Designing Dashboards in the Power BI Service



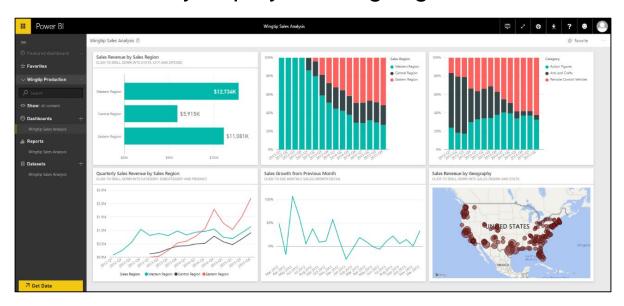
Agenda

- Understanding How Dashboards Differ from Reports
- Working with Natural Language Queries
- Configuring Data Alerts on Dashboard Tiles
- Sharing Dashboards with Other Users
- Designing Real-time Dashboards
- Understanding Streaming vs Push vs Hybrid Datasets



Dashboards in Power BI

- Dashboard is consolidated view of reports & datasets
 - Provides simpler, more intuitive entry point to reports and datasets
 - Simplicity and intuition key for users with mobile devices & tablets
- Dashboard represents unit of deployment and reuse
 - Dashboards can by deployed via dashboard sharing
 - Dashboards can by deployed using organizational content packs





Creating Dashboards

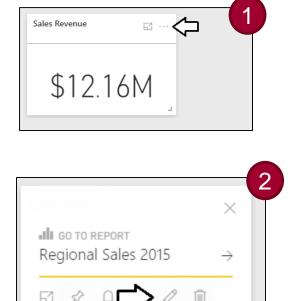
- Dashboard is a collection of tiles
 - Dashboard tiles can be created by pinning a visual from a report
 - Dashboard tiles can be created from Q&A search result
 - Each tile is snapshot of information from an underlying dataset
- Dashboard can be created two different ways
 - Click on (+) button in Dashboards section of navigation pane
 - Create new dashboard when pinning visual from report





Modifying Tile Details

- You can customize a tile's title and subtitle
 - Default title and subtitle doesn't always provide enough clarity
 - Title and subtitle edited using Tile details dialog











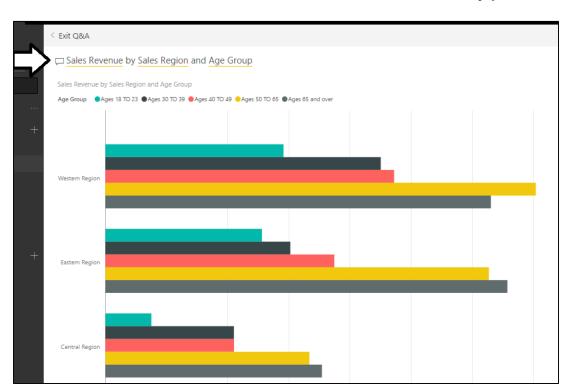
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- Designing Dashboards for Power BI
- Executing Queries with Natural Language Q&A
- Sharing Dashboards
- Building Real-time Dashboards



The Q&A Search Box

- Used to execute natural language queries
 - Queries are executed against underlying dataset(s) in workspace
 - Query results display using some type of Power BI visual
 - Power BI service selects Visualization type based on result type

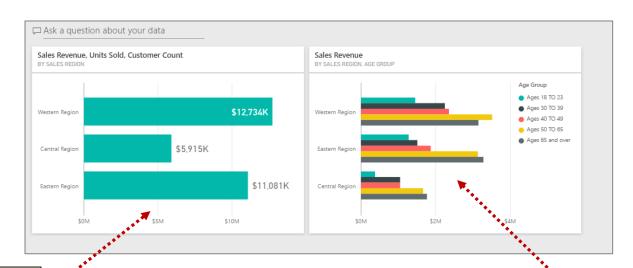




Pinning Search Result to Dashboard

- Q&A search results can be pinned to dashboard
 - Allows users to easily save visuals from query results





