Designing Interactive Reports in Power BI Desktop

Agenda

➢ Working with the Report Designer

• Designing Interactive Reports using Slicers

• Using Conditional Formatting

• Designing Reports using Bookmarks

• Importing Custom Visuals

• Using Custom Report Themes

• Publishing Power BI Reports
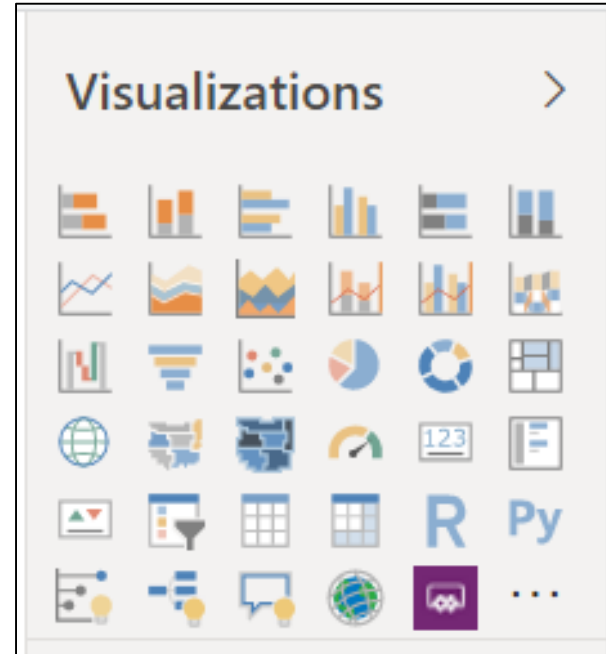
• Creating Reports from Shared Datasets

Creating Reports

- Power BI Desktop project contains one report
  - Report within project can contain multiple pages
  - Report pages contains visuals

- Reports can be created using filters
  - You can add visual level filters
  - You can add page level filters
  - You can add drillthrough filters
  - You can add report level filters

FILTERS

Visual level filters

Sales Region (All)

Sales Revenue (All)

Page level filters

Drag data fields here

Drillthrough filters

Drag drillthrough fields here

Report level filters

Drag data fields here

Built-in Visualization Types

- Bar charts and Column charts
- Line chart and Area chart
- Scatter chart and Combo charts
- Ribbon chart
- Waterfall chart
- Funnel chart
- Pie charts and Doughnut chart
- Treemap
- Map, Filled Map and Shape map
- Gauge
- Card and Multi-row Card
- Slicer
- Table and Matrix
- R script visual
- Python script visual
- Key influencers
- Decomposition Tree
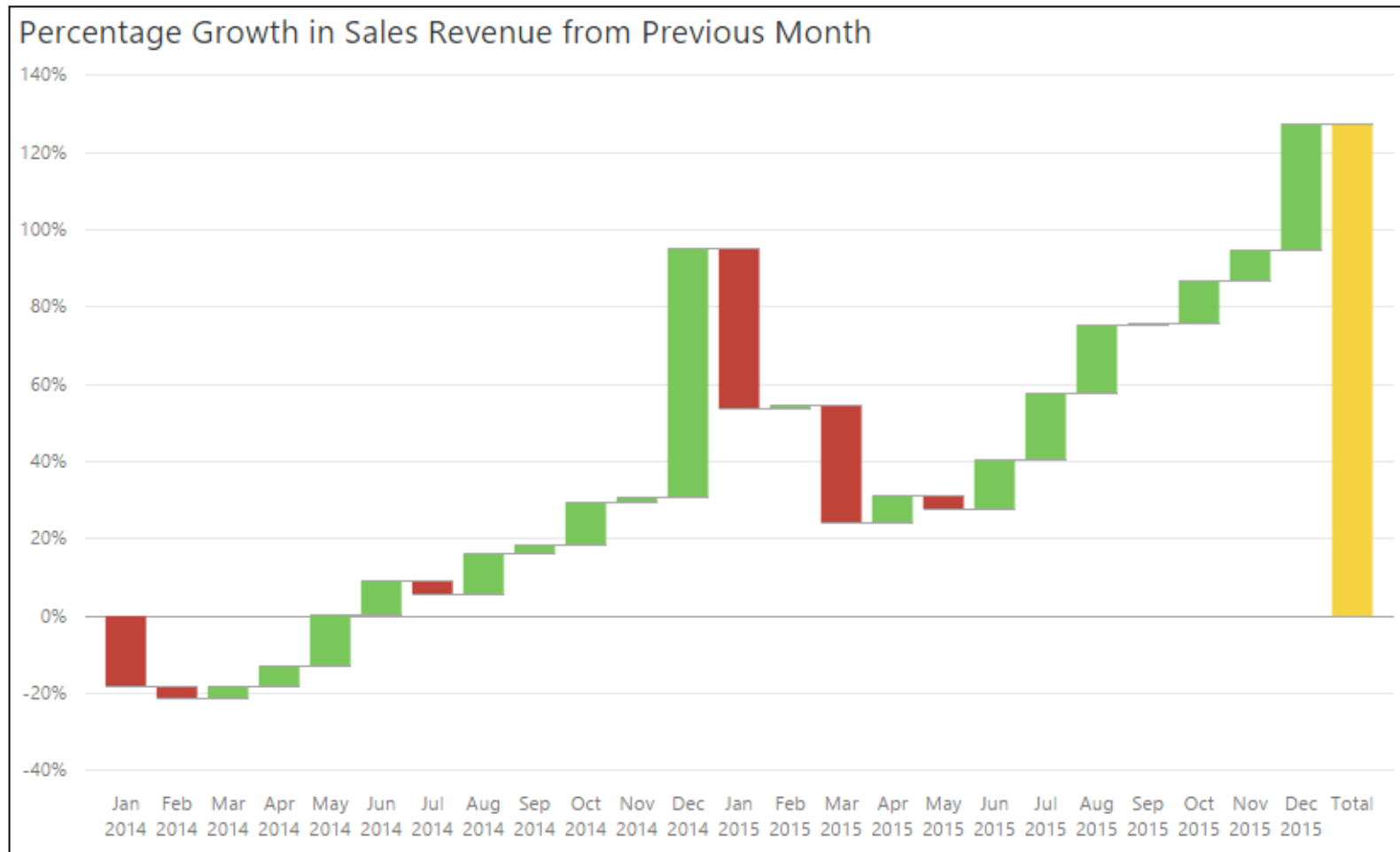- Q&A
- PowerApps for Power BI

Example Visual 1: Funnel

- Visualizes distribution across categories as percentage of top value

Product Revenue Breakdown

Product	Revenue
Flying Squirrel	$3.83M
Twitter Follower Action Figure	$3.51M
Godzilla Action Figure	$2.97M
Personal Commuter Chopper	$2.61M
Red Stomper Bully	$2.54M
Easel with Supply Trays	$1.71M
Seal Team 6 Helicopter	$1.68M
Flying Badger	$1.52M
Indy Race Car	$1.34M
Etch A Sketch	$1.18M
Crate o' Crayons	$0.98M
Captain America Action Figure	$0.86M
Spiderman Action Figure	$0.70M
Perry the Platypus Action Figure	$0.65M
Sandpiper Prop Plane	$0.64M
Green Hornet	$0.58M
Phineas and Ferb Action Figure Set	$0.50M
Red Wacky Stud Bumper	$0.31M
GI Joe Action Figure	$0.29M
Batman Action Figure	$0.23M
Turbo-boost Speedboat	$0.18M
Green Hulk Action Figure	$0.14M
Green Stomper Bully	$0.14M
Woody Action Figure	$0.13M
Red Barron von Richthofen	$0.11M
Sponge Bob Coloring Book	$0.10M
Red Angry Bird Action Figure	$0.10M
FOX News Chopper	$0.08M
Crayloa Crayon Set	$0.05M
Green Angry Bird Action Figure	$0.04M
Red Hulk Alter Ego Action Figure	$0.03M
Black Power Ranger Action Figure	$0.02M

