



DEVELOPING OUTSYSTEMS MOBILE APPS

Dashboard



Introduction

Over the course of this set of exercise labs, you will create a web application. The application will focus on creating and managing To Dos. The To Dos will be persisted in a database so they can be accessed from and shared across multiple devices. To Dos will have attributes such as category, priority (low, medium or high), due date and they can be marked as important (starred) by the user.

Users of the To Do application will be able to access all of this information. This back-office application will allow administrators to manage all existing To Dos.

You constantly will be expanding your application, publishing it to the server and testing your application to the server while learning and applying new OutSystems concepts.

At the end of this set of exercise labs, you will have a small, but well-formed web application, spanning multiple screens and concepts that you can easily access from your browser.

In this specific exercise lab, you will:

- Add charts to the Dashboard Screen
- Add the list of last completed and overdue To Dos to the Dashboard

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Part 1: Create a Dashboard Screen

In this part of the exercise, you will create a new **Dashboard** Screen that will have two charts. These charts will show an overview of the existing To Dos by Priority and by Category.

The Charts System Component built-in with OutSystems provides a simple mechanism to create Area, Bar, Column, Line and Pie Charts.

1. Create a new **Dashboard** Screen and set it as the module Entry Point

- a) Switch to the **Interface** tab.
- b) Right click the **MainFlow** element then select 'Add Web Screen' and set the name of the new Screen to 'Dashboard'.

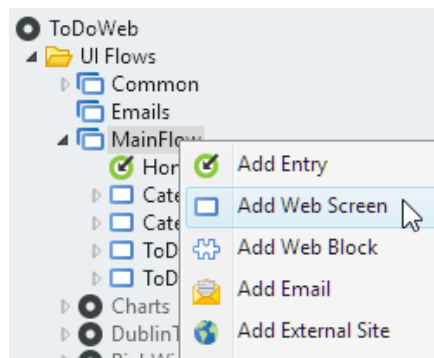


Figure 1. Add Web Screen

- c) Double click the **MainFlow** element to open it, and modify the existing connection between the **Home** Entry Point to point to the new **Dashboard** Screen. Your **MainFlow** should look like this

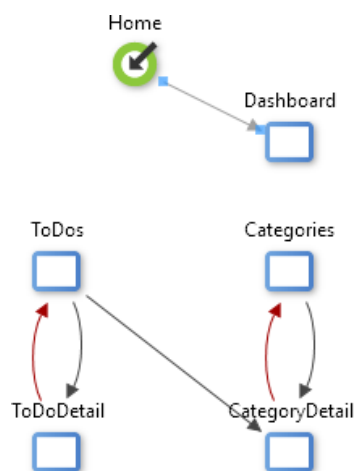


Figure 2. Home Entry Point redirected to Dashboard Screen

2. Create a Column Chart to show the number of To Dos by Priority.

- a) In the **Interface** tab, right click the new **Dashboard** Screen and select **Add Preparation**.

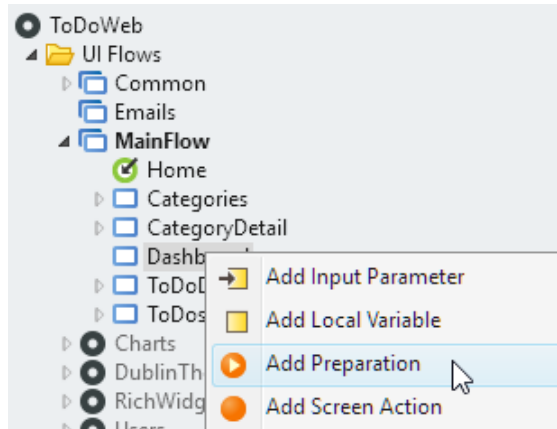


Figure 3. Add Preparation to Dashboard Screen

- b) In the Preparation flow, create the **GetToDos** Aggregate, to fetch all the To Dos.

