

# Spotfire Bootcamp

Advanced Data Visualisation UI

Day 2

# Objectives

Spotfire Design Principles

Text Areas

Property Controls

Action Controls

Best Practices / Tips & tricks

# Text Areas

# Text Area

A Text area is not a visualization and can be used to provide observations, findings, etc.

It can also be used to provide actionable items like links, images and buttons

To edit text area, click on Edit -> Edit Text Area icon

Different elements added to the text area include text, image, action controls, etc.

## Text areas have word processing tools

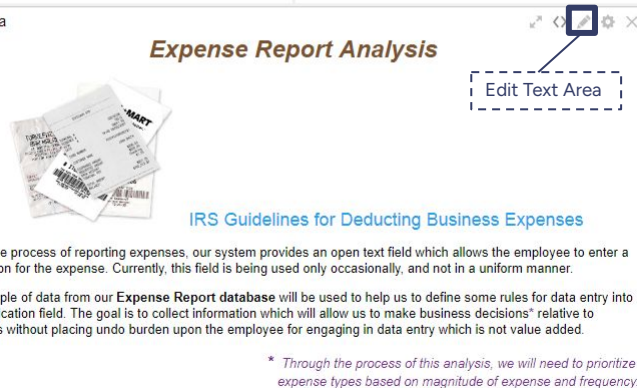
- Font
- Color
- Bullet-point
- Number list
- Justification
- Indentation

## Text areas can also contain


- Images
- Web Links

**Text area size and position is handled just like a visualization window**

Text Area



**Expense Report Analysis**



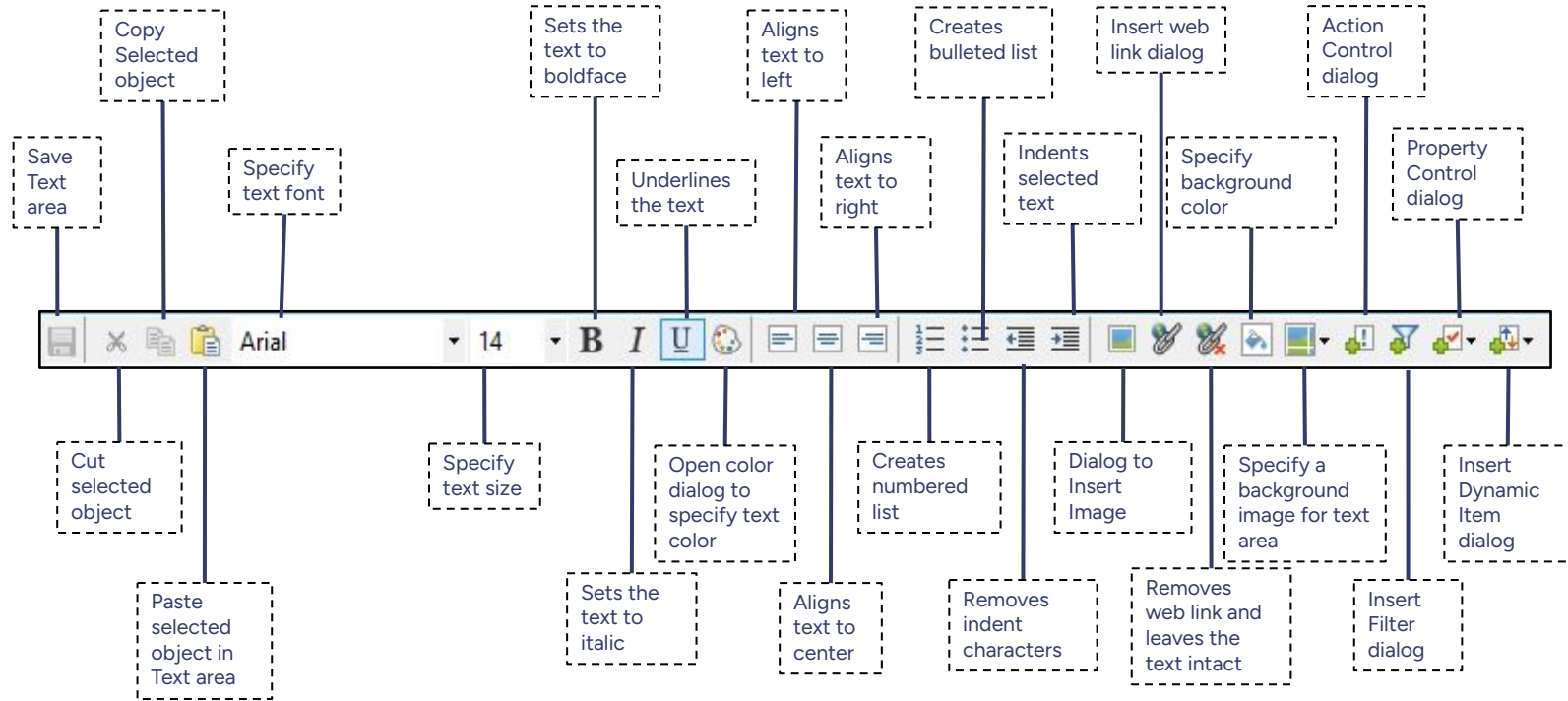
[IRS Guidelines for Deducting Business Expenses](#)

During the process of reporting expenses, our system provides an open text field which allows the employee to enter a justification for the expense. Currently, this field is being used only occasionally, and not in a uniform manner.

