## **regoU**niversity 2017

# NSQL Portlets

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### Introductions

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





- Data Providers
- NSQL Overview
- Grid Portlets
- Multi-Dimensional Portlets
- Chart Portlets

## Data Providers

<b>Provider Type</b>	Pros	Cons
Object	<ul> <li>Includes All Fields from Object</li> <li>Customizable</li> <li>In-Line Editing</li> <li>Little to No Development Time</li> </ul>	<ul> <li>Limited to Single Object</li> <li>No Custom Logic</li> </ul>
System	<ul> <li>Aggregate Data Across Objects</li> <li>In-Line Editing</li> <li>Time-Scaled Values</li> </ul>	<ul> <li>Limited Ability to Add New Fields</li> <li>Can't Create Custom System Providers</li> </ul>
Query	<ul> <li>Aggregate Data Across Objects</li> <li>Customizable / Include Logic</li> <li>Limit to Relative Fields</li> <li>Parameters (ex. Logged In User)</li> </ul>	<ul> <li>No In-Line Editing</li> <li>Development Time</li> </ul>

# NSQL Overview



## NSQL Overview

- Read Only Operations SELECT Statements
- No UPDATE, INSERT, or DELETE Statements Allowed
- Query Segments:
  - Dimensions
  - Dimension Properties
  - Metric Values
  - Parameters

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- **SELECT** Retrieves column data from tables
  - Must start with SELECT and each column must use a @SELECT@ tag
- **FROM** Defines table(s) to gather data from
- WHERE Filters data returned by the query
  - Required Parameter: @FILTER@
- **GROUP BY** Combines rows with identical values into a single record for the purpose aggregating data
- HAVING Used to filter aggregated metrics
  - Parameter: @HAVING\_FILTER@

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## NSQL Overview - Dimensions

- Dimensions And Dimension Properties
  - A dimension is a grouping of similar data elements from one or more tables
  - Ex. Project, Task, Resource, Date
  - Defining Dimensions
    - SELECT @SELECT:DIM:USER\_DEF:IMPLIED:<Dimension>:<Table.Field>:<label>@
      - DIM: Indicates the line is the primary key for the dimension
      - There must be exactly DIM for each dimension.

@SELECT:DIM\_PROP:USER\_DEF:IMPLIED:<Dimension>:<Table.Field>:<label>@

- DIM\_PROP: Indicates columns for the dimension
- There can be many DIM\_PROPs defined to one dimension.
- <Dimension> is a user-defined name for the dimension
- <Table.Field> is the column that is being retrieved
- <label> is the user-defined name for the field that appears in the query

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### NSQL Overview - Metrics

- Metric Values
  - Belongs in the SELECT section of the query
  - Can be totaled on a grid or displayed as value(s) on the chart
  - No dimension specified
  - AGG construct not required, but allows metrics to be filtered on in HAVING clause

@SELECT:METRIC:USER\_DEF:IMPLIED:<Table.Field>:<label>:AGG@

**Ex.** @SELECT:METRIC:USER\_DEF:IMPLIED:Count(\*):PROJECT\_COUNT:AGG@

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### NSQL Overview - Parameters

- User Defined
  - Used as filters in portlets

@SELECT:PARAM:USER\_DEF:DATA\_TYPE:PARAM\_NAME[:ALIAS]@

• Ex: No multi-select allowed:

slice\_date BETWEEN @WHERE:PARAM:USER\_DEF:DATE:sdate@ AND @WHERE:PARAM:USER\_DEF:DATE:edate@

• Ex: Supports multi-select:

AND ((i.id IS NULL) OR (@WHERE:PARAM:USER\_DEF:INTEGER:i.id:PROJECT\_ID@))

- Built-in Parameters
  - Most commonly used for security and language lookups @SELECT:PARAM:PARAM\_IDENTIFIER[:ALIAS]@
  - PARAM\_IDENTIFIER is one of the following
    - USER\_ID
    - USER\_NAME
    - LANGUAGE
    - LOCALE

### NSQL Overview - Parameters

### • XPATH (XML Parameter) Construct

- Used in WHERE clause
- Retrieves name-value from the XML page URL where the portlet is placed
- Ex Construct: @WHERE:PARAM:XML:INTEGER:/data/id/@value@
- URL: https://clarity/niku/nu#action:projmgr.projectDashboard&id=5184389
- Typical Use Cases
  - Dashboard Portlets
  - Drilldown Portlets