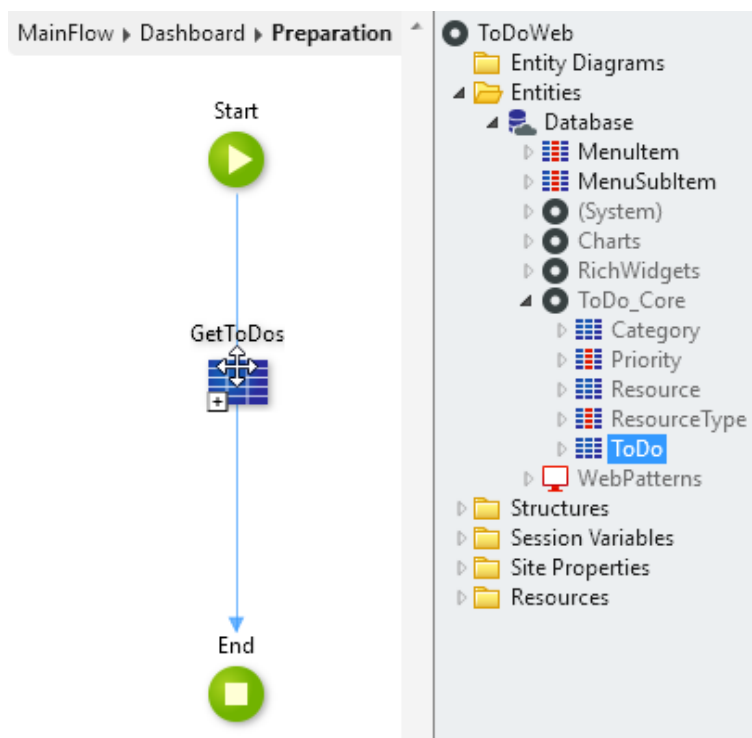


Figure 4. Create the GetToDos Aggregate, by dragging the ToDo Entity

- c) Drag the **Priority** Static Entity and drop it into the Aggregate.

st Values

MainFlow ▶ Dashboard ▶ Preparation ▶ GetToDos

Priority

2

+ New Attribute

	ToDo CreatedDate	ToDo DueDate	ToDo CompletedDate
ketch	2016-12-20	1900-01-01	1900-01-01
ketch	2016-12-20	1900-01-01	1900-01-01
mplete.	2016-12-07	2017-01-11	2016-12-07
	2016-12-07	2016-12-06	2016-12-07

ToDoWeb

- Entity Diagrams
- Entities
 - Database
 - MenuItem
 - MenuSubItem
 - (System)
 - Charts
 - RichWidgets
 - ToDo_Core
 - Category
 - Priority
 - Resource
 - ResourceType
 - ToDo

Figure 5. Add Priority Static Entity to GetToDos Aggregate

d) From the context menu of the **Label** attribute, select **Group by Label**.

3

Priority Label	
Medium	Count
Medium	<input checked="" type="checkbox"/> High
High	<input checked="" type="checkbox"/> Medium
High	<input checked="" type="checkbox"/> Low
	Sort A→Z
	Sort Z→A
	Hide
	Hide others
	+ Add new attribute

Figure 6. Group by Label

e) Notice that the **Label** attribute of the **Priority** Static Entity is now grouped.

1

1

Group of Label Label	ToDo Title	ToDo IsStarred	ToDo Notes
High	Implement ""Complete"" feature	false	Allow to mark To Dos as complete.
	Test To Do creation	true	
Medium	Create ""Download Resource"" button	true	See attached resource sketch

Figure 7. Label attribute grouped

NOTE: When using aggregating functions (e.g. Group By, Count) the output of the Aggregate will only contain those attributes, the remaining ones are visible in the Aggregate editor but only for design purposes. All attributes that are part of the output appear in a blue color.

f) From the context menu of the **Title** attribute, select **Count**.

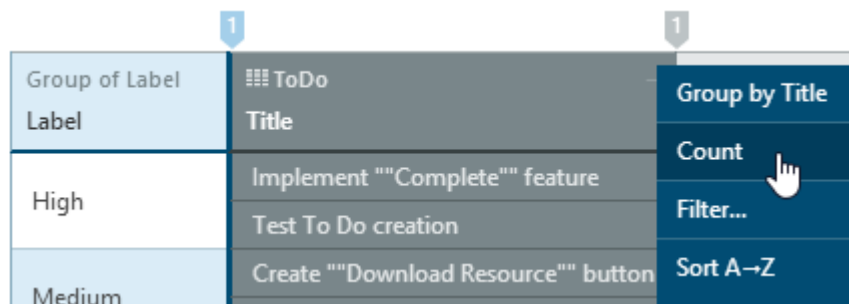


Figure 8. Count Title attribute

g) Rename the aggregate to 'GetTodosByPriority'.

h) Open the **Dashboard** Screen, and in the **Title** placeholder type **Dashboard**.

i) Drag a new **Container** and drop it in the Main Content placeholder area.

