

Visual Rule Builder

The Visual Rules Builder enables non-technical designers to add dynamic behaviors to a form/flow. Here are several behaviors that you can create:

- Show/Hide a Control(s) based on a specified condition
- Show/Hide Steps in a flow based on the step that the flow is currently executing
- Dynamically setting default values and control properties such as valid, printable, required and more.
- Compute a Subtotal and Total
- Populate fields with the logged in user's information
- Concatenate field data
- Populate a Date field when the user signs

and much more....

The screenshot shows the Visual Rule Builder interface for a rule named "Show/Hide Accounts Payable Section". The rule is currently enabled. The description is "Show Accounts Payable Only section on the Accounts Payable Step". The rule builder is configured with a "When" condition: "Current Step is Accounts Payable". Under the "When" condition, there are three "Set" actions: "Set AccountsPayableOnly as visible", "Set AccountsPayableOnly as required", and "Set AccountsPayableOnly to printable". Under the "Else" condition, there are three "Set" actions: "Set AccountsPayableOnly as hidden", "Set AccountsPayableOnly as optional", and "Set AccountsPayableOnly to not printable".

Watch this webinar for an overview of how to create dynamic forms/flows without writing code.

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When Do Rules Execute

Business Rules are executed under the following conditions:

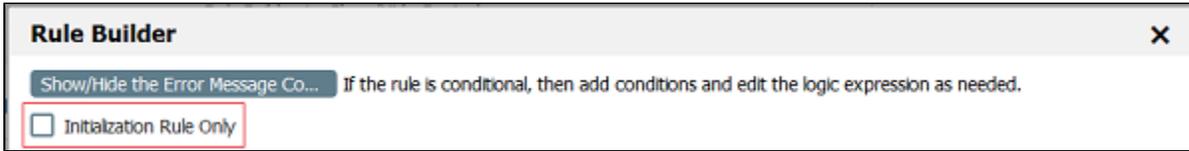
- When the form/flow loads.
- When a control's value that the rule depends on changes.
- When you add a row to a [Table control](#) or click on the



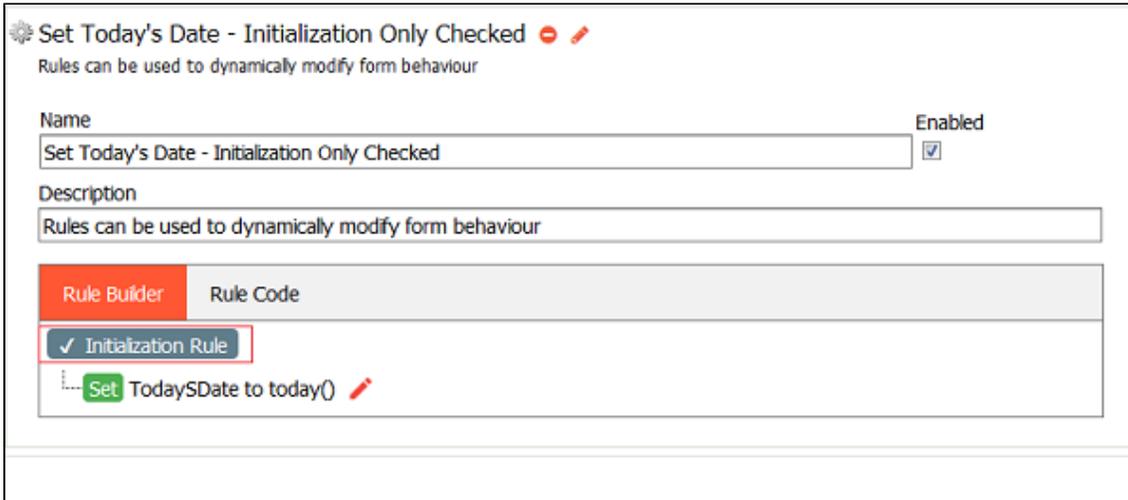
icon to add a [repeating item](#).

If you want your rule to run **Only when the form loads** - check the **Initialization Only** checkbox at the top of the wizard. Typically, you would

check this if there is some business logic that you want to execute before the form/flow displays and users begin interacting with it.



