



# SHIWA Portal tutorial

(Submission service)

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## Goals of the tutorials

The aim of this tutorial is .....

### Tutorial 1: Creation and execution of a single native workflow

This workflow is composed of a single job, which is a subset of the multi-job workflow that will be discussed later.

This job is a simple shell script named WhatWhichWhereWhen.sh, which returns what the input file contained, which job it is (based on the string passed as an argument), where the job is running and when. This output is then redirected to an output file. For your convenience the code of this shell script is provided below:

```
#!/bin/bash
/usr/bin/touch INPUT
/bin/echo "String in input file INPUT: " `"/bin/cat INPUT`
/bin/echo "This is job: $"
/bin/echo "Executing on: " `"/bin/hostname -f`
/bin/echo "Executing at: " `"/bin/date`
/bin/echo " ++++++ "
/bin/echo
/bin/echo "String in input file INPUT: " `"/bin/cat INPUT` > OUTPUT
/bin/echo "This is job: $" >> OUTPUT
/bin/echo "Executing on: " `"/bin/hostname -f` >> OUTPUT
/bin/echo "Executing at: " `"/bin/date` >> OUTPUT
/bin/echo " ++++++ " >> OUTPUT
/bin/echo >> OUTPUT
```



## Usage of the Prototype SHIWA 3 Portal

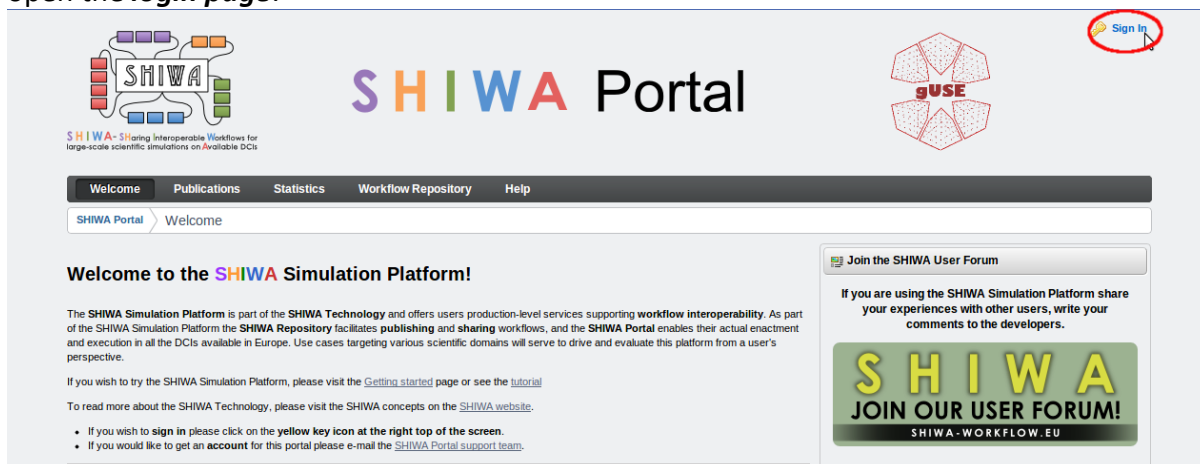
The Prototype SHIWA 3 Portal is available at this address:

<https://ssp-test.cpc.wmin.ac.uk/liferay-portal-6.1.0/en>

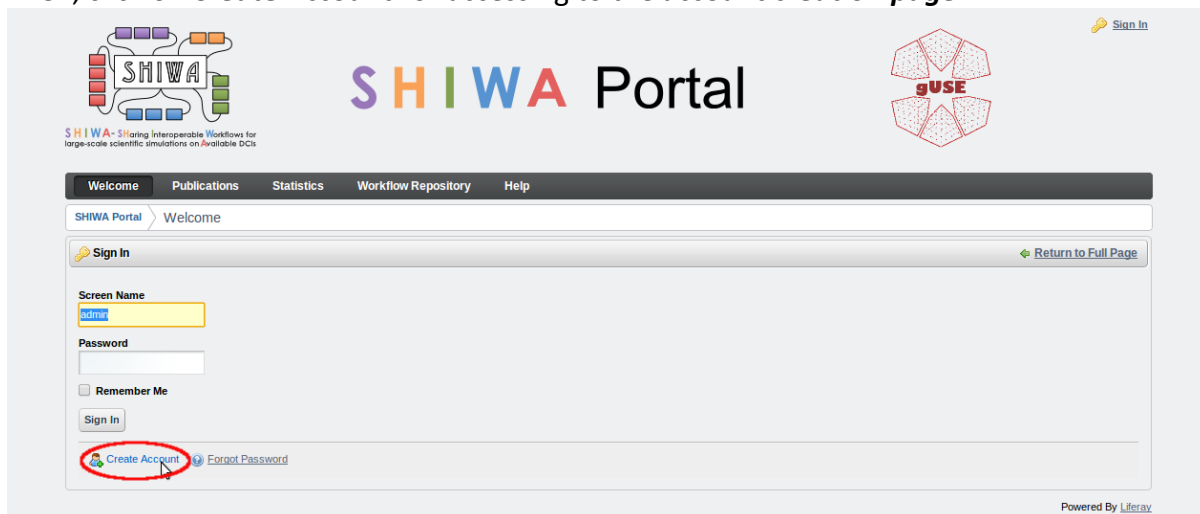
If you own an account, then you can use it to log in. Otherwise, the next subsection will explain how you can create one.

### Creation of a portal account

On the **Welcome page** of the portal, click on **Sign In** located at the top right of the page to open the **login page**.



Then, click on **Create Account** for accessing to the **account creation page**.





Fill all required field and click on **Save** to validate your account.

The screenshot shows the 'Create Account' form on the SHIWA Portal. The form includes fields for First Name (Test), Birthday (January 1, 1970), Middle Name (User), Gender (Male), Last Name (2131), Screen Name (testUser), Text Verification (2131), and Email Address (test.user@whatever.com). A red circle highlights the 'Save' button at the bottom left. The top navigation bar includes links for Welcome, Publications, Statistics, Workflow Repository, and Help. The SHIWA logo and a 'Sign In' link are at the top right. The footer indicates 'Powered By Liferay'.

A default password will be automatically attributed to your account for your first connection and sent to your email address.


The screenshot shows the 'Sign In' form on the SHIWA Portal. A green message box at the top states: 'Thank you for creating an account. Your password is YALeC64K. Your password has been sent to test.user@whatever.com.' The form includes fields for Screen Name (testuser) and Password (masked with asterisks). There is a 'Remember Me' checkbox and a 'Sign In' button highlighted with a red circle. The top navigation bar includes links for Welcome, Publications, Statistics, Workflow Repository, and Help. The SHIWA logo and a 'Sign In' link are at the top right. The footer indicates 'Powered By Liferay'.

You will be able to change it after validating **Terms of Use**.

The screenshot shows the 'Terms of Use' page on the SHIWA Portal. The page includes a welcome message and three sections: 1. **Acceptance of Agreement**, 2. **Copyright**, and 3. **Service Marks**. The top navigation bar includes links for Welcome, Workflow, Storage, Settings, Information, Publications, Security, Statistics, Workflow Repository, and Help. The SHIWA logo is at the top left. The footer indicates 'Powered By Liferay'.




Your account is created then, and you can start using the SHIWA Portal as a normal user.



SHIWA - Sharing Interoperable Workflows for large-scale scientific simulations on Available DCIs

SHIWA Portal



WelcomeWorkflowStorageSettingsInformationPublicationsSecurityStatisticsWorkflow RepositoryHelp

SHIWA PortalWelcome

### Welcome to the SHIWA Simulation Platform!

The SHIWA Simulation Platform is part of the SHIWA Technology and offers users production-level services supporting workflow interoperability. As part of the SHIWA Simulation Platform the SHIWA Repository facilitates publishing and sharing workflows, and the SHIWA Portal enables their actual enactment and execution in all the DCIs available in Europe. Use cases targeting various scientific domains will serve to drive and evaluate this platform from a user's perspective.

If you wish to try the SHIWA Simulation Platform, please visit the [Getting started](#) page or see the [tutorial](#).

To read more about the SHIWA Technology, please visit the SHIWA concepts on the [SHIWA website](#).

- If you wish to **sign in** please click on the **yellow key icon at the right top of the screen**.
- If you would like to get an **account** for this portal please e-mail the [SHIWA Portal support team](#).

Join the SHIWA User Forum

If you are using the SHIWA Simulation Platform share your experiences with other users, write your comments to the developers.