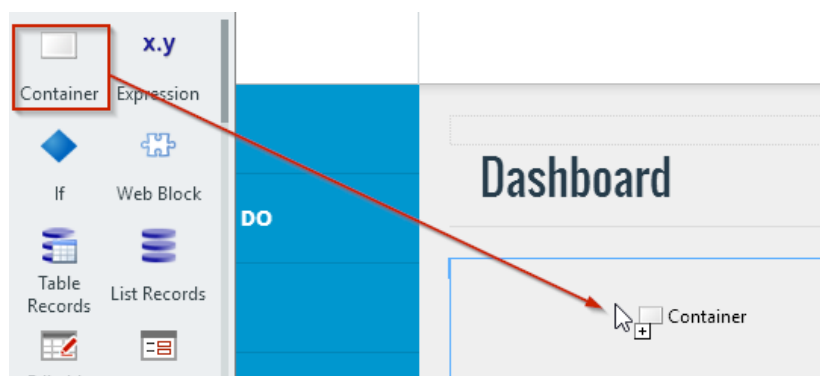


Figure 9. Add new Container to Main Content

j) Drag a **ColumnChart** Widget and drop it inside the Container created in the previous step.

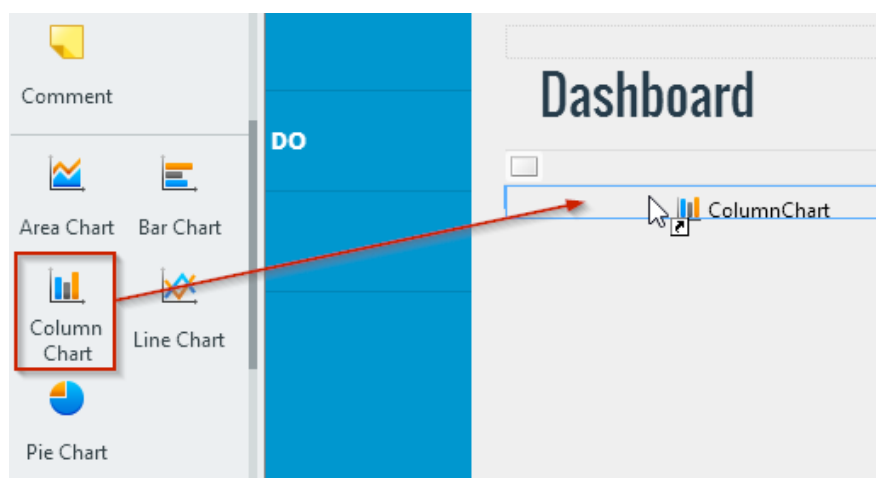


Figure 10. Drag a ColumnChart element

- k) Right click the **ColumnChart** Widget and then select 'Enclose in Container'.

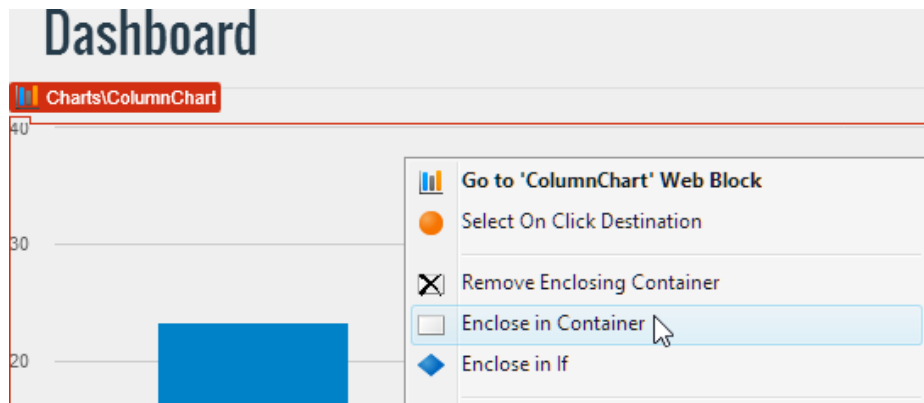


Figure 11. Enclose the ColumnChart Widget in a Container

- l) Select the Container directly above the **ColumnChart** widget
- m) Set the **Width** of the Container created above (to enclose the **Chart**) to '6 col'.

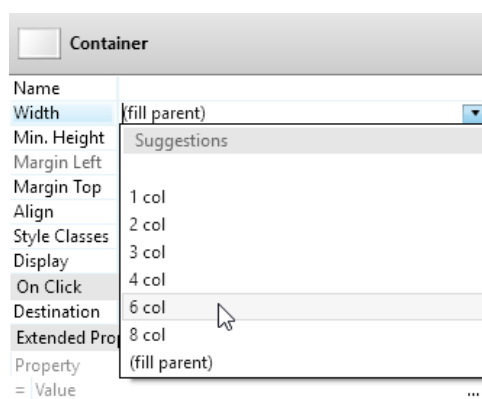


Figure 12. Set Container Width to '6 col'

- n) Select the **ColumnChart** Widget, then in the properties area set the **SourceDataPointList** property to 'GetToDosByPriority.List'.