This sample of data from our **Expense Report database** will be used to help us to define some rules for data entry into this justification field. The goal is to collect information which will allow us to make business decisions\* relative to expenses without placing undo burden upon the employee for engaging in data entry which is not value added.

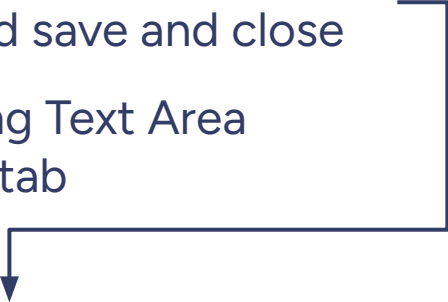
\* Through the process of this analysis, we will need to prioritize expense types based on magnitude of expense and frequency.

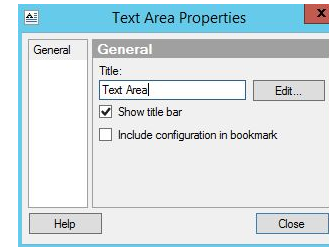
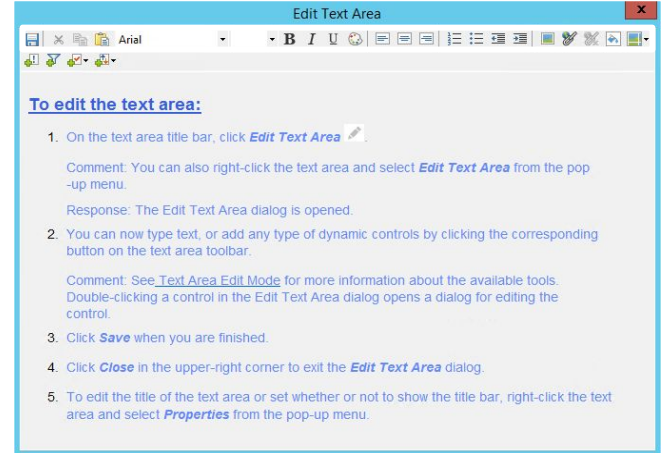
# Edit Text Area Toolbar



# Customize Text Area

- To edit text area, click Edit Text Area icon to open
- Insert and customize text using provided functions and save and close
- Edit text area title using Text Area Properties -> General tab

- 
- Font, font size, color, indentation
  - Create links
  - Modify background color or insert image



# Add Dynamic Items

Similar to graphical table dynamic items

Provides an aggregated view of data

Dynamic items

Sparkline

- Line graph displaying trends

Calculated value

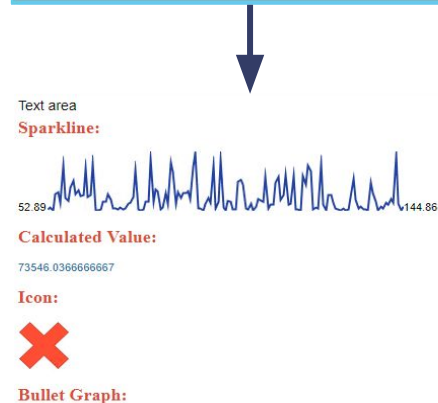
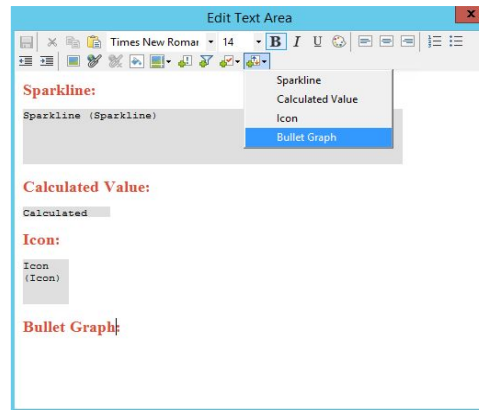
- Aggregated expression values

