

RiverWare Script Action Support for certain MRM Configuration Operations

Funding: BOR UC, Discretionary Development (Spring 2015), RiverWare 6.7

Phil, Edit: 5-11-2015

Revision History:

- 5-11-2015: Added "Set MRM Descriptor" action; Revisions to all action names.
- 5-08-2015: Initial Draft.

Requirements Statement

Improve RiverWare's Script Manager to allow scripts to edit the MRM configuration as follows:

- a. set descriptor key/value pair
- b. change output control file
- c. enable/disable NetCDF
- d. enable/disable CSV output
- e. modify run parameters
- f. change ruleset
- g. Input tab:
 - i. change index sequential number of runs, initial offset, interval
 - ii. DMI repeat, and
 - iii. enable/disable Distributed Runs.

New Proposed Actions Summary

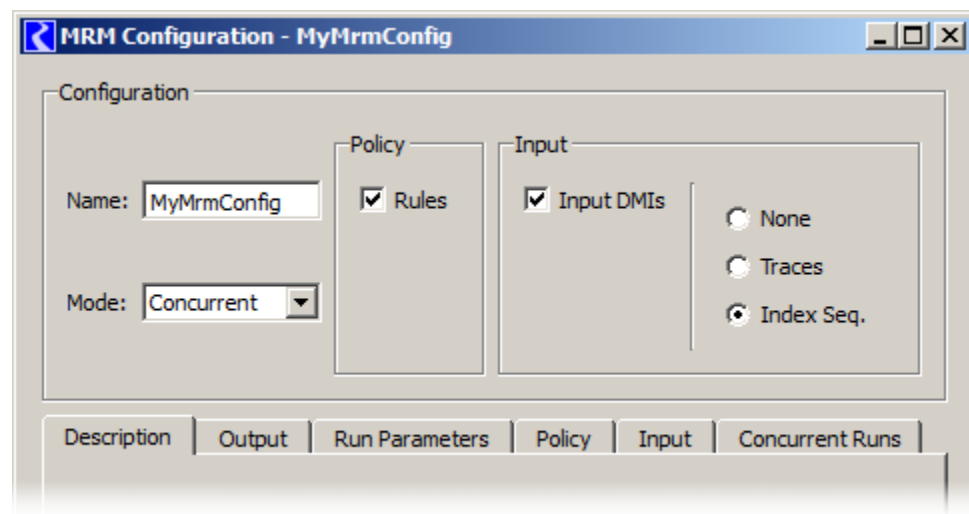
These are also presented in subsequent sections, (a) with respect to corresponding configuration dialog tab, and (b) alongside the 29 previously implemented Script actions.

1. Set MRM Descriptor
2. Configure MRM Output
3. Set MRM Run Range
4. Set MRM Ruleset
5. Configure MRM Index Sequential
6. Configure MRM Input DMI
7. Enable MRM Distributed Runs

MRM configuration editor controls for the relevant configuration settings

These are represented on these four tabs of the MRM Configuration Dialog. Details follow.

Tab		Config Controls	Proposed New Script Action	
Tab 1	Description	(a) set descriptor key/value pair	1	Set MRM Descriptor
Tab 2	Output	(b) change output control file (c) enable/disable NetCDF (d) enable/disable CSV output	2	Configure MRM Output
Tab 3	Run Parameters	(e) modify run parameters	3	Set MRM Run Range
Tab 4	Policy	(f) change ruleset	4	Set MRM Ruleset
Tab 5	Input	(g.i) change index sequential number of runs, initial offset, interval	5	Configure MRM Index Sequential
		(g.ii) DMI repeat	6	Configure MRM Input DMI
		(g.iii) enable/disable Distributed Runs	7	Enable MRM Distributed Runs