Example Visual 2: Waterfall

- Visualizes series-based data with positive and negative values

Percentage Growth in Sales Revenue from Previous Month

Example Visual 3: Gauge Visual

- Visualizes how measured value is tracking against goal or budget
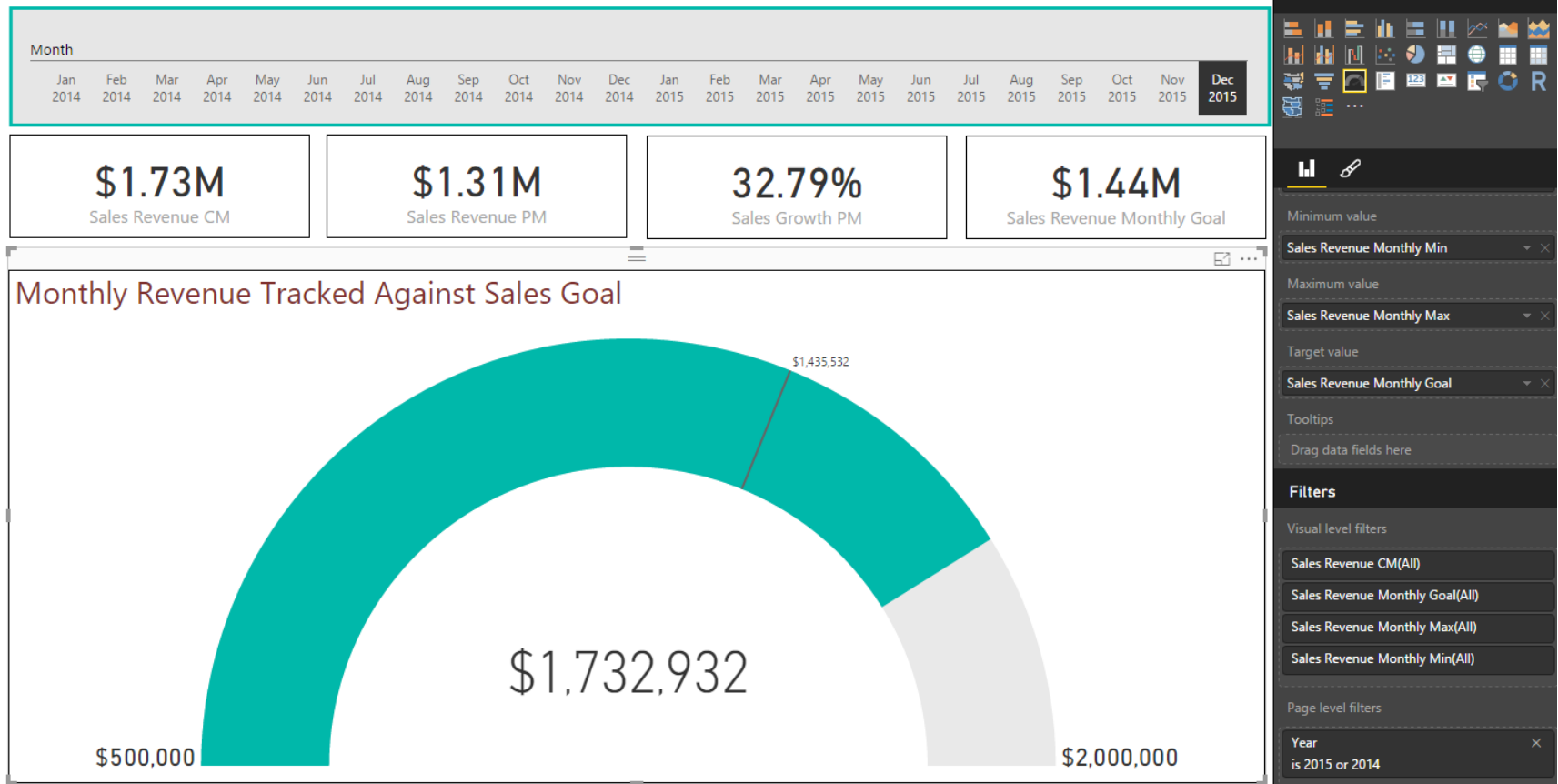
Report Designer Modes and Panes
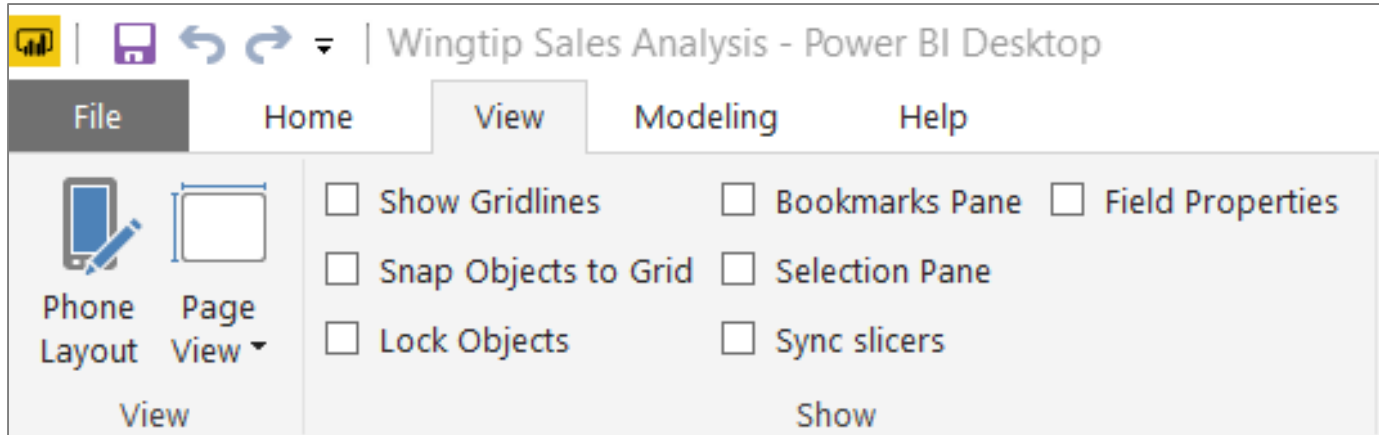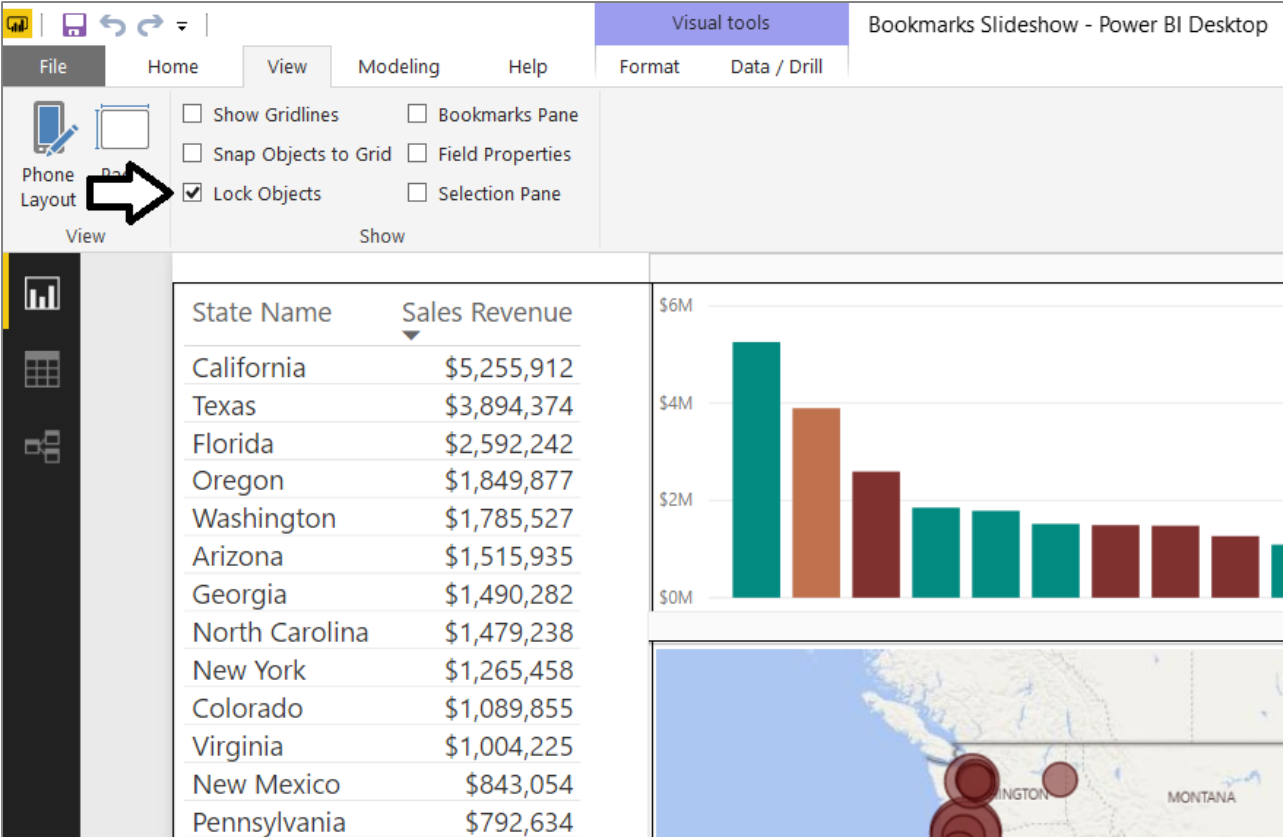
- **Show Gridlines** mode adds visual guides to report

- **Snap Objects to Grid** mode helps with object placement

- **Lock Objects** mode used to prevent accidental moving

- **Bookmarks Pane** used to create and manage bookmarks

- **Selection Pane** used to select, order, hide & show visuals

- **Sync slicers** pane used for advanced slicer control

- **Field Properties** used to add field description

Lock Objects Mode

- Prevents accident movement of report objects
  - Locks Objects setting is not saved at project level

Selection Pane

- Provides control over object on a page
  - You can control whether visual is visible or hidden
  - You can change ordering to control what is on top
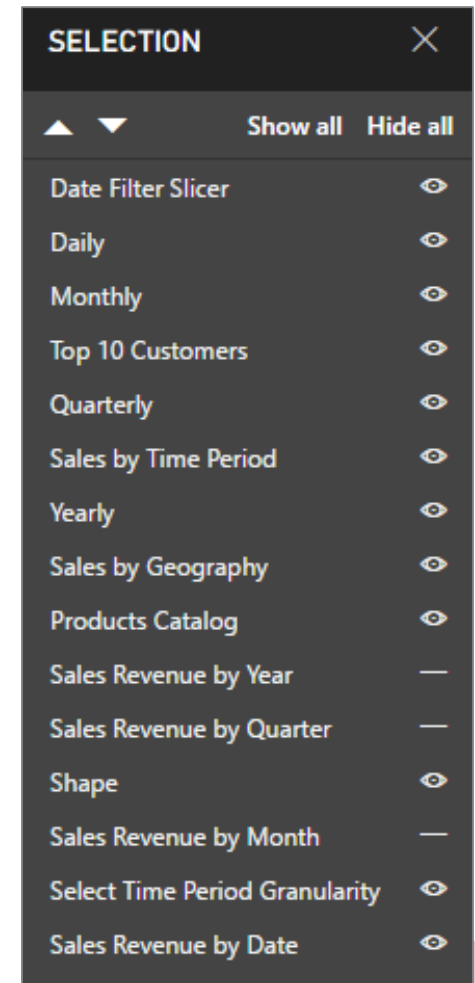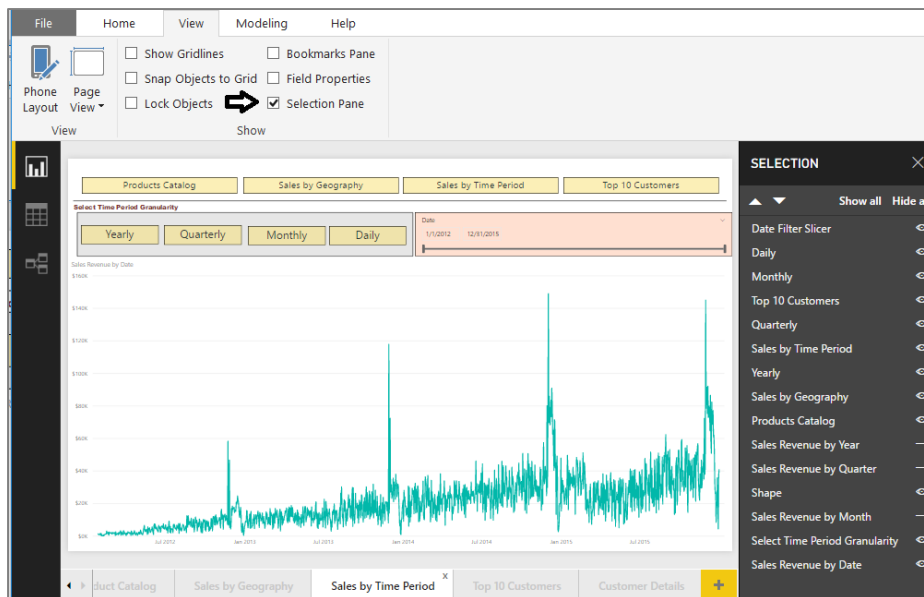
Field Properties Pane

