



Enabling Grids for
E-science in Europe

Nicosia, Feb 16, 2009

the gEclipse platform: Benchmarking

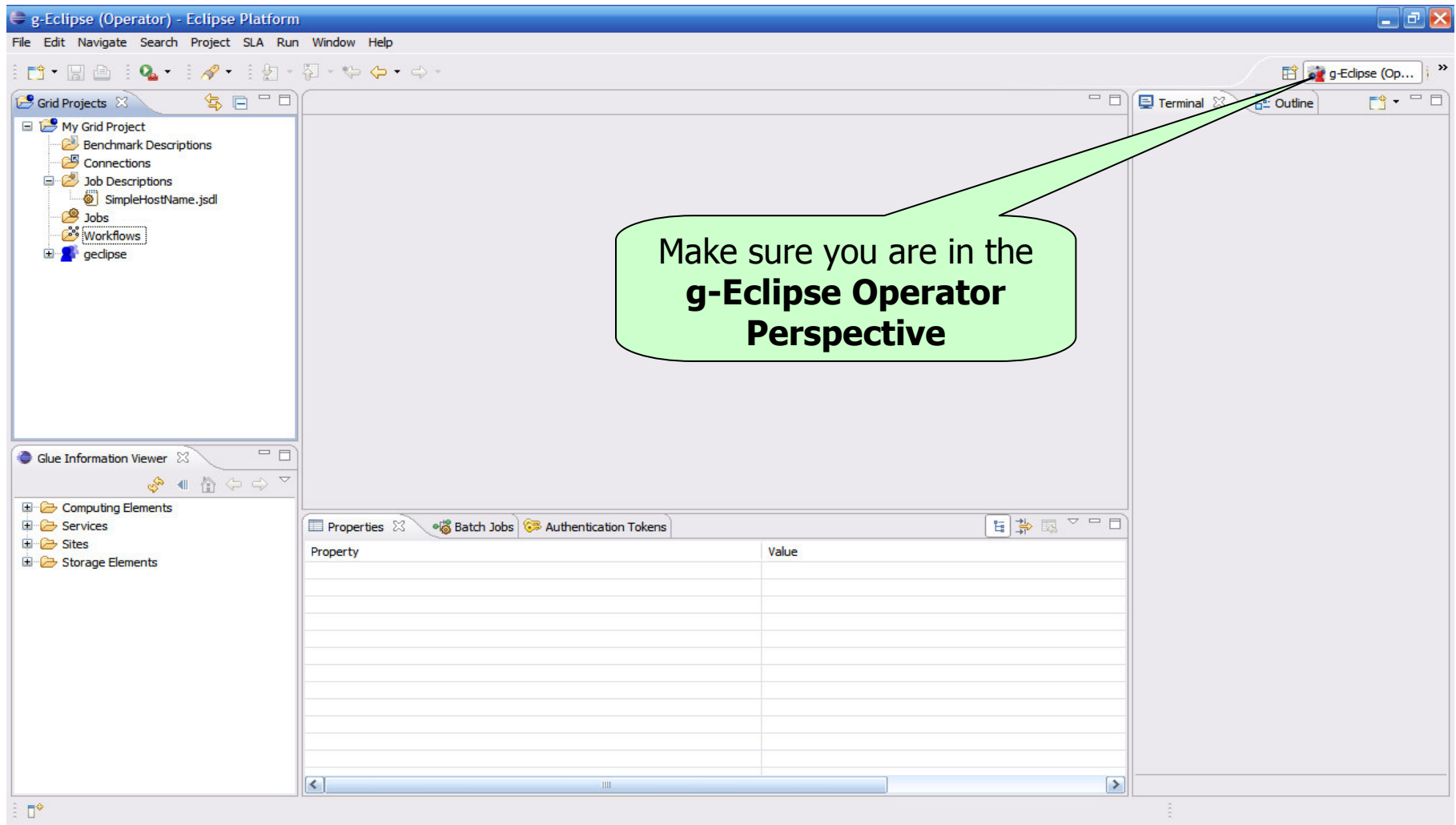
Nicholas Loulloudes (loulloudes.n_AT_cs.ucy.ac.cy)
Trainer, University of Cyprus



