LAVA

15: Lava in Workflows

What’s a Workflow?

- Easy Automation
- A way to Take Actions
- A way to Make Changes

- NOT long-term storage

What's a Workflow?

We refer to workflows as the "muscles" of Rock because they move things around.

But muscles need something to pull *on*.

Inside Workflows

Keep in Mind:

Workflows use Attributes to store information while they're running.

Workflows: Attributes

If a workflow is designed to add a person note, what would it need?

Workflow

Attributes

Person: Ted Decker

Note: Spoke with Ted today…

…

Workflows: Attributes

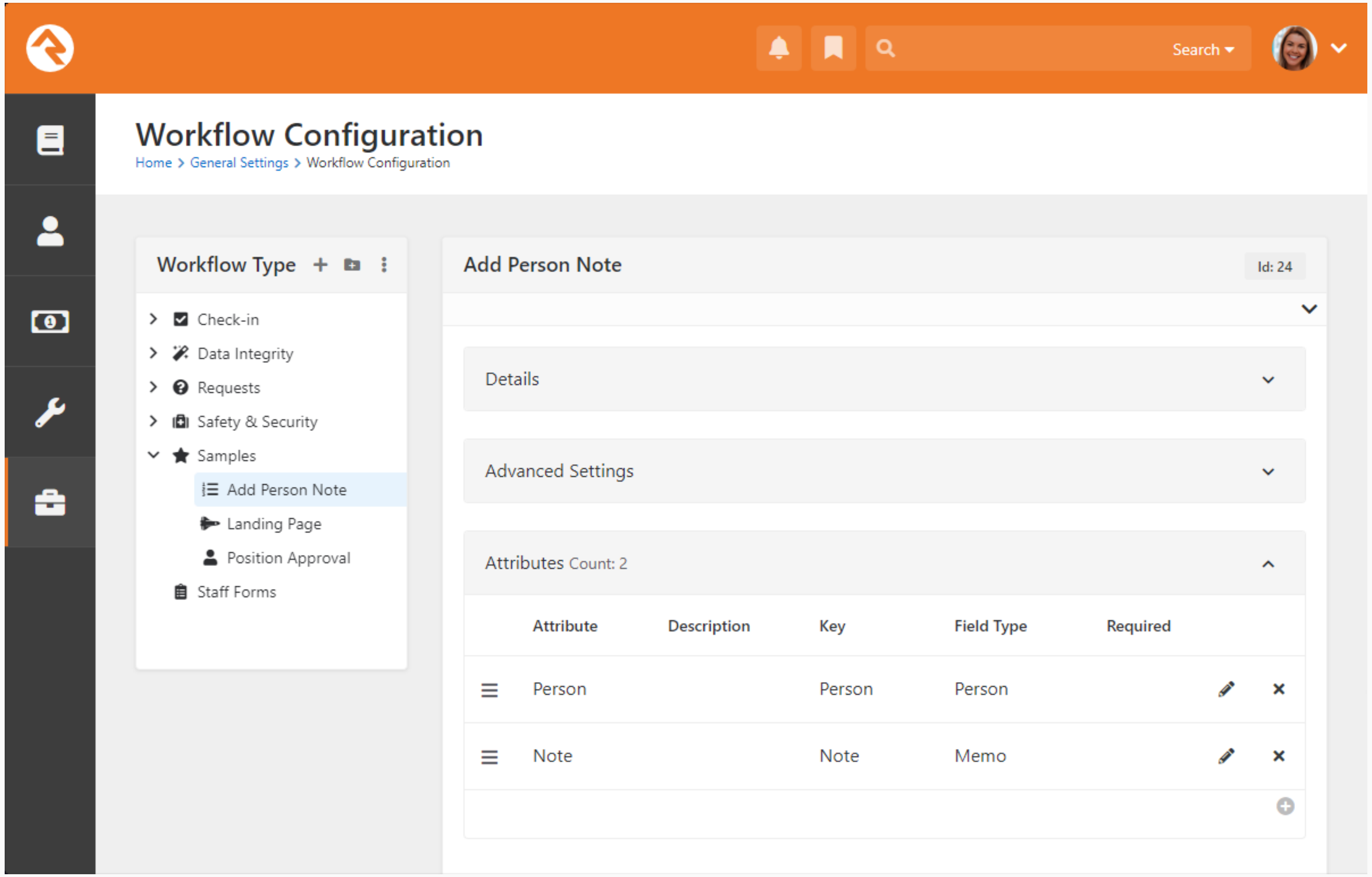
Workflow

Attributes

Person: Ted Decker

Note: Spoke with Ted today…

…



Workflows: Activities & Actions

Workflow

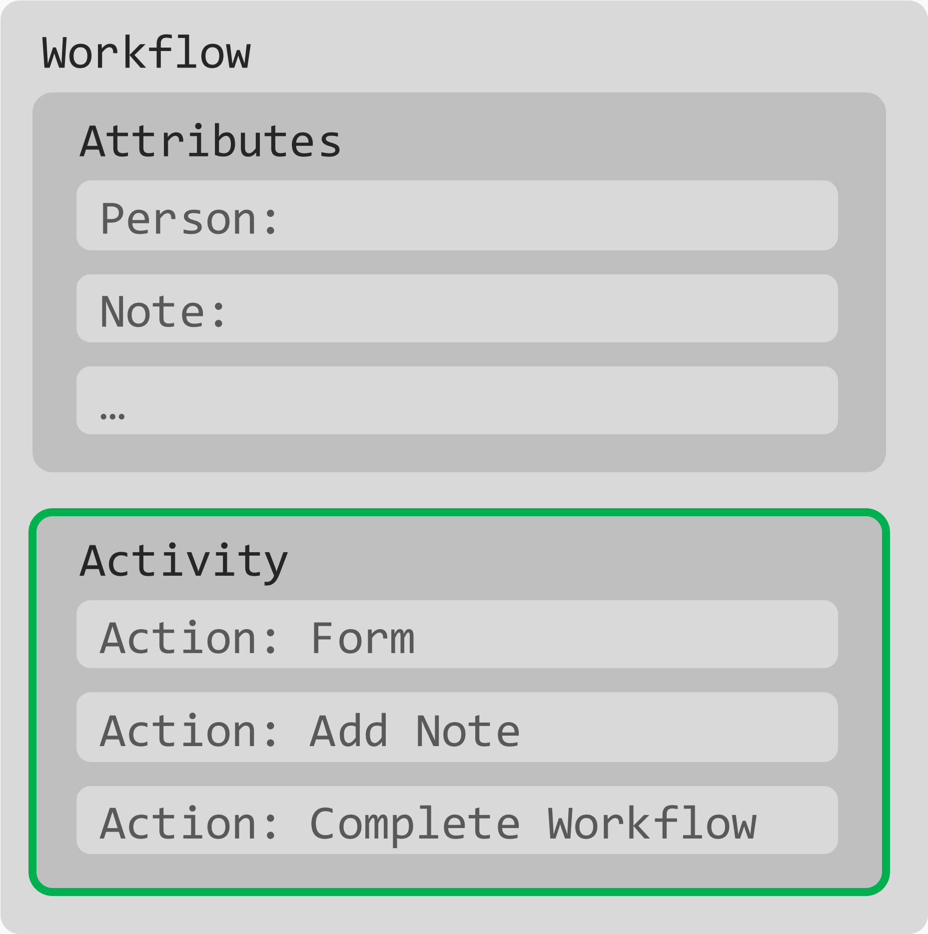
Attributes

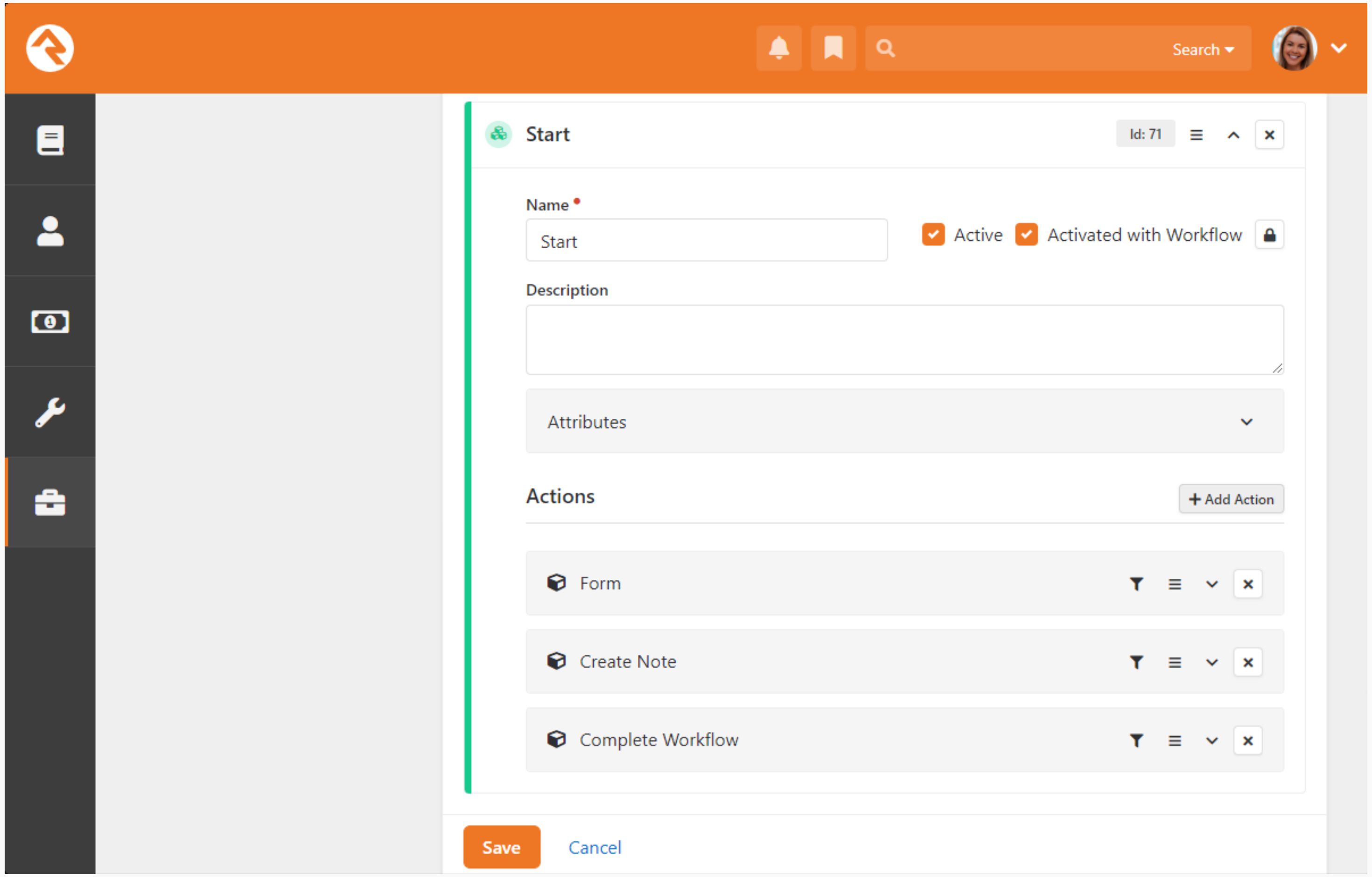
- Person:
- Note:
- …

Activity

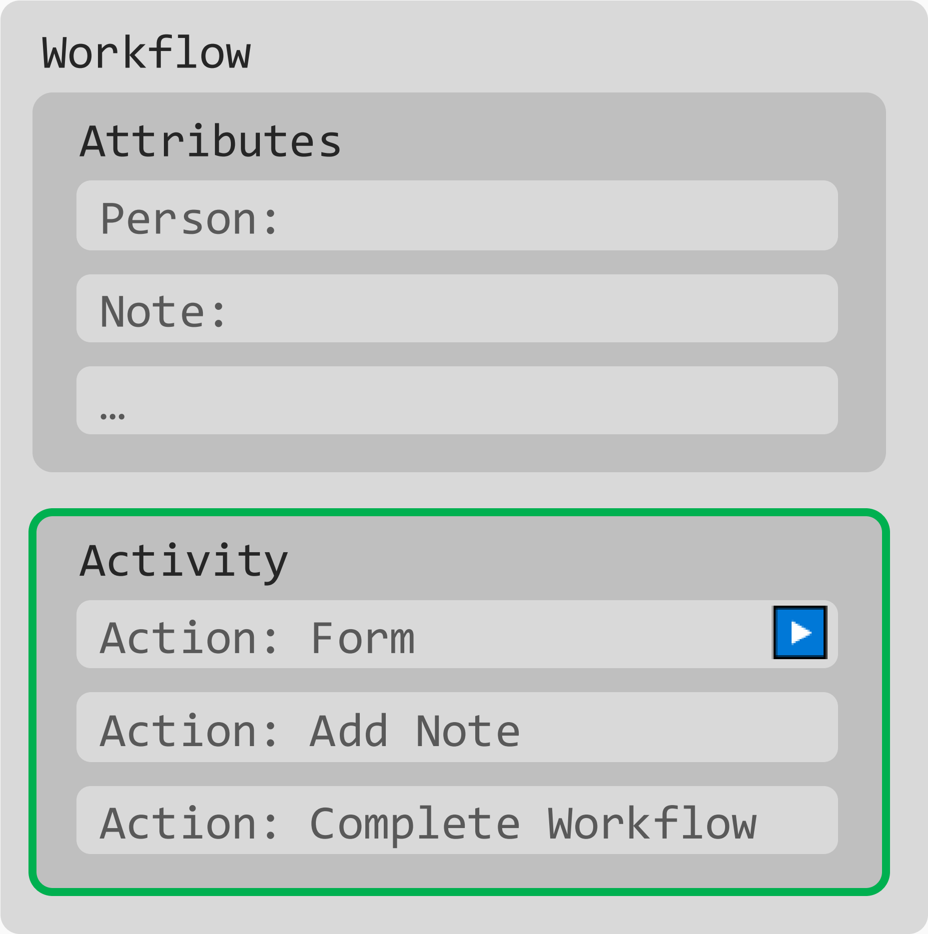
- Action: Form
- Action: Add Note
- Action: Complete Workflow

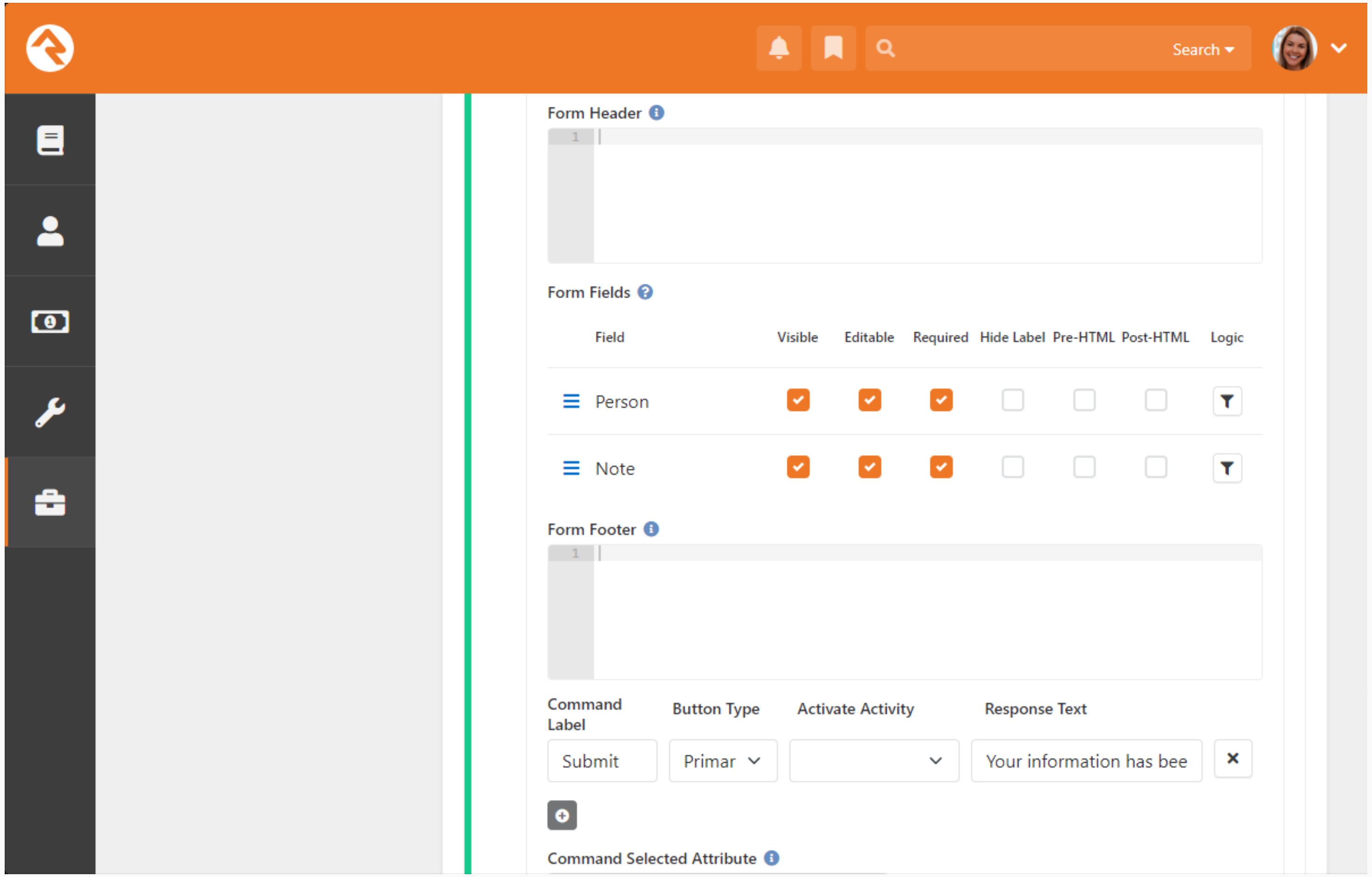
Workflows: Activities & Actions



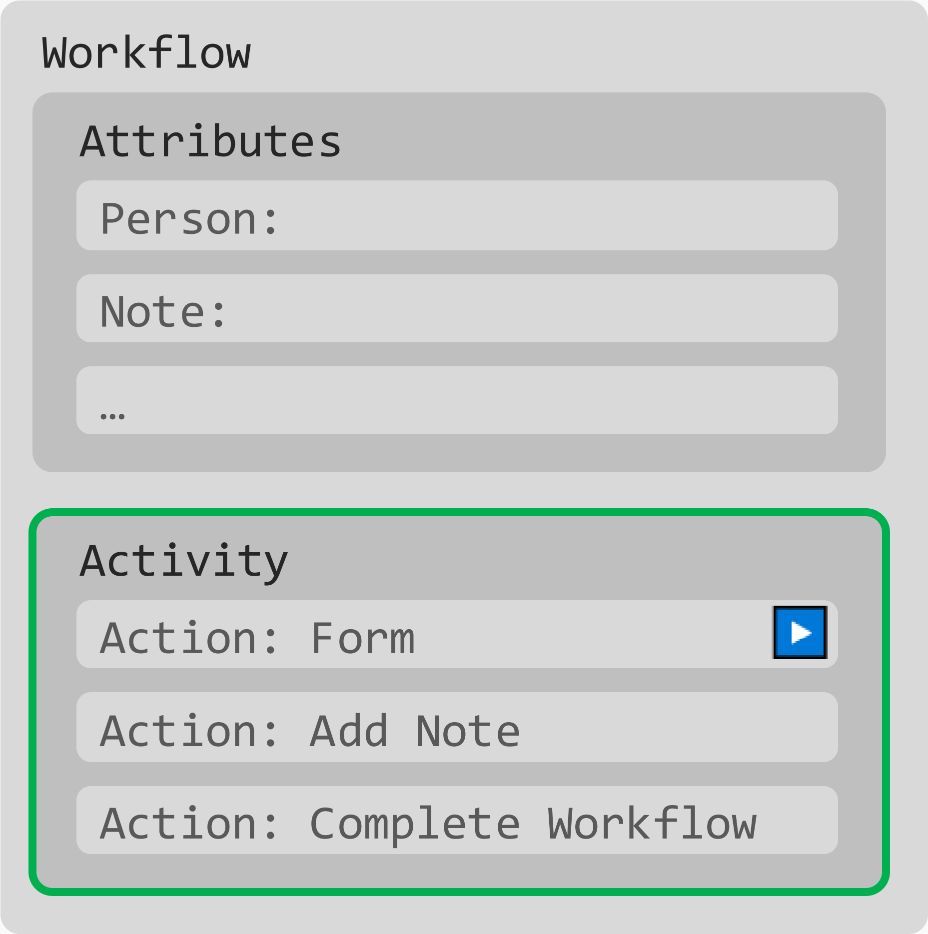


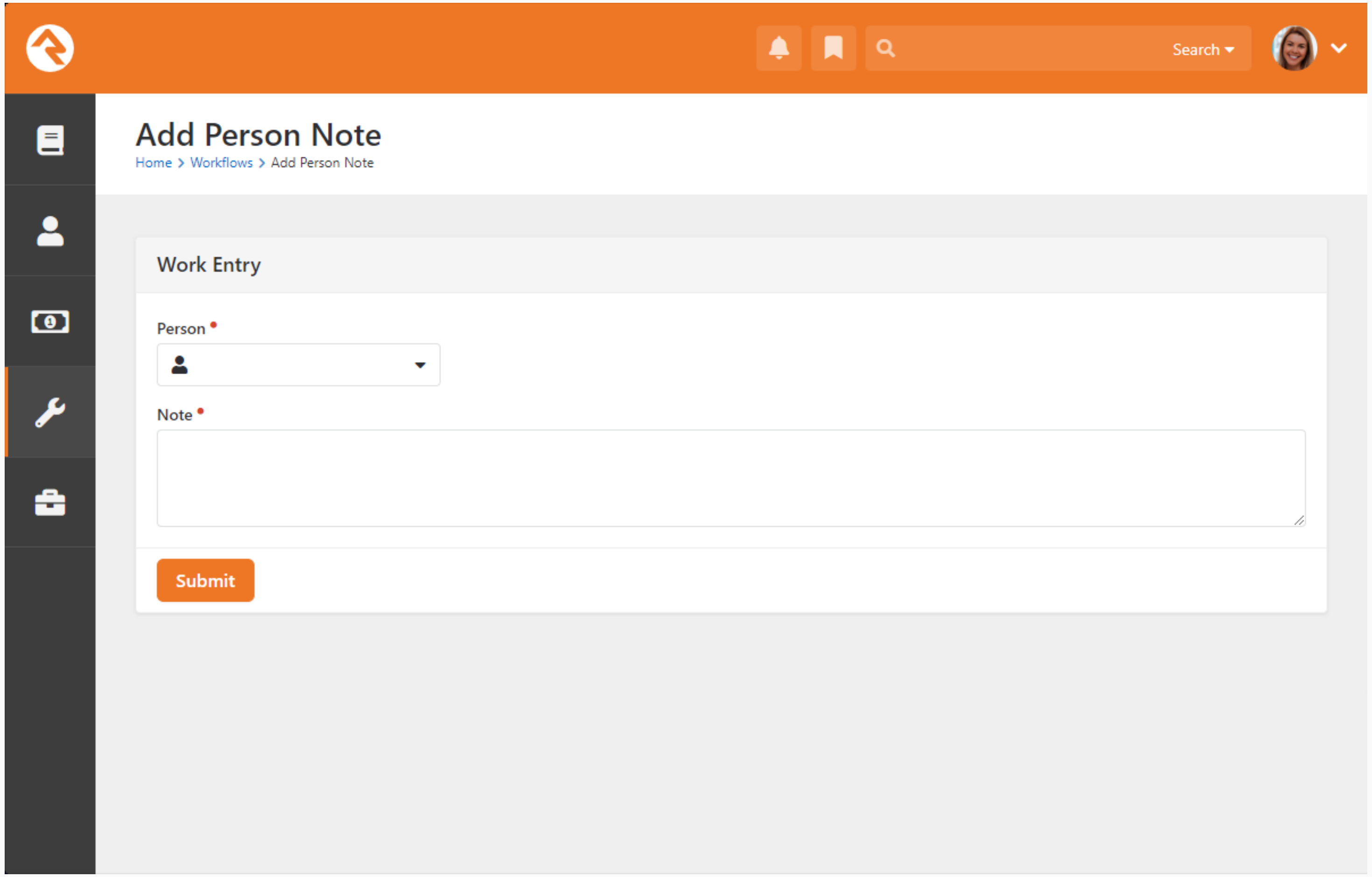
Workflows: Activities & Actions



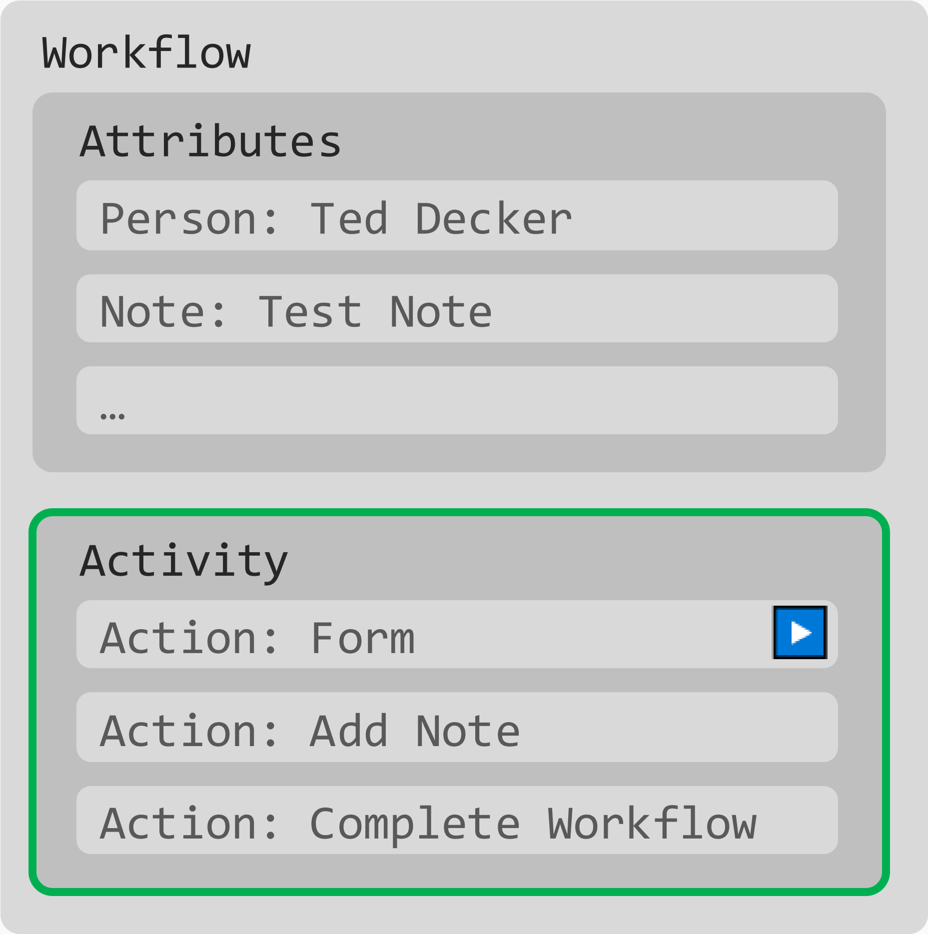


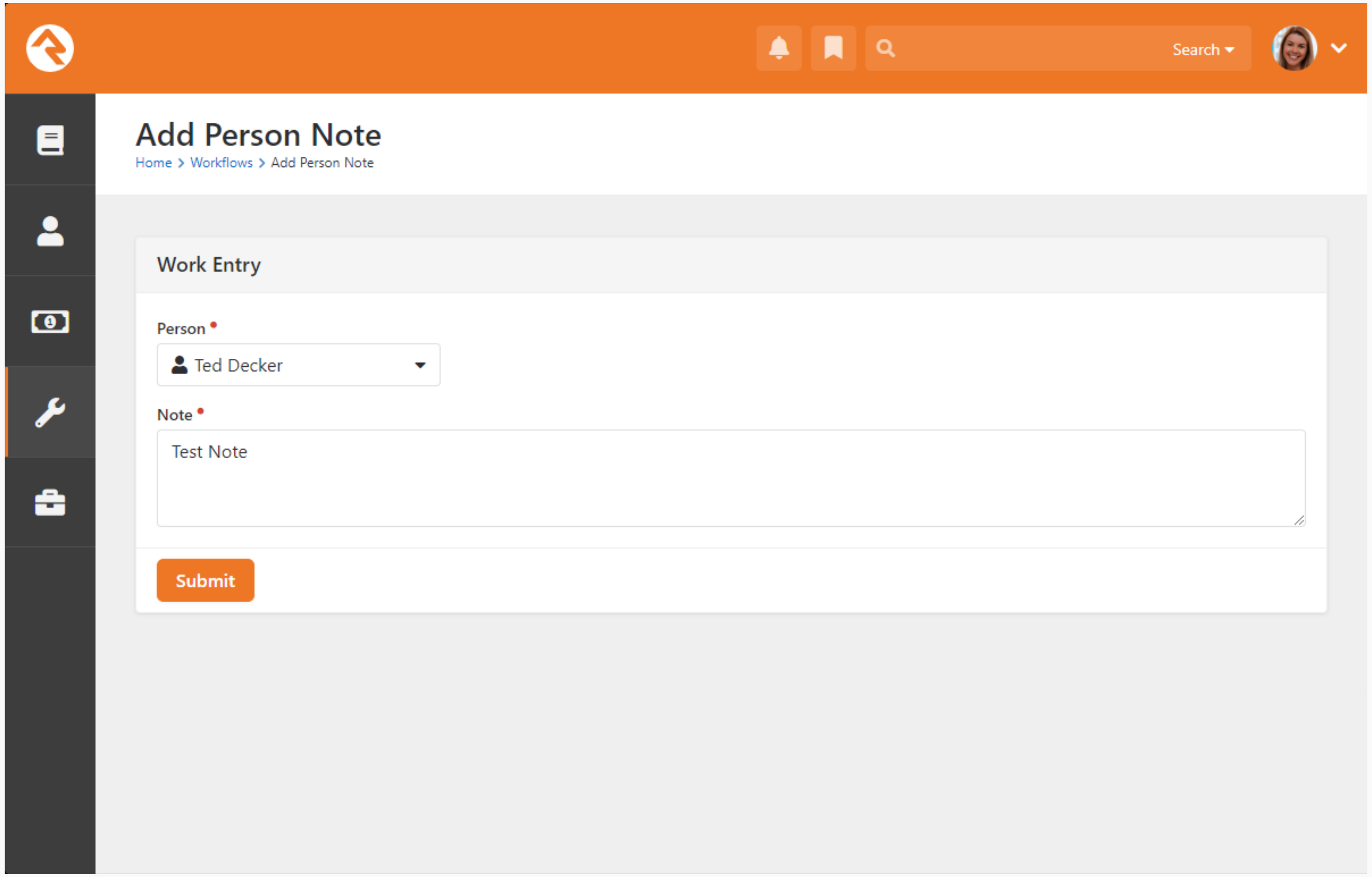
Workflows


Workflow
Attributes
Person:
Note:
...
Activity
Action: Form
Action: Add Note
Action: Complete Workflow

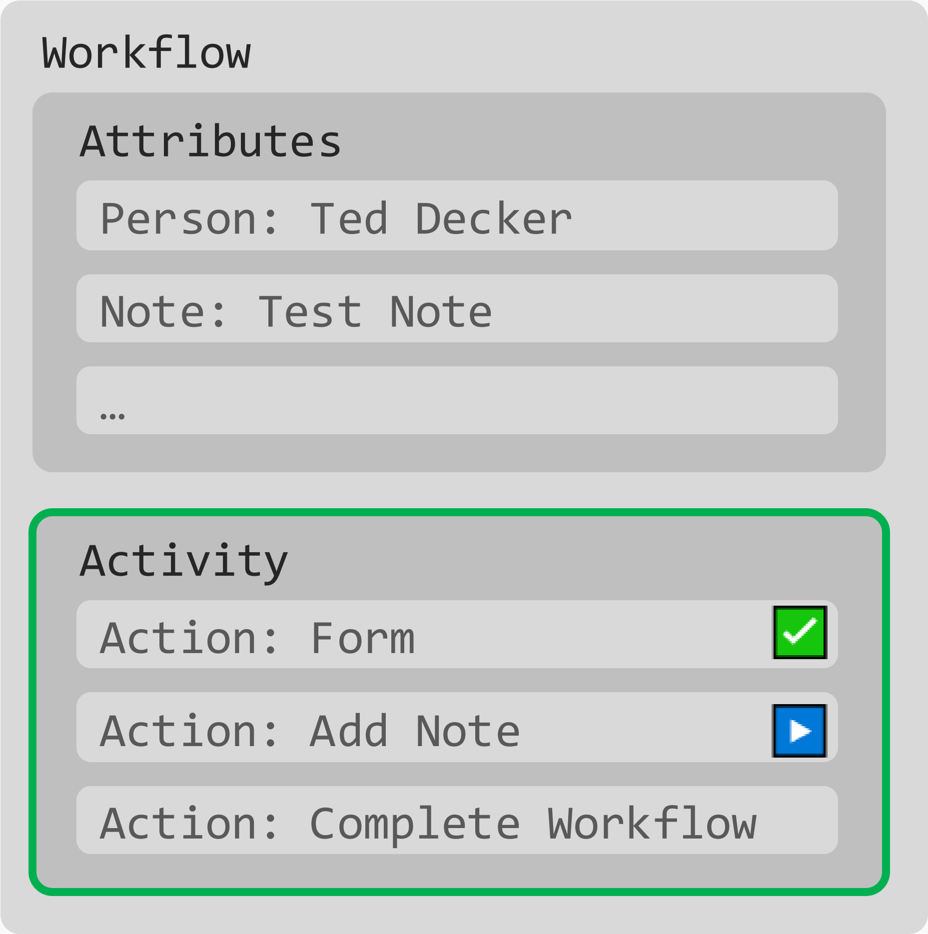

Search
Add Person Note
Home > Workflows > Add Person Note
Work Entry
Person
Note
Submit

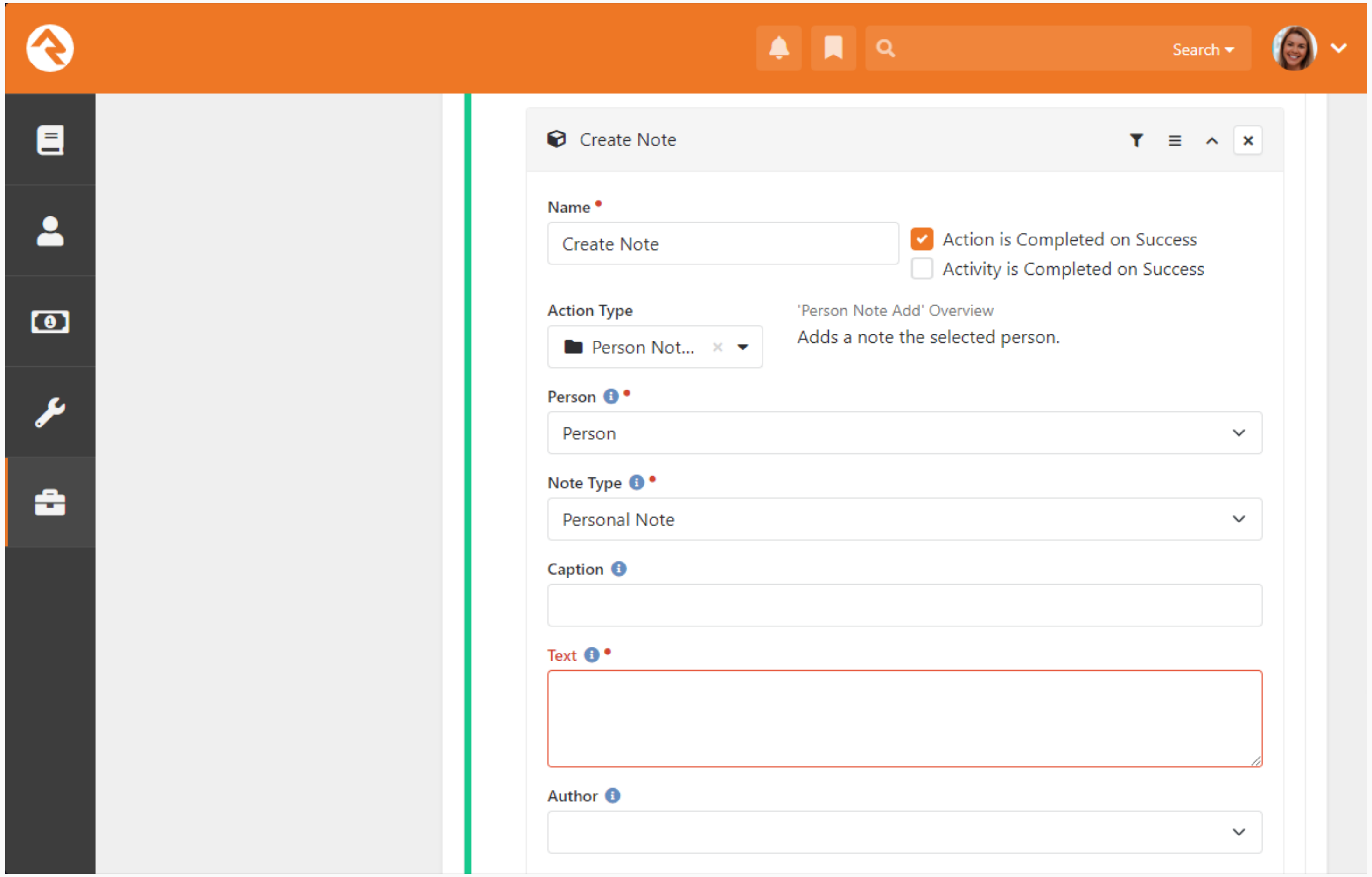
Workflows


Workflow
Attributes
Person: Ted Decker
Note: Test Note
...
Activity
Action: Form
Action: Add Note
Action: Complete Workflow