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## NSQL Overview - Security

### • Security Construct

@WHERE:SECURITY:<entity type>:<entity id>]@

- Entity type is one of the following:
  - PROJECT
  - RESOURCE
- Entity id represents the primary key for the entity
  - Ex: inv\_investments.id
- Ex: @WHERE:SECURITY:PROJECT:inv\_investments.id@

### NSQL Overview - Example

SELECT @SELECT:DIM:USER\_DEF:IMPLIED:PROJECT:i.id:PROJECT\_ID@, @SELECT:DIM\_PROP:USER\_DEF:IMPLIED:PROJECT:i.name:PROJECT\_NAME@, @SELECT:METRIC:USER\_DEF:IMPLIED:COUNT(\*):RESOURCE\_COUNT:AGG@

FROM inv\_investments i

JOIN srm\_resources r ON i.manager\_id = r.user\_id

JOIN prteam tm ON tm.prprojectid = i.id

LEFT JOIN srm\_resources rol ON rol.id = tm.prroleid

WHERE i.is\_active = 1

AND r.user\_id = @WHERE:PARAM:USER\_ID@

AND ((tm.prroleid IS NULL) OR

(@WHERE:PARAM:USER\_DEF:INTEGER:tm.prroleid:ROLE\_ID@))

AND @FILTER@

GROUP BY i.id, i.name

HAVING @HAVING\_FILTER@

# Grid Portlets



## Grid Portlet

- Displays data in rows and columns
- Easily exported to Excel
- Supports the following virtual fields:
  - Gannt charts
  - Progress bars
  - Bar or column charts
  - Aggregation rows
  - Links
  - Images

#### Administration -> Queries

rganization and Access esources roups BS	s Studio Partition Models Objects Queries Portlete
icense information	Portlet Pages
	Menu Manager
	Add-Ins
	Views
CRefresh	

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Save And Return

Return

Save and Continue

#### Input Query Click Save and Continue

Query: Sample Grid -	NSQL					
■NSQL	<pre>SELECT @SELECT:DIM:USER_DEF:IMPLIED:PROJECT:i.id:PROJECT_ID@, @SELECT:DIM_PROP:USER_DEF:IMPLIED:PROJECT:i.name:PROJECT_NAME@, @SELECT:METRIC:USER_DEF:IMPLIED:COUNT(*):RESOURCE_COUNT:AGG@ FROM inv investments i</pre>					
	JOIN <u>grm</u> resources r ON i.manager_id = r.user_id JOIN <u>prteam tm ON tm.prprojectid</u> = i.id LEFT JOIN <u>grm</u> resources <u>rol</u> ON <u>rol.id</u> = <u>tm.prroleid</u>					
	<pre>E i.is_active = 1 AND r.user_id = @WHERE:PARAM:USER_ID@ AND ((tm.prroleid IS NULL) OR</pre>					
	GROUP BY i.id, i.name HAVING @HAVING_FILTER@					
Preview Save and	I Continue Save And Return Return					

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hutaa									
butes									
Name	ID	Attribute Class	Data Type	Extended Data Type	Required	Lookup			
rce_count	resource_count	Metric	Numeric	Numeric					
IECT									
oject_id	project_id	Dimension Key	Numeric	Numeric					
oject_name	project_name	Dimension Property	String	String	Query:	Sample	Grid -	Query Attribute	
		Description	Museumin	A					
1_role_id	param_role_id	Parameter	Numeric	Numeric					
ontinue	param_role_id	Parameter	Numeric	Numeric		Attribute	e Name	þaram_role_id	
ontinue	param_role_id	Parameter	Numenc	Numeric		► Attribute	e Name ibute ID	þaram_role_id param_role_id	
ontinue F		Attribute	es to ass	ociate		Attribute Attri Des	e Name ibute ID scription	þaram_role_id param_role_id	
Jpdat	e Query	Attribute	es to ass	ociate		Attribute Attri Des	e Name ibute ID scription	þaram_role_id param_role_id	
Jpdat ookui	e Query	Attribute applicab	es to ass	ociate		Attribute Attri Des	ie Name ibute ID scription	þaram_role_id param_role_id	
Jpdat ookuj	e Query os where	Attribute applicab	es to ass le	ociate		Attribute Attri Des Da	e Name ibute ID scription ata Type	param_role_id param_role_id	
Jpdat ookuj	e Query os where	Attribute applicab	es to ass le	ociate	E	Attribute Attri Des Da	e Name ibute ID scription ata Type ata Type	þaram_role_id param_role_id Numeric Lookup - Numeric ▼	