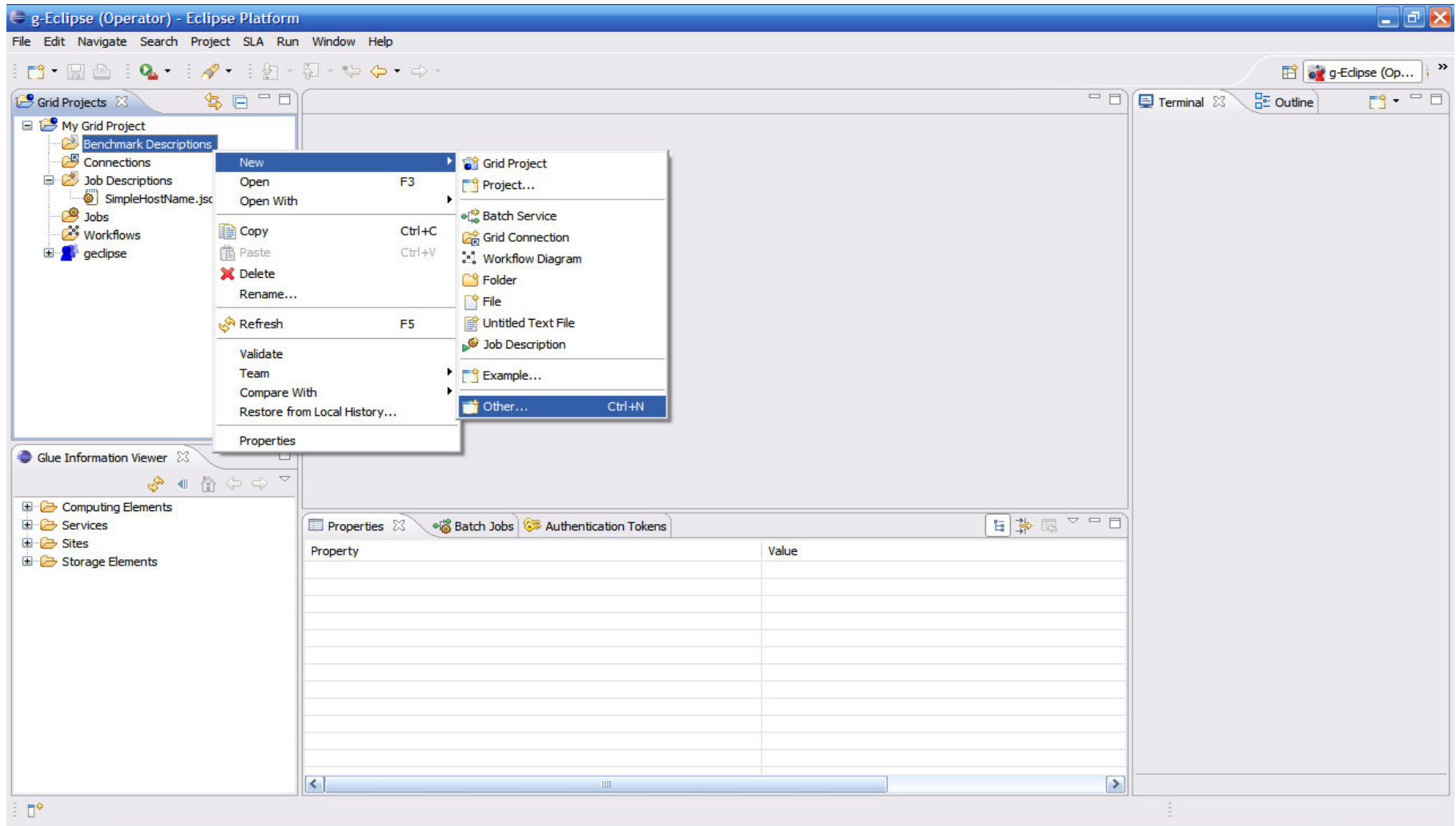
Session Requirements

- Successful completion of the following:
 - VO Setup
 - CA Certificates Setup
 - Grid Project Creation (*with Workflows and Benchmarking Folder*)
 - Authentication Token Creation

