



**rego**University

NASHVILLE • 2022

# NSQL Portlets | Intermediate

**Your Guides:**

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# Agenda

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- Introduction
- Chart Portlets
  - Types / Uses
  - Creating a sample portlet
  - Limitations
- Drilldown Portlets
  - Overview
  - Example
- Other Examples and Assets
- Questions

# Introduction



# Introductions

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- Take 5 Minutes
- Turn to a Person Near You
- Introduce Yourself
- Business Cards

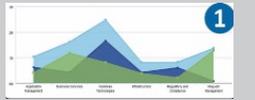
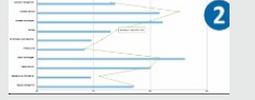
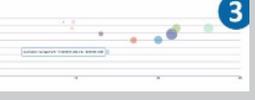
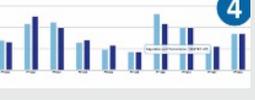
# Chart Portlets



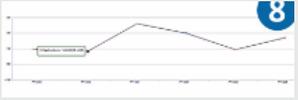
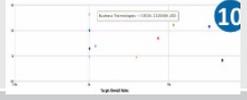
# Chart Portlets

- 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

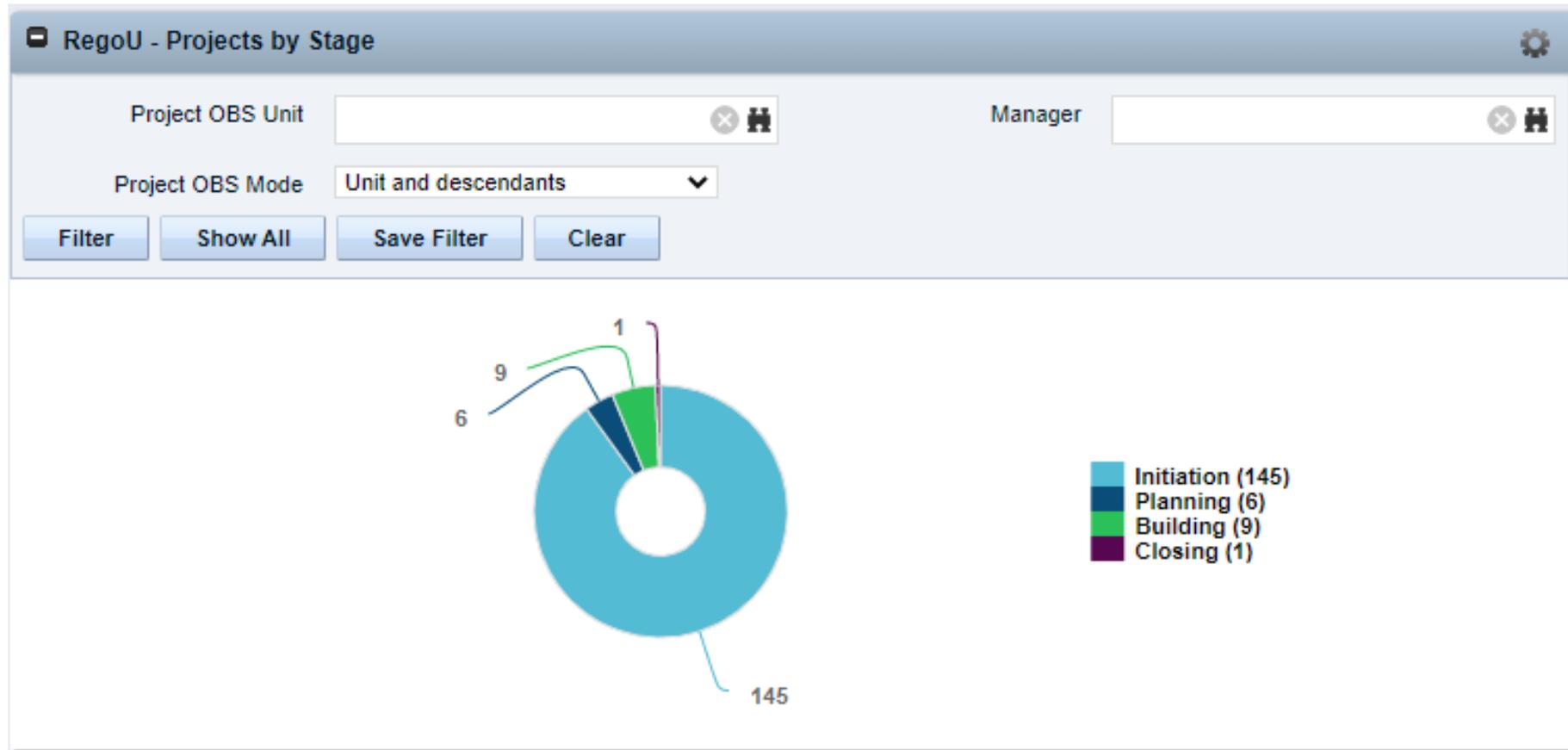
Chart Type	Description	Min Metrics	Max Metrics	Example
Area	Displays data points that are connected by lines along the axes. Displays different colors to fill in the area below the line.	1 / 1	Unlimited / 1	 1
Bar	Displays each dimension of the data in a horizontal bar.	1 / 1	Unlimited / Unlimited	 2
Bubble	Displays metrics on the horizontal and vertical axes. The size of each bubble represents a third metric.	3 / -	3 / -	 3
Column	Displays each dimension of the data in a vertical bar.	1 / 1	Unlimited / Unlimited	 4
Donut	Displays the data dimension objects in proportional segments, like a pie chart.	1 / -	Unlimited / -	 5
Funnel	Displays the data dimension objects in proportional rows in a funnel shape like a pie chart.	1 / -	Unlimited / -	 6