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### • Add any desired links on the Linking tab

		Query: Sample Grid - Link Settings				
		★ Name	Project Properties Link			
General NSQL Attributes Linking		🖿 🗖 🛊 Link ID	prj_properties			
Query: Sample Grid - Linking		Description				
There are no links defined for this query.	17					
New Return	<u> </u>	Action	Project Properties			
		Project ID	project_id			
		Save And Return	Return			
		🗷 = Required 🖬 = Ente	rOnce 🔹 = Unique			

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#### Administration -> Portlets

Administration	Favorites
◄ Previous Next ►	
Organization and Acce	ss Studio
Resources	Partition Models
Groups	Objects
OBS	Queries
License Information	Portlets
	Portlet Pages
	Menu Manager
	UIThemes
	Add-Ins
	Views
CRefresh	

Click New Grid Portle	t
Chart Portlet	
Grid Portlet	0
Filter Portlet	
HTML Portlet	
Interactive Portlet	
New 🔻 🔗	De

#### Input Name and ID Browse for Query Click Next

Grid Portlet: General									
General									
Portlet Name	Sample Grid								
🖬 🖬 🋊 Portlet ID	sample_grid	sample_grid							
Content Source	Customer	Customer 🔻							
Category	Business Intell	igence 🔻							
Description			1						
\star 🖬 Instance Type	General	•							
🔹 🖬 Data Provider	Sample Grid			H 📀					
	Partition Number of Dimensions Number of Metrics	System 1 1							
Next Cancel									

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### • Click Finish and Open



- Navigate to the List Column Section tab
  - Layout sub tab
    - Select columns to appear in list view
    - Select columns to sort on

General	List Column Section	on 🔻	Lis	t Filter Section	•	Ac	cess to this	Portlet 🔻
Portlet: San	Layout Fields		n Laj	yout				
Column Layo	Options							
Column Sorting	project	≜ bi	ns +	Selected Column project_name resource_count	×	+ +		
							Dire	ction
So	ort By			Column			Ascending	Descending
First Field		projec	t_name	• ▼			۲	
Second Field		[Sele	ect]	•			۲	
Third Field		[Sele	ect]	•			۲	0
Fourth Field		[Sele	ect]	•			۲	
Save	Save And Return	Ret	urn					

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• Update field names, format fields, add links, etc. on Fields sub tab

									× C	olumn Label	Pro
General List Column Section 🔻		List	Filter Section	on 🔻	Acc	ess to this Po	rtlet 🔻		Show C	olumn Label	
Portlet: Sample Grid - List Colu	mn l	Field	ds						D	)isplay Type	Тех
Show: All T Display: S	electe	d▼	Go						Seco	ndary ∀alue	[\$
Column Label			Attribute	Dat	а Туре	Display Type	Link	Allow Grid Editing		Alignment	Let
# of Team Members		<b>b</b> r	esource_co	unt Nun	nber	Number			C	olumn Width	
Project Name		₽₽	roject_name	e Strir	ng	Text	Project Properties			Width	( Ne
New Save Save And Ret	turn		Return					_		Height	(Nu
									Allow Word Colu	Wrapping in umn Header	
									Allow Word	Wrapping in Column	•
										Link	Pro
									Disable L	ink Attribute.	[\$ ( Th
									Save	Save And R	Return

#### Portlet: Sample Grid - List Column Field General Attribute project\_name Data Type String ₽¢. Project Name • Text [--Select--] V Left 🔻 % (Number of columns) (Number of rows) Project Properties V Open as Pop-up [--Select--] . (The attribute column value link will be disabled, if the Disable Link Attribute value is zero or null

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Return

 Add filters on the List Filter Section tab

• Update filter field names on the Fields sub tab

Display: Selected 🔻						
Filter Label	Column	Data Type	Display Type	Required in Filter	Read only in Filter	Filter Default
Role	param_role_id	Lookup - Number	Browse			
Project	project_name	String	Text Entry			



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• Add to Portlet Page

Sample Grid				Q
Project				
Role			OH	
	Business Analyst, I Developer	Lead	÷	
Filter Show All	Save Filter	Clear		
Project Name	₽▲		# of Te	am Members
Test Project 1				3
Test Project 2				3
				Displaying 1 - 2 of 2