Icon

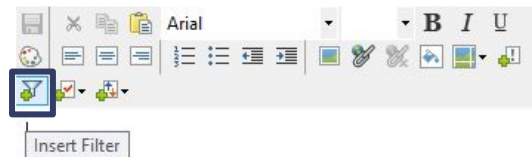
- Simple images displaying trends

Bullet graph

- Compare one value to another



## Add filter or filtering scheme

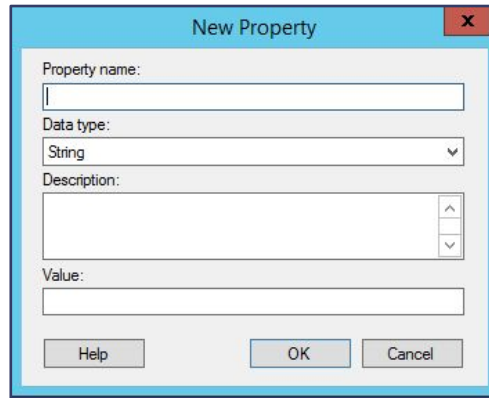




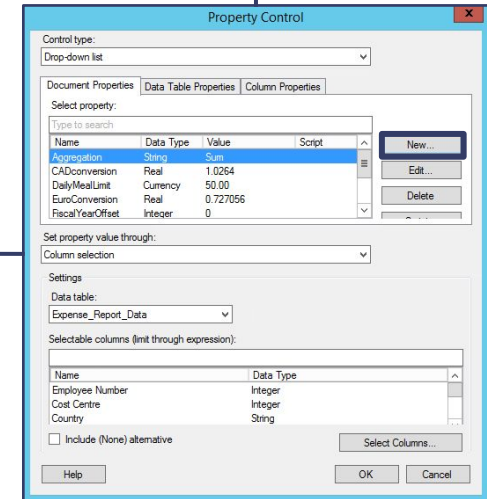
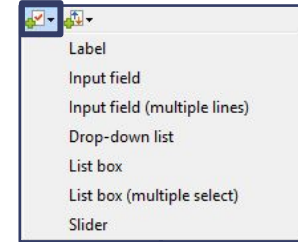
# Property Control

Add items to control the values of selected properties

Edit Text Area -> Insert Property Control



A dialog box titled "New Property" with a close button (X) in the top right corner. It contains four input fields: "Property name:" (a text box), "Data type:" (a dropdown menu with "String" selected), "Description:" (a text area with up and down arrow buttons), and "Value:" (a text box). At the bottom are three buttons: "Help", "OK", and "Cancel".



A complex dialog box titled "Property Control" with a close button (X) in the top right corner. It has a "Control type:" dropdown menu set to "Drop-down list". Below this are three tabs: "Document Properties", "Data Table Properties", and "Column Properties". The "Data Table Properties" tab is active, showing a "Select property:" section with a search box and a table of properties. The table has columns for Name, Data Type, Value, and Script. The "Aggregation" row is selected. To the right of the table are "New...", "Edit...", and "Delete" buttons. Below the table is a "Set property value through:" section with a "Column selection" dropdown. The "Settings" section includes a "Data table:" dropdown set to "Expense\_Report\_Data" and a "Selectable columns (limit through expression):" section with a table of columns. The table has columns for Name and Data Type. The "Include (None) alternative" checkbox is unchecked. At the bottom are "Help", "OK", and "Cancel" buttons.

Name	Data Type	Value	Script
Aggregation	String	Sum	
CADconversion	Real	1.0264	
DailyMealLimit	Currency	50.00	
EuroConversion	Real	0.727056	
FiscalYearOffset	Integer	0	

