
regoUniversity 2021
VIRTUAL
NSQL Portlets | Intermediate
Your Guides:
James Gille & Ben Rimmasch

Agenda

- Chart Portlets
  - Types / Uses
  - Creating a sample portlet
  - Limitations
- Drilldown Portlets
  - Overview
  - Example
- Questions

Chart Portlets

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Chart Portlets

- When to use charts
  - Displaying data containing multiple dimensions / metrics
  - Dashboards
  - Summarizing data
- What type of chart to use
  - 11 different chart types
  - Choose a chart that best suits the data you want to visualize
  - Ensure that your data provider contains the minimum number of metrics for the chart type

Chart Portlets: Types

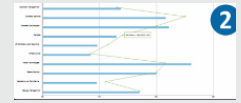
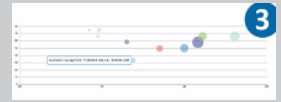
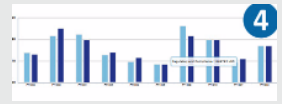
Chart Type	Description	Min Metrics	Max Metrics	Example
Area	Displays data points that are connected by lines along the axes. Displays different colors to fill in the area below the line.	1 / 1	Unlimited / 1	
Bar	Displays each dimension of the data in a horizontal bar.	1 / 1	Unlimited / Unlimited	
Bubble	Displays metrics on the horizontal and vertical axes. The size of each bubble represents a third metric.	3 / -	3 / -	
Column	Displays each dimension of the data in a vertical bar.	1 / 1	Unlimited / Unlimited	
Donut	Displays the data dimension objects in proportional segments, like a pie chart.	1 / -	Unlimited / -	
Funnel	Displays the data dimension objects in proportional rows in a funnel shape similar to a pie chart.	1 / -	Unlimited / -	

Chart Portlets: Types

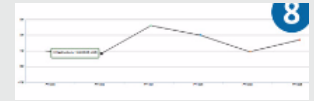
Chart Type	Description	Min Metrics	Max Metrics	Example
Heat Map	Displays a primary attribute or metric in a two-dimensional grid with values along the X-axis and Y-axis. The primary attribute values are represented using colors or shades of the same color.	3 / -	3 / -	
Line	Displays data points connected by lines along the axes.	1 / 1	Unlimited / 1	
Pie	Displays the data dimension objects in proportional slices.	1 / -	1 / -	
Scatter	Displays metrics across the X-axis and Y-axis.	2 / 2	2 / 2	
Tree Map	Displays data in a hierarchical tree with branched nodes. Chart values appear in different colors and can include clickable shapes that show the relative size of each subgroup. Tree maps progressively reveal more detailed information in deeper levels. The user can expand each subgroup to reveal the child data points in deeper levels.	3 / -	3 / -	

Chart Portlets: Example

- The next several slides will demonstrate how to build a Donut Chart

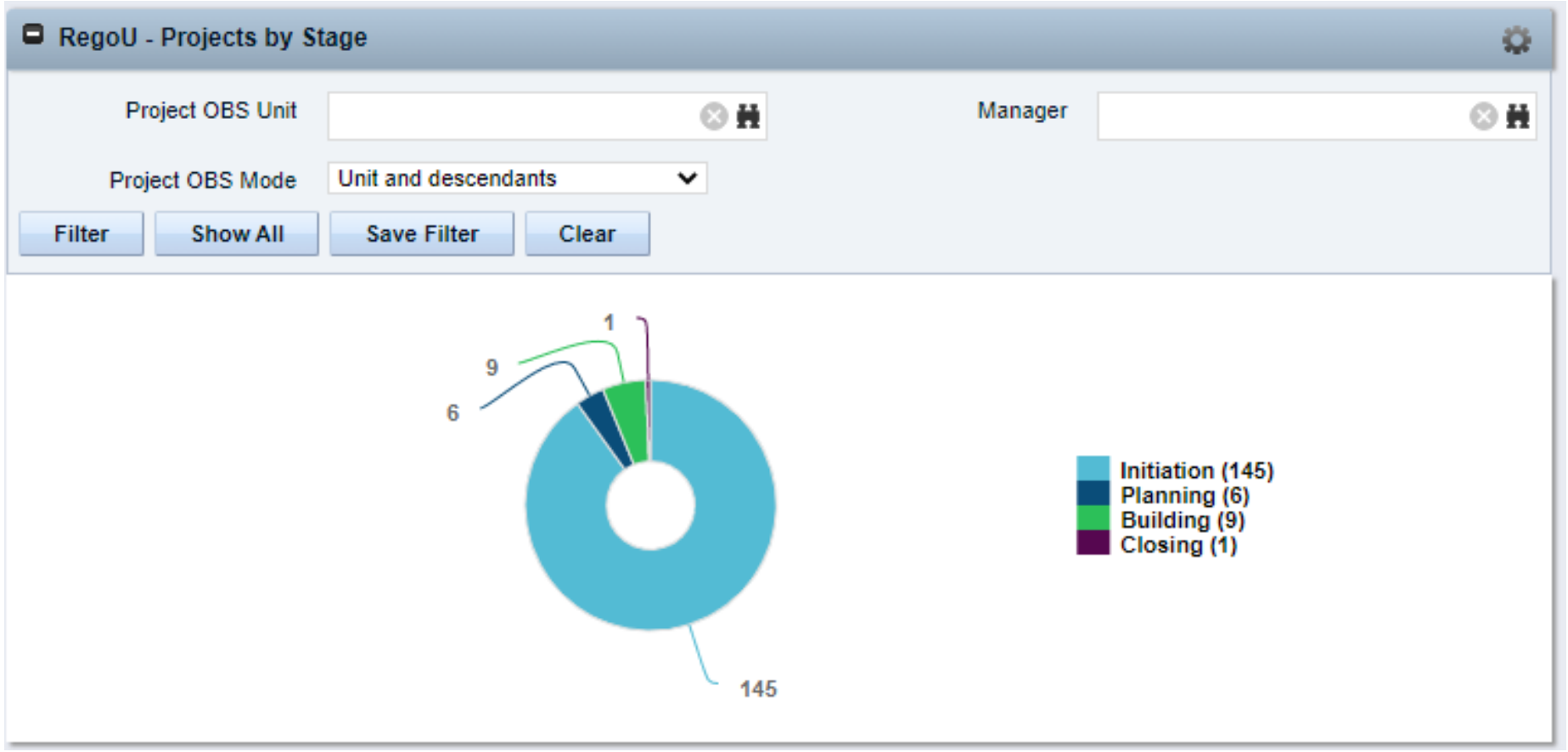
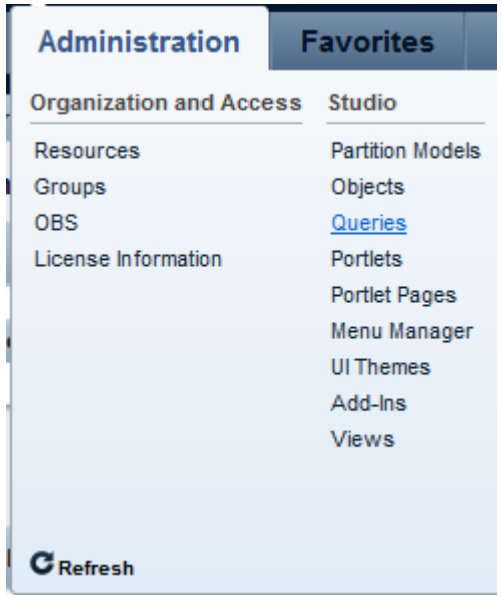