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# Multi-Dimensional Portlets



## Multi-Dimensional Portlet

### • What do we mean by Multi-dimensional?

1 Dimension

Sample Single Dimension Portlet 🔻										
Project	Resource	Task	Slice Date▲	Cost	Hours					
Project 1	Resource 1	Task 1	1/1/15	100	2					
Project 1	Resource 1	Task 2	1/1/15	150	3					
Project 1	Resource 1	Task 3	1/1/15	200	4					
Project 1	Resource 2	Task 1	1/1/15	150	3					
Project 1	Resource 2	Task 2	1/1/15	200	4					
Project 1	Resource 2	Task 3	1/1/15	250	5					
Project 1	Resource 3	Task 1	1/1/15	200	4					
Project 1	Resource 3	Task 2	1/1/15	250	5					
Project 1	Resource 3	Task 3	1/1/15	300	6					
Project 2	Resource 1	Task 1	1/1/15	100	2					

**Dimension 2** 

Sample Multi-Dime	ensional Portlet															
			Jan 2	Jan 2015 Feb 2015 Mar 2015 Apr 2			Jan 2015		2015	May 2	2015	Jun 2	2015	Jul 2	015	
Project▲	Resource	Task	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost
Project 1	Resource 1	Task 1	2	100	2	100	2	100	2	100	2	100	2	100	2	100
Project 1	Resource 1	Task 2	3	150	3	150	3	150	3	150	3	150	3	150	3	150
Project 1	Resource 1	Task 3	4	200	4	200	4	200	4	200	4	200	4	200	4	200
Project 1	Resource 2	Task 1	3	150	3	150	3	150	3	150	3	150	3	150	3	150
Project 1	Resource 2	Task 2	4	200	4	200	4	200	4	200	4	200	4	200	4	200
Project 1	Resource 2	Task 3	5	250	5	250	5	250	5	250	5	250	5	250	5	250
Project 1	Resource 3	Task 1	4	200	4	200	4	200	4	200	4	200	4	200	4	200
Project 1	Resource 3	Task 2	5	250	5	250	5	250	5	250	5	250	5	250	5	250
Project 1	Resource 3	Task 3	6	300	6	300	6	300	6	300	6	300	6	300	6	300
Project 2	Resource 1	Task 1	2	100	2	100	2	100	2	100	2	100	2	100	2	100

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## Multi-Dimensional Portlet - Syntax

- Dimension Column
- Dimension Property Column

## Multi-Dimensional Portlet - Syntax

### • Adding a second dimension

SELECT @SELECT:DIM:USER\_DEF:IMPLIED:**RESOURCE**:r.id:RES\_ID@,

@SELECT:DIM\_PROP:USER\_DEF:IMPLIED:**RESOURCE**:r.full\_name:RES\_NAME@,

@SELECT:DIM:USER\_DEF:IMPLIED:SLICE: s.slice\_date:SLICE\_DATE@,

@SELECT:DIM\_PROP:USER\_DEF:IMPLIED:SLICE:TO\_CHAR(s.slice\_date, 'Mon YY'):DISPLAY\_DATE@,

@SELECT:METRIC:USER\_DEF:IMPLIED:s.slice:HOURS@

FROM srm\_resources r

JOIN prj\_blb\_slices s ON s.prj\_object\_id = r.id AND s.slice\_request\_id = 7 AND s.slice\_date BETWEEN sysdate AND sysdate+90

WHERE @FILTER@

- For each Dimension
  - Dimension Column
  - Dimension Property Column

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### Multi-Dimensional Portlet - Create Query

#### Administration -> Queries

nization and Access purces	Studio Partition Models Objects
S ense Information	<u>Queries</u> Portlets
	Portlet Pages Menu Manager UI Themes Add-Ins Views
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• Kenesii	

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Save and Continue

Save And Return

Return

### Multi-Dimensional Portlet - Create Query

#### Input Query Click Save and Continue

#### Query: Sample 2 Dimension - NSQL

Use this template to create your Niku SQL statement.