Script Action Names

Existing	New, Proposed
1. Clear DMI Values 2. Clear Scalar Slot Values 3. Clear Table Slot Values 4. Create Snapshot 5. Enable RPL Item 6. Execute DMI 7. Execute MRM Run* 8. Execute Run 9. Generate Output Device 10. Load Ruleset 11. Load Goal Set 12. Memo 13. Open Global Functions Set 14. Open SCT 15. Open Slots 16. Reorder RPL Set 17. Save Model 18. Set Account Method 19. Set Accounting Period 20. Set Controller 21. Set Init. Rules Exec. Flag 22. Set Method 23. Set Run Range 24. Set Scalar Slot Value 25. Set Series Slot Flags 26. Set Series Slot Values 27. Set Table Slot Value 28. Synchronize Objects 29. Synchronize Slots	1. Set MRM Descriptor 2. Configure MRM Output 3. Set MRM Run Range 4. Set MRM Ruleset 5. Configure MRM Index Sequential 6. Configure MRM Input DMI 7. Enable MRM Distributed Runs

*Existing MRM-related Script Action (Execute MRM Run) Settings:

Selected Action Settings (Execute MRM Run)	
Setting	Value
Show in Dashboard	Yes
Display Text	
Configuration	

(Tab 1) MRM Description / Descriptors

Description Output Run Parameters Input Concurrent Runs

This is a description for this MRM (Multiple Run Managment) configuration. MRMs are part of a model file.

Keyword/Value Descriptors

Keyword	Value
Demand	Triosteum
Precip	Climate Change One
Supply	Weigelian

+

-

OK Apply Reset Cancel

Script Action (1): Set MRM Descriptor

Settings:

1. Show in Dashboard ... Yes/No
2. Display Text
3. Configuration ... MRM Selector
4. Keyword
5. Value
6. Allow Value Editing

(Tab 2) MRM Output Configuration

Per Trace Output DMI:

RDF Options

Control File: (b)

Data File:

Timesteps: ☐ Allow Spaces In File Paths

Excel Options

☐ Generate Excel Workbooks from RDF ☐ Delete RDF Files

Slot Names: Rows / Columns / Worksheets:

☒ Generate CSV Files (d)

☒ Generate NetCDF Files (c)

Script Action (2): **Configure MRM Output**
Settings:

1. Show in Dashboard ... Yes/No
2. Display Text
3. Configuration ... MRM Selector
4. Control File ... file selection (blank: don't change)
5. Generate CSV Files ... Yes/No
6. Generate NetCDF Files ... Yes/No
7. Allow Control File Editing

(Tab 3) MRM Run Parameters Configuration

Initial: 06:00 May 8, 2015
Start: 12:00 May 8, 2015
Finish: 06:00 May 9, 2015
Timesteps: 4 6 Hour

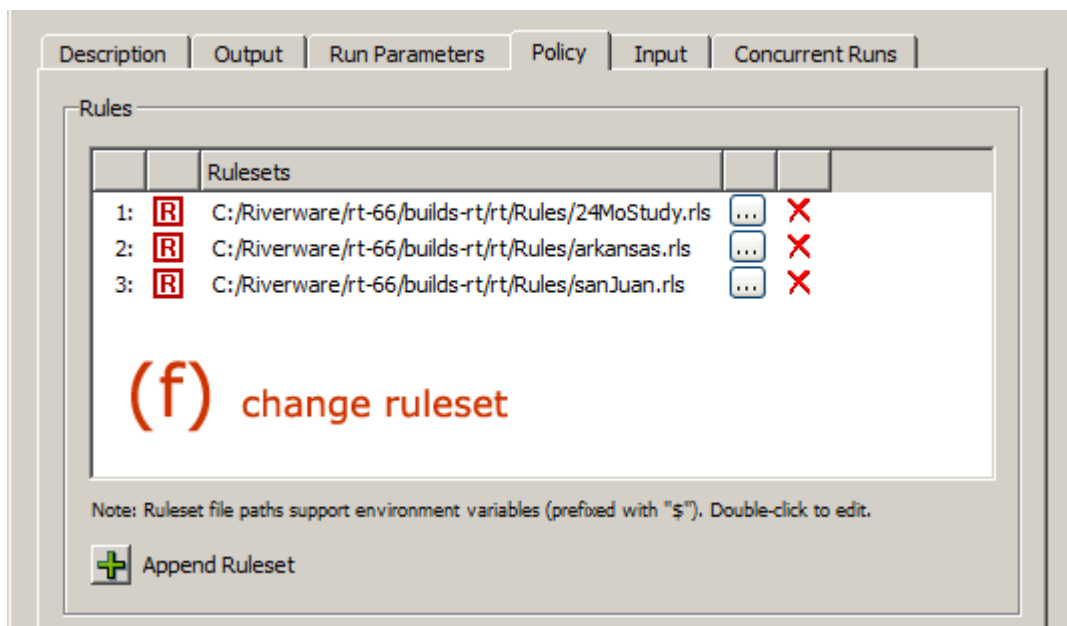
Similar existing script action: Set Run Range, settings:

