Service Design and Create Workflow Designer User Guide

Contents

1   About this Document

This document describes the Workflow Designer for the Service Design and Create (SDC) user interface.

This document assumes familiarity by the user of Business Process Model and Notation (BPMN) and will concentrate on the enhancements to the http://bpmn.io/ viewer and editor in the Workflow Designer. In addition, the library from the Camunda BPM Platform is used to add functionality to workflow modeling.

For more information about BPMN visit http://www.bpmn.org/ and view the BPMN Quick Guide at https://www.bpmnquickguide.com/view-bpmn-quick-guide/.

For more information about Camunda visit https://camunda.com/ and view the Camunda Get Started Guide at https://docs.camunda.org/get-started/quick-start/.

2 Workflow Designer Overview

The purpose of the Workflow Designer is to enable designers to define the workflow for supporting Service/Resource change management scenarios.

The workflows are based on tasks and can be introduced or modified independently of the network virtualization platform. Tasks are implemented using activities which are reusable building blocks. These activities were created prior to creating the workflow by the Service Orchestrator (SO) and include pre-defined I/O elements. Activities were then uploaded to SDC via an API. The result of this process is the creation of a BPMN workflow which will be associated with a Service/Resource operation.

For more information about activities and their APIs, visit https://wiki.onap.org/display/DW/Manage+Activity+Spec.

The following designer tasks are addressed in this User Guide:

- Create workflow.
- Edit workflow details.
- Submit workflow for

certification. The designer is able

to:

- Define a workflow
- Set inputs and outputs of the workflow
- Associate activities with workflow tasks
- Establish dependencies between tasks in a workflow
- Map inputs and outputs of workflow and activities to inputs and outputs of an activity

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NOTE: Inputs and outputs that are used within activities are defined via the activity creation API and not by using the SDC UI.

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3   Using the Workflow Designer UI

To access the Workflow Designer UI, sign in to SDC as a

Designer. The Workflow UI allows you to do the following

tasks:

- View Workflows (on page 4)
- Add Workflow (on page 6)
- Define Workflow Inputs and Outputs (on page

    7) Within the composition area:

- Design a workflow in the editor. This uses the standard http://bpmn.io/

    editor functionality as well as the Camunda properties pane library; neither
    is explained in this document. See Chapter 1, About this Document (on page
    1) for relevant links.

- Assign Workflow Input and Output Values (on page 8)
- Create Service Tasks (on page 9)
- Upload and Download Artifacts (on page 11)

View Workflows

Describes how to view workflows in SDC.

1.   Click the **WORKFLOW** tab.

    The active workflows in SDC appear. This includes both certified and
    draft workflows.
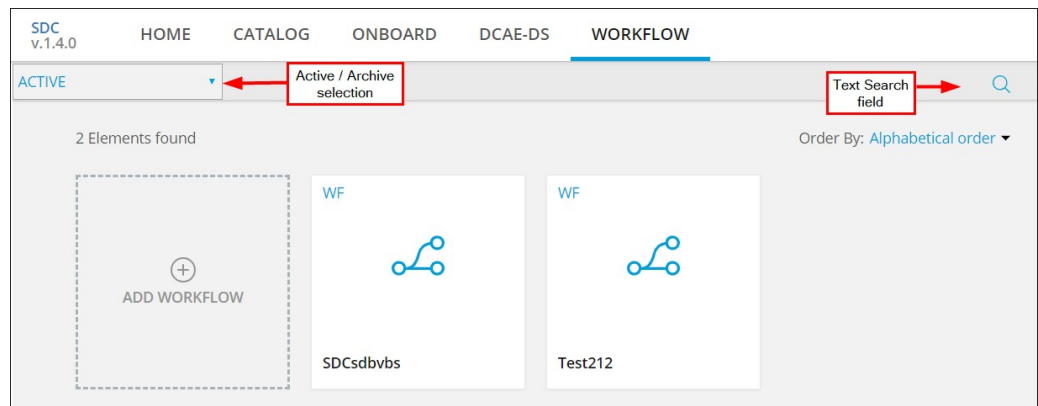
- The list of workflows can be sorted in either ascending or descending alphabetical order.
- To filter the list by name, click the search icon and enter text in the search field. The search uses "contains" logic.

  When you click the **Workflow** breadcrumb link to return to the search page, the applied search text remains in effect. Clear or change the text search to view other workflows.

- To view archived workflows, select **ARCHIVE** instead of **ACTIVE** above the set of workflows. See Workflow Deprecation (on page 11) for more information.