# SHIWA

## JOIN OUR USER FORUM!

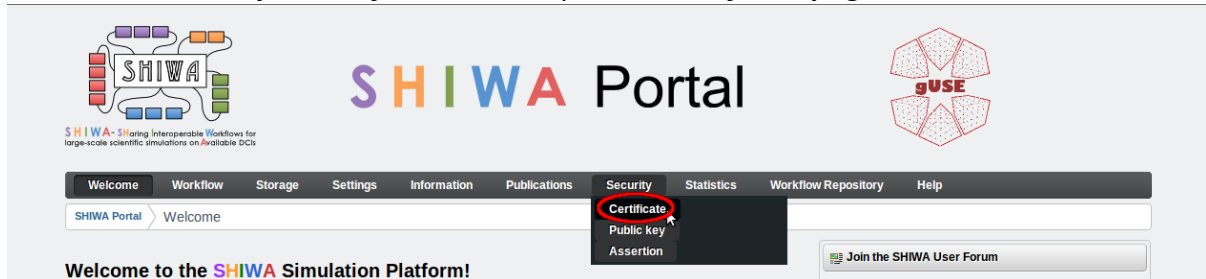
SHIWA-WORKFLOW.EU



## Certificate management

Once you are logged in the SHIWA Portal, you can get a certificate to allow workflow execution on a specific resource.

Click on the **Security** -> **Certificate tab** to open the **Certificate page**.



On the **Certificate page**, click on the **Download button** to open the **Download certificate page**.



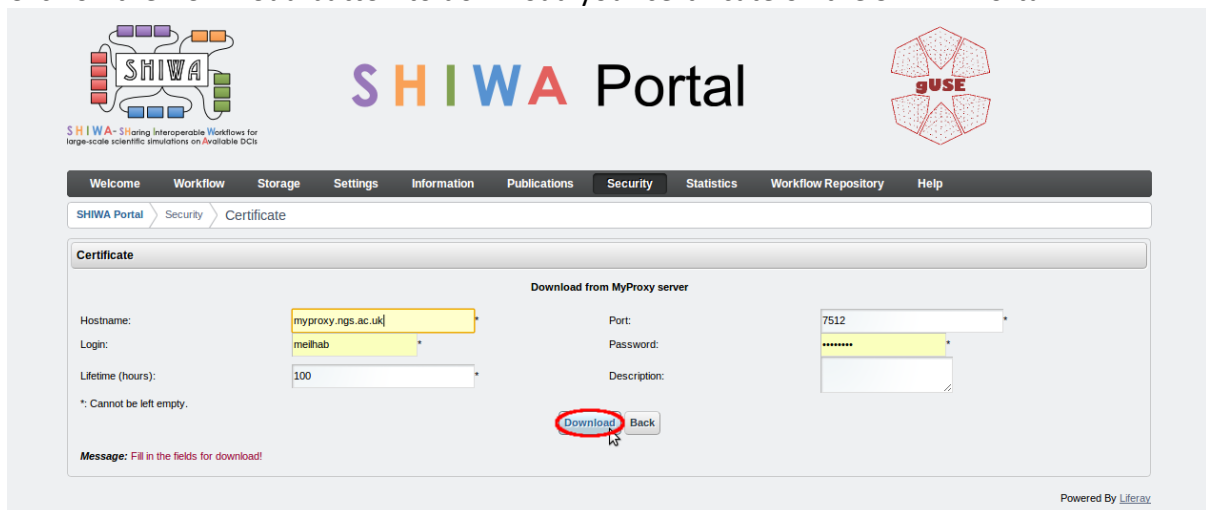
On the **Download certificate page**, specify the following parameters:

Hostname: myproxy.ngs.ac.uk

Login: your login name associated to your certificate

Password: your password associated to your login name

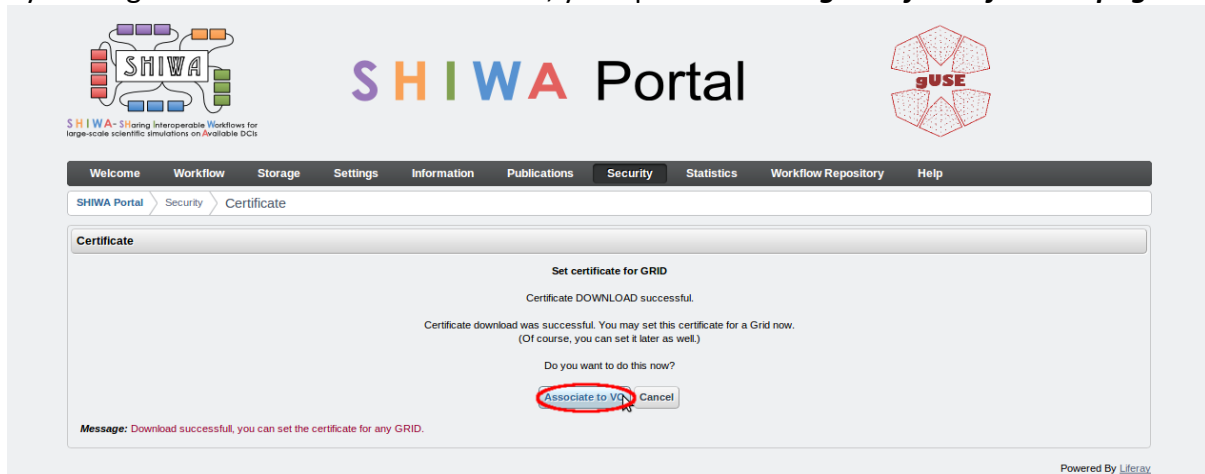
Click on the **Download button** to download your certificate on the SHIWA Portal.





Then, you have to associate the certificate with a Virtual Organization to be able to submit workflows.

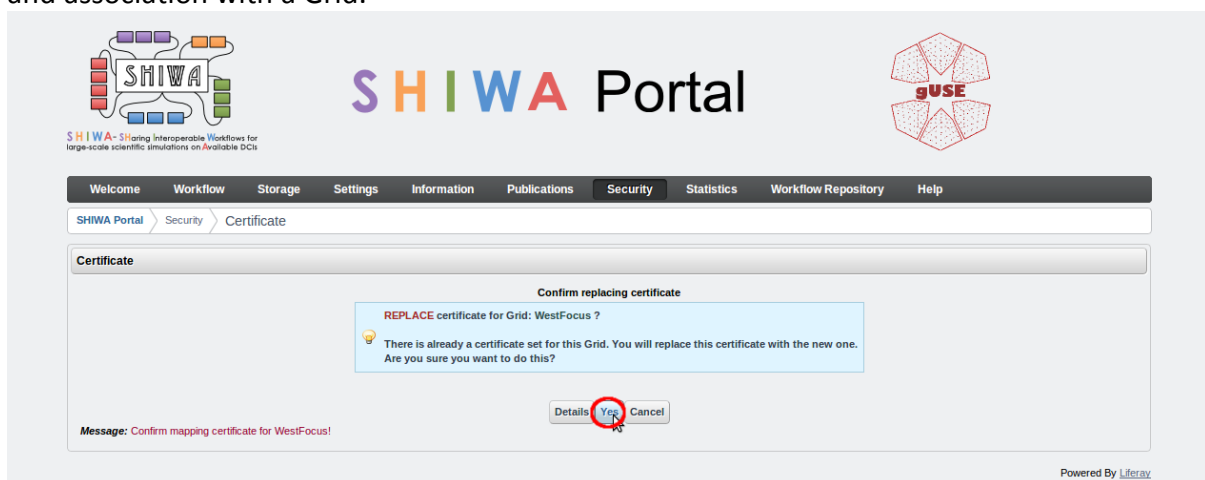
By clicking on the **Associate to VO button**, you open the **Setting Certificate for Grid** page.



Select **WestFocus** and then click on the OK button to move the **Confirm certificate** page.



On the **Confirm certificate** page, click on the **Yes** button to finalize the certificate download and association with a Grid.





The portal returns to the **Certificate page** where your certificate is displayed and you can check its details by clicking on the **Details button**.

The screenshot shows the SHIWA Portal interface. At the top, there is a navigation bar with links: Welcome, Workflow, Storage, Settings, Information, Publications, Security, Statistics, Workflow Repository, and Help. Below this is a breadcrumb trail: SHIWA Portal > Security > Certificate. The main content area is titled 'Certificate' and displays the following information:

Issuer	Set for Grids	Time left	Actions
C=UK,O=eScience,OU=Westminster,L=ComputerScience,CN=benoit meilhac,CN=proxy	WestFocus	9:59:36	<a href="#">Details</a> <a href="#">Associate to VO</a> <a href="#">Delete</a>

Below the table, there are three buttons: 'Download' (Download certificate from MyProxy server.), 'Upload' (Upload authentication data to MyProxy server.), and 'Credential Management' (Display information, change MyProxy passphrase, remove a credential from MyProxy server.). A message at the bottom states: 'Message: Delete successful.'

In order to configure and execute non-native workflows on the SHIWA Portal, you need to associate your certificate with the resource the job will be submitted to.





