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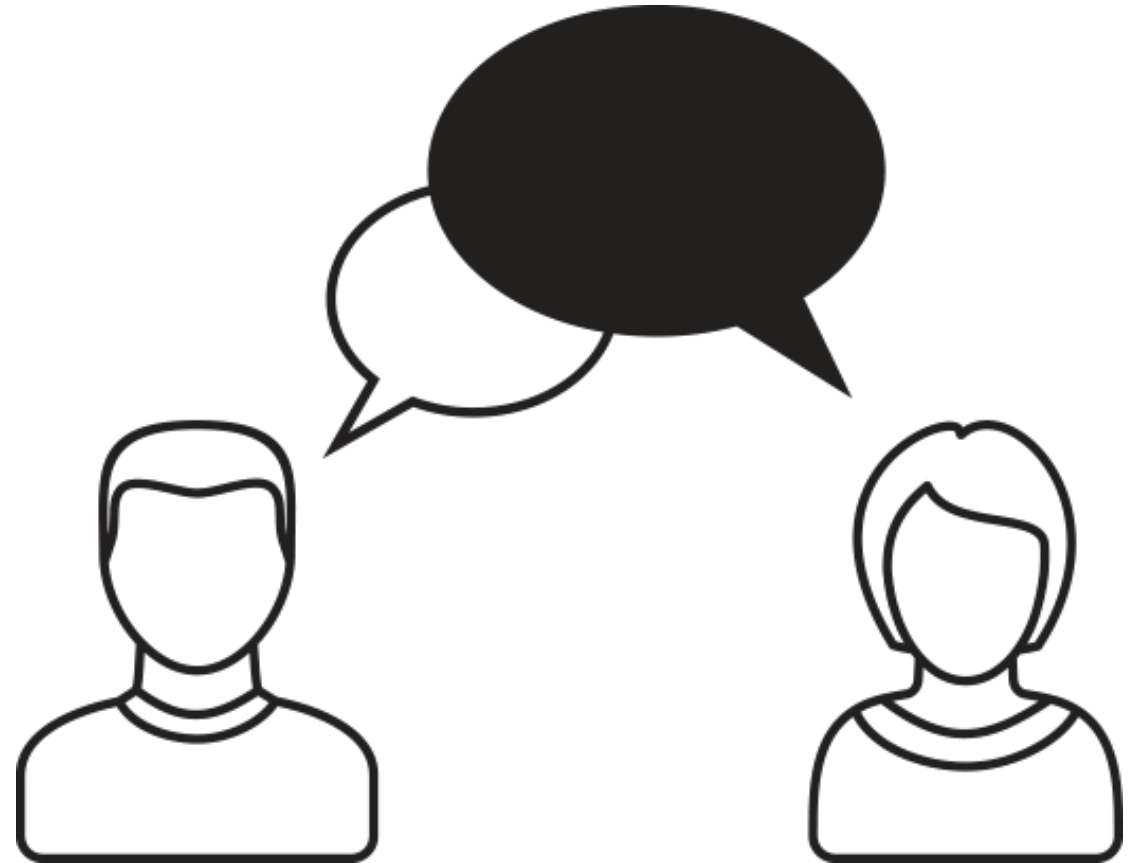
NSQL Portlets | Beginner

Your Guides: Vipin Chouhan, James Gille



Introductions

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



Agenda

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

Data Providers

Provider Type	Pros	Cons
Object	<ul style="list-style-type: none">• Includes All Fields from Object• Customizable• In-Line Editing• Little to No Development Time	<ul style="list-style-type: none">• Limited to Single Object• No Custom Logic
System	<ul style="list-style-type: none">• Aggregate Data Across Objects• In-Line Editing• Time-Scaled Values	<ul style="list-style-type: none">• Limited Ability to Add New Fields• Can't Create Custom System Providers
Query	<ul style="list-style-type: none">• Aggregate Data Across Objects• Customizable / Include Logic• Limit to Relative Fields• Parameters (ex. Logged In User)	<ul style="list-style-type: none">• No In-Line Editing• Development Time