Setting	Value
Show in Dashboard	Yes
Display Text	Run Range
Start Date	06:00 May 8, 2015
End Date	24:00 May 9, 2015
Allow Start Date Editing	Yes
Allow End Date Editing	Yes

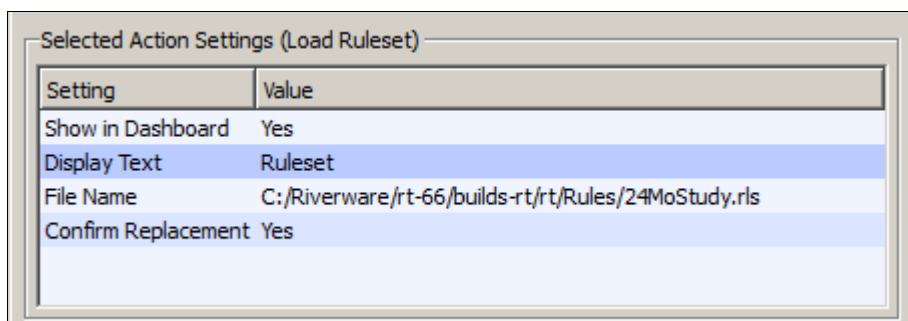
Script Action (3): Set MRM Run Range

Settings:

1. Show in Dashboard ... Yes/No
2. Display Text
3. Configuration ... MRM Selector
4. Start Date ...
5. End Date
6. Allow Start Date Editing ... Yes/No
7. Allow End Date Editing ... Yes/No

(Tab 4) MRM Change Ruleset Configuration

Similar existing script action: Load Ruleset, settings:

**Script Action (4): Set MRM Ruleset**

Settings:

1. Show in Dashboard ... Yes/No
2. Display Text
3. Configuration ... MRM Selector
4. Ruleset ... Positive Integer (spin box)
5. File Name ... file chooser
6. ~~Confirm Replacement~~ ... Yes/No *(not needed)*

(Tab 5) MRM Input Configuration

The screenshot shows the 'Input' tab of the MRM configuration interface. It includes sections for 'Initialization DMI', 'Input DMIs', 'Index Sequential' settings, and 'Control File'. Annotations with blue arrows point to specific elements:

- (g,i)** points to the 'Index Sequential' section, specifically the 'Number of Runs', 'Initial Offset', and 'Interval' fields.
- (g,ii)** points to the 'Input DMIs' table, specifically the 'Repeat' column.
- (g,iii)** points to the 'Distributed Runs' checkbox at the bottom right.

Repeat	DMI		
102 x	DB DMI 1		✗
1 x	DB DMI 2		✗

Index Sequential / DMI Mode: ☒ Combinations ☐ Pairs

☐ Distributed Runs

Script Action (5): Configure MRM Index Sequential Settings:

1. Show in Dashboard ... Yes/No
2. Display Text
3. Configuration ... MRM Selector
4. Number of Runs ... integer (spin box)
5. Initial Offset ... integer (spin box)
6. Interval ... integer (spin box)
7. Allow Number of Runs Editing ... Yes/No
8. Allow Initial Offset Editing ... Yes/No
9. Allow Interval Editing ... Yes/No

continued ...

Script Action (6): Configure MRM Input DMI

Settings:

1. Show in Dashboard ... Yes/No
2. Display Text
3. Configuration ... MRM Selector
4. DMI Name ... DMI Selector
5. Repeat Count ... integer (spin box)
6. Allow Repeat Count Editing ... Yes/No

Script Action (7): Enable MRM Distributed Runs

Settings:

1. Show in Dashboard ... Yes/No
2. Display Text
3. Configuration ... MRM Selector
4. Enable ... Yes/No
5. Allow Enable Editing ... Yes/No

--- (end) ---