

Hands-on with the P-GRADE/GEMLCA Portal

1. Login to the Portal

- 1.1 Go to the URL:
`https://grid-portal.cpc.wmin.ac.uk:8080/gridsphere/gridsphere`
- 1.2 Use your account and password to login

2. Download a short-term proxy credential from the MyProxy server into the Portal server. The proxy will be used by the workflow manager during workflow execution.

- 3.1 Hit the "Certificates" tab
- 3.2 Click on the "Download" button
- 3.3 Submit the download form with the following data:
Hostname: myproxy.grid-support.ac.uk
Port: 7512
Login:
Password:
Lifetime: 10
Description: <optional>
- 3.4 Set your certificate to be used with the NGS Grid.
- 3.5 Use the "Settings" tab to load default resources.
Hit the "Settings" tab. Available Grids are listed here as it was set by the portal administrator. Hit the resources button besides the NGS Grid and view available resources. Load default resources specified by the portal administrator by hitting the "Load default" button.

3. Create a traffic simulation workflow combining standard and GEMLCA jobs

The aim of this exercise is to demonstrate the difference between standard and GEMLCA jobs. The first component of your workflow will be a standard job where you have to define the executable and parameter format. The rest of the workflow will be composed of GEMLCA jobs selected from the repository. The "manhattan" executable can be downloaded from <https://ngs-portal.cpc.wmin.ac.uk:8080/gridsphere/html/manhattan>

4.1. Create a standard job using the "Manhattan" executable

- 4.1.1 Create a new standard job in the workflow editor. Go into properties by right-clicking on the job and set job type as "Standard job". Define the job with the following parameters:

Name: manhattan
Job type: SEQ
Job executable: <path of "manhattan" executable>
Attributes: -r 10 -c 10 -w 150 -h 150 -C 2 -R 5
-n file.net -t file.trn
Grid: NGS
Resource: Any NGS resource

- 4.1.2 Define a port for the job with the following parameters:

Port Name: 0
Type: out
Internal File Name: file.net

- 4.1.3 Define another port to the job with the following parameters:

Port Name: 1
Type: out
Internal File Name: file.trn

4.1.4 Save and submit your workflow. Monitor and visualize the progress of execution.

4.1.5 Download and unzip the result file.

4.2 Extend your workflow with 3 additional GEMLCA jobs

In this exercise you will utilize already published legacy codes in your workflow from the GEMLCA repository. The executables of these programs are already uploaded, you only have to specify actual parameter values.

4.2.1 Open your previous workflow in the workflow editor and create a new GEMLCA job. Go into properties by right-clicking on the job and set job type as "GEMLCA job". Double click on the job and go into job properties. Define a job with the following parameters:

Name: Sim1
Grid: NGS
Resource: Any GEMLCA resource
Legacy code: MadCity traffic simulator
Parameters with default values and ports are created automatically. Keep default parameters for this job.

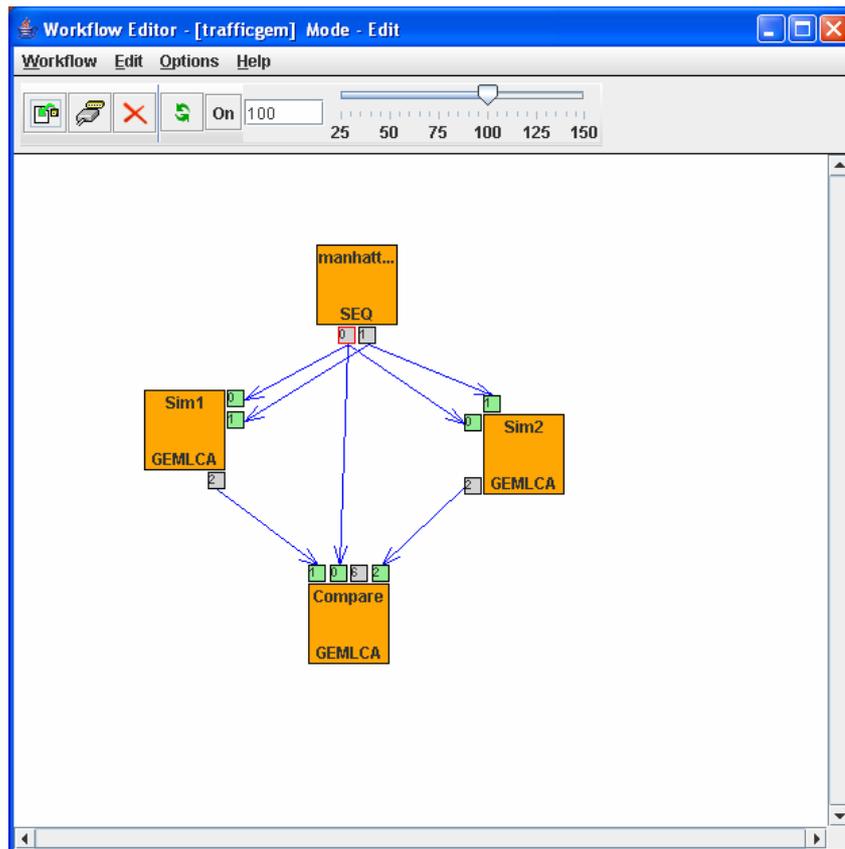
4.2.2 Define another job with the following parameters:

Name: Sim2
Grid: NGS
Resource: Any GEMLCA resource
Legacy code: MadCity traffic simulator
Change the parameter value "number of cars per lane" from 14 to another value.

4.2.3 Define your last job with the following parameters:

Name: Compare
Grid: NGS
Resource: Any GEMLCA resource
Legacy code: Trace compare
Keep default parameter values.

4.2.4 Draw the workflow graph as follows:



4.2.5 Save the workflow, submit it, visualize execution, and download results.

4.3 MultiGrid Workflow - map some jobs of the workflow to GILDA

- Check the proxy lifetime of your GILDA certificate and download a new proxy if necessary.
- Map some jobs of the Traffic simulation workflow to Gilda resources. Save it at a different name.
- Submit the workflow and monitor its execution.