Business Analytics **Forum**

The Premier Conference for Information and Analytics

≥↙ ↓4↑14↗ 3 · 5ž 2010 Gold Coast Convention and Exhibition Centre Queensland, Australia

Macro Expressions

Philip Wittann
Business Analytics

Why are macro expressions useful?

- Macros are processed before a query is generated
- Macros can perform value lookups
- Macros can act on user input values

What it means to you

- Simplified queries
- Enhanced dynamic reporting

Basic Macro Syntax

- A macro expression begins and ends with hash marks

  #<expression elements>#

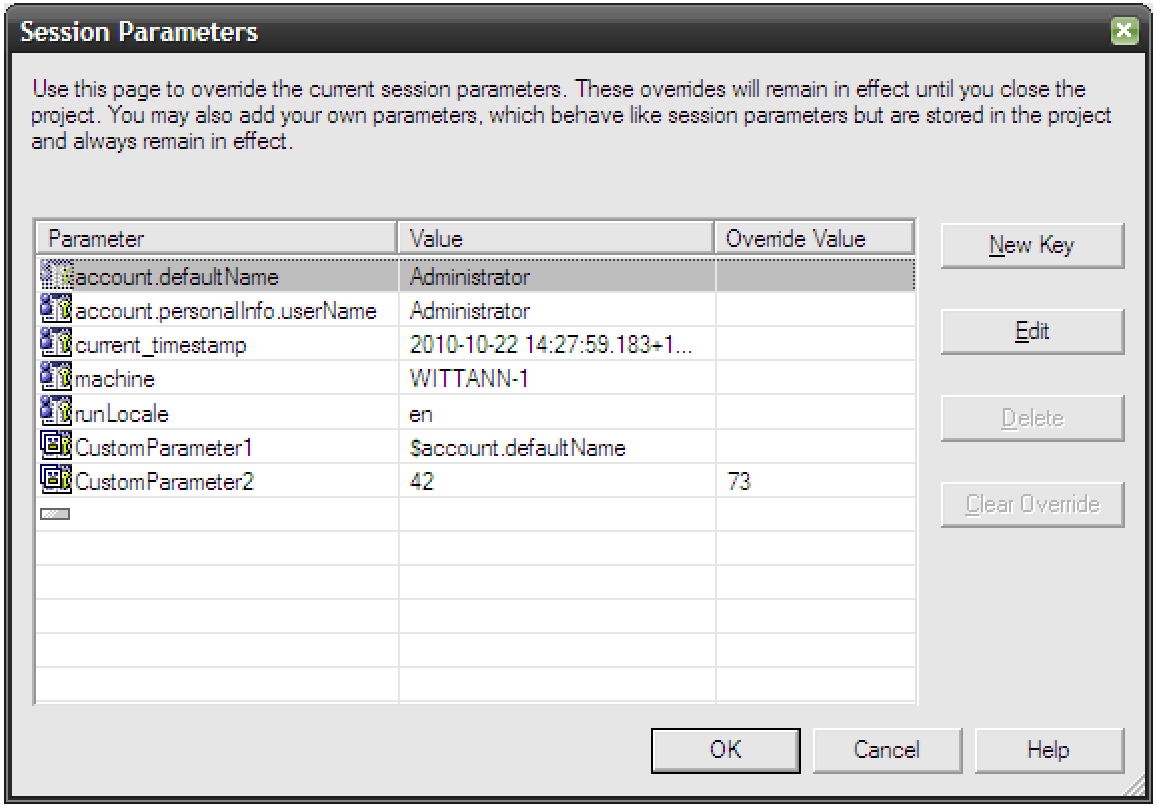
- Elements of a macro expression
  - Session Parameters
  - Parameter Maps
  - Macro functions

- A macro expression can be used just about anywhere
  - Data source query subject SQL
  - Calculations
  - Filters
  - Data source connection properties

Elements of a macro expression

Session Parameters

- Values from an authentication source
- Constants defined in your Framework Manager model