2. Click **ADD WORKFLOW** to create a new workflow. See Add Workflow (on page

   6) for a full explanation on creating a workflow.
3. Click a specific workflow. The workflow **OVERVIEW** page appears.
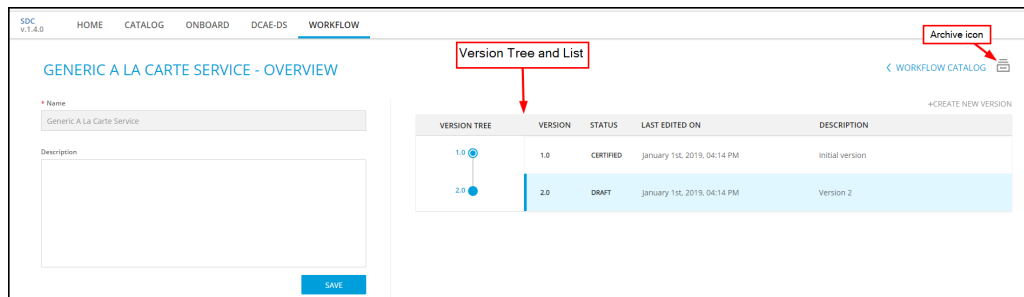
From the overview page you can:

- Edit the **Description** of the workflow.
- **Create** a new version for this workflow and provide a description for this version. You cannot create a new version if a draft version currently exists.

NOTE: Only major versions can be created. Workflow versioning does not support minor versions.

- Select a specific version, either certified or draft. Certified versions can only be viewed.

  After selecting a specific version of a workflow, the **General** page for the version appears. From the general page you can:

  - Update the version **Description**.
  - View the Created and Modified timestamps for this version.
  - Access the workflow **Input/Output** page.
  - Access the workflow **Composition** page.

- If you have selected the draft version or have created a new version, you can **Save** updates to the draft, **Certify** this version, or undo changes from the last save.
- Select a different version of this workflow in the **Version** select box. The selected version will appear in the UI. Updates to a draft that had been made will be lost if the draft was not saved or certified.
- Click **Workflow Overview** to return to the overview page.

Add Workflow

Describes how to add a new workflow in SDC.

1. Click the **WORKFLOW** tab.

   All the workflows in SDC appear. This includes both certified and draft workflows.

2. Click the **ADD WORKFLOW** tile.
3. Enter a **Name** and **Description** for the workflow and click **CREATE**.

   The **General** page for the initial version appears. From the general page you can:

   - Update the version **Description**.
   - View the Created and Modified timestamps for this version.
   - Access the workflow **Input/Output** page.
   - Access the workflow **Composition** page.
4. **Save** updates to the draft or **Certify** this version.

Define Workflow Inputs and Outputs

Describes defining input and output parameters for a workflow.

About this task

The input and output parameters defined in the UI are those to be used on the workflow level.

1. Select a draft version of a workflow.
2. Select Input / Output from the left pane menu.
3. Click either the **Inputs** tab or the **Outputs** tab as needed.
4. Click **+ADD INPUT** or **+ADD OUTPUT**.
5. Enter a **Name** and select a **Type**.

   Valid characters for Name are alphanumeric, underscore, and space.

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The same name can exist as both an input and an output parameter, but must be unique within the inputs and within the outputs.

6. Select **Mandatory** if required.

7. For each input or output, repeat steps 3 through 6.
   - Add, delete, or modify parameters as long as the workflow version has not been certified.
   - Search for inputs and outputs with the search fields. Click the search icon and enter a search string. The search uses "contains" logic.

8. **Save** updates to the draft or **Certify** this version.

Composition

The composition facility is based upon bpmn.io together with libraries from the Camunda BPM Platform. This section will describe the enhancements provided in SDC.

Workflow enhancements are done using the composition canvas and include the following:

- Assign Workflow Input and Output Values (on page 8)
- Create Service Tasks (on page 9)
- Upload and Download Artifacts (on page 11)

