

## Hands-on with the P-GRADE/GEMLCA Portal

### 1. Login to the Portal

1.1 Go to the URL:

<https://gngs-portal.cpc.wmin.ac.uk:8080/gridsphere/gridsphere>

1.2 Use your account and password to login (truserxx / truserxx)

### 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.

2.1 Hit the “Certificates” tab

2.2 Click on the “Download” button

2.3 Submit the download form with the following data:

**Hostname:** node40.cluster.cpc.wmin.ac.uk

**Port:** 7512

**Login:** truserxx

**Password:** truserxx

**Lifetime:** 10

**Description:** <optional>

2.4 Set your certificate to be used with the NGS Grid.

### 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://gngs-portal.cpc.wmin.ac.uk:8080/gridsphere/html/>. A description of the different components of the traffic simulation workflow can be found here:

[http://portal.p-grade.hu/tutorials/induction/Traffic\\_simulation\\_workflow\\_description.htm](http://portal.p-grade.hu/tutorials/induction/Traffic_simulation_workflow_description.htm)

#### 3.1. Load default resources

Hit the “Settings” tab, then the “Resources” button and load the default resources of the NGS Grid.

#### 3.2. Create a standard job using the “Manhattan” executable

3.2.1 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

3.2.2 Define a port for the job with the following parameters:

**Port Name:** 0

**Type:** out

**Internal File Name:** file.net

3.2.3 Define another port to the job with the following parameters:

**Port Name:** 1

**Type:** out

**Internal File Name:** file.trn

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

3.2.5 Download and unzip the result file.

### 3.3 Extend your workflow with 3 additional GEMMLCA jobs

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

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

**Name:** Sim1

**Grid:** NGS

**Resource:** Any GEMMLCA resource

**Legacy code:** MadCity traffic simulator

Parameters with default values and ports are created automatically. Keep default parameters for this job.

3.3.2 Define another job with the following parameters:

**Name:** Sim2

**Grid:** NGS

**Resource:** Any GEMMLCA resource

**Legacy code:** MadCity traffic simulator

Change the parameter value "number of cars per lane" from 14 to another value.

3.3.3 Define your last job with the following parameters:

**Name:** Compare

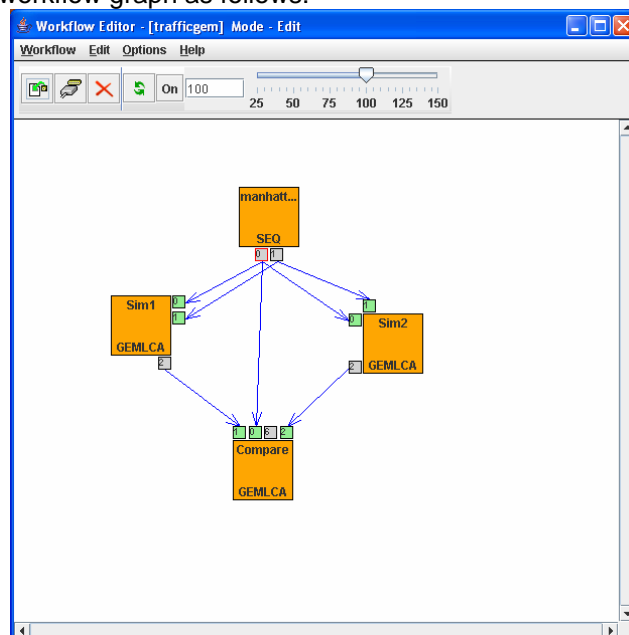
**Grid:** NGS

**Resource:** Any GEMMLCA resource

**Legacy code:** Trace file compare

Keep default parameter values.

3.3.4 Draw the workflow graph as follows:



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