Session Parameters

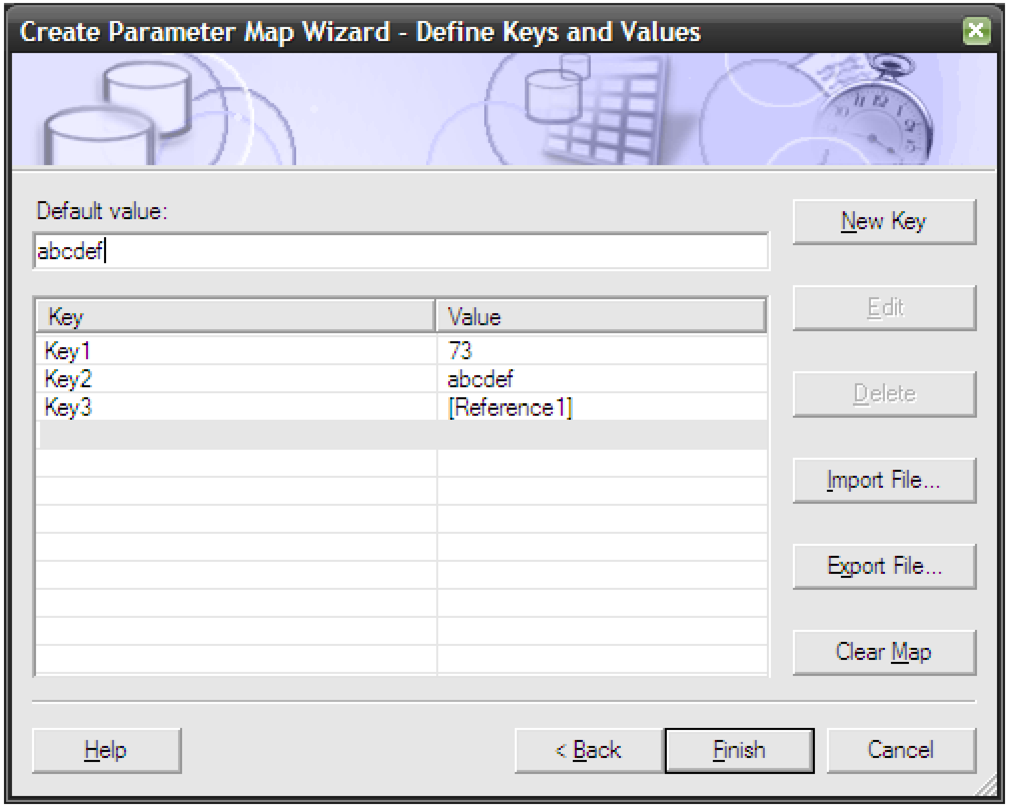
Use this page to override the current session parameters. These overrides will remain in effect until you close the project. You may also add your own parameters, which behave like session parameters but are stored in the project and always remain in effect.

Parameter	Value	Override Value
account.defaultName	Administrator	
account.personalInfo.userName	Administrator	
current_timestamp	2010-10-22 14:27:59.183+1...	
machine	WITTANN-1	
runLocale	en	
CustomParameter1	$account.defaultName	
CustomParameter2	42	73

Elements of a macro expression

Parameter Maps

- **Static list of keys and values**
- Query-driven set of keys and values



Create Parameter Map Wizard - Define Keys and Values

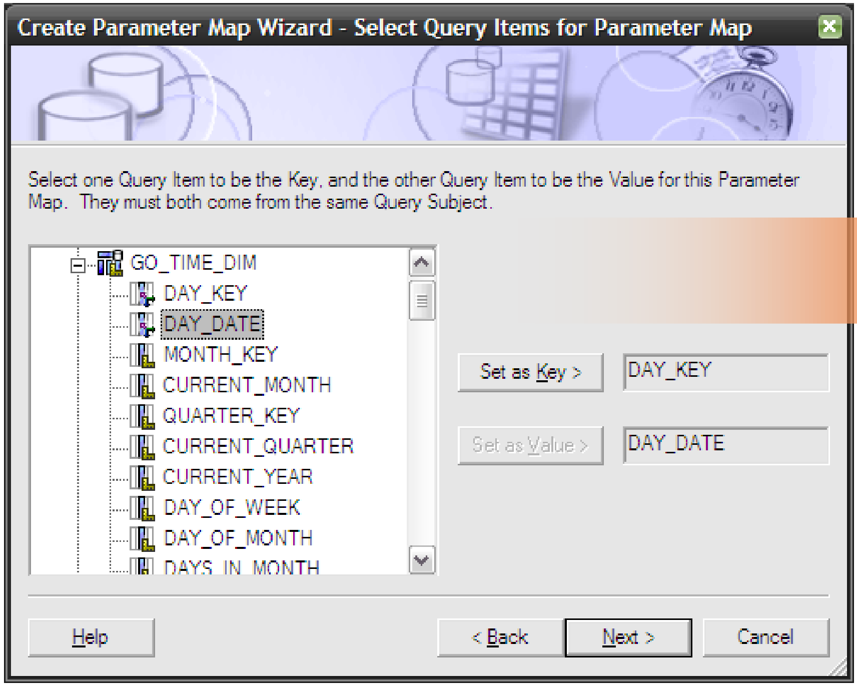
Default value: abcdef

Key	Value
Key1	73
Key2	abcdef
Key3	[Reference1]