Search
Add Person Note
Home > Workflows > Add Person Note
Work Entry
Person
Ted Decker
Note
Test Note
Submit

Workflows


Workflow
Attributes
Person: Ted Decker
Note: Test Note
...
Activity
Action: Form
Action: Add Note
Action: Complete Workflow

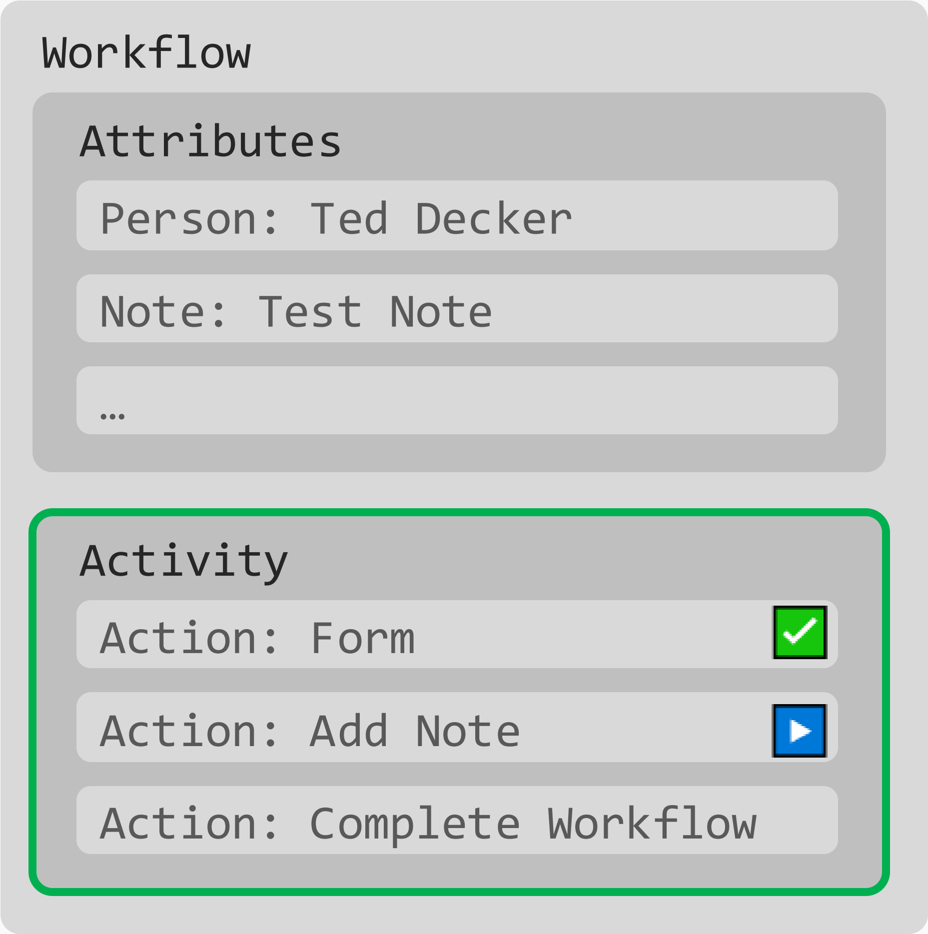

Search
Create Note
Name
Create Note
Action is Completed on Success
Activity is Completed on Success
Action Type
Person Not...
'Person Note Add' Overview
Adds a note the selected person.
Person
Person
Note Type
Personal Note
Caption
Text
Author

Workflow Attributes

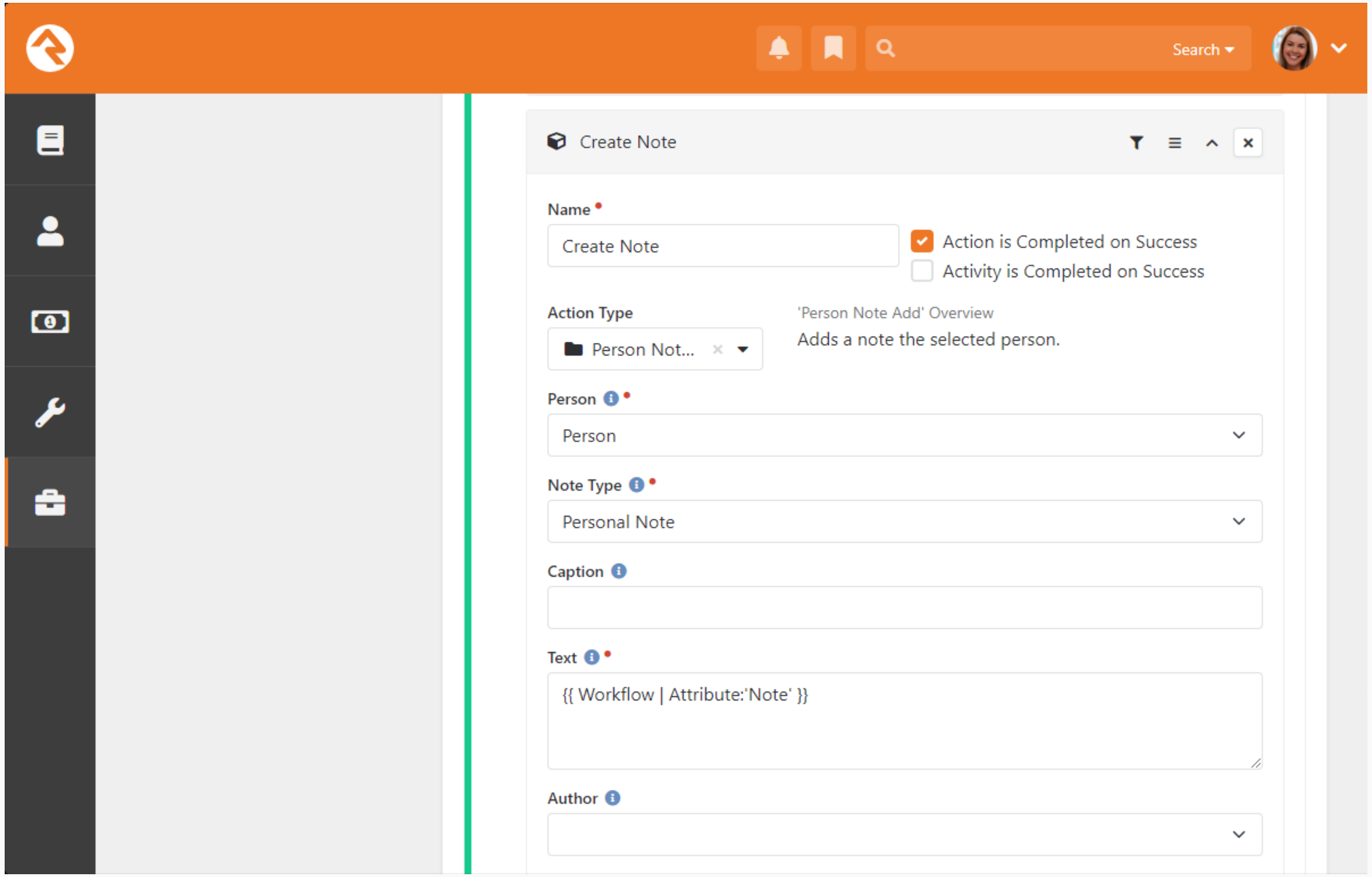
```
{{ Workflow | Attribute:'key' }}
```

[Attribute Value]

Workflows



Workflow
Attributes
Person: Ted Decker
Note: Test Note
...
Activity
Action: Form
Action: Add Note
Action: Complete Workflow



Search
Create Note
Name
Create Note
Action is Completed on Success
Activity is Completed on Success
Action Type
Person Not...
'Person Note Add' Overview
Adds a note the selected person.
Person
Person
Note Type
Personal Note
Caption
Text
{{ Workflow | Attribute:'Note' }}
Author

Workflows

Workflow

Attributes

Person: Ted Decker

Note: Test Note

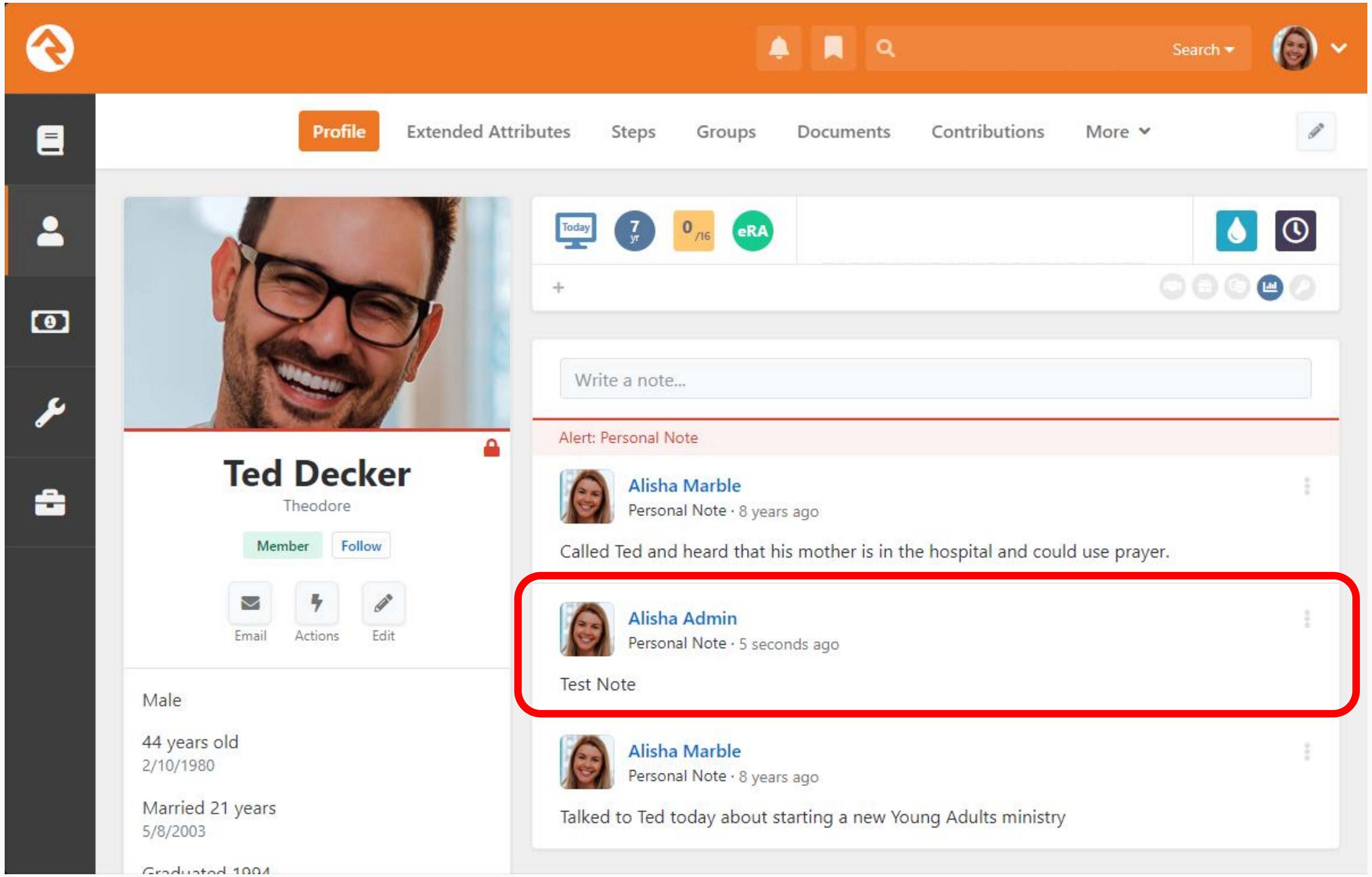
...

Activity

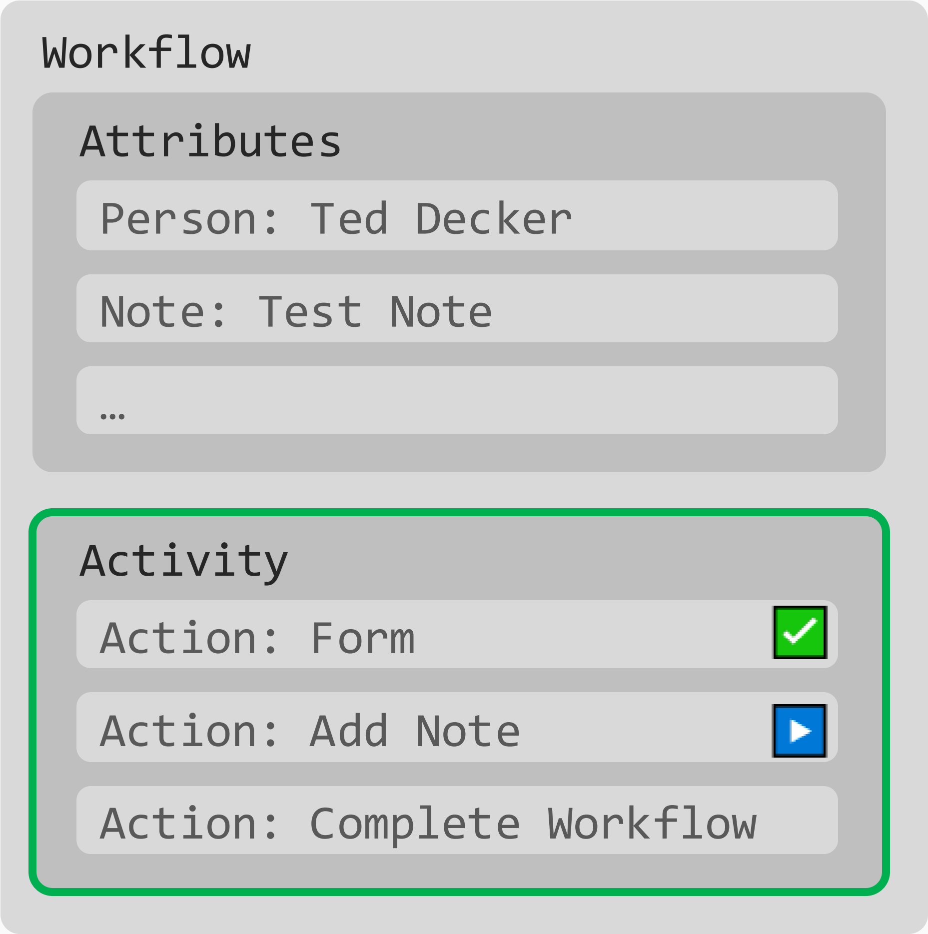
Action: Form

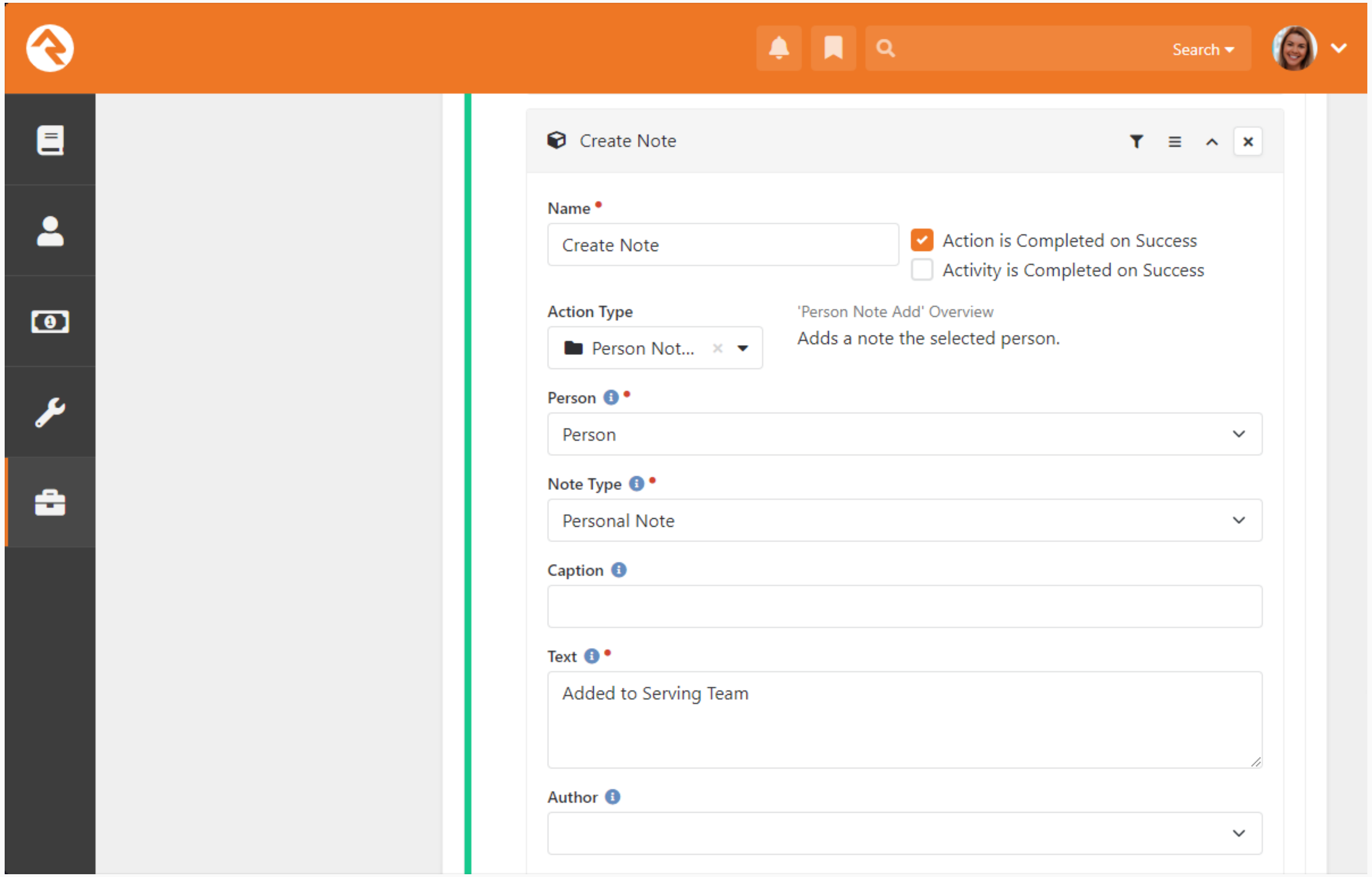
Action: Add Note

Action: Complete Workflow

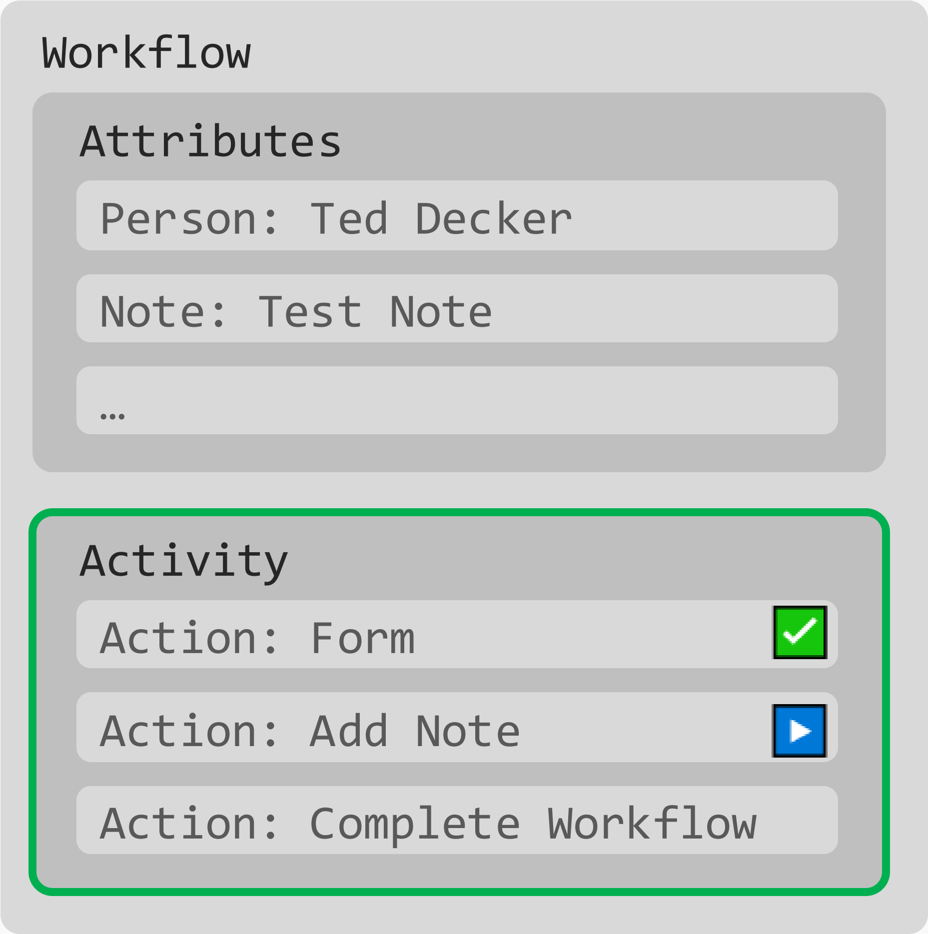


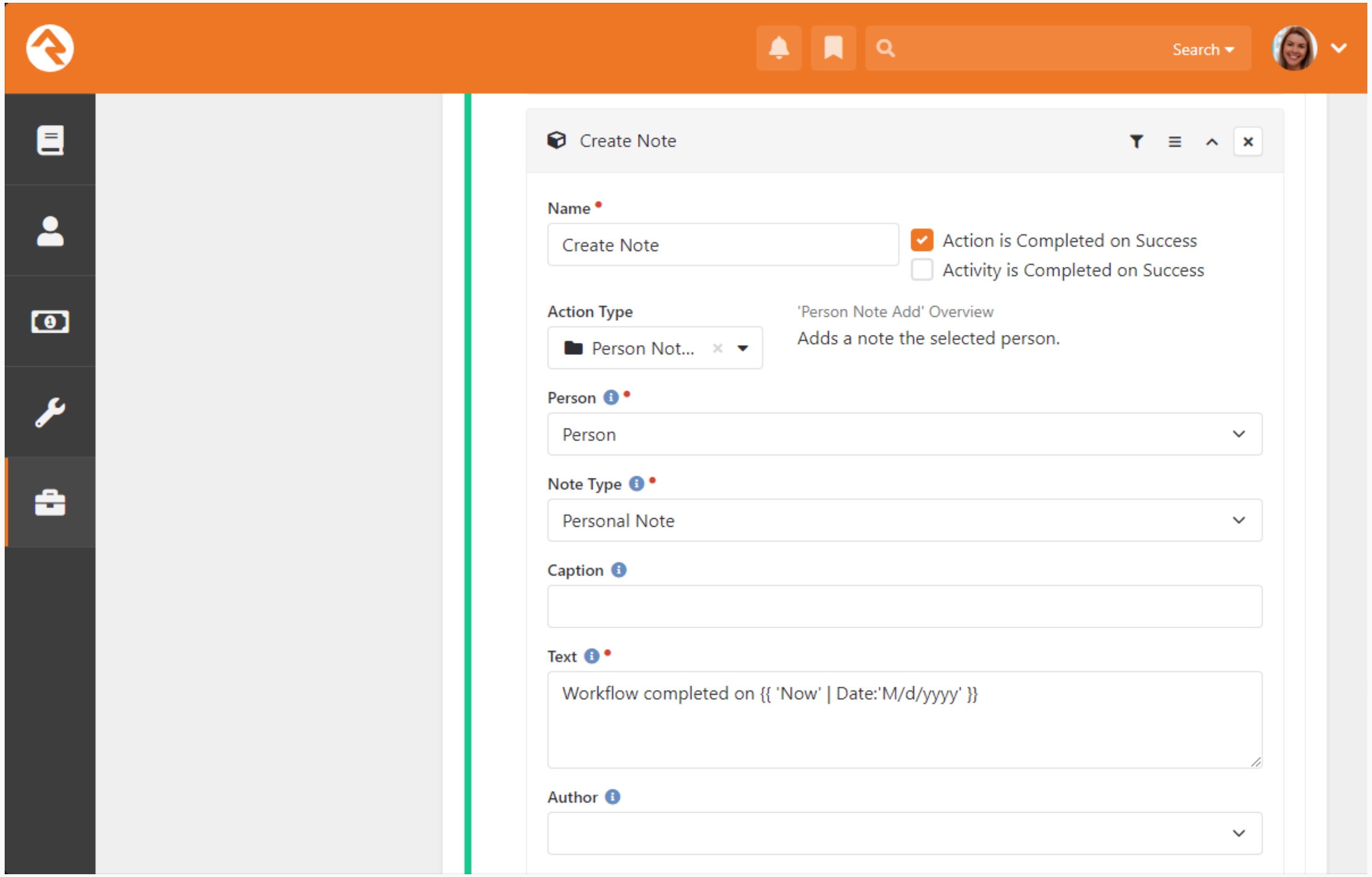
Workflows


Workflow
Attributes
Person: Ted Decker
Note: Test Note
...
Activity
Action: Form
Action: Add Note
Action: Complete Workflow

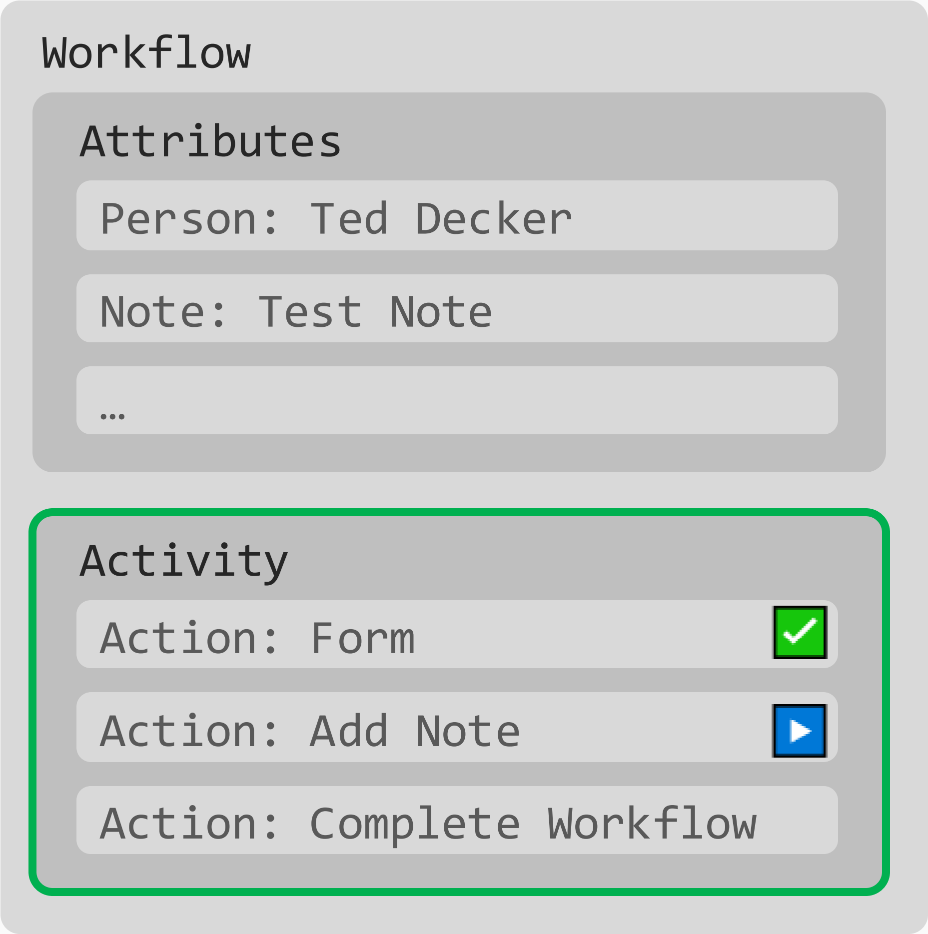

Search
Create Note
Name
Create Note
Action is Completed on Success
Activity is Completed on Success
Action Type
Person Not...
'Person Note Add' Overview
Adds a note the selected person.
Person
Person
Note Type
Personal Note
Caption
Text
Added to Serving Team
Author

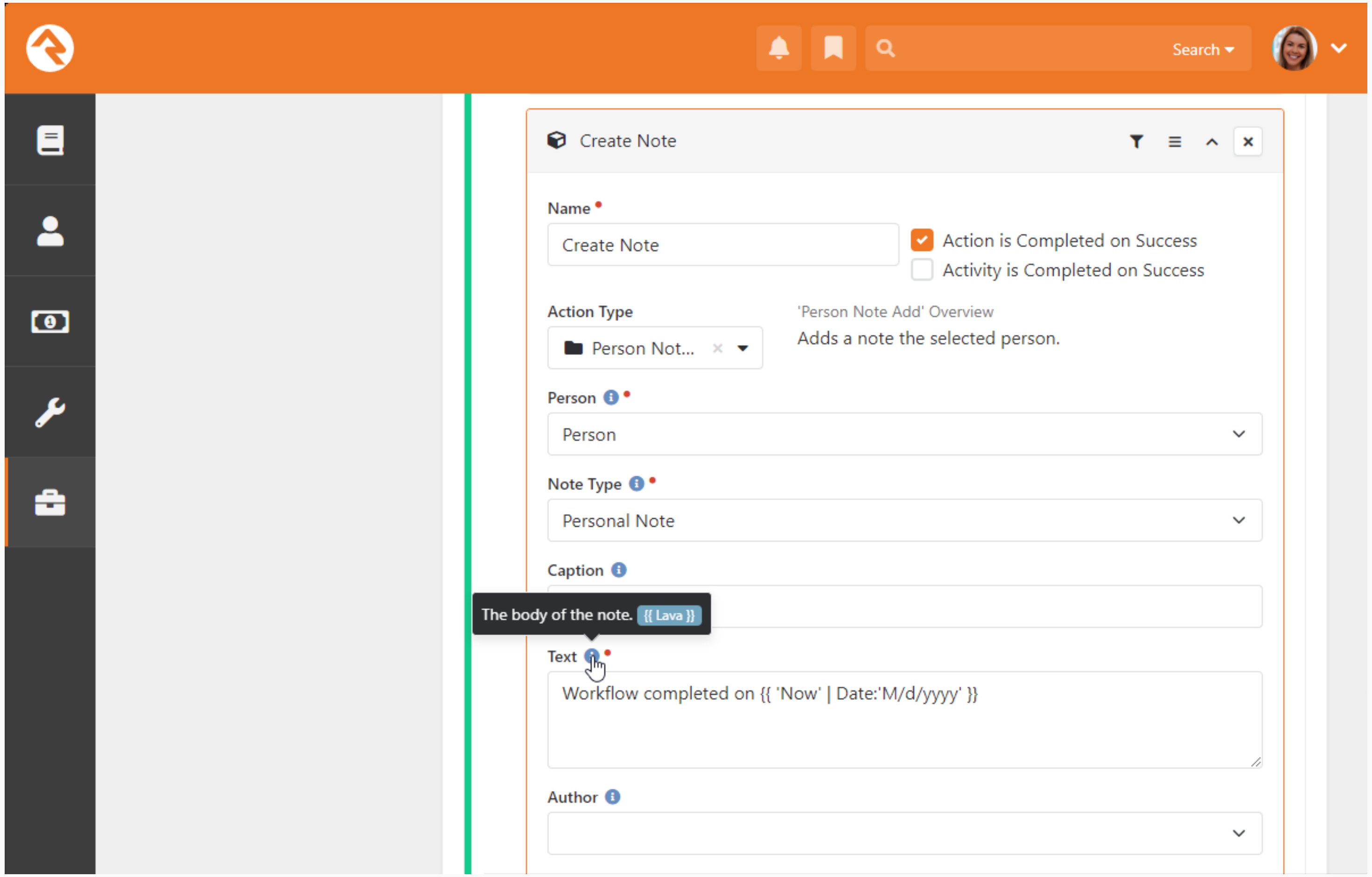
Workflows


Workflow
Attributes
Person: Ted Decker
Note: Test Note
...
Activity
Action: Form
Action: Add Note
Action: Complete Workflow


Search
Create Note
Name
Create Note
Action is Completed on Success
Activity is Completed on Success
Action Type
Person Not...
'Person Note Add' Overview
Adds a note the selected person.
Person
Person
Note Type
Personal Note
Caption
Text
Workflow completed on {{ 'Now' | Date:'M/d/yyyy' }}
Author

Workflows


Workflow
Attributes
Person: Ted Decker
Note: Test Note
...
Activity
Action: Form
Action: Add Note
Action: Complete Workflow


Search
Create Note
Name
Create Note
Action is Completed on Success
Activity is Completed on Success
Action Type
Person Not...
'Person Note Add' Overview
Adds a note the selected person.
Person
Person
Note Type
Personal Note
Caption
The body of the note. {{ Lava }}
Text
Workflow completed on {{ 'Now' | Date:'M/d/yyyy' }}
Author

Workflows

Getting Data Automatically

No form required!

