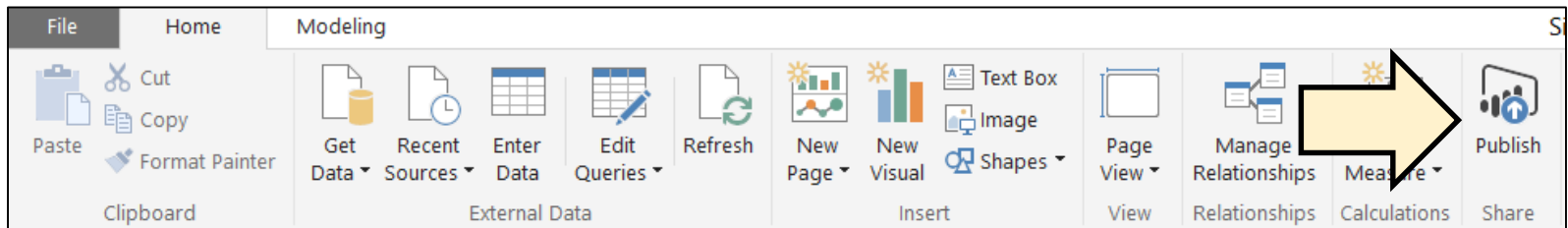
# Projects and PBIX Files

- Power BI Desktop projects saved using PBIX files
  - PBIX file contains data source definitions
  - PBIX file contains query definitions
  - PBIX file contains data imported from queries
  - PBIX file contains exactly one data model definition
  - PBIX file contains exactly one report
  - PBIX file never contains data source credentials

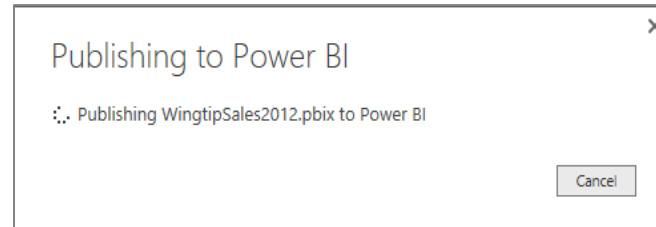
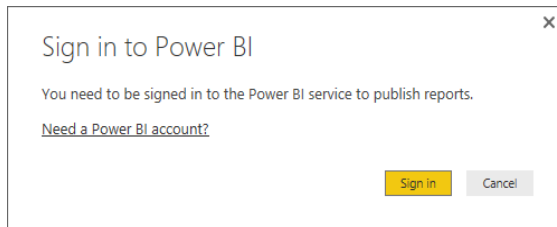


# Publishing a Power BI Desktop Project

- Power BI Desktop provides **Publish** command
  - Used to publish project to Power BI service



