

HOW TO USE THE GENERATERANDOMNUMBER COMMAND

PRODUCT: qRules v2.3
LAST UPDATED: November 27, 2010

SCENARIO

You wish to randomize the order of questions in a survey, for example; or you simply want to generate a random number, say from one to a million.

VALUE PROPOSITION

You can generate a random number using qRules **GenerateRandomNumber** command.

Benefits:

- Random numbers can be used to reorder content in your form
- Random numbers can be whole numbers from 1 on up, or decimal numbers

Limitations:

- Random numbers aren't always unique
- Random numbers don't contain any descriptive information

REQUIREMENTS

- qRules v2.3 or higher



COMMAND OVERVIEW

GenerateRandomNumber generates a random number allowing setting of upper and/or lower bounds for the random number.

Arguments:

- max (optional): Exclusive upper bound
- min (optional): Inclusive lower bound, must have a maximum number to use

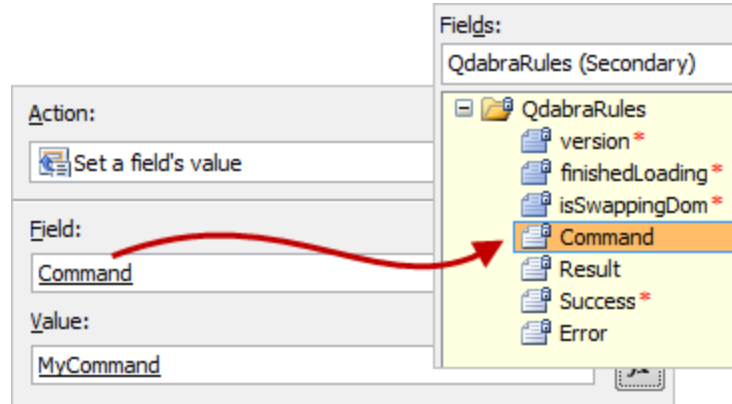
Examples:

- *GenerateRandomNumber /max=100 /min=20*
- *GenerateRandomNumber /max=100*

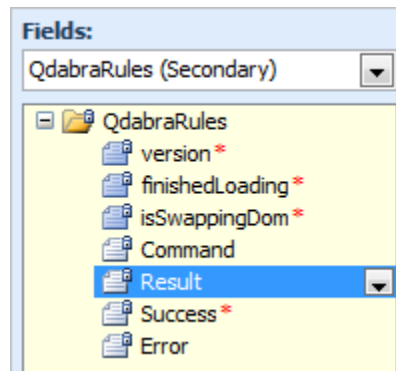
Step-by-step Example

In this tutorial, we will learn how to generate a random number using qRules.

1. Create a blank InfoPath form and inject it with qRules. Please refer to the qRules User Guide for more information on this.
2. Open your form in InfoPath Designer.
3. Add a new field into the Main data source called **MyCommand** and drag it onto your canvas.
4. Add a button with a rule that sets the value of your QdabraRules **Command** field to *MyCommand*.



5. Drag the QdabraRules **Result** node onto your canvas.



6. Preview your form template; try out the following commands clicking **Generate** each time.
 - a. GenerateRandomNumber

My Command:
GenerateRandomNumber
Generate
Result:
668729350

- b. GenerateRandomNumber /max=100

My Command:
GenerateRandomNumber /max=100
Generate
Result:
15

- c. GenerateRandomNumber /max=100 /min=20

My Command:
GenerateRandomNumber /max=100 /min=20
Generate
Result:
44

7. You may also use fields for your max and min values and concatenate them in your command:
 - a. Add new fields called **MaxValue** and **MinValue** – drag them on your canvas.



- b. Change the rule in your *Generate* button to set the Command to `concat("GenerateRandomNumber /max=", MaxValue, " /min=", MinValue)`

Action:	
Set a field's value	
Field:	
Command	
Value:	
concat("GenerateRandomNumber /max=", MaxValue, " /min=", MinValue)	
	

- c. Preview your form, add values to your max and min fields and click *Generate*.

Max Value:	
1234567890	
Min Value:	
1	
Generate	
Result:	
452673668	



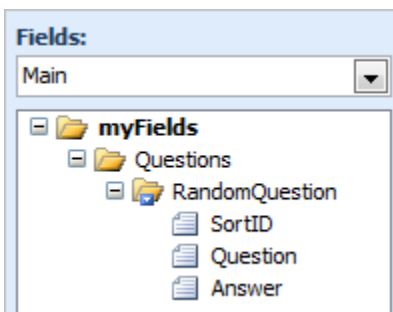
RANDOMIZING REPEATING CONTENT – GENERAL OVERVIEW

To randomize repeating content in your form, the repeating group must include a sort ID in your main or secondary XML data source. You will need to count the number of items and use qRules' **GenerateRandomNumber** command to randomly pick numbers/items from the list.