# 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

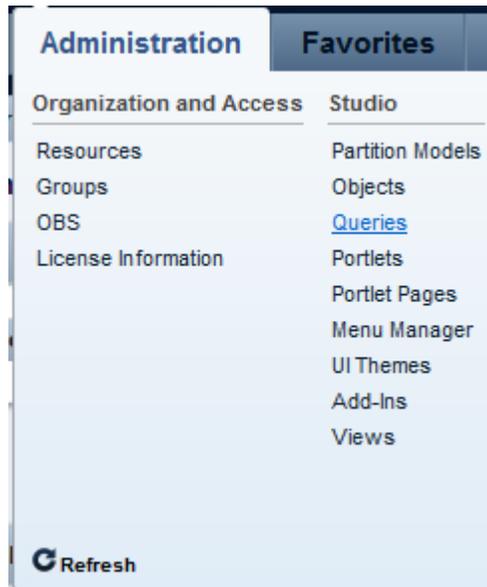
- The next several slides will demonstrate how to build a Donut Chart



# Chart Portlets: Example - Query

- Create Query

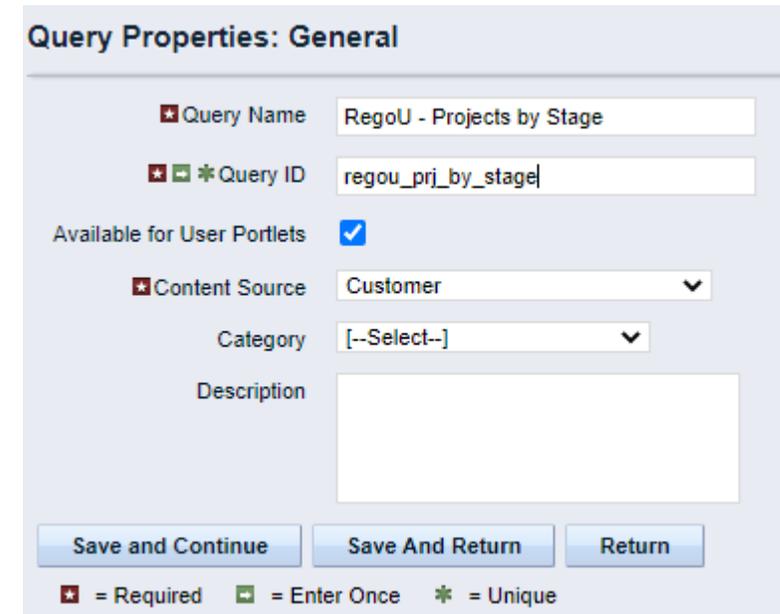
1) Administration -> Queries



2) Click New



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

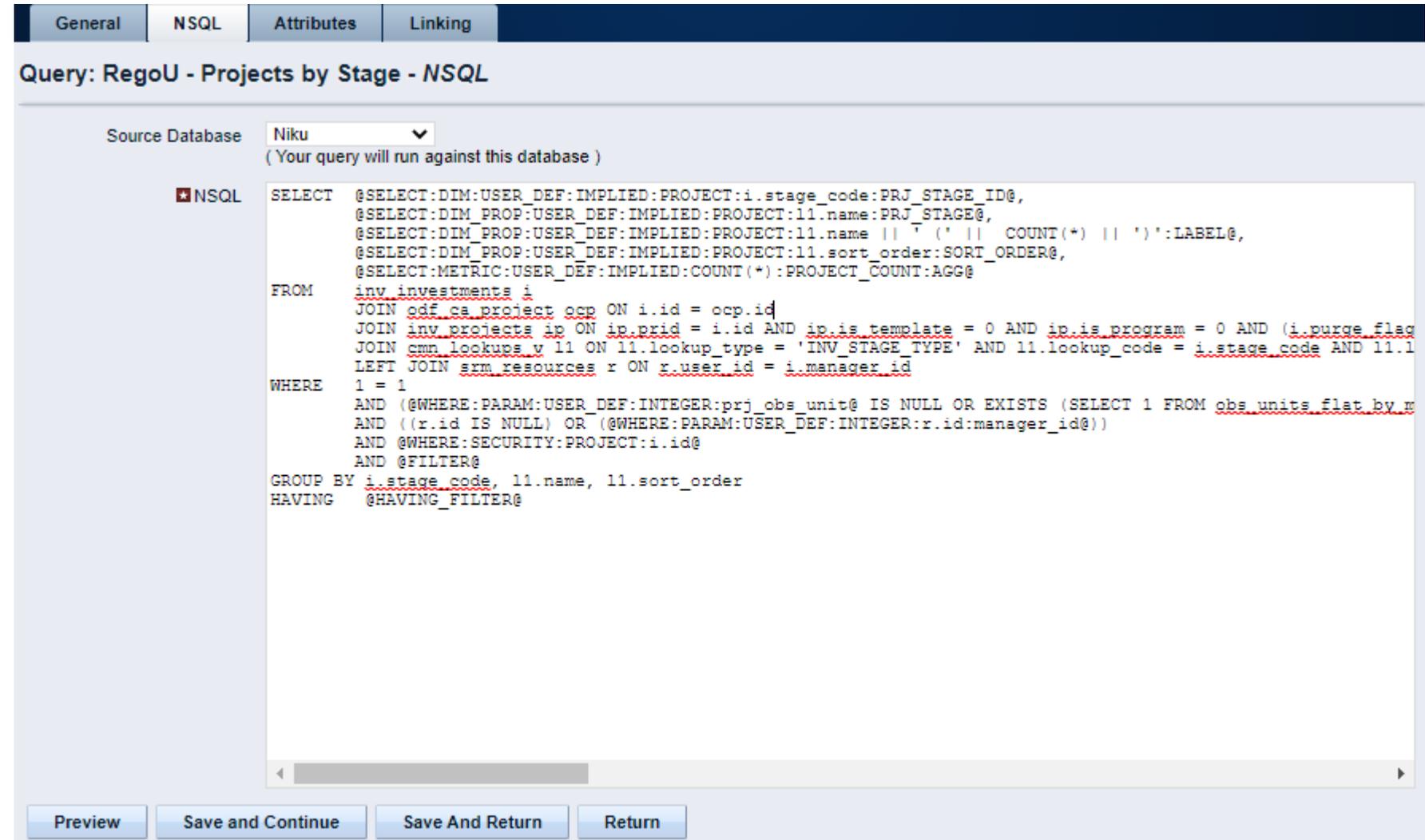


A screenshot of the 'Query Properties: General' form. The form contains the following fields and controls:

- Query Name:** A text input field containing 'RegoU - Projects by Stage'. A red asterisk icon indicates it is required.
- Query ID:** A text input field containing 'regou\_prj\_by\_stage'. A red asterisk icon, a green square icon, and a green asterisk icon indicate it is required, entered once, and unique, respectively.
- Available for User Portlets:** A checkbox that is checked.
- Content Source:** A dropdown menu with 'Customer' selected. A red asterisk icon indicates it is required.
- Category:** A dropdown menu with '--Select--' selected.
- Description:** A large text area.
- Buttons:** Three buttons at the bottom: 'Save and Continue', 'Save And Return', and 'Return'.
- Legend:** A legend at the bottom left: a red asterisk = Required, a green square = Enter Once, and a green asterisk = Unique.