- Allows data model author to add table and field description

- Using the Fields Properties pane

  1. Navigate to Model view

  2. Select a table or field

  3. Edit property values
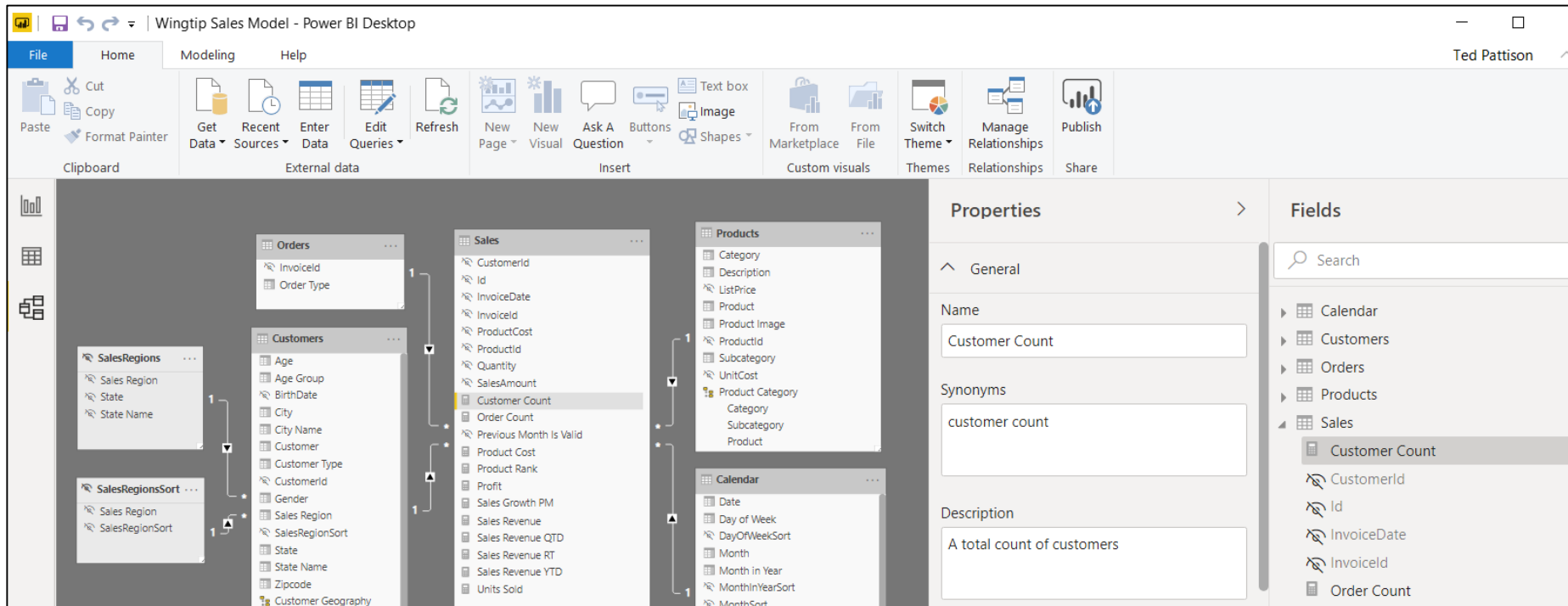
Agenda

- ✓ Working with the Report Designer
- ➢ Designing Interactive Reports using Slicers
- • Using Conditional Formatting
- • Designing Reports using Bookmarks
- • Importing Custom Visuals
- • Using Custom Report Themes
- • Publishing Power BI Reports
- • Creating Reports from Shared Datasets

Designing Reports with Interactive Filtering

- ## Slicers
  - Provide report consumers with intuitive filtering

- ## Visual Highlighting
  - Filtering applied when user clicks on a visual data element

- ## Drilldown Mode
  - Allows report consumer to drill into field hierarchy
    e.g. Sales Region > State > City > Zipcode

- ## Drillthrough Pages
  - Allows report consumer to navigate to drillthrough page

Slicer with Text Field

- Slicer support List and Dropdown modes
  - Slicer create in List mode by default
  - Slicer switched to dropdown mode to conserve vertical space

Horizontal Responsive Slicers

- ## Slicer **Orientation** can be set to **Horizontal**
  - Horizontal slicer supports **Responsive** mode
  - Makes it possible to show many slicer choices at once
  - provides best filtering experience for mobile devices
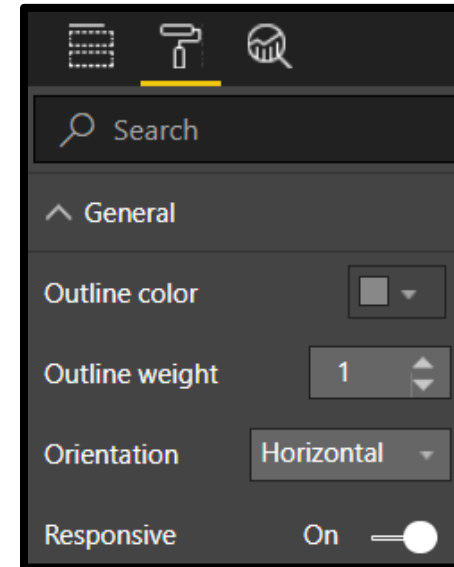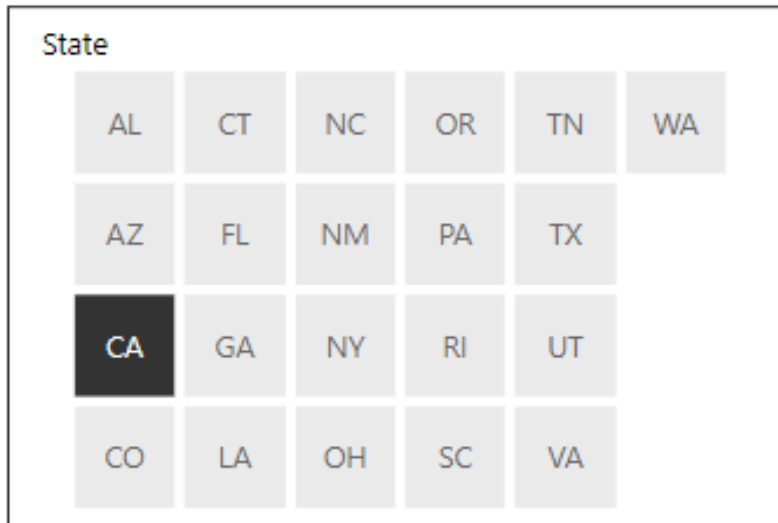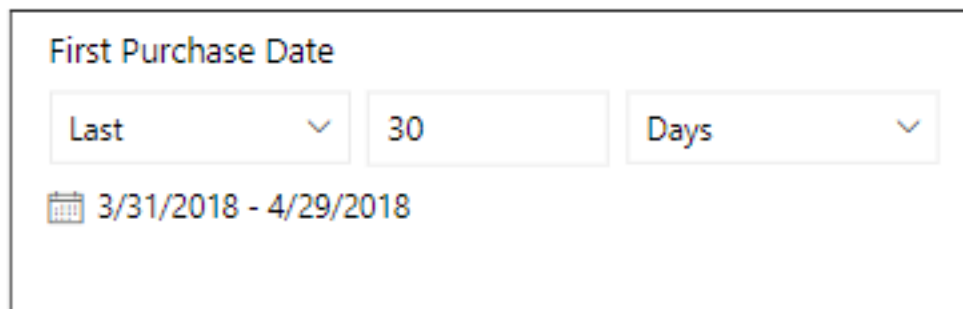
Slicers with Date Fields

- Slicers with Date fields provide 7 different modes
  - Between, Before and After provide sliders and date pickers

Between
Before
After
List
Dropdown
Relative

First Purchase Date

| 4/1/2012 | 10/1/2012 |

  - Relative mode filter based on current date (e.g. last 30 days)