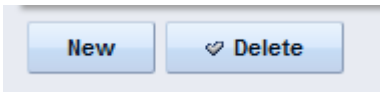
Chart Portlets: Example - Query

- Create Query

1) Administration -> Queries



2) Click New



3) Enter Query Name and ID, click Save and Continue

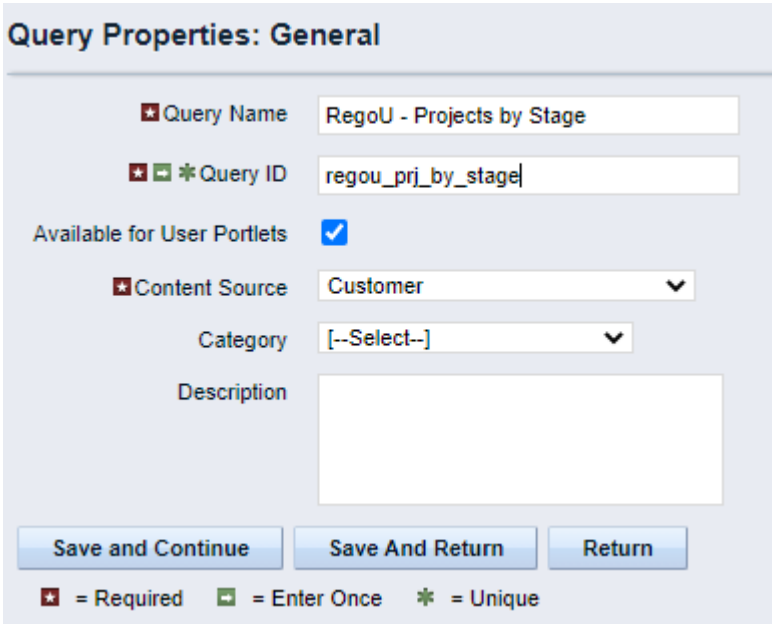


Chart Portlets: Example - Query

- Update query and click Save and Continue

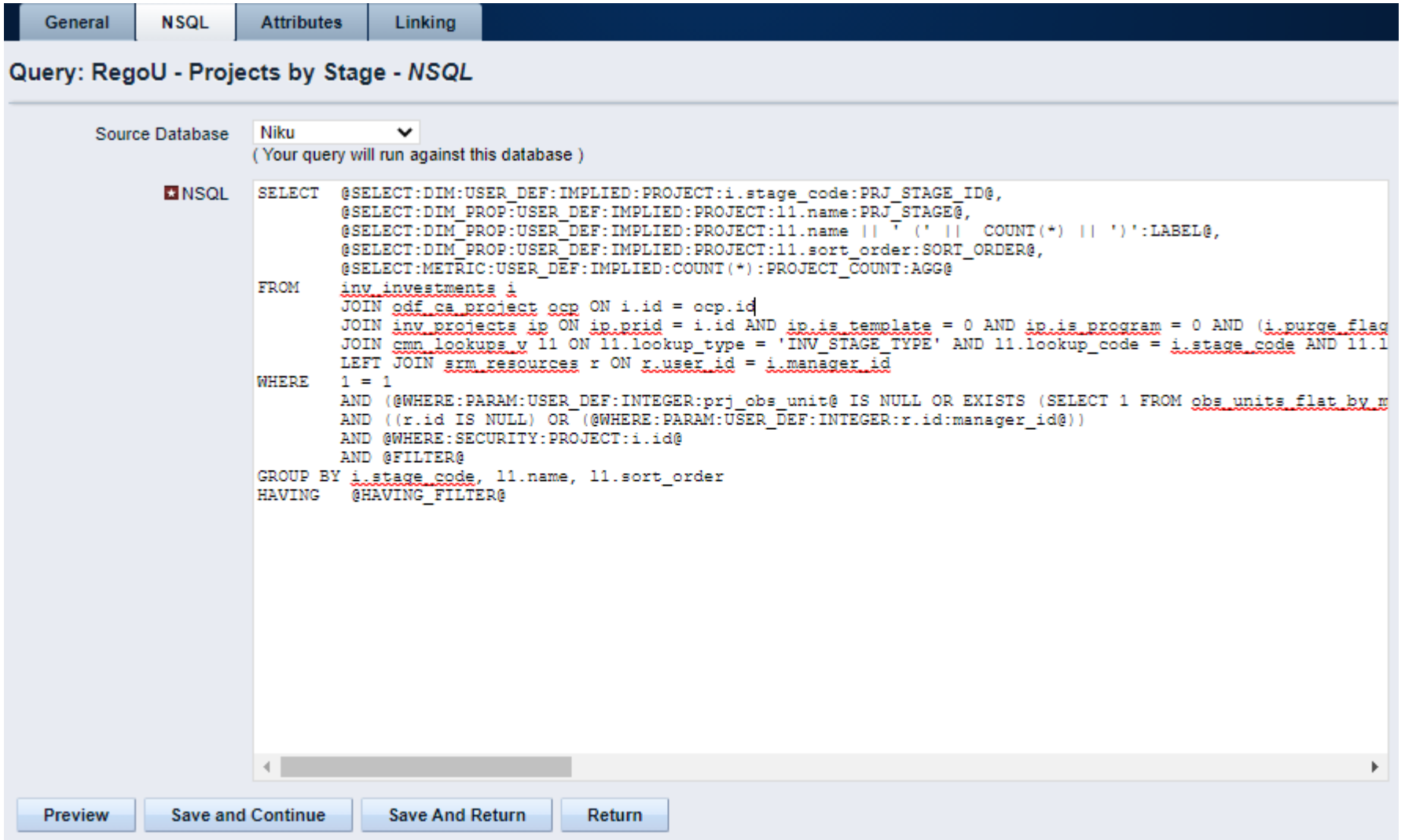


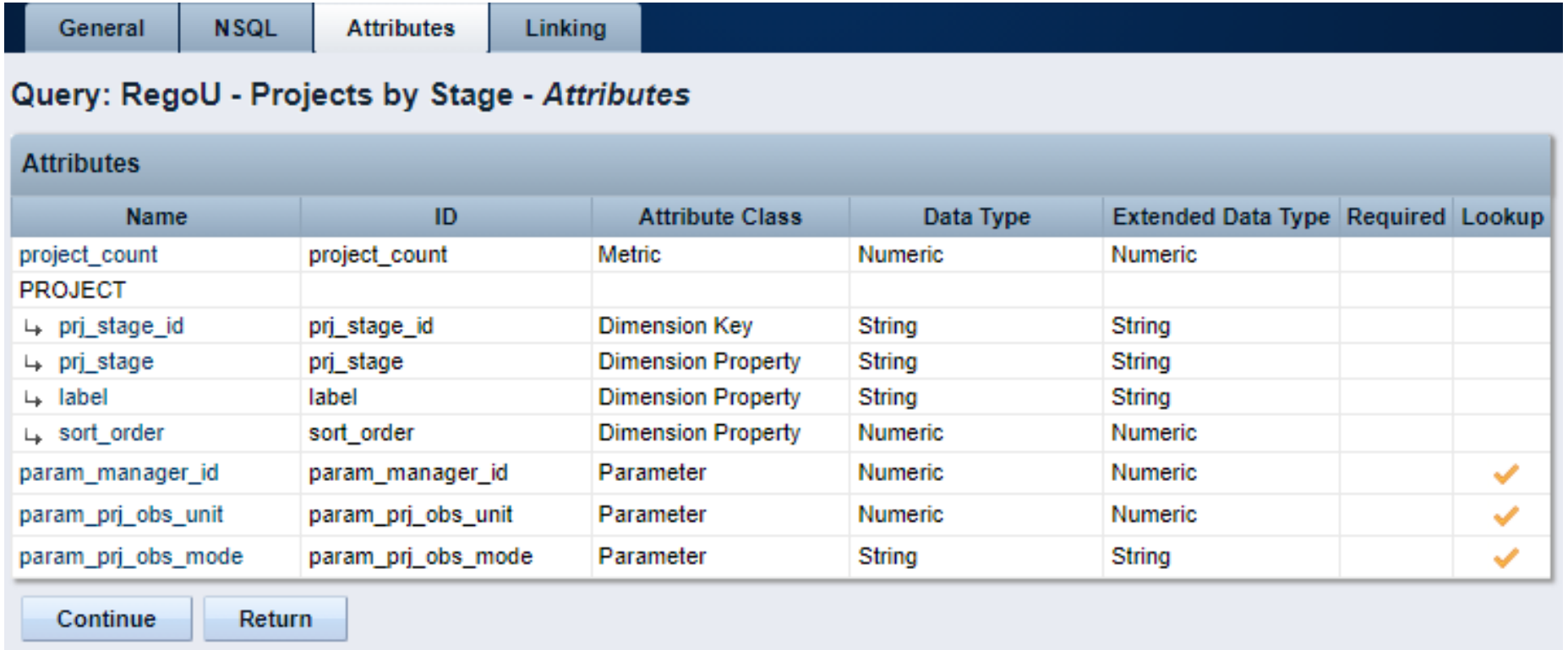
Chart Portlets: Example - Query

- Review Attributes

Metric →

Properties →

Parameters →



General | NSQL | Attributes | Linking

Query: RegoU - Projects by Stage - *Attributes*

Attributes

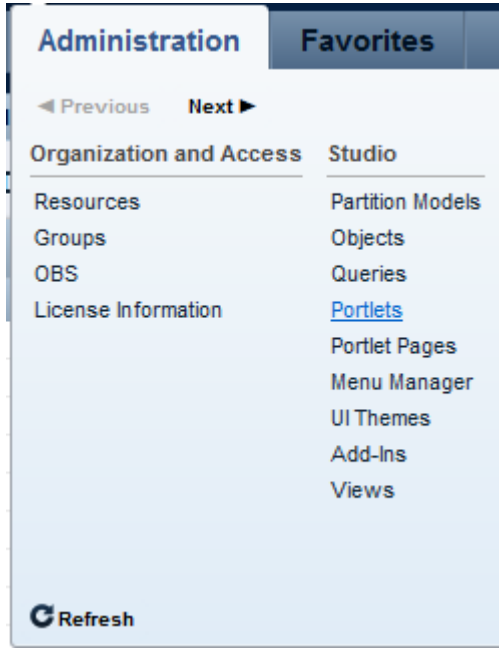
Name	ID	Attribute Class	Data Type	Extended Data Type	Required	Lookup
project_count	project_count	Metric	Numeric	Numeric		
PROJECT						
↳ prj_stage_id	prj_stage_id	Dimension Key	String	String		