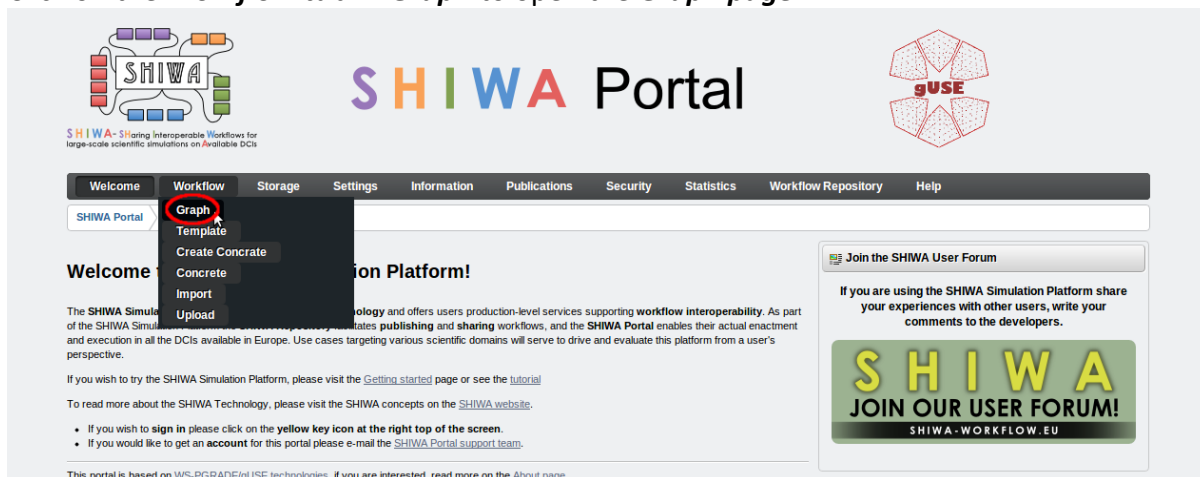
## Tutorial 1: Creation and execution of a single native workflow

In this tutorial, the creation, configuration and execution of the “*WhatWhichWhereWhen*” job will be described. Then the export functionality within the SHIWA Repository will be seen. And to finish after the exportation of the workflow, the importation will be discussed.

### Creation and execution of a single native workflow

#### Accessing workflow graph editor

Click on the **Workflow tab** -> **Graph** to open the **Graph page**.



Click on the **Graph Editor button** to start the Java Web Start based workflow editor to be able to create the workflow graph.

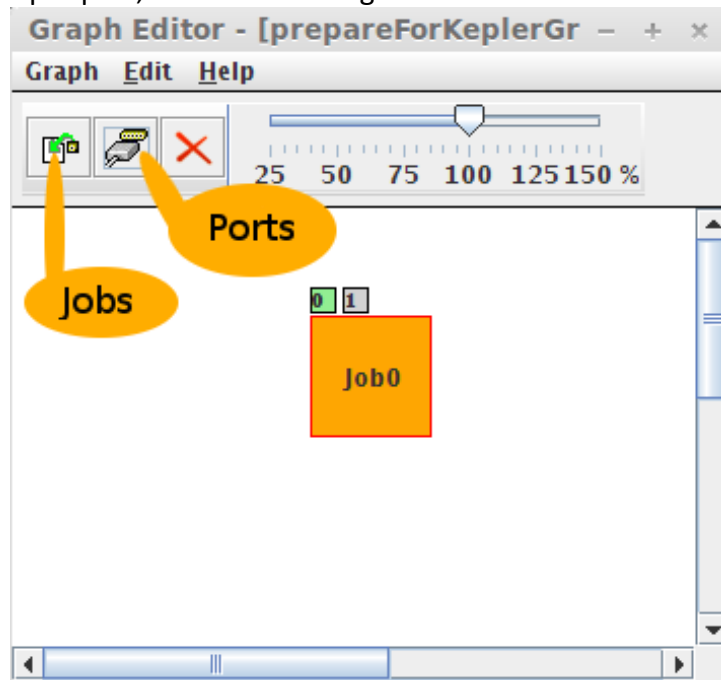




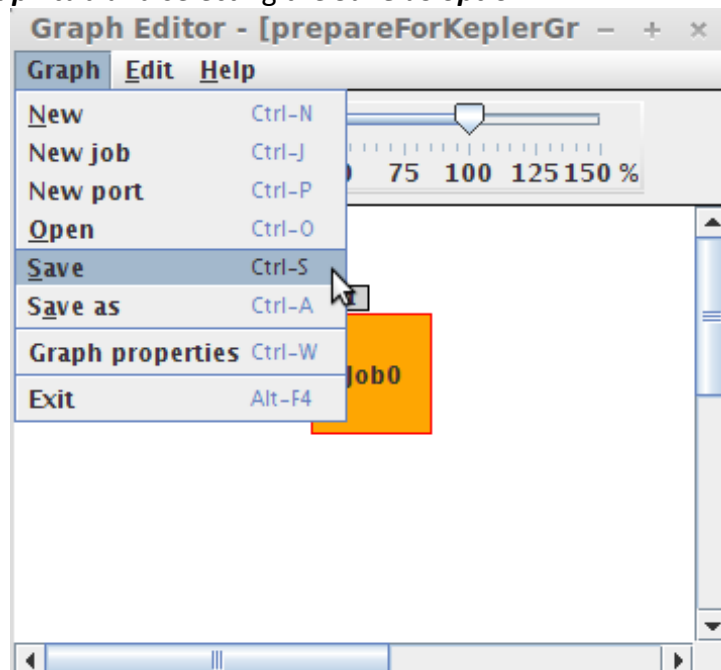
## Creating the abstract workflow

Click on the first two icons to specify the workflow job type of its input/output ports.  
To specify an output port, double click on the desired port and change the input to output.  
Create the following graph:

- 1 job, without touching the name: Job0
  - 1 input port, without touching the name: PORT0
  - 1 output port, without touching the name: PORT1



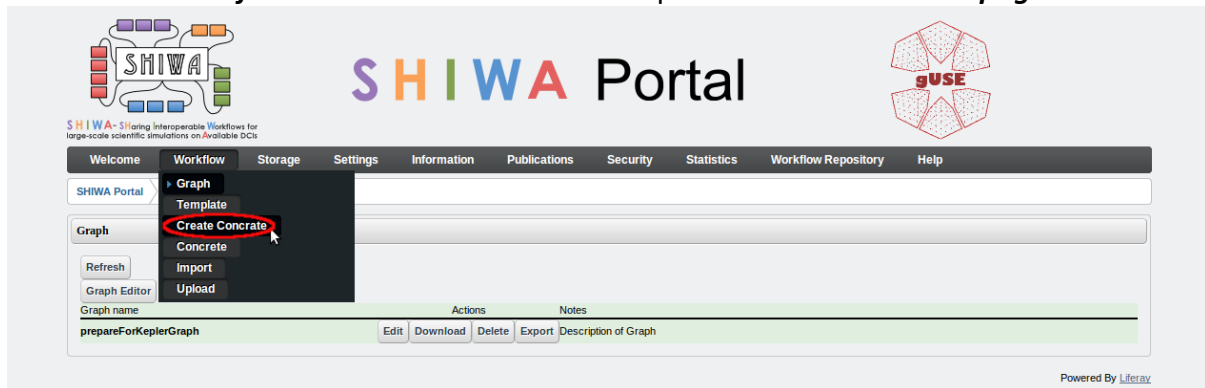
After reproducing the graph corresponding to the "WhatWhichWhereWhen" job, save it by clicking on the **Graph tab** and selecting the **Save as option**.



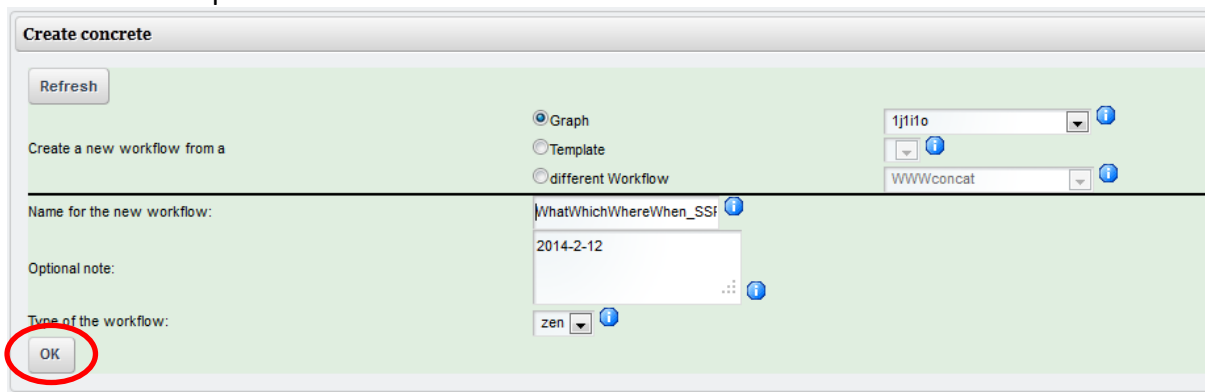


## Creating the concrete workflow

Click on the **Workflow tab** -> **Create concrete** to open the **Create concrete page**.