First Purchase Date

| Last | ∨ | 30 | Days | ∨ |

🗓 3/31/2018 - 4/29/2018

Slicer Sync

- Slicer visual & filtering can be synchronized across pages

Edit Highlight Interactions Across Visuals

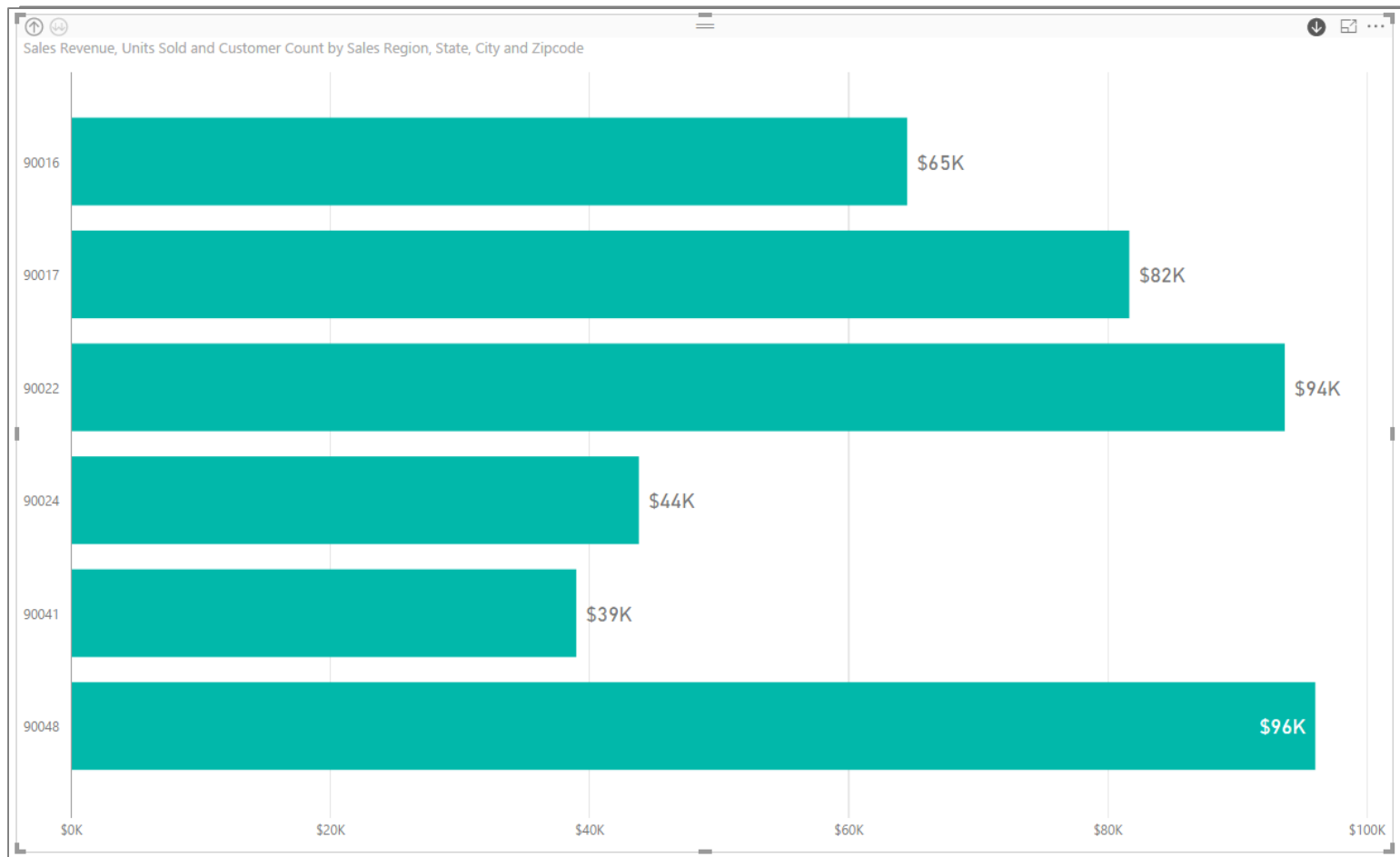- Click **Edit interactions** button on **Format** tab of ribbon
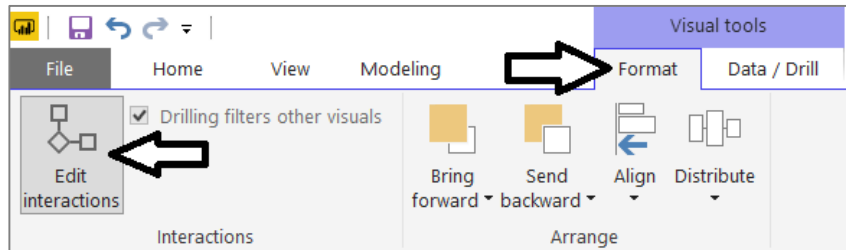
- Select a visual and then configure interactions with other visuals
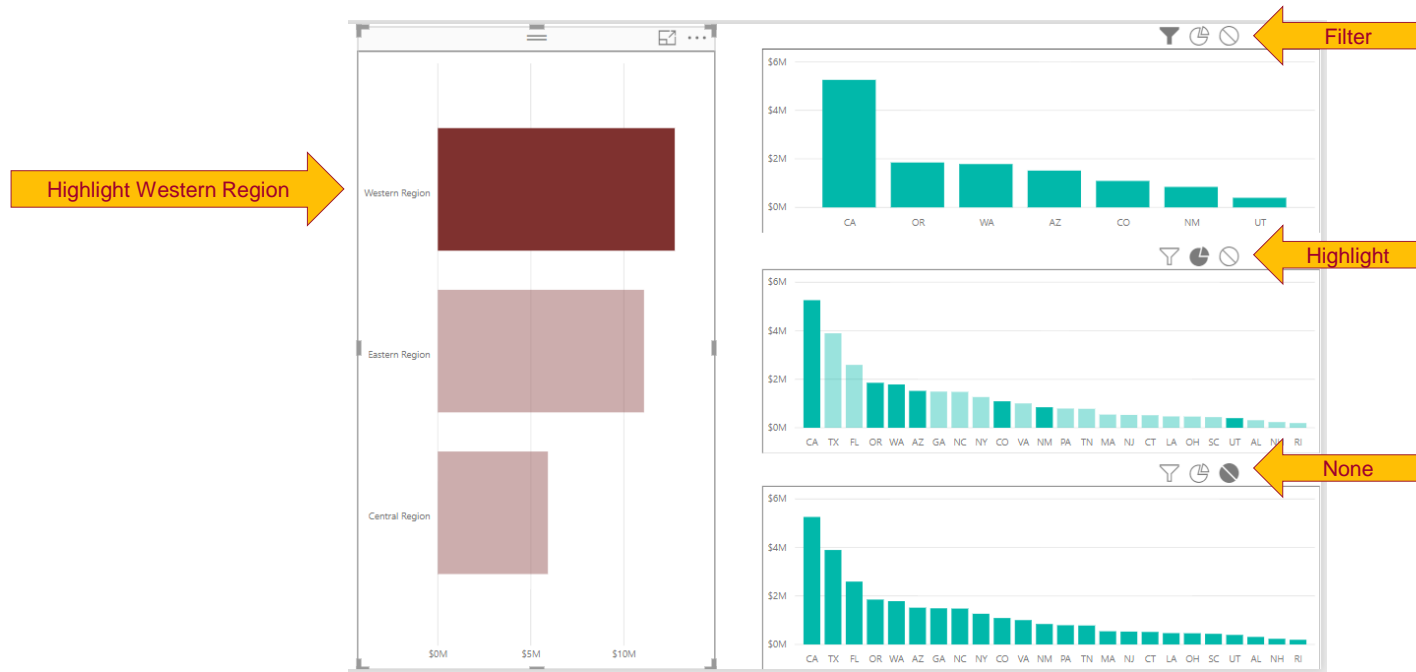
User Interaction using Drill Actions

- Drill Actions supported when using hierarchies
  - You must enabled drilldown mode in visual

DEMO

Creating Drillthrough Pages

Agenda

- ✓ Working with the Report Designer
- ✓ Designing Interactive Reports using Slicers
- ➢ Using Conditional Formatting
- • Designing Reports using Bookmarks
- • Importing Custom Visuals
- • Using Custom Report Themes
- • Publishing Power BI Reports
- • Creating Reports from Shared Datasets

DEMO

Using Conditional Formatting

Agenda

- ✓ Working with the Report Designer
- ✓ Designing Interactive Reports using Slicers
- ✓ Using Conditional Formatting
- ➢ Designing Reports using Bookmarks
- • Importing Custom Visuals
- • Using Custom Report Themes
- • Publishing Power BI Reports
- • Creating Reports from Shared Datasets

What are Bookmarks

- Snapshot of recorded settings which can include…
  - Current page
  - Filters
  - Slicers
  - Visual sort order
  - Drill location
  - Visibility
  - Spotlighting

- Bookmarks provide the foundation for story telling
  - Bookmarks are supported in reports only
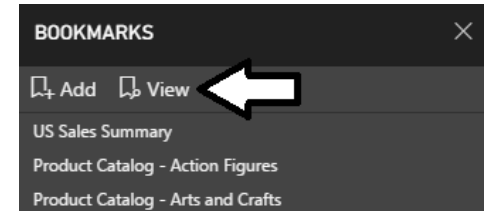 - Bookmarks are **NOT** supported in dashboards

Bookmarks Pane

- Provide ability to create and manage bookmarks
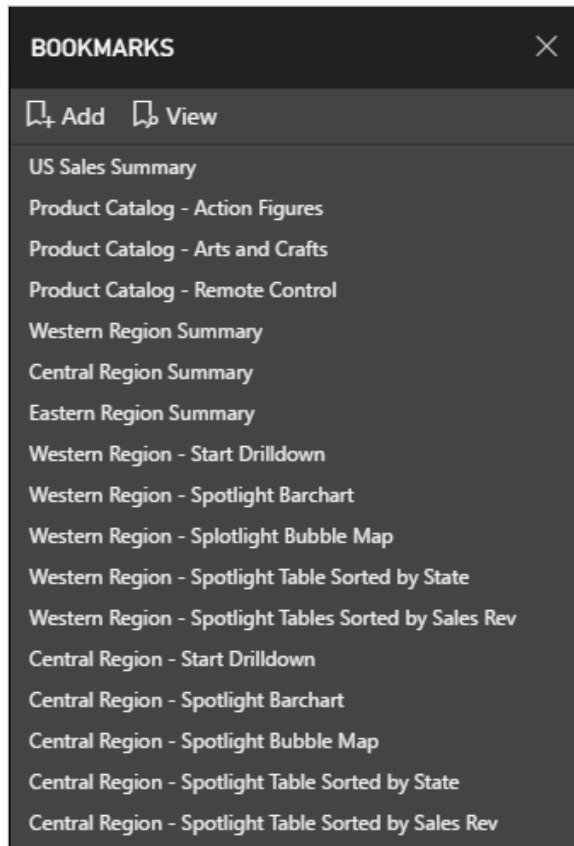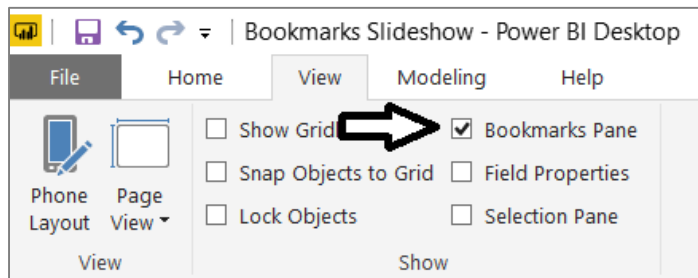
Bookmarks as a Slide Show