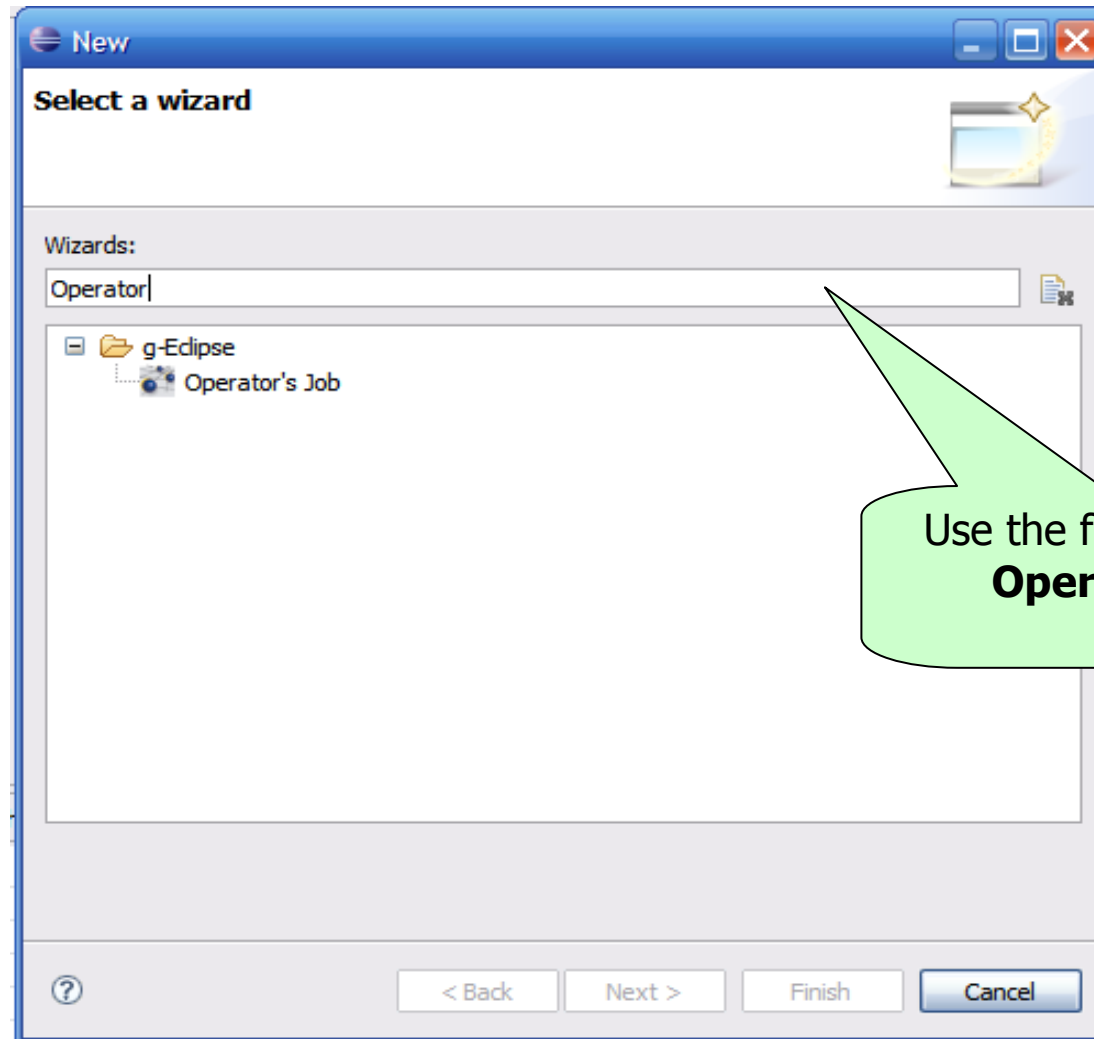
Operator Perspective



New Operator Job Wizard



New Operator Job Wizard (2)



New Operator Job Wizard (3)

New Operator's Job

Project selection page
Choose project that contains services you want to perform operator's job on.