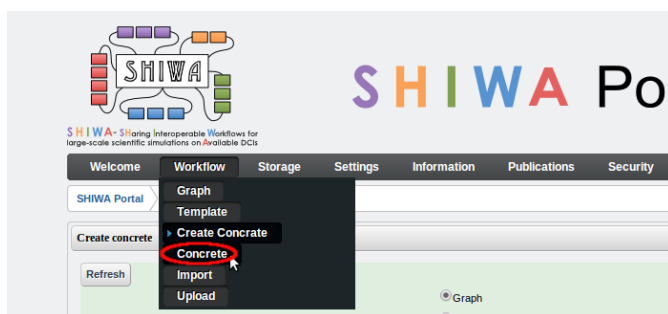


Select the previously created graph to be used to create the concrete workflow, define its name and then press the **OK button**.

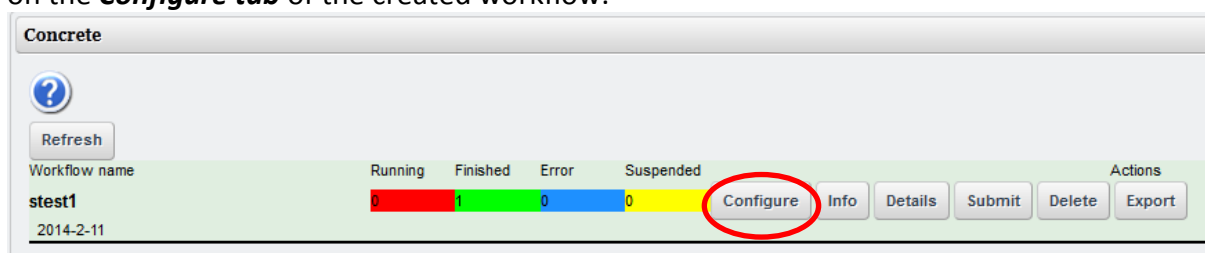


## Configuring the concrete workflow

Click on the **Workflow tab** -> **Concrete** to open the **Concrete page**.

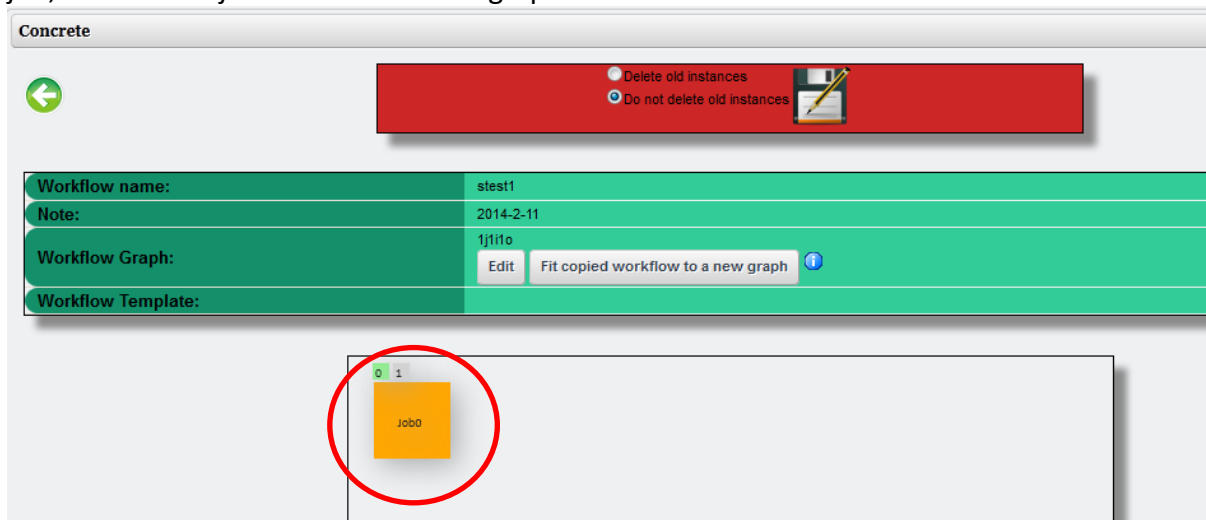


Select the concrete workflow corresponding to the "WhatWhichWhereWhen" job by clicking on the **Configure tab** of the created workflow.





The portal displays the graph of the selected concrete workflow. To configure the workflow job, click on the job on the workflow graph.



Specify both the job binary and input/output files and parameters. To specify job binaries, click on the **Job Executable tab** and set the following parameters:

Type:	gt4
Grid:	WestFocus
Resource:	ngs.wmin.ac.uk
JobManager:	jobmanager-pbs
Kind of binary:	Sequential
Executable code of binary:	upload this <a href="#">file</a> named "WhatWhichWhereWhen.sh"
Parameters:	I am Job0



Configure

Job's name: Job0  
Optional note: Description of Job

Job Executable

Job I/O

[IDL/RSL]

[History]

Workflow
Service
Binary

Type: gt4  
Grid: WestFocus  
Resource: ngs.wmin.ac.uk  
JobManager: jobmanager-pbs  
Replicate settings in all Jobs: ☐  
Kind of binary: ☒ Sequential ☐ Java ☐ MPI  
MPI Node Number:   
Executable code of binary: Recently stored: WhatWhichWhereWhen.sh  
Parameter: I am Job0  
Assigned breakpoint: ☒ No breakpoint ☐ Before submission ☐ After termination  
Blocker timeout of user interaction: 0

Click on the **Job I/O tab** and specify the job input/output files and parameters used by the input/output ports.

#### Input ports:

Port number	Input Internal Name	Port's File	Port dependent condition	Source of input directed to this port	Parametric Input details
Port 0	INPUT		Hide	Upload this <a href="#">file</a>	Hide

#### Output ports:

Port number	Output Internal Name	Port's File	Base of Output Port's Remote File Name	Storage type	Generator
Port 1	OUTPUT			Permanent	No



**Configure**

Job's name: Job0  
Optional note: Description of Job

[Job Executable] [Job I/O] [DDL/RSL] [History]

Port Number: 0 Port Name: PORT0 Description of Port

Input Port's Internal File Name: INPUT

Port dependent condition allowing the run of the job: View Hide

Source of input directed to this port: Recently defined External File Name: N/A (Standard name paraminputs.zip - to be regard as PS container )

F:\INPUT Browse...

Parametric Input details: View Hide

Port Number: 1 Port Name: PORT1 Description of Port

After specifying the job binaries and input/output files and parameters, click on the **Save button** at the bottom of the **Job I/O tab**.

Then click on the **Save on Server button** to store details of the concrete workflow.

Welcome Workflow Storage Settings Information Publications Security Statistics Workflow Repository Help

SHIWA Portal Workflow Concrete

Concrete

←

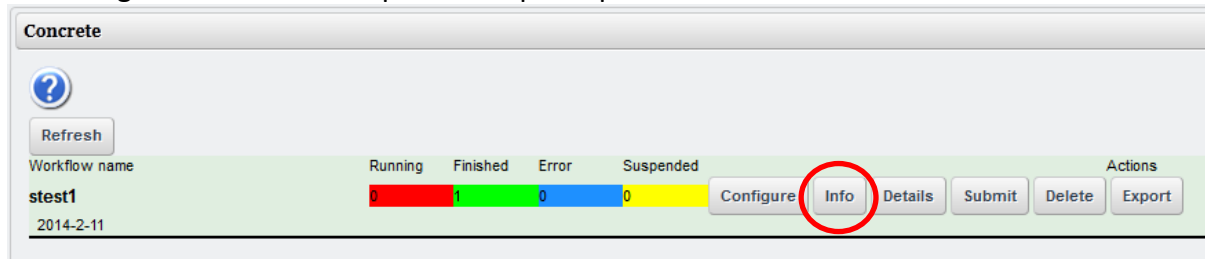
Delete old instances  
Do not delete old instances

?



## Verifying the configurations of the concrete workflow

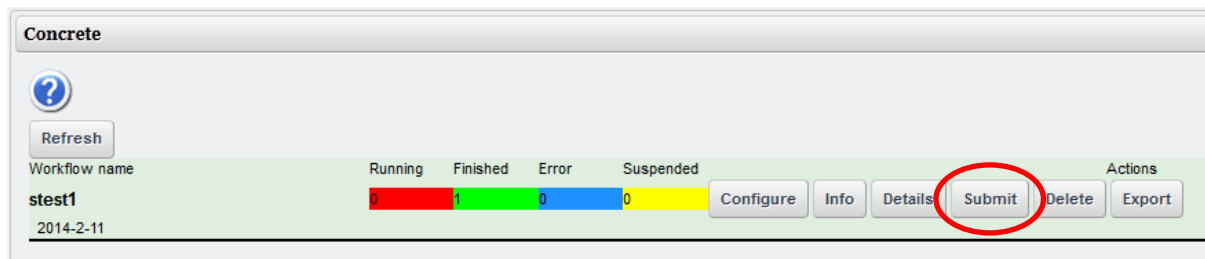
Click on the **Info button** of the concrete workflow, to inspect if there are any misconfigurations which the portal has pick-up.