- Bookmarks can be viewed as slide show
  - Start slide show by clicking View button
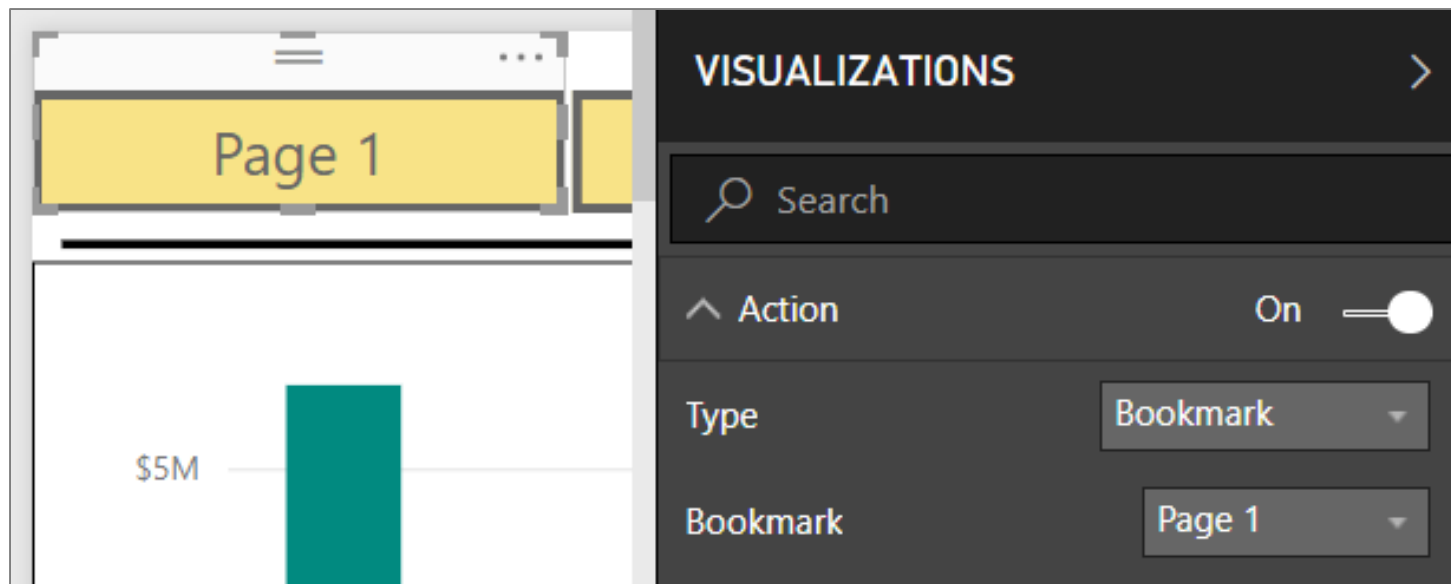 - Consumer can step through one bookmark at a time
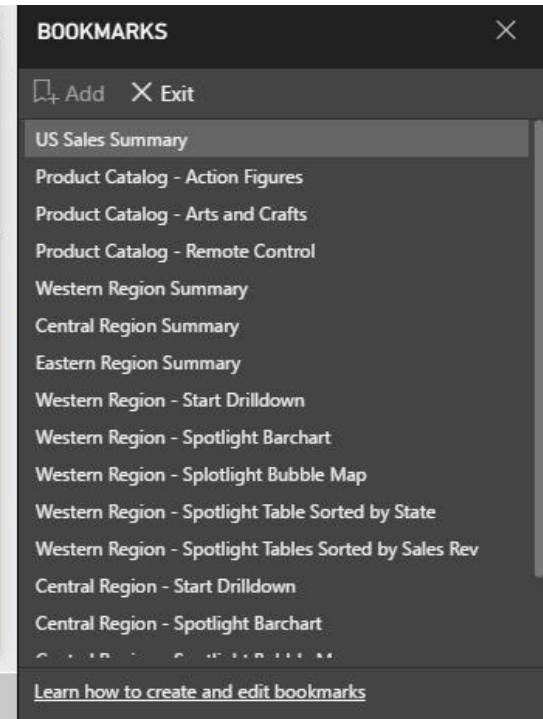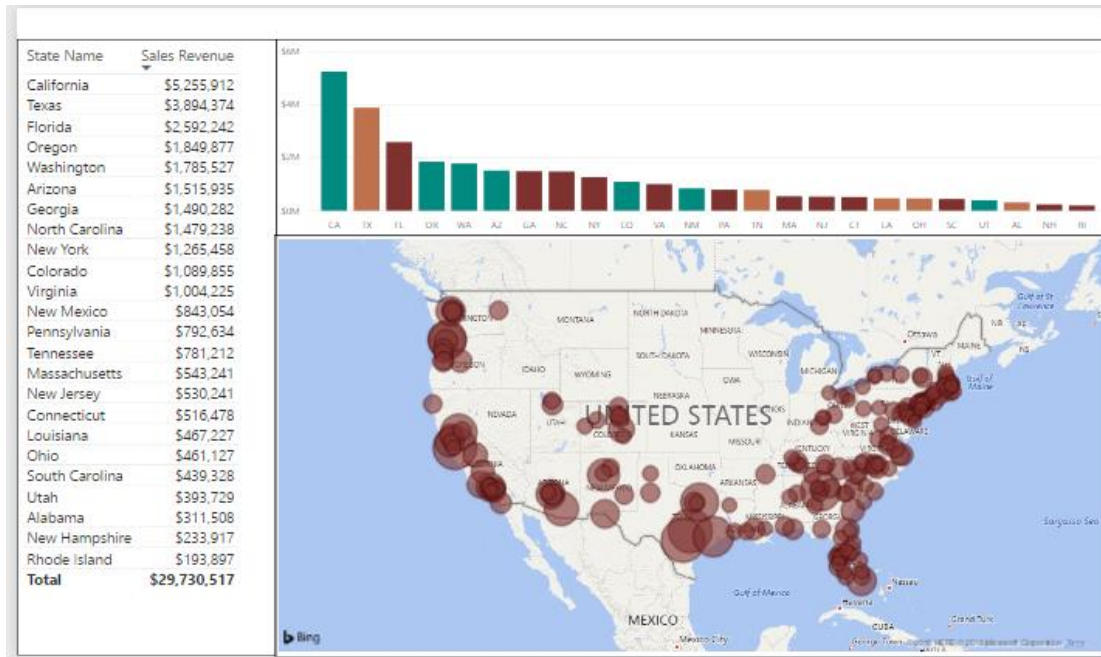
Creating a Button

- Buttons can be added to report pages to apply a bookmark
  - Button can be create with icon and/or text
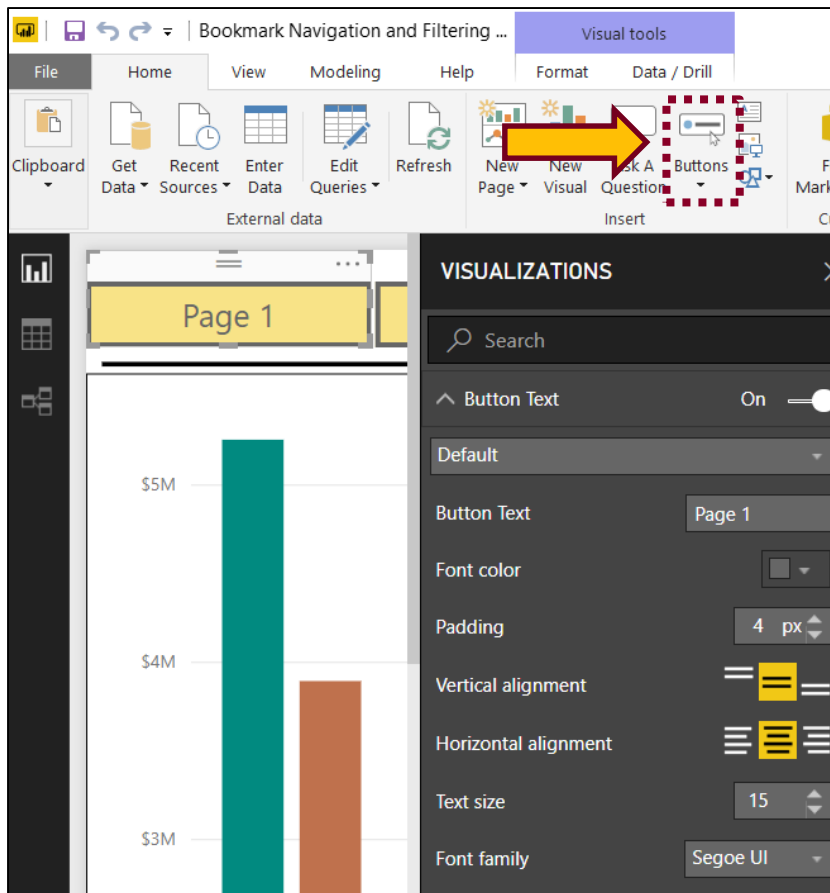
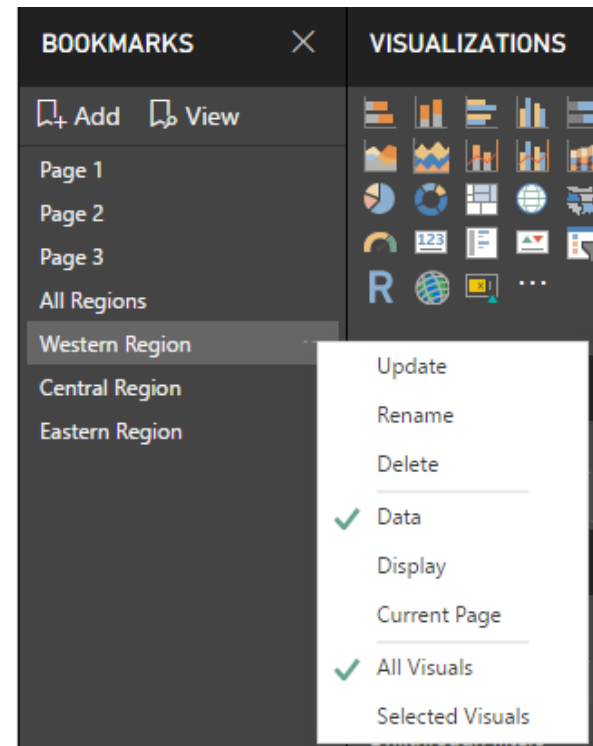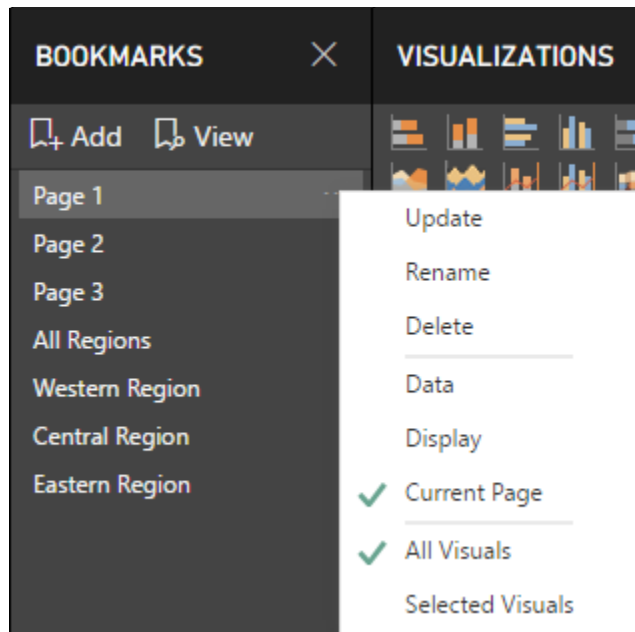# Button Action Used to Apply Bookmark