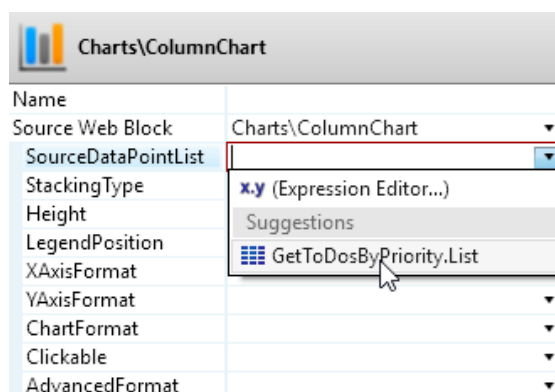


Figure 13. Set SourceDataPointList to 'GetToDosByPriority.List'

- o) Notice that a new **Mapping to DataPoint** section appears in the properties area. Verify that the **Label** mapping is set to **Label** (the group by label attribute in the Aggregate).
- p) Set the **Value** mapping to the **Count** attribute of the same Aggregate.
- q) Drag another **Container** and drop it above the **ColumnChart**, but still inside the surrounding Chart Container.

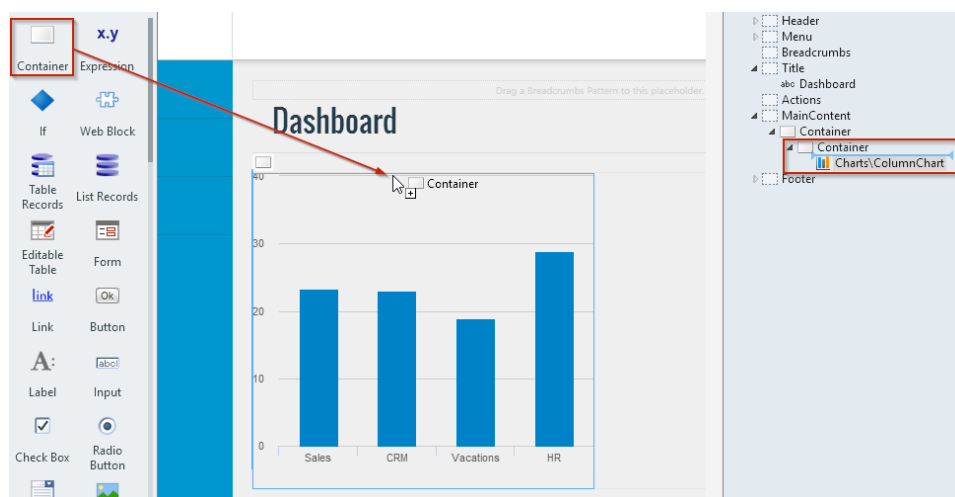


Figure 14. Drag a new Container above ColumnChart

- r) With the focus on the new Container, change the **Style Classes** property to 'Heading2'.

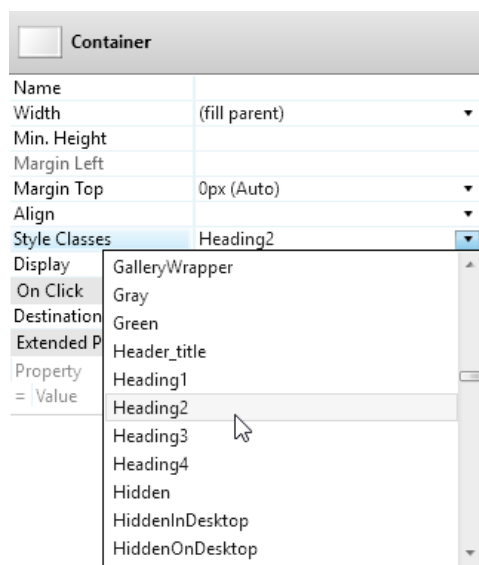


Figure 15. Set Heading2 Style Class

- s) Place the cursor inside the **Container** and write 'To Dos by Priority' to add the **Chart** title.

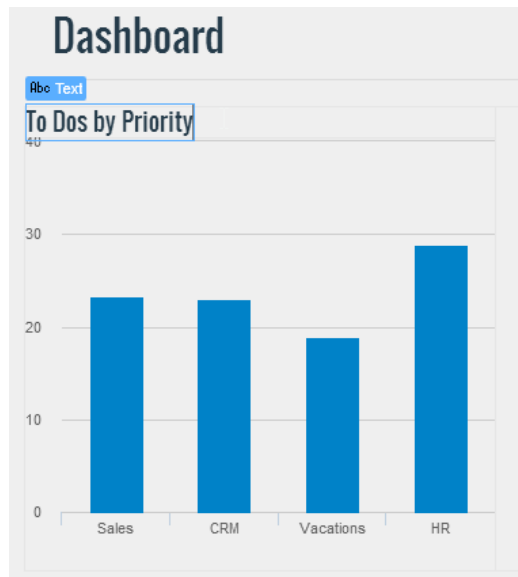


Figure 16. Write 'To Dos by Priority' title

t) From the Screen toolbar, click the **Align Center** button to center the title.