This tile was created from a visual on a report

This tile was created from a Q&A query result



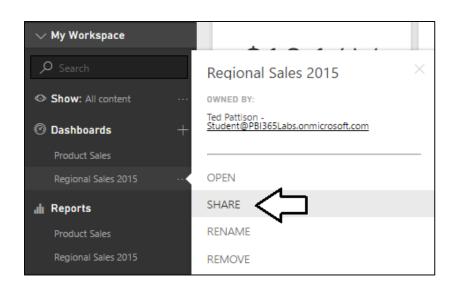
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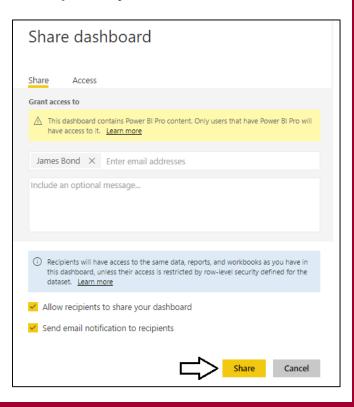
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Sharing Dashboards

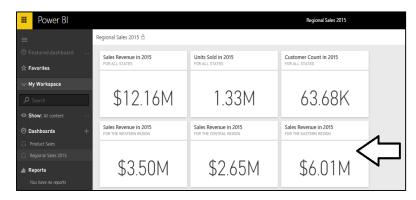
- Used to make dashboard accessible to other users
 - Other users must be within same Office 365 organization
 - Sharing dashboard provides indirect access to reports and datasets
 - Requires Power BI Pro license or Premium capacity



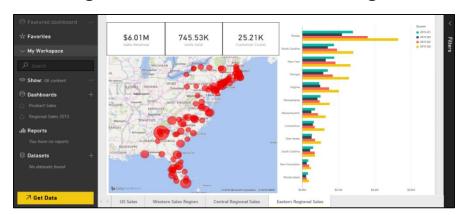


Testing Dashboard Sharing

- Login as secondary user
 - Make sure you can access the dashboard
 - Observe there is a link to dashboard but not to report or dataset



Clicking on dashboard tile navigates user to report







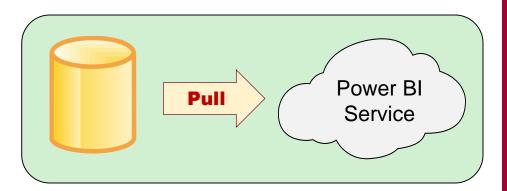
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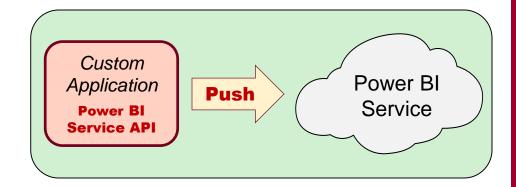


Pull Datasets versus Real-time Datasets

- Pull Datasets
 - Imported Datasets
 - DirectQuery Datasets
 - Live Connect Datasets



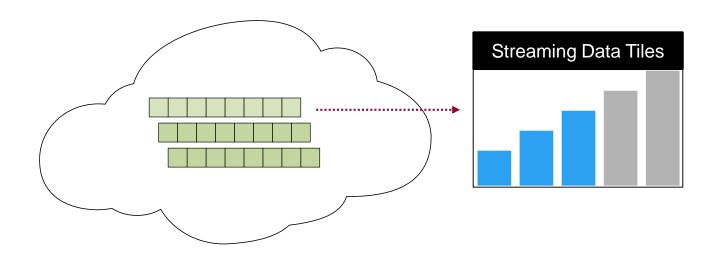
- Real-time Datasets
 - Streaming Datasets
 - Push Datasets
 - Hybrid Datasets





Streaming Datasets

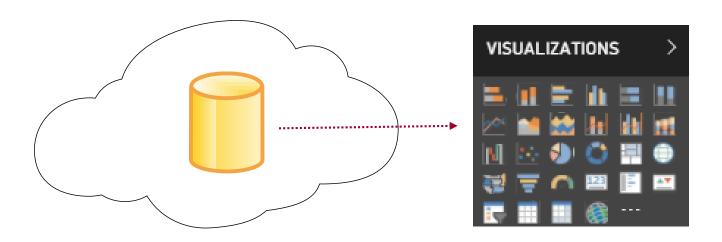
- Data stored in cloud-based cache not persisted in DB
- Restricted to single table no rich data modeling
- Not supported by standard Power BI report designer
- Dashboard created using specialized streaming data tiles
- No support for DAX, aggregation or filtering