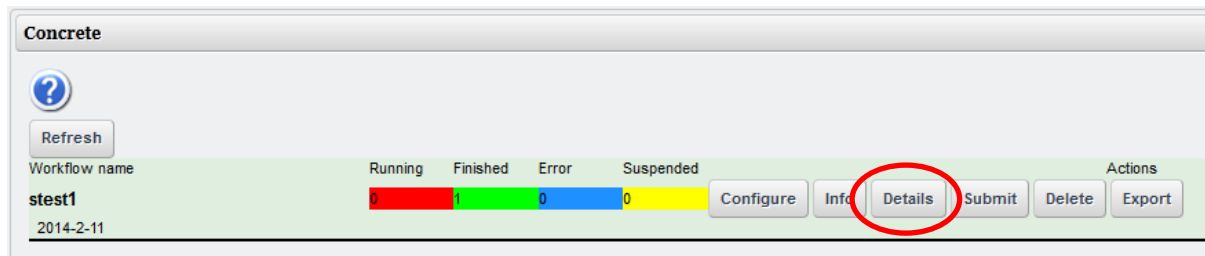
This is not an exhaustive verification of configuration, but does pick-up on common configuration issues.

## Running the configured workflow

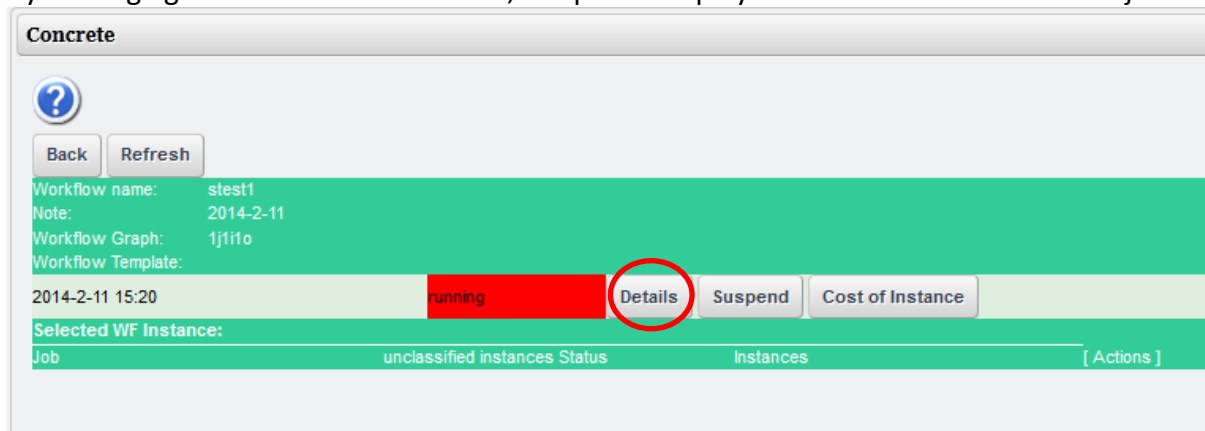
Click on the **Submit button** of the concrete workflow name to submit and execute it.



To display the workflow status during the execution, click on the **Details button**.



By clicking again on the **Details button**, the portal displays the execution status of the jobs.



By clicking on the **View button**, a view of a specific job can be displayed.



The screenshot shows the SHIWA Portal interface. At the top, there's a navigation bar with links: Welcome, Workflow, Storage, Settings, Information, Publications, Security, Statistics, Workflow Repository, and Help. Below this, a breadcrumb trail shows 'SHIWA Portal > Workflow > Concrete'. The main content area is titled 'Concrete' and displays workflow information: 'Workflow name: prepareForKeplerWorkflow', 'Note: 2013-3-4', 'Workflow Graph: prepareForKeplerGraph', and 'Workflow Template: 2013-3-4 16.5'. The status is 'running'. There are buttons for 'Back', 'Refresh', 'Details', and 'Suspend'. Below this, a table shows 'Selected WF Instance: 2013-3-4 16.5' with columns for Job, Status, Instances, and Actions. Job 0 is 'submitted' with 1 instance. A 'View submitted' button is circled in red. At the bottom, there's a table with columns for PID, Resource, Status, and View info. PID 0 is 'submitted' on resource 'ngs.wmin.ac.uk/jobmanager-pbs'. A 'Refresh' button is also present.

Click on the **Refresh button** to update the status.

When the execution of the workflow is successful, the status should be changed to *Finished* and you should be able to see generated output and error messages by clicking the **std.Output** and **std.Error** buttons respectively.

The screenshot shows the 'Job Status' window. It has a search bar and a 'Set selection' button. Below, a table shows job details: PID 0, Resource 'ngs.wmin.ac.uk:2119/jobmanager-pbs', Status 'finished'. Buttons for 'Logbook', 'std. Output' (circled in red), 'std. Error', and 'Download file output' are present. At the bottom, a text area displays the job output: 'String in input file INPUT: Nothing of any interest', 'This is job: I am Job0', 'Executing on: n52.cluster.cpc.wmin.ac.uk', 'Executing at: Wed Feb 12 13:45:51 GMT 2014', followed by a series of asterisks.

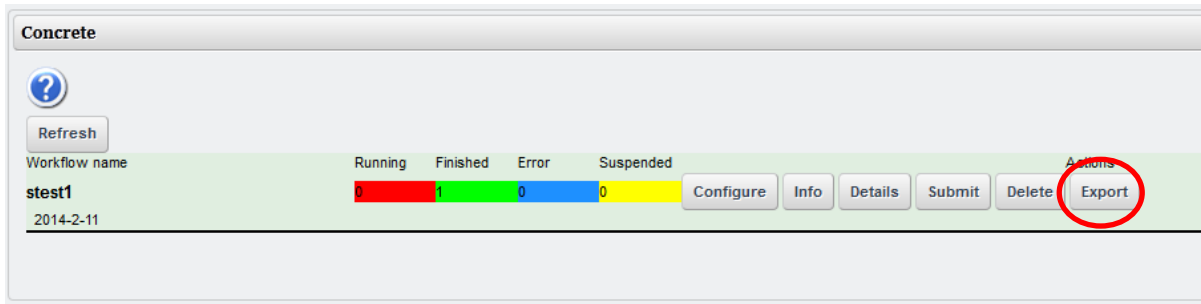
Output files can be downloaded as an archive by clicking on the **Download file output button**.

## Exporting the workflow to the SHIWA Repository

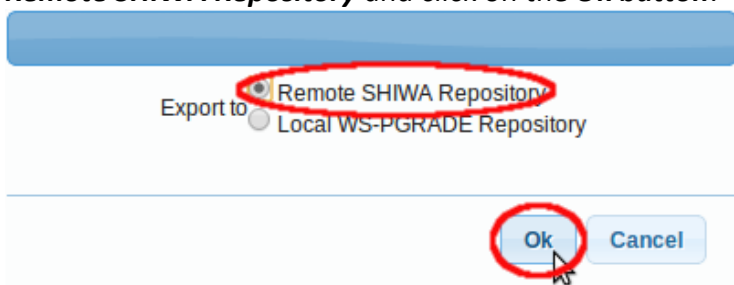
After a successful execution of the “*WhatWhichWhereWhen\_SSP*” workflow, you can choose to export it on the SHIWA Repository and share it with the community.

To do that, you have to click on the **Export button** of the desired workflow.

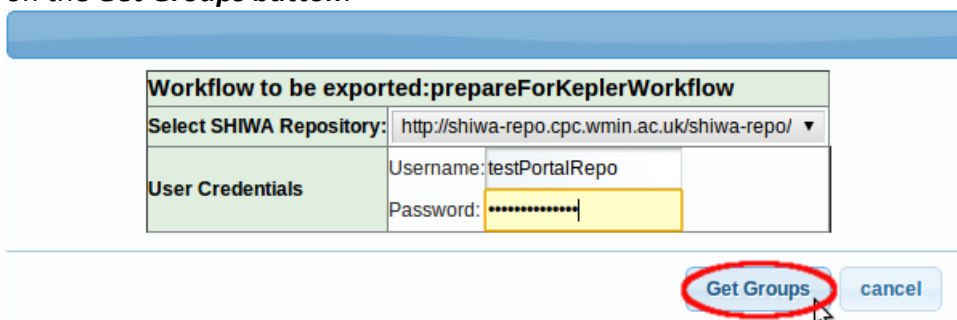




It opens a menu where you can choose where to export your workflow. Select the option **Remote SHIWA Repository** and click on the **Ok button**.