Name	Data Type
Employee Number	Integer
Cost Centre	Integer
Country	String

# Action Control

Add/edit action control in text area as

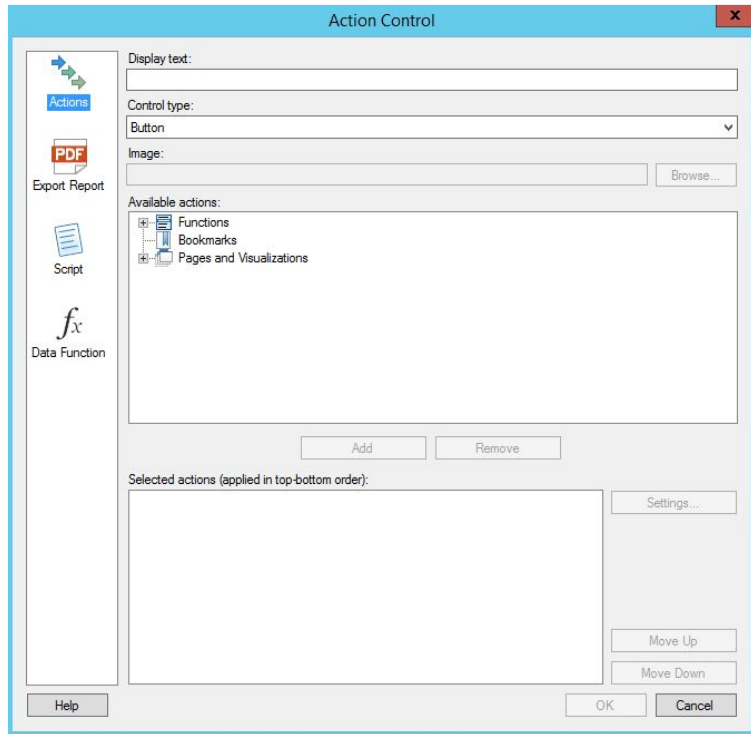
- Link, button or image

## Action control

- Perform multiple actions in one click

## Actions performed

- Mark or filter data
- Apply bookmarks
- Navigate to a page or visualization in the analysis
- Create customized actions using Ironpython scripting



# Exercise - Text Area

1. Open your dxp
2. Insert Treemap Visualizations by dragging it in from the flyout
3. Insert a text area
4. Edit text area and play around by adding some filters, dynamic items, etc.
5. Edit text area as html
6. Observe the difference
7. Now add a background color (or insert an image)
8. Save the analysis

# Property Controls

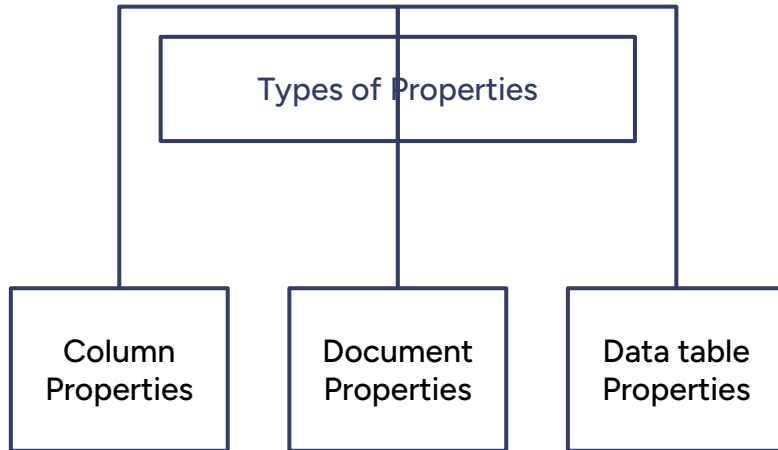
# Concept of Property

## Property

- A variable used to adjust the configurations of visualizations or calculations by others
- Stored separately from data tables
- Can be easily modified using property controls in text areas

## Property Control

- Input devices inserted in text areas to define and modify property values



# Property Control Types

Label: Shows the current value of the selected Property



Boston

Input field: Adds a text box to type a new property value



\$10000.00

Input field(multiple lines): Adds a text box to type new property values in multiple lines with type String



This Input field is used to  
insert multiple lines

Drop-down list: Adds a drop-down list with predefined property values to select from



Store Location

List box: Adds a list box with predefined property values to select one



SSMM55001  
SSMM55002  
SSMM55003  
SSMM55004

List box(multiple select): Adds a list box with predefined property values to select multiple at once



CVS PHARMACY  
EINSTEIN BROS  
HEALTHY PETS

Slider: Adds a slider to change values by moving the slider



# Add Property Control in Text Area

Edit Text Area -> Insert Property Control

Select property type and control type

Use existing property or insert a new property

Specify 'Set property value through'

- Property name
- Data type
- Value (default)

Property Control

Control type: Drop-down list

Document Properties | Data Table Properties | Column Properties

Select property:

Name	Data Type	Value	Script
amountvalue	Currency	10000.00	
ColumnSelection	String		
Comment	String	This Input field is used t...	
CustomerID	String	SSMM55001	

Set property value through:

- Column selection
- Column selection
- Unique values in column
- Expressions
- Fixed values
- Numerical range

Store Location String  
Store Number Integer  
Customer ID String  
Customer age Integer  
Gender String  
Date Joined Date

☐ Include (None) alternative

Help OK Cancel

New Property

Property name: ColumnSelection

Data type: String

Description:

Value:

Help OK Cancel

# Set Property Value Through

It specifies how the property value should be selected

Set property value through:  
**Column selection**

Settings

Selectable columns (limit through expression):

Name	Data Type
Groceries	Integer
Clothing	Integer
Toys	Integer
Departments Shopped	Integer
Number of Items Purchased	Integer
Total Amount of Purchases	Integer

☐ Include (None) alternative

Select Columns...

Set property value through:  
**Unique values in column**

Settings

Data table: 3-The-5-Sheet-Book - TIBCO Mege Column: Store Location

Type to search

Boston  
Los Angeles  
New York  
Seattle

☐ Include (None) alternative

For more information on search expressions click Help.