■ NSC	QL SELECT	<pre>@SELECT:DIM:USER_DEF:IMPLIED:RESOURCE:r.id:RES_ID@, @SELECT:DIM_PROP:USER_DEF:IMPLIED:RESOURCE:r.full_name:RES_NAME@, @SELECT:DIM:USER_DEF:IMPLIED:SLICE: s.slice_date:SLICE_DATE@, @SELECT:DIM_PROP:USER_DEF:IMPLIED:SLICE:TO_CHAR(s.slice_date, 'Mon YY'):DISPLAY_DATE@, @SELECT:METRIC:USER_DEF:IMPLIED:s.slice:HOURS@</pre>
	FROM	JOIN prj_blb_slices s ON s.prj_object_id = r.id AND s.slice_request_id = 7 AND s.slice date BETWEEN sysdate AND sysdate+90
	WHERE	@FILTER@
Preview Save	and Continue	Save And Return Return

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### Multi-Dimensional Portlet - Create Query

	General	NSQL	Attributes	Linking					
	Query: Sam	ple 2 Din	nension - Att	ributes					
	Attributes								
	Name		ID	Attrib	ute Class	Data Type	Extended Data Type	Required	Lookup
Metric	hours	ho	ours	Metric		Numeric	Numeric		
	SLICE								
1st Dimension	l	sli	ce_date	Dimension	n Key	Date	Date		
		dis	splay_date	Dimension	n Property	String	String		
	RESOURCE								
2 <sup>nd</sup> Dimension	l⊶ res_id	re	s_id	Dimension	n Key	Numeric	Numeric		
2 Dimension	↓ res_name	re	s_name	Dimension	n Property	String	String		
	Continue	Return	n						

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#### Administration -> Portlets

Administration F	avorites			General					
◄ Previous Next ►		Click New		Portlet Name	Sample 2 Din	nension			
Organization and Access	Studio	Grid Portlet		🗙 🖬 🌞 Portlet ID	sample_2dim				
Resources Groups OBS	Partition Models Objects Queries	Chart Portlet Grid Portlet	¢	Content Source Category	Customer Business Inte	▼ elligence	¥		
License Information	<u>Portlets</u> Portlet Pages Menu Manager UI Themes	Filter Portlet HTML Portlet Interactive Portlet		Description					
	Add-Ins Views			🗈 🖬 Instance Type	General			•	
	VICTO			🔹 🖬 Data Provider	Sample 2 Din	nension			
CRefresh					Partition	System			
					Number of Dimensions	2			
					Number of Metrics	1			
				Next Cancel					

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#### Input Name and ID Browse for Query Click Next

32

### • Select Dimension for the Y Axis

Portlet: Sample 2 Dimension - Y Axis											
	Y Axis	RESOURCE ▼ (Select the left-most column for the grid.)									
Previous	Next	Cancel									

• Click Finish and Open



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### • Select the columns to use for sorting

Column Sorting		
		Direction
Sort By	Column	Ascending Descending
First Field	slice_date ▼	۲
Second Field	res_name V	• •
Third Field	[Select] V	• •
Fourth Field	[Select] V	۲

• Update Field Names, and add Filters if applicable

### • Add to Portlet Page

□ Sample 2 Dimension ▼											
	May 16	Jun 16	Jul 16								
Resource	Availability	Availability	Availability								
Manager, CIO	168	176	160								
Manager, Executive	168	176	160								
Manager, PMO	168	176	160								
Manager, Project	136	144	136								

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### Multi-Dimensional Portlet - 3+ Dimensions