# Chart Portlets: Example - Query

- Update query and click Save and Continue



The screenshot displays the Rego UI interface for editing an NSQL query. The top navigation bar includes tabs for 'General', 'NSQL', 'Attributes', and 'Linking'. The main title is 'Query: RegoU - Projects by Stage - NSQL'. Below the title, the 'Source Database' is set to 'Niku'. The query editor contains the following NSQL query:

```
SELECT @SELECT:DIM:USER_DEF:IMPLIED:PROJECT:i.stage_code:PRJ_STAGE_ID@,
@SELECT:DIM_PROP:USER_DEF:IMPLIED:PROJECT:l1.name:PRJ_STAGE@,
@SELECT:DIM_PROP:USER_DEF:IMPLIED:PROJECT:l1.name || ' (' || COUNT(*) || ')':LABEL@,
@SELECT:DIM_PROP:USER_DEF:IMPLIED:PROJECT:l1.sort_order:SORT_ORDER@,
@SELECT:METRIC:USER_DEF:IMPLIED:COUNT(*):PROJECT_COUNT:AGG@
FROM
  inv_investments i
  JOIN odf_ca_project ocp ON i.id = ocp.id
  JOIN inv_projects ip ON ip.prid = i.id AND ip.is_template = 0 AND ip.is_program = 0 AND (i.purge_flag = 0 OR i.purge_flag = 1)
  JOIN cmn_lookups_v l1 ON l1.lookup_type = 'INV_STAGE_TYPE' AND l1.lookup_code = i.stage_code AND l1.l1
  LEFT JOIN skm_resources r ON r.user_id = i.manager_id
WHERE
  1 = 1
  AND (@WHERE:PARAM:USER_DEF:INTEGER:prj_obs_unit@ IS NULL OR EXISTS (SELECT 1 FROM obs_units_flat by m
  AND ((r.id IS NULL) OR (@WHERE:PARAM:USER_DEF:INTEGER:r.id:manager_id@))
  AND @WHERE:SECURITY:PROJECT:i.id@
  AND @FILTER@
GROUP BY i.stage_code, l1.name, l1.sort_order
HAVING @HAVING_FILTER@
```

At the bottom of the editor, there are four buttons: 'Preview', 'Save and Continue', 'Save And Return', and 'Return'.