Figure 17. Align Center button in toolbar

u) Your Screen and Widget Tree should look like this

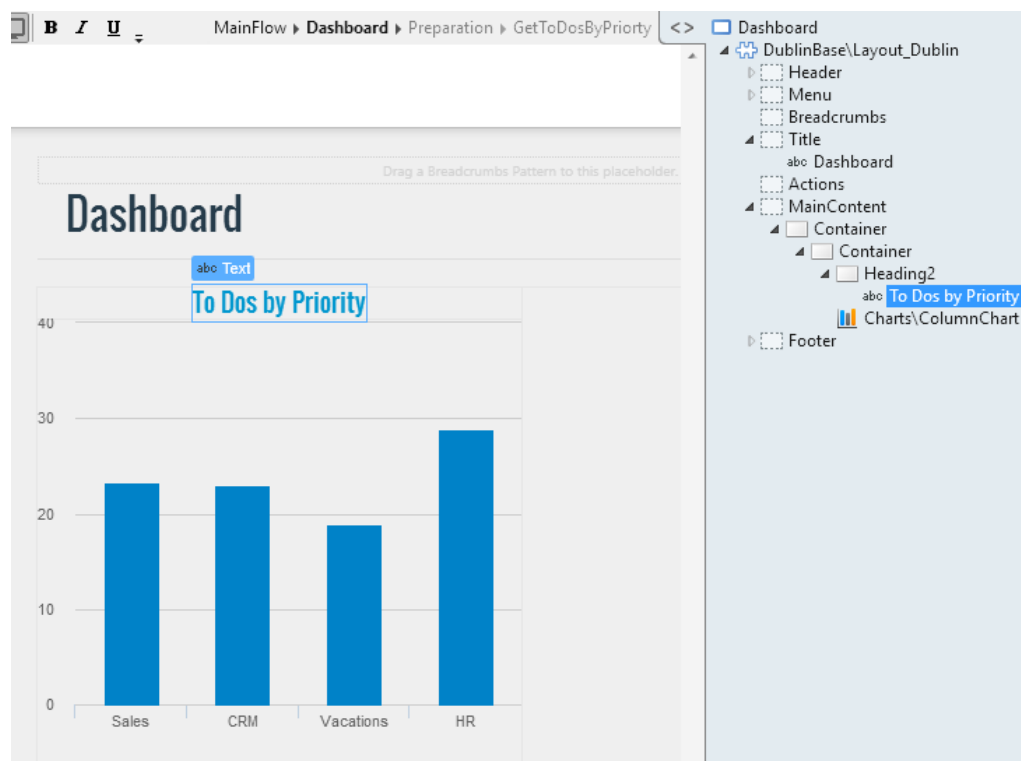


Figure 18. To Dos by Priority ColumnChart and Widget Tree

3. Create a Pie Chart to show the number of To Dos by Category.

- a) Open the **Preparation** of the **Dashboard** Screen.
- b) Drag and drop the **ToDo** Entity to the **Preparation** flow, after the **GetToDosByPriority** Aggregate.

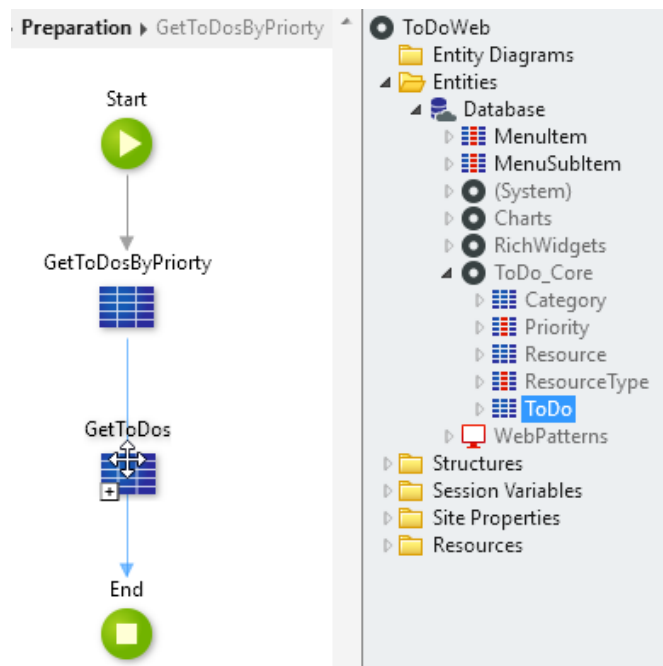


Figure 19. Create another GetToDos Aggregate

- c) Add the **Category** Entity to the new Aggregate.
- d) In the Aggregate, open the context menu of the **Category Name** attribute and select **Group by Name**.