↳ prj_stage	prj_stage	Dimension Property	String	String		
↳ label	label	Dimension Property	String	String		
↳ sort_order	sort_order	Dimension Property	Numeric	Numeric		
param_manager_id	param_manager_id	Parameter	Numeric	Numeric		✓
param_prj_obs_unit	param_prj_obs_unit	Parameter	Numeric	Numeric		✓
param_prj_obs_mode	param_prj_obs_mode	Parameter	String	String		✓

Continue | Return

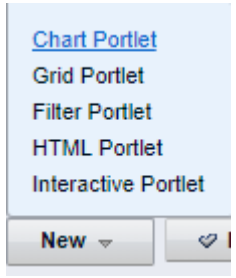
Chart Portlets: Example - Portlet

- Create Portlet

1) Administration -> Portlets



2) Click New -> Chart Portlet



3) Enter Portlet Name and ID, browse for NSQL Query as Data Provider

4) Click Next, then Finish and Open

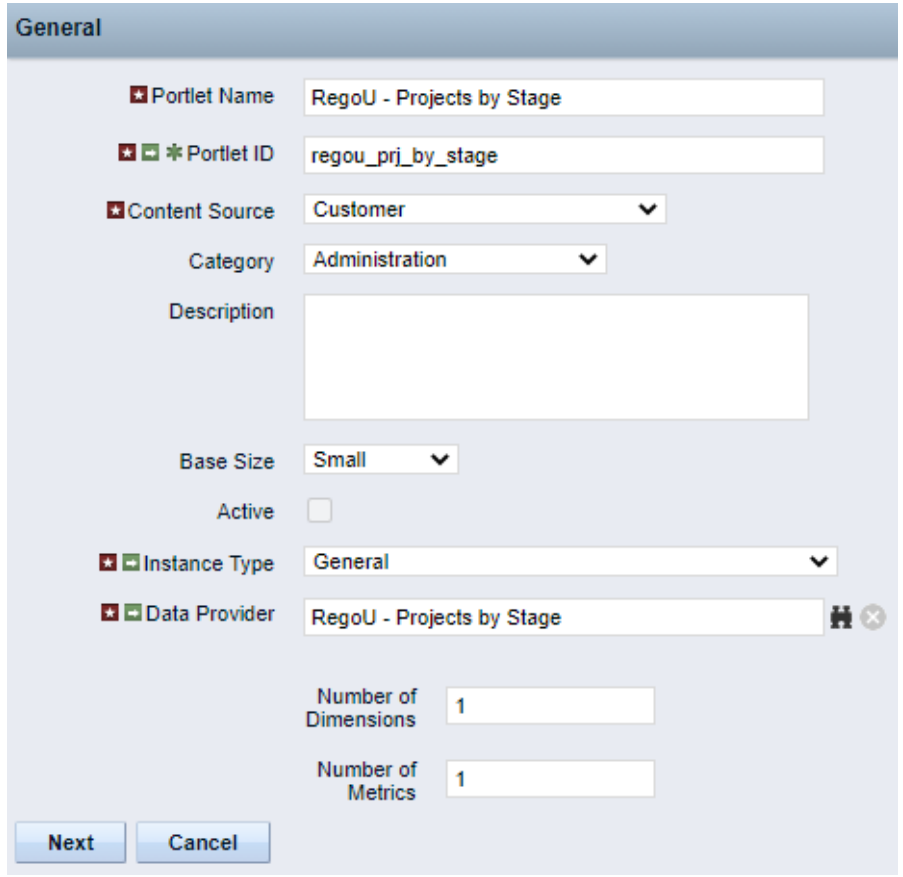
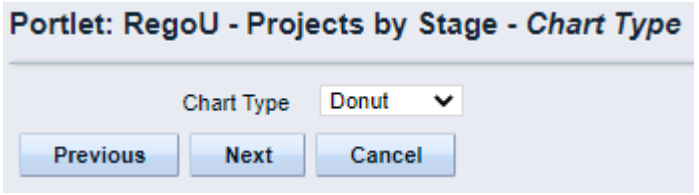
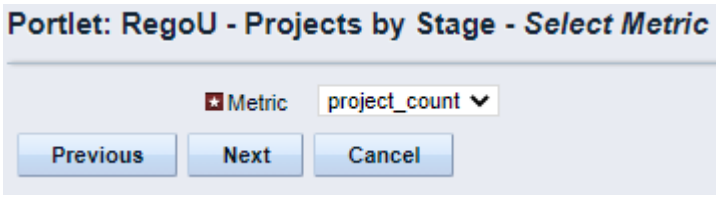
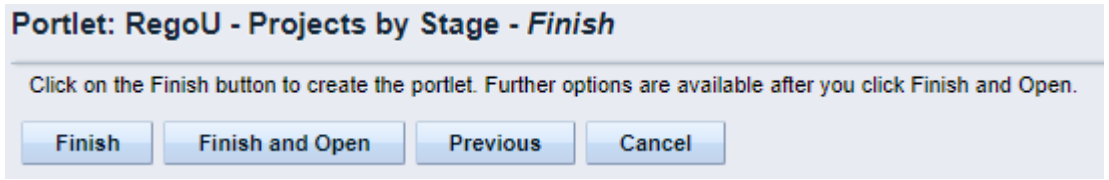