When the rule displays in the Rule Builder tab, it will indicate that the rule has been flagged to run only when the form loads, if this checkbox is checked.



Rule Builder Wizards

The Live Forms Rule Builder walks you through three easy steps to define your condition and actions.

Condition wizard

Describe the conditions under which a set of actions should be executed. You can specify more than one condition in the same rule but you do not need a condition.

Each condition consists of the following:

Part	Description
Field or current step (Optional)	What field or current workflow step do you want to evaluate?
Operator	What condition do you want to test to see if it is true? Select to from the choices to use an expression or function in your rule
Value (Optional)	What value do you want to compare the Field or current step to? What function/operator do you want to use to build the expression?

Builtin Functions --- NO CODE!

The following functions are available in the Rule Builder for building expressions. Function names may be entered in any case (case insensitive).

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New Builtin Functions --- NO CODE!

- **userFirstName**
- **userLastName**
- **userFullName**
- **userEmail**
- **userID**
- **userManagerID**
- **userDetail**
- **isFilled**
- **isEmpty**
- **textStartsWith**
- **textEndsWith**
- **textContains**
- **textBefore**
- **textAfter**
- **textBetween**
- **sum**
- **average**
- **minimum**
- **maximum**
- **count**
- **sumif**
- **averageif**
- **minimumif**
- **maximumif**
- **countif**
- **round**
- **truncate**
- **today**
- **date**
- **time**
- **timeofday**
- **datetime**
- **now**
- **year**
- **month**
- **day**
- **hour**
- **minute**
- **daysBetween**
- **monthsBetween**
- **yearsBetween**

Functions are entered into the Enter an Expression field in the wizards.

Rule Builder

Rule 154 Add actions to perform when the rule condition is **TRUE**. Add Action

Initialization Rule Only

Set DateOfBirth default to

This field has two modes:

- Lookup Mode
- Help Mode

Lookup Mode

Lookup mode displays functions and controls from your form/flow. The functions matching the typed text are displayed first followed by the form/flow controls.

Lookup Mode is triggered as you enter text in the Value fields of the wizards.

Rule Builder ✕

Calculate a Total Add actions to perform when the rule condition is **TRUE**. Add Action

Initialization Rule Only

Enter the expression here

Set T to

Functions matching the typed text are listed first

Form/flow controls matching the typed text are listed after the functions

s

Functions

- Σ daysBetween Get days between dates.
- Σ isEmpty
- Σ isFilled

Fields

- [-] Description
- [-] Detailquestion
- [-] Products

Help Mode

Help mode shows help text for the function in the dropdown area. The help information includes:

- function syntax
- summary info about the function
- an example
- parameter information.

Rule Builder ✕

Calculate a Total Add actions to perform when the rule condition is **TRUE**. Add Action

Initialization Rule Only

Set T to

Once a function is selected, Help mode provides:

- function syntax
- summary info about the function
- an example
- parameter information.

sum()

sum(expr1, [expr2, ...])

Example

sum(price)