# Chart Portlets: Example - Query

- Review Attributes

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		✓

Metric →

Properties →

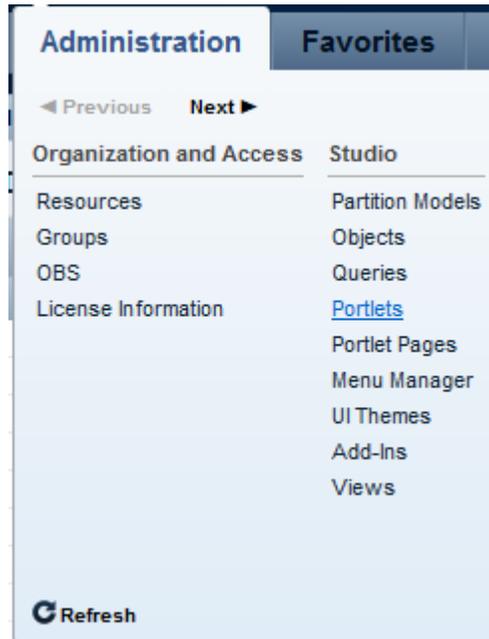
Parameters →

Continue Return

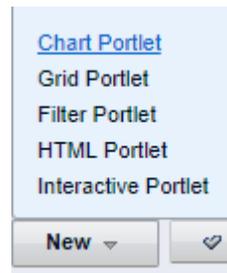
# Chart Portlets: Example - Portlet

- Create Portlet

1) Administration -> Portlets

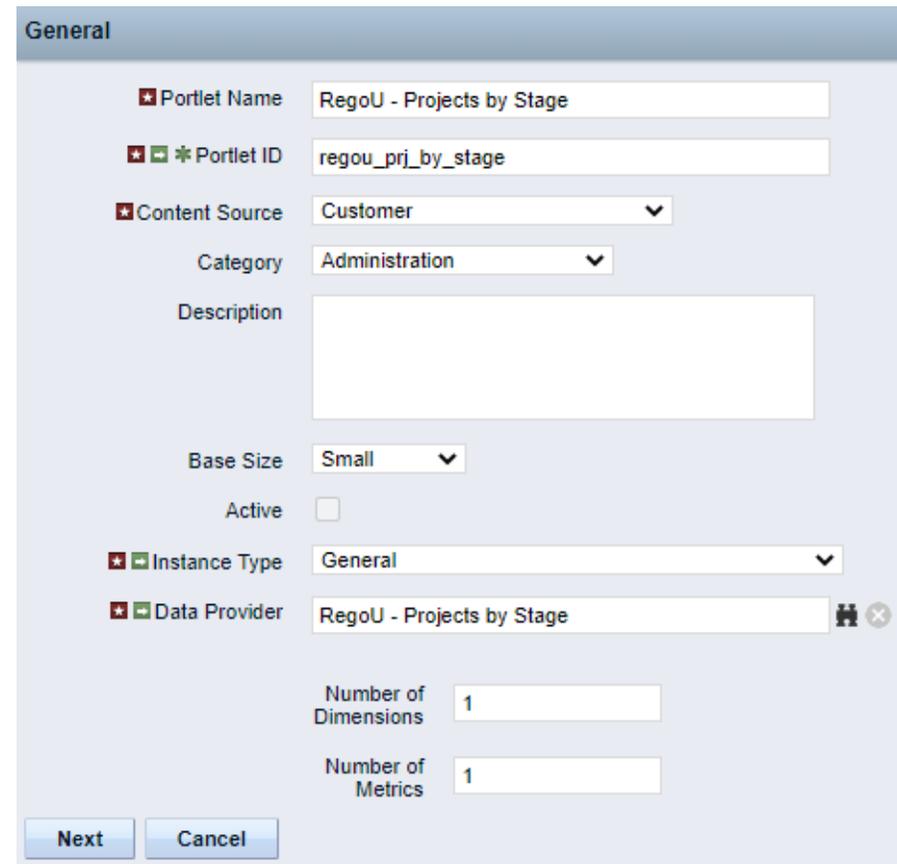


2) Click New -> Chart Portlet



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

4) Click Next, then Finish and Open

A screenshot of the 'General' configuration form for a new portlet. The form contains the following fields:

- Portlet Name:** RegoU - Projects by Stage
- Portlet ID:** regou\_prj\_by\_stage
- Content Source:** Customer
- Category:** Administration
- Description:** (empty text area)
- Base Size:** Small
- Active:** (unchecked checkbox)
- Instance Type:** General
- Data Provider:** RegoU - Projects by Stage
- Number of Dimensions:** 1
- Number of Metrics:** 1

At the bottom, there are 'Next' and 'Cancel' buttons.

# 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

Portlet: RegoU - Projects by Stage - *Chart Type*

Chart Type  ▼

Portlet: RegoU - Projects by Stage - *Select Metric*

Metric  ▼

Portlet: RegoU - Projects by Stage - *Finish*

Click on the Finish button to create the portlet. Further options are available after you click Finish and Open.

General | Chart Section ▼ | Chart Filter Section ▼ | Access to this Portlet ▼

Portlet: RegoU - Projects by Stage - *Source Data*

Metric  ▼

# 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

Portlet: RegoU - Projects by Stage - Options

Click Save immediately after setting Legend Labels, Datapoint Labels, or Mouseover Labels or your changes may be lost.

Show Legend

Show Title

'Other' Category Threshold  Value below which data point is added to the 'Other' category

Legend Labels

Datapoint Labels

Decimal Places

Show Separator

Mouseover Labels

Label Attribute

Sort Column

Consistent Color Key

Use Consistent Colors

Filter  Automatically show results  
 Do not show results until I filter

Allow Configuration

Allow Label Configuration

Save Save And Return Return

# Chart Portlets: Example - Portlet

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

General | Chart Section | Chart Filter Section | Access to this Portlet

Portlet: RegoU - Projects by Stage - Chart Filter Fields

Display: Selected

Filter Label	Column	Data Type	Display Type	Required in Filter
Manager	param_manager_id	Lookup - Number	Browse	
Project OBS Mode	param_prj_obs_mode	Lookup - String	Pull-Down	
Project OBS Unit	param_prj_obs_unit	Lookup - Number	Browse	

Save Save And Return Return

General | Chart Section | Chart Filter Section | Access to this Portlet

Portlet: RegoU - Projects by Stage - Chart Filter Layout

Layout

Available	Selected (Left Column)	Selected (Right Column)
Label Project Count Sort Order Stage Stage ID	Project OBS Unit Project OBS Mode	Manager