- Button action can apply a bookmark
  - Button responds to standard click in Power BI Service
  - Button requires CONTROL + click in Power BI Desktop

Bookmarks Types

- Bookmarks can capture or ignore certain types of data
    - Data (filtering and slicers)
    - Display (visible or hidden)
    - Current Page (page navigation)

DEMO

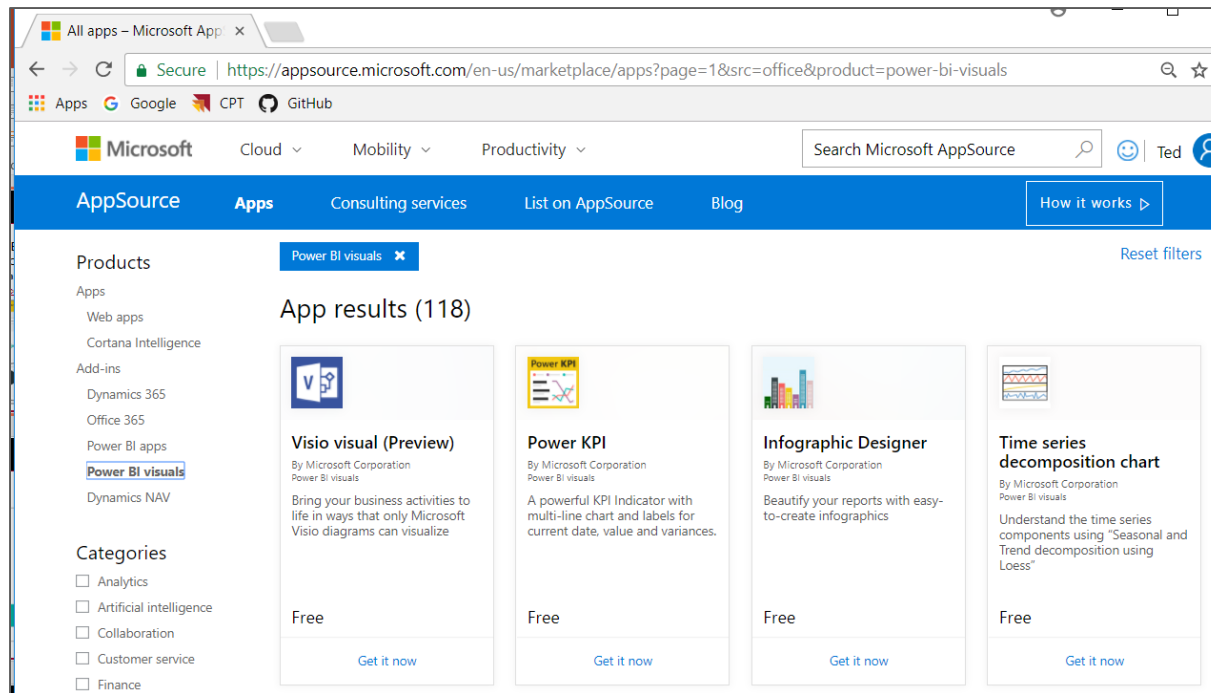Designing Reports using Bookmarks

Agenda

- ✓ Working with the Report Designer
- ✓ Designing Interactive Reports using Slicers
- ✓ Using Conditional Formatting
- ✓ Designing Reports using Bookmarks
- ➢ Importing Custom Visuals
- • Using Custom Report Themes
- • Publishing Power BI Reports
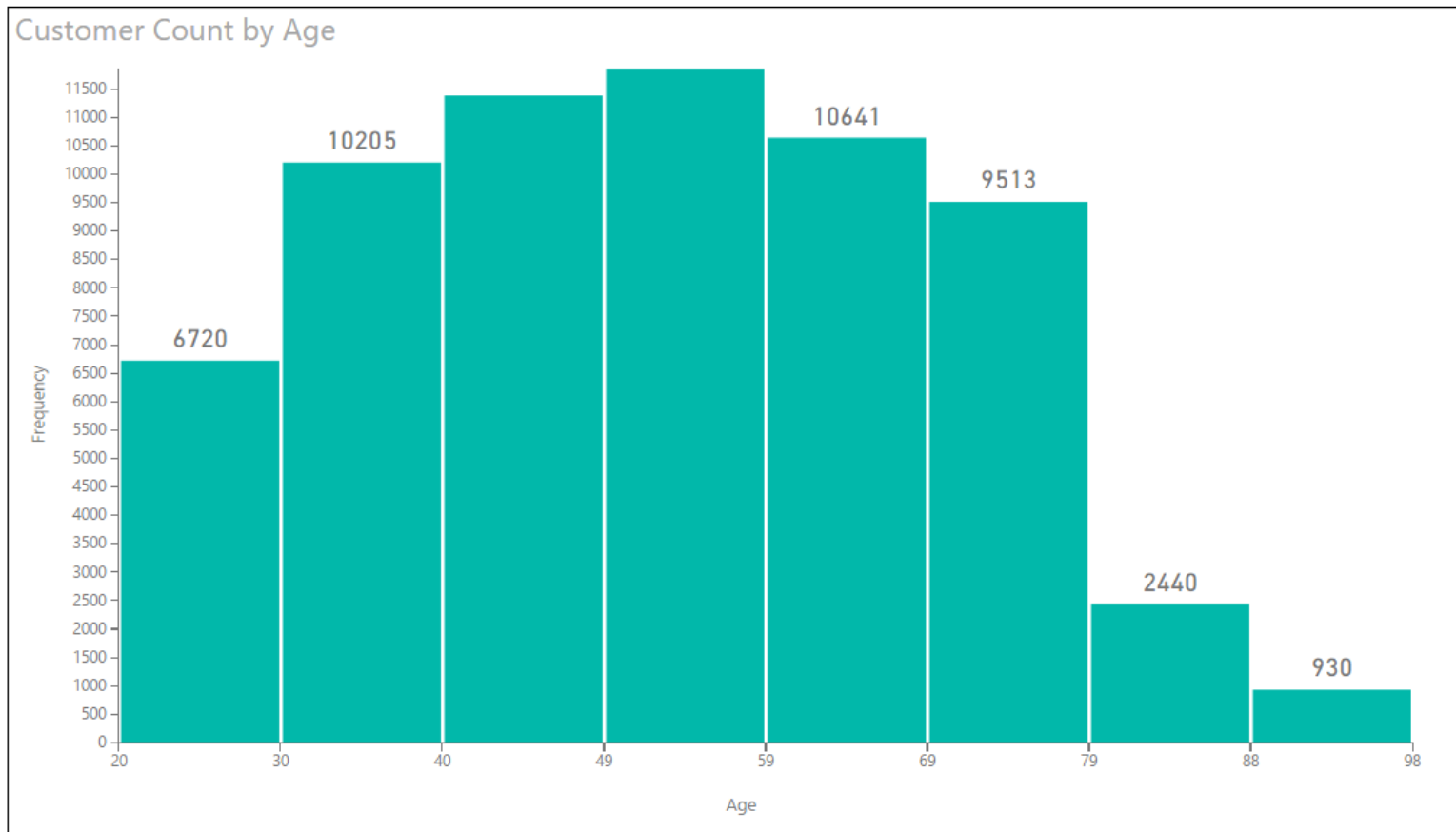- • Creating Reports from Shared Datasets

Custom Visuals for Power BI

- Power BI Framework for Visuals is Extensible
  - Developers can extend Power BI with Custom Visuals
  - Microsoft Hosts gallery of custom visuals
  - Gallery located at https://appsource.microsoft.com
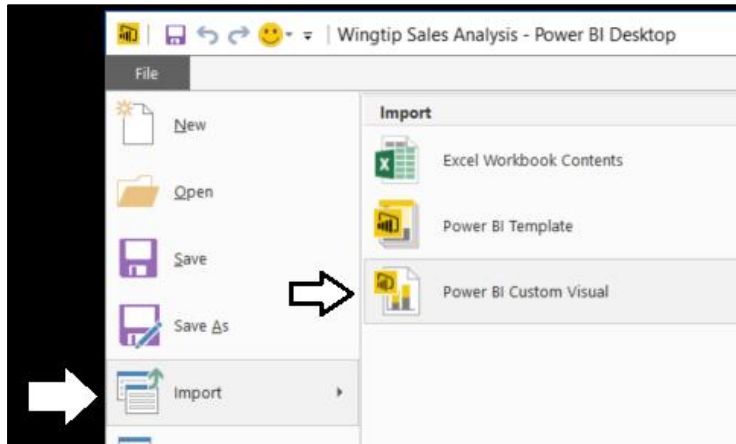
Histogram