Workflows

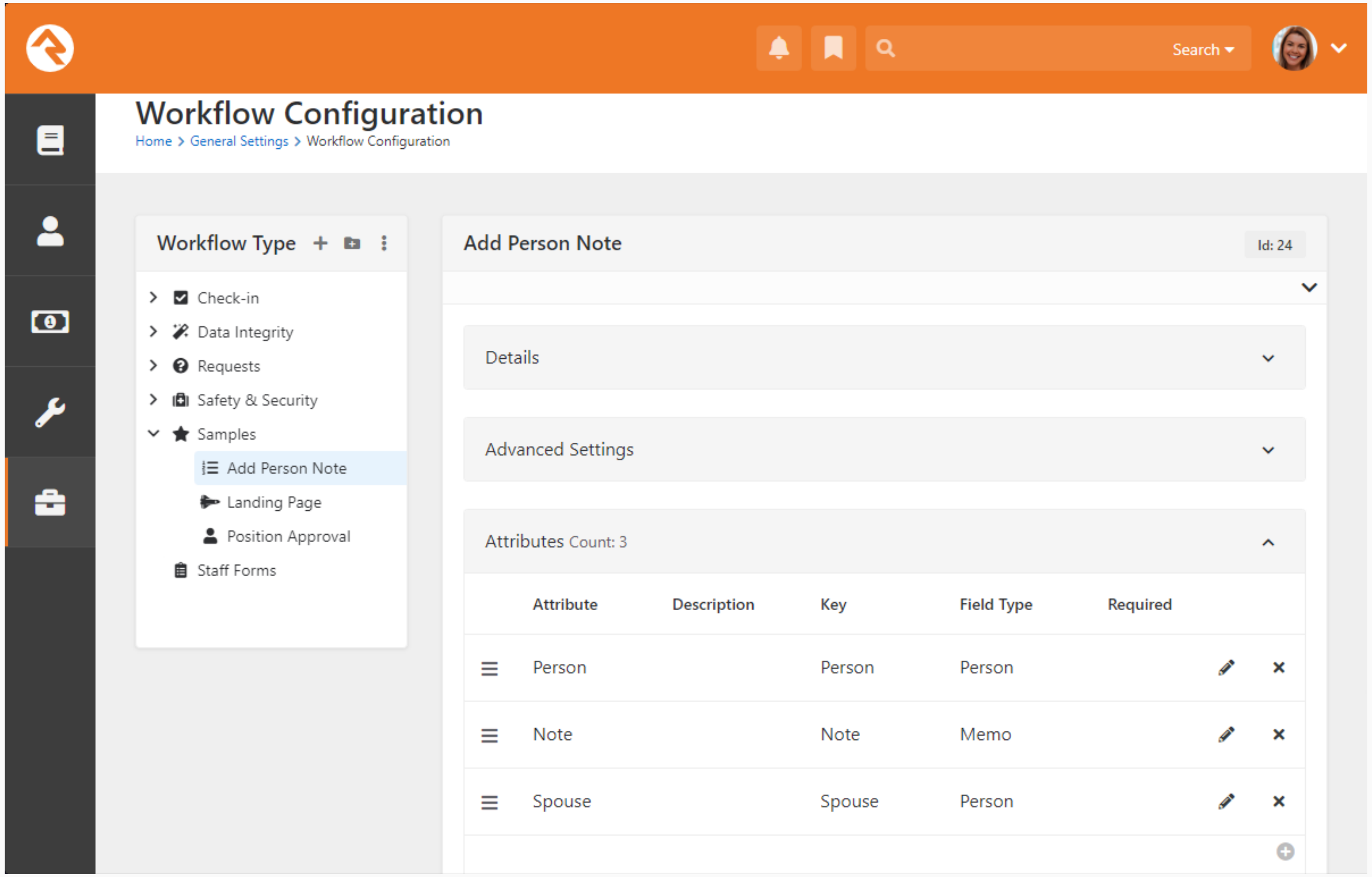
Workflow

Attributes

Person:

Note:

Spouse:



Workflows

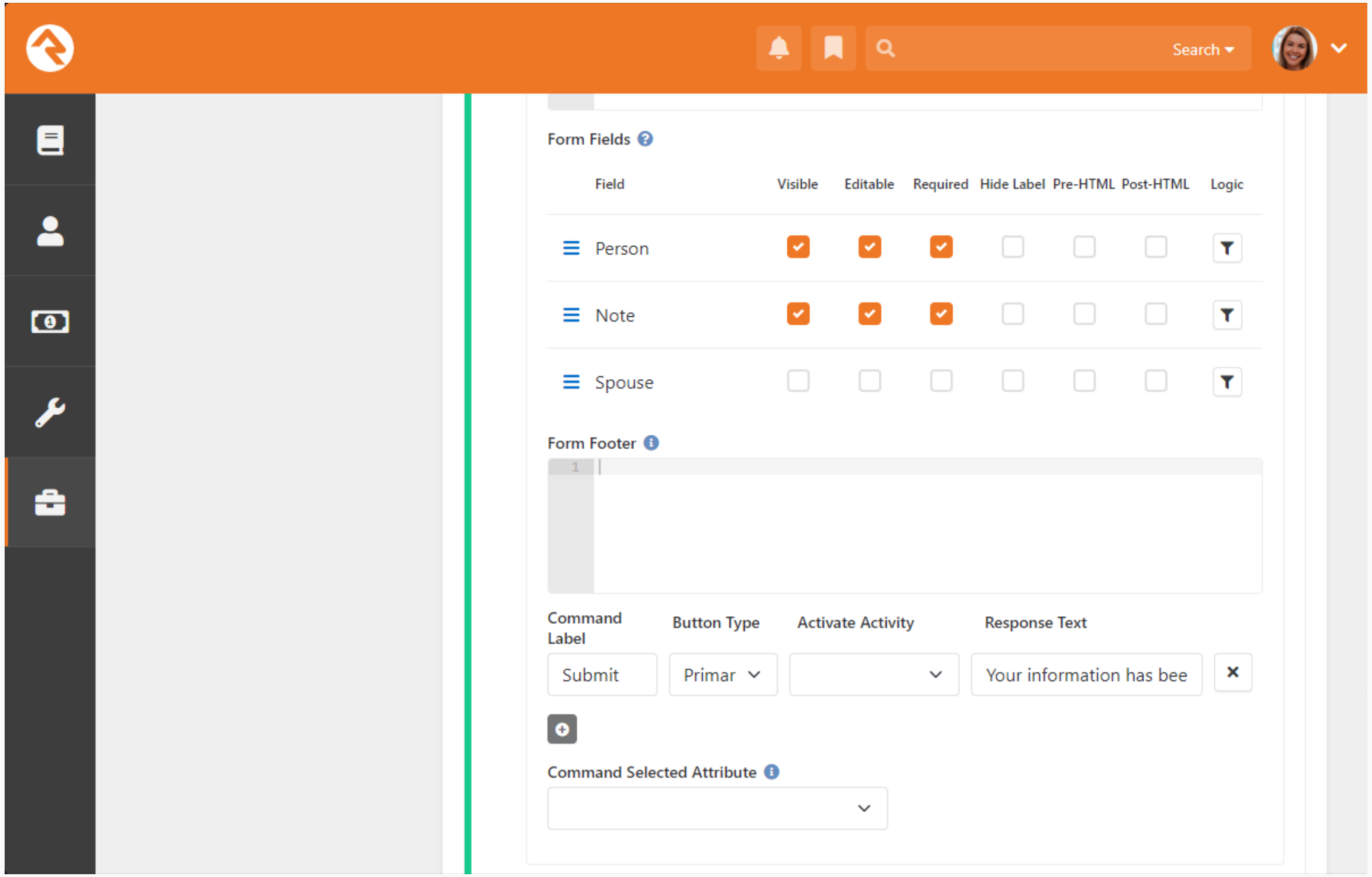
Workflow

Attributes

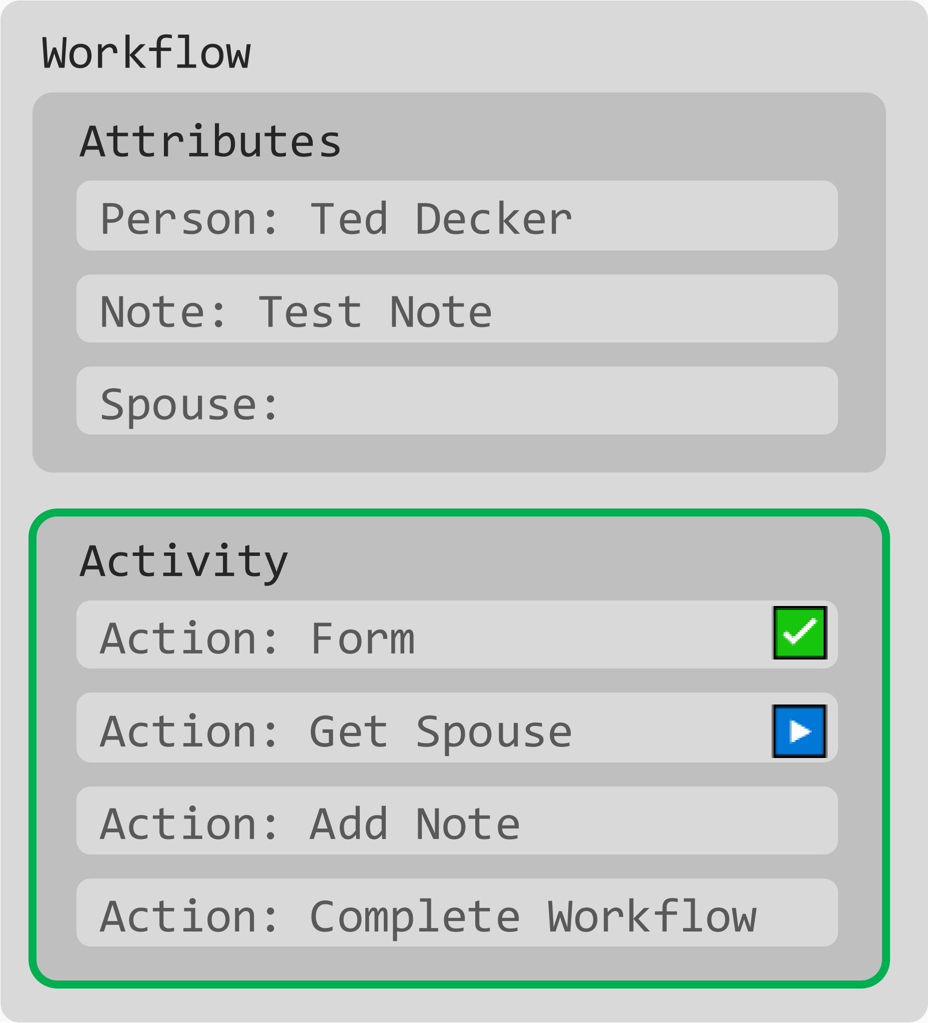
Person:

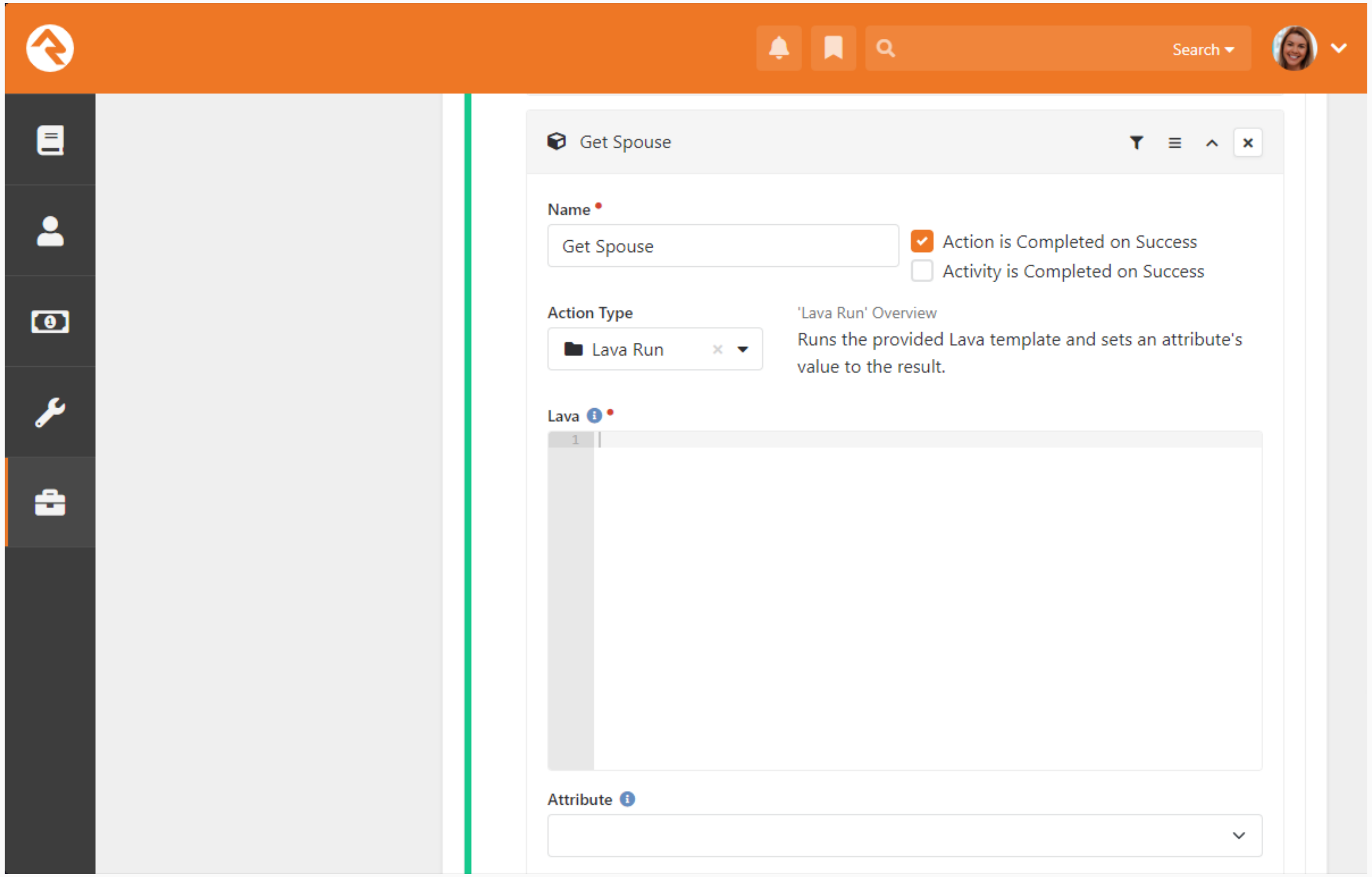
Note:

Spouse:



Workflows


Workflow
Attributes
Person: Ted Decker
Note: Test Note
Spouse:
Activity
Action: Form
Action: Get Spouse
Action: Add Note
Action: Complete Workflow


Search
Get Spouse
Name
Get Spouse
Action is Completed on Success
Activity is Completed on Success
Action Type
Lava Run
'Lava Run' Overview
Runs the provided Lava template and sets an attribute's value to the result.
Lava
Attribute

Lava Run Action

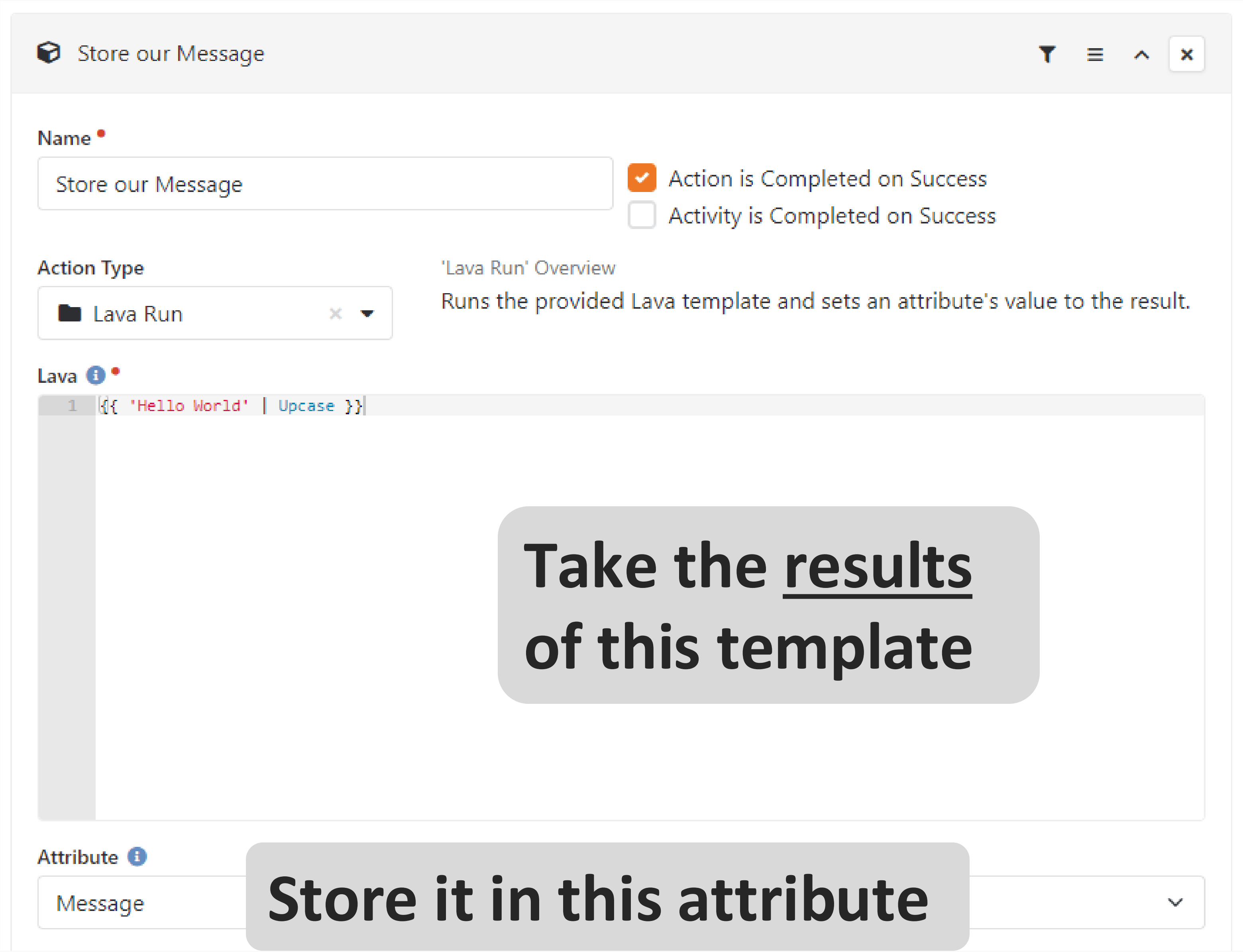
```
{{ 'Hello World' | Upcase }}
```

Lava Run Action

HELLO WORLD

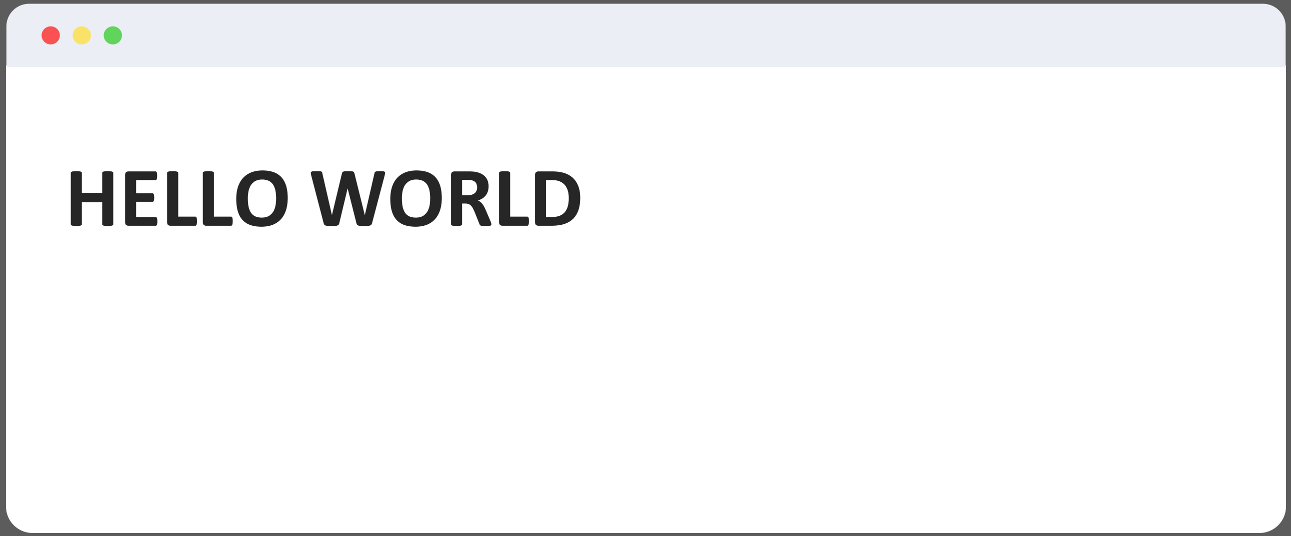
Lava Run Action

Lava Run Action



Workflow Attributes

```
{{ Workflow | Attribute:'Message' }}
```



Workflows

Workflow

Attributes

Person: Ted Decker

Note: Test Note

Spouse:

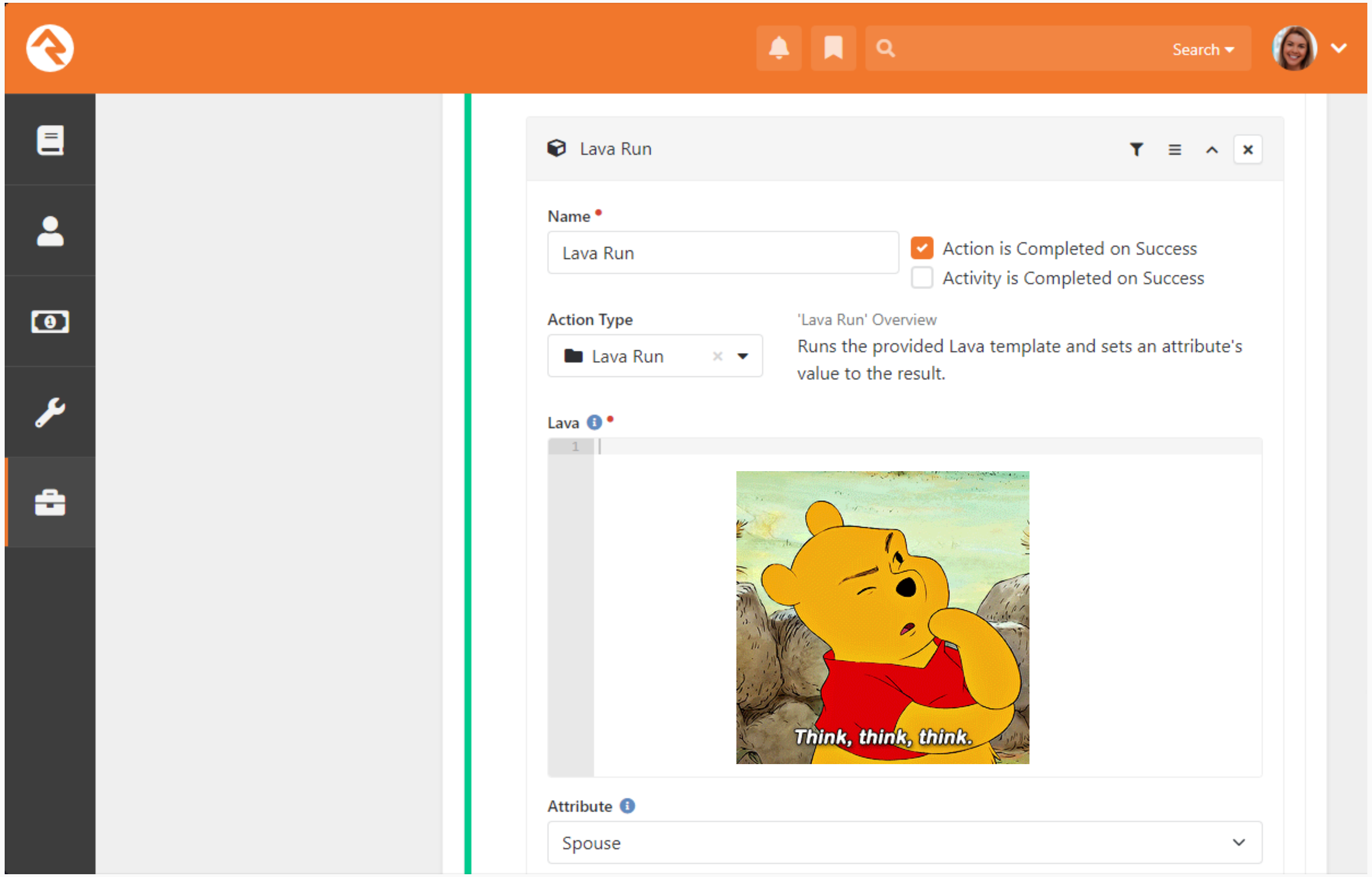
Activity

Action: Form

Action: Get Spouse

Action: Add Note

Action: Complete Workflow



Workflow Attributes

```
{{ Workflow | Attribute:'Person','Object' | Spouse | Property:'PrimaryAlias.Guid' }}
```

"Ted Decker"

ef64a822-7741-4e1f-9049-5440ac73f5d5

Workflow Attributes

```
{{ Workflow | Attribute:'Person','Object' | Spouse | Property:'PrimaryAlias.Guid' }}
```


```
{
  "Id": 5,
  "NickName": "Ted",
  "LastName": "Decker",
  [...]
}
```



```
{
  "Id": 6,
  "NickName": "Cindy",
  "LastName": "Decker",
  [...]
}
```

Workflow Attributes

```
{{ Workflow | Attribute:'Person','Object' | Spouse | Property:'PrimaryAlias.Guid' }}
```

ef64a822-7741-4e1f-9049-5440ac73f5d5

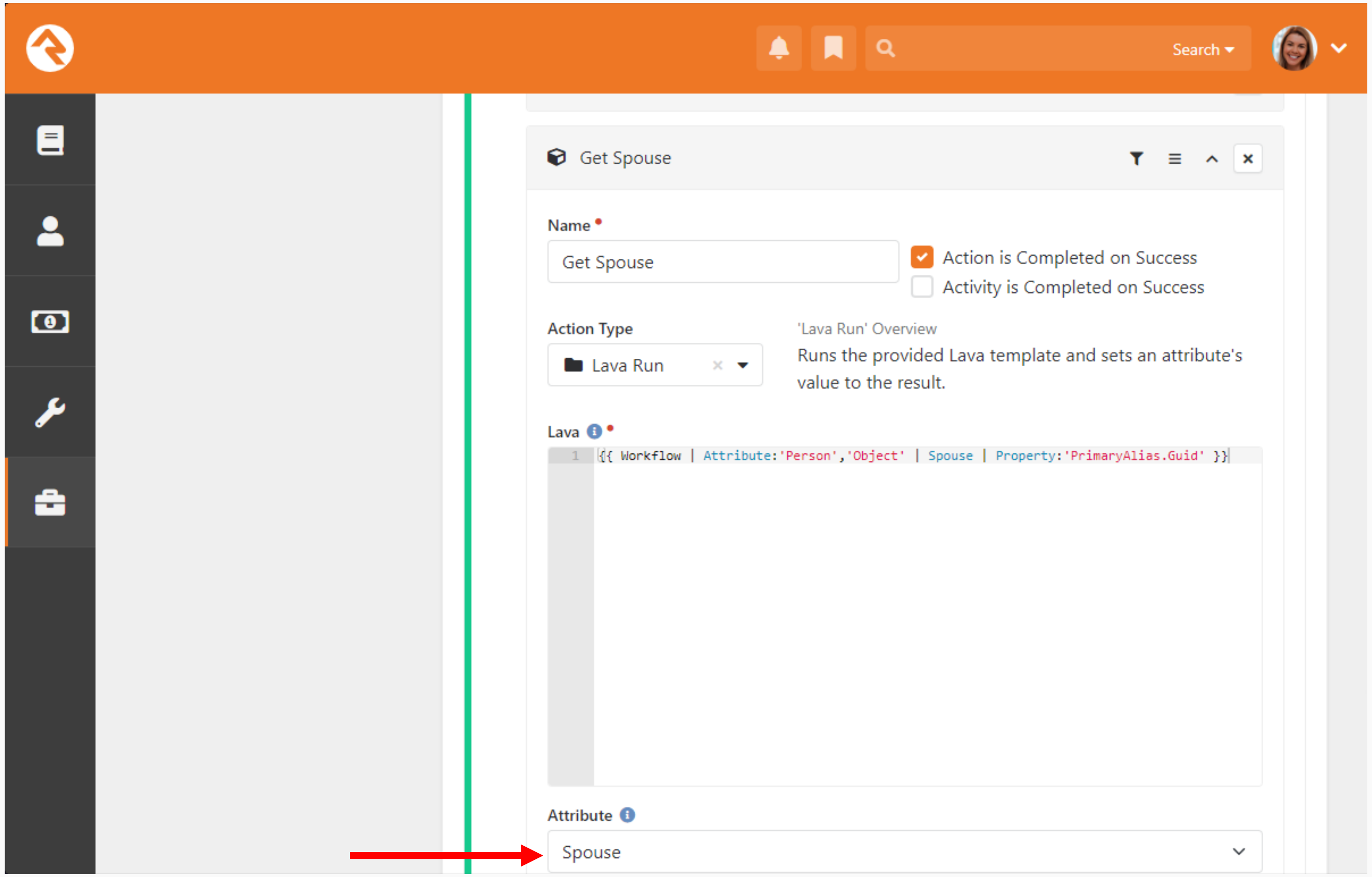
Workflows

Why is that the value we want?

Workflows

Why is that the value we want?

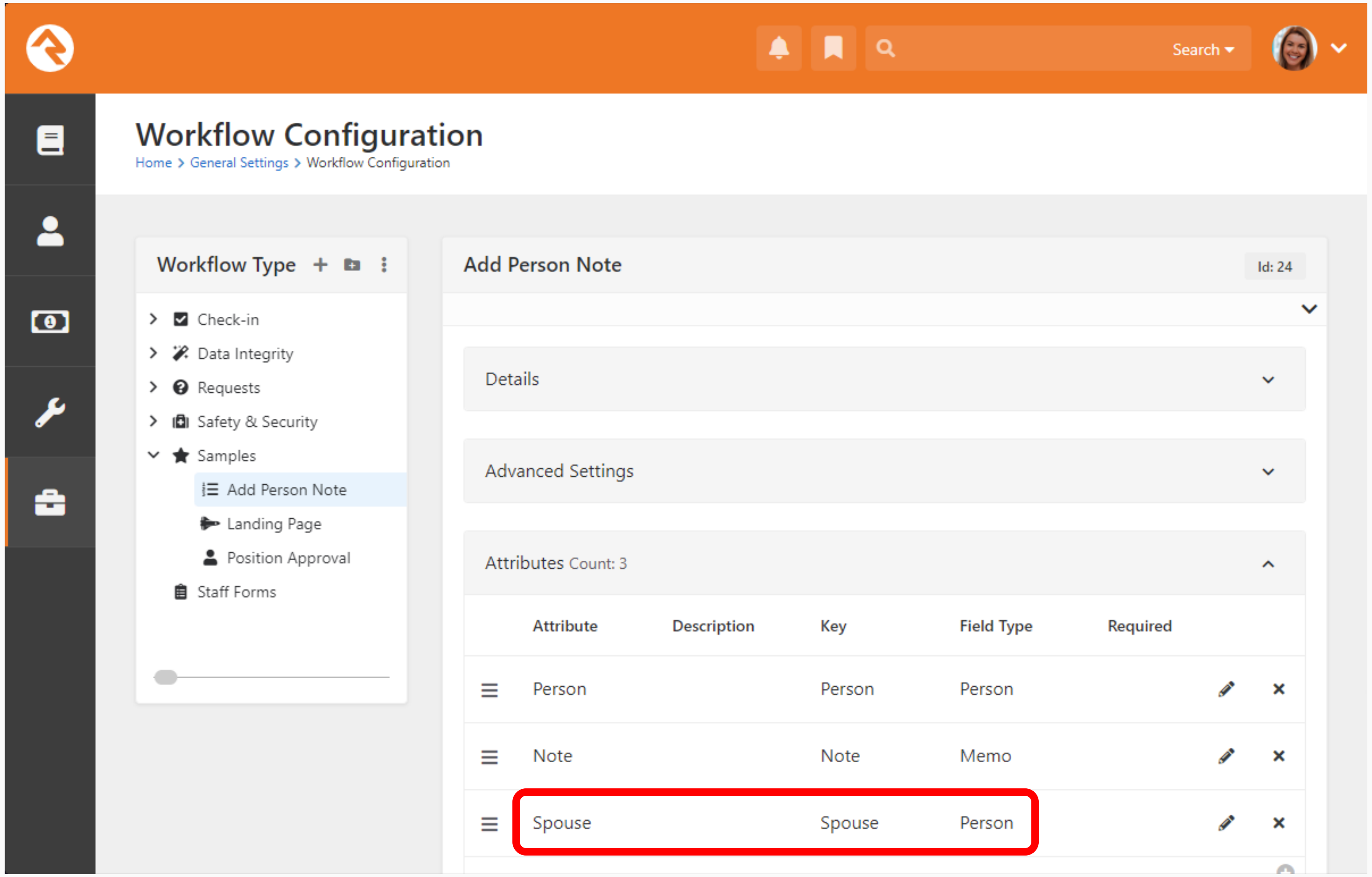
We’re setting the value of another attribute.



Workflows

Why is that the value we want?

We're setting the value of another attribute.

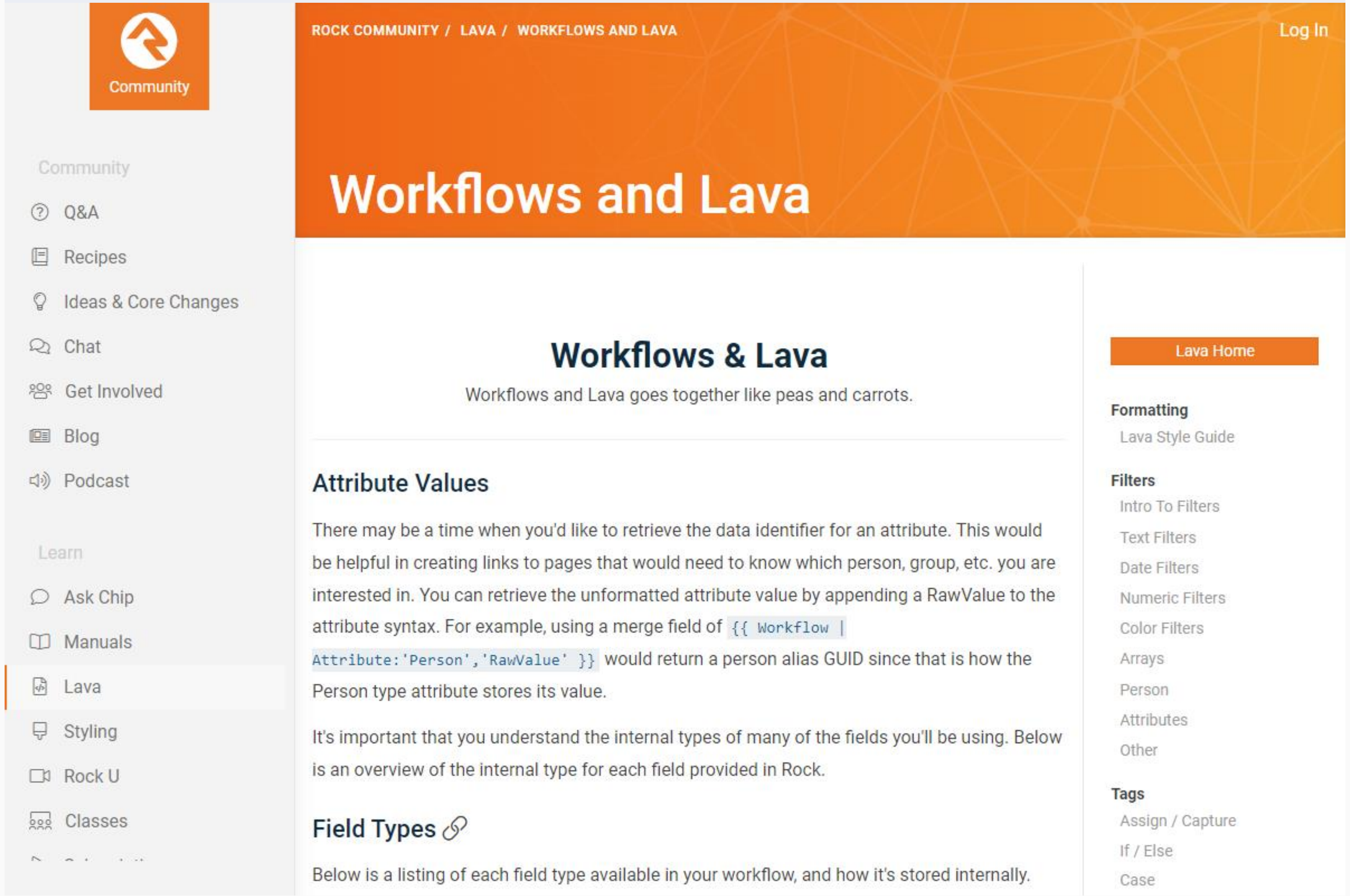


Workflows

Why is that the value we want?

We’re setting the value of another attribute.

https://community.rockrms.com/lava/workflows



Workflows

Why is that the value we want?

We’re setting the value of another attribute.

https://community.rockrms.com/lava/workflows

Assessment Types	A comma-delimited list of assessment type GUIDs	Yes
Asset	A string containing the properties of an asset	No
Asset Storage Provider	An asset storage provider's GUID	No
Attendance	An attendance record's GUID	Yes
Attribute	An attribute's GUID	No
Audio File	The audio file's GUID	Yes
Audio URL	The URL of the audio file	No
Background Check	This is the RecordKey value for Checkr (preceded by an identifier and comma), or the GUID of the file for the Protect My Ministry document	No
Badges	A comma-delimited list of badge GUIDs	No
Benevolence Request	A benevolence request's GUID	Yes
Benevolence Type	A benevolence type's GUID	Yes
Binary File	A binary file's GUID	Yes
Binary File Type	A binary file type's GUID	Yes
Binary File	A comma-delimited list of binary file type GUIDs	No

Channel Item Write
Interaction Intent Write
Interaction Write
JavaScript
Personalize
Observe
Search
SQL
Stylesheet
Tag List
Web Request
Workflow Activate

Misc
Using Lava Remotely
Creating APIs Using Lava
Workflows and Lava
About Lava Fluid
Lava With Obsidian

Workflows

Why is that the value we want?

We're setting the value of another attribute.

So we can't just store the text "Cindy Decker"…

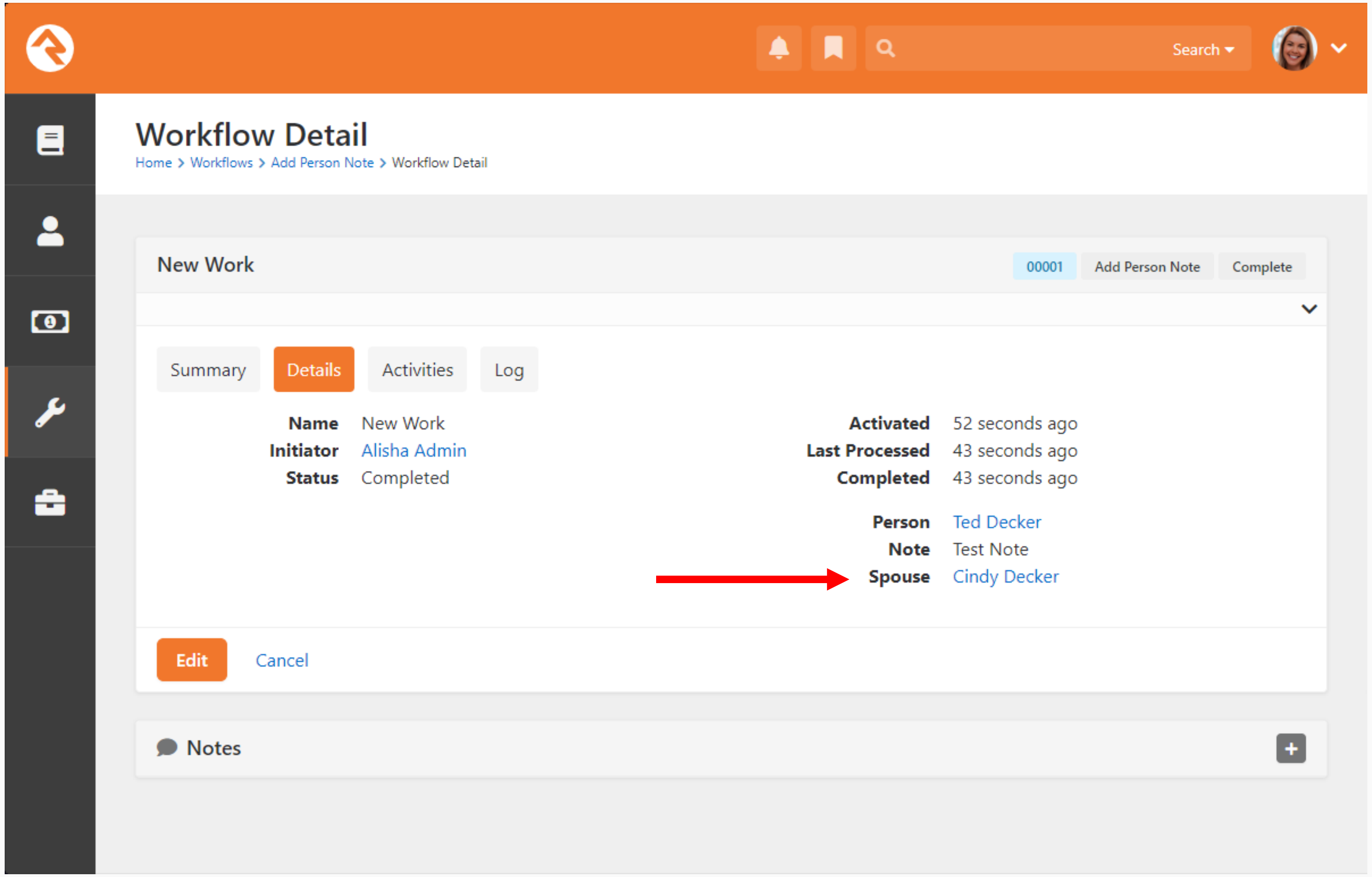
https://community.rockrms.com/lava/workflows

Metrics	A comma-delimited list of metric GUIDs	No
Mobile Navigation Action	The action Type, the Pop Count and the Page Guid. Note that this field type is not meant to be used directly in places like workflows or person attributes, and is intended for use as a block setting.	No
Month Day	The selected month and day, formatted as: M/d	No
Multi-Select	A comma-delimited list of the values (e.g. 1,2,3) of the selected items	No
Note Type	A note type's GUID	Yes
Note Types	A comma-delimited list of GUIDs for each selected type of note	No
Page Reference	Value is in format 'Page.Guid,PageRoute.Guid' but only 'Page.Guid' is required.	No
Persisted Dataset	The persisted dataset's GUID	No
Person	A person alias GUID	Yes
Person Badges	A comma-delimited list of person badge GUIDs	No
Phone Number	A formatted phone number	No
Prayer Request	A prayer request's GUID	No
Range Slider	The integer value of the selected number	No

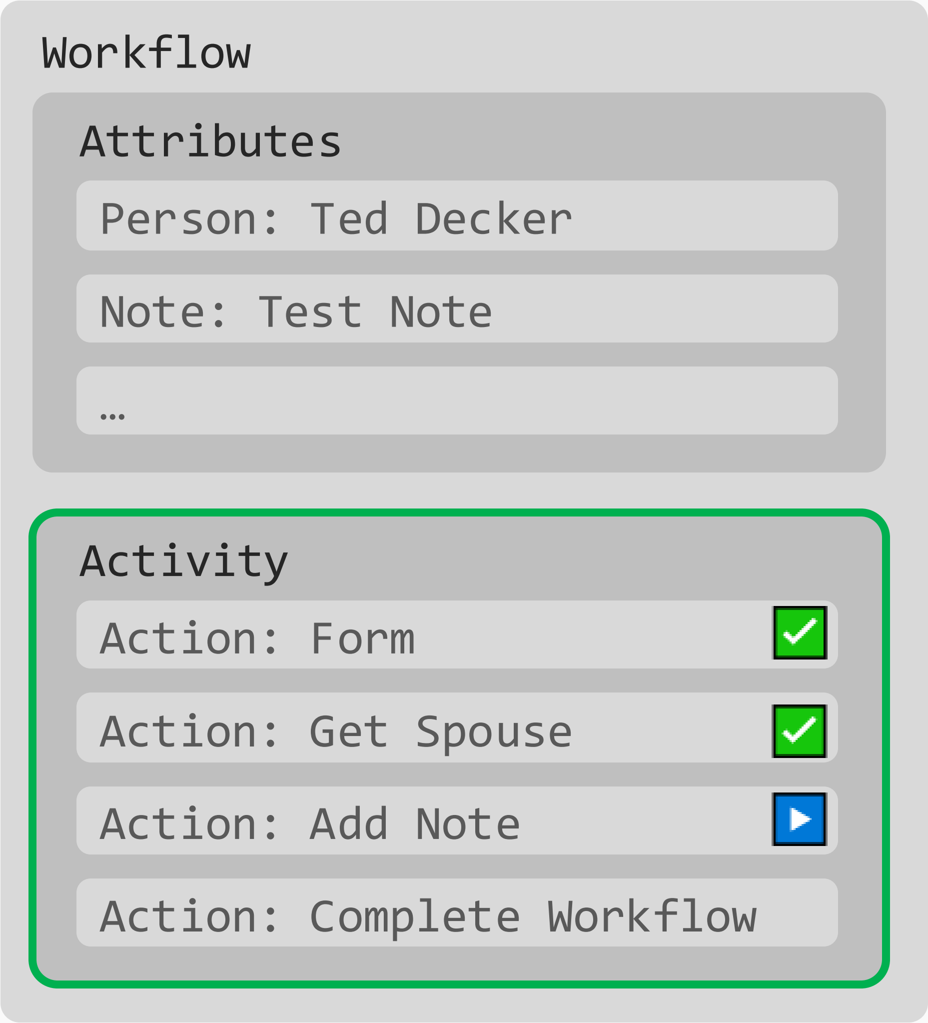
Workflows

Rock does the lookups for you.