See Chapter 1, About this Document (on page 1) for reference information for BPMN and Camunda.
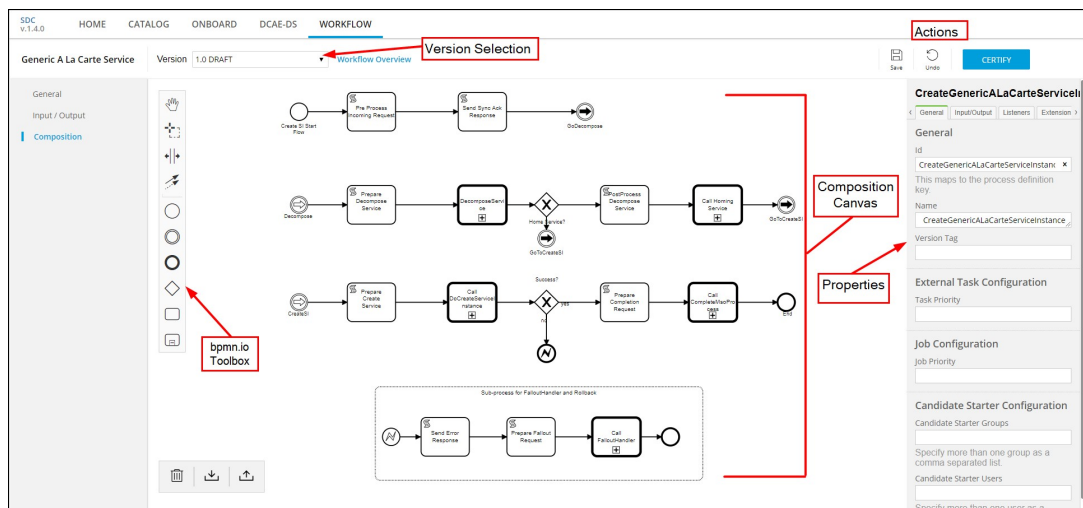
At any time in the workflow creation/update process, you can:

- **Save** updates to the draft version.
- **Certify** the current version.

▪ Click ▣ to clear the composition canvas.

Assign Workflow Input and Output Values

Inputs and outputs previously defined in the Input /Output area of the workflow can be assigned to the workflow model.

1. Click an empty area of the canvas.
2. In the right-side panel, select the **Input/Output** tab.
3. Select each I/O parameter and provide a value if needed.

    These values can be a static value or provided by a script, for example: `${name of input}.`

    This allows the following mappings:

    ▪ A static value mapping to a workflow input/output parameter.
    ▪ An activity output parameter to a workflow output parameter.
    ▪ Any script mapping to workflow input/output parameter.

    The parameter name and type are defined in Workflow Input / Output and cannot be changed from the composition screen.

Create Service Tasks

A task in a workflow can be set as a service task. This service task can then be associated with a pre-defined activity which holds the task implementation.

1. Click and drag the **Create Task** icon ☐ from the left-side panel, or click an event on the canvas and click the **Append Task** icon ☐.
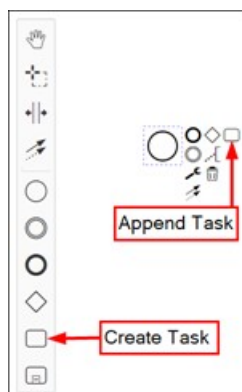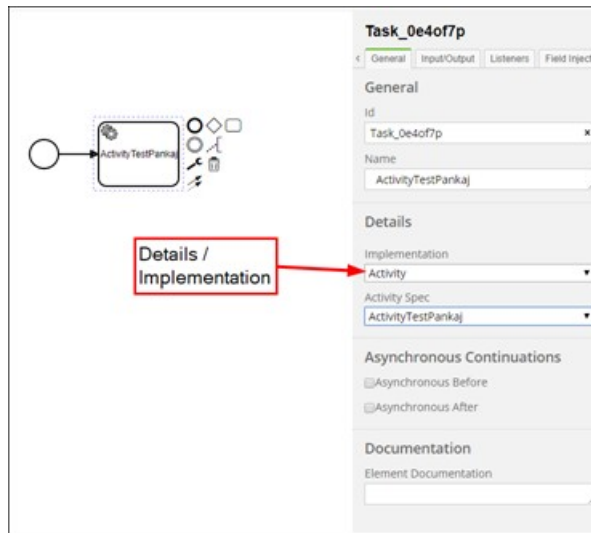

2. Position the task and connect it to other elements on the canvas.

3. Click the task, click the **Change Type** icon ✎, and select **Service Task**.
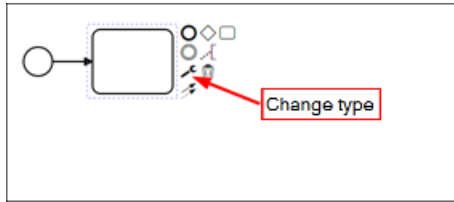
The task will now include the service type icon 🌐 within it.

4. On the right-side panel, select the **General** tab, and for

    Details/Implementation, select **Activity**.

The **Activity Spec** selection box appears.

5. For Activity Spec, select an activity.

    The selected activity name becomes the task name.