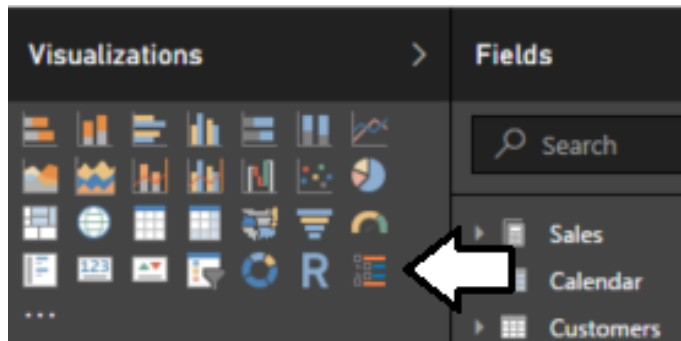- Custom Visual Example 1

Hierarchy Slicer

- Custom Visual Example 2

Importing a Custom Visual

- Import custom visual into Power BI Desktop project
  - Execute **Import > Power BI Custom Visual** menu command

  - After import, Custom Visual appears in **Visualizations** list

Agenda

- ✓ Working with the Report Designer
- ✓ Designing Interactive Reports using Slicers
- ✓ Using Conditional Formatting
- ✓ Designing Reports using Bookmarks
- ✓ Importing Custom Visuals
- ➢ Using Custom Report Themes
- • Publishing Power BI Reports
- • Creating Reports from Shared Datasets

Report Themes

- Report can be styled using report theme
  - Provides consistency across reports for styling and branding
  - Report theme defined using JavaScript Object Notation (JSON)
  - Today report themes must be defined using JSON editor
  - Microsoft plans to release WYSIWYG theme designer later in 2018

DEMO

Working with Report Themes

Agenda

- ✓ Working with the Report Designer
- ✓ Designing Interactive Reports using Slicers
- ✓ Using Conditional Formatting
- ✓ Designing Reports using Bookmarks
- ✓ Importing Custom Visuals
- ✓ Using Custom Report Themes
- ➢ Publishing Power BI Reports
- • Creating Reports from Shared Datasets

Designing Reports for Mobile Devices

- Many reports will not render properly on mobile devices
  - Phone Layout used to create separate version for mobile devices
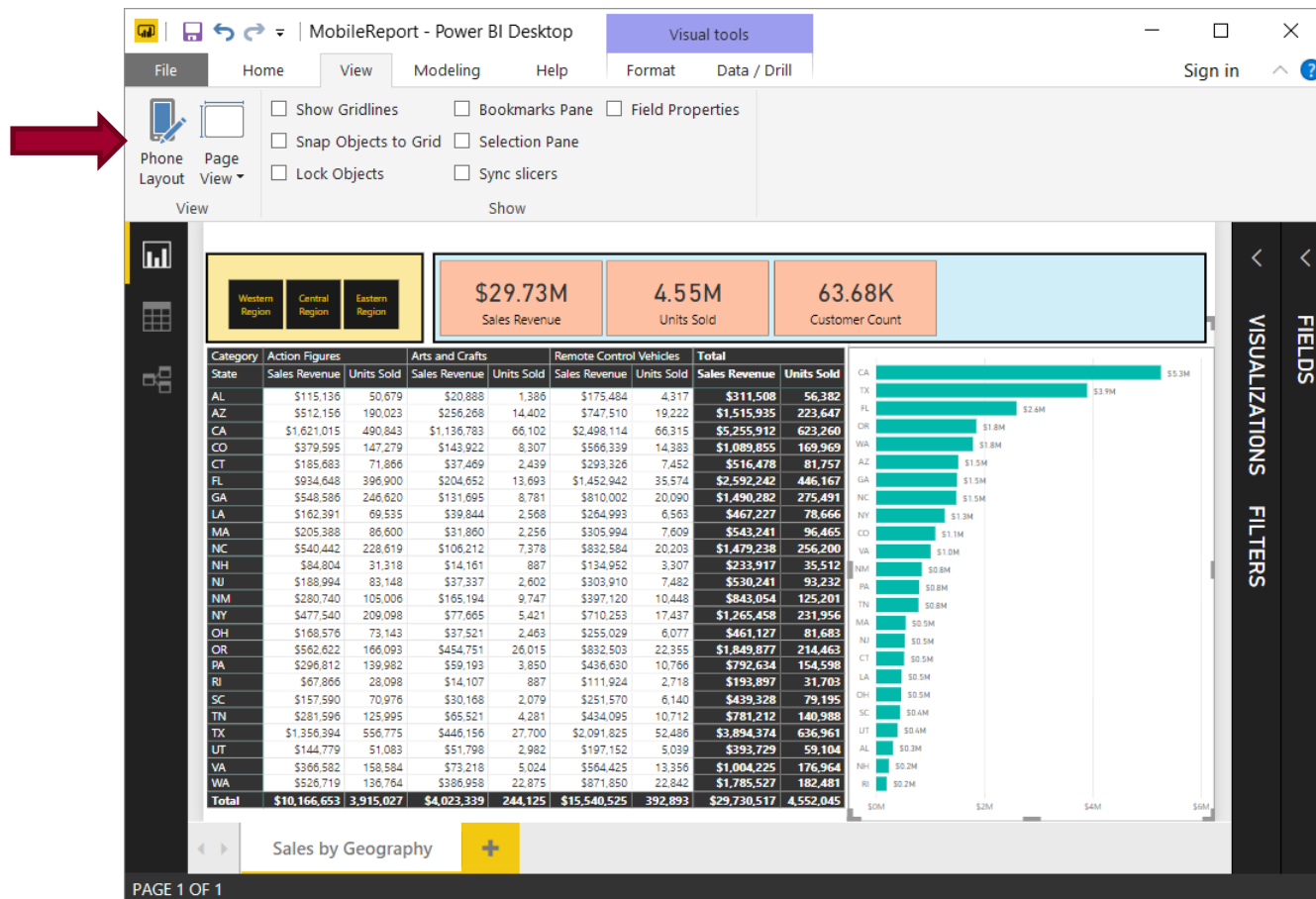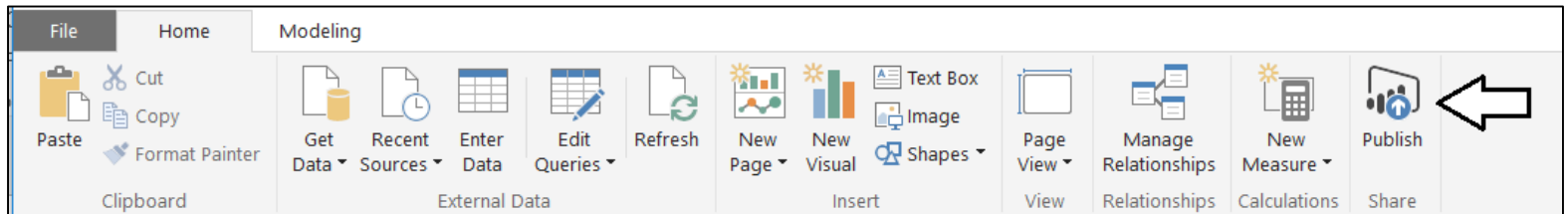
Designing a Phone Layout

- Phone layout view allows you to select specific visuals
  - Only include report visuals that render correctly on mobile devices
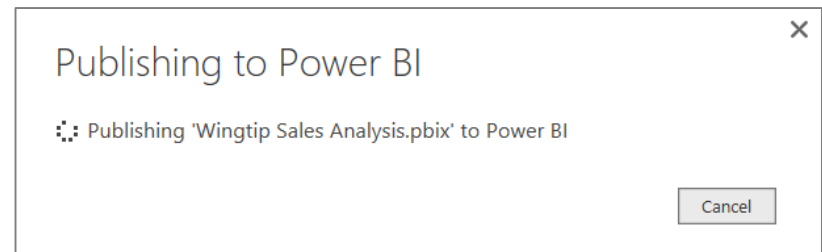 - You position visuals according to form factor of mobile device
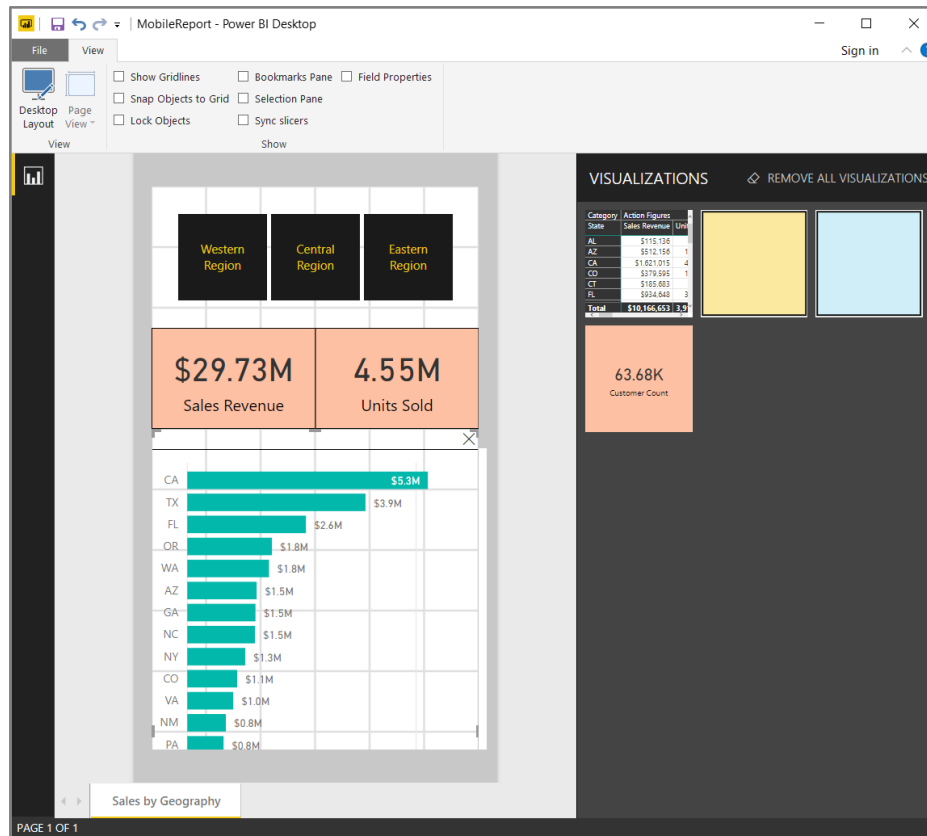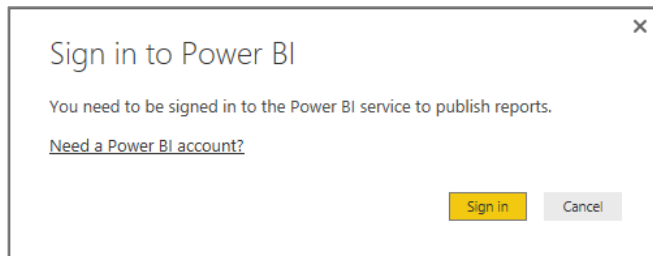
Publishing a Power BI Desktop Project