Elements of a macro expression

Parameter Maps

- Static list of keys and values
- **Query-driven set of keys and values**



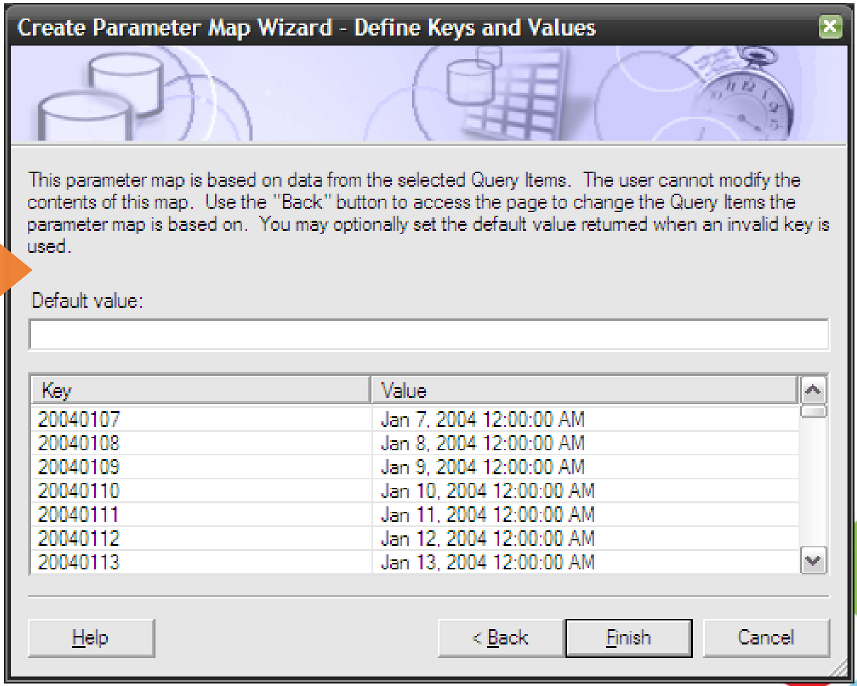
Create Parameter Map Wizard - Select Query Items for Parameter Map

Select one Query Item to be the Key, and the other Query Item to be the Value for this Parameter Map. They must both come from the same Query Subject.

- GO_TIME_DIM
  - DAY_KEY
  - DAY_DATE
  - MONTH_KEY
  - CURRENT_MONTH
  - QUARTER_KEY
  - CURRENT_QUARTER
  - CURRENT_YEAR
  - DAY_OF_WEEK
  - DAY_OF_MONTH
  - DAYS_IN_MONTH

Set as Key > DAY_KEY

Set as Value > DAY_DATE



Create Parameter Map Wizard - Define Keys and Values

This parameter map is based on data from the selected Query Items. The user cannot modify the contents of this map. Use the "Back" button to access the page to change the Query Items the parameter map is based on. You may optionally set the default value returned when an invalid key is used.

Default value:

Key	Value
20040107	Jan 7, 2004 12:00:00 AM
20040108	Jan 8, 2004 12:00:00 AM
20040109	Jan 9, 2004 12:00:00 AM
20040110	Jan 10, 2004 12:00:00 AM
20040111	Jan 11, 2004 12:00:00 AM
20040112	Jan 12, 2004 12:00:00 AM
20040113	Jan 13, 2004 12:00:00 AM

Performing simple lookups

- Typically performed by a join to a lookup table
- Can be replaced by a parameter map lookup
  - Removes unnecessary tables joins
  - Preprocesses complex expressions to simplify filter predicates
  - Caches results for future use

Performing simple lookups

Demo

Macro functions

- Relatively small set of functions
- Powerful when used in combination

- Useful functions to remember
  - prompt, promptmany
  - join, split, csv, array
  - substitute
  - timestampMask

Macro functions

prompt, promptMany

prompt (prompt_name , datatype , defaultText , text , queryItem , trailing_text)

Simple prompting scenario:

- [Namespace].[Query Subject].[Query Item] = ?Parameter Name?
- [Namespace].[Query Subject].[Query Item] = #prompt('Parameter Name', 'integer', '0')#

Macro functions

prompt, promptMany

Dynamic data item selection scenario:

- #'[Namespace].[Query Subject].[' + prompt('Parameter Name', 'token', 'Query Item Name') + ']'#

- [Namespace].[Query Subject].[Column A]
- [Namespace].[Query Subject].[Some other column name]

Macro functions

prompt, promptMany Demo

Why are macro expressions useful?

- Macros are processed before a query is generated
- Macros can perform value lookups
- Macros can act on user input values

What it means to you

- Simplified queries
- Enhanced dynamic reporting

WIN an Apple® iPad

Please remember to complete your session evaluation online at the Communication Station or point your Smart Phone browser to:

www.spss.com/goldcoast

For a chance to win an Apple® iPad