- Requires logging into your Office 365 account



- Published articles added to target workspace







**DEMO**

# Getting Up and Running with Power BI Desktop

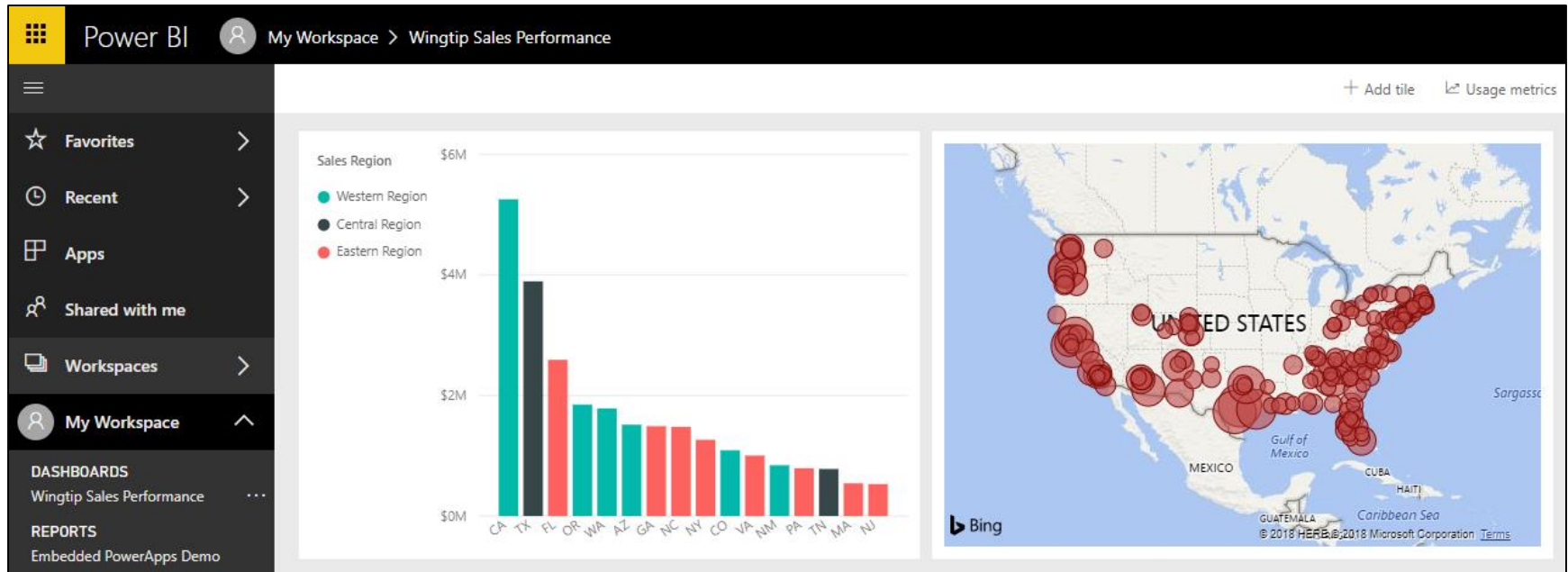


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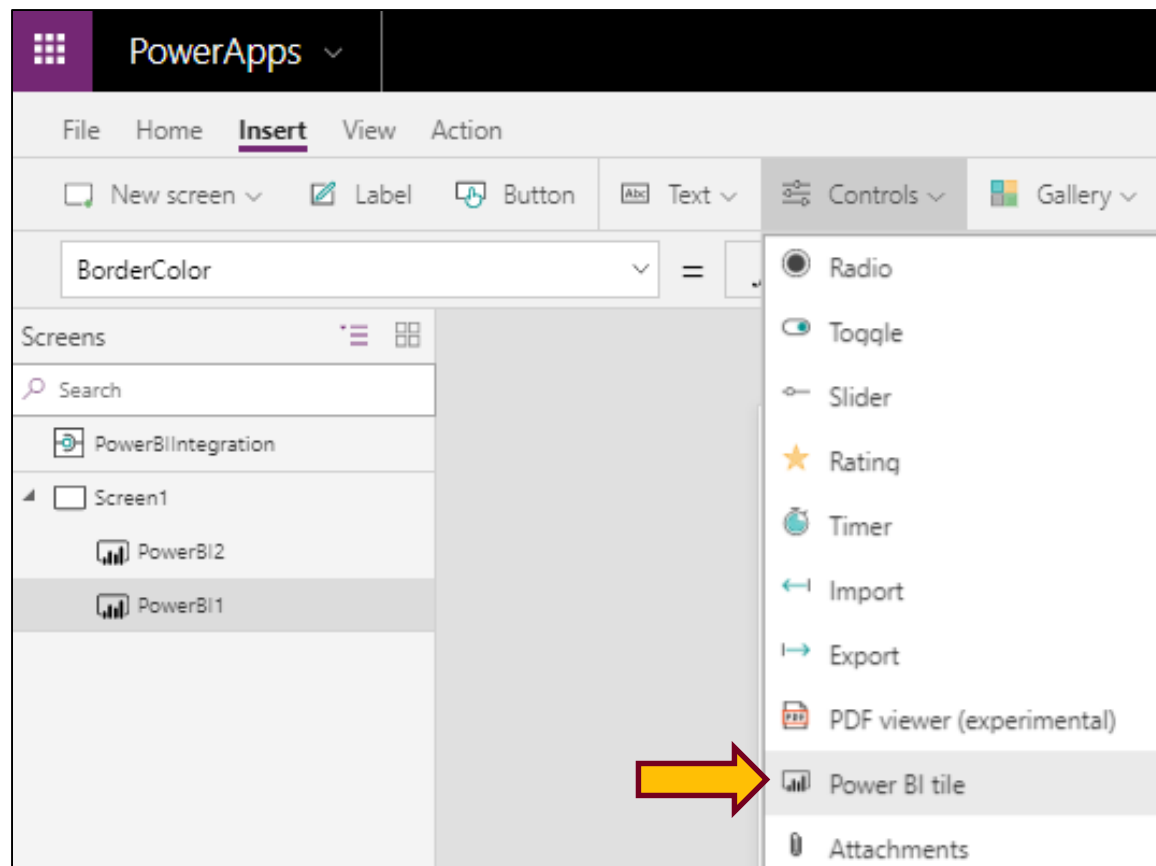
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# Start by Creating Dashboard Tiles