NSQL Overview

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NSQL Overview

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

NSQL Overview

- **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@

- 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

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@

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

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

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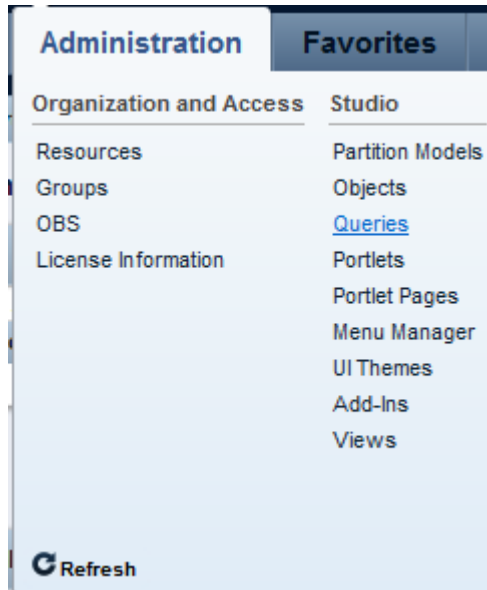
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Grid Portlet

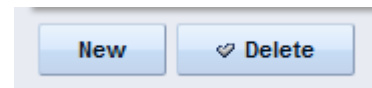
- Displays data in rows and columns
- Easily exported to Excel
- Supports the following virtual fields:
 - Gantt charts
 - Progress bars
 - Bar or column charts
 - Aggregation rows
 - Links
 - Images

Grid Portlet - Create Query

Administration -> Queries



Click New



Enter Name and ID
Click Save and Continue

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

- Query Name:** Text input field containing 'Sample Grid'.
- Query ID:** Text input field containing 'sample_grid'.
- Available for User Portlets:** Checkmark is checked.
- Content Source:** Dropdown menu with 'Customer' selected.
- Category:** Dropdown menu with '--Select--' selected.
- Description:** Large text area.

At the bottom of the form are three buttons: 'Save and Continue', 'Save And Return', and 'Return'.

Grid Portlet - Create Query

Input Query
Click Save and Continue

Query: Sample Grid - NSQL

```
NSQL |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  
  iny_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@
```

Preview Save and Continue Save And Return Return

Grid Portlet - Create Query

General NSQL Attributes Linking

Query: Sample Grid - Attributes

Name	ID	Attribute Class	Data Type	Extended Data Type	Required	Lookup
resource_count	resource_count	Metric	Numeric	Numeric		
PROJECT						
↳ project_id	project_id	Dimension Key	Numeric	Numeric		
↳ project_name	project_name	Dimension Property	String	String		
param_role_id	param_role_id	Parameter	Numeric	Numeric		

Continue Return

Query: Sample Grid - Query Attribute

Attribute Name: param_role_id

Attribute ID: param_role_id

Description:

Data Type: Numeric

Extended Data Type: Lookup - Numeric

Lookup: Role browse

Required:

Save Save And Return Return

- Update Query Attributes to associate lookups where applicable

Grid Portlet - Create Query

- Add any desired links on the Linking tab

General NSQL Attributes **Linking**

Query: Sample Grid - *Linking*

There are no links defined for this query.

New Return



Query: Sample Grid - *Link Settings*

Name Project Properties Link

Link ID prj_properties

Description

Action Project Properties

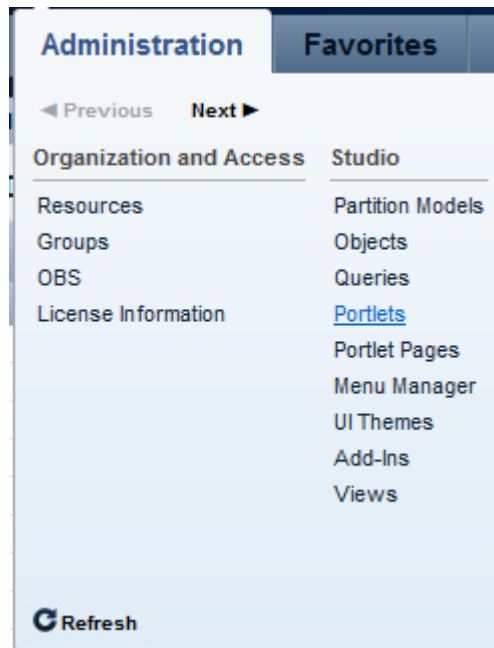
Project ID project_id

Save And Return Return

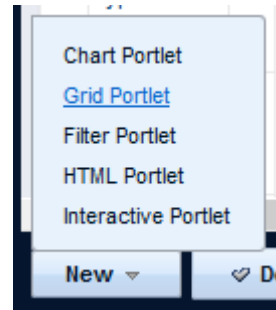
+ = Required **+** **+** = Enter Once ***** = Unique