Chart Portlets: Example - Portlet

- Select Chart Type
- Select Metric attribute
- Click “Finish and Open”
- Chart Section tab
  - Source Data sub-tab options depend on chart type







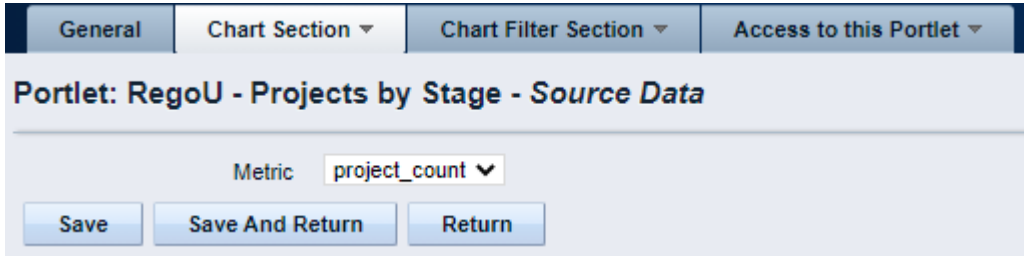


Chart Portlets: Example - Portlet

- Chart Section tab (cont)
  - Options sub-tab contents also varies depending on chart type
  - In this example the Legend Labels are a variable (label) whose value is set in the NSQL query:

```
l1.name || ' (' ||  COUNT(*) || ')'
```

  - Select “Do not show results until I filter” option for potentially large queries to improve usability and efficiency

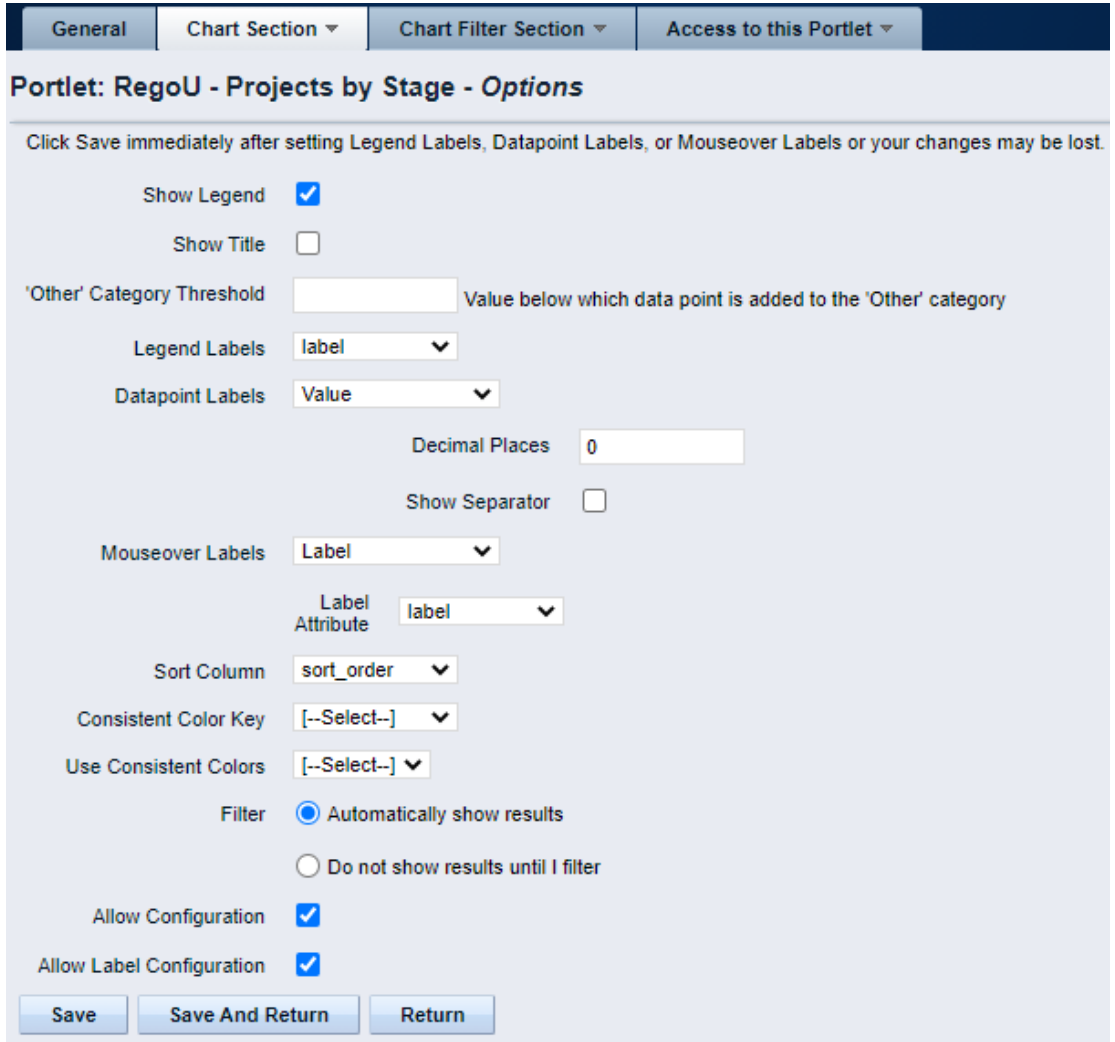
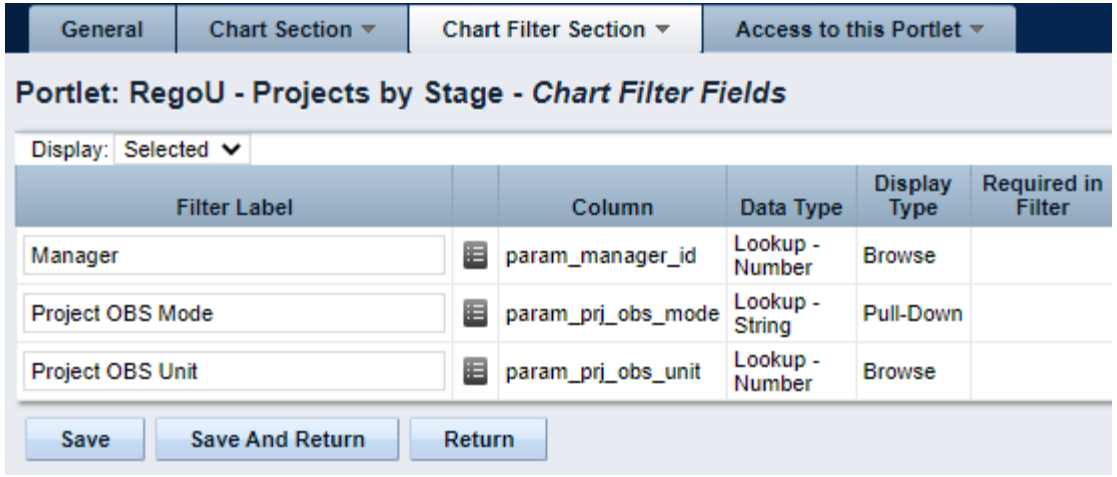