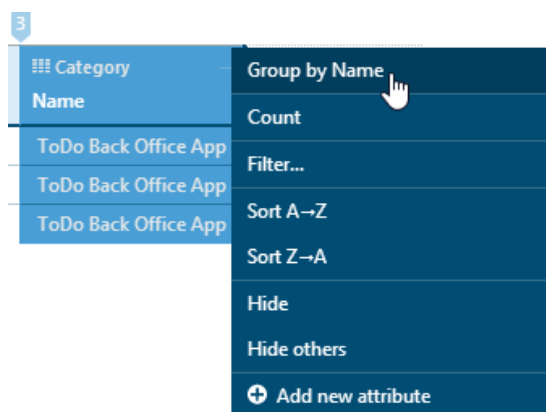


Figure 20. Group by Category Name

- e) Open the context menu of the **ToDo Title** attribute and select **Count**.

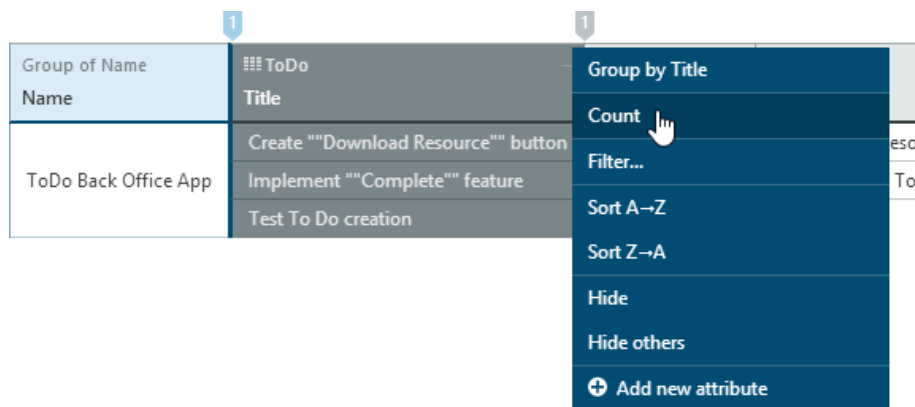


Figure 21. Count of Title

f) Rename the Aggregate to 'GetToDosByCategory'.

g) Your Aggregate should look like this

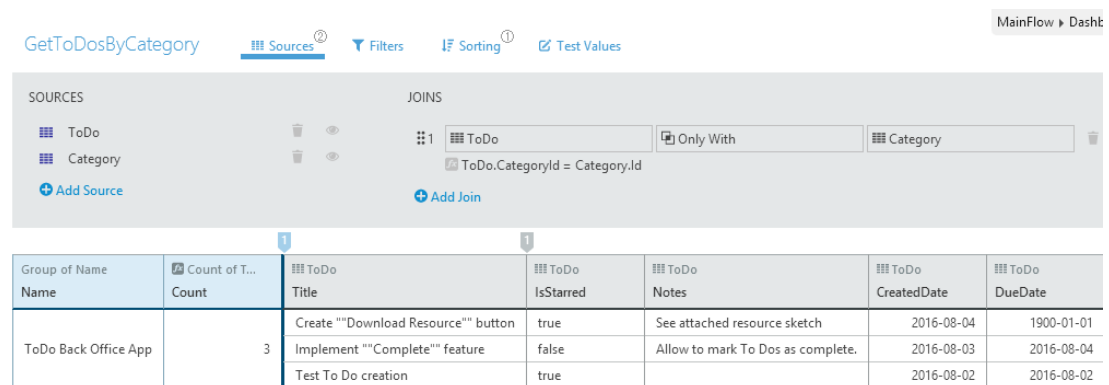


Figure 22. GetToDosByCategory Aggregate

h) Open the **Dashboard** Screen.

i) Drag a **Container** and drop it on the right of the Column Chart.