Set property value through:  
**Expressions**

Settings

Display Name	Expression

Add...  
Edit...  
Remove  
Move Up  
Move Down

☐ Include (None) alternative

Set property value through:  
**Fixed values**

Settings

Display Name	Value
LA	Los Angeles
DC	Washington DC

Add  
Remove  
Move Up  
Move Down

☐ Include (None) alternative

Set property value through:  
**Numerical range**

Settings

Min: 1 Max: 60

Value interval: 5

☒ Show min and max labels

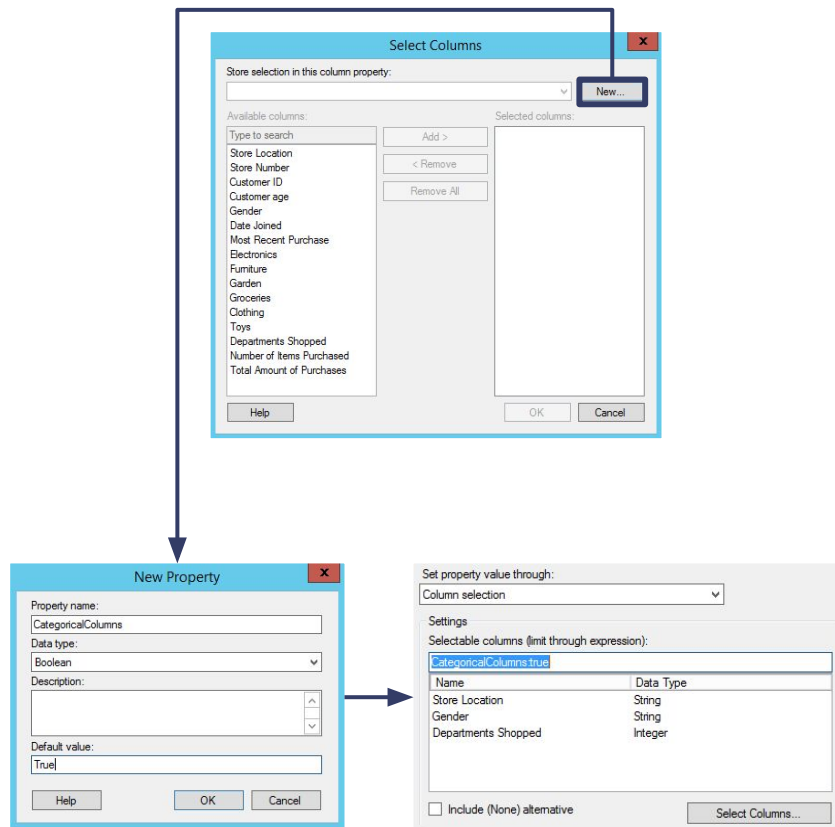


# Select Columns Dialog

Used to handpick the values to show in the control

Stores the selection as a Boolean column property

- Selected columns: True
- Remaining columns: False

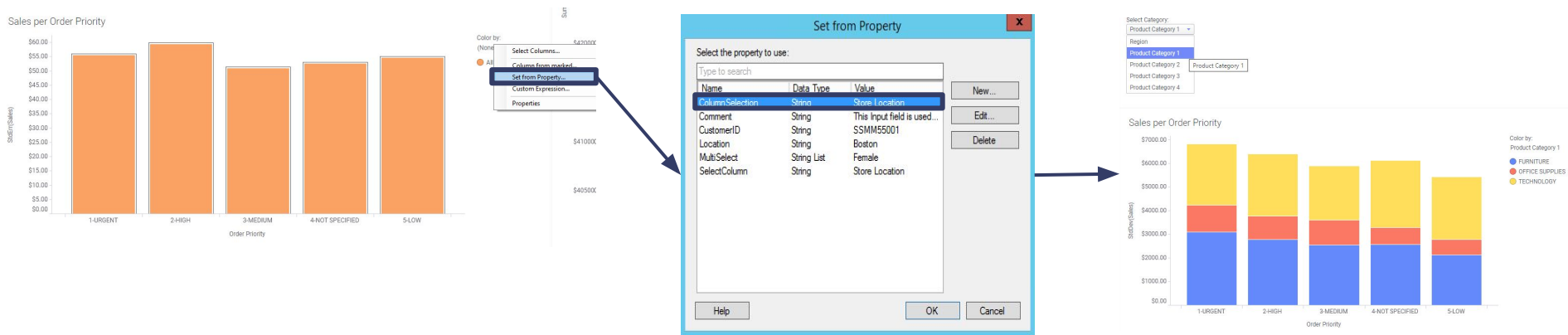


# Set From Property Option

Used to specify property value for a column selector

Right click on column selector

Select 'Set from Property...'