# The Power BI Tile Control in PowerApps



# Embedding Power BI Dashboard Tiles

PowerApps

File Home Insert View Action

New screen Label Button Text Controls Gallery Data table Forms Media Charts Icons

BorderColor = `fx` `RGBA(101, 128, 187, 1)`

Screens

- PowerBIIntegration
- Screen1
  - PowerBI/2
  - PowerBI/1

POWER BI TILE  
PowerBI1

Properties Rules Advanced

Data <https://app.powerbi.com/embed?dashboard...>

Position X: 40 Y: 40


Size Width: 575 Height: 490

Border 2

Power BI Interactions On

Display mode Edit

Visible On

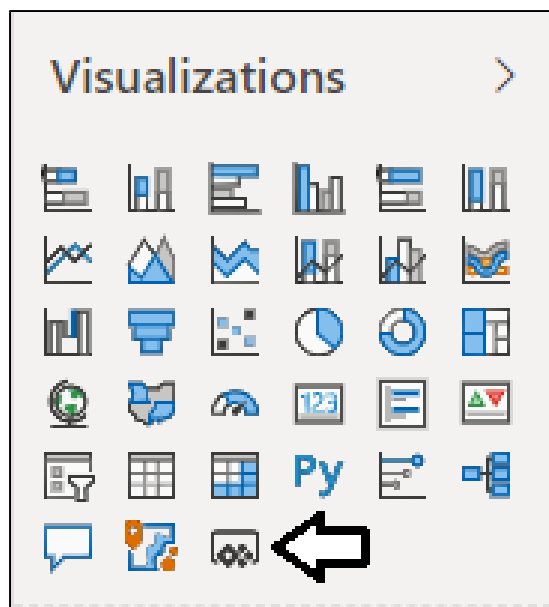


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# The Power Apps Visual





# Configuring PowerApps Data Settings

The screenshot displays the PowerApps Studio interface. On the left, a canvas area shows a prompt to 'Choose an existing app or create a new one'. At the bottom of this area, there are two buttons: 'Choose app' and 'Create new'. A large yellow arrow points from the 'Create new' button towards the right-hand pane. The right-hand pane is divided into three sections: 'VISUALIZATIONS', 'PowerApps Data', and 'FILTERS'. The 'VISUALIZATIONS' section contains various chart and table icons. The 'PowerApps Data' section lists data sources: 'State', 'Sales Revenue', 'Units Sold', and 'Customer Count'. The 'FILTERS' section is currently empty. A second large yellow arrow points from the 'Create new' button to the 'PowerApps Data' section. The 'FIELDS' pane on the far right shows a search bar and a list of fields for the 'Customers' data source, including 'Age', 'Age Group', 'City', 'City Name', 'Customer', 'Customer Count' (checked), 'Customer Geography', 'Customer Rank', 'Customer Type', 'Gender', 'Sales Region', 'State' (checked), 'State Name', and 'Zipcode'.

**PowerApps Studio Interface:**

- Canvas:** Choose an existing app or create a new one. PowerApps Studio will open in a new browser tab.
- Buttons:** Choose app, Create new
- VISUALIZATIONS:** Grid of visualization icons.
- PowerApps Data:**
  - State
  - Sales Revenue
  - Units Sold
  - Customer Count
- FILTERS:**
  - Visual level filters
  - Customer Count (All)
  - Sales Revenue (All)
  - State (All)
- FIELDS:**
  - Search
  - Calendar
  - Customers
    - Age
    - Age Group
    - City
    - City Name
    - Customer
    - Customer Count (checked)
    - Customer Geography
    - Customer Rank
    - Customer Type
    - Gender
    - Sales Region
    - State (checked)
    - State Name
    - Zipcode
  - Products
  - Purchases



# Designing the App in PowerApps Studio

The screenshot displays the PowerApps Studio interface. The top navigation bar includes 'File', 'Home', 'Insert', 'View', 'Action', and 'Gallery'. Below this, a secondary bar contains 'Data sources', 'Media', 'Collections', 'Variables', and 'Advanced'. The formula bar at the top shows the 'Items' property of a gallery set to `Sort(PowerBIIntegration.Data, 'Sales Revenue', Descending)`.