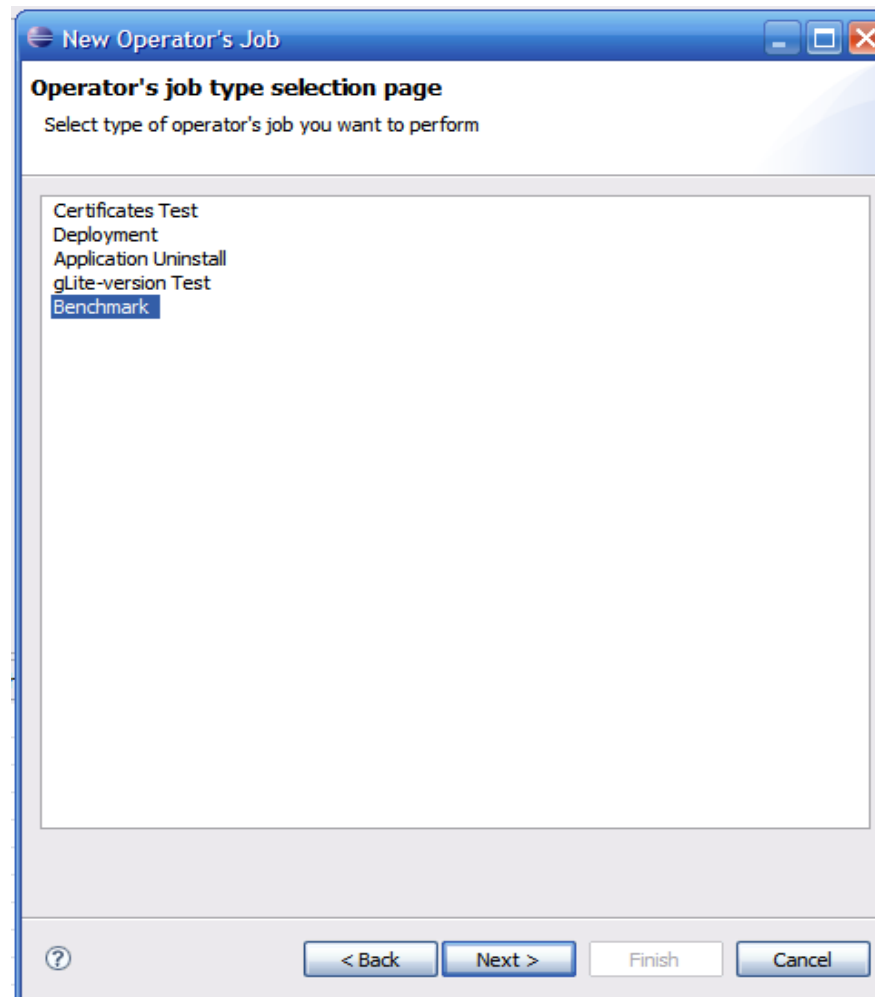
My Grid Project

Operator's Job name: Flops Benchmark

< Back Next > Finish Cancel

- Select the Grid Project the Operator Job will be created.
- Enter the Operator Job Name
 - Here we enter Flops Benchmark

New Operator Job Wizard (4)



New Operator Job Wizard (4)