Chart Portlets: Example - Portlet

- Chart Filter Section
  - Set filter layout and enter user-friendly labels as desired



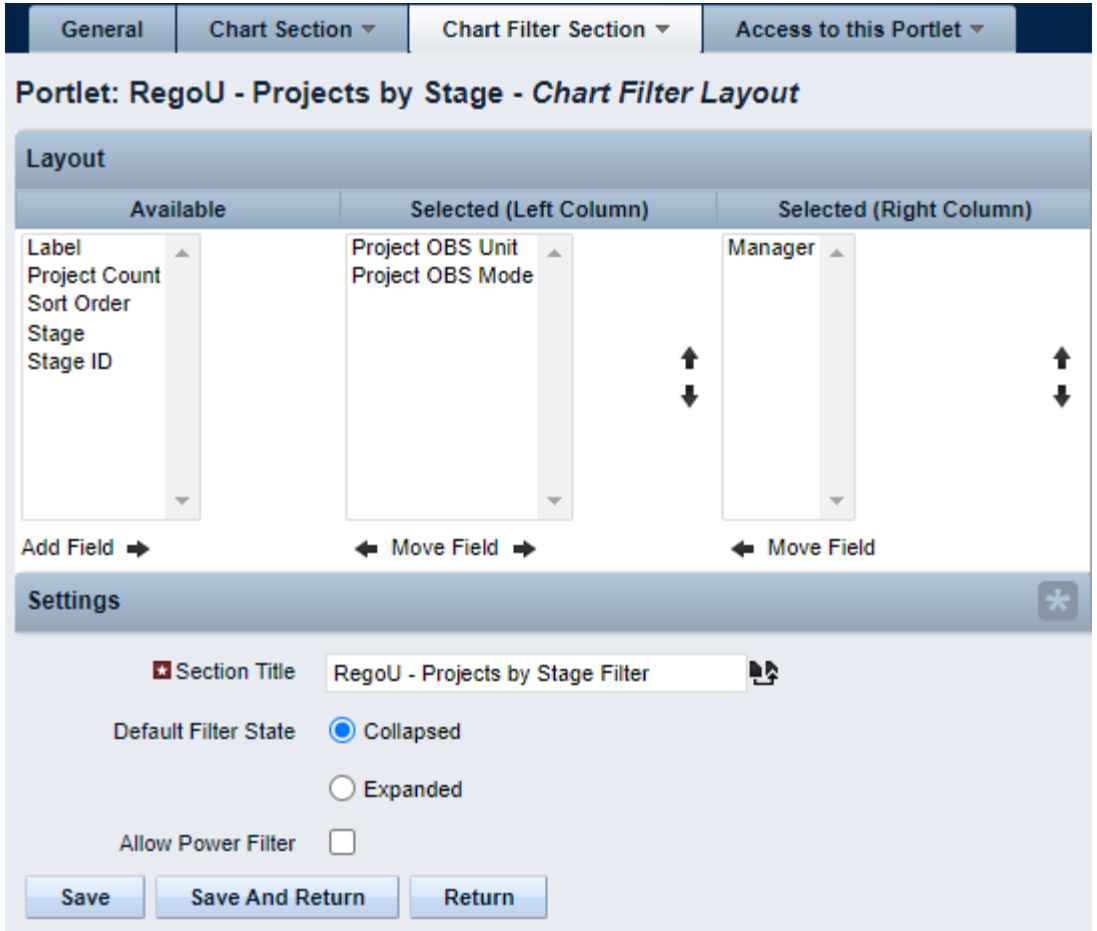


Chart Portlets: Example - Portlet

- Add to a Portlet Page and you're all set!

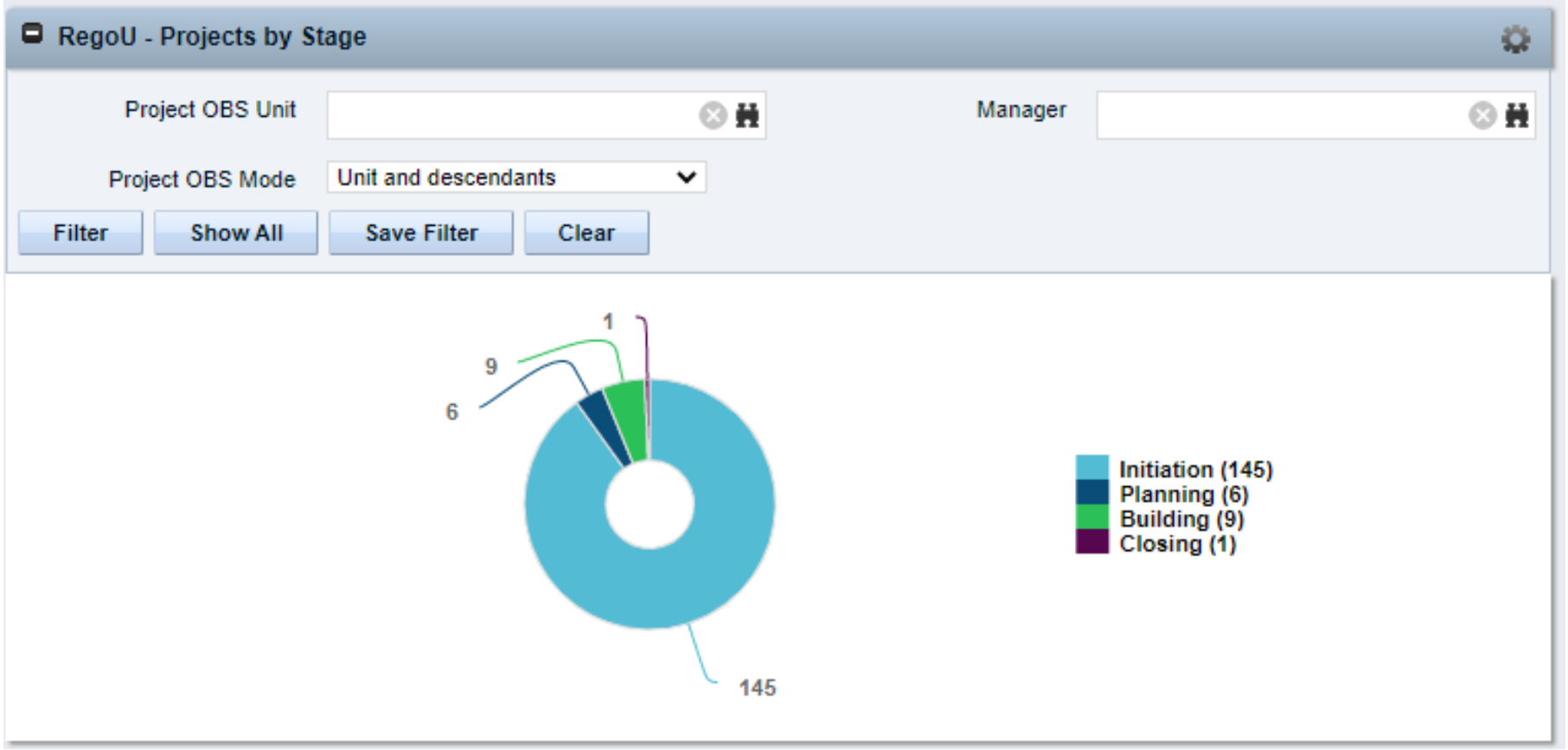


Chart Portlets: Limitations

- Take into account metric and dimensional limits
- Consistent Colors can be used, but it’s a system general setting and is limited.
  - Improved in 15.1 by allowing RGB colors, transparency and improved borders.
- Other limitations to portlets apply like the NSQL governors.