Summary

Operators

Use these operators to build useful expressions

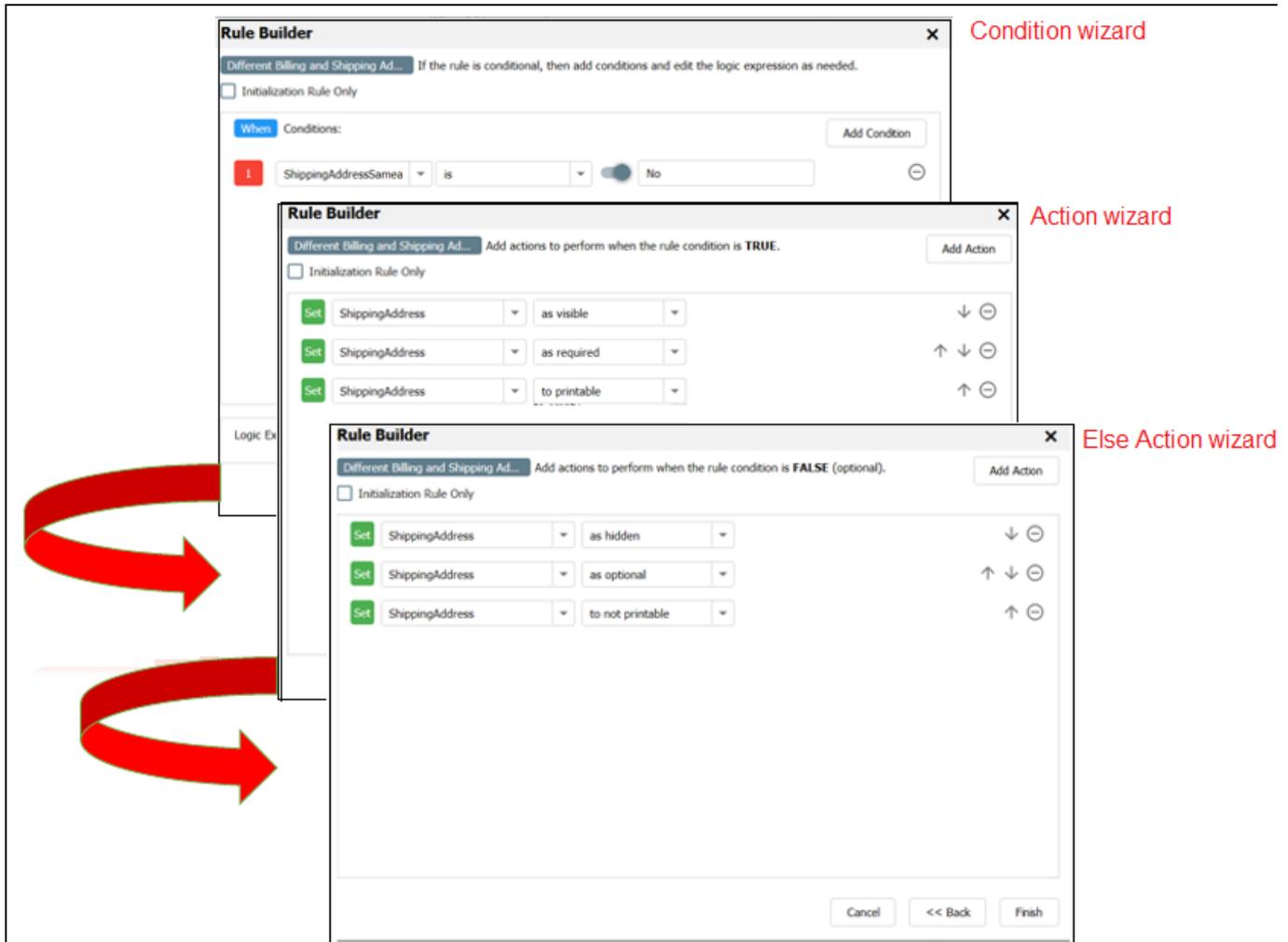
Operator	Name	Purpose	Example
+	Addition	Add two numeric sub-expressions	a + b
-	Subtraction	Subtract two numeric sub-expressions	a - b
*	Multiplication	Multiply two numeric sub-expressions	a * b
/	Division	Divide two numeric sub-expressions	a / b
+	Concatenation	Concatenate 2 text sub-expressions	firstName + " " + lastName
and	Logical AND	Logically AND two boolean sub-expressions	isRetired AND isCollectingSS
or	Logical OR	Logically OR two boolean sub-expressions	isOnVacation or isOnSickLeave
==	Equality	Compare two sub-expressions for equality	a == b
!=	Inequality	Compare two sub-expressions for inequality	a != b
>	Greater than	Compare two sub-expressions for greater than	a > b
>=	Greater than or equal	Compare two sub-expressions for greater than or equal	a >= b
<	Less than	Compare two sub-expressions for less than	a < b
<=	Less than or equal	Compare two sub-expressions for less than or equal	a <= b

Action wizard

Declare the actions that should be taken when the condition is true. The Functions/Operators listed above can also be selected as the value in this wizard.