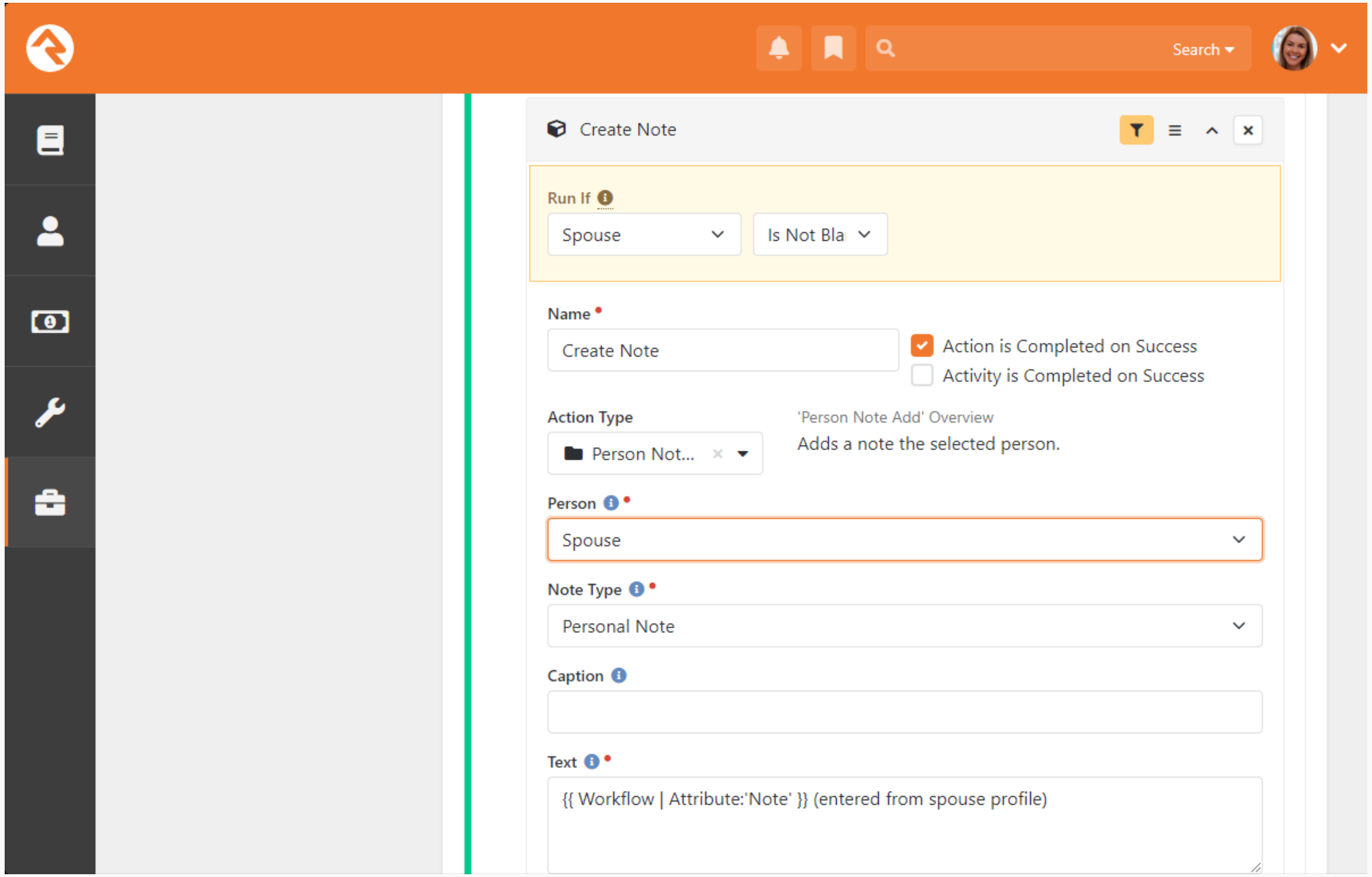
Don't worry, you don't see that GUID unless you ask for the raw value.



Workflows



Workflow
Attributes
Person: Ted Decker
Note: Test Note
...
Activity
Action: Form
Action: Get Spouse
Action: Add Note
Action: Complete Workflow



Search
Create Note
Run If
Spouse
Is Not Bla
Name
Create Note
Action is Completed on Success
Activity is Completed on Success
Action Type
Person Not...
'Person Note Add' Overview
Adds a note the selected person.
Person
Spouse
Note Type
Personal Note
Caption
Text
{{ Workflow | Attribute:'Note' }} (entered from spouse profile)

Workflows

Workflow

Attributes

Person: Ted Decker

Note: Test Note

...

Activity

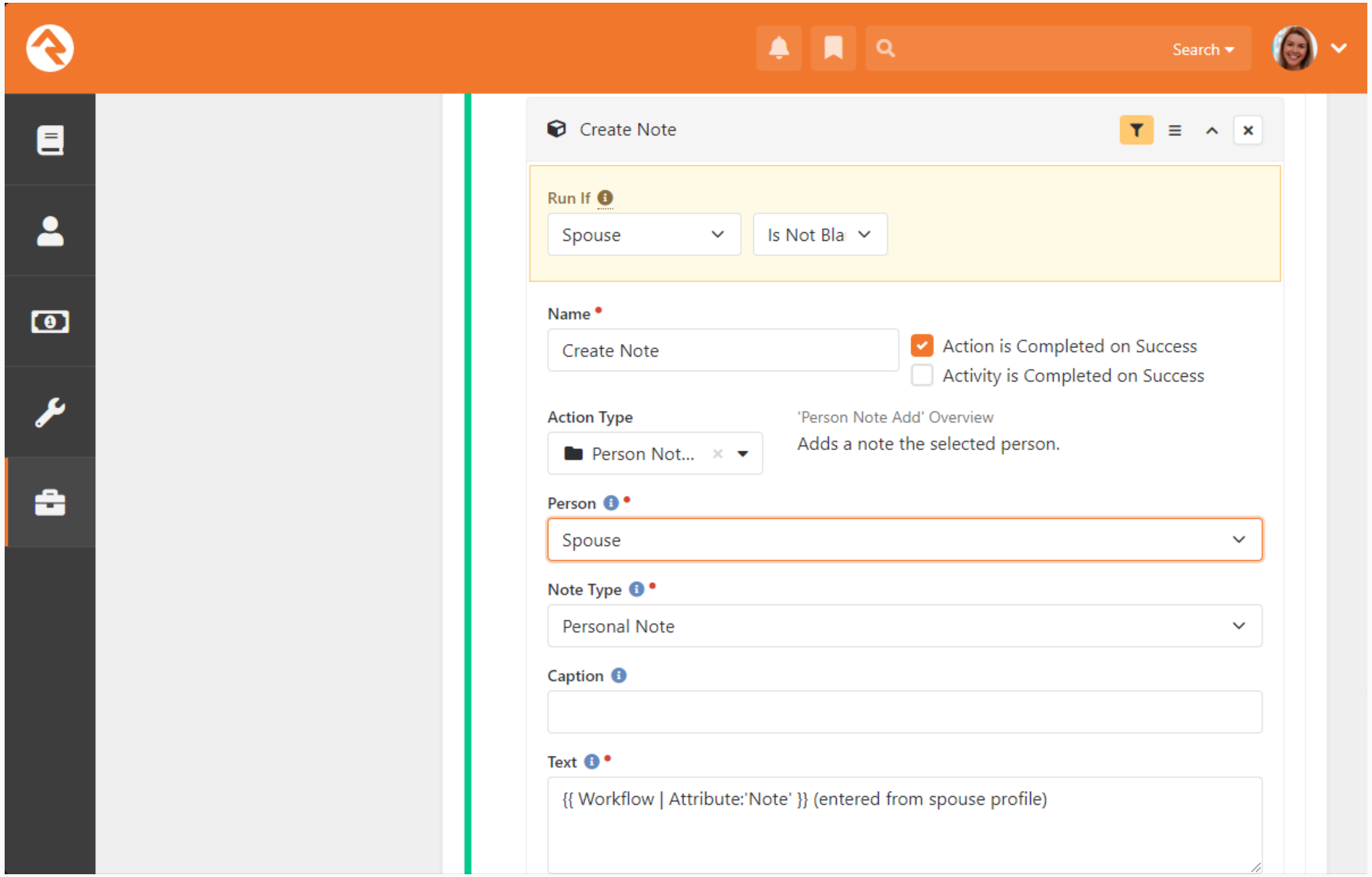
Action: Form

Action: Get Spouse

Action: Add Note

Action: Add Spouse Note

Action: Complete Workflow

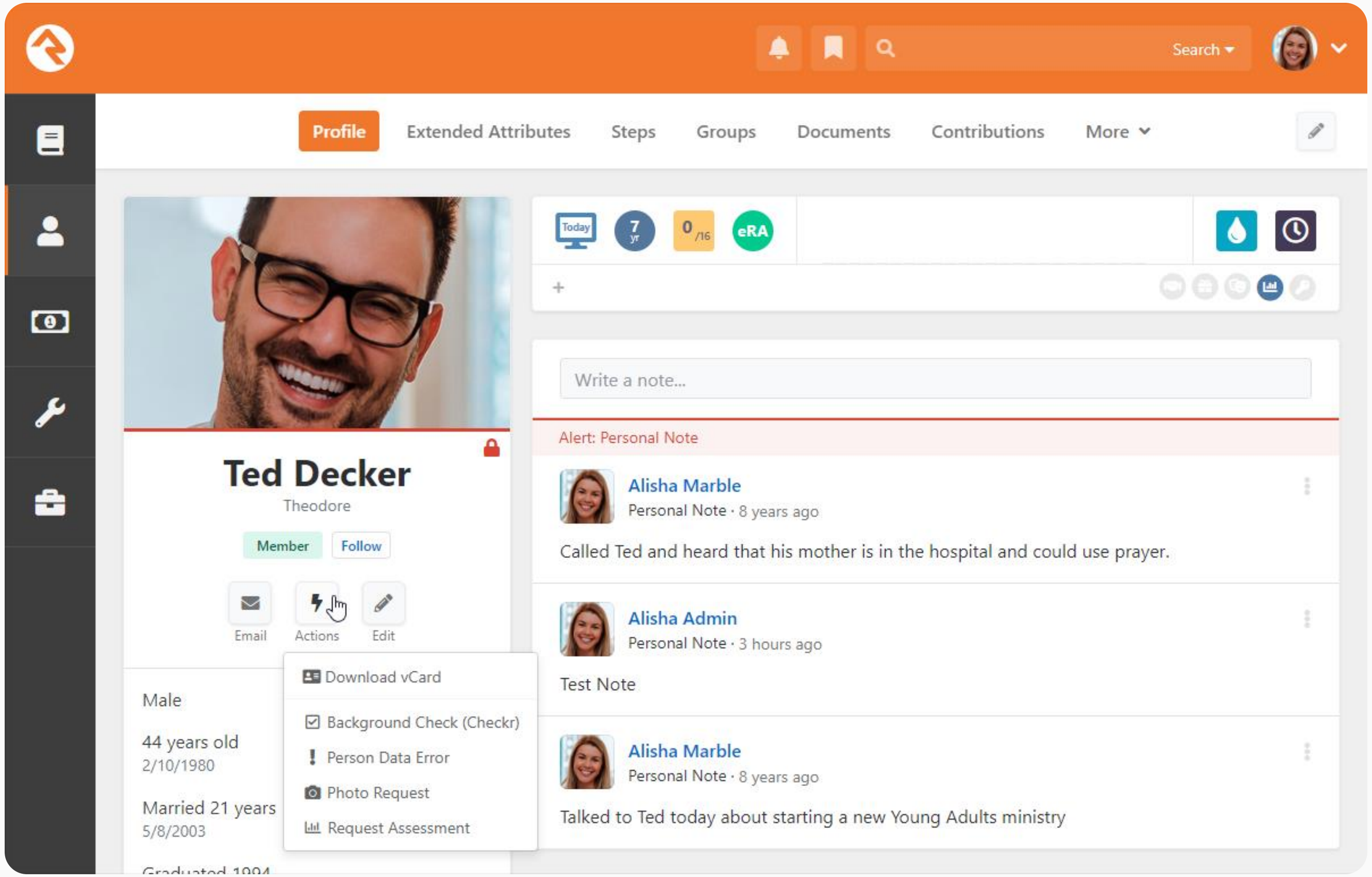


Can I get the person automatically?

Workflows

Can I get the person automatically?

Yes, if you start it from some context that already has a person.



Workflows

Can I get the person automatically?

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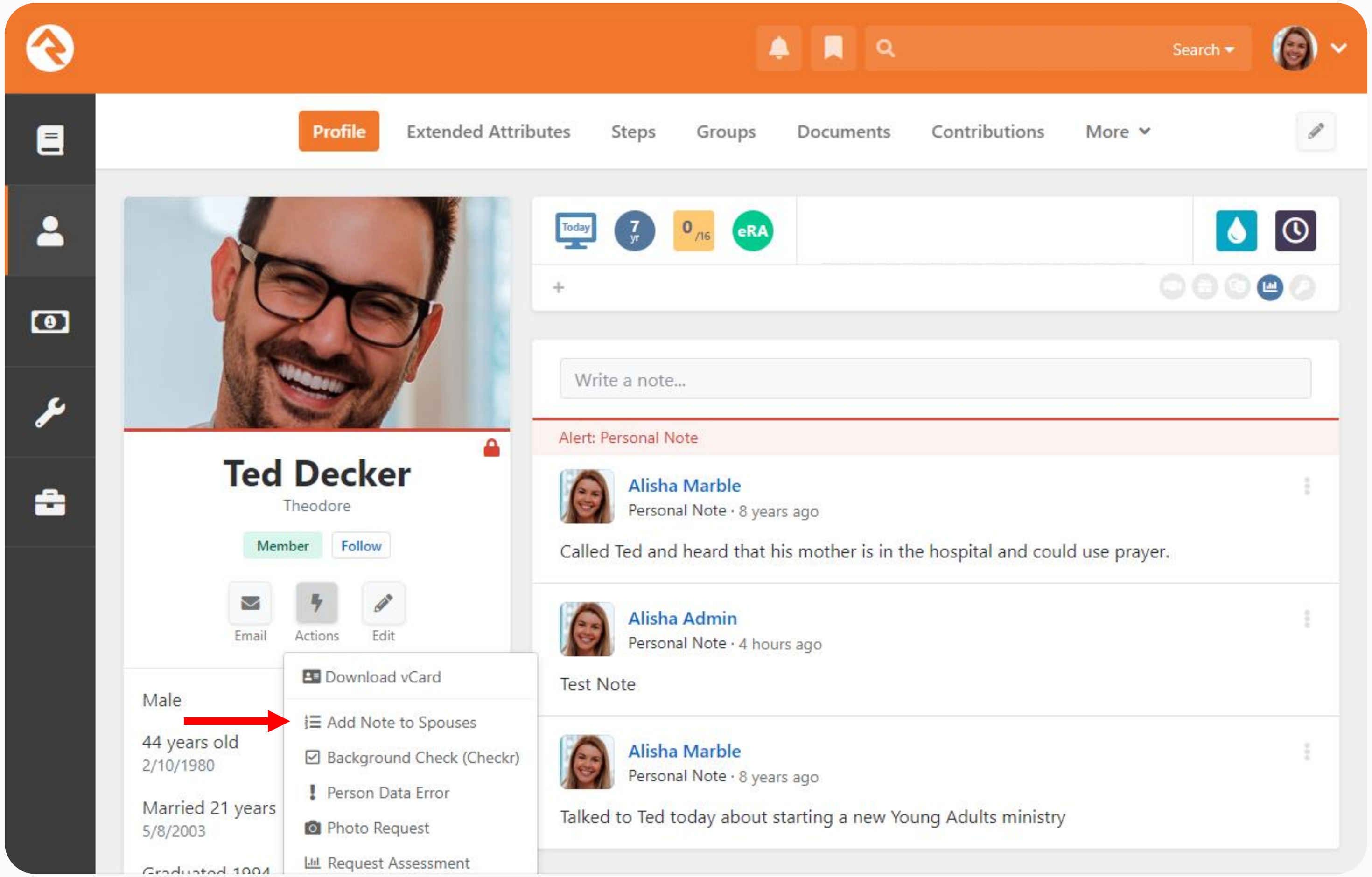


Workflow Entity

Workflows can be launched with an Entity

Workflow

Attributes

- Person: Ted Decker
- Note: Test Note
- Spouse: Cindy Decker

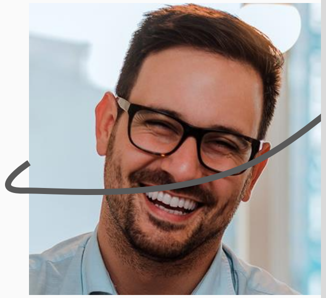
Activity

- Action: Get Person
- Action: Get Spouse
- Action: Form
- Action: Add Note
- Action: Add Spouse Note

Workflow Entity

Workflows can be launched with an Entity

It’s up to the Workflow
to use it.



Workflow

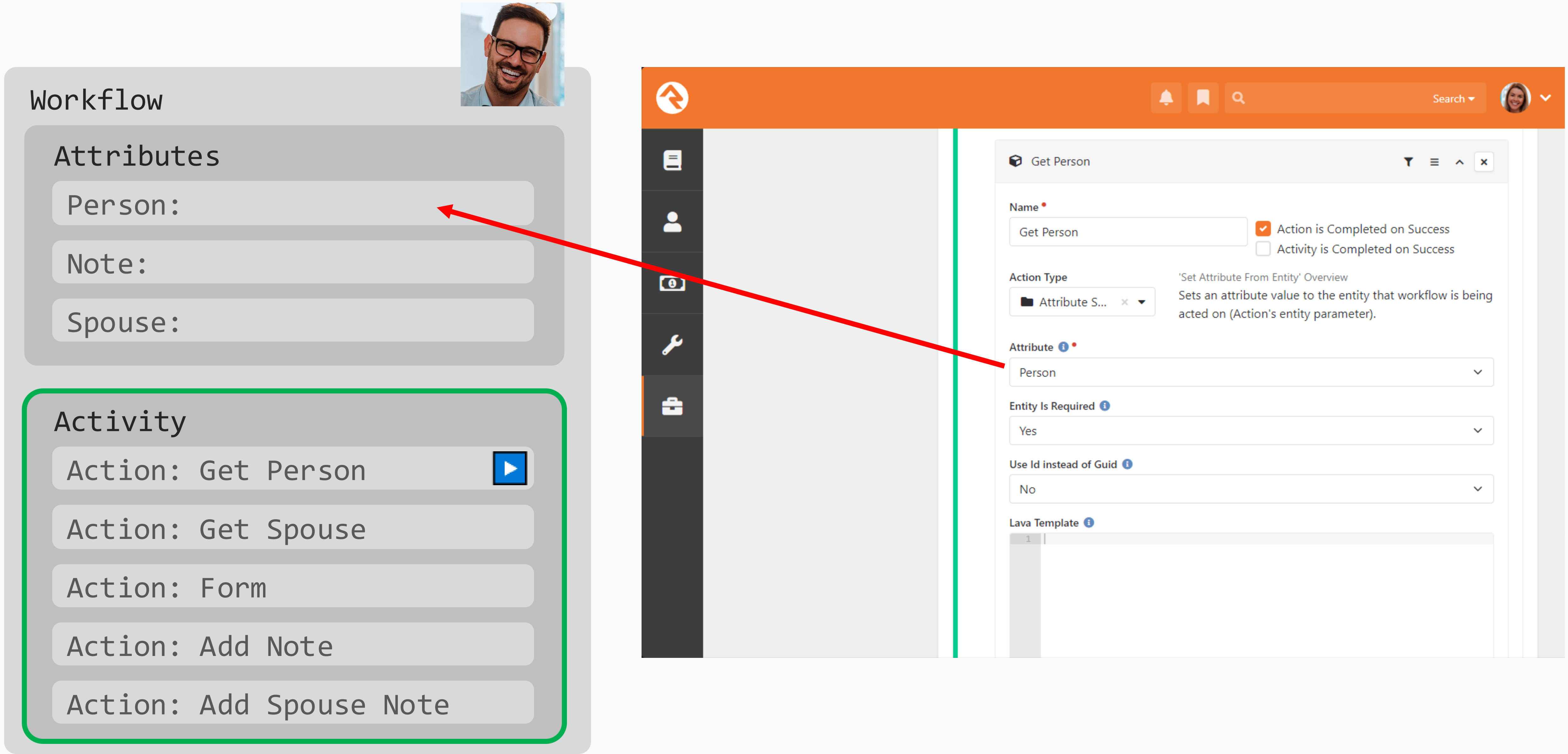
Attributes

- Person: Ted Decker
- Note: Test Note
- Spouse: Cindy Decker

Activity

- Action: Get Person
- Action: Get Spouse
- Action: Form
- Action: Add Note
- Action: Add Spouse Note

Workflow Entity



Workflow Entity

Workflow

Attributes

Person: Ted Decker

Note:

Spouse:

Activity

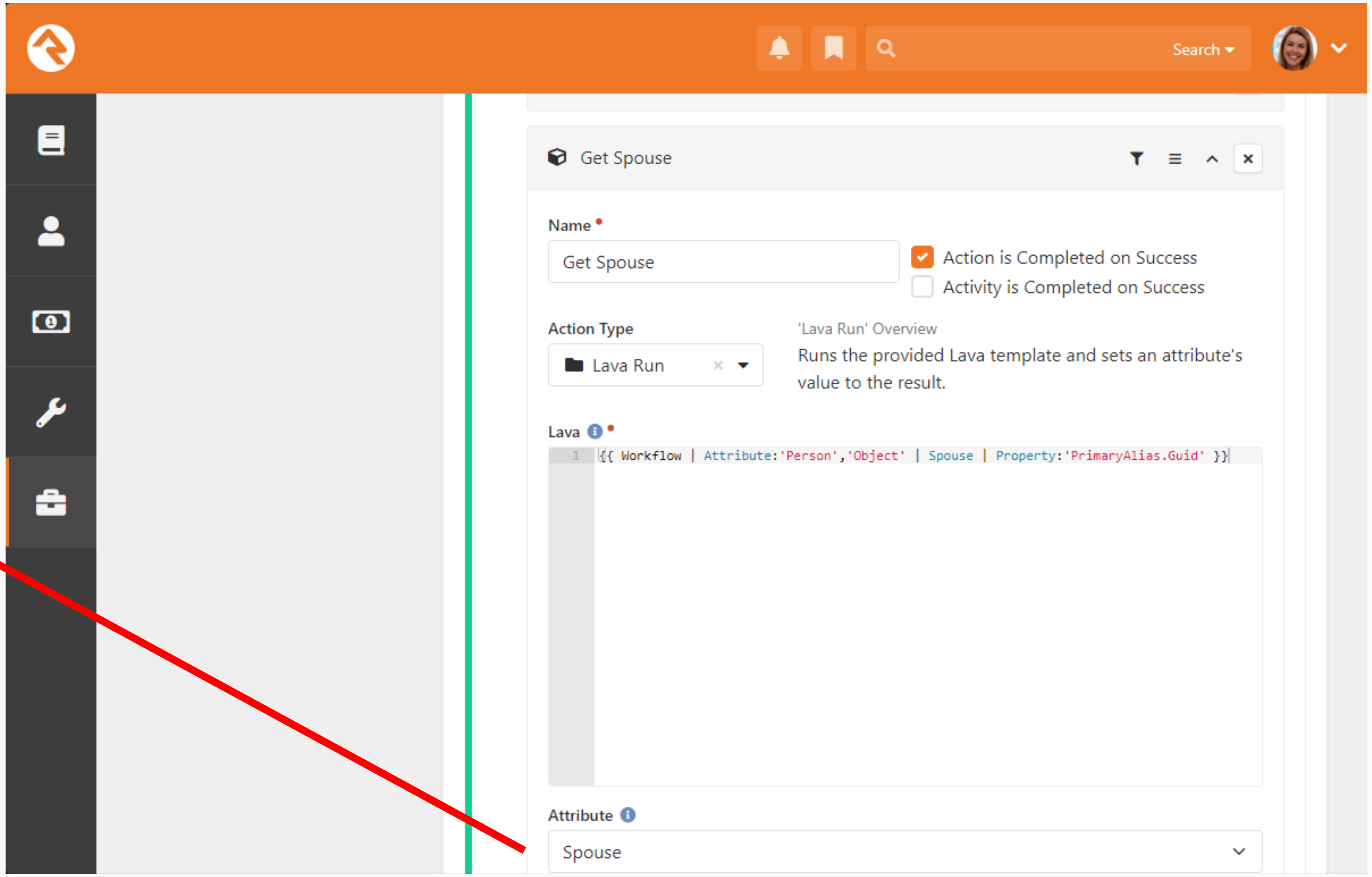
Action: Get Person

Action: Get Spouse

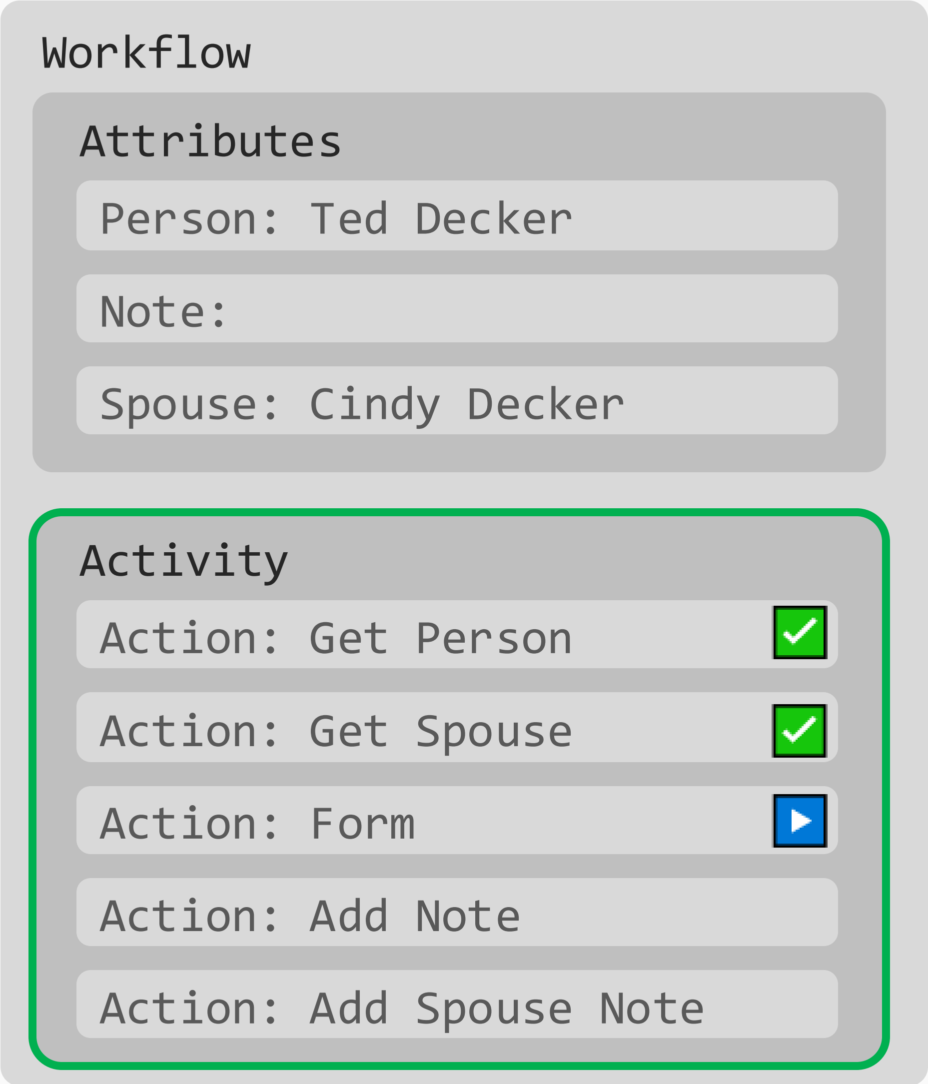
Action: Form

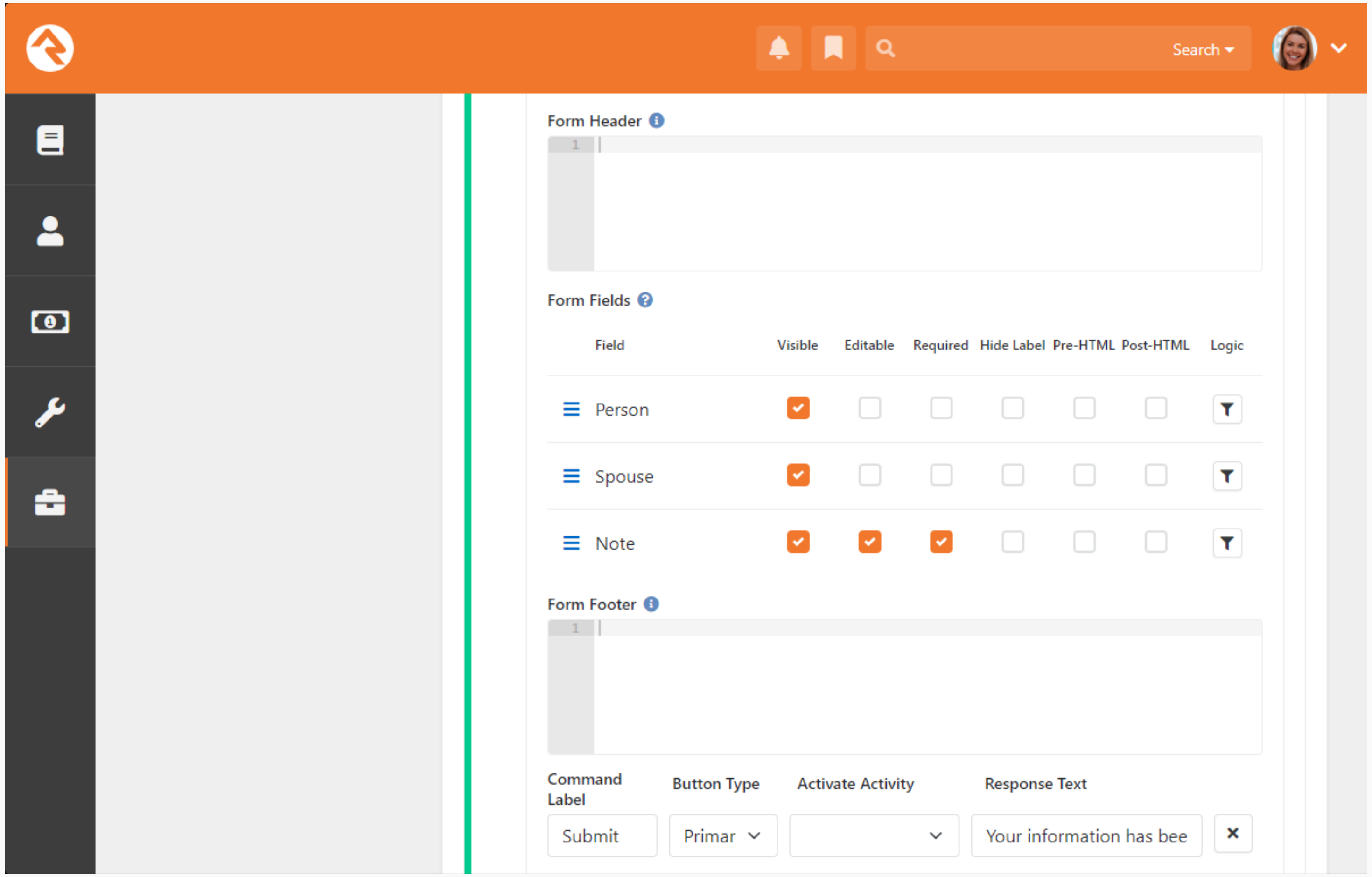
Action: Add Note

Action: Add Spouse Note



Workflow Entity





Workflow Entity

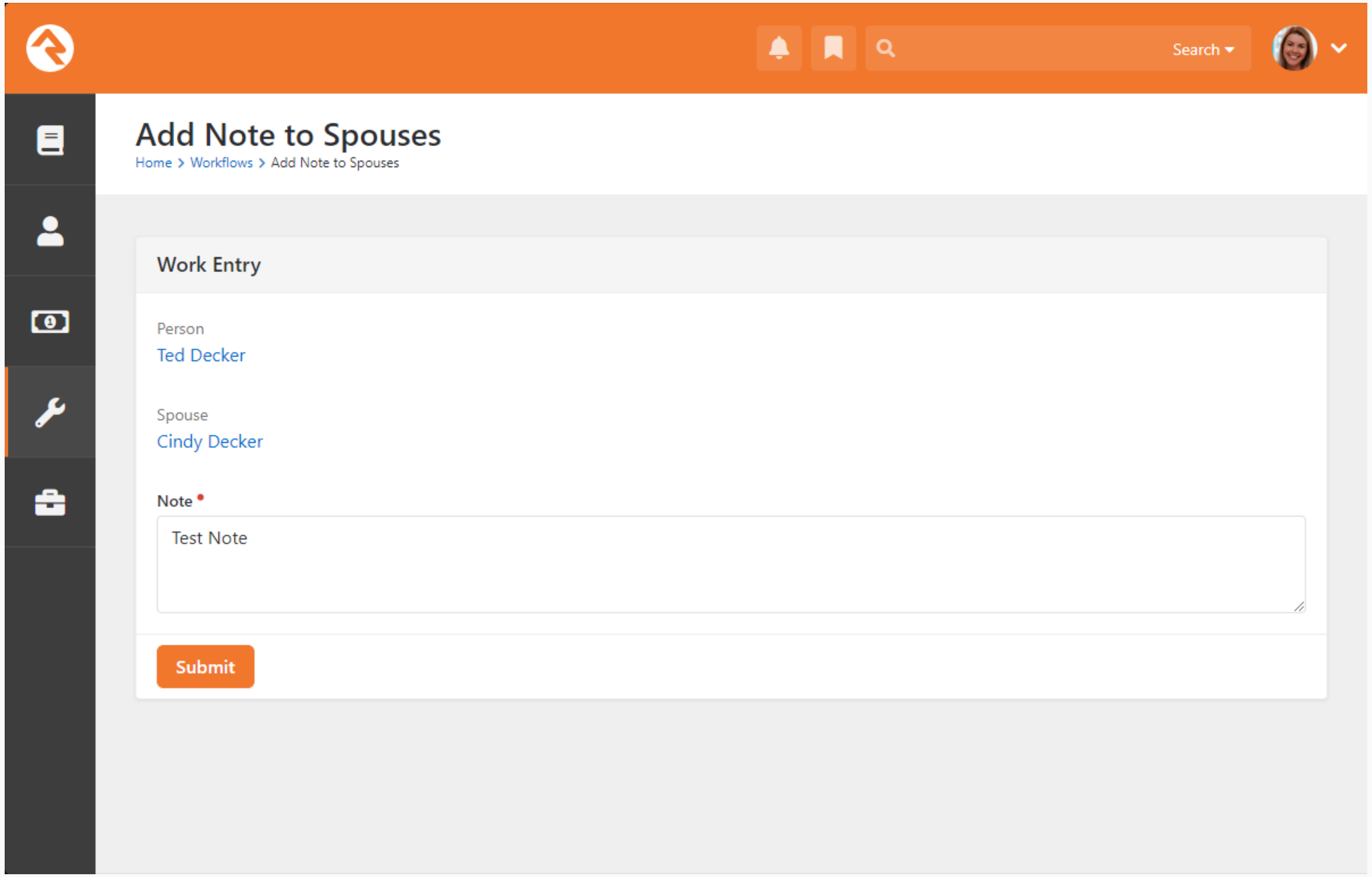
Workflow

Attributes

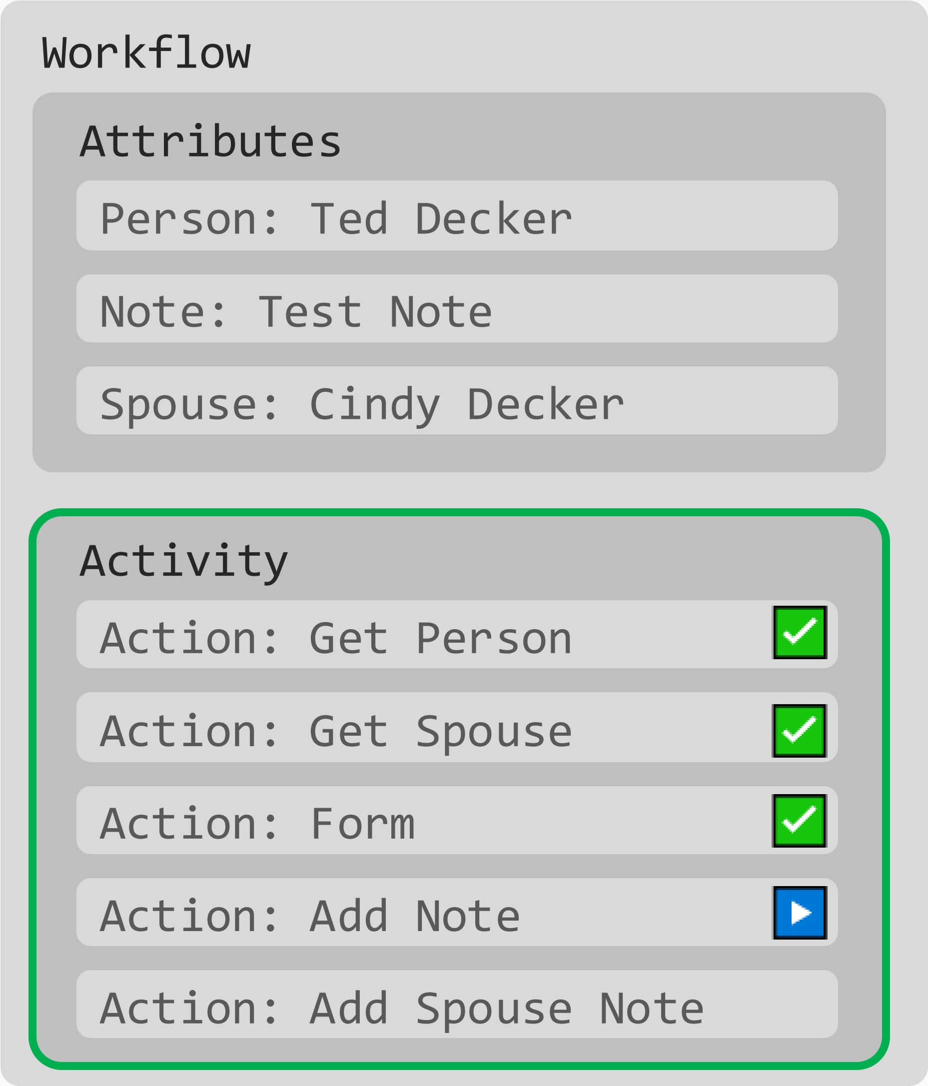
- Person: Ted Decker
- Note: Test Note
- Spouse: Cindy Decker