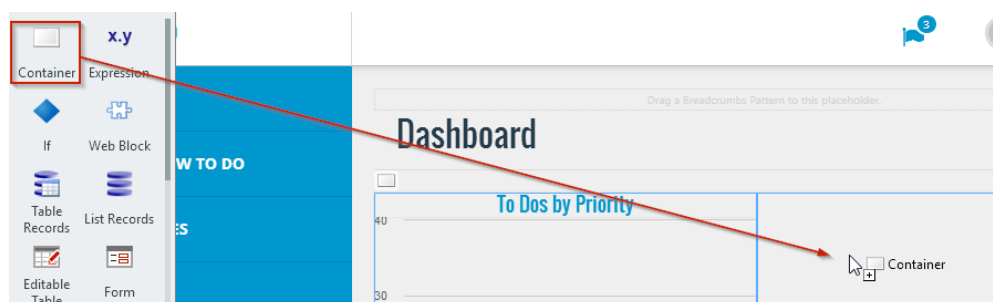


Figure 23. New Container to the right of the Column Chart

j) Drag a **PieChart** Widget and drop it inside the Container created in the previous step.

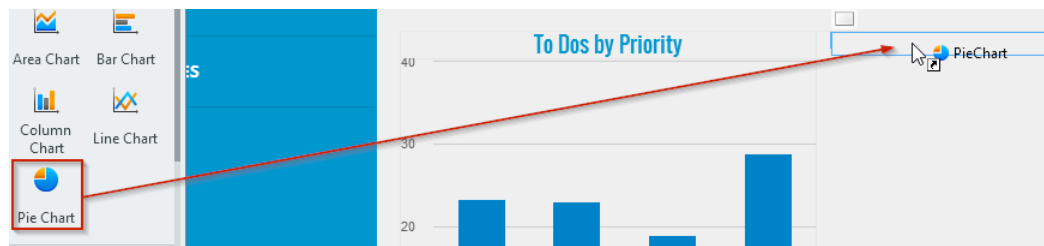


Figure 24. Drag a PieChart

- k) Set the **SourceDataPointList** property of the **PieChart** to 'GetToDosByCategory.List', then define the mapping accordingly.

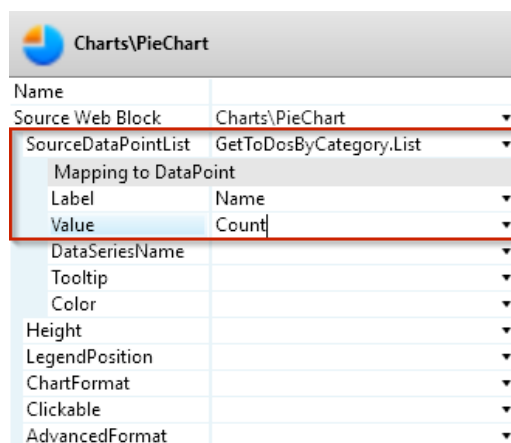


Figure 25. PieChart SourceDataPointList property and mapping

- l) Using the **Widget Tree**, drag a new **Container** and drop it above the **PieChart**, but still inside the surrounding Container.

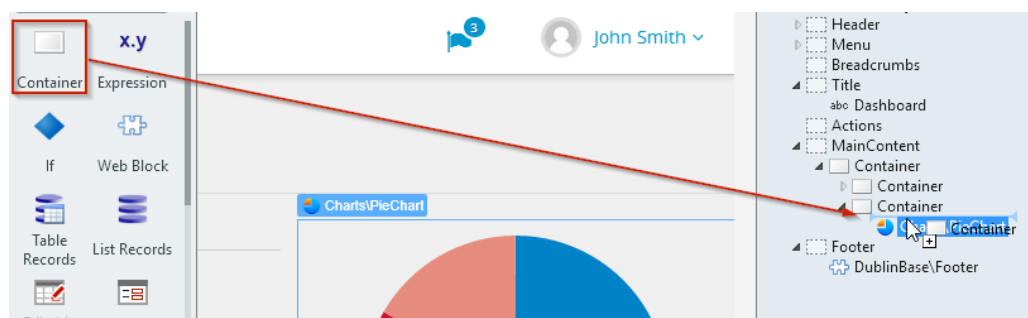


Figure 26. Drag and drop a Container using the Widget Tree

- m) Set the **Style Classes** of the new Container to 'Heading2'.
- n) Place the cursor inside this Container, then write 'To Dos by Category' inside.
- o) Using the toolbar, set the text alignment to **Center**.
- p) Your Screen should look like this