Add Field → ← Move Field → ← Move Field

Settings

Section Title: RegoU - Projects by Stage Filter

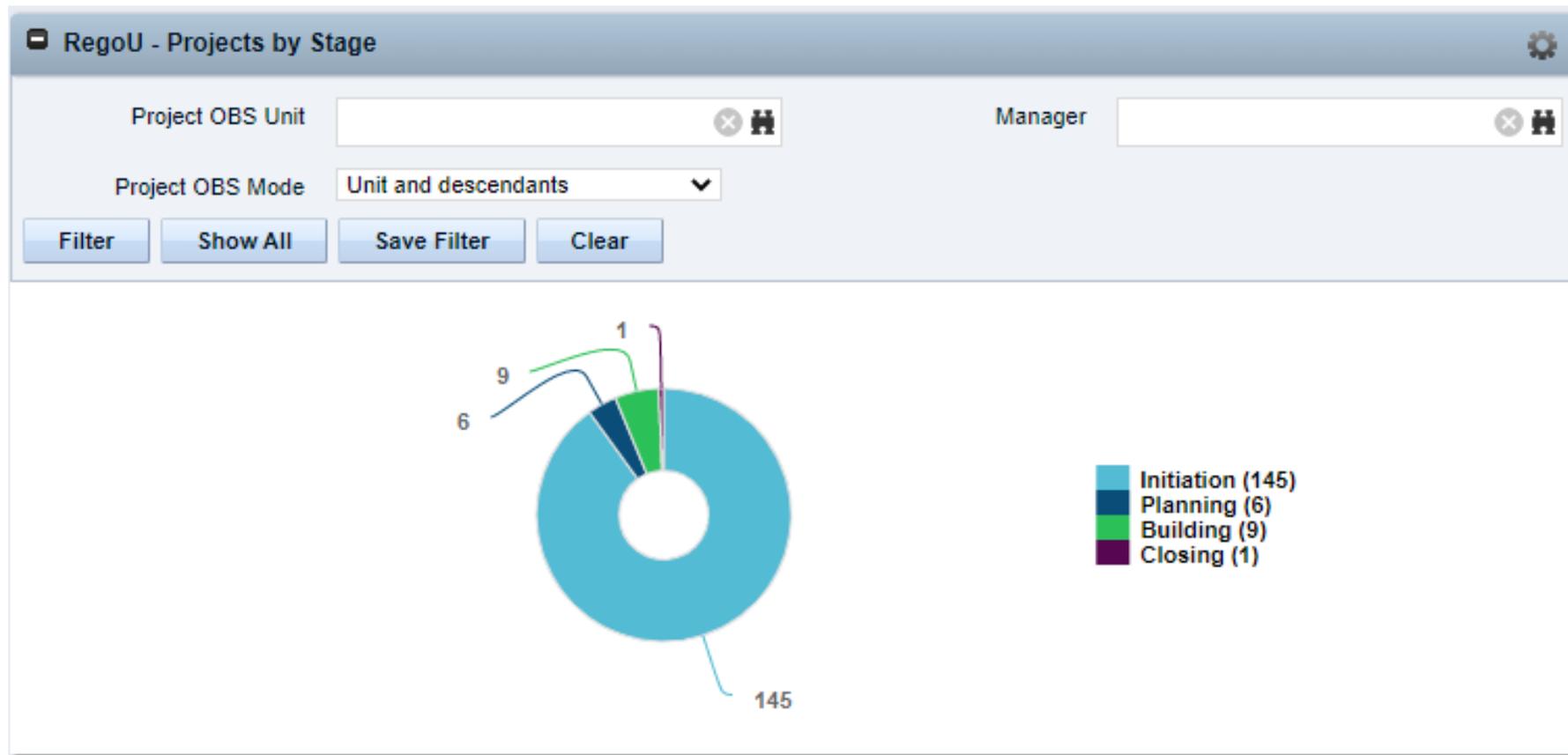
Default Filter State:  Collapsed  Expanded

Allow Power Filter:

Save Save And Return Return

# Chart Portlets: Example - Portlet

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



# Chart Portlets: Limitations

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- 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.
- Order in which the data is sorted, and missing series will impact how data is rendered

# Drill Down Portlets



# Drilldown Portlets: Example - Detail Query

- Create Query for detail portlet

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

**Query Properties: General**

Query Name:

Query ID:

Available for User Portlets:

Content Source:

Category:

Description:

2) Update query and click Save and Continue

**Query: RegoU - Projects by Stage Drilldown - NSQL**

Use this template to create your Niku SQL statement.