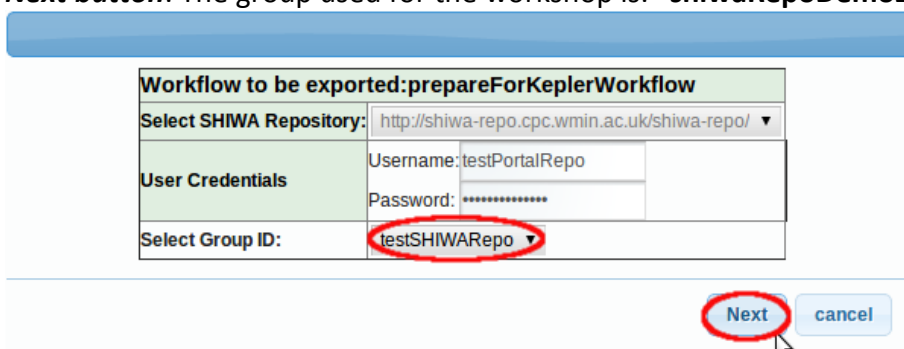


You access to a new menu where you have to select the SHIWA Repository location and enter your SHIWA Repository account credentials. Select <http://shiwa-repo.cpc.wmin.ac.uk/shiwa-repo/> as the repository, your credentials and validate by clicking on the **Get Groups button**.



You would get an error message if your credentials are incorrect or if you don't have any group associated to your SHIWA Repository account. In this last case, create one group and add yourself to this group. Then reproduce previous steps to reach this point.

The next step let you see the list of groups you own, select one of them and click on the **Next button**. The group used for the workshop is: **"shiwaRepoDemo2013"**



You should see the entire workflow configuration now, only one job has to be configured. Configure the job as it is on the following screenshot and click on **Export in WS-PGRADE/gUSE format button** to export the workflow in the SHIWA Repository.



**Workflow to be exported: test1**

Select SHIWA Repository:	http://shiwa-repo.cpc.wmin.ac.uk/shiwa-repo/	
User Credentials	Username:	
	Password:	
Select Group ID:	shiwaExampleWfs	

Selection of job options below (for command line arguments and for input files) results no semantic effect if the workflow is to be exported in „WS-PGRAD/gUSE“ format. However any value of a Command line argument item will be lost if it is marked as „Modifiable value“ AND the workflow is to be exported in „IWIR“ format.

Default values to Job0 : (unbound input files and command line arguments)		Save as
Name of input file:	INPUT	Input with Sample Data Set
Command line argument 1	I	Mandatory value
Command line argument 2	am	Mandatory value
Command line argument 3	Job0	Mandatory value

**Export in WS-PGRADE/gUSE format** | Export in IWIR format | cancel

A message should appear confirming the good exportation process.

**Message**

Bundle exported successfully!

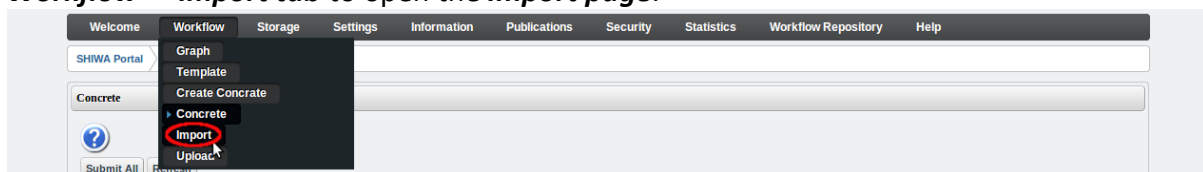
Yes

It is to know that the export functionality is working with:

- Single native workflows;
- Single non-native workflows;
- Multi-native workflows;
- Meta-workflows.

## Importing and re-submitting the workflow

After the exportation, you have the possibility to import the workflow. Click on the **Workflow -> Import tab** to open the **Import page**.



Click on the **Remote SHIWA Repository button** to open the menu for importing your workflow.

**Import**

test

**Choose Repository Type**

Local WS-PGRADE Repository | **Remote SHIWA Repository**

Powered By gUSE



The menu open, select the SHIWA Repository location (<http://shiwa-repo.cpc.wmin.ac.uk/shiwa-repo/>) and click on the **Get Public Bundles** button.

Select SHIWA Repository: <http://shiwa-repo.cpc.wmin.ac.uk/shiwa-repo/>

**Get Public Bundles** cancel

You can see the list of all exported workflows within then SHIWA Repository. Search for the workflow you just exported in the previous subsection, select it and click on the **Import Selected** button.

Title	Version	Engine	Description	Language	Keywords	DCIs
helloDispel	1.0	WS-PGRADE 3.5.8		ws-pgrade		[]
createMovie	1.0	WS-PGRADE 3.5.7		ws-pgrade		[]
Downsamplesam	1.0	WS-PGRADE 3.5.6 AMC		ws-pgrade		[gLite/VLEMED]
AutodockVinaFull	1.0	WS-PGRADE 3.5.7		dagman		[SHIWA VO]
WriteVO_2013-09-19-120136	1.0	WS-PGRADE 3.5.8		ws-pgrade		[]
<b>stest1</b>	<b>1.0</b>	<b>WS-PGRADE 3.6.1</b>		<b>ws-pgrade</b>		<b>[]</b>
Franec4_2013-03-20-111836_2013-05-28-154723	1.0	WS-PGRADE 3.5.7		ws-pgrade		[]
IWIR implementation for the SIMRI application	0.1	IWIR 0.1	IWIR implementation for the SIMRI application	IWIR		[]
asm_sample_2013-10-16-120411	1.0	WS-PGRADE 3.6.1		ws-pgrade		[]
two_job_test_GT2	1.0	WS-PGRADE 3.6.1		ws-pgrade		[]

Show 10 entries Previous Next

**Import Selected** cancel

A confirmation message should appear to announce the successful importation.

Message

[Workflow imported successfully!]

Yes

You can now go back the **Concrete** page by clicking on the **Workflow -> Concrete** tab. We should see the new imported workflow. To check if everything went well, click on the **Submit** button on the workflow, wait until the end of the execution and check if you get a finished result and not an error.

Concrete

Refresh

Workflow name	Running	Finished	Error	Suspended	Actions
stest1 2014-2-11	0	1	0	0	Configure Info Details Submit Delete Export
<b>stest1_2014-02-11-153404</b> 2014-2-11	0	0	0	0	Configure Info Details <b>Submit</b> Delete Export



## Tutorial 2: Extension of workflow from Tutorial 1 to a meta-workflow including both native and non-native workflows

In this section, you will see how to extend WS-PGRADE workflows and use the selection functionality within the SHIWA Portal and Repository to simplify the configuration of an associated workflow. The workflow in question will be a “concatenation of strings” job corresponding to the “concatTwoStrings” workflow available in the SHIWA Repository and deployed as Submittable through the Submission Service. Then, once this workflow selected, the creation, configuration and execution of the workflow will be discussed.

### Extend graph of workflow

The portal allows developers to extend workflows. As long as the graph is only extended – with the existing jobs neither being removed nor changed – the configurations of existing jobs will persist.

Click on the **Edit** button from the workflow configuration interface, to edit the Graph.

The screenshot shows the SHIWA Portal interface. At the top, there's a navigation bar with links: Welcome, Security, Workflow, Storage, Settings, Information, Statistics, Repository, SHIWA User Forum, Publications, and Help. Below this, a breadcrumb trail shows 'SHIWA Portal > Workflow > Concrete'. The main content area is titled 'Concrete' and contains a workflow configuration table. The table has four rows: 'Workflow name' (SSP\_tutorial\_2014), 'Note' (2014-2-19), 'Workflow Graph' (with an 'Edit' button circled in red), and 'Workflow Template'. A red banner at the top of the configuration area offers two options: 'Delete old instances' and 'Do not delete old instances'. Below the table, there's a graph editor area showing a single job labeled 'Job0'.

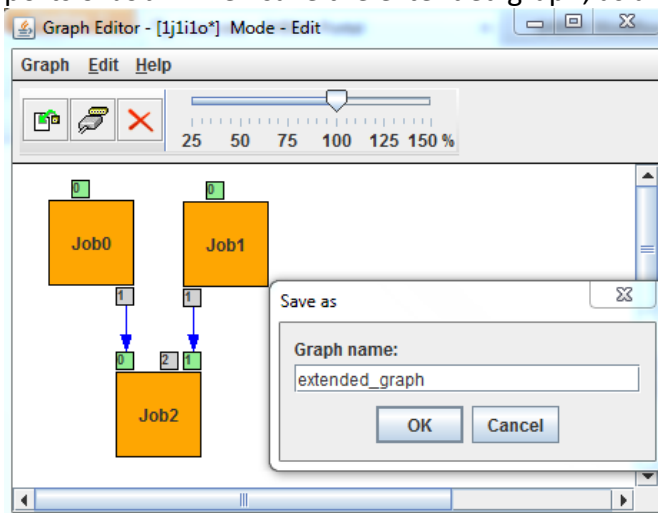
### Use the Graph Editor to extend the workflow

Add two jobs to the Graph:

- Job1 should be structure the same as Job0:
  - 1 input port, without touching the name: PORT0
  - 1 output port, without touching the name: PORT1
- Job2 should be structured with two input ports and one output port:
  - 2 input ports, without touching the name: PORT0, PORT1
  - 1 output port, without touching the name: PORT2



Now connect each of the output (grey) ports of jobs Job0 and Job1 to each of the two input ports of Job2. Then save the extended graph, as a different name.



