

CPQ Workflow Basic Theory

You build a configurator, which your users launch to build a custom product. One configurator can be used thousands of times to create many different custom products. After your user finishes configuring a custom product, they click submit to complete their work. This starts a workflow... a series of steps you design that completes the CPQ process.

Discover how workflows control approvals and generate documents. Review the three workflow states that help you build your workflow. And build your first basic workflow.

Objectives

- Workflows and the workflow selector
- Three workflow states
- Build a basic workflow

Workflows and the Workflow Selector

When your user launches one of your configurators, they create a custom product. If you want to save your configuration so you can return to it later, click Save.

Think of this saved configured product as a draft and you have not yet submitted it for processing. If you're happy with your configuration and want to submit it for processing, click Save to quote.

Your configured product will be saved to a new quote, and you can see the quote details appear. When you are ready, click Submit at the bottom of the quote.

The quote will be submitted into a workflow.

A workflow is a series of steps, or states, you design. Through these states a workflow organizes approvals, builds documents, and secures the quote so the right people can perform the right tasks.

Our example quote is being processed by a simple workflow that generates documents. So after our user clicks submit, they see the state of the quote change from unsubmitted... to "building documents"... to "waiting for customer". Now that the workflow is done, a document can be seen in the custom product's attachments.

Let's see how this is done. We'll leave the user interface, and return to the administrative interface. Under "Quotes and Workflows", we can see the list of Workflows.

Your organization can have one workflow, or many, depending on your needs. The best practice is to start with one workflow, and then factor it into multiple workflows only when required. Here, we see this organization has many workflows.

If there is more than one workflow, then logic in the workflow selector decides which workflow will process any submitted quote.

Click "Quotes and workflows... Workflow selector" to see the workflow selector.

The workflow selector can use simple logic (to always use just one of the workflows as the default workflow). It can also use Snap code to override the default with more complex logic.

For more specifics on the workflow selector, see the documentation. In this example, we'll simply specify a default workflow.

In summary, when your customer clicks submit, the workflow selector decides which workflow should be used to process that quote. The quote then enters the workflow, and processing starts.

All this work happens in the cloud, not on the user's device. After they submit, they can close their browser or move on to other tasks. The workflow is not interrupted.

Three Workflow States

We've seen where workflows are stored. But how do we build one?

We build our workflow with Snap rules. If you open an existing workflow rule, or create a new one, you will see a Snap workspace appear.

We need to create the specific steps, or states, that our quote could go through.

There are 3 basic states, and each one gets its own Snap block.

Let's review the 3 states before we build a workflow using them.

The build state creates the documentation we specify.

When a quote enters a build state, an automated process scans every product within the quote, looking for the builds specified. If it finds one in a custom product, it then creates the documentation for it.

Only the specified builds are run. Other builds are ignored. They could be run later in a subsequent build state, or not built at all. It depends on your workflow design.

This state block has a name property. This is what our users will see on the quote while it remains in this state.

The block also has some other slots which we can specify, or leave empty.

For example, Snap code can run when a quote first enters this state, or when it leaves the state after the documents are built.

(Other slots on workflow blocks, like the permissions slot, are described in the next class.)

That's the block for the "build" state.

The approval state helps your workflow in a different way. It lets specific coworkers decide if the quote should proceed or not.

Once a quote enters an approval state, only the users with a name or role shown here can see buttons on the quote to approve or reject it. These buttons are invisible to everyone else.

As with other workflow state blocks, optional Snap code can be run when a quote enters this state, or when it leaves the state.

Optionally, you can add rejection reasons to a list. If you do, then these will appear when the reject button is clicked.

Rejection reasons are not required, but can help your company with process improvement.

If the two actions of Approve and Reject aren't enough, you can add your own custom buttons to the user interface. These are called workflow actions, and are described later.

Also, as with other states, we can override the default permissions.

Finally, there's a third state block for building your workflow. It's called the general state.

The general state is used when no documents need to be built, and no approvals need to be gathered.

The general state is often used for the final state of your quoting workflow, such as a "Complete" or "Quoted" state. Or it can be used to store quotes that cannot be processed any more, like a "Rejected" state.

There's very little to do in a general state. You can specify any rules to run when a quote enters this state.

And as before, you can override the default permissions.

You can also specify an action.

Given these three build, approval, and general states, you can combine their blocks into just about any approval process your company needs for generating customer documents.

Build a Basic Workflow

Let's use what we've learned to build a basic workflow.

Workflows always start a quote in the "Unsubmitted" state. Our example workflow takes the submitted quote, builds the documents we specify, then places the quote into a "Waiting for Customer" state. Therefore, we need to create a workflow with two states: a build state called "build documents" and a general state called "waiting for customer."

In the administrative interface, use "quotes and workflows" > workflows to see a list of workflows. Click Add to create a new one.

The Snap workspace to create the workflow appears. You see the foundation workflow block.

First, give your workflow a name.

Create a build state, and give it the name "Building Documentation".

Under the builds slot, add the names of the quote or configurator builds you want generated.

We can specify where the quote should go once the documentation build process completes or fails. Find the "go to state" block in the toolbox, and drag it into the two slots.

The state we want to go to next hasn't been built yet, so we can't select it from the list. We'll come back to complete this.

When a document is created, permissions control who can see it. If we don't specify any permissions, then by default nobody can see it.

Let's be sure that everyone can see the document created. Click the add symbol next to "permissions", and add a "view outputs with tag" block. Pick a tag used in your custom product's build, and add a "user role" block to specify all users.

Next, create a general state called "Waiting for Customer".

This will be the final state for our workflow.

Now that we have all the states built, we can complete our unfinished work in the "Building Documentation" state.

Return to that state, and select "Waiting for Customer" in the two "go to state" blocks.

Our workflow is complete! Save your work. You'll return to the list of workflows.

Check to see that the green "default" symbol is shown next to the workflow you've just built. This symbol shows which workflow will process any submitted quotes, unless overridden by the workflow selector logic.

If the green default symbol is not next to the correct workflow, then click "quotes and workflows... workflow selector" in the administrative interface.

If you see another workflow listed as the default, or if you see Snap code in the workflow selector, then other colleagues have written logic. You should consult with them before changing the workflow selector.

Here, we will disable any logic, make a note so others know why it's been disabled, and set our default workflow.

Save your changes.

Test it out as a user would! Click the "products" tab, launch a configurator, save it to a quote, and submit it.

You'll see a new quote go through the workflow states. And a document will appear beneath the custom product in the quote.

(If no document appeared, check the builds in that configurator: maybe the build is not active, or you didn't specify the correct build name or tag name. More information can be found in the quote's "State" drop-down list, or in the server logs found in the administrative interface under "Infrastructure... Logs").

Recap

- You discovered how workflows control approvals and document generation.
- You reviewed three workflow states that help you build your workflow.
- And you've seen the basic settings necessary to build a simple workflow.

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