										_				Dir	nen	sion 3
<ul> <li>Portiets with mo</li> </ul>	ns	<b>IS</b> Dimension 2 (Months)								(Charge Code)						
	Sample 3 Dim															
					lan (	045			Eab (	2045			Mor		-7	
				0	Jan 4	2015		0	reb /	2015		0	Ivial 4	8015		
		-		Сар		Exp	)	Ca	p	Exp		Ca	p -	Exp	)	
г	Project	Resource	Task	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	
	Project 1	Resource 1	Task 2	3	150	3	150	3	150	3	150	3	150	3	150	
	Project 1	Resource 1	Task 1	2	100	2	100	2	100	2	100	2	100	2	100	
	Project 1	Resource 1	Task 3	4	200	4	200	4	200	4	200	4	200	4	200	
	Project 1	Resource 2	Task 1	3	150	3	150	3	150	3	150	3	150	3	150	
	Project 1	Resource 2	Task 2	4	200	4	200	4	200	4	200	4	200	4	200	
	Project 1	Resource 2	Task 3	5	250	5	250	5	250	5	250	5	250	5	250	
	Project 1	Resource 3	Task 2	5	250	5	250	5	250	5	250	5	250	5	250	
<b>C</b>	Project 1	Resource 3	Task 1	4	200	4	200	4	200	4	200	4	200	4	200	
IO I	Project 1	Resource 3	Task 3	6	300	6	300	6	300	6	300	6	300	6	300	
S.	Project 2	Resource 1	Task 1	2	100	2	100	2	100	2	100	2	100	2	100	
L C	Project 2	Resource 1	Task 2	3	150	3	150	3	150	3	150	3	150	3	150	
U e	Project 2	Resource 1	Task 3	4	200	4	200	4	200	4	200	4	200	4	200	
	Project 2	Resource 2	Task 1	3	150	3	150	3	150	3	150	3	150	3	150	
	Project 2	Resource 2	Task 2	4	200	4	200	4	200	4	200	4	200	4	200	
	Project 2	Resource 2	Task 3	5	250	5	250	5	250	5	250	5	250	5	250	
	Project 2	Resource 3	Task 1	4	200	4	200	4	200	4	200	4	200	4	200	
	Project 2	Resource 3	Task 2	5	250	5	250	5	250	5	250	5	250	5	250	
	Project 2	Resource 3	Task 3	6	300	6	300	6	300	6	300	6	300	6	300	
	Project 3	Resource 1	Task 1	2	100	2	100	2	100	2	100	2	100	2	100	
	Project 3	Resource 1	Task 2	3	150	3	150	3	150	3	150	3	150	3	150	

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## Multi-Dimensional Portlet - Limitations

### • Row Limit Governor – 50,000 rows

• 10 rows of projects with 12 months of data = 120 rows



- Export to Excel and Power Point
  - Only Exports first 300 rows
    - 10 rows of projects with 12 months of data = 120 rows
  - Formatting issues in Power Point

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### Multi-Dimensional Portlet - Limitations

- Sorting Limitations
  - Multisort is your friend

Sample Multi-Dimensional Portlet																
	$\uparrow$		Sep 2015 Oct 2015 No			Nov 2	2015	Dec 2	2015	May 2015		Jun 2015		Jul 2	015	
Project	Resource	Task	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost
Project 9	Resource 1	Task 3	4	200	4	200	4	200	4	200	4	200	4	200	4	200
Project 8	Resource 1	Task 1	2	100	2	100	2	100	2	100	2	100	2	100	2	100
Project 8	Resource 1	Task 2	3	150	3	150	3	150	3	150	3	150	3	150	3	150
Project 8	Resource 1	Task 3	4	200	4	200	4	200	4	200	4	200	4	200	4	200
Project 9	Resource 1	Task 1	2	100	2	100	2	100	2	100	2	100	2	100	2	100
Project 9	Resource 1	Task 2	3	150	3	150	3	150	3	150	3	150	3	150	3	150
Project 6	Resource 1	Task 2	3	150	3	150	3	150	3	150	3	150	3	150	3	150
Project 6	Resource 1	Task 3	4	200	4	200	4	200	4	200	4	200	4	200	4	200
Project 7	Resource 1	Task 1	2	100	2	100	2	100	2	100	2	100	2	100	2	100

## Multi-Dimensional Portlet - Common Errors

### • Duplicate Dimensional Data

Sample Multi-Dimensional Portlet

ERROR NPT-217: This query produced duplicate dimensional data. The results shown here may be invalid or incomplete.

• Null Dimensional Key

Sample Multi-Dimensional Portlet

ERROR:

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## Multi-Dimensional Portlet - Best Practices

- Limit number of dimensions
  - Use additional metrics if possible
- Always sort on dates first
- Return rows for each cell
- Use Export to Excel (Data Only)
- Keep the [Data Columns] as the last field in the column layout
- Format Fields to specify column widths or disallow word wrapping to alleviate formatting issues

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- 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

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Chart Type	Description	Min Metrics	<b>Max Metrics</b>	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	2
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 / -	۵
Funnel	Displays the data dimension objects in proportional rows in a funnel shape similar to a pie chart.	1/-	Unlimited / -	6

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/-	9
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 / -	

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#### Administration -> Portlets

Administration	Favorites		Click Chart	New Portlet
Organization and Acce Resources	Partition Models		New 👻	⊘ Delete
Groups OBS License Information	Objects Queries <u>Portlets</u> Portlet Pages Menu Manager UI Themes Add-Ins		Chart Portlet Grid Portlet Filter Portlet HTML Portlet Interactive Po	t ortlet
CRefresh	Views	_		

