Level 2 - Modifying workflows

In this tutorial you will learn the basics of workflow creation:

- **2.1 Editing workflows**

  Here you will learn how to perform some basic workflow editing: Loading a workflow, integrating new services, connecting inputs and outputs and adding static values.

- **2.2 Publishing workflows**

  In this section you will learn how to publish a workflow such that it can be executed from the **Inventory**.

- **2.3 Adding services**

  Finally, you will learn you to integrate new services into the platform

Tutorial 2-1 - Editing workflows

In this part of the tutorial we will load a workflow, edit it, and finally save it, whereby learning the basics of the Workflow Editor.

1. To start, navigate to **WF Editor** -> **Workflow editor**.

- The upper part of the page provides the means to add services, and to remove services and workflows.

- The lower parts feature the tools to load, edit and save workflows.

2. Scroll down until the whole lower section is visible.

The Workflow Editor

The Workflow Editor provides means to create sophisticated workflows:

- The textual editor can be used to fine-tune the workflow and create more complex arrangements of services. There should be no need to consult the textual editor during the course of this tutorial, the interested users might nevertheless have a peek at the textual representation of their workflow.
- The graphical editor provides an intuitive interface to arrange, connect and edit services.

Step 1 - Load workflow

1. To load a workflow, select one from the dropdown-menu **Workflow URI**, or type the name of the desired workflow.

2. Please select the following workflow:

   http://www.caxman.eu/workflows/sintef/CalculatorAdd.owl#CalculatorAdd

3. Click on **load** and confirm your choice.
4. Shortly afterwards, the workflow should be visible in the graphical editor. It consist of the **calculatorAdd**-service, which takes two static values as inputs. The result of the service is forwarded to a workflow output.

Step 2 - Edit workflow

Now, we will modify the workflow by adding a new service to replace one of the static values with an input dialog.

1. Click on one of the inputs of the **calulatorAdd**-service to remove the attached value. You can re-add it anytime, by clicking on the input again, and then on the value node to re-enter a value.

2. Select the following service from the **Service URI** dropdown-menu:

   http://www.caxman.eu/apps/dfki/StringInput.owl#showStringInputHtml_Service

3. Click on **append service to workflow**. Shortly afterwards the new service should appear in the graphical editor. The dotted line indicates the order of the services in your workflow. Right now, the **StringInput** is scheduled after **calculatorAdd**. To change the order, double-click on one service and use the buttons with the arrows to modify its position within the workflow.

4. The workflow is still far from complete, you need to provide the inputs **message** and **heading** by clicking on their input at the **StringInput**-service. To change their values, click on the newly created nodes. Both, the heading and the message will be displayed to inform the user what kind value he should enter.

5. Finally, it remains to connect the output of the newly added service to the empty input of the **calculatorAdd**-Service. Click on the **userString**-output and drag a connection to the empty input. The **Workflow Input extraParameters** and **sessionToken** were automatically connected to the **StringInput**-service and should remain in that state.

Step 3 - Save workflow

1. To save the workflow, adapt its **Workflow URI** to your liking. Do not leave it unchanged, as you will then not be able to save the workflow. The part behind the # will define the name of your workflow. It must not start with a digit, but may contain underscores (_). The part in front of the # defines the unique identifier of your workflow.

2. Once the **Workflow URI** has been adapted, click on **save** and confirm your choice.

3. Please wait patiently until a success message appears.

Tutorial 2-2 - Publishing workflows

In this part of the tutorial we publish the workflow we have created in the previous tutorial, such that it will be registered in the portal and can be executed from the **Inventory**.

1. To start, navigate to **WF Editor** -> **Publish workflows**. Here you can see all published workflows.

2. To publish your workflow click on **Add new** in the upper right corner.

3. At the top, select your workflow, provide a name, optionally add a description and activate **Show on portal**. At the bottom, select the category **Additional tools** and click **Add**.

4. If you are ready, click on **Save**. Then, a new button **Publish** appears. Click on it to finalize this tutorial.

Tutorial 2-3 - Adding services

In this final part of Level 2 we will register a new service.

1. Navigate to the Workflow Editor (**WF Editor** -> **Workflow editor**).

2. The dialog to add new services is located at the top of the page.

3. The first and most important thing to provide is the **WSDL Location** of the new service. For this tutorial, please enter the following URL:

   https://caxman.clesgo.net/sintef/docker_services/calculator/Calculator?wsdl

4. Once the WSDL has been loaded, select **multiply** or **substract** from the dropdown-menu **WSDL ServiceName**.

5. As **Type** select **Synchronous Service**, and as **Category** select **Other**.

6. You can also enter a **Service Description** and a **Service Title** which will be shown during the execution of the service.

7. The **Company Name** can right now be anything you prefer, it will be reflected in the logical URI of the service.

8. **Datacenter ID** and **Software ID** can remain unchanged.

9. To provide a specific **Logical URI** for your service, click on the plus symbol behind **Advanced Settings**. Here you can change the URI under which the service will be saved. It should be of the format: https:// any name you pefer.owl

10. The other advanced settings need to remain unchanged.

11. After you have adapted all settings and provided the necessary information click on **Add Service** to save the service.

12. Please wait patiently until a success message appears.

- Hint: It might be necessary to re-load the page such that the newly added service appears in the dropdown-menu of the Workflow Editor.

Conclusion

Congratulations, you should now have mastered the basics of the Workflow Editor: Loading workflows, editing workflows, saving workflows, adding new services to the portal and finally publishing services such that they can be executed from the **Inventory**.