

# IFTTT macro body evaluates as Velocity template

With ConfiForms IFTTT macros it is important to note that:

Macro body is evaluated as Velocity Template! This allows you to use `#if` `#end` constructions around JSON mapping parts.

## Field values are stored in Velocity templates under field names!

For multi-value holding fields and for the single choice fields, like dropdowns, radio group fields, etc the field is always present in the context and has the value, so you cannot check it with

```
#if(${somefield})
#end
```

as it will always be evaluated to true, but you can check if it has any values

```
--- check if field has no values

#if(${somefield.isEmpty()})
#end

--- check if the field is NOT empty and has values
#if(!${somefield.isEmpty()})
#end
```

## Single choice field

```
--- get id
#if(${somefield.id})
#end

--- get label
#if(${somefield.label})
#end
```

## Checking if multi-value field has certain label or id

```
--- check if field has label (stored in values)
#if(${somefield.hasLabel("some_label")})
#end

--- check if field has id (stored in values)
#if(${somefield.hasId("some_id")})
#end
```

Also, there is standard set of objects inside the context

```
context.put("entry", entry); <- ConfiForms Entry (raw)
context.put("user", user); <- Confluence user object
context.put("page", contentObject); <- AbstractPage object
```

Since ConfiForms version 1.49.3 there are additional objects in the context:

```
context.put("generalUtil", new com.atlassian.confluence.util.GeneralUtil());
context.put("res", ServletActionContext.getResponse());
context.put("req", ServletActionContext.getRequest());
context.put("action", com.atlassian.confluence.renderer.radeox.macros.MacroUtils.getConfluenceActionSupport());
```

Since ConfiForms version 2.27.3

```
context.put("null", new NullTool()); // helper tool to check for nulls https://cwiki.apache.org/confluence
/display/velocity/NullTool
context.put("esc", new EscapeTool()); // helper tool to escape values https://velocity.apache.org/tools/2.0
/apidocs/org/apache/velocity/tools/generic/EscapeTool.html
context.put("list", new ListTool()); // helper tool to work on lists https://velocity.apache.org/tools/2.0
/apidocs/org/apache/velocity/tools/generic/ListTool.html
context.put("iter", new IteratorTool()); // helper tool to work on lists https://velocity.apache.org/tools/2.0
/apidocs/org/apache/velocity/tools/generic/IteratorTool.html
```

See Apache velocity tools for detailed documentation on these helper classes

Since ConfiForms version 3.10.0

New class that allows you to query other forms for data right inside your Velocity template

Available under "**dataLoader**" and allows you to query other forms.

Returns a list of RegEntry (ConfiForms Entry (raw)) instances

- `findByFilter(long pageld, String formName)`
- `findByFilter(long pageld, String formName, String filter)`
- `findByFilter(long pageld, String formName, String filter, String sortedBy)`
- `findById(long pageld, String formName, String id)`

Very similar to what is available in the context when you develop Confluence user macros:

<https://confluence.atlassian.com/doc/writing-user-macros-4485.html>

<https://developer.atlassian.com/server/confluence/confluence-objects-accessible-from-velocity/>

which you can reference as any other variable in Velocity using velocity syntax, for example: `${page.id}` to reference page id of current page

Also, a helpful link from apache

---- copied from Apache <https://wiki.apache.org/velocity/CheckingForNull>

Q: I want to check for null, something like this:

```
#if ($car.fuel == null)
```

A: There are several approaches. Select the one most suitable depending on what you really want to do. (Thanks, everybody, for all the [feedback on the user list](#).) See also: [Bugzilla #20999](#), [Bugzilla #27741](#), [VelocityNullSupport](#).

**Approach 1:** Use the fact that null is evaluated as a false conditional. (cf. <http://velocity.apache.org/engine/devel/user-guide.html#Conditionals>)

```
#if( ! $car.fuel )
```

*Note:* The conditional will also pass if the result of `$car.fuel` is the boolean false. What this approach is actually checking is whether the reference is **null or false**.

**Approach 2:** Use the fact that null is evaluated as an empty string in quiet references. (cf. <http://velocity.apache.org/engine/devel/user-guide.html#quietreferencenotation>)

```
#if( "$!car.fuel" == "" )
```

*Note:* The conditional will also pass if the result of `$car.fuel` is an empty String. What this approach is actually checking is whether the reference is **null or empty**.

BTW, just checking for **empty** can be achieved by:

```
#if( "$car.fuel" == "" )
```

**Approach 3:** Combine Approach 1 and 2. This will check for **null and null only**.

```
#if ((! $car.fuel) && ("!car.fuel" == ""))
```

*Note:* The logic underlying here is that: "(null or false) and (null or > empty-string)" => if true, must be null. This is true because "false and empty-string and not null" is never true. IMHO, this makes the template too complicated to read.

**Approach 4:** Use a Tool that can check for null ([NullTool](#), [ViewNullTool](#)).

```
#if( $null.isNull($car.fuel) )
```

*Note:* Of course, [NullTool](#) must be in the Context as \$null in this case (in ConfiForms it is included into the context under "null" variable name).



In ConfiForms version 2.15.3+ we have extended NullTool to have 2 more convenient methods (isNullOrEmpty and isNotNullOrEmpty) to check if the value is null or empty

```
isNull
isNullOrEmpty
isNotNull
isNotNullOrEmpty
```

**Approach 5:** Don't check for null directly, use a self-explaining method.

```
#if( $car.fuelEmpty )
```

*Note:* This is my (Shinobu Kawai's) recommended solution. You have to implement the method, but it makes the template so easy-to-read.

```
public boolean isFuelEmpty()
{
    // return true if fuel is empty.
}
```

**Approach 6:** Use a custom directive. cf. [IfNullDirective](#), [IfNotNullDirective](#)

```
#ifnull( $car.fuel )
#ifnotnull( $car.fuel )
```

*Note:* You will have to register the directive in your velocity.properties.

```
userdirective = org.apache.velocity.tools.generic.directive.Ifnull
userdirective = org.apache.velocity.tools.generic.directive.Ifnotnull
```