The left-hand 'Screens' pane shows a tree view with 'Screen1' containing 'Gallery1'. The central canvas displays a gallery with seven rows of data for different US states. The right-hand pane is set to the 'Properties' tab for 'Gallery1', showing configuration options for 'Data' (set to 'Custom'), 'Layout' (set to 'Title, subtitle, and body'), 'Wrap count' (1), 'Template size' (146), 'Template padding' (0), 'Position' (X: 0, Y: 0), and 'Size' (Width: 640, Height: 1136).

| State      | Sales Revenue | Customer count |
|------------|---------------|----------------|
| California | \$5,255,912   | 10,682         |
| Texas      | \$3,894,374   | 8,279          |
| Florida    | \$2,592,242   | 5,897          |
| Oregon     | \$1,849,877   | 3,640          |
| Washington | \$1,785,527   | 3,409          |
| Arizona    | \$1,515,935   | 3,133          |
| Georgia    | \$1,490,282   | 3,251          |



# Using the App in Power BI Reports

The screenshot displays the Power BI application interface. The top navigation bar shows 'Power BI' and 'My Workspace > Wingtip Sales Analysis'. The left sidebar contains navigation options: Favorites, Recent, Apps, Shared with me, Workspaces, and My Workspace. Below these are sections for DASHBOARDS (Wingtip Sales Performance), REPORTS (Embedded PowerApps Demo, Wingtip Sales Analysis), WORKBOOKS (You have no workbooks), and DATASETS (Wingtip Sales Analysis). The main content area shows a report titled 'Wingtip Sales Analysis' with a filter for 'Region' (Western Region, Central Region, Eastern Region) and a list of states with their sales revenue and customer counts.

| State          | Sales Revenue | Customer count |
|----------------|---------------|----------------|
| Florida        | \$2,592,242   | 5,897          |
| Georgia        | \$1,490,282   | 3,251          |
| North Carolina | \$1,479,238   | 3,270          |
| New York       | \$1,265,458   | 2,995          |
| Virginia       | \$1,004,225   |                |



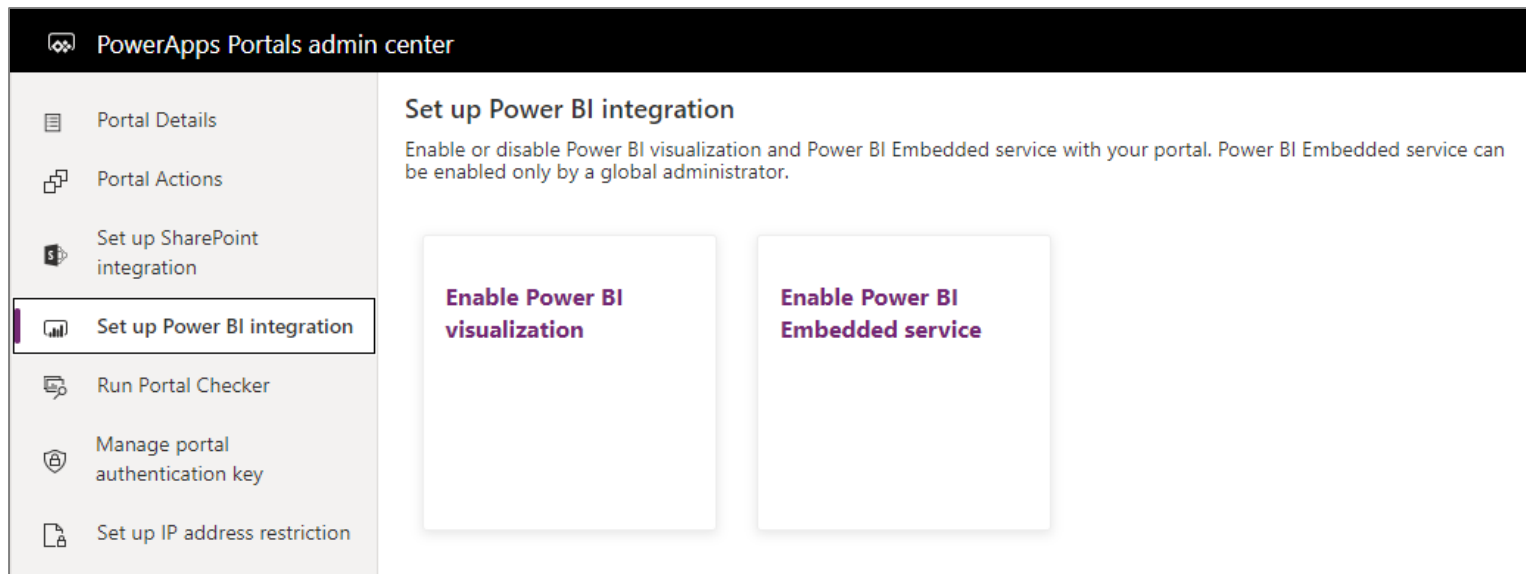
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# Configuring Portals for Power BI Integration

- Power BI Visualization must be enabled
  - This is done in portal admin center



# Summary

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