Drilldown Portlets

Drilldown Portlets

- More complex but a nice usability enhancement
- Several examples available on regoXchange
- Key components
  - Two portlets
  - Linking
  - XPATH construct
  - Portlet pages (one or two)
  - Filtering

Drilldown Portlets

- What is a Drilldown Portlet ?

  - A portlet that provides additional detail for a piece of information in another portlet and is accessed by clicking on a link in the parent portlet

  - Examples
    - Pie Chart linking to a grid portlet that shows the details
    - Grid portlet showing summarized data linked to another grid that shows the detailed info

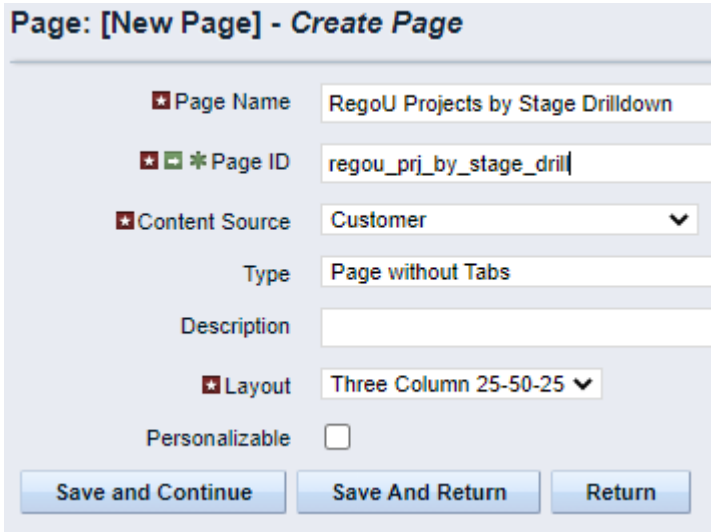
Drilldown Portlets

- High Level Implementation Steps:
  - Create Portlet Page with link parameter(s)
  - Create Query for detail Portlet that utilizes the parameter(s) from the portlet page
  - Create Portlet based on Detail Query
  - Place Detail Portlet on the Portlet Page
  - Create Query for Summary Portlet with link to the Portlet Page
  - Create Portlet based on Summary Query
  - Add Summary Portlet to a portlet page
  - Determine Filtering Approach

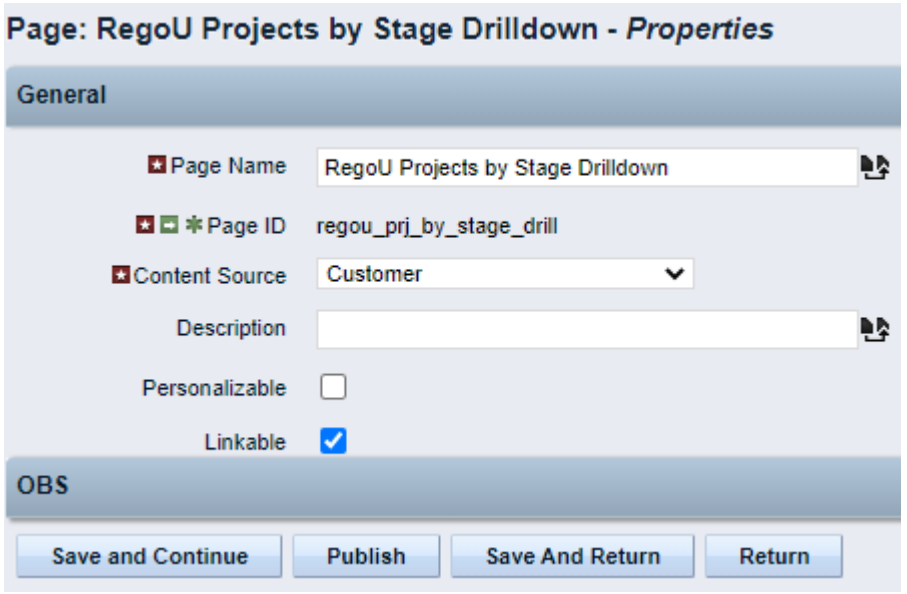
Drilldown Portlets: Example - Detail Portlet Page

- Create Portlet Page with a link parameter

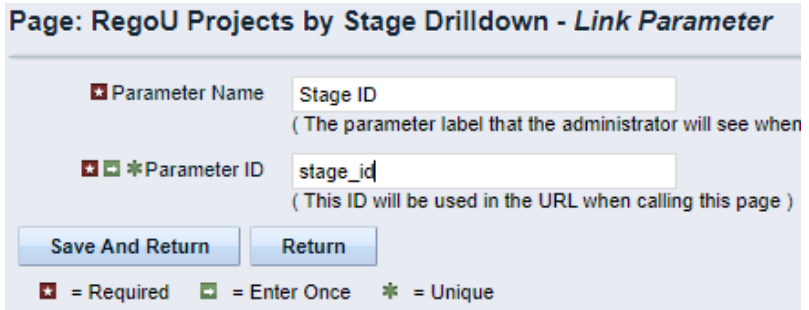
1) Create a new Portlet Page



2) Check the Linkable box and Click Save and Continue

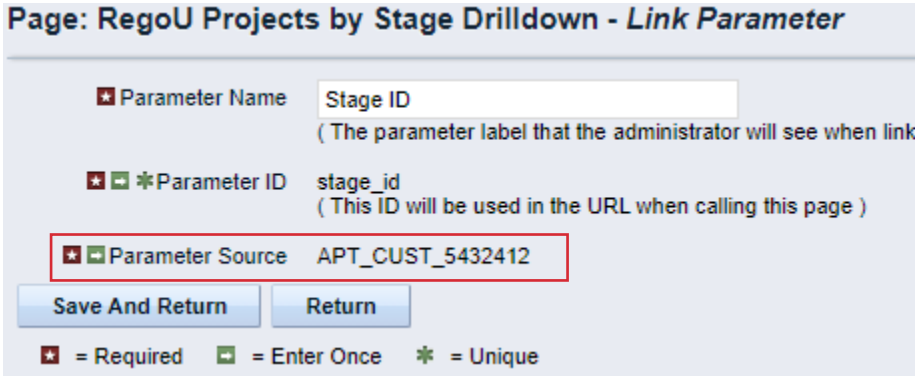


3) Create a Link Parameter (make sure the ID is all lowercase)



Drilldown Portlets: Example - Detail Query

- Detail Query will utilize parameters passed from summary portlet
  - XPATH (XML Parameter) NSQL Construct
    - Enables a portlet to retrieve a name-value pair from the XML page URL to a user-defined portlet
    - Ex: @where:param:xml:string:/data/stage_id/@value@
    - Case sensitive (Best Practice - all lowercase IDs)
  - If the drilldown page is added to the Menu, then the parameter value will default to the Parameter Source, as seen on the Link Parameter screen on the portlet page