### Copy the workflow and fit to the extended Graph

The portal will allow users copy the workflow and attempt to fit the copied workflow to a new Graph.

Click on the **Fit copied workflow to a new graph** to attempt to fit the configured concrete to a new Graph.

Now select the new graph. Make sure you specify a name for the new workflow – failure to this will overwrite the existing workflow, which may destroy job configurations.



## Configuration of second Job1

Job1 should be configured in the same way as Job0 was configured in the previous tutorial. The only differences should be:

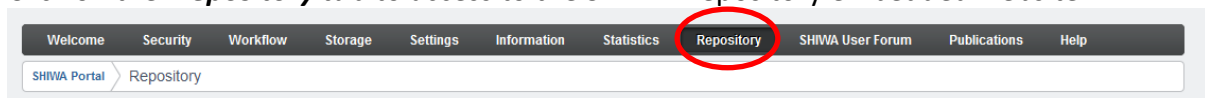
- The string entered in the Parameter box should read “I am Job1”.
- In the Job I/O tab, for PORT0, click the  $\pi$  symbol – this will enable you to enter a value in the text box, which will be passed into the input file.

Save the concrete at this stage.

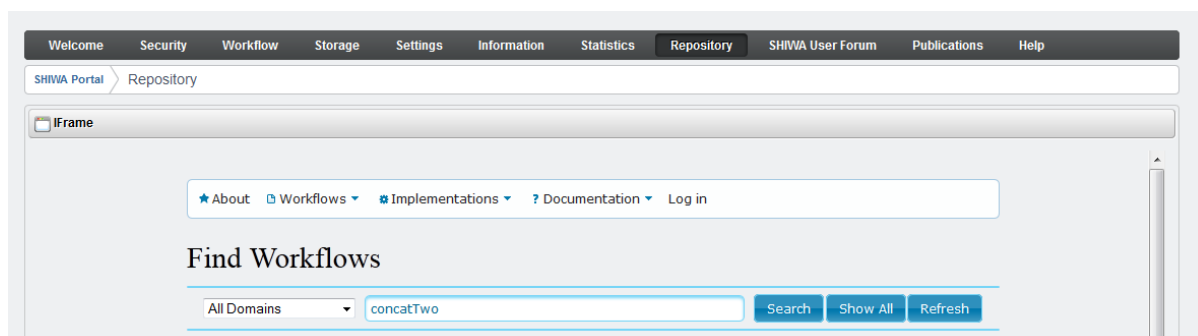
## Browsing the SHIWA Repository and selecting a non-native workflow

A new feature of the portal allows the selection of non-native workflow deployed as Submittable through the Submission Service through the SHIWA Repository tab. If an implementation exists within the SHIWA Repository and is deployed as Submittable through the Submission Service, you can select it and easily access to it during the configuration of the workflow as it will be explained in the next part of this tutorial.

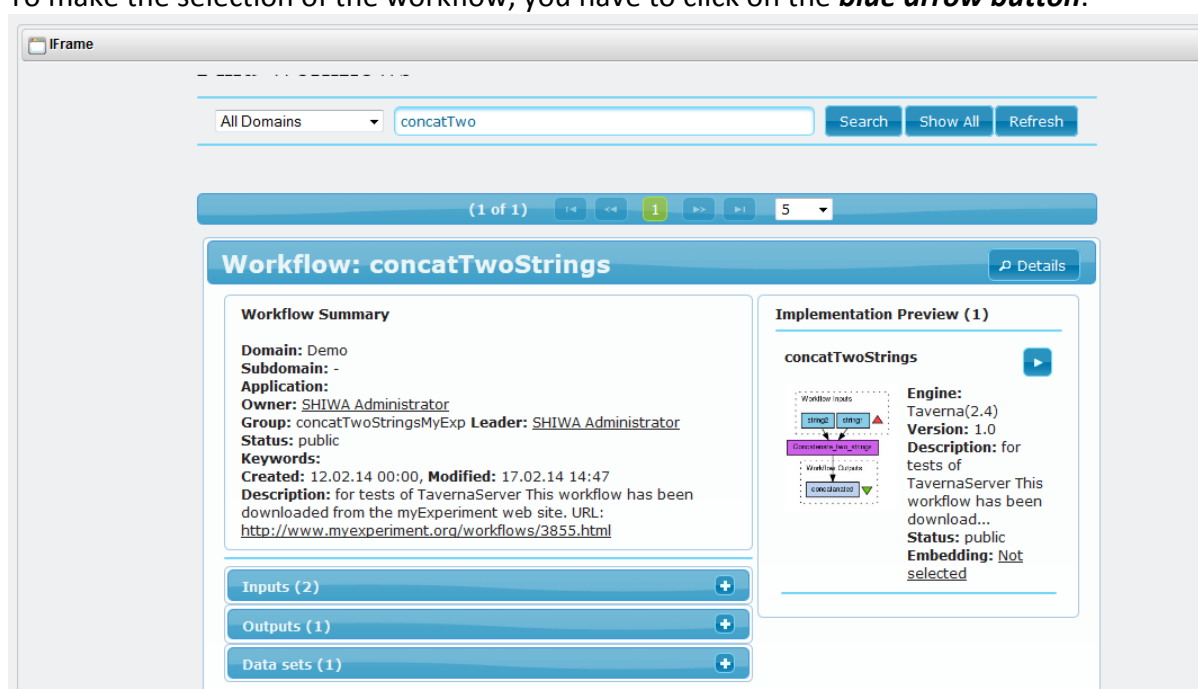
Click on the **Repository tab** to access to the SHIWA Repository embedded website.



Then, in the **Find Workflows field**, enter “concat” and click on the **Search button** to launch the research of the “concatTwoStrings” existing workflow.



A short description of the workflow and its implementation appear. This workflow is composed of two inputs and one output. These information have to be known when you want to create a graph and the workflow corresponding job. To make the selection of the workflow, you have to click on the **blue arrow button**.



A message is displayed confirming the selection and the button is crossed. The portal and the repository offer the possibility to select as much as implementations as you want.



## Workflow: concatTwoStrings

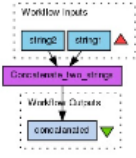
[Details](#)

### Workflow Summary

**Domain:** Demo  
**Subdomain:** -  
**Application:**  
**Owner:** [SHIWA Administrator](#)  
**Group:** concatTwoStringsMyExp **Leader:** [SHIWA Administrator](#)  
**Status:** public  
**Keywords:**  
**Created:** 12.02.14 00:00, **Modified:** 17.02.14 14:47  
**Description:** for tests of TavernaServer This workflow has been downloaded from the myExperiment web site. URL: <http://www.myexperiment.org/workflows/3855.html>

### Implementation Preview (1)

**concatTwoStrings**



**Engine:** Taverna(2.4)  
**Version:** 1.0  
**Description:** for tests of TavernaServer This workflow has been download...  
**Status:** public  
**Embedding:** Selected

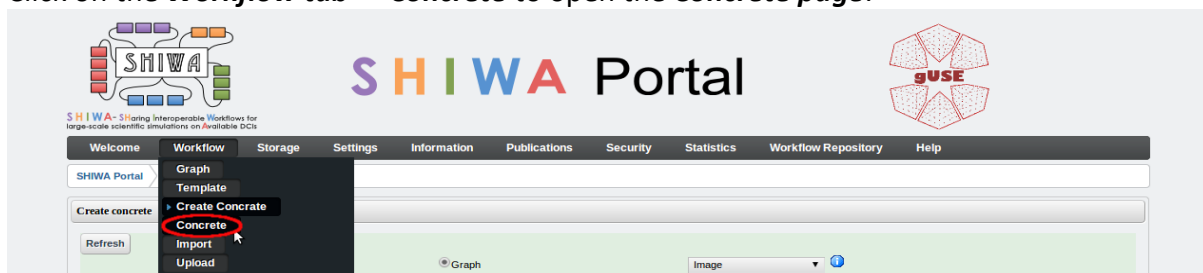
**Inputs (2)** +

**Outputs (1)** +

**Data sets (1)** +

### Configuring the non-native job within the concrete workflow

Click on the **Workflow tab** -> **Concrete** to open the **Concrete page**.



Select the concrete workflow corresponding to the extended workflow by clicking on the **Configure tab**.

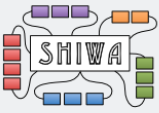


Workflow name	Running	Finished	Error	Suspended	Actions
SSP_2014_tutorial 2014-2-12	0	1	0	0	Configure Info Details Submit Delete Export
SSP_tutorial_2014 2014-2-19	0	1	0	0	Configure Info Details Submit Delete Export
SSP_tutorial_2014_plus 2014-2-19	0	0	0	0	Configure Info Details Submit Delete Export


The portal displays the graph of the selected concrete workflow. To configure the workflow job, click on the Job2 on the workflow graph.