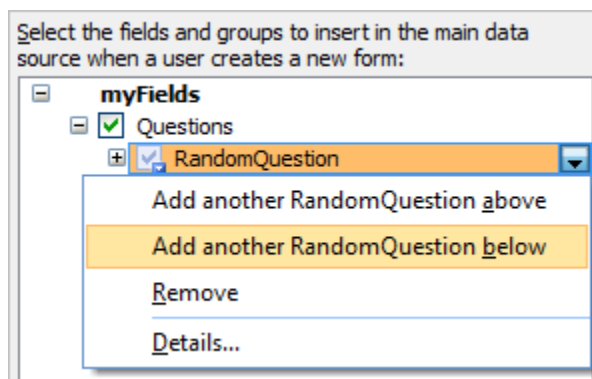
Step-by-step Example

Here's a more advanced example with step-by-step instructions on how use the *GenerateRandomNumber* command in a form with repeating content. For our example, we will create a form that generates a random question – you can expand this form and turn it into a quiz form or a questionnaire.

1. Create a blank InfoPath form and inject it with qRules. Please refer to the qRules User Guide for more information on this.
2. Open your form in InfoPath Designer.
3. Add the following fields:



4. Drag the **RandomQuestion** node as a repeating table on your canvas and then add a button labeled 'Generate'.
5. Go to the *Data* tab > *Default Values*, right-click on the **RandomQuestion** repeating node and select *Add another RandomQuestion below* (add at least 5).



6. For each node, specify the default values of the **SortID** (1-5) and the **RandomQuestion** (use any default question desired). Leave the **Answer** fields blank.

If you preview your form, you should see something like this:

Sort ID	Question	Answer
1	What was the name of your first pet?	
2	What is the title of your favorite book?	
3	What is your mother's maiden name?	
4	Who is your all-time favorite movie character?	
5	What is the last name of your closest childhood friend?	

7. Add the following rules to your button:

(These are repeated rules that have the same action executing the *GenerateRandomNumber* qRules command. We repeat the rule 8 times, which seem like the max, and this isn't elegant. It would probably be better to use an XML file with some fields for the logic – set the SortID field to the generated number, if the result corresponds to a question that has already been answered, run the command again, set the field again, and so on...)

- a. Rule #1 – no condition, set the value of the QdabraRules *Command* field to **GenerateRandomNumber /max=6 /min=1**

Condition:

None - Rule runs when button is clicked

Rule type:

Action

Run these actions: *

Set a field's value: Command = "GenerateRandomNumber /max=6 /min=1"



b. Rule #s 2-8:

Condition: The expression **my:Questions/my:RandomQuestion[my:Answer != "" and my:SortID = xdXDocument:GetDOM("QdabraRules")/QdabraRules/Result]**

Action: Set the value of the QdabraRules *Command* field to
GenerateRandomNumber /max=6 /min=1

Condition:

my:Questions/my:RandomQuestion[my:Answer != "" and
my:SortID = xdXDocument:GetDOM("QdabraRules")/QdabraRules/Result]

Rule type:
Action

Run these actions: *

Set a field's value: Command = "GenerateRandomNumber /max=6 /min=1"

8. Right-click on the **RandomQuestion** repeating table, and in the properties dialog, uncheck the box 'Allow users to insert and delete rows'.

Default settings

☐ Allow users to insert and delete rows

Edit the default values of the repeating table

Customize the name of the commands used to insert and delete rows

☐ Show insert button and hint text:

9. Add a conditional formatting to the **RandomQuestion** repeating table to not show rows which **SortID** is not equal to the generated number (QdabraRules *Result* field) and **Answer** is blank:

Condition: *

SortID ≠ Result and
Answer is blank

Rule type:
Formatting

Formatting: *

B **I** **U** **abc** **A** **▼** **▼**

(hidden)

☒ Hide this control



10. Add a conditional formatting to the **Answer** textbox so that blank answers are shaded:

Condition: *

Answer is blank

Rule type:

Formatting

Formatting: *

B
I
U
abc
A
▼

▼

AaBbCcYyZz

11. Preview your form and test – keep clicking on the *Generate* button, answer some questions, etc. You'll get something like this:

Sort ID	Question	Answer
1	What was the name of your first pet?	Sofie
4	Who is your all-time favorite movie character?	
5	What is the last name of your closest childhood friend?	Smith

Generate



SUPPORT

If you have questions about the information in this document, please contact Qdabra Software for assistance.

Licensed customers can contact us via Support@Qdabra.com.

You can also use the InfoPathDev.com [Qdabra Product support forums](http://InfoPathDev.com) to request help from the community.

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