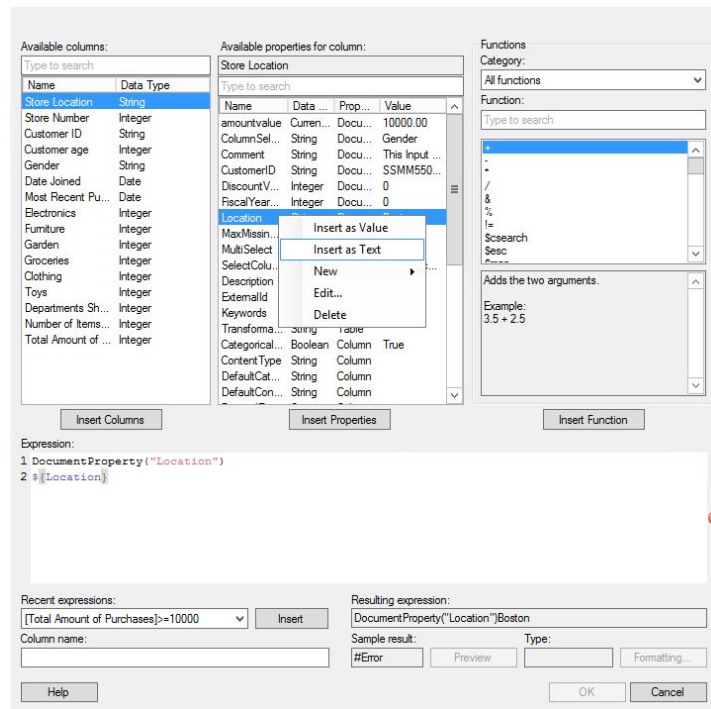
# Insert Property in Custom Expressions

## Insert as text

- Used to insert a string property in an expression
- Interpreted as a column name or string literal
- Syntax: \${PropertyName}
- Example: \${MyProperty}

## Insert as value

- Used to insert value of a property in an expression
- Syntax: Property Function("PropertyName")
- Example: DocumentProperty("MyProperty")



# Exercise Property controls

1. Open your dxp from the previous exercise
2. Duplicate the Treemap Visualization
3. Insert a text area
4. Insert Property control
  - a. Column from table
  - b. Fixed list
5. Use property control to change the parameters of the Treemap
  - a. Hierarchy
  - b. Color by
  - c. Group by (nested hierarchy)
6. Add property in the title