# SHIWA Portal



[Welcome](#) [Security](#) [Workflow](#) [Storage](#) [Settings](#) [Information](#) [Statistics](#) [Repository](#) [SHIWA User Forum](#) [Publications](#) [Help](#)


SHIWA Portal > Workflow > Concrete

Concrete

←

☐ Delete old instances

☐ Do not delete old instances



?

Workflow name:

SSP\_tutorial\_2014\_plus

Note:

2014-2-19

Workflow Graph:

extended\_graph

Edit

Fit copied workflow to a new graph

Workflow Template:



Specify both the job binary and input/output files and parameters. To specify job binaries, click on the **Job Executable tab**. The job executable configuration is done in two steps.

The first step is to select the corresponding workflow implementation from the SHIWA Repository for the job. Select “shiwa” as **Type** of the Job Executable tab. Select the **SHIWA Submission Service “to complete”**. Select the **SHIWA Repository** is “<http://shiwa-repo.cpc.wmin.ac.uk/shiwa-repo>”. Then select the **Submittable Execution None (SEN)** “to complete”. You can see that the list is divided into two parts, the first part being workflows selected within the SHIWA Repository. The “concatTwoStrings” workflow should appear in this first part of the list.





Configure

Job's name:

Job0

Optional note:

Description of Job

Workflow

Service

Binary

Type:

shiwa

SHIWA Submission Service:

Submission Service PROD

SHIWA Repository:

<http://repo-test.cpc.wmin.ac.uk/shiwa-repo/>

Submittable Execution Node (SEN):

concatTwoStrings#1.0

Workflows selected in the SHIWA Repository

concatTwoStrings#1.0

Other workflows available

Resource:

Corresponding Resource in Dci Bridge:

g47 WestFocus

SHIWA file parameters:

2 input 1 output port(s)

Eventual other SHIWA parameters:

Do not forget to configure the file associations in the **Job Inputs and Outputs** tab


Assigned breakpoint:

☐ No breakpoint

☐ Before submission

☐ After termination

Blocker timeout of user interaction: 0





Select **PreDeployWestFocus** from the list of Resources available.

Click the green tick at the bottom of the interface, to save the configurations at this stage.  
Then you should see this screen.

Click on the **Job I/O tab** and specify the job input/output files and parameters used by the input/output ports.

#### Input ports:

Port number	Internal Name(SHIWA)	File	Port dependent condition allowing the job to run:	Parametric Input details:
0	string1		Hide	Hide
1	string2		Hide	Hide

#### Output ports:

Port number	Internal Name(SHIWA)	File	Storage type:	Generator:
2	concatenated		Permanent	No



## Configure

Job's name: Job2  
Optional note: Description of Job



Port Number:0 Port Name: PORT0 (channel)

Description of Port

Internal File Name(SHIWA) : string1 []  
Port dependent condition allowing the run of the job: ☐ View ☐ Hide  
Parametric Input details: ☐ View ☐ Hide

Port Number:1 Port Name: PORT1 (channel)

Description of Port

Internal File Name(SHIWA) : string2 []  
Port dependent condition allowing the run of the job: ☐ View ☐ Hide  
Parametric Input details: ☐ View ☐ Hide

Port Number:2 Port Name: PORT2

Description of Port

Internal File Name(SHIWA) : concatenated []  
Output Port's Internal File Name: concatenated  
Storage type: ☐ Permanent ☐ Volatile  
Generator: ☐ No ☐ Yes



Do not forget to click the green tick to save the configurations.

After specifying the job binaries and input/output files and parameters, click on the **Save button** at the bottom of the **Job I/O tab**.

Then click on the **Save on Server button** to store details of the concrete workflow.



## Verifying the configurations of the concrete workflow

Click on the **Info button** of the concrete workflow, to inspect if there are any misconfigurations which the portal has pick-up.

The screenshot shows the SHIWA Portal interface. The top navigation bar includes links for Welcome, Workflow, Storage, Settings, Information, Publications, Security, Statistics, Workflow Repository, and Help. The breadcrumb trail indicates the current location: SHIWA Portal > Workflow > Concrete. The main content area is titled 'Concrete' and contains a table of workflows. The table has columns for Workflow name, Workflow type, Submitted, Running, Finished, Error, Suspended, and Actions. Two workflows are listed: 'ImageWorkflow' and 'prepareForKeplerWorkflow'. The 'Info' button for 'ImageWorkflow' is circled in red.

Workflow name	Workflow type	Submitted	Running	Finished	Error	Suspended	Actions
ImageWorkflow 2013-3-4	zen	0	0	0	0	0	Configure Info Details Submit Delete Export
prepareForKeplerWorkflow 2013-3-4	zen	0	0	1	0	0	Configure Info Details Submit Delete Export

This is not an exhaustive verification of configuration, but does pick-up on common configuration issues.

## Running the configured workflow

Click on the **Submit button** of the concrete workflow name to submit and execute it.

The screenshot shows the SHIWA Portal interface, similar to the previous one. The 'Submit' button for the 'ImageWorkflow' is circled in red.

Workflow name	Workflow type	Submitted	Running	Finished	Error	Suspended	Actions
ImageWorkflow 2013-3-4	zen	0	0	0	0	0	Configure Info Details Submit Delete Export
prepareForKeplerWorkflow 2013-3-4	zen	0	0	1	0	0	Configure Info Details Submit Delete Export

To display the workflow status during the execution, click on the **Details button**.

The screenshot shows the SHIWA Portal interface. The 'Details' button for the 'ImageWorkflow' is circled in red.

Workflow name	Workflow type	Submitted	Running	Finished	Error	Suspended	Actions
ImageWorkflow 2013-3-4	zen	0	0	0	0	0	Configure Info Details Submit Delete Export
prepareForKeplerWorkflow 2013-3-4	zen	0	0	1	0	0	Configure Info Details Submit Delete Export

By clicking again on the **Details button**, the portal displays the execution status of the jobs.



SHIWA Portal

SHIWA - Sharing Interoperable Workflows for large-scale scientific simulations on Available DCIs

Welcome Workflow Storage Settings Information Publications Security Statistics Workflow Repository Help

SHIWA Portal Workflow Concrete

Concrete

Workflow name: ImageWorkflow  
Note: 2013-3-4  
Workflow Graph: Image  
Workflow Template: 2013-3-4 17:3  
Selected WF Instance: 2013-3-4 17:3  
Job Status Instances [ Actions ]

Powered By [Liferay](#)

By clicking on the respective **View button**, a view of a specific job can be displayed.

SHIWA Portal

SHIWA - Sharing Interoperable Workflows for large-scale scientific simulations on Available DCIs

Welcome Security Workflow Storage Settings Information Statistics Repository SHIWA User Forum Publications Help

SHIWA Portal Workflow Concrete

Concrete

Workflow name: SSP\_tutorial\_2014\_plus  
Note: 2014-2-19  
Workflow Graph: extended\_graph  
Workflow Template: 2014-2-19 15:33  
Selected WF Instance: 2014-2-19 15:33  
Job unclassified instances Status Instances [ Actions ]

Job	unclassified instances	Status	Instances	[ Actions ]
Job0	0	finished	1	<a href="#">View finished</a>
Job1	0	finished	1	<a href="#">View finished</a>
Job2	0	running	1	<a href="#">View running</a>

Powered By [gUSE](#)

Click on the **Refresh button** to update the status.

When the execution of the workflow is successful, the status should be changed to *Finished* and you should be able to see generated output and error messages. Output files can be downloaded as an archive by clicking on the **Download file output button**.



**Concrete**

Workflow name: SSP\_tutorial\_2014\_plus  
Note: 2014-2-19  
Workflow Graph: extended\_graph  
Workflow Template:

2014-2-19 15:33 **finished** Details Delete Cost of Instance

Selected WF Instance:  
2014-2-19 15:33

Job	unclassified instances	Status	Instances	[Actions]
Job0	0	finished	1	View finished
Job1	0	finished	1	View finished
Job2	0	finished	1	View finished

**Job Status**

Selection window: start index - range 0 1 Set selection

Show 10 entries Search:

PID	Resource	Status	View info
0	gemlca-devel.cpc.wmin.ac.uk:8443 - ngs.wmin.ac.uk	finished	Logbook std. Output std. Error <b>Download file output</b>

PID Resource Status View info

Showing 1 to 1 of 1 entries Previous Next

Powered By gUSE  
Powered By Liferay

SSP\_tutorial\_2014\_plus > Job2 > outputs > 3625714681320393zentest > 0

Organize Extract all files

File Edit Options Buffers Tools Help

String in input file INPUT: Test input file  
This is job: I am Job0  
Executing on: n54.cluster.cpc.wmin.ac.uk  
Executing at: Wed Feb 19 15:34:36 GMT 2014  
\*\*\*\*\*

String in input file INPUT: Text to be put in file  
This is job: I am Job1  
Executing on: n54.cluster.cpc.wmin.ac.uk  
Executing at: Wed Feb 19 15:34:17 GMT 2014  
\*\*\*\*\*

--(Unix)% concatenated All L9 (Fundamental)-----