Source Database:  (Your query will run against this database)

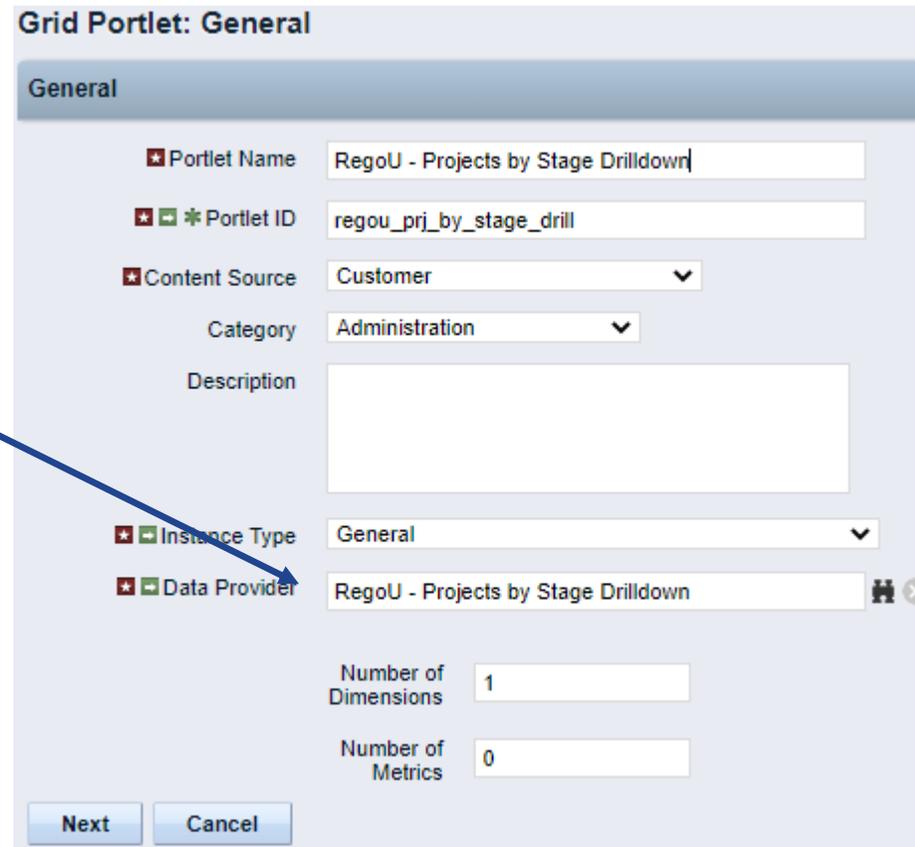
NSQL

```

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@,
@SELECT:DIM_PROP:USER_DEF:IMPLIED:PROJECT:i.is_active:INV_ACTIVE@,
@SELECT:DIM_PROP:USER_DEF:IMPLIED:PROJECT:i.schedule_start:START_DATE@,
@SELECT:DIM_PROP:USER_DEF:IMPLIED:PROJECT:i.schedule_finish:FINISH_DATE@,
@SELECT:DIM_PROP:USER_DEF:IMPLIED:PROJECT:r.full_name:FM@,
@SELECT:DIM_PROP:USER_DEF:IMPLIED:PROJECT:l1.name:STAGE@
FROM
  inv_investments i
  JOIN inv_projects ip ON i.id = ip.prid AND ip.is_template = 0 AND ip.is_program = 0 AND (i.purge_flag
  JOIN odf_ca_project ocp ON ocp.id = i.id
  JOIN odf_ca_inv oci ON i.id = oci.id
  LEFT JOIN srm_resources r ON i.manager_id = r.user_id
  LEFT JOIN cmm_lookups_v l1 ON l1.lookup_type = 'INV_STAGE_TYPE' AND l1.lookup_code = i.stage_code AND
  l1 = 1
WHERE
  AND (@WHERE:PARAM:USER_DEF:INTEGER:prj_obs_unit@ IS NULL OR EXISTS (SELECT 1 FROM obs_units_flat by_m
  AND ((r.id IS NULL) OR (@WHERE:PARAM:USER_DEF:INTEGER:r.id:manager_id@))
  AND (NVL(@WHERE:PARAM:XML:STRING:/data/stage_id/@value@,'All') = 'All' OR @WHERE:PARAM:XML:STRING:/da
  AND @WHERE:SECURITY:PROJECT:i.id@
  AND @FILTER@
  
```

# 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



Grid Portlet: General

General

Portlet Name: RegoU - Projects by Stage Drilldown

Portlet ID: regou\_prj\_by\_stage\_drill

Content Source: Customer

Category: Administration

Description:

Instance Type: General

Data Provider: RegoU - Projects by Stage Drilldown

Number of Dimensions: 1

Number of Metrics: 0

Next Cancel

# Drilldown Portlets: Example - Detail Portlet

- Place detail portlet on the Portlet Page

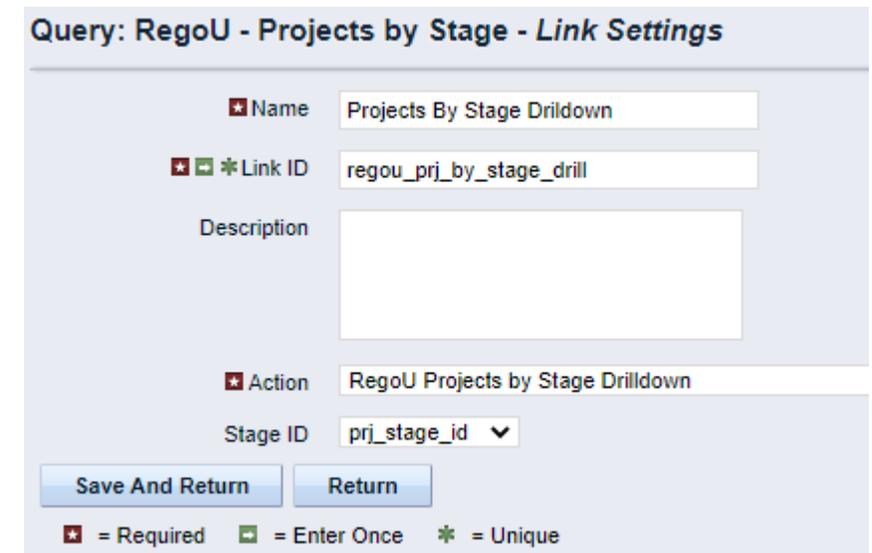
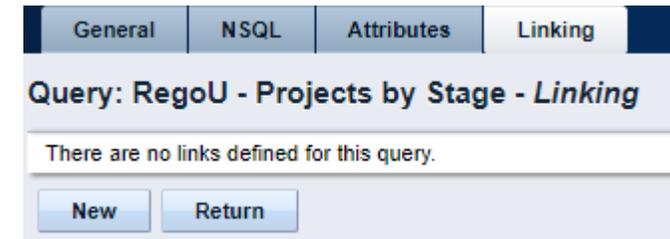
The screenshot shows a configuration interface for a portlet. At the top, there are tabs for 'Properties', 'Link Parameters', 'Content', 'Page Filters', 'Layout', and 'Access to this Page'. The 'Content' tab is selected. Below the tabs, the page title is 'Page: RegoU Projects by Stage Drilldown - Content'. A table lists the portlets:

<input type="checkbox"/>	Content	Category	Description	Maximized	Active
<input type="checkbox"/>	No Maximized Portlet			<input checked="" type="radio"/>	
<input type="checkbox"/>	RegoU - Projects by Stage Drilldown	Administration		<input type="radio"/>	<input checked="" type="checkbox"/>

At the bottom right of the table, it says 'Displaying 1 - 1 of 1'. Below the table are five buttons: 'Add', 'Remove', 'Save and Continue', 'Save And Return', and 'Return'.

# 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



Query: RegoU - Projects by Stage - Link Settings

Name

Link ID

Description

Action

Stage ID  ▼

= Required    = Enter Once   \* = Unique

# 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

General | Chart Section ▾ | Chart Filter Section ▾ | Access to this P

### Portlet: RegoU - Projects by Stage - Options

Click Save immediately after setting Legend Labels, Datapoint Labels, or Mouseover Labels

Show Legend

Show Title

'Other' Category Threshold  Value below which data point is added to

Link **Projects By Stage Drilldown ▾**

Legend Labels  ▾

Datapoint Labels  ▾

Decimal Places

Show Separator

Mouseover Labels  ▾

Label Attribute  ▾

Sort Column  ▾

Consistent Color Key  ▾

Use Consistent Colors  ▾

Filter  Automatically show results  
 Do not show results until I filter

Allow Configuration

Save | Save And Return | Return

# Drilldown Portlets: Example - Summary Portlet

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- 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

# Other Examples and Assets



# HTML Portlets

- Allows admins to use HTML and Javascript to build content into Clarity
- This can be used for static content like:
  - Announcements
  - Helpful links
  - External references
- Or more advanced features/Dynamic content:
  - Run NSQL queries to feed data into the HTML
  - Be able to start processes, modify data via xog
- Examples:
  - Rego's XOG Client
  - Rego's Document Manager

# 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 **Maintain My Certification**
- Click on **Visit CCR's** button under the **Report PDU's**
- Click on **Report PDU's**
- Click on **Course or Training**
- Class Provider = **Rego Consulting**
- Class Name = **regoUniversity**
- Course **Description**
- 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**



Let us know how we can improve!  
Don't forget to fill out the class survey.



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### Website

[www.regouniversity.com](http://www.regouniversity.com)