Drilldown Portlets: Example - Detail Query

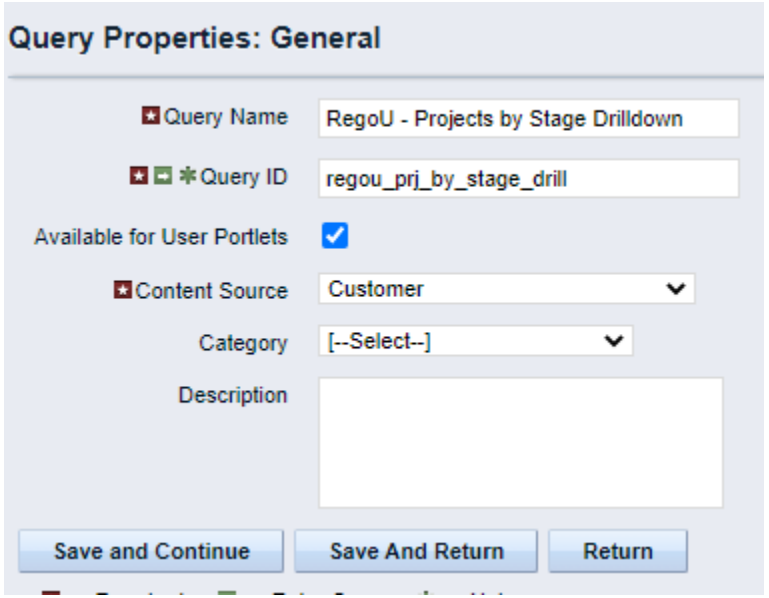
- Create Query for detail portlet

```
SELECT  @SELECT:DIM:USER_DEF:IMPLIED:PROJECT:i.id:INV_ID@,
        @SELECT:DIM_PROP:USER_DEF:IMPLIED:PROJECT:i.code:INV_CODE@,
        @SELECT:DIM_PROP:USER_DEF:IMPLIED:PROJECT:i.name:INV_NAME@,
...
FROM    inv_investments i
        JOIN odf_ca_project ocp ON ocp.id = i.id
...
WHERE   1 = 1
         AND (@WHERE:PARAM:XML:STRING:/data/stage_id/@value@ IS NULL
              OR @WHERE:PARAM:XML:STRING:/data/stage_id/@value@ = i.stage_code)
         AND @WHERE:SECURITY:PROJECT:i.id@
         AND @FILTER@
```

Drilldown Portlets: Example - Detail Query

- Create Query for detail portlet

1) Enter Query Name and ID, click Save and Continue

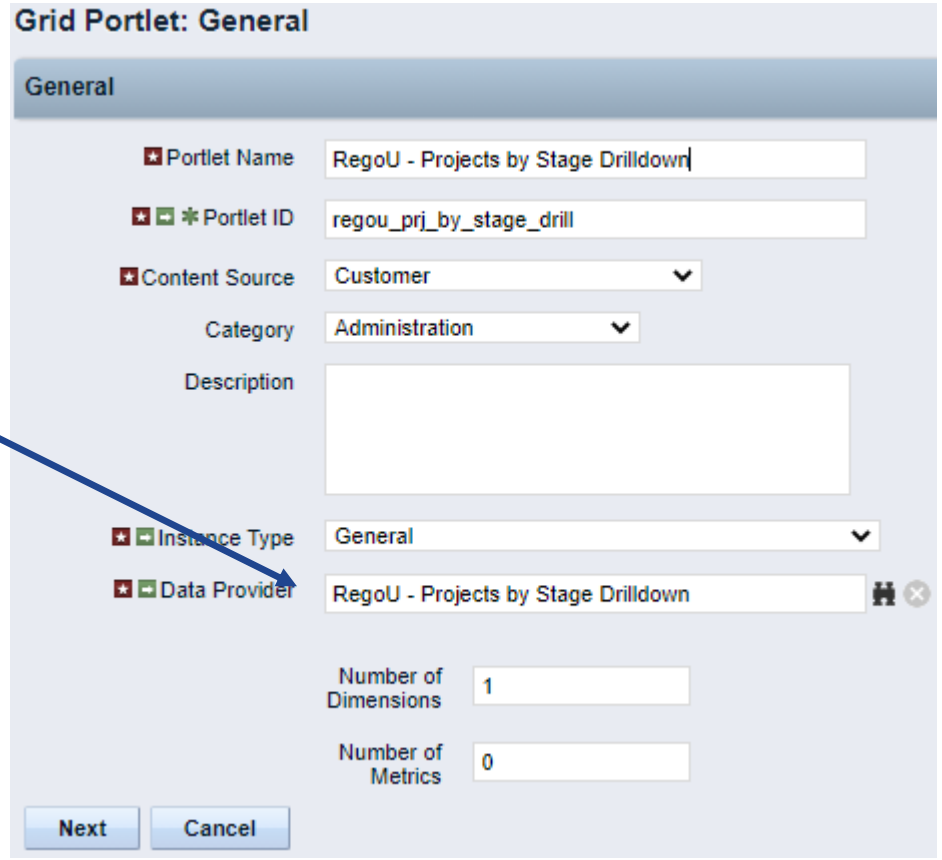


2) Update query and click Save and Continue

Drilldown Portlets: Example - Detail Portlet

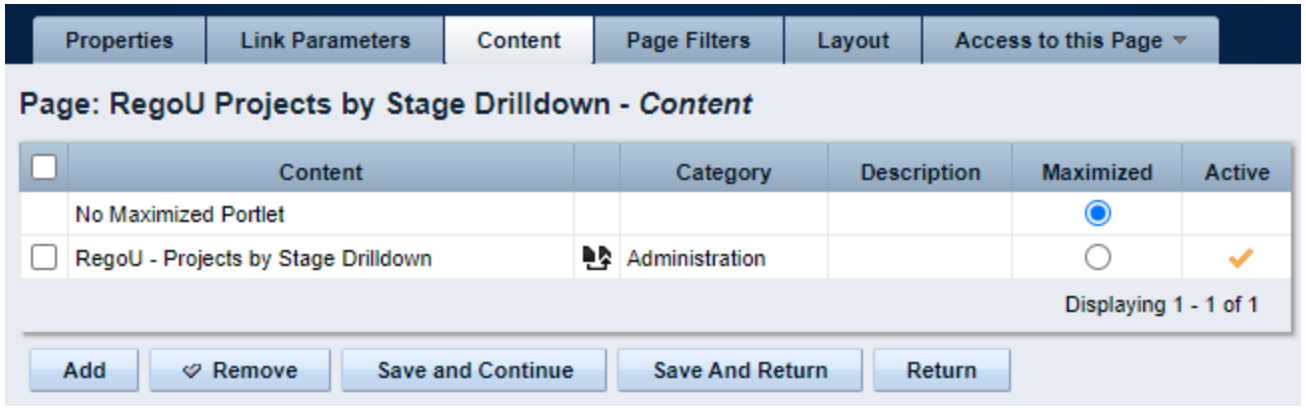
- Create Detail Portlet based on Detail Query

- Input Portlet Name and ID
- Browse for Query
- Click Next
- Click Finish and Open
- Format Portlet Layout



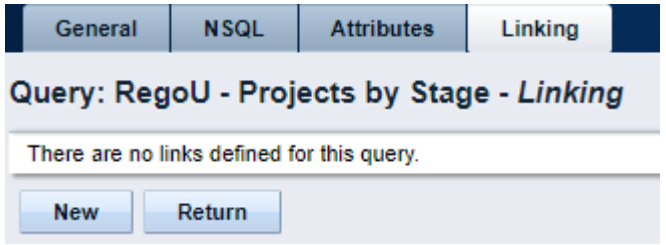
Drilldown Portlets: Example - Detail Portlet