Benchmark

New Benchmark Description
Create a new Benchmark

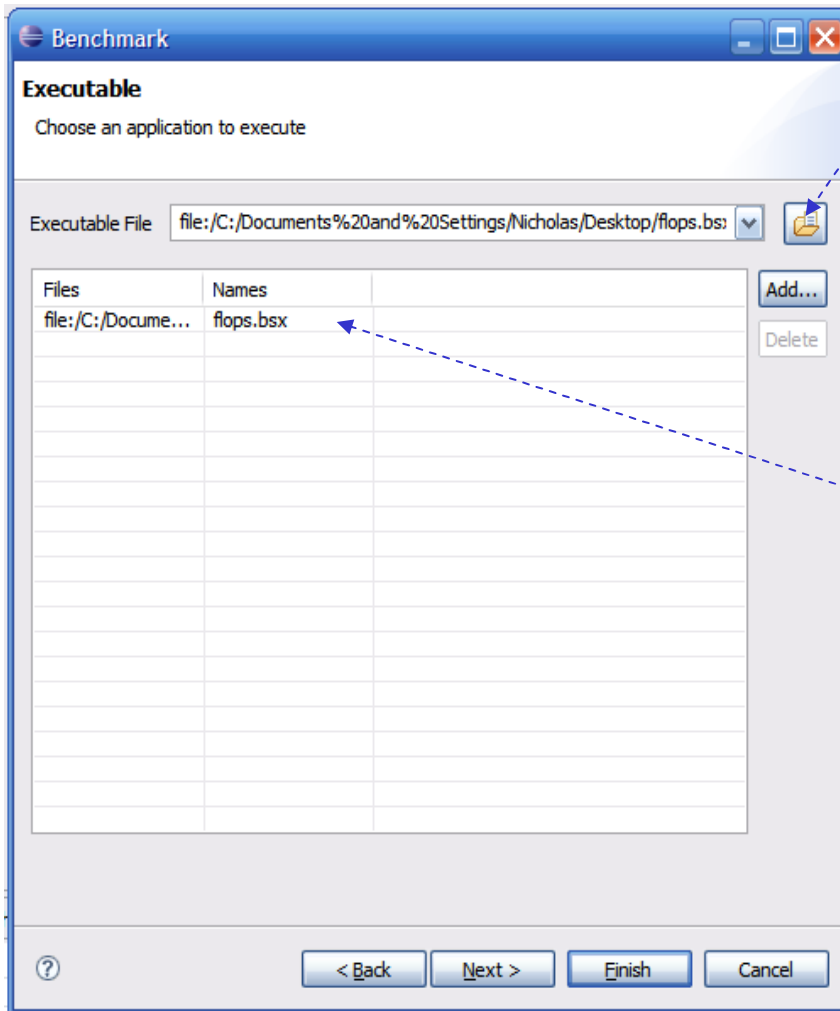
Benchmark Name
Flops Benchmark

Benchmark Description
A new Flops Benchmark for 4 Grid Sites.

? < Back Next > Finish Cancel

- Enter the Benchmark Name
- Enter a Description
- Click Next to Proceed.

New Operator Job Wizard (4)



- Use the Browse button to load the Grid File Dialog
- Use the dialog to locate the BSX file containing the Flops Benchmark executable
- The BSX file is added.
- Click Finish to create the Benchmark Job

Benchmark

The screenshot shows the g-Eclipse (Operator) interface. The 'Grid Projects' view on the left shows a tree structure with 'My Grid Project' expanded to show 'Benchmark Descriptions', which contains 'Flops Benchmark.gbd'. A green speech bubble points to this file with the text: 'The **GBDL** file has been created in the Benchmark Folder.'

The 'Operator's Jobs' view at the bottom shows a table with the following data:

| Name | Project | Status | Job date | Type |
|---------------------|-----------------|--------|----------|-----------|
| ... Flops Benchmark | My Grid Project | N/A | N/A | Benchmark |

A green speech bubble points to the 'Operator's Jobs' view with the text: 'Benchmark now appears in the **Operator Jobs view**'.