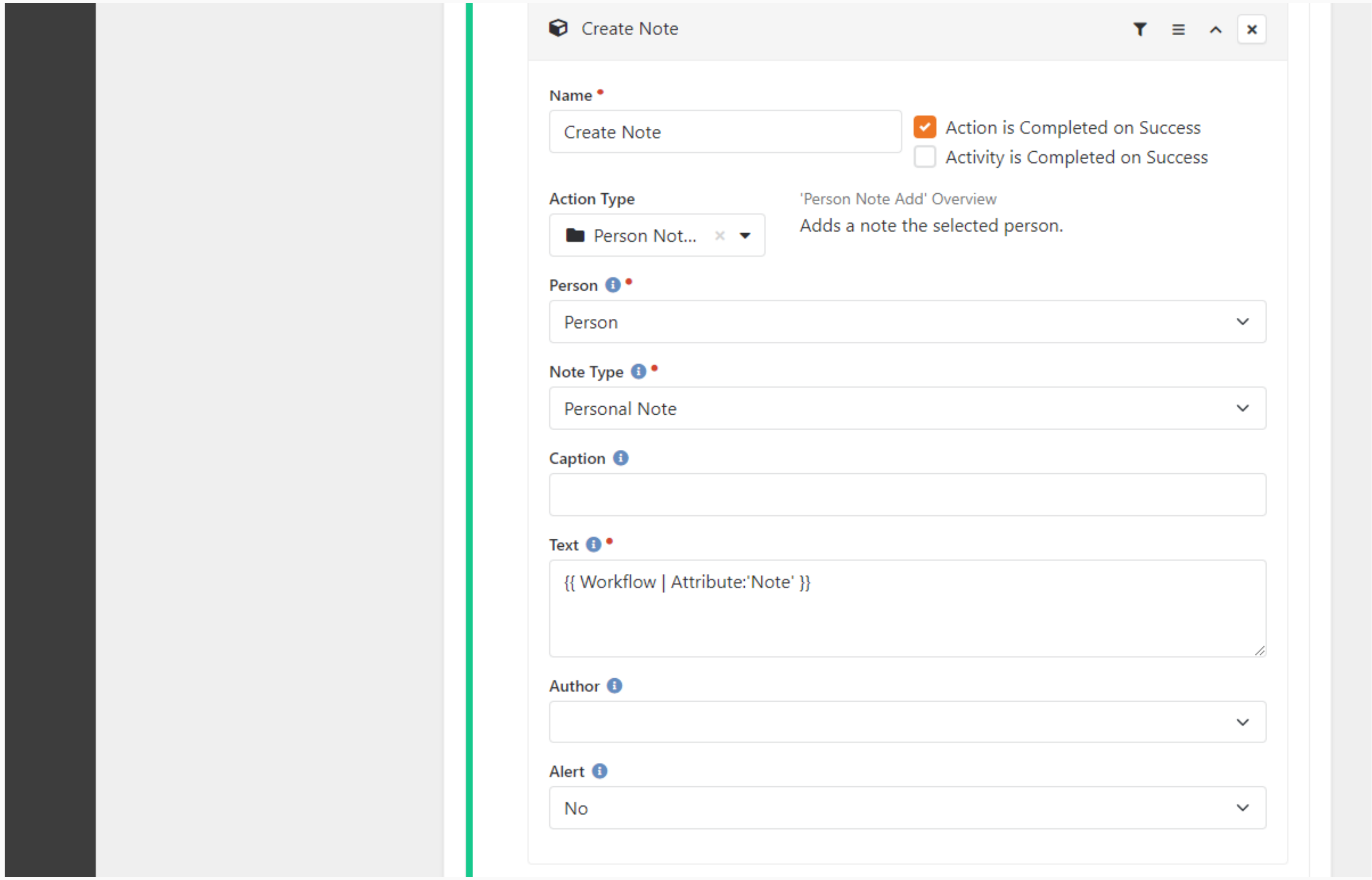
Activity

- Action: Get Person
- Action: Get Spouse
- Action: Form
- Action: Add Note
- Action: Add Spouse Note



Workflow Entity





Workflow Entity

Workflow

Attributes

Person: Ted Decker

Note: Test Note

Spouse: Cindy Decker

Activity

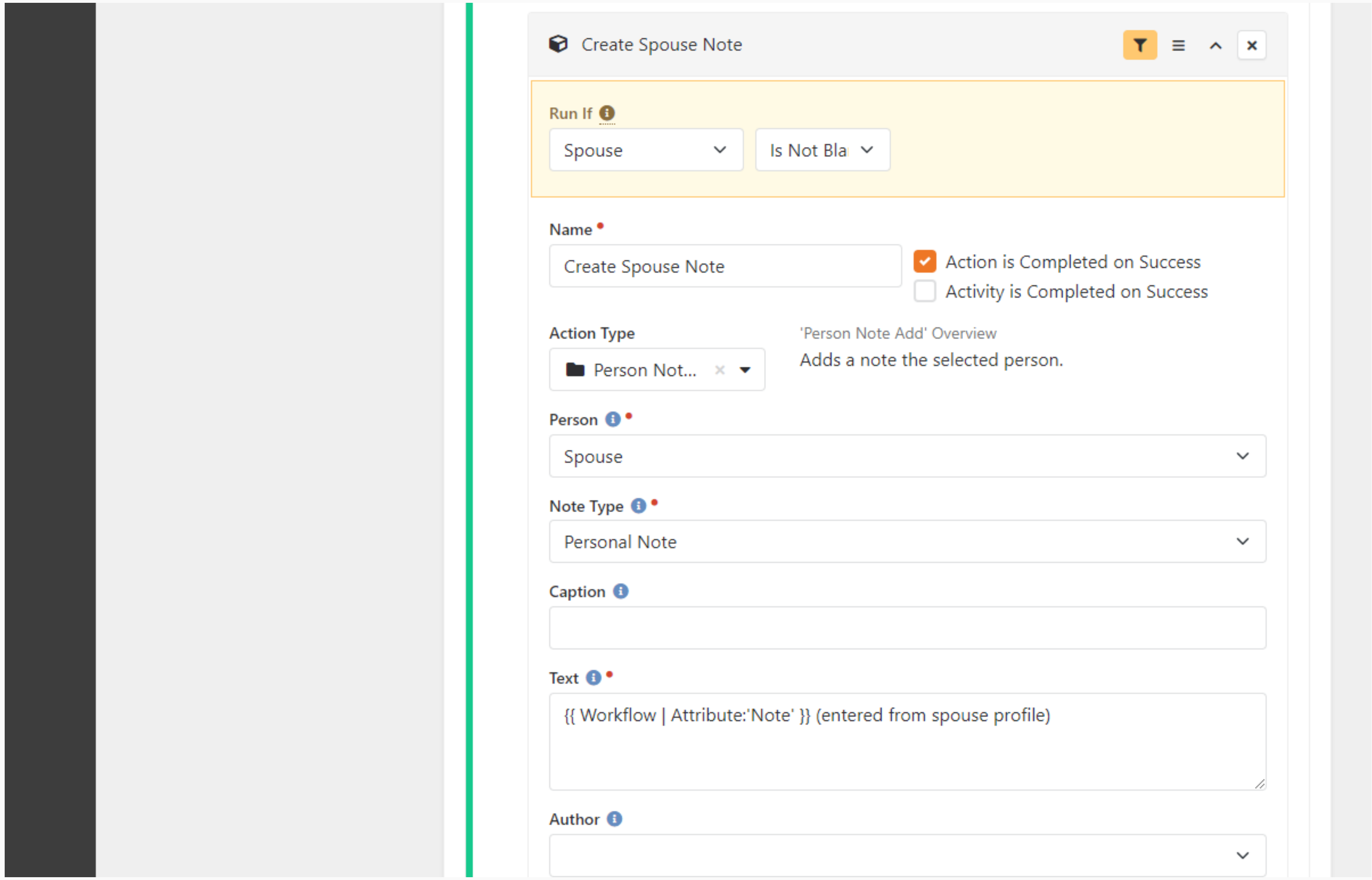
Action: Get Person

Action: Get Spouse

Action: Form

Action: Add Note

Action: Add Spouse Note



Workflow Entity

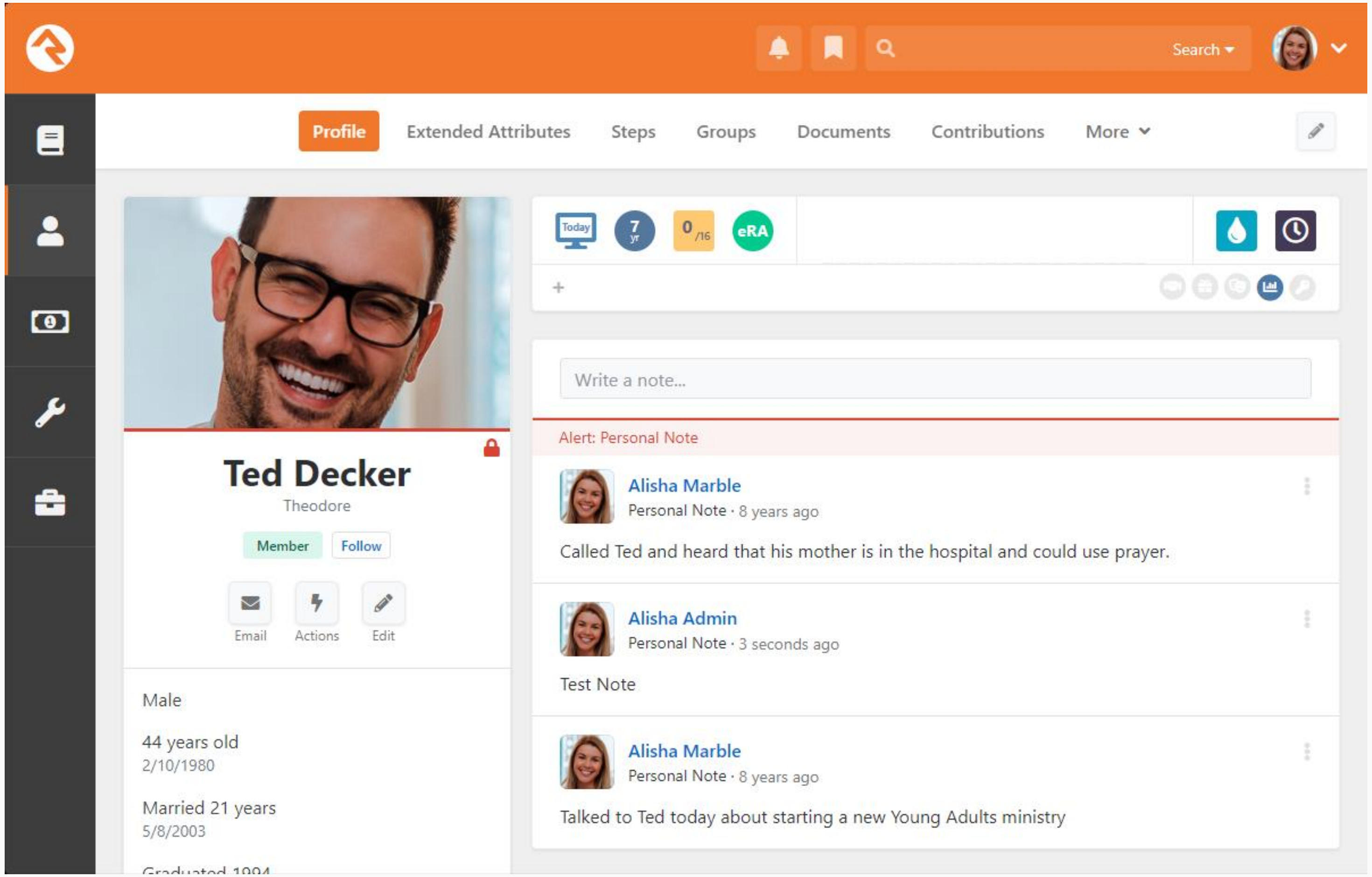
Workflow

Attributes

- Person: Ted Decker
- Note: Test Note
- Spouse: Cindy Decker

Activity

- Action: Get Person ✓
- Action: Get Spouse ✓
- Action: Form ✓
- Action: Add Note ✓
- Action: Add Spouse Note ✓



Workflow Entity

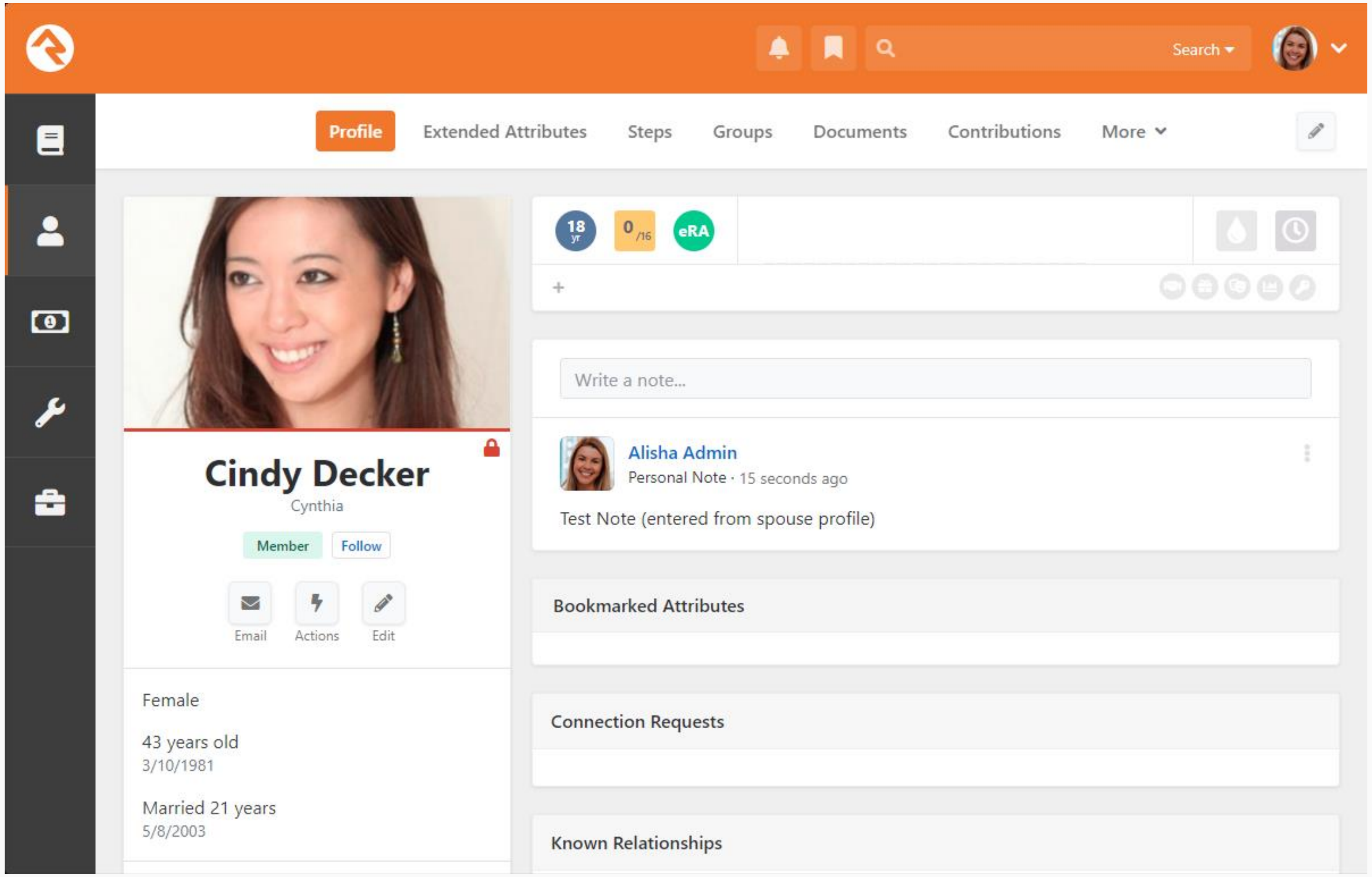
Workflow

Attributes

- Person: Ted Decker
- Note: Test Note
- Spouse: Cindy Decker

Activity

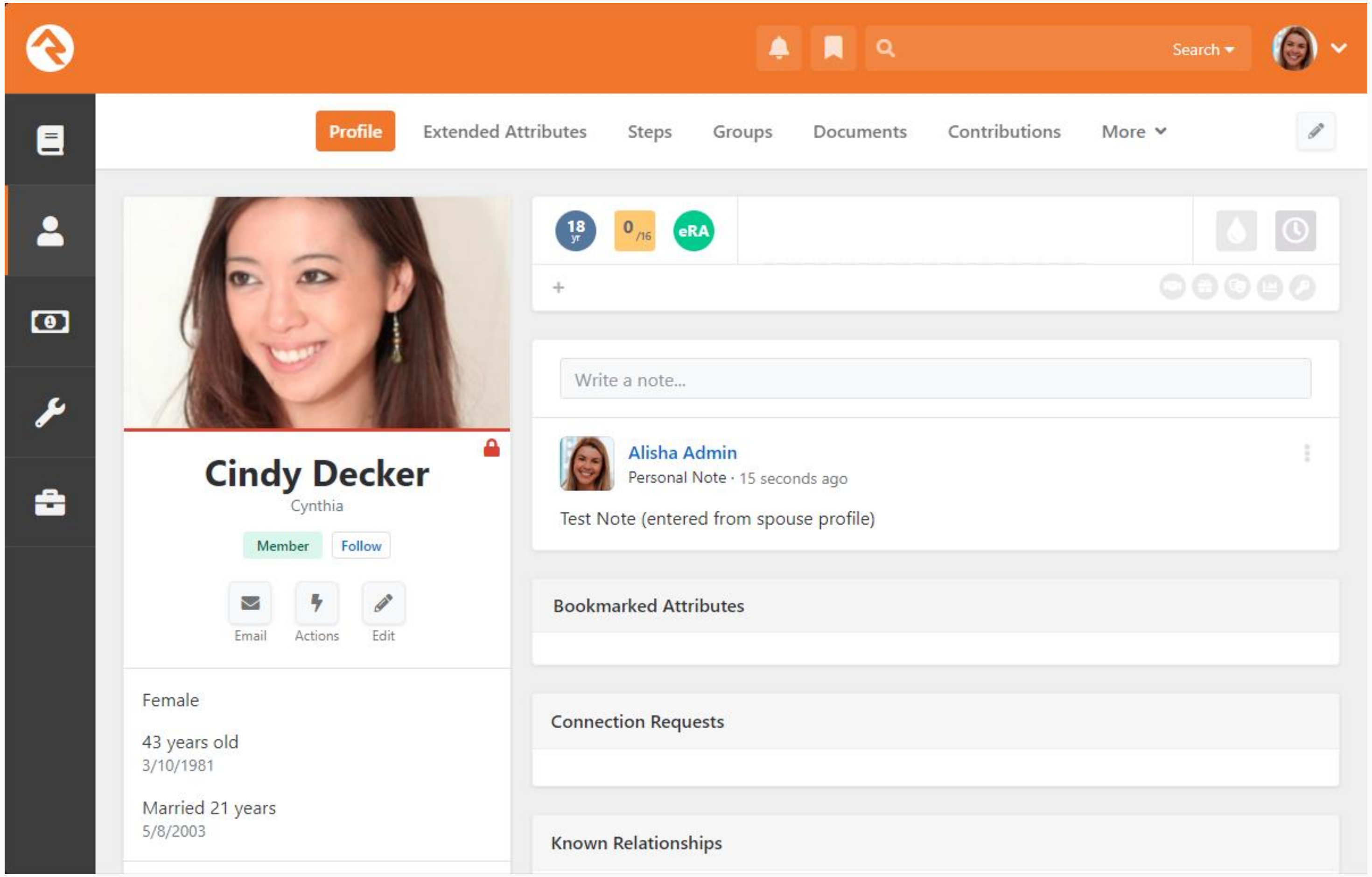
- Action: Get Person ✓
- Action: Get Spouse ✓
- Action: Form ✓
- Action: Add Note ✓
- Action: Add Spouse Note ✓



Workflow Entity

Could I be more specific than “spouse profile”?

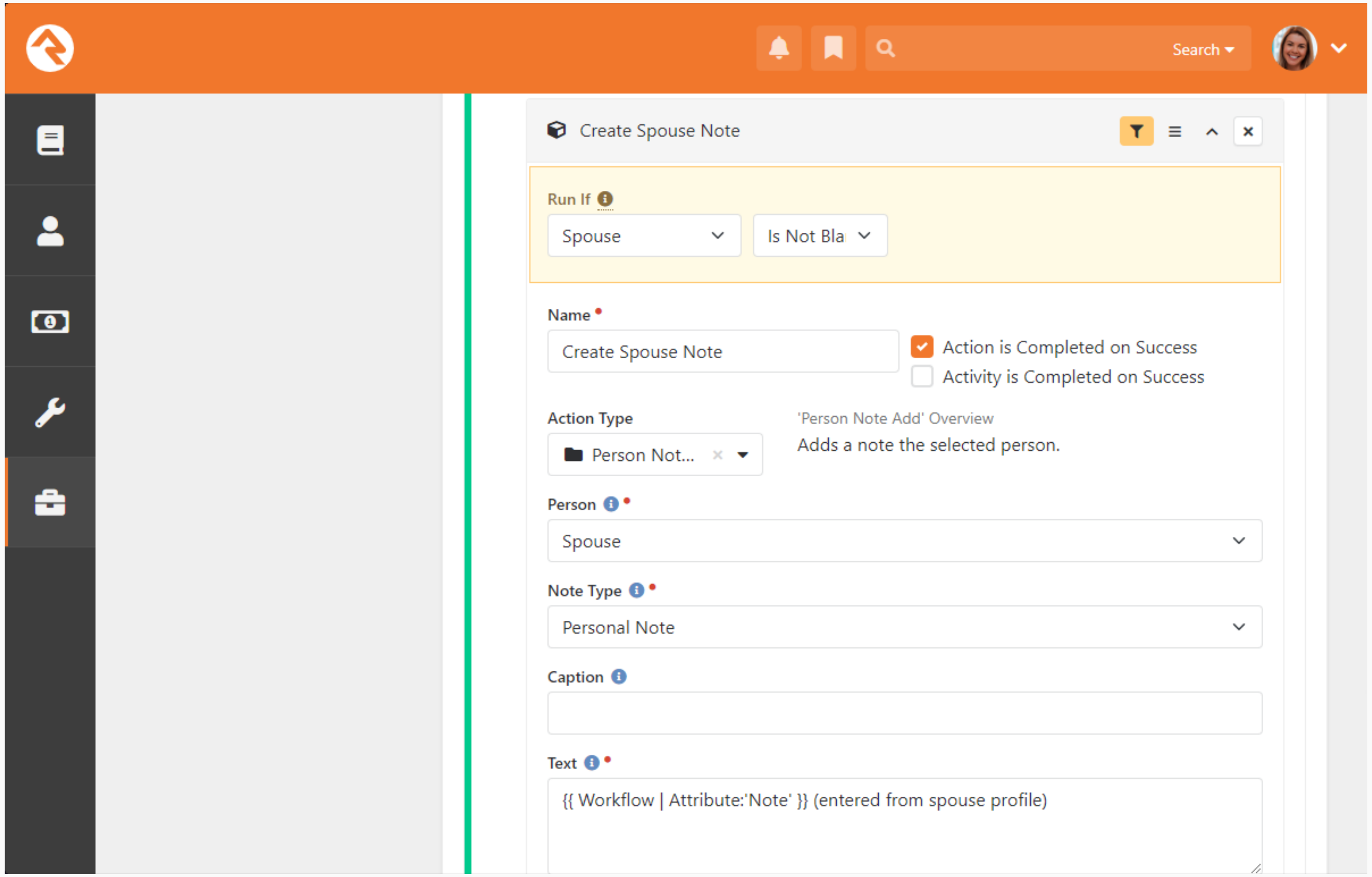
You’ve got this! 🎉



Workflows

Could I be more specific than “spouse profile”?

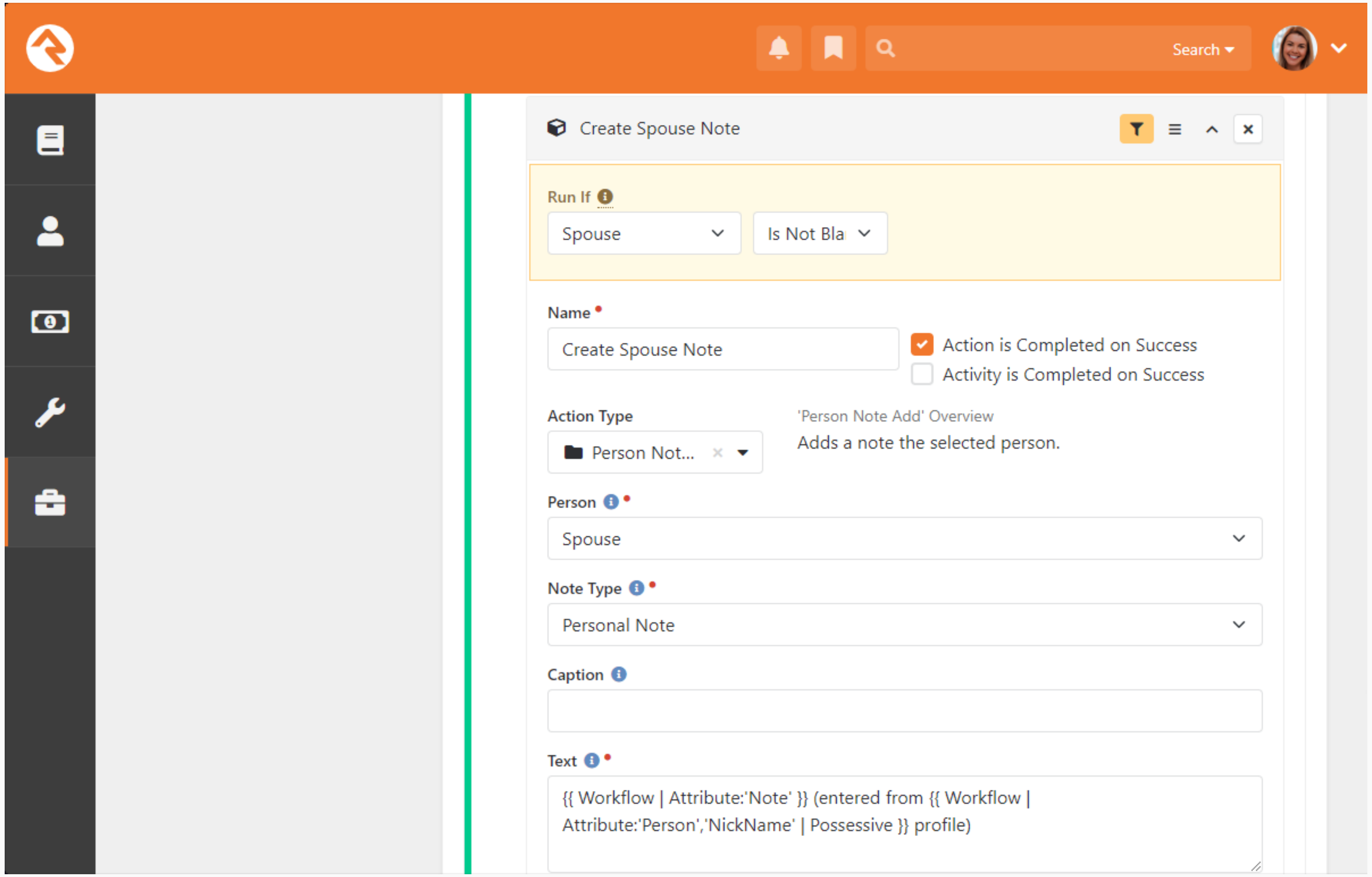
You’ve got this! 🎉



Workflow Entity

Could I be more specific than “spouse profile”?

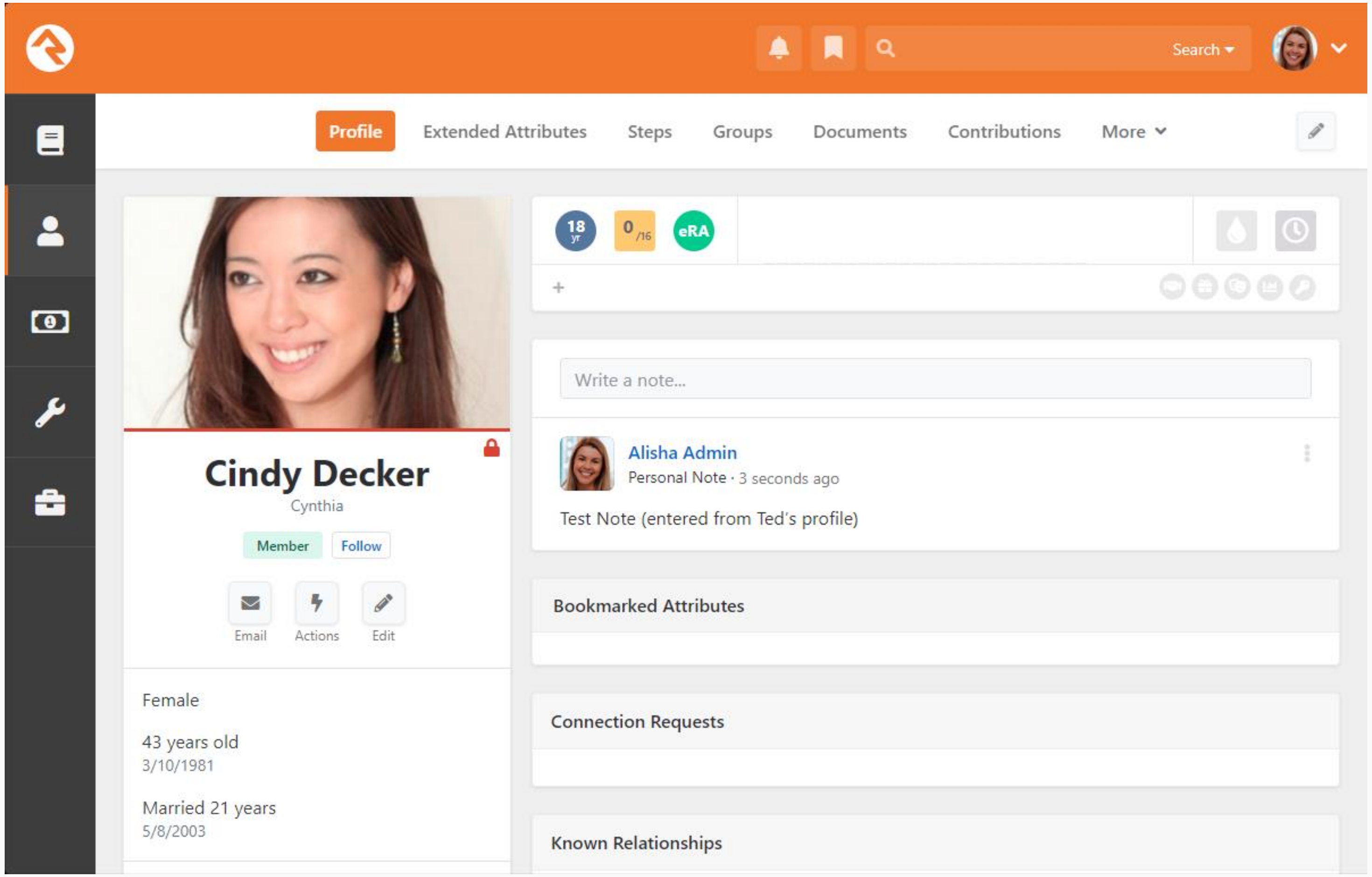
You’ve got this! 🎉



Workflow Entity

Could I be more specific than "spouse profile"?

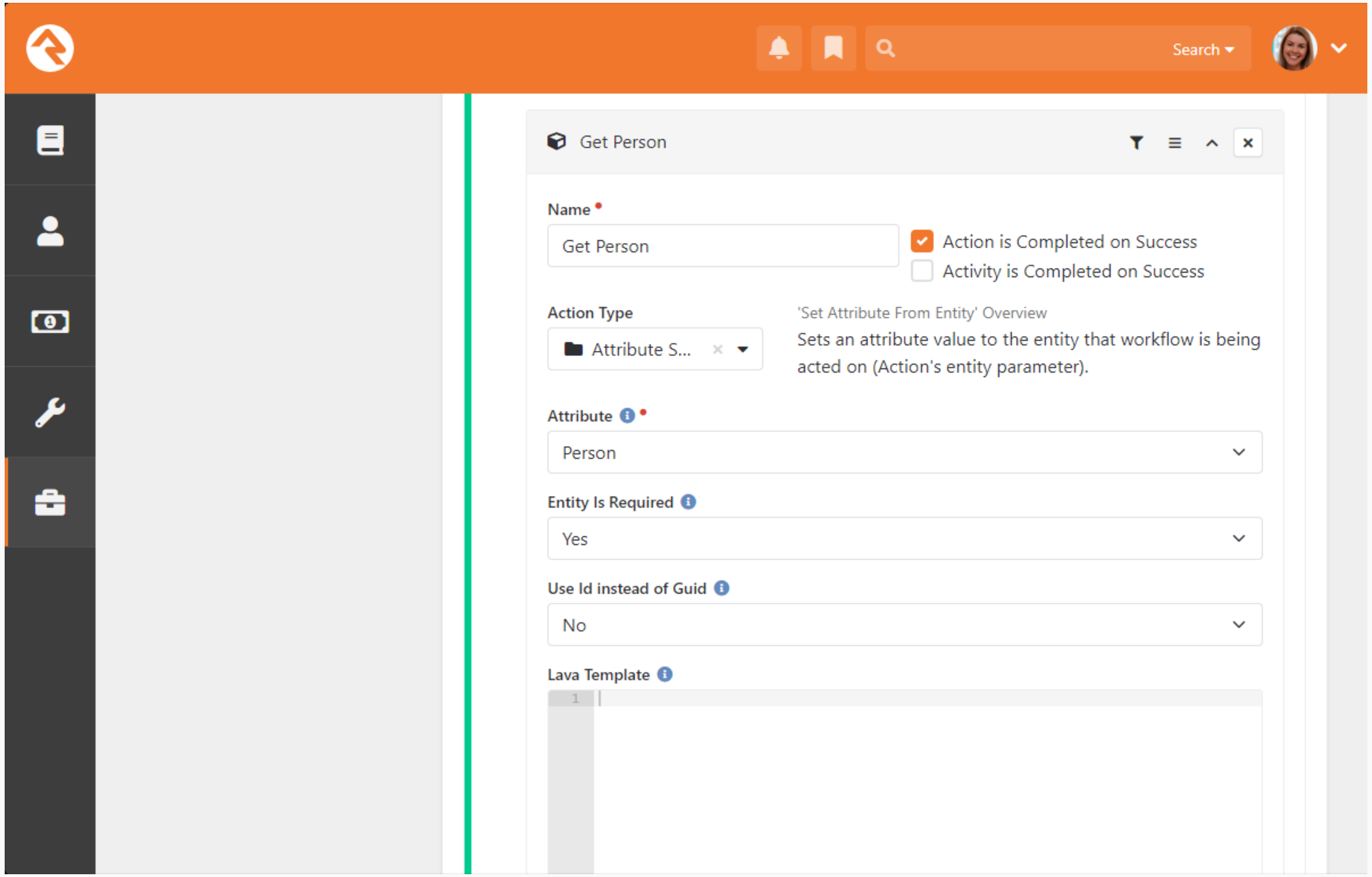
You've got this! 🎉



Workflow Entity

What's the "Lava Template" for?