- Place detail portlet on the Portlet Page

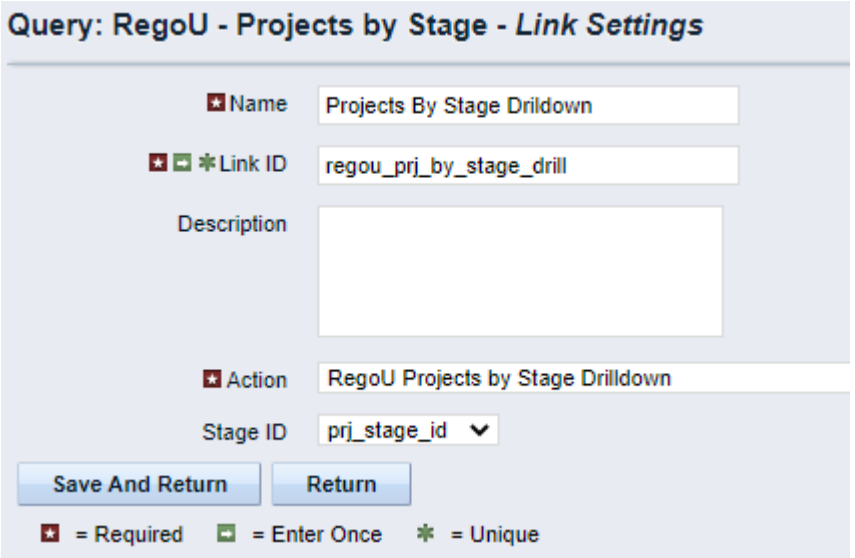


Drilldown Portlets: Example - Summary Query

- Navigate to the Query for the Summary portlet, click on the Linking tab, and click New



- Input Name, Link ID, and select the Detail portlet page as the Action

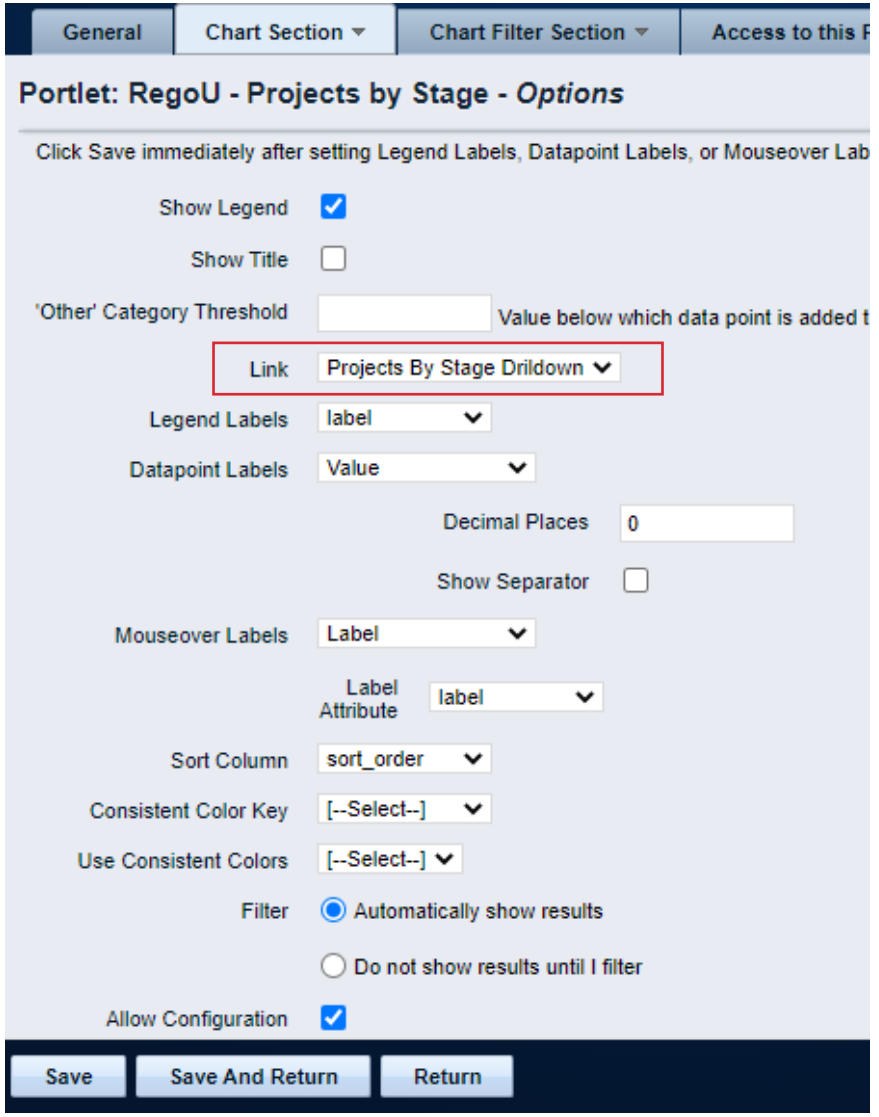


- Map the Parameter(s) needed for the detail query as needed

Drilldown Portlets: Example - Summary Portlet

- Navigate to the Summary Portlet
- Update the Link option under Chart Section -> Options to set the link to the link to the detail page
- Hit Save And Return

- Note: If the Summary Portlet is a Grid portlet, then the link will be set on the properties for a specific field



Drilldown Portlets: Example - Summary Portlet

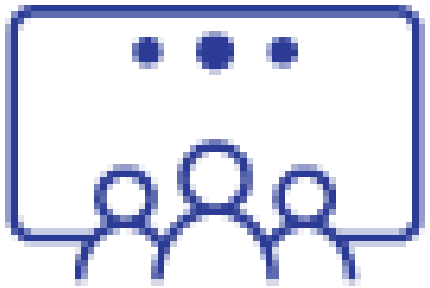
- The Summary Portlet can be placed at any of the following locations
  - On an existing portlet page
  - On a new portlet page, which you can then add to the menu
  - On the same portlet page as the detail portlet, which can then be added to the menu

Drilldown Portlets: Filtering Approach

- Determine Filtering Approach
  - Page Filters
    - Must use the same page filter on both the summary portlet and the detail portlet
    - Very easy to implement
    - Allows for multi-select filters
    - Allows user to filter after drilling down
  - Passing Filters through Parameters
    - Doesn’t allow for multi-select
    - Doesn’t allow user to filter after drilling down
    - Requires additional code in the NSQL query to handle each filter parameter
    - Page less cluttered without the filter portlet

RegoXchange Portlet References

- **regoXchange** contains some EXCELLENT drilldown portlets
  - Allocation Compliance Pie Chart Drilldown
  - Project Change Request count w/ Drilldown
  - Project Count by Stage w/ Drilldown
  - Projects by Status Indicator - Pie w/ Drilldown
  - Milestone Task Dependency
  - Actuals/ETC/Allocations per Resource
  - Capacity Graph
  - And more…



Questions?

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- Click on **Report PDU's**
- Click on **Course or Training**
- Class Name = **regoUniversity**
- Course Number = **Session Number**
- Date Started = **Today's Date**
- Date Completed = **Today's Date**
- Hours Completed = **1 PDU per hour of class time**
- Training classes = **Technical**
- Click on **I agree** and **Submit**

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