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

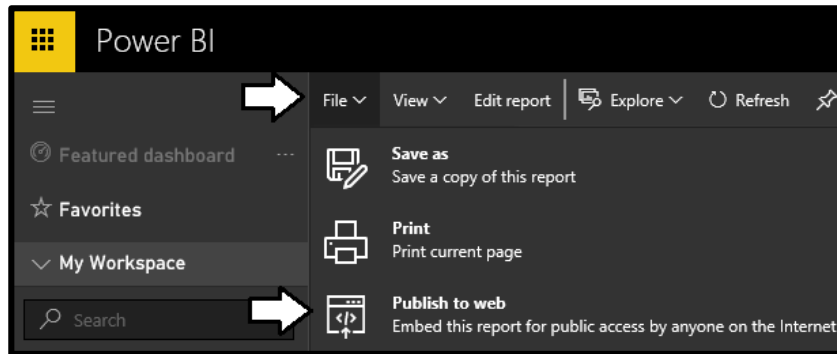 - Requires logging into your Office 365 account

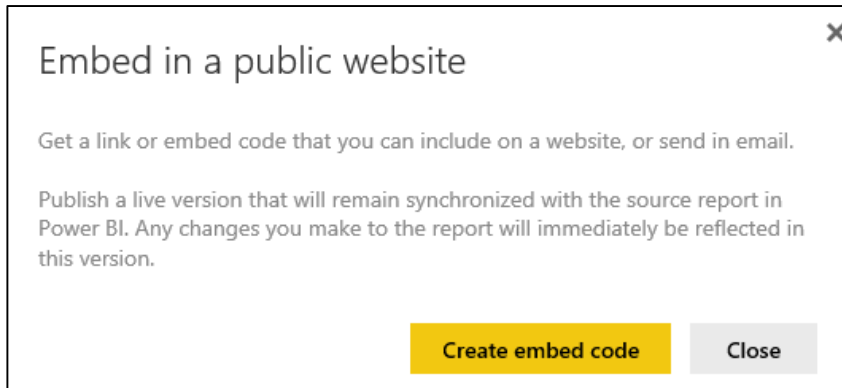 - Published articles added to a specific workspace

Publish to Web

- **Publish to Web** command available on reports
  - Not supported for reports and datasets which implement RLS

  - **Publish to Web** command used to generate embed codes

Generating Embed Codes

- Used to provide anonymous access to report
  - Provide link which can be posted, emailed or texted
  - Provides **iFrame** HTML element for embedding in public web site
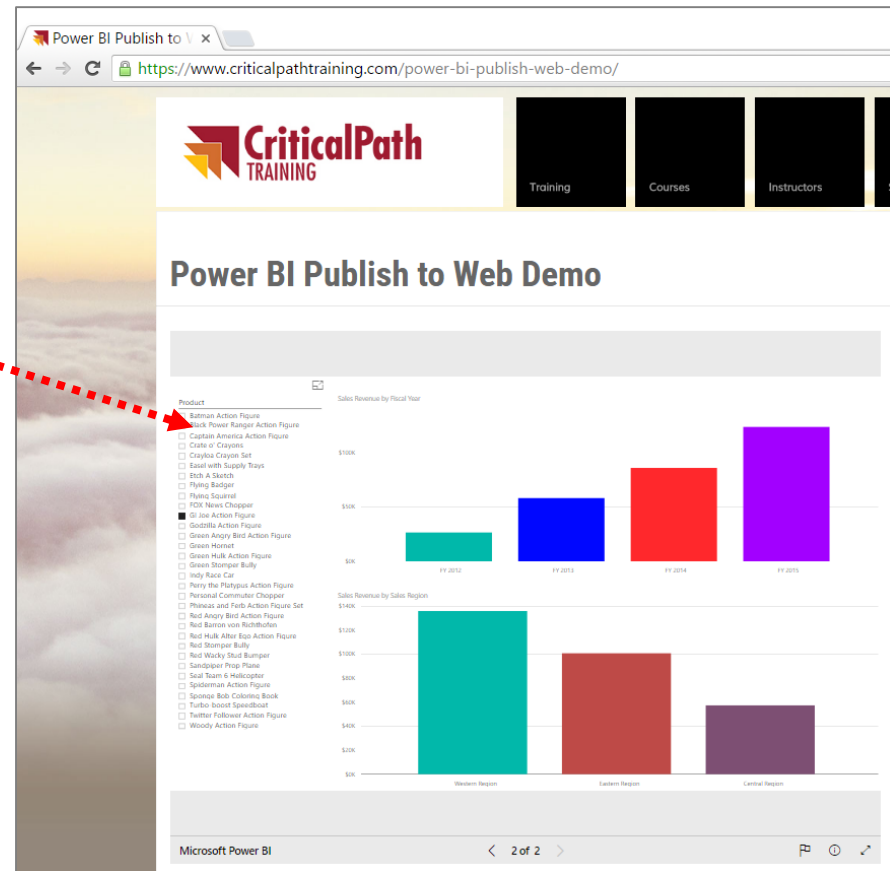
DEMO

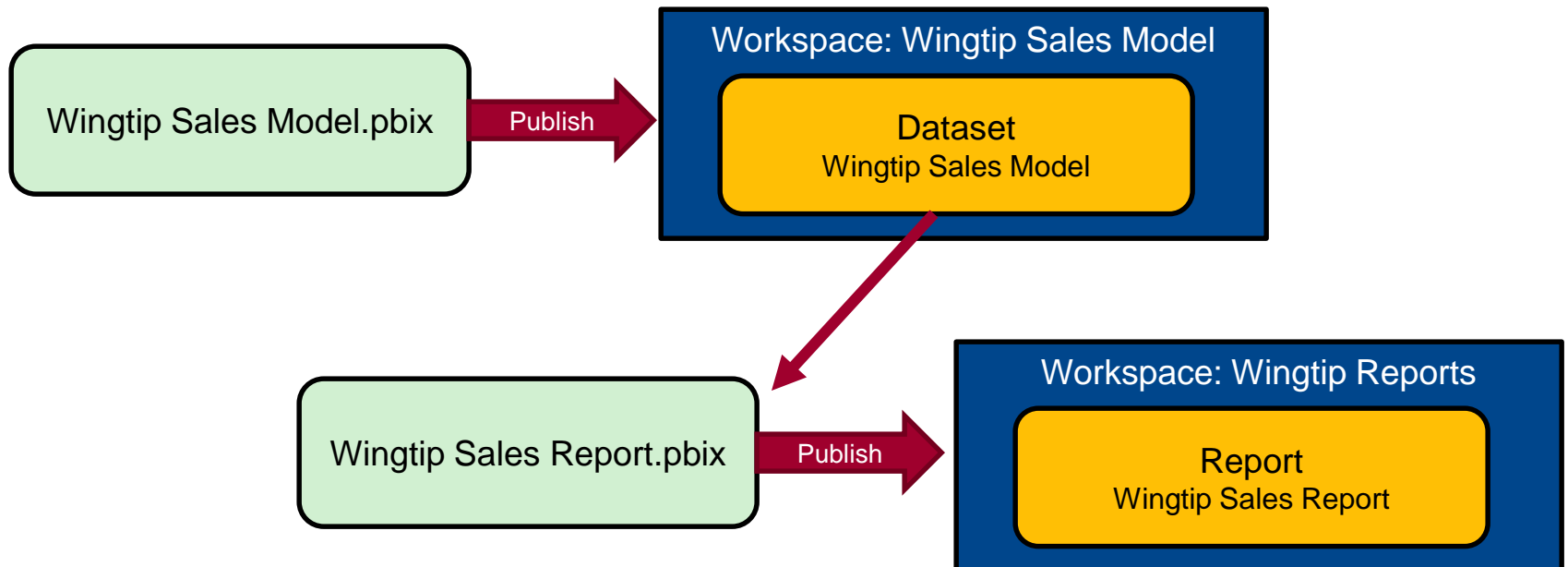Using the Publish to Web and Publish to SharePoint Features

Agenda

- ✓ Working with the Report Designer
- ✓ Designing Interactive Reports using Slicers
- ✓ Using Conditional Formatting
- ✓ Designing Reports using Bookmarks
- ✓ Importing Custom Visuals
- ✓ Using Custom Report Themes
- ✓ Publishing Power BI Reports
- ➤ Creating Reports from Shared Datasets

Creating Reports using Shared Datasets

- Datasets can be shared across workspaces
  - Makes it possible to separate datasets from reports
  - One team can build and publish datasets
  - Other teams can build reports on those datasets

DEMO

Creating a Power BI Report using a Shared Datasets

Summary

- ✓ Working with the Report Designer
- ✓ Designing Interactive Reports using Slicers
- ✓ Using Conditional Formatting
- ✓ Designing Reports using Bookmarks
- ✓ Importing Custom Visuals
- ✓ Using Custom Report Themes
- ✓ Publishing Power BI Reports
- ✓ Creating Reports from Shared Datasets