Push Datasets

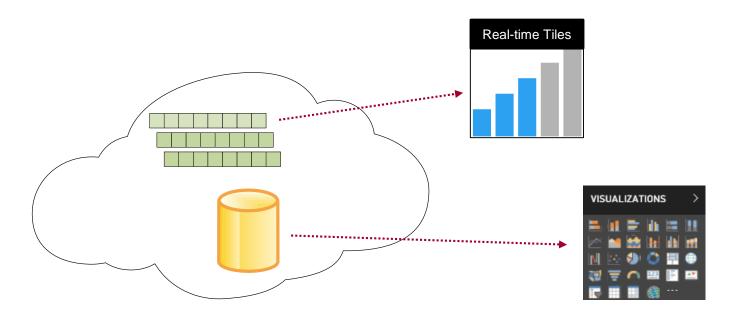
- Data stored in Azure SQL DB not in cache
- Supports multiple tables and table relationships
- Supported by standard Power BI report designer
- Supports DAX, measures, aggregation & filtering





Hybrid Datasets

- Data stored in cloud-based cache AND in Azure SQL DB
- Restricted to single table and no rich data modeling
- Supported by streaming data tiles
- Supported by Power BI report designer







Streaming Data Tiles

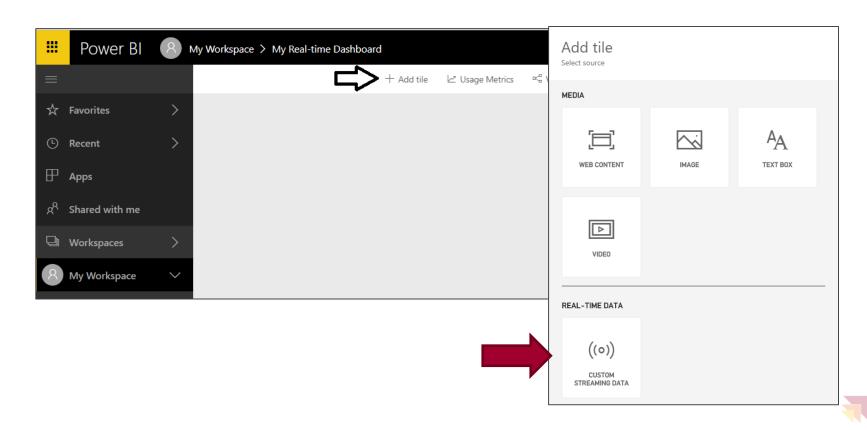
- Streaming Data surfaced using Streaming Data Tiles
 - Used to surface data values from streaming dataset cache
 - Optimized to provide smooth animations for real-time data
- Available set of streaming titles as of today
 - Card
 - Gauge
 - Line chart
 - Cluster Bar Chart
 - Cluster Column Chart





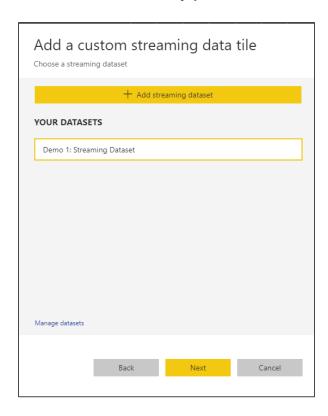
Creating Dashboards with Streaming Datasets

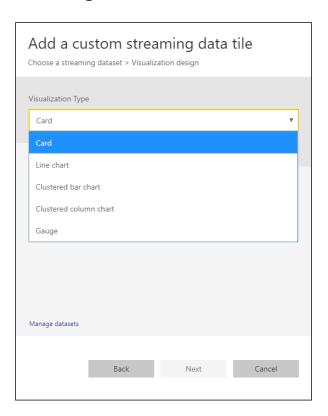
- You cannot use the Power BI report designer
 - Instead, you add real-time data tiles directly to a dashboard
 - Real-time data tiles different from standard set of Power BI visuals.