Else Action wizard

Declare the actions that should be taken when the condition is false. The Functions/Operators listed above can also be selected as the value in this wizard. Else Actions are optional as not all rules require them. You cannot add FALSE actions if you do not have a condition specified in the rule.



Add A Rule

1. Click the **Run Builder** button.
2. Click the **Add Condition** button to create a new condition (optional).
3. Select your Field or select **current step** to describe an action that will execute based on the workflow step currently executing.
4. Select the Action from the dropdown.
5. Select the Value, expression or function(optional). To enter a text value, slide the

 toggle switch icon to the right and a field displays to the right.

If current step is selected as the condition for a workflow designed using [Linked Steps](#), the value dropdown displays the names of the linked steps as choices. Workflows designed with individual forms as steps (not linked) will only show that step in the current step value dropdown.

For example,

- If you have one form (named form A) in a workflow, you will only see form A listed in the current step value dropdown,
- If you add 2 linked steps (named form B and form C), the current step value dropdown lists all 3 steps: form A, form B and form C.
- If you add form D (not linked) to the workflow, form D will not be listed in the current step value dropdown for form A

6. Click **Next** to advance to the **Action** wizard.
7. Specify the actions to be taken if the condition is true.
8. Click **Next** to advance to the **Else Action** wizard
9. Specify the actions to be taken if the condition is false.
10. Click **Finish**.
11. Save your form/flow.

12. Click the Save and Test icon



to verify that your rule is working as expected.

Create New Rule  Click to add a new rule.

Click to view all the rules in your form/flow. [View All](#)

Different Billing and Shipping Addresses

Rules can be used to dynamically modify form behaviour
Number and name your rules to reflect their function.

Name Enabled Enable/Disable rules using this checkbox.

Description

Rule Builder **Rule Code**  Click to add JavaScript code directly into the Rule Editor.

When ShippingAddressSameasBilling is No  Click to modify your rule in the Rule Builder.

- Set** ShippingAddress as visible 
- Set** ShippingAddress as required 
- Set** ShippingAddress to printable 

Else

- Set** ShippingAddress as hidden 
- Set** ShippingAddress as optional 
- Set** ShippingAddress to not printable 

Modify a Rule

Once completed, the entire rule can be viewed in the **Rule Builder** tab.

1. Click the



pencil icon on whatever part of the rule you want to modify.

2. Click the up and down arrows on the right side to change the order of conditions and actions.

Create New Rule + [View All](#)

01. Different Billing and Shipping Addresses ⊖ ✎
 Rules can be used to dynamically modify form behaviour

Name: Enabled

Description:

Rule Builder	Rule Code
When ShippingAddressSameasBilling is No ✎ Set ShippingAddress as visible ✎ Set ShippingAddress as required ✎ Set ShippingAddress to printable ✎	Clicking the pencil icon next to a WHEN statement, takes you to the Condition wizard. Clicking the pencil icon next to any action set in your rule opens up the Action wizard to modify the actions to be taken if the condition is true.
Else Set ShippingAddress as hidden ✎ Set ShippingAddress as optional ✎ Set ShippingAddress to not printable ✎	Clicking the pencil icon next to any Else item or action opens the Else Action wizard where you declare the actions that should be taken if the condition is false.

Click here for some information about what you will see if you change the name of a control

If you change the name of a control after you have written a rule that is dependent on it, the rule becomes invalid and displays in a pink background. Click all pencil icon(s) to find the error. The Next and Previous buttons are disabled until the rule is fixed.

02. Make Home and Cell Phone required ⊖ ✎
 Rules can be used to dynamically modify form behaviour

Name: Enabled

Description:

Rule Builder	Rule Code
When HomePhone is filled ✎ Set PhoneMessage as visible ✎	If the rule is conditional, then add conditions and edit the logic expression as needed. <input type="checkbox"/> Initialization Rule Only When Conditions: HomePhone ⚠ if ⚠ Add Condition
Else Set PhoneMessage as hidden ✎	

If you change the name of a control after you have written a rule that is dependent upon it, the rule becomes invalid and displays with a pink background. Clicking on the pencil icon(s) for each of the wizards will show the parts of the rule that are in error.