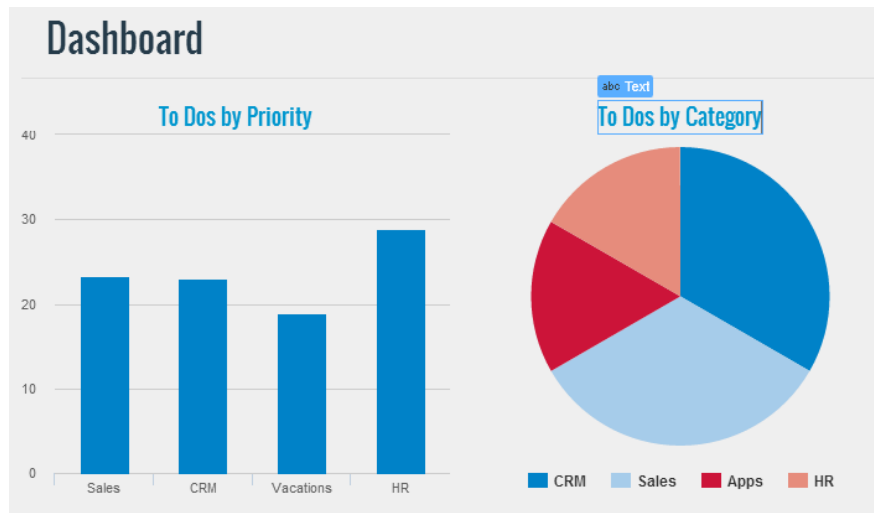


Figure 27. Dashboard Screen with Charts

4. Publish and test your application.

- Click the **1-Click Publish** button to publish the module.
- Click the **Open in Browser** button to open the application. If required, login again with the same credentials as before.
- Recall that you have changed the module **Entry Point** so, you should now see the **Dashboard** Screen.
- Create a new To Do with the following details

The 'New To Do' form contains the following fields and values:

- Title *: Buy milk
- User *: Larry R. Logan
- Is Starred: ☐
- Notes: (empty text area)
- Resource: Choose File No file chosen
- Due Date: YYYY-MM-DD
- Category *: Groceries
- Priority *: Low

Buttons: Save, Cancel

Figure 28. New To Do 'Buy milk'

- e) Go back to the **Dashboard** Screen by clicking the module name on the top left corner of the browser window.

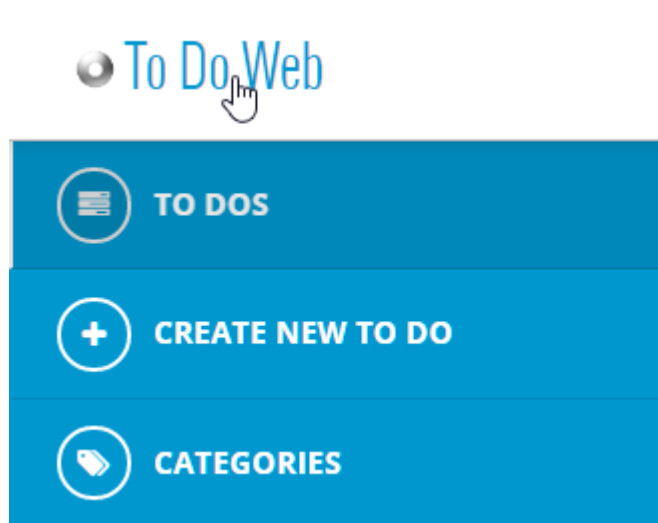


Figure 29. Open Entry Point Screen

- f) The **Dashboard** Charts should now reflect the new 'Buy milk' To Do.

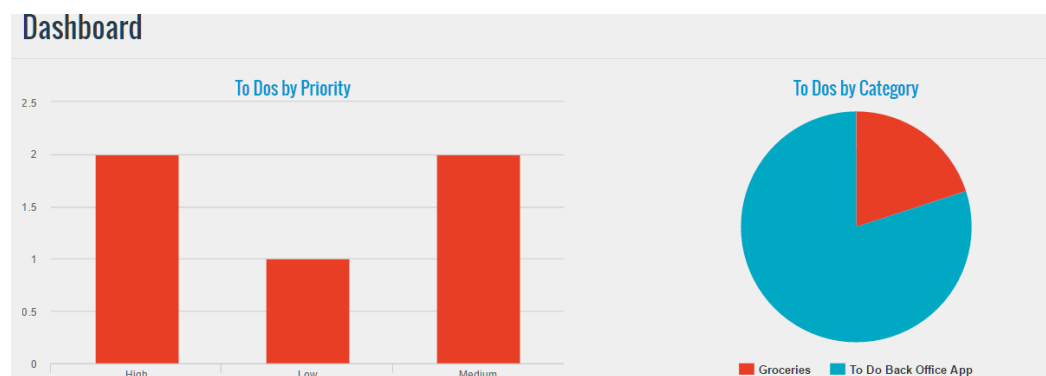


Figure 30. Dashboard Charts after 'Buy milk' To Do creation

End of Lab

In this exercise, you created a **Dashboard** Screen to enable users to have an overview of the existing To Dos.

The Dashboard contains Charts that allow to seed the breakdown by Category and Priority. The **Dashboard** Screen also displays the last completed To Dos and the overdue To Dos.

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