# Action Controls

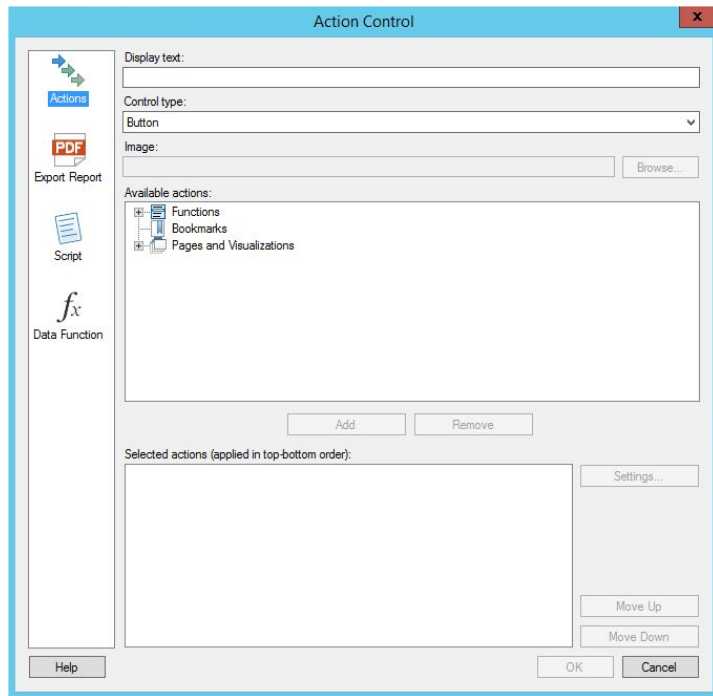
# Insert Action Controls in Text Areas

To perform certain action or series of actions, add control types

Control types can be links, buttons or images

To insert, go to Edit Text Area -> Insert Action Control

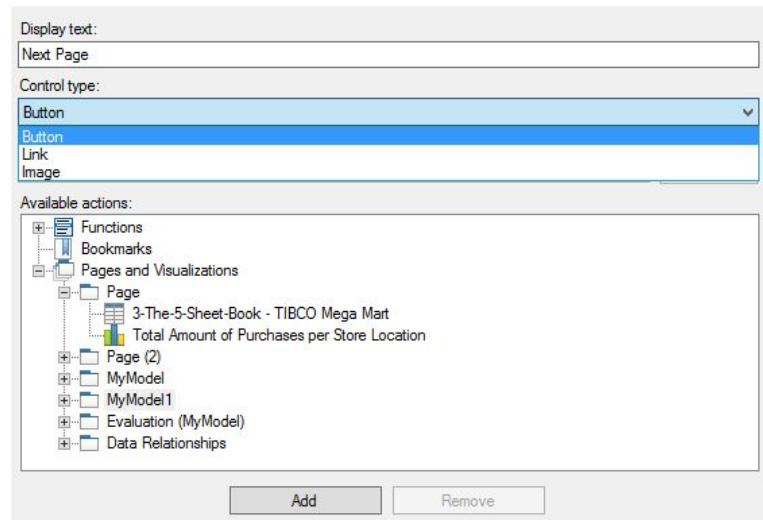
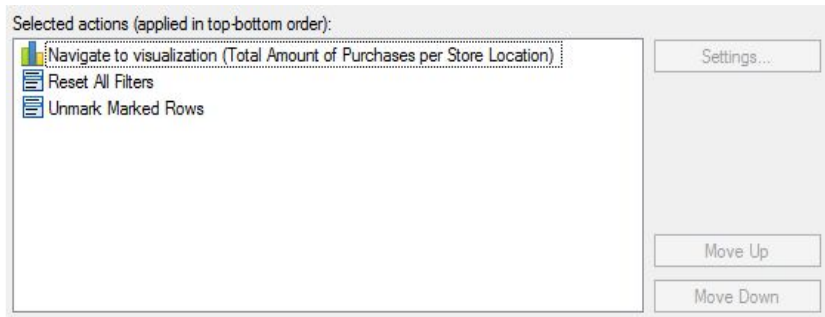
Insert options include actions, export report, script and data functions



# Actions

Actions include applying bookmarks, page navigation, etc.

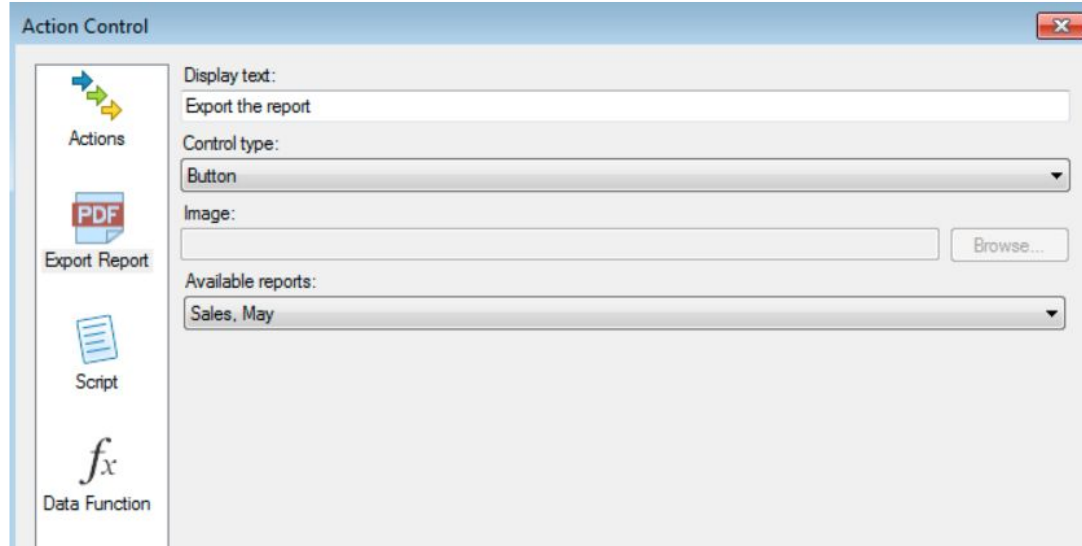
Actions are applied from top to bottom



# Export Report

Insert an action control to export a report to PDF

Select available reports in the drop down





# Action Control Scripts

Insert an action control that executes a script

- Select from 'Available scripts'
  - Use 'Edit' to edit the existing script
- Create new scripts
  - Use 'New'
- Input parameter listed in 'Necessary input for the selected script'
- Must trust script to work with web clients

The screenshot shows a web-based configuration interface for Action Control Scripts. It includes fields for 'Display text', 'Control type' (set to 'Button'), and 'Image'. Below these is a table of 'Available scripts' with columns for Name, Description, and Remark. To the right of the table are buttons for 'New...', 'Edit...', 'Delete', and 'Script Trust'. Below the table is a section for 'Necessary input for the selected script' with a table showing input parameters. At the bottom, there is a section for 'Input for the selected parameter' with a 'Select page:' dropdown menu. A footer note states: 'Scripts must be trusted by a member of the Script Author group to work in the web clients.'

Display text:

Control type:

Button

Image:

Browse...