- Property values
- Attribute values
- Related Entities



Workflow Entity Lava Template

```
{{ Entity.NickName }}
```

Attributes Count: 1

Attribute	Description	Key	Field Type	Required
Person NickName		PersonNickName	Text	

Ted

Workflow Entity Lava Template

```
{{ Entity | Attribute:'BaptismDate' }}
```

Attributes Count: 1

Attribute	Description	Key	Field Type	Required
Baptism Date		BaptismDate	Date	

1/12/2006

Workflow Entity Lava Template

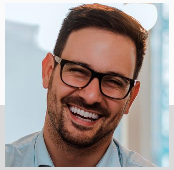
```
{{ Entity | Spouse | Property:'PrimaryAlias.Guid' }}
```

Attributes Count: 1

Attribute	Description	Key	Field Type	Required
Spouse		Spouse	Person	

Cindy Decker *(full entity)*

Workflow Entity



Workflow

Attributes

Person:

Note:

Spouse:

Activity

Action: Attr. from Entity

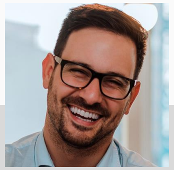
Action: Form

Important:

The entity isn't available forever.

Make sure to set any attributes from the entity, before the first breaking action.

Workflow Entity



Workflow

Attributes

Person:

Note:

Spouse:

Activity

Action: Form

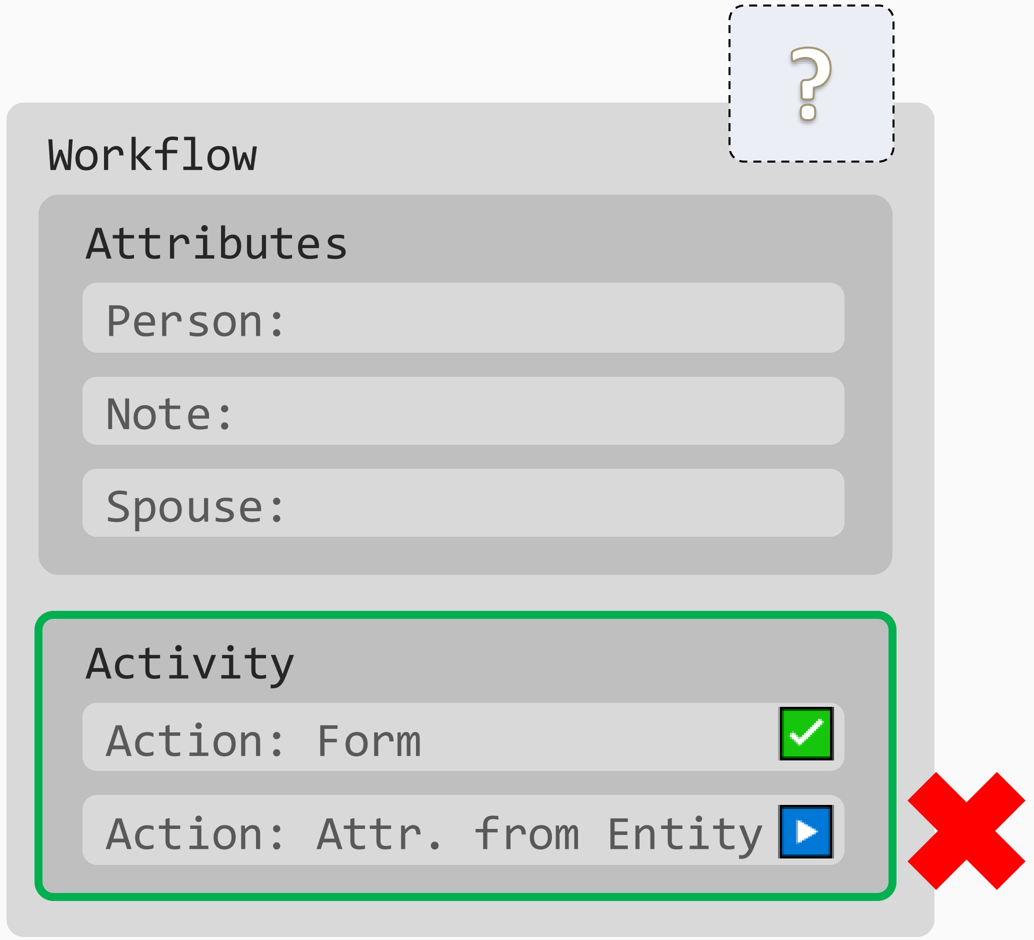
Action: Attr. from Entity

Important:

The entity isn't available forever.

Make sure to set any attributes from the entity, before the first breaking action.

Workflow Entity



Important:

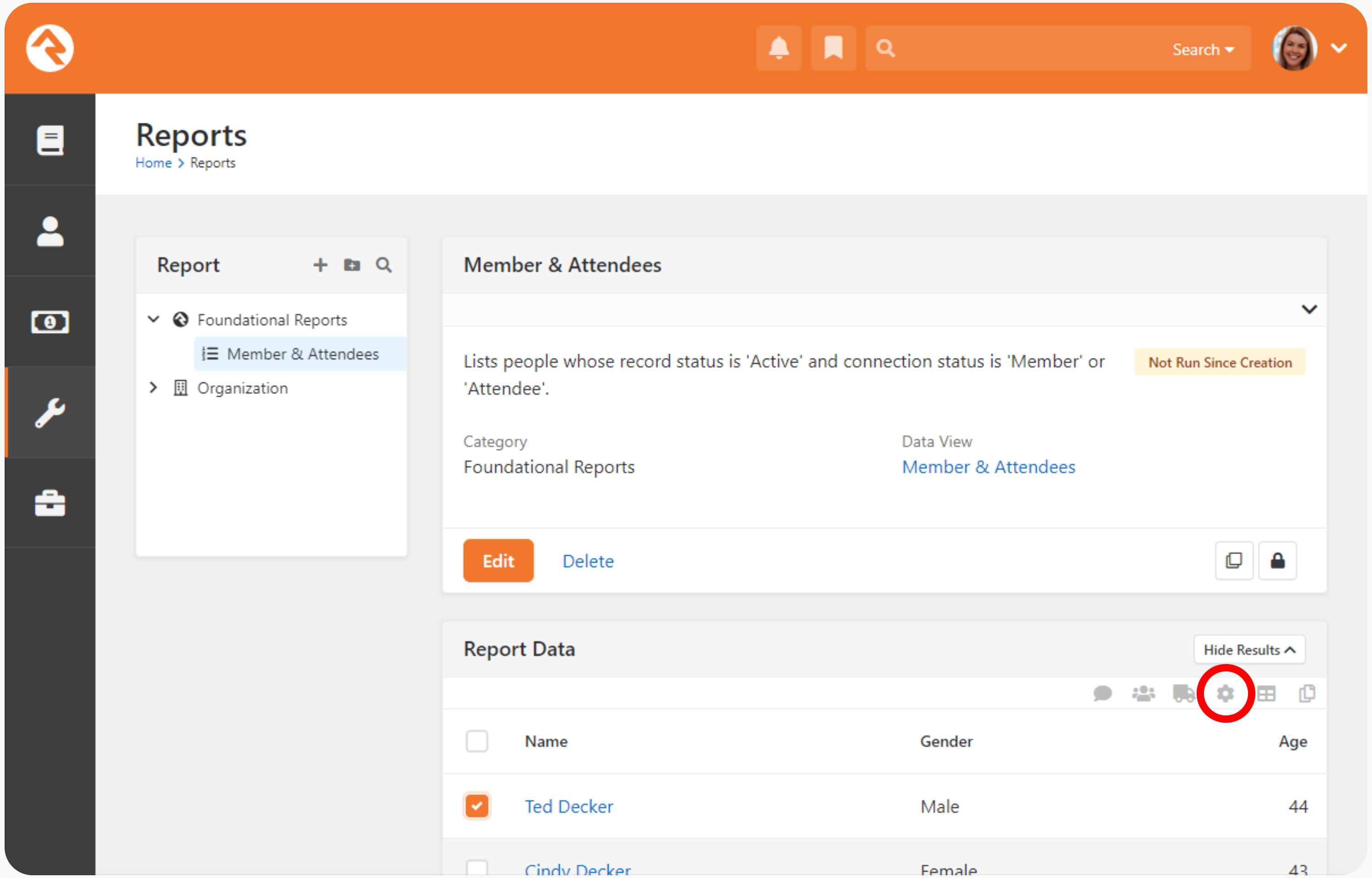
The entity isn't available forever.

Make sure to set any attributes from the entity, before the first breaking action.

Workflow Entity

Entities are provided from other places too!

- Reports



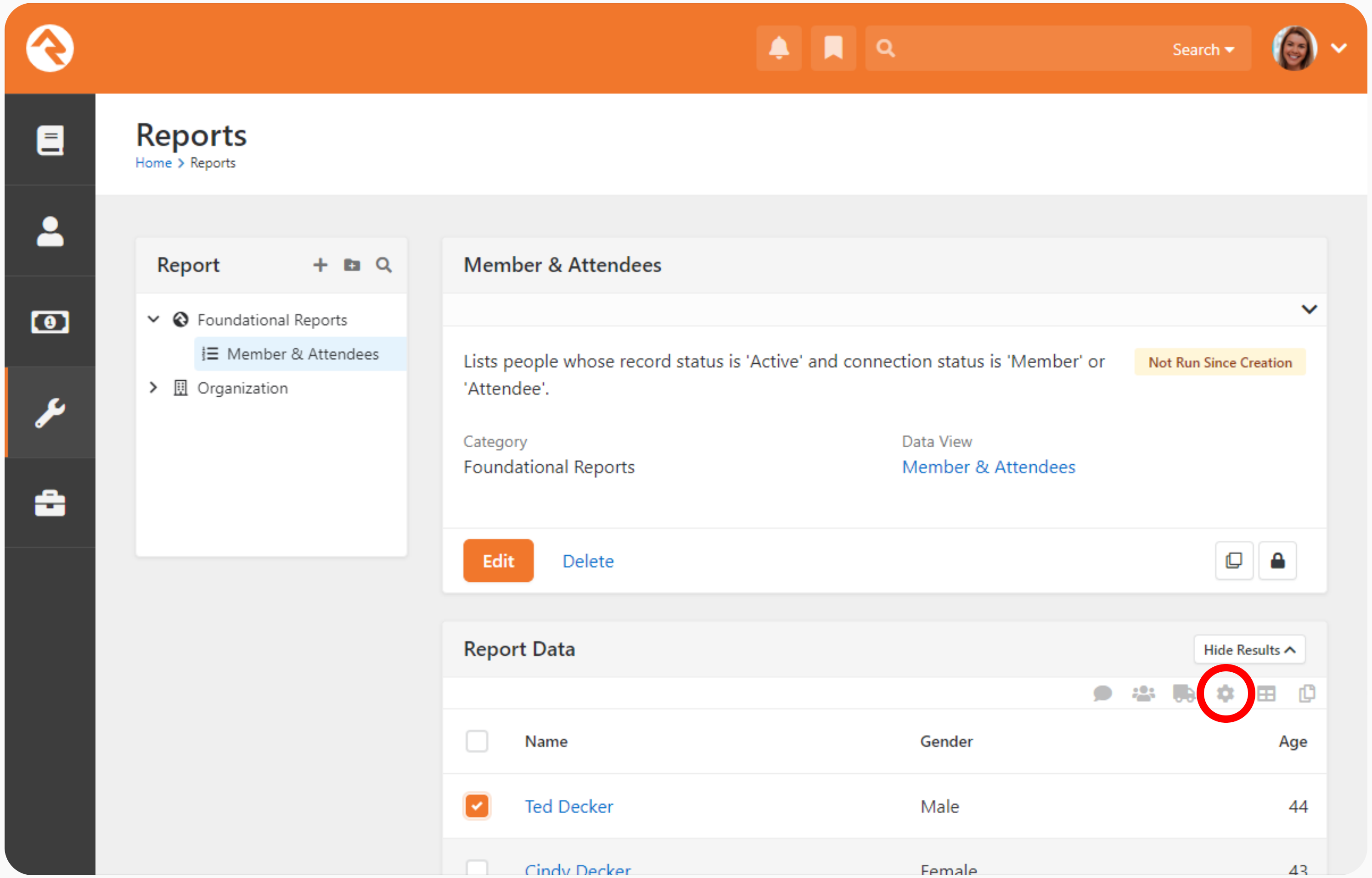
Note:

The entity type will be the same as the Report's Entity Type

Workflow Entity

Entities are provided from other places too!

- Reports



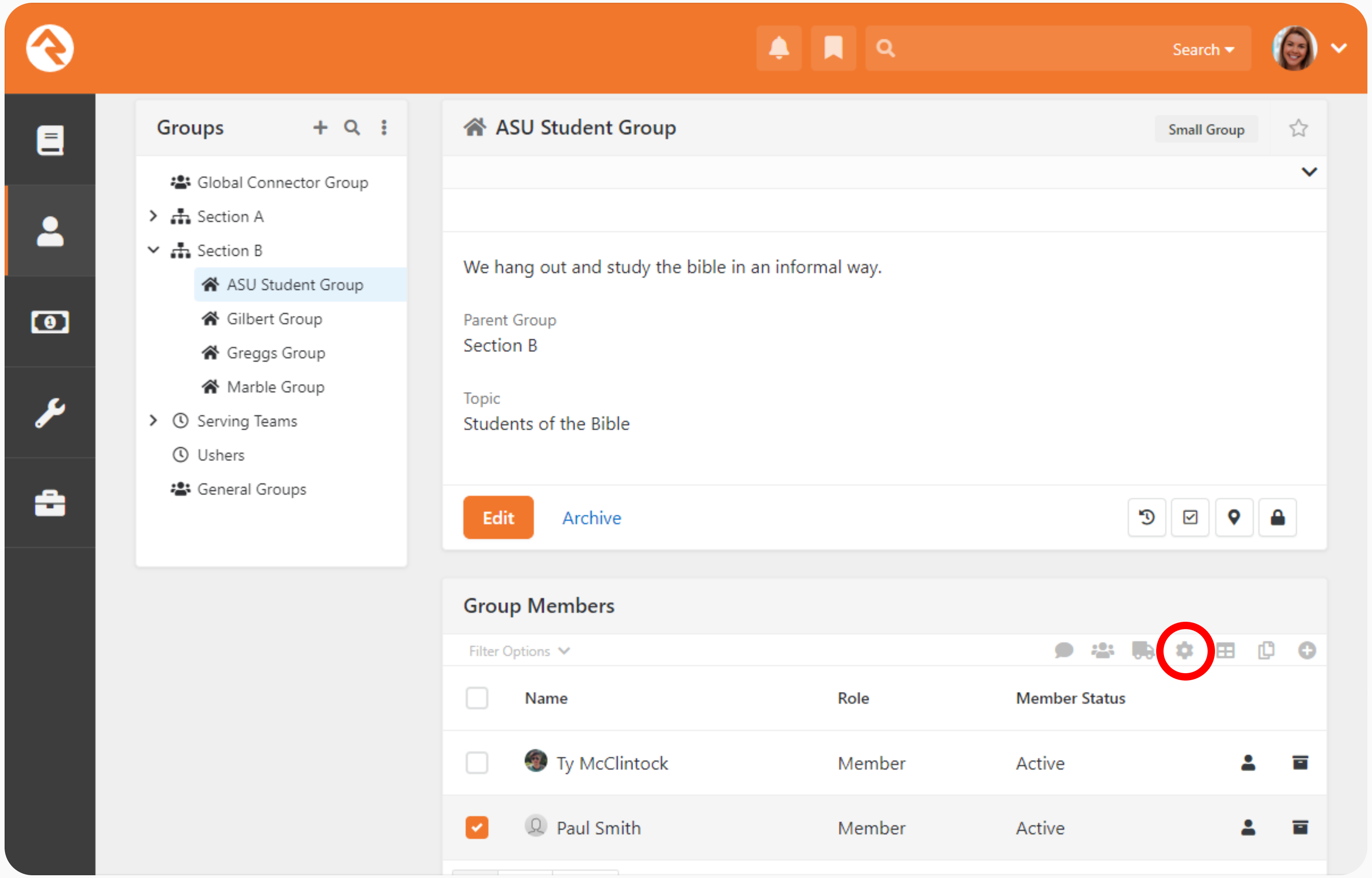
Note:

A separate workflow is launched for each row, so each workflow gets ONE entity.

Workflow Entity

Entities are provided from other places too!

- Reports
- Group Member Lists



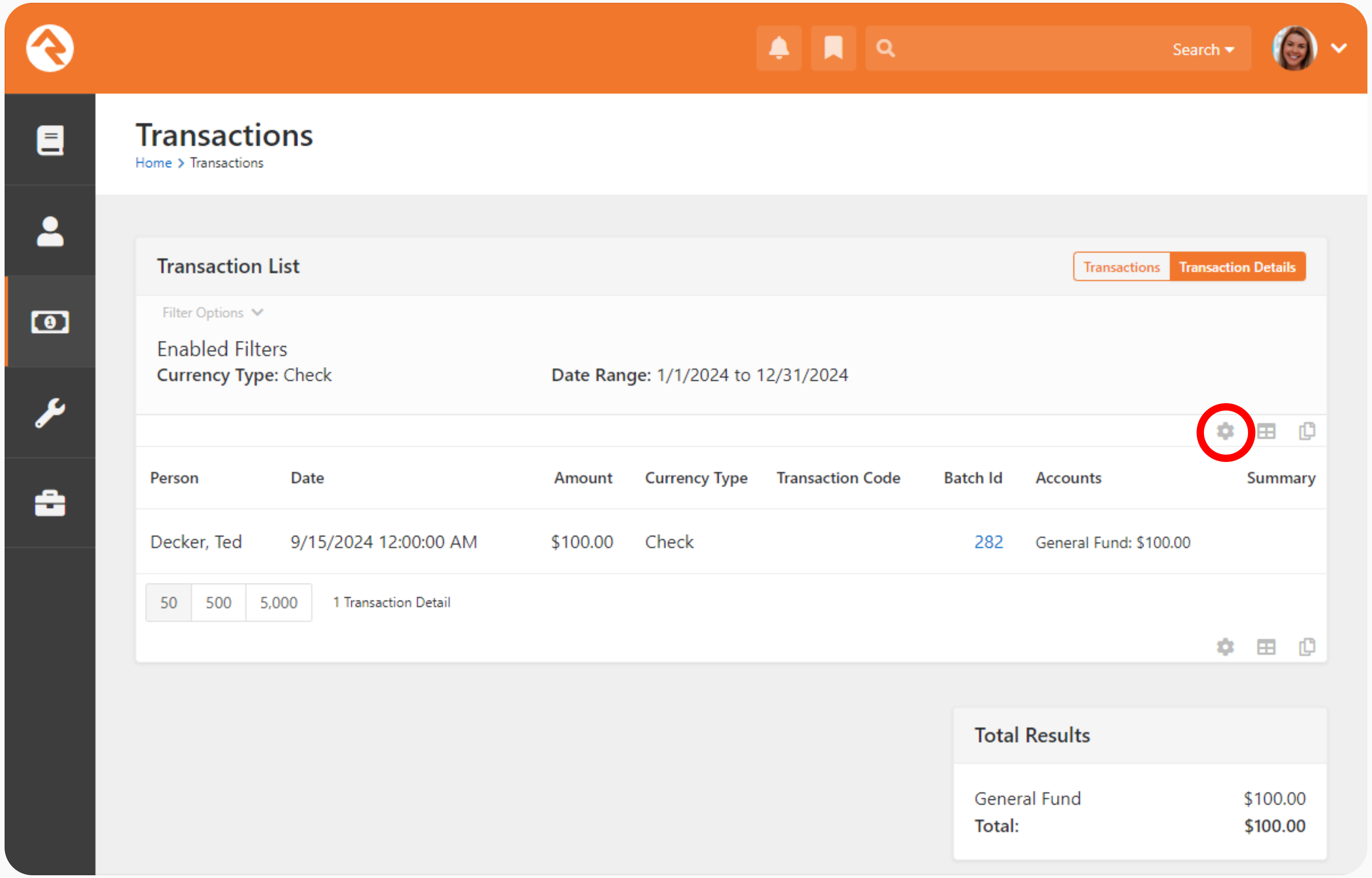
Note:

The Entity will be a Group Member record, not a person.

Workflow Entity

Entities are provided from other places too!

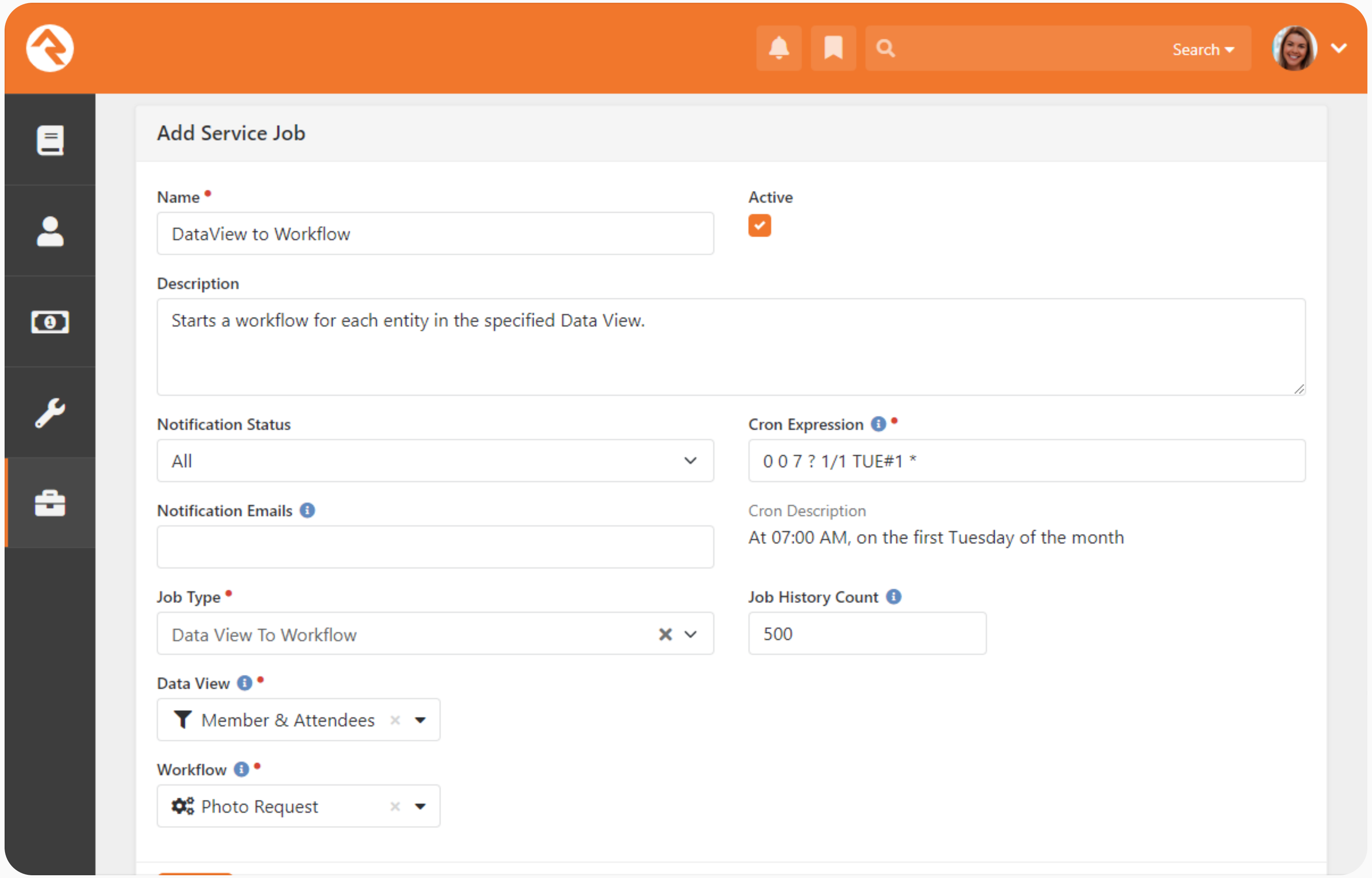
- Reports
- Group Member Lists
- Other Grids



Workflow Entity

Entities are provided from other places too!

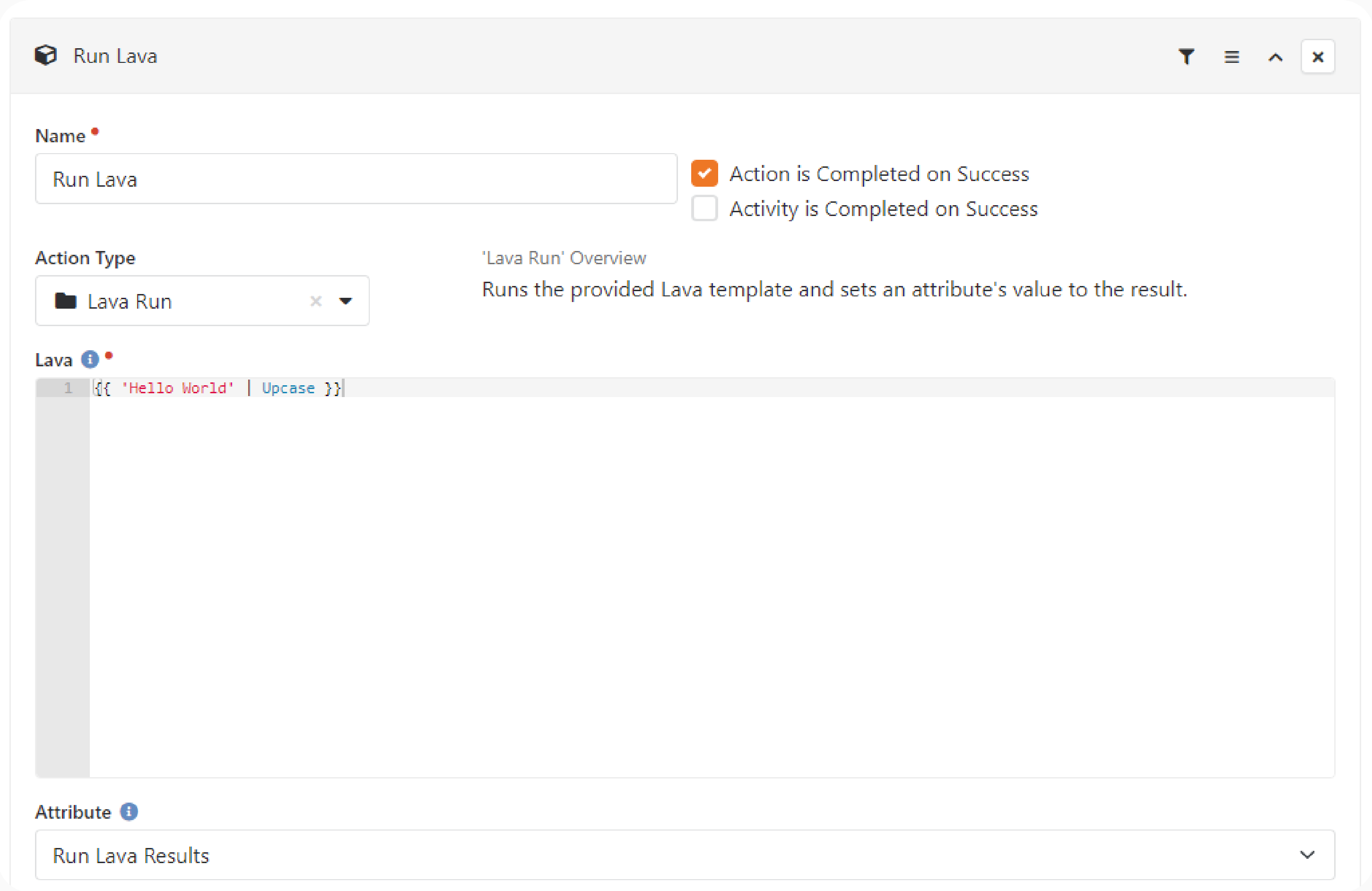
- Reports
- Group Member Lists
- Other Grids
- Dataview to Workflow Job
- (and more…)



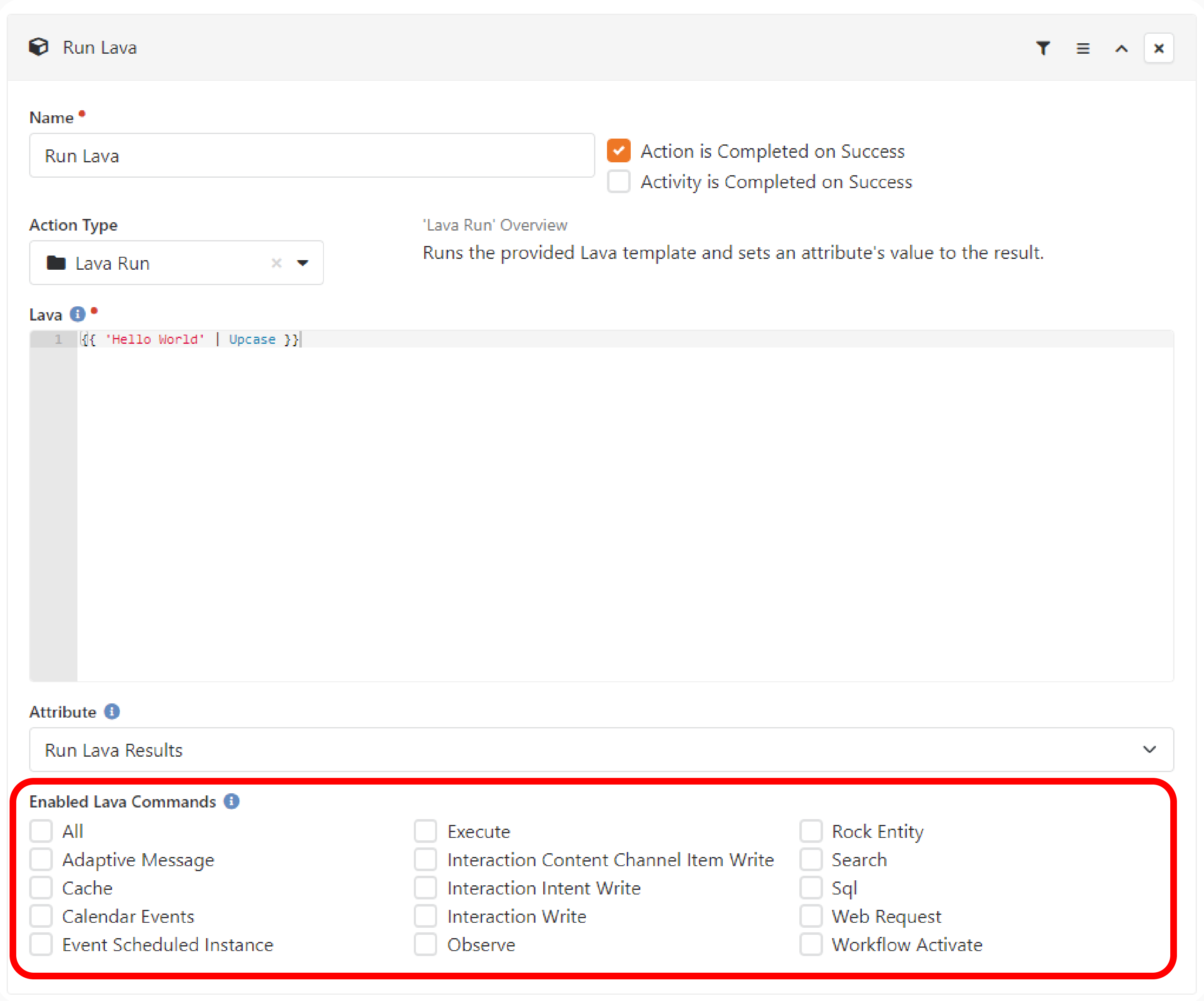
Workflow Capabilities

More about Lava Run

More about Lava Run



More about Lava Run



Lava Run Commands

```
{% person id:'5' %}
  {{ person.PrimaryAlias.Guid }}
{% endperson %}
```

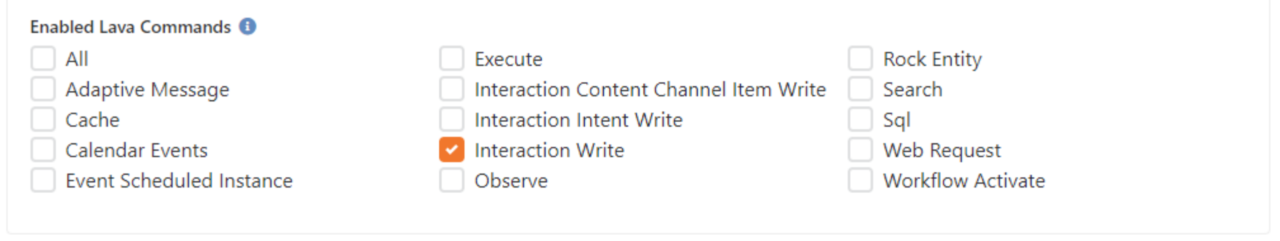
Enabled Lava Commands

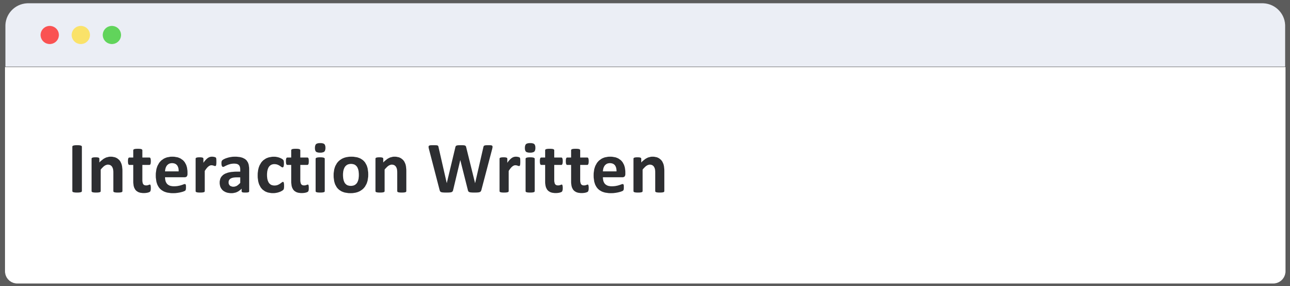
- [ ] All
- [ ] Adaptive Message
- [ ] Cache
- [ ] Calendar Events
- [ ] Event Scheduled Instance
- [ ] Execute
- [ ] Interaction Content Channel Item Write
- [ ] Interaction Intent Write
- [ ] Interaction Write
- [ ] Observe
- [x] Rock Entity
- [ ] Search
- [ ] Sql
- [ ] Web Request
- [ ] Workflow Activate