Delete a Rule

1. Click the



icon in the Rules Validator next to the rule you want to delete. You will be asked to confirm.

Product Form

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Create New Rule + [View All](#)

Different Billing and Shipping Addresses ⊖ ✎ Rules can be used to dynamically modify form behaviour

Click the Rules icon in the form/flow designer toolbar to open the Rule Validator.

Click the minus icon to delete a rule. You will be asked to confirm.

Multiple Conditions in a Rule

The Live Forms Rule Builder allows you to create a rule that has more than one condition. You can write a rule that performs actions based on the values of more than one field. As you select conditions, a logic expression is built and displayed at the bottom of the screen. Notice the expression uses the **AND operation** by default. There may be business rules that require a change to the logic expression.

- The **(AND operation)** means that **All of the specified conditions** must be true before the actions set up in the Action Wizard are executed.
- Change the **(AND operation(s))** to **(OR operation(s))** if **only one of the conditions** needs to be true before the actions are executed.
- Group parts of the logic expression using parentheses if necessary.

Consider this example...

A Travel Request workflow contains a field where the user selects a destination country from a dropdown. Countries that call their subdivisions "states" are: United States, Mexico, Australia, Brazil, India, Germany and Myanmar.

The business requirement for this rule is: If any of these countries are selected, a Destination State field is enabled so the user can enter the Destination state. Otherwise, the Destination State field is disabled.

The Condition wizard for the business rule is shown in the image. Note that each condition is assigned a color coded number that is reflected in the logic expression. The logic expression is built with the **and** operator by default. Since we want the rule to execute when any of the conditions are true, we must change all the **and** operations in the logic expression to the **or** operation.

The screenshot shows the 'Rule Builder' window with the title 'Travel auth example'. Below the title is a subtitle: 'If the rule is conditional, then add conditions and edit the logic expression as needed.' There is a checkbox for 'Initialization Rule Only' which is currently unchecked. The main area is titled 'When Conditions:' and contains six conditions, each with a color-coded number in a box to its left. The conditions are: 1 (red) 'DestinationCountry is United States', 2 (green) 'DestinationCountry is Mexico', 3 (yellow) 'DestinationCountry is Brazil', 4 (cyan) 'DestinationCountry is India', 5 (brown) 'DestinationCountry is Australia', and 6 (blue) 'DestinationCountry is Germany'. Each condition has a dropdown menu for the field name, a dropdown for the operator (all set to 'is'), a toggle switch (all turned on), and a text input for the value. To the right of the conditions is an 'Add Condition' button. At the bottom of the conditions list is a 'Logic Expression:' field containing '1 or 2 or 3 or 4 or 5 or 6 or 7'. The numbers 1-6 are color-coded to match the condition numbers, and the word 'or' is used as the operator. There is an 'Edit' button to the right of the logic expression field. At the bottom of the window are three buttons: 'Cancel', 'Next >>', and 'Finish'.

Switching to the Rule Code Tab

Rules created with the Rule Builder are automatically converted to JavaScript and co-exist with existing JavaScript rules. Of course, you can still add JavaScript directly or edit the generated code to make manual changes to your rule once you have created it with the Rule Builder.

1. Click the **Rule Code** tab then click on **Edit Code** tab to add/edit JavaScript.

Clicking the **Edit Code** button permanently disables the Rule Builder for this rule.

Future Releases of the Visual Rule Builder

We're constantly working on improving our product to reduce the need to write code. Making JavaScript rules easier is one of the highest priority items.

This version of the Visual Rule Builder does not currently support screenflows that use the [Navigation toolbar](#) to move back and forth between screenflow steps.

Examples

The [Rule Examples](#) chapter shows you how to use the Visual Rule Builder to create common rules for real world situations.

- The User Info, Numeric, Boolean and Date/Time functions, added to the [Visual Rule Builder](#), are not available in the [Precondition Rule Builder](#). Only the following operators are supported in precondition expressions:
 - + (add and concat)
 - -
 - * (multiply)
 - /