6. Select the **Input/Output** tab.
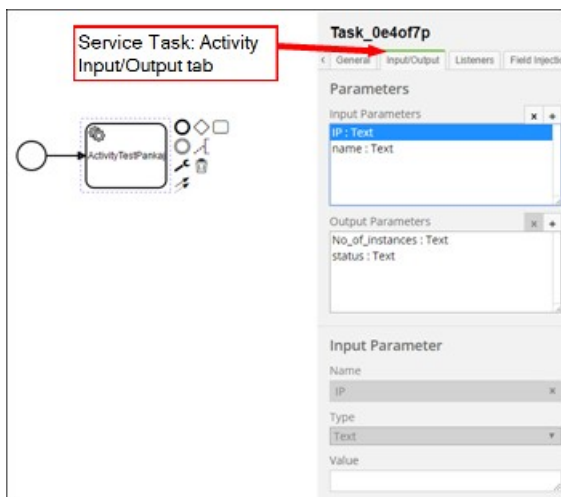
7.	Select each I/O parameter and provide a value if needed.

These values can be a static value or provided by a script, for example: ${name of input}.

This allows the following mappings:

▪	A workflow input parameter to an activity input parameter.
▪	An activity output parameter to an input of another activity.
▪	A static value mapping to an activity input/output parameter
▪	Any script mapping to an activity input/output parameter

The parameter name and type are pre-defined on the activity and cannot be changed.

Upload and Download Artifacts

From within the workflow, you can download the workflow as a .bpmn file to an external location. Similarly, you can upload a .bpmn file to SDC from an external location.

▪	To download a bpmn file, click the download icon ⬇ at the bottom of the canvas.
▪	To upload a bpmn file, click the upload ⬆ icon at the bottom of the canvas.

The upload action will make the uploaded workflow the working workflow and it will replace any existing workflow on the canvas.

Workflow Deprecation

Workflows can be removed from the active set of workflows and be archived. An archived workflow can continue to be used in an existing service/resource, but cannot be modified or associated with a new service/resource. This is useful when you want to prevent updates to a workflow that is currently in use.
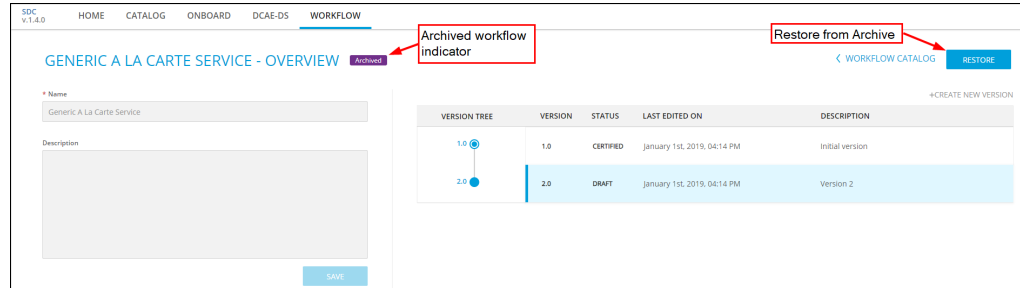
•	To archive a workflow, click the archive icon on the workflow Overview page.
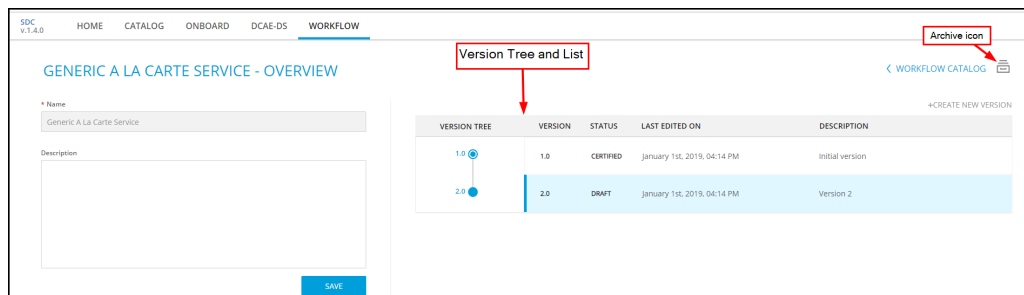
The workflow is archived, and the archive indicator appears next to the

workflow name on the Overview page. The workflow can only be viewed when viewing archived workflows.

▪ To restore a workflow to active, click **RESTORE** on the workflow overview page.

The archive indicator is removed and the workflow can be viewed along with all other active workflows.

▪ To view archived workflows, select **ARCHIVE** instead of **ACTIVE** when viewing the set of workflows.