Creating a New Streaming Data Tile

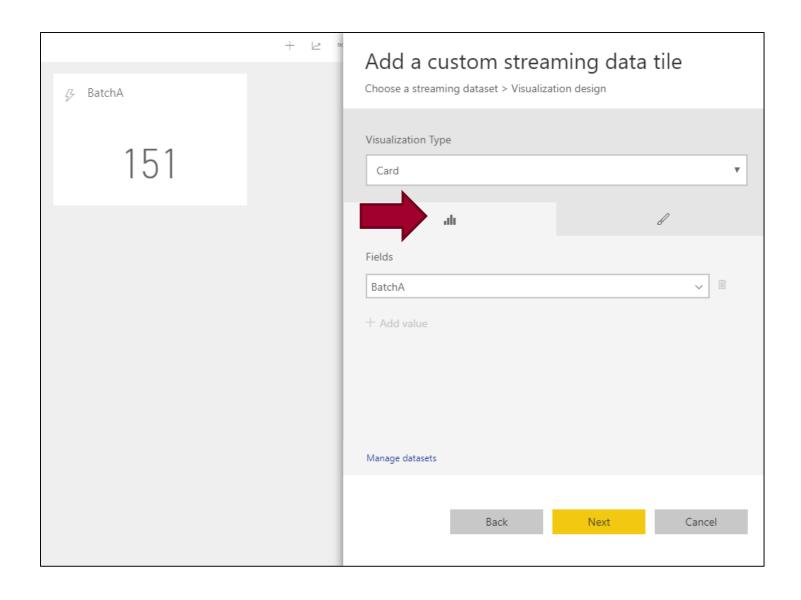
- When creating a streaming data tile...
 - Select dataset that is a streaming dataset or a hybrid dataset
 - Choose the type of data streaming tile