#### Input Name and ID Browse for Query Click Next

Chart Portlet: Genera	II
General	
★ Portlet Name	Sample Column Chart
🛃 🖬 🏾 🗰 Portlet ID	sample_col_chart
Content Source	Customer •
Category	Business Intelligence
Description	
Base Size	Small V
Active	
\star 🖬 Instance Type	General
🔹 🖬 Data Provider	My Time 🗰 😣
	Partition System           Partition         System           Number of         2           Number of         1
Next Cancel	

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• Select Chart Type

#### Portlet: Sample Column Chart - Chart Type

	Chart Type	Column V
Previous	Next	Cancel

• Click Finish and Open

#### Portlet: Sample Column Chart - Finish



- Chart Section tab
  - Source Data sub tab
  - This differs slightly with difference chart types

General	Chart Sect	tion 🔻	Chart Filte	er Section 🔻
Portlet: Sa	ample Colur	nn Cha	rt - Sourc	e Data
	X Axis	PER	T	
	Y Axis	hours	•	
Save	Save And Re	eturn	Return	

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- Chart Section tab
  - Options sub tab
    - Configure Entire Chart options
    - This differs by chart type

General Chart Sec	tion 🔻	Chart Filter Section 🔻	Access to this Portlet 🔻					
Portlet: Sample Column Chart - Options								
Options: Entire Chart 🔻								
Click Save immediately after	setting Lege	end Labels, Datapoint Labels,	or Mouseover Labels or your ch	anges may be lost.				
Show Legend								
Show Title								
Sub-type	Cluste	red						
	Stacket	ed						
Legend Labels	investme	nt_name ▼						
Datapoint Labels	Value	Ŧ						
Mouseover Labels	Label and	d Value ▼						
	Label Attribute	investment_name ▼						
Sort Column	tp_start	Ŧ						
Consistent Color Key	[Select-	-] 🔻						
Use Consistent Colors	[Select-	-] ▼						
Filter	Autom	atically show results						
	🔘 Do not	t show results until I filter						
Allow Configuration								
Allow Label Configuration								
Save Save And R	Save Save And Return Return							

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### • Chart Section tab

- Options sub tab
  - Configure X Axis
  - Configure Y Axis

General	Chart Sec	tion 🔻	Chart	Filter Sect	ion 🔻	Ac
Portlet: Sar	nple Colur	nn Cha	rt - Op	tions		
Options: X Ax	is 🔻					
	Axis Label	None	•			
		O Autor	natic			
		◯ Fixed	1:			
Crosses Opp	osite Axis At					
Cate	egory Labels	tp_start		•		
Majo	r Tick Marks	Outside	۲			
Tick	Label Angle	0				
	Show Axis					
Show	/Tick Labels					
Show Ma	ajor Gridlines					
Save	Save And Re	eturn	Retur	n		

General	Chart Sec	tion 🔻	Chart Filt	ter Section 🔻	Ac	
Portlet: Sample Column Chart - Options						
Options: Y Axis	s <b>v</b>					
	Axis Label	O None	•			
		O Autor	matic			
		Fixed	: Hours			
Mir	imum ∀alue	0				
Max	imum ∀alue					
Major Un	it Increment					
D	isplay Units	None	•			
Tick	Label Angle	0				
Dec	imal Places	0				
Sho	w Separator					
	Show Axis					
Show	Tick Labels					
Show Maj	jor Gridlines					
	Logarithmic					
	Reverse					
Save	Save And Re	eturn	Return			



### • Add Filters if applicable and add to Portlet Page

Sample Column Cha	art			a
Project Name	e Weekly <b>v</b>	Start Date	2/1/2017	
Filter Save Filte	er Clear			
50				
40				
30 딸	24			
운 20			48	Project 1 Project 2
10	46			

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# Questions?





## Thank You For Attending regoUniversity

### Instructions for PMI credits

- Access your account at pmi.org
- Click on **Certification**
- Click on Maintain My Certification ۲
- Scroll down to **Report PDU's**
- Click on Course Training (or other appropriate category) ۲
- Enter Rego Consulting ۲
- Enter Activity- Enter Name of Course ۲
- Enter **Description**
- Enter Date Started •
- Enter Date Completed
- Provide Contact Person Name of Person to Contact •
- Provide Contact E-Mail E-Mail of Person to Contact •
- Enter Number of **PDU's Claimed** (1 PDU per course hour) •
- Click on the I agree this claim is accurate box
- Click **Submit** button





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51