Grid Portlet - Create Portlet


Administration -> Portlets



Click New
Grid Portlet



Input Name and ID
Browse for Query
Click Next



The screenshot shows the 'Grid Portlet: General' configuration form. The fields are as follows:

- Portlet Name: Sample Grid
- Portlet ID: sample_grid
- Content Source: Customer
- Category: Business Intelligence
- Description: (empty text area)
- Instance Type: General
- Data Provider: Sample Grid
- Partition: System
- Number of Dimensions: 1
- Number of Metrics: 1

Buttons: Next, Cancel

Grid Portlet - Create Portlet

- Click Finish and Open

Portlet: Sample Grid - *Finish*

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

The screenshot shows the configuration interface for a Grid Portlet. The 'List Column Section' tab is selected, and the 'Layout' sub-tab is active. The 'Selected Columns' section shows 'project_name' and 'resource_count' selected. The 'Column Sorting' table is visible below.

Sort By	Column	Direction	
		Ascending	Descending
First Field	project_name ▼	<input checked="" type="radio"/>	<input type="radio"/>
Second Field	[--Select--] ▼	<input checked="" type="radio"/>	<input type="radio"/>
Third Field	[--Select--] ▼	<input checked="" type="radio"/>	<input type="radio"/>
Fourth Field	[--Select--] ▼	<input checked="" type="radio"/>	<input type="radio"/>

Buttons at the bottom: , ,

Grid Portlet - Create Portlet

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

Portlet: Sample Grid - List Column Fields

Show: All Display: Selected Go

* Column Label	Attribute	Data Type	Display Type	Link	Allow Grid Editing
# of Team Members	resource_count	Number	Number		
Project Name	project_name	String	Text	Project Properties	

New Save Save And Return Return

Portlet: Sample Grid - List Column Field

General

Attribute: project_name

Data Type: String

* Column Label: Project Name

Show Column Label:

Display Type: Text

Secondary Value: [--Select--]

Alignment: Left

Column Width: %

Width: (Number of columns)

Height: (Number of rows)

Allow Word Wrapping in Column Header:

Allow Word Wrapping in Column:

Link: Project Properties

Open as Pop-up:

Disable Link Attribute: [--Select--]
(The attribute column value link will be disabled, if the Disable Link Attribute value is zero or null)

Save Save And Return Return

Grid Portlet - Create Portlet

- Add filters on the List Filter Section tab
- Update filter field names on the Fields sub tab

General | List Column Section | List Filter Section | Access to this Portlet

Portlet: Sample Grid - *List Filter Layout*

Layout

Available	Selected (Left Column)	Selected (Right Column)
project_id resource_count	project_name param_role_id	

Add Field → ← Move Field → ← Move Field

Settings

Section Title: Sample Grid Filter

Default Filter State: Collapsed Expanded

Allow Power Filter:

Save Save And Return Return

Portlet: Sample Grid - *List Filter Fields*

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			

Save Save And Return Return

Grid Portlet - Create Portlet

- Add to Portlet Page

The screenshot shows a portlet titled "Sample Grid" with a settings gear icon in the top right. It features two search filters: "Project" with an empty text input field, and "Role" with a dropdown menu. The "Role" dropdown is open, showing "Business Analyst, Lead" (highlighted) and "Developer". Below the filters are four buttons: "Filter", "Show All", "Save Filter", and "Clear".

Project Name ▲	# of Team Members
Test Project 1	3
Test Project 2	3

Displaying 1 - 2 of 2

Questions?



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Instructions for PMI credits

- Access your account at pmi.org
- Click on **Certification**
- Click on **Maintain My Certification**
- Scroll down to **Report PDU's**
- Click on Course Training (or other appropriate category)
- Enter **Rego Consulting**
- Enter Activity- **Enter Name of Course**
- 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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Phone

888.813.0444



Email

info@regouniversity.com



Website

www.regouniversity.com