Available scripts:

Name	Description	Remark
AddPage		Trusted by you. Other users mu...
changeVisu Title		Trusted by you. Other users mu...
loops		Trusted by you. Other users mu...

New...

Edit...

Delete

Script Trust

Necessary input for the selected script:

Name	Description	Type	Value
aTitle		String	

Input for the selected parameter:

Select page:

Scripts must be trusted by a member of the Script Author group to work in the web clients.

# Create or Edit a Script

The screenshot shows a dialog box for creating or editing a script. It includes fields for script name, description, and IronPython version. A large text area contains the script code. Below the code is a table of script parameters. At the bottom are buttons for running the script, saving, and OK/Cancel. Annotations with arrows point to various parts of the dialog:

- Provide name of the script to be displayed**: Points to the 'Script name' field.
- Description of what script does**: Points to the 'Description' field.
- List of supported IronPython versions**: Points to the 'IronPython version' dropdown.
- Text Field for typing scripts**: Points to the large script code area.
- Opens Add Script Parameter dialog to define new parameters**: Points to the 'Add...' button.
- Lists defined parameters used in the script**: Points to the 'Script parameters' table.
- Tests the script by running it in the document, without losing the dialog**: Points to the 'Run Script' button.
- Lists all objects marked with 'print' in the script definition**: Points to the 'Output' section.

**Script name:** changeVisuTitle **IronPython version:** 2.0.2

**Description:**

**Script:**

```
1 from System.IO import File
2
3 logText="New Scatter Plot Title will be:"+aTitle
4
5 f=open("D:\SP232\LogFile.txt","w")
6 f.write(logText+"\n")
7 f.close()
8 print(logText)
9 aVisu.Title=aTitle
10
```

**Script parameters:**

Name	Description	Type	Value
aTitle		String	
aVisu		Visualization	

**Buttons:** Add..., Edit..., Remove, Run Script, Undo

☒ Execute in transaction

**Output:**  
Review the script and then click OK to make it trusted.

**Buttons:** Help, Save As..., OK, Cancel

# Exercise (example is Explainability demo)

1. Open your dxp from the previous exercise
2. Insert Visualizations by dragging it in from the flyout
3. Insert a new text area
4. Insert action control - default
5. Insert action control - script
6. Interact with the visualizations

# Spotfire Best Practices + Tips & Tricks

# Spotfire resources

- [Tips for best visuals](#)
- [Visual design best practices](#)
- [Tips & Tricks](#)
- [Javascript](#)
- <https://community.spotfire.com/articles/spotfire/geoanalytics-resources-wms-and-tms-layers/>
  - [http://server.arcgisonline.com/ArcGIS/rest/services/World\\_Imagery/MapServer/tile/{z}/{y}/{x}](http://server.arcgisonline.com/ArcGIS/rest/services/World_Imagery/MapServer/tile/{z}/{y}/{x})



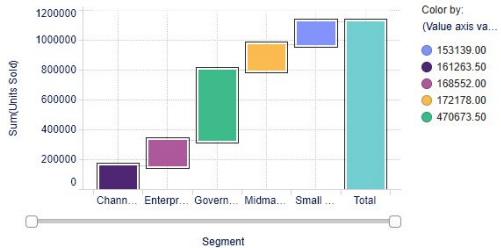
# Brussels Airlines template

## 1. Dashboard name - Page name

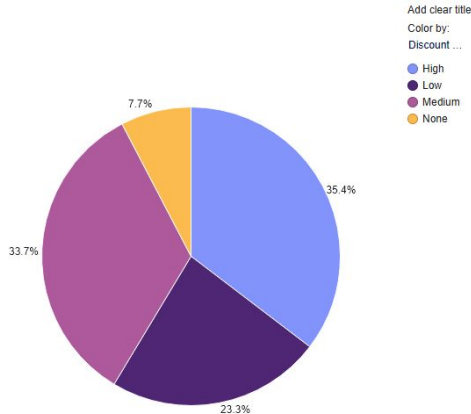
Reset Filters

Reset Markings

Add clear title



Add clear title



Active Filters:

Filters

Filter 1

+

Filter 2

+

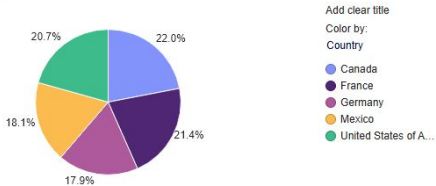
Filter 3

+

Filter 4

+

Add clear title



Details

Mark items to view details here.

# Exercise with text areas, filters, javascript and html

1. Recreate the Brussels Airlines template
  - a. Add a Text Area and use javascript for the accordion.
  - b. Add a Text Area with Action Control to reset markings and clear filters.
  - c. Add a Text Area and use document properties and ironpython to display the selected values.
  - d. Add a Text Area and improve the look and feel with html, images, etc.