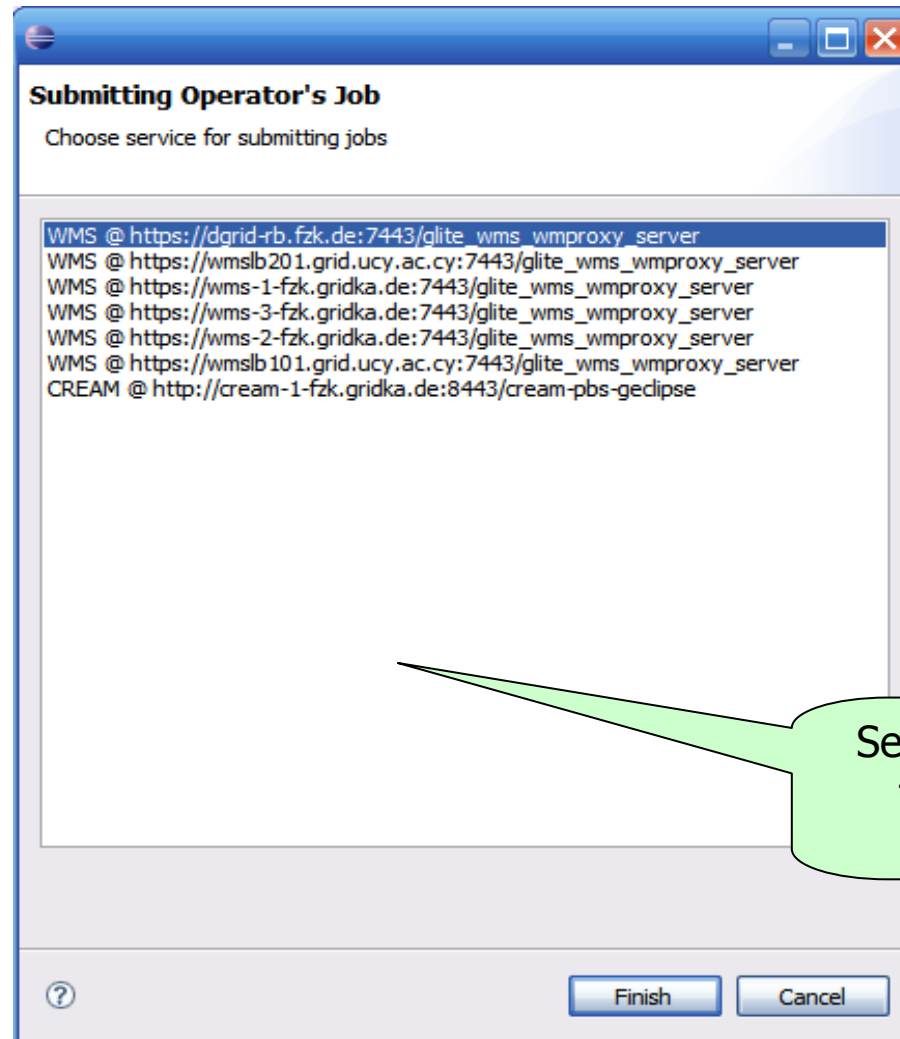
Run Benchmark

The screenshot shows the g-Eclipse (Operator) Eclipse Platform interface. The main window displays a context menu for an Operator Job. A green speech bubble points to the 'Run Operator's Job' option in the menu.

Right click on the Operator Job to **Run**

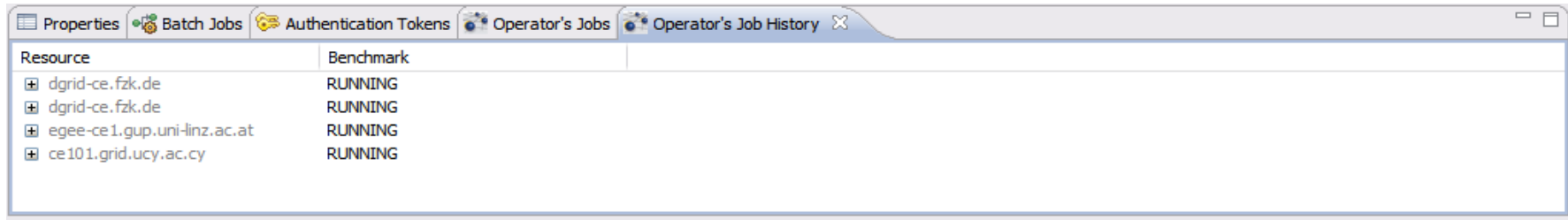
| Name | Job date | Type |
|-----------------|----------|-----------|
| Flops Benchmark | N/A | Benchmark |

Run Benchmark

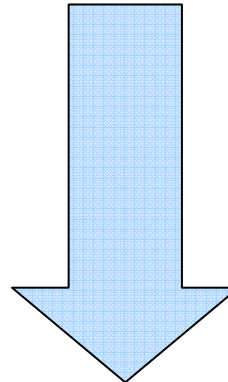


Select service to submit
the Benchmark Job