Ted Decker *(entity)*

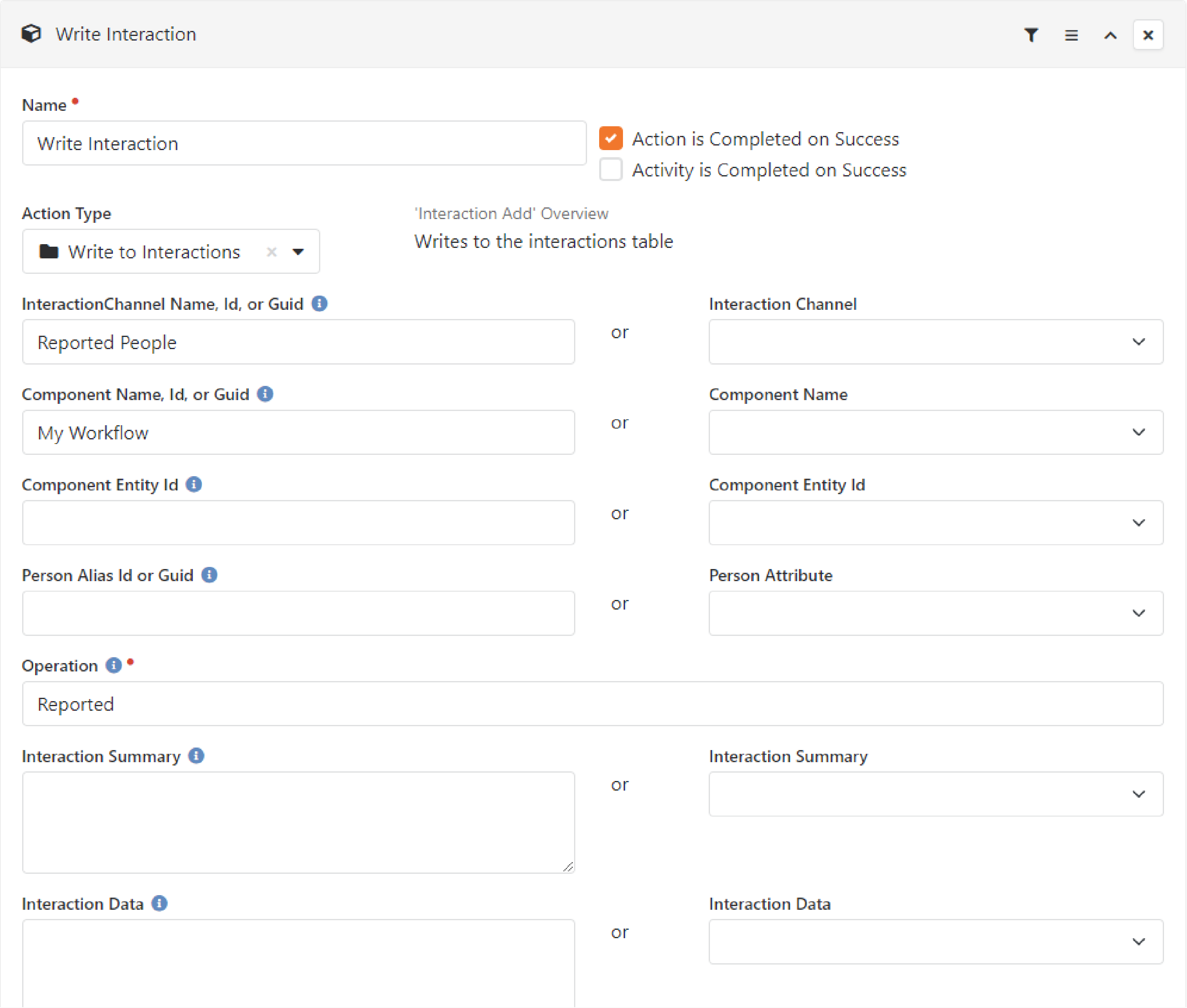
Lava Run Commands

```
{% interactionwrite channelname:'Reported People' componentname:'My Workflow' operation:'Reported' %}
  {% Workflow | Attribute:'Reason' }}
{% endinteractionwrite %}
Interaction Written
```





Alternative for Writing Interactions



Lava Run Commands

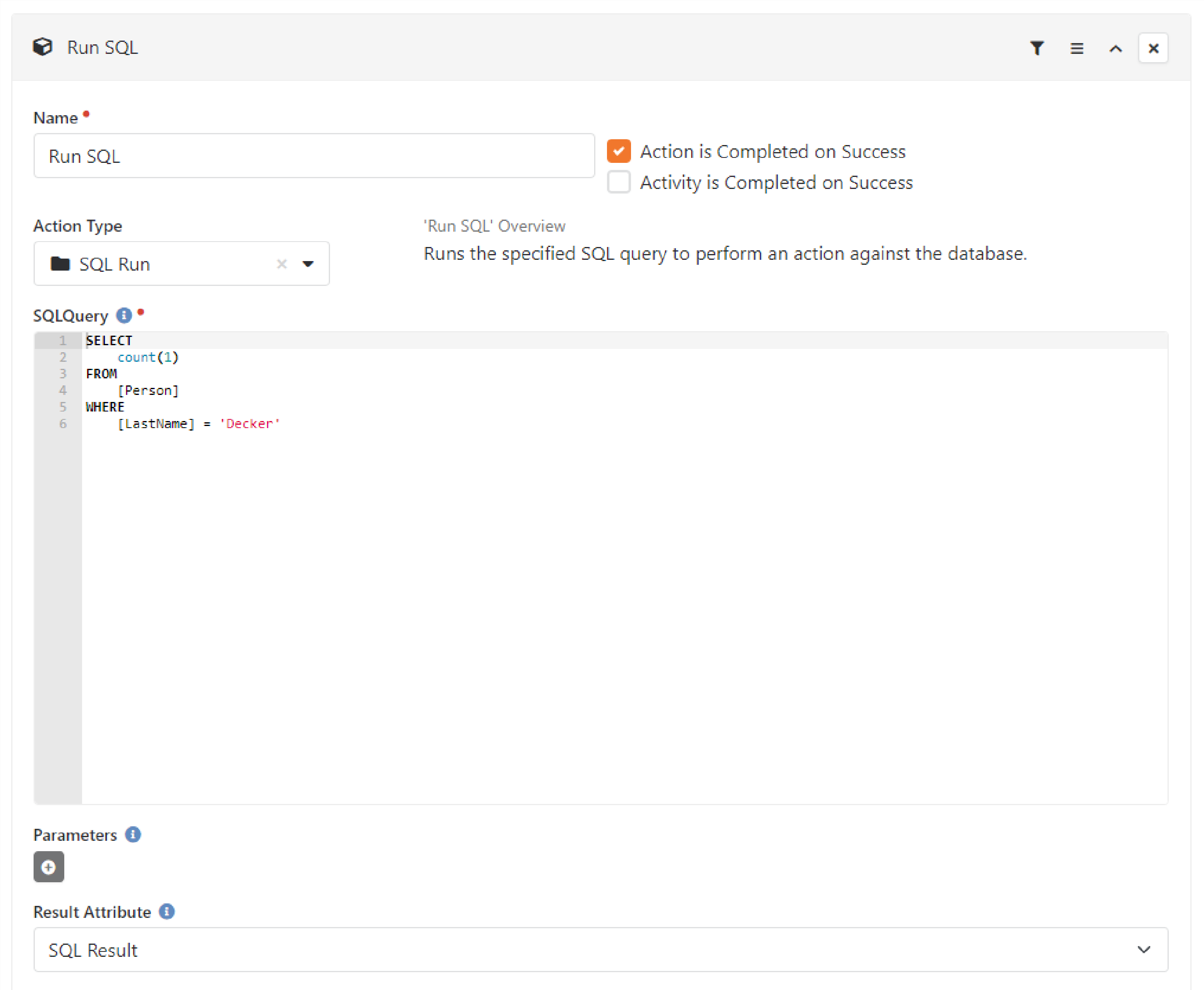
```
{% sql %}
SELECT
  count(1) AS [deckerCount]
FROM
  [Person]
WHERE
  [LastName] = 'Decker'
{% endsql %}
{{ results[0].deckerCount}}
```

Enabled Lava Commands

- [ ] All
- [ ] Adaptive Message
- [ ] Cache
- [ ] Calendar Events
- [ ] Event Scheduled Instance
- [ ] Execute
- [ ] Interaction Content Channel Item Write
- [ ] Interaction Intent Write
- [ ] Interaction Write
- [ ] Observe
- [ ] Rock Entity
- [ ] Search
- [x] Sql
- [ ] Web Request
- [ ] Workflow Activate

4

Alternative for Running SQL



Lava Run Commands

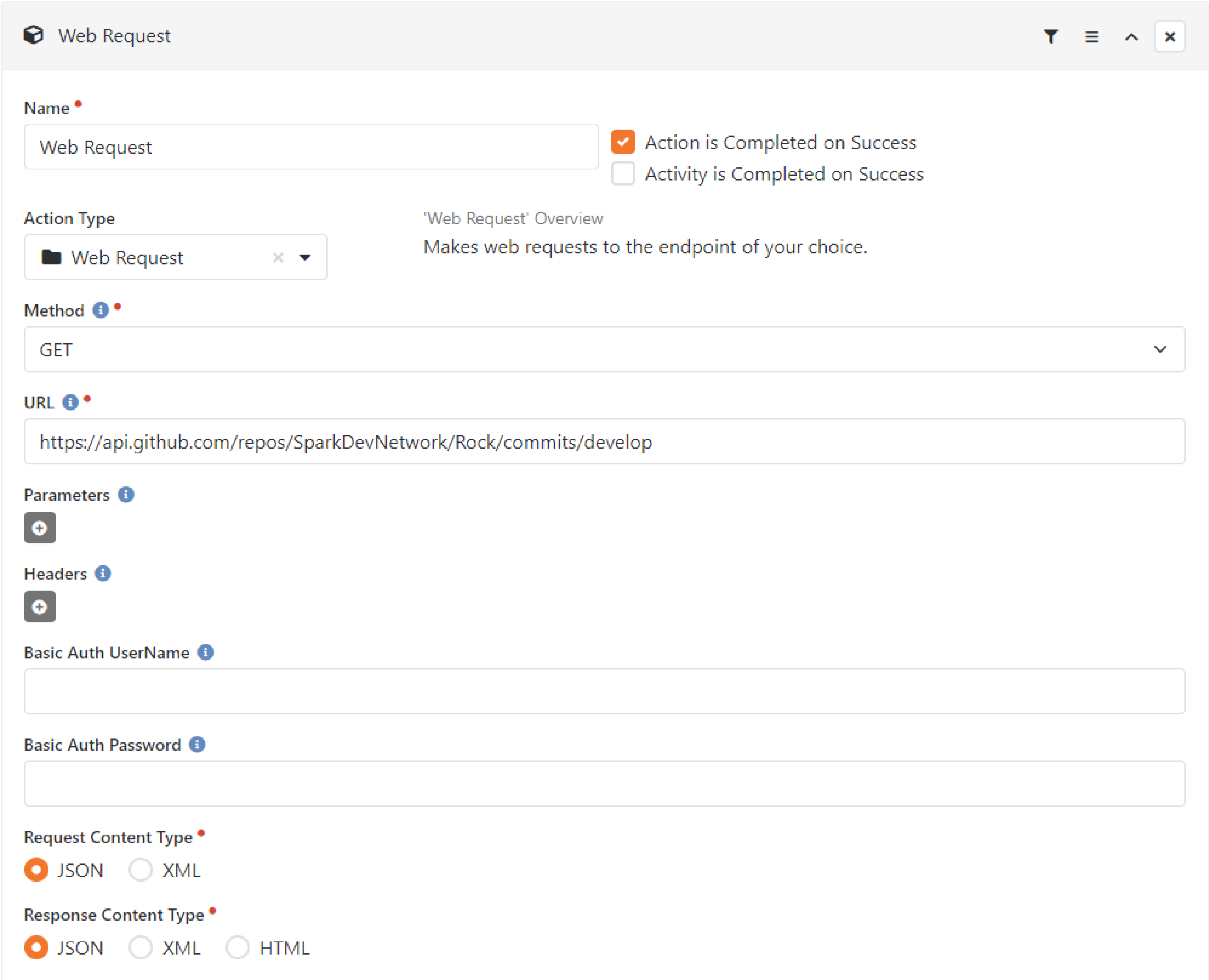
```
{% webrequest url:'https://api.github.com/repos/SparkDevNetwork/Rock/commits/develop' %}
  {{ results[0].commit.message }}
{% endwebrequest %}
```

Enabled Lava Commands

- [ ] All
- [ ] Adaptive Message
- [ ] Cache
- [ ] Calendar Events
- [ ] Event Scheduled Instance
- [ ] Execute
- [ ] Interaction Content Channel Item Write
- [ ] Interaction Intent Write
- [ ] Interaction Write
- [ ] Observe
- [ ] Rock Entity
- [ ] Search
- [ ] Sql
- [x] Web Request
- [ ] Workflow Activate

- Updated UI of checkout success screen

Alternative for Web Requests



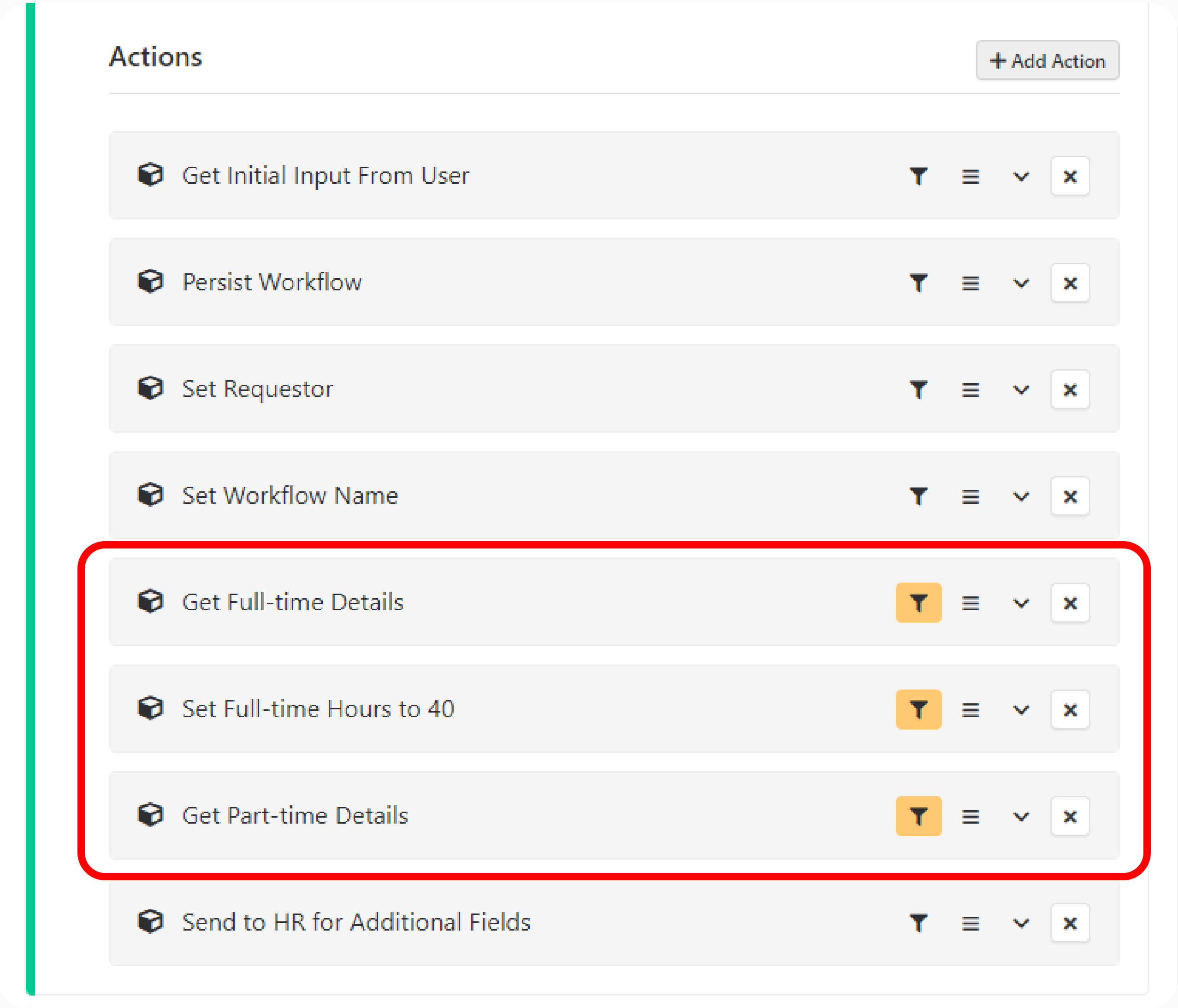
Workflow Capabilities

Filtering Workflow Actions

Workflow Action Filters

Not every action in an activity has to run.

Attribute Values can be used to “filter” which actions run.



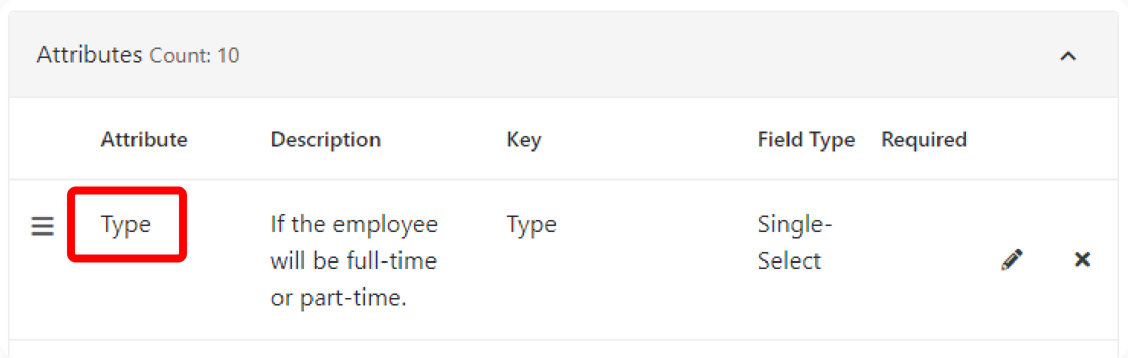
Workflow Action Filters

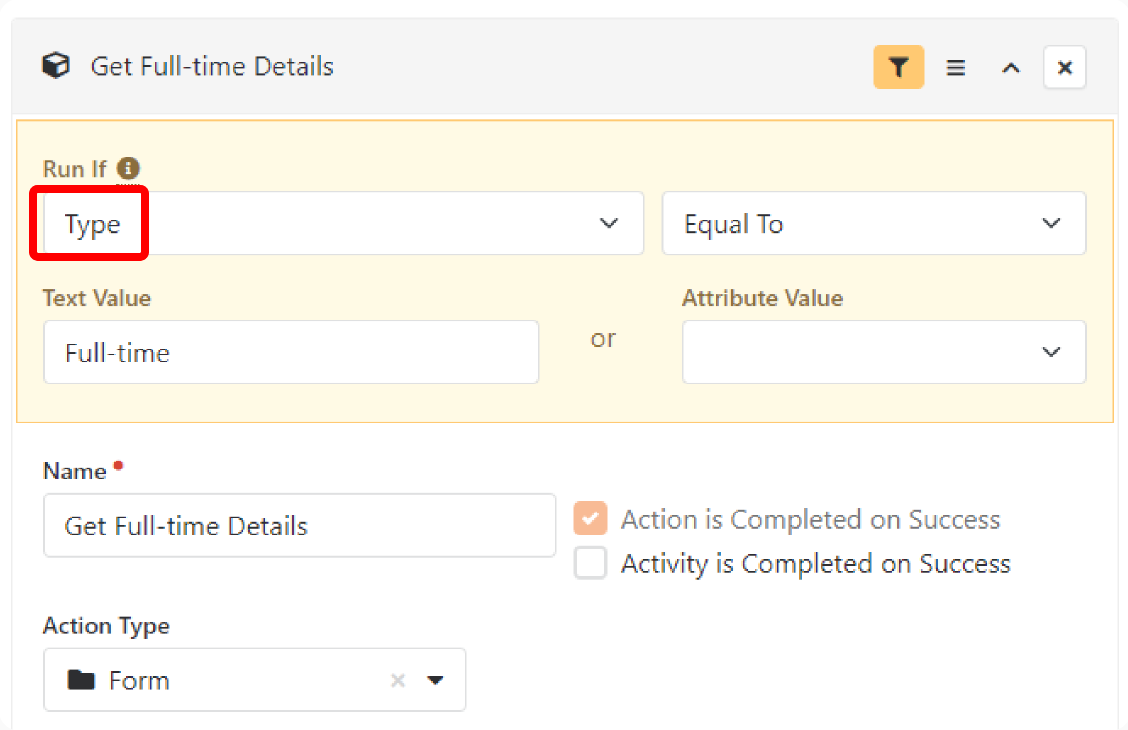
Not every action in an activity has to run.

Attribute Values can be used to “filter” which actions run.

Important Information:

The value to compare is the Raw Value.

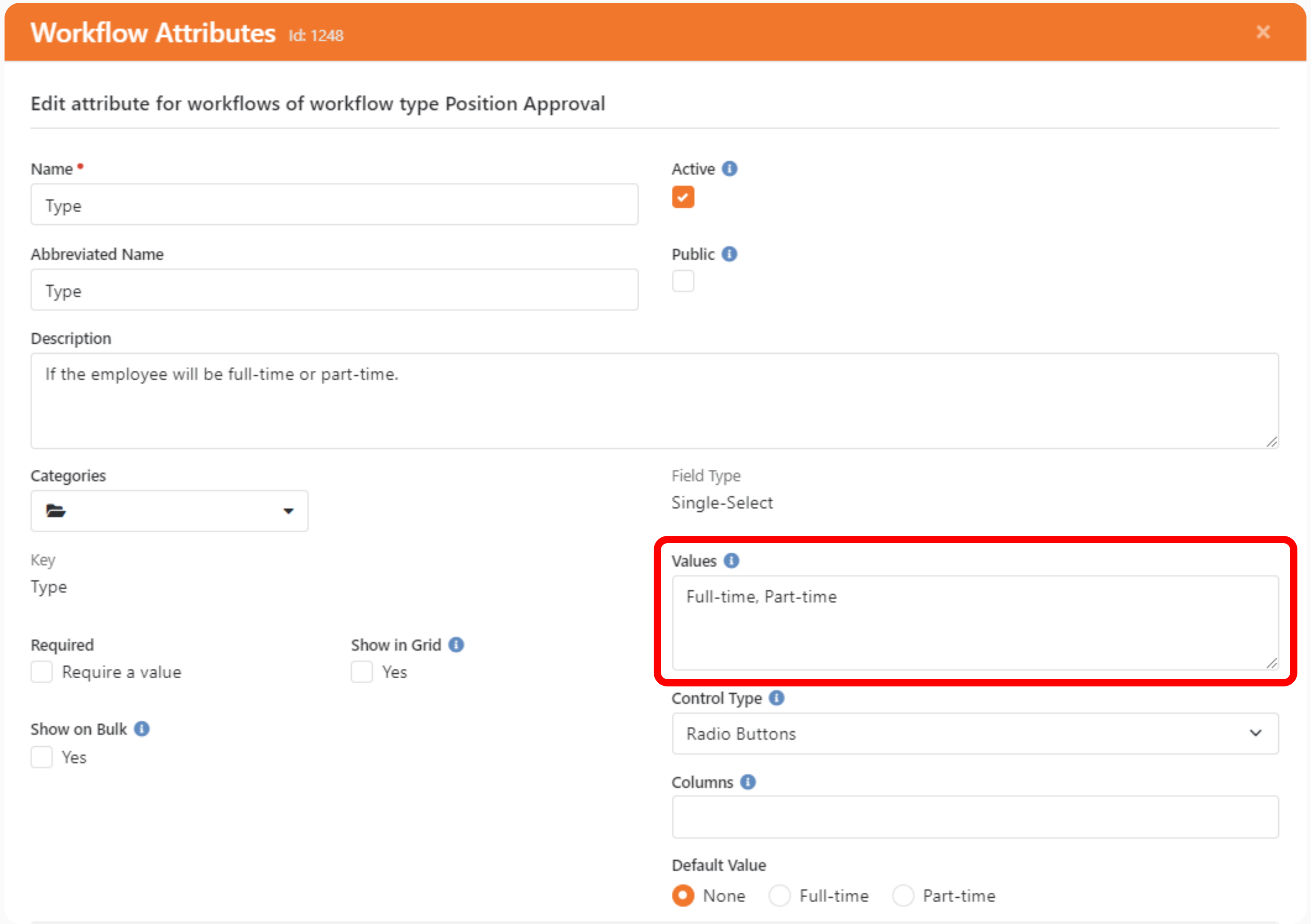




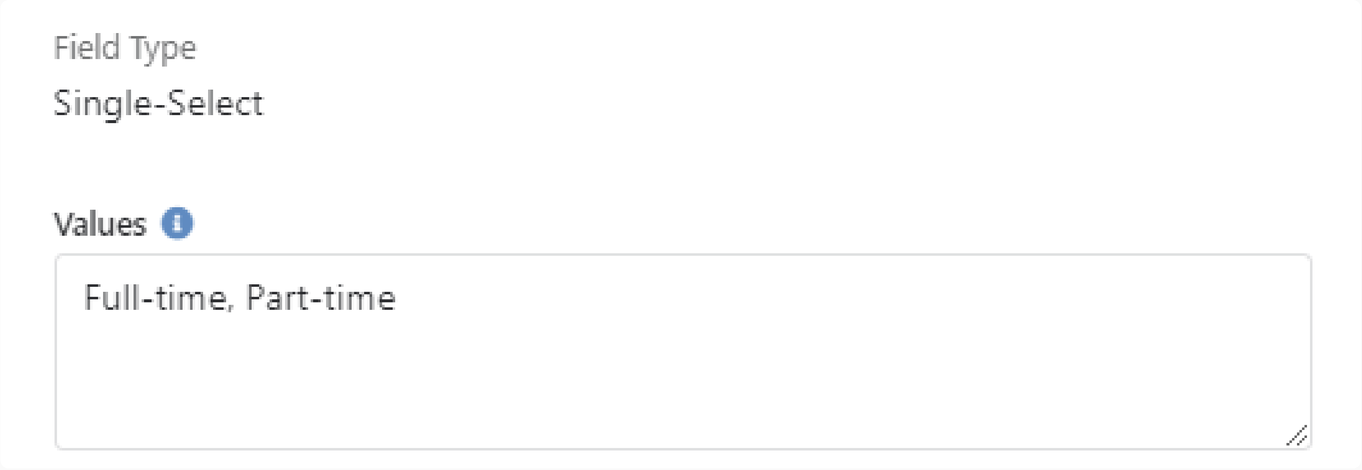
Workflow Action Filters

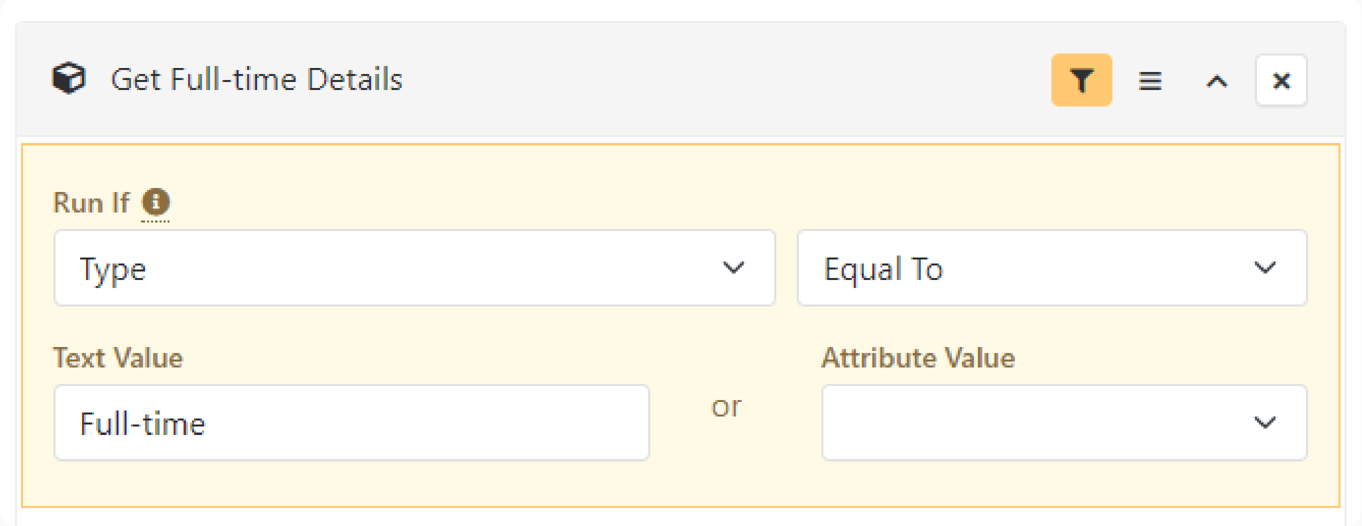
What about single- and multi-selects?

As the workflow type designer, you set the Raw Value



Workflow Action Filters



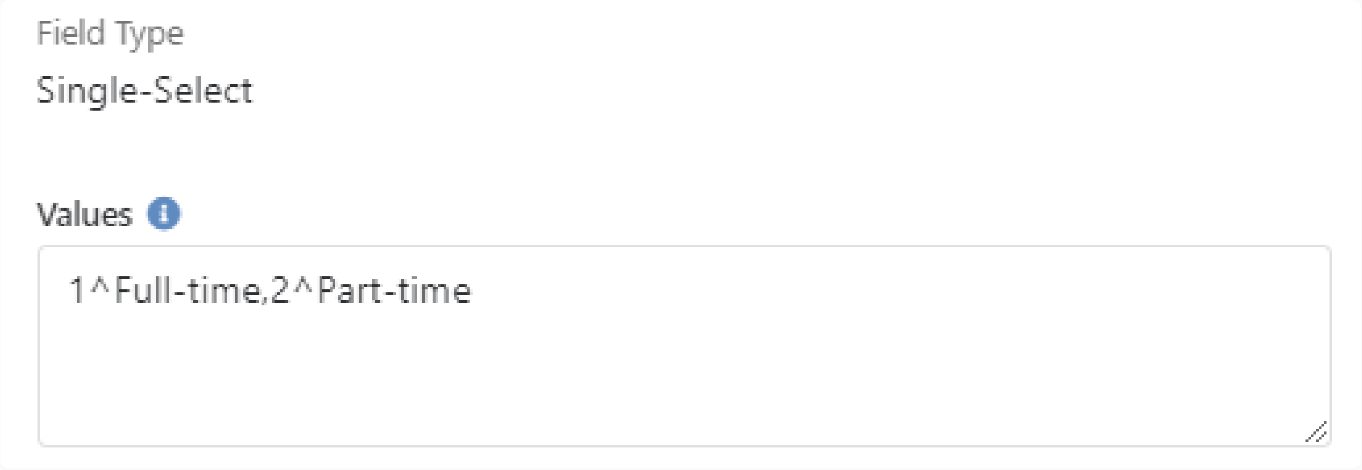


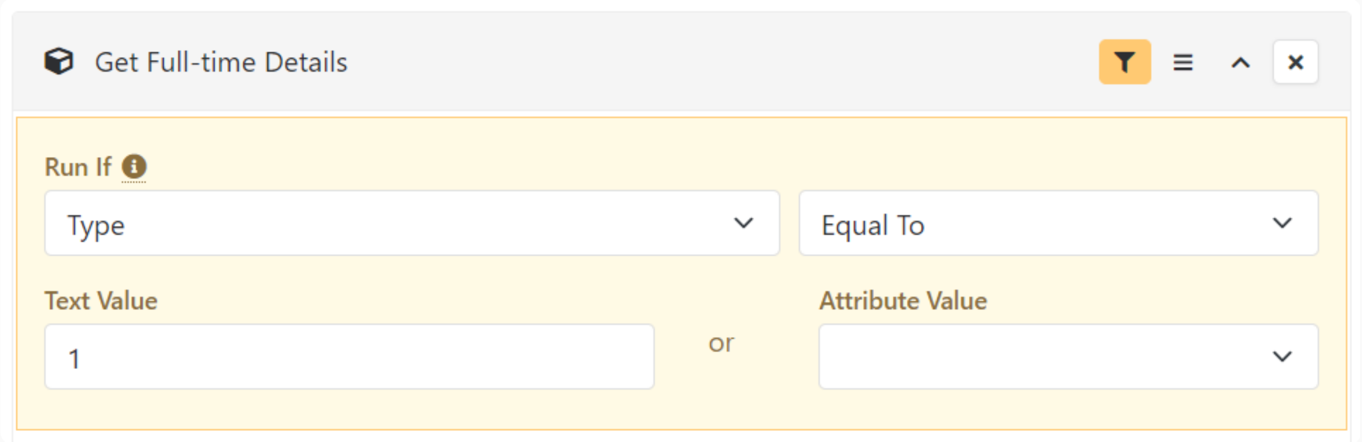
Format 1: Commas

If you use this format, the RawValue will be the full text of the selected option.

“Full-time” or “Part-time”

Workflow Action Filters



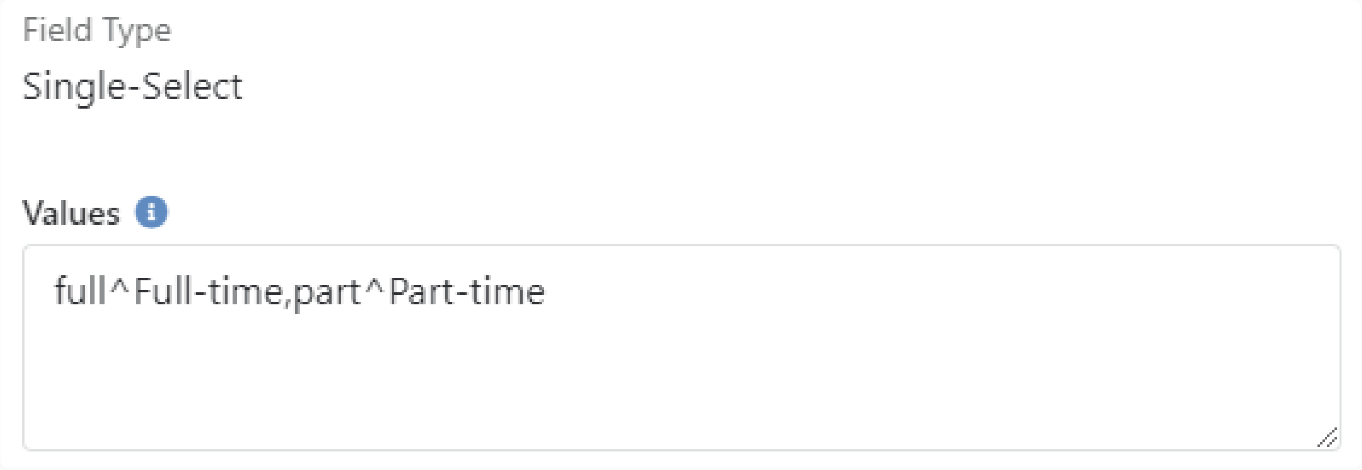


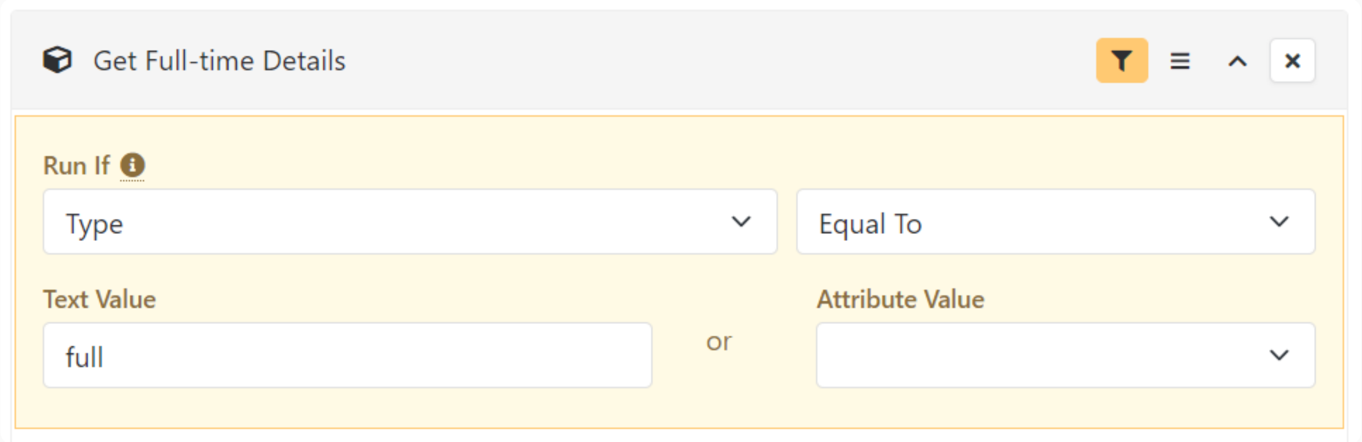
Format 2: Value^Text

If you use this format, the RawValue will be the “Value”.

“1” or “2”

Workflow Action Filters



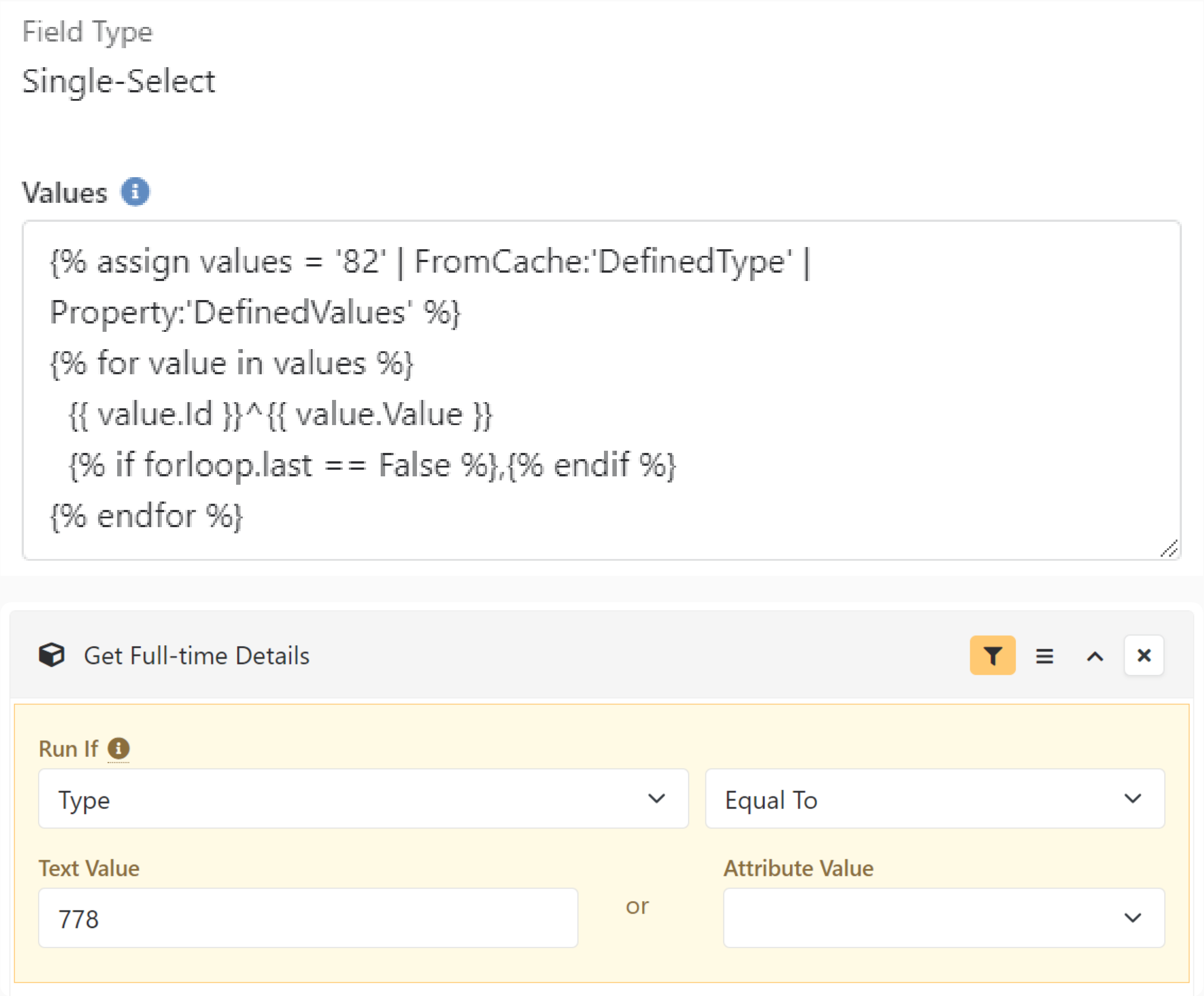


Format 2: Value^Text

If you use this format, the RawValue will be the “Value”.