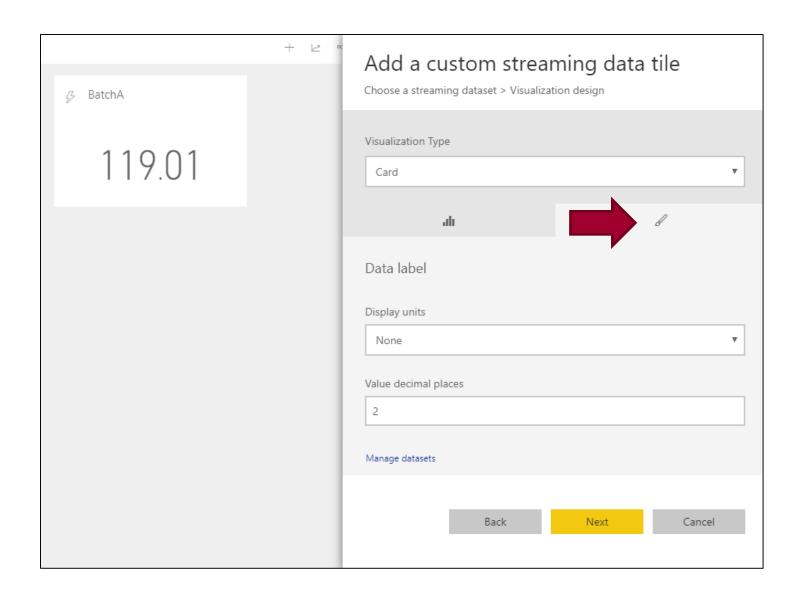


Real-time Data Tile Field Pane



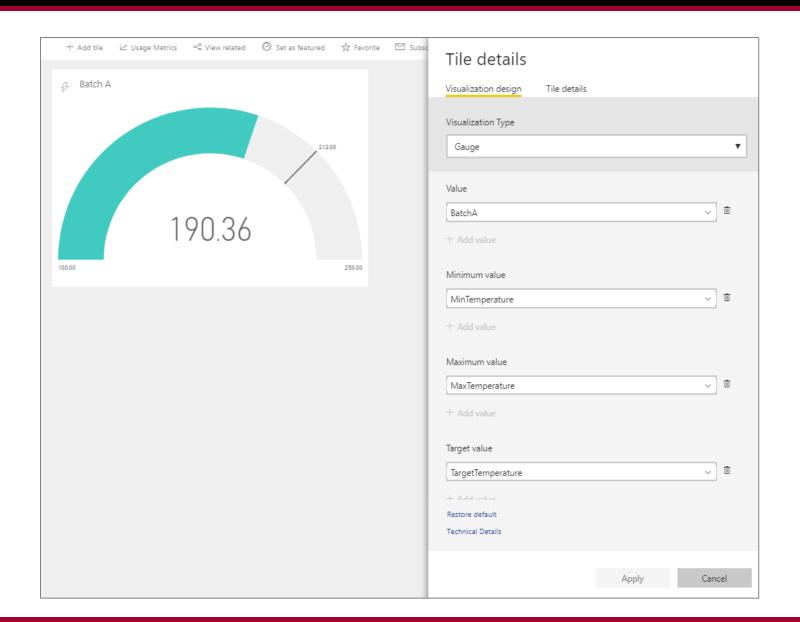


Real-time Data Tile Format Pane



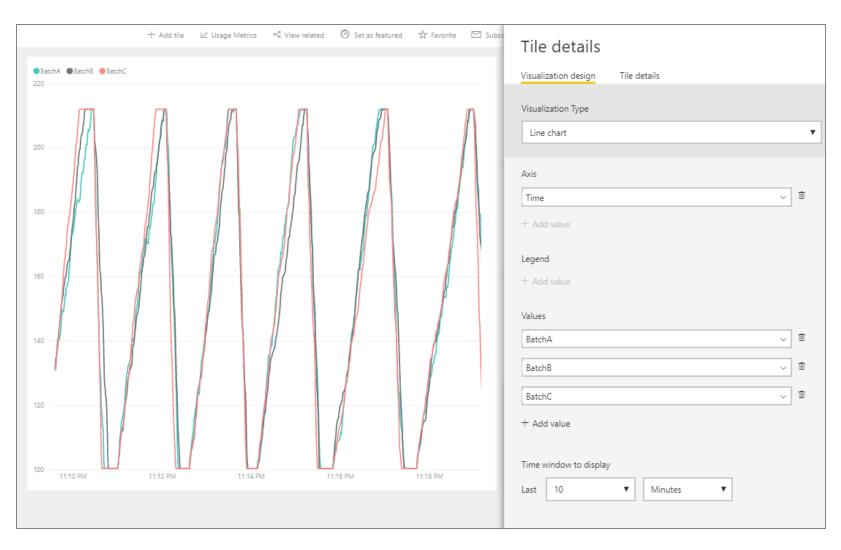


Streaming Gauge Tile





Streaming Line Chart Tile





Real-time Dataset Matrix

| Feature | Streaming | Hybrid | Push |
|--------------------------|-------------------------------|--------|----------------------------------|
| Updates in real-time | Yes | Yes | Yes |
| Smooth animations | Yes | Yes | No |
| Backed by Azure SQL DB | No | Yes | Yes |
| Report Designer Support | No | Yes | Yes |
| Allow Rich Data Modeling | No | No | Yes |
| Ingestion Rate | 5 request/sec 15KB/request | | 1 request/second 16MB/request |

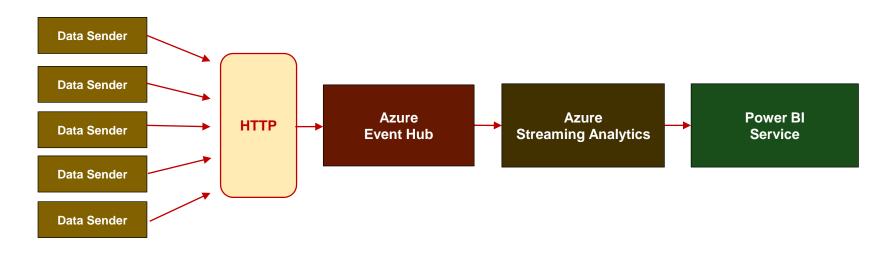


Scaling a Real-time Dashboard

Low velocity data scenario



High velocity data scenario





Summary

- Designing Dashboards for Power BI
- ✓ Executing Queries with Natural Language Q&A
- ✓ Sharing Dashboards
- ✓ Building Real-time Dashboards