“full” or “part”

Workflow Action Filters



Field Type

Single-Select

Values

```
{% assign values = '82' | FromCache:'DefinedType' |
Property:'DefinedValues' %}
{% for value in values %}
  {{ value.Id }}^{{ value.Value }}
  {% if forloop.last == False %},{% endif %}
{% endfor %}
```

Get Full-time Details

Run If

Type

Equal To

Text Value

778

or

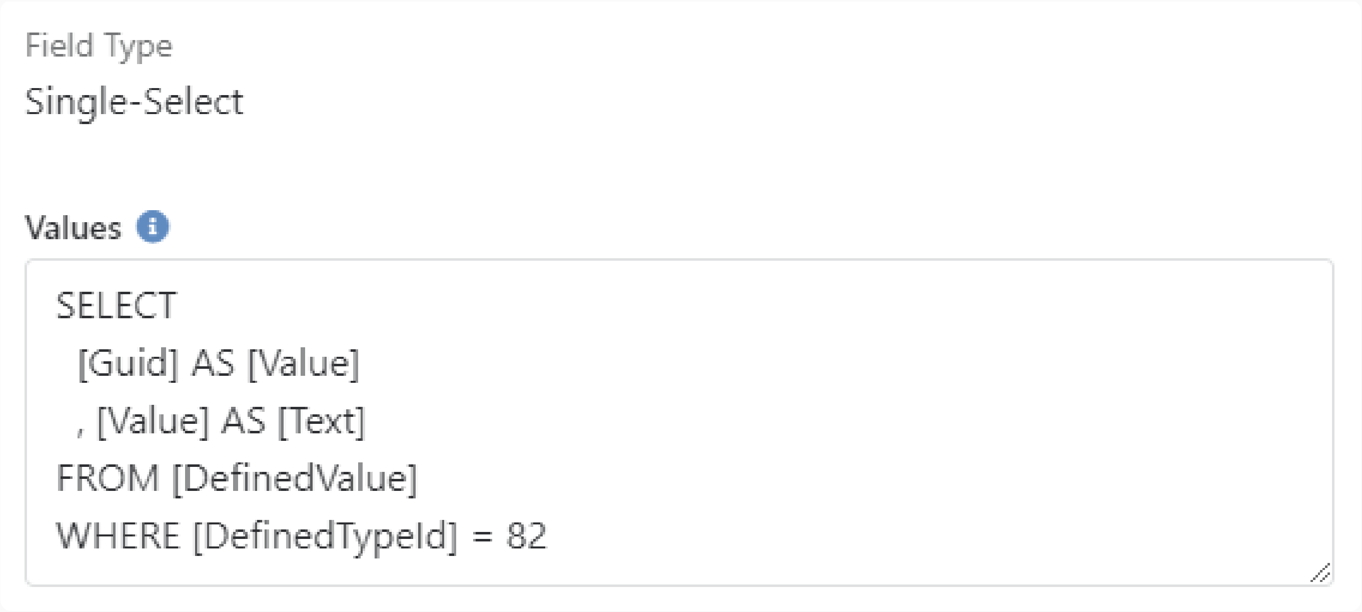
Attribute Value

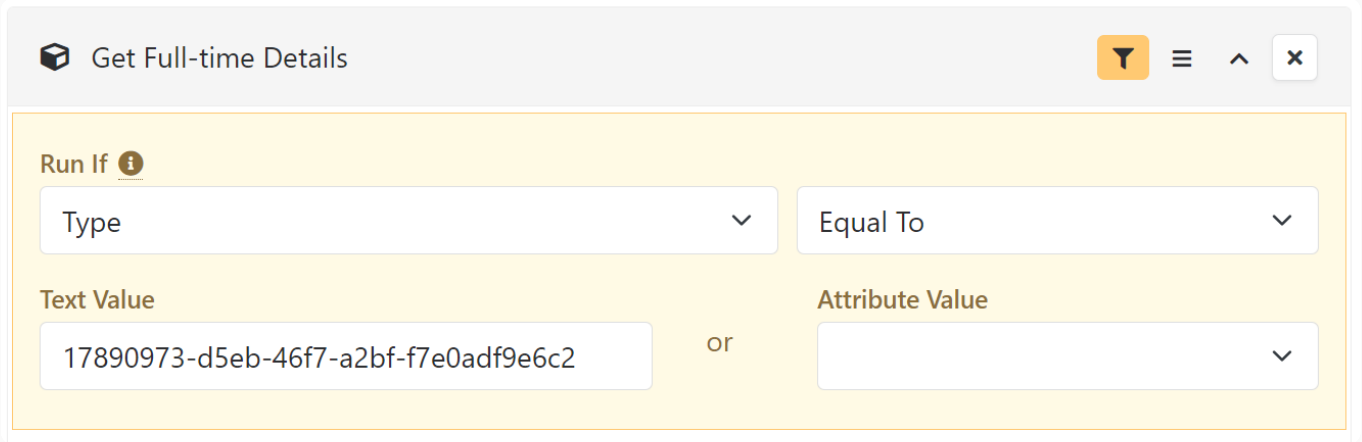
Format 2a: Lava

If you use this format, the RawValue will be the “Value”.

(In this example, the Id)

Workflow Action Filters



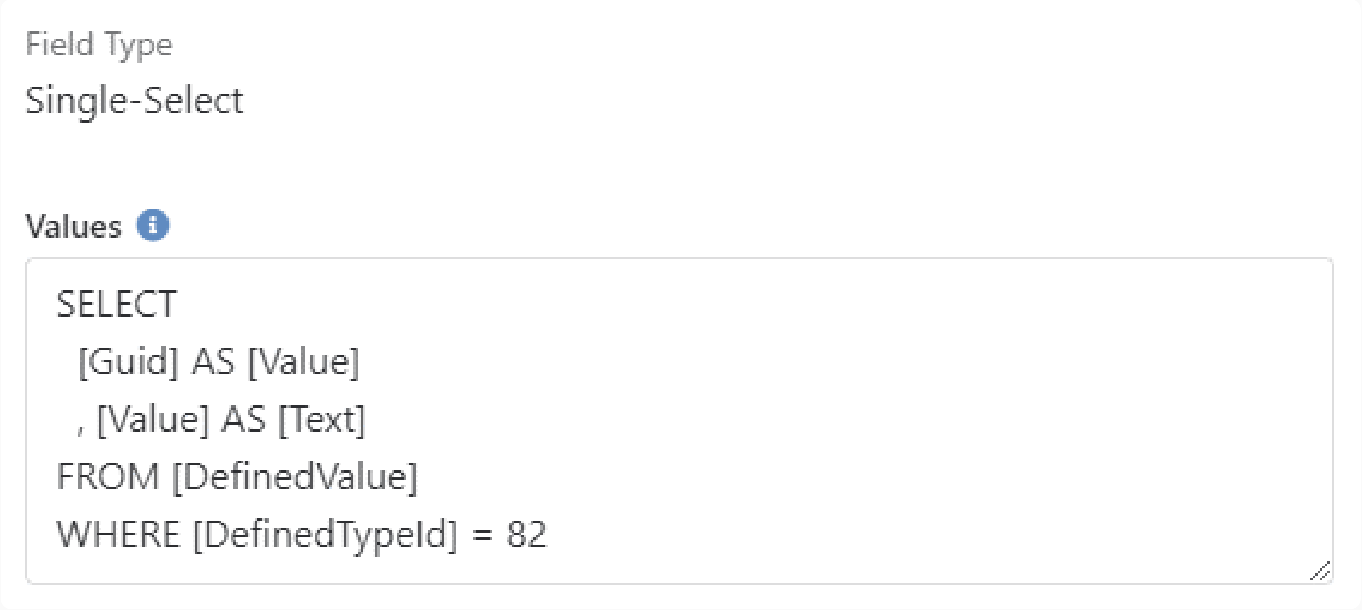


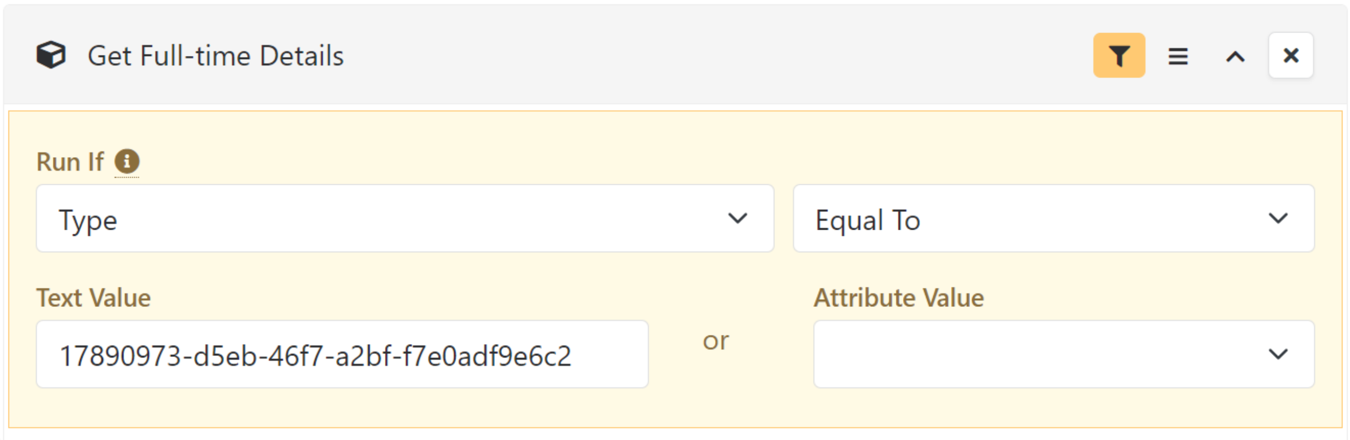
Format 3: SQL

If you use this format, the RawValue will be the “Value”.

(In this example, the GUID)

Workflow Action Filters





Format 3: SQL

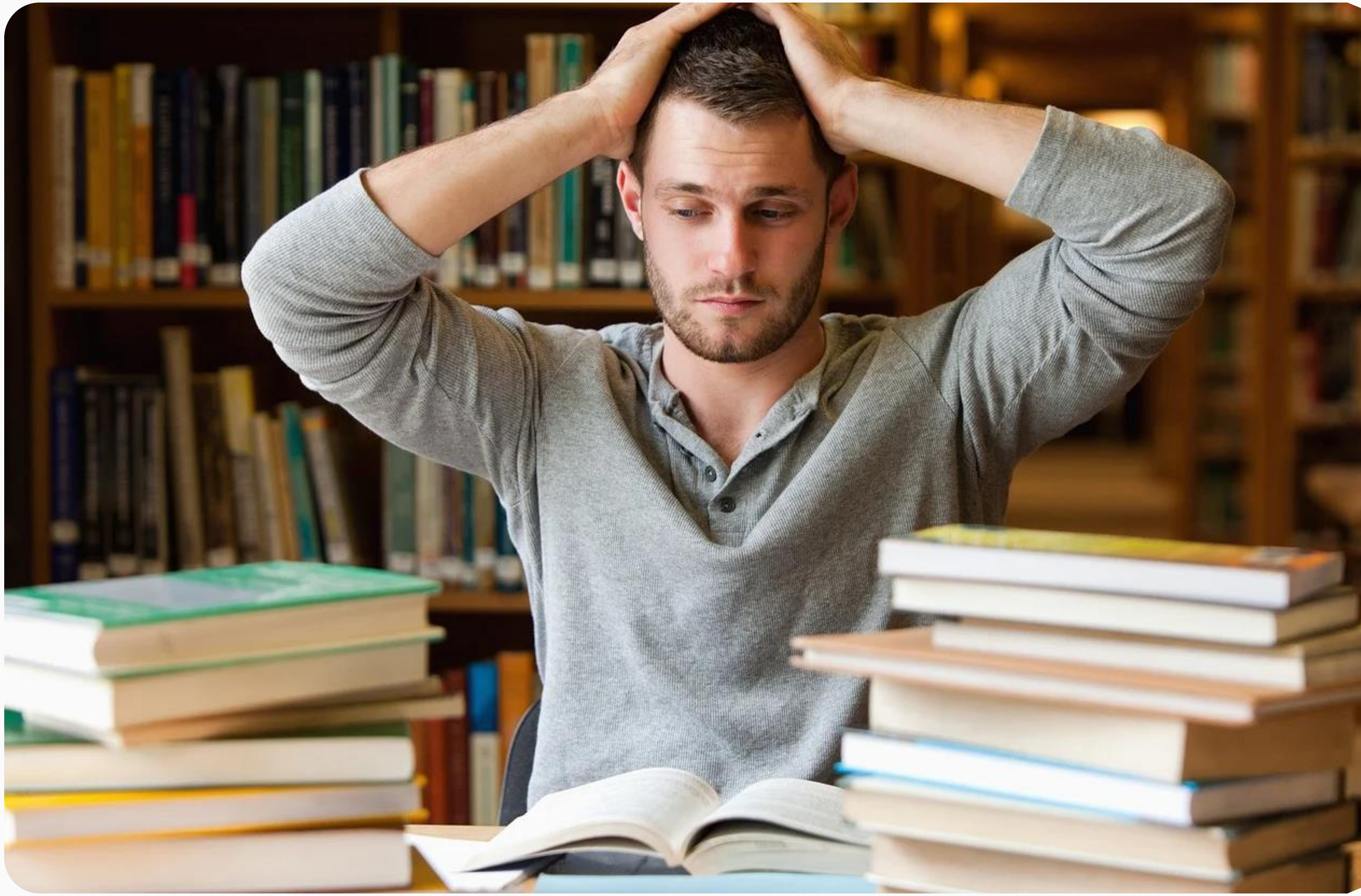
If you use this format, the RawValue will be the “Value”.

Tip:

GUIDs are convenient because you can assign it to an attribute and get the full record

Workflows

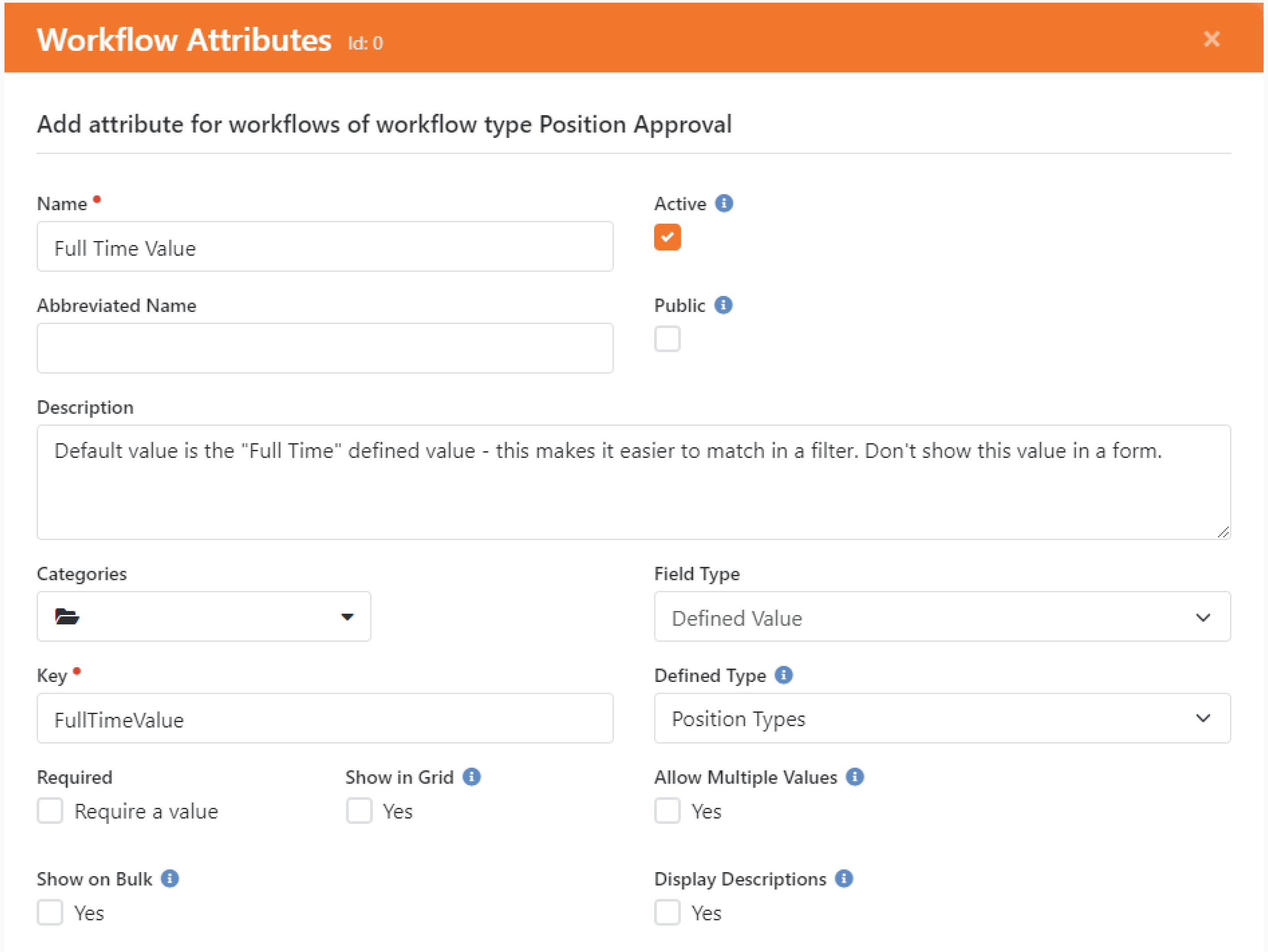
It’s hard to look at the GUID later and understand what I’m matching…



Workflows

Rock gives us lots of options!

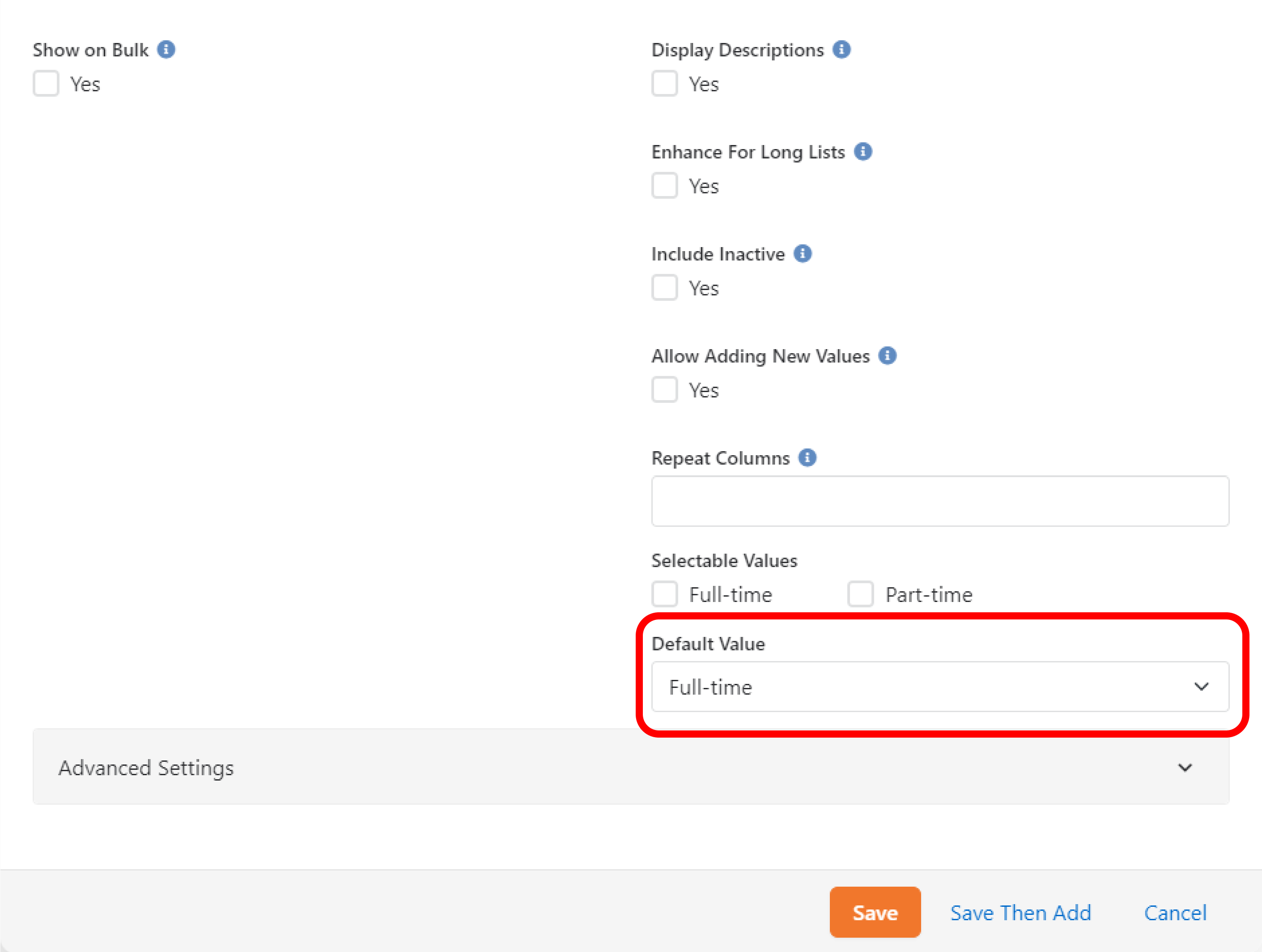
Workflow Action Filters



Alternative: make another attribute

Set the default value to what you want to match.

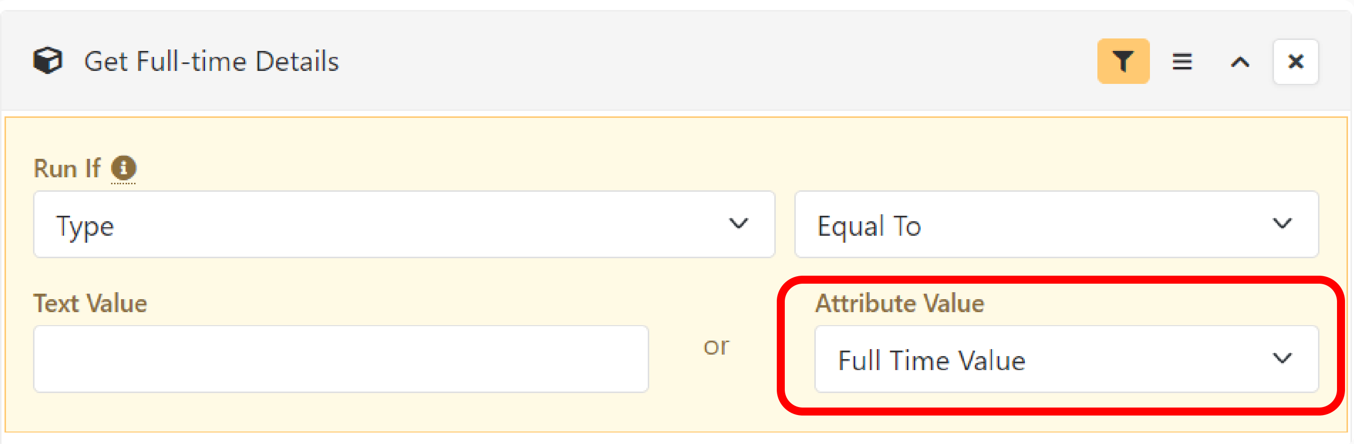
Workflow Action Filters



Alternative: make another attribute

Set the default value to what you want to match.

Workflow Action Filters



Format 3: SQL

Now we don’t need to *type* the Raw Value; just pick the attribute whose raw value equals what you want to match.

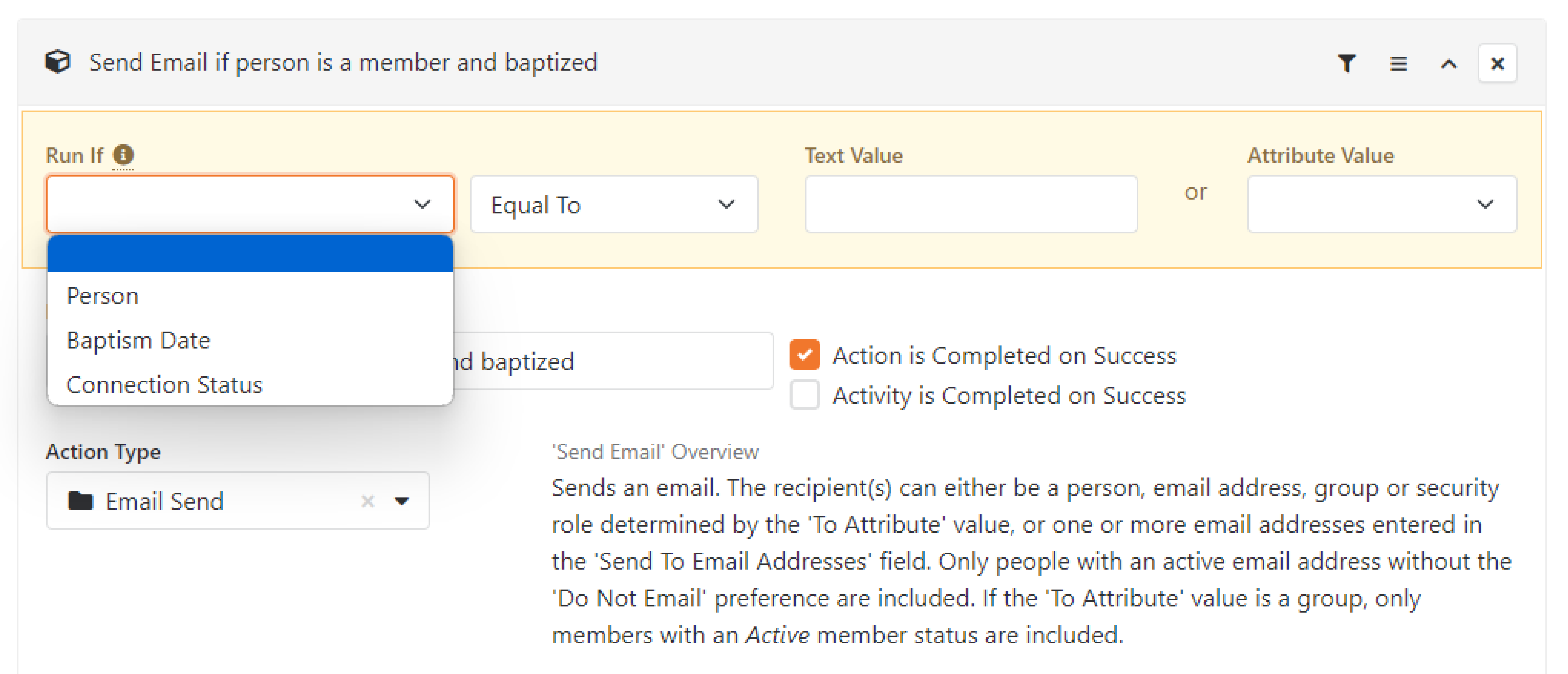
Multiple Filters

Attributes Count: 3

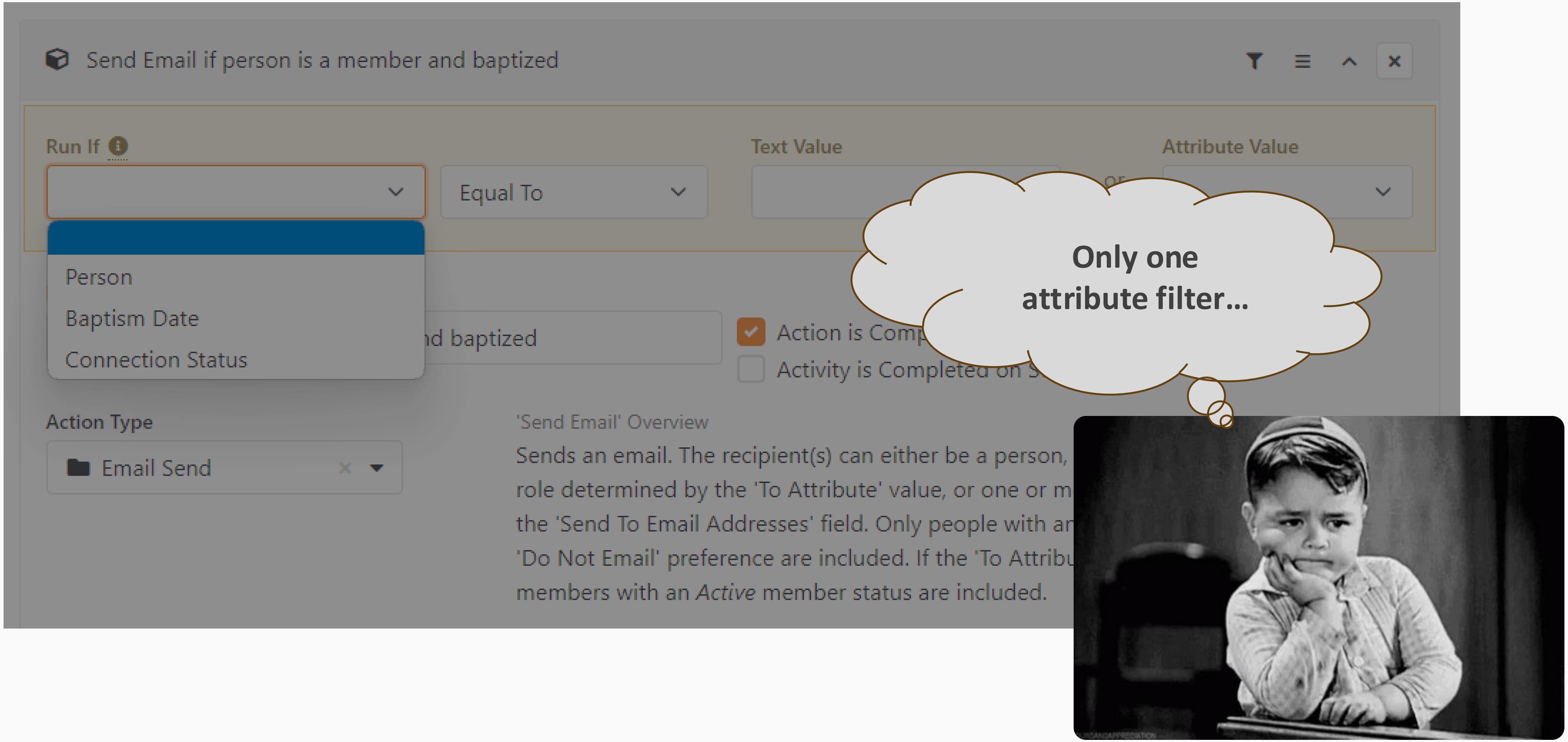
Attribute	Description	Key	Field Type	Required
Person		Person	Person	
Baptism Date		BaptismDate	Date	
Connection Status		ConnectionStatus	Defined Value	

How can I send an email if a person is both a Member, and Baptized?

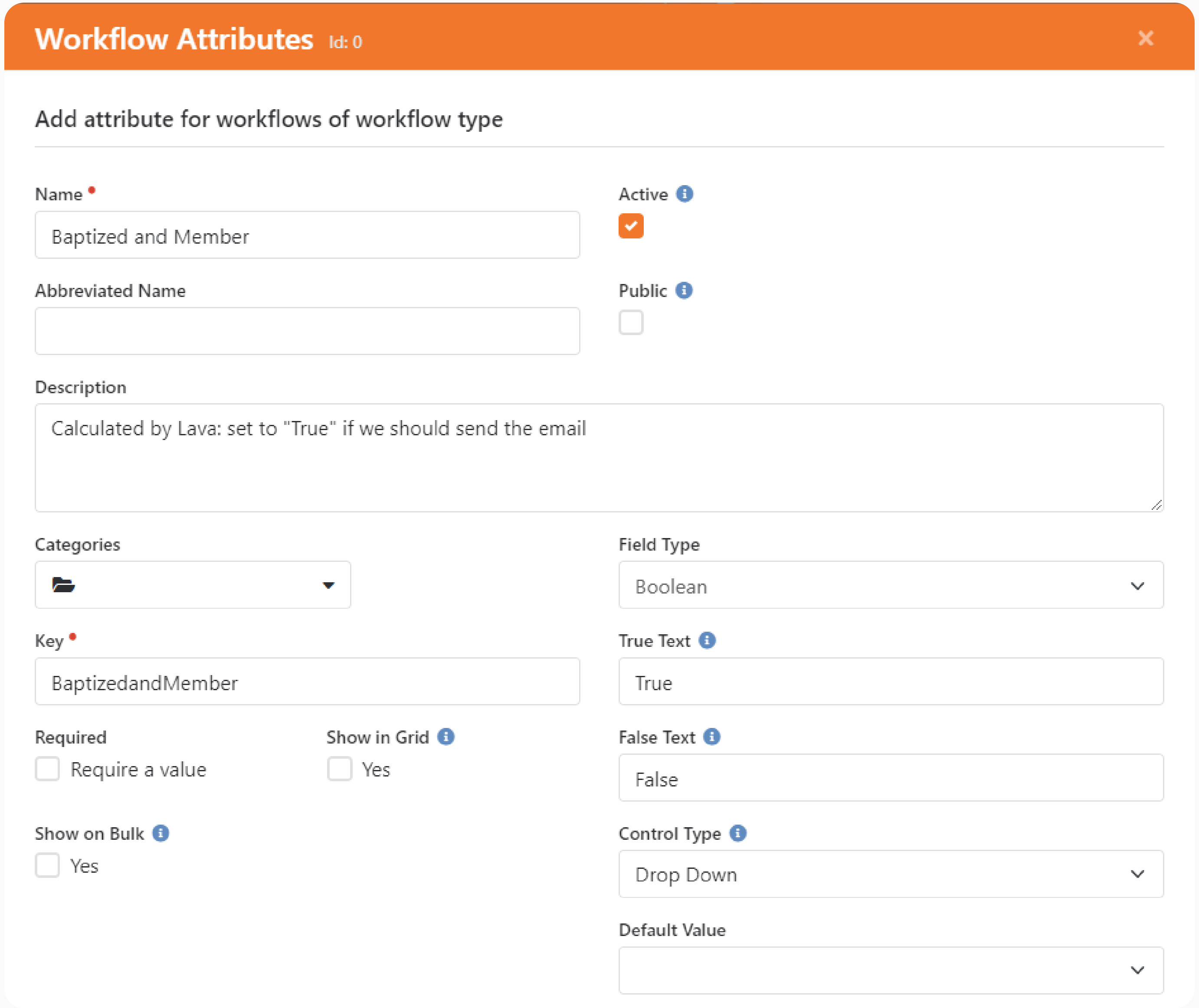
Multiple Filters



Multiple Filters



Multiple Filters



Multiple Filters

Calculate if Email should be sent

Name

Calculate if Email should be sent

- [x] Action is Completed on Success
- [ ] Activity is Completed on Success

Action Type

Lava Run

'Lava Run' Overview

Runs the provided Lava template and sets an attribute's value to the result.

Lava

```
{% assign baptismDate = Workflow | Attribute:'Person','Object' | Attribute:'BaptismDate' %}
{% assign connectionStatus = Workflow | Attribute:'Person','ConnectionStatusValue' %}

{% if baptismDate != '' and connectionStatus.Value == 'Member' %}
    True
{% else %}
    False
{% endif %}
```

Attribute

Baptized and Member

Multiple Filters

Calculate if Email should be sent

Name *

Calculate if Email should be sent

- [x] Action is Completed on Success
- [ ] Activity is Completed on Success

Action Type

Lava Run

'Lava Run' Overview

Runs the provided Lava template and sets an attribute's value to the result.

Lava *

```
{% assign baptismDate = Workflow | Attribute:'Person','Object' | Attribute:'BaptismDate' %}
{% assign connectionStatus = Workflow | Attribute:'Person','ConnectionStatusValue' %}

{% if baptismDate != '' and connectionStatus.Value == 'Member' %}
    True
{% else %}
    False
{% endif %}
```

Attribute

Baptized and Member

Tip:

You shouldn't check the text. It's better to check the Id or something that doesn't change.

Multiple Filters

```
{% assign baptismDate = Workflow | Attribute:'Person','Object' | Attribute:'BaptismDate' %}
{% assign connectionStatus = Workflow | Attribute:'Person','ConnectionStatusValue' %}
{% assign memberStatusId = 65 %}

{% if baptismDate != '' and connectionStatus.Id == memberStatusId %}
    True
{% else %}
    False
{% endif %}
```

True

Multiple Filters

Send Email if person is a member and baptized

Run If

Baptized and Member

Equal To

Text Value

True

or

Attribute Value

Name

Send Email if person is a member and baptized

Action is Completed on Success

Activity is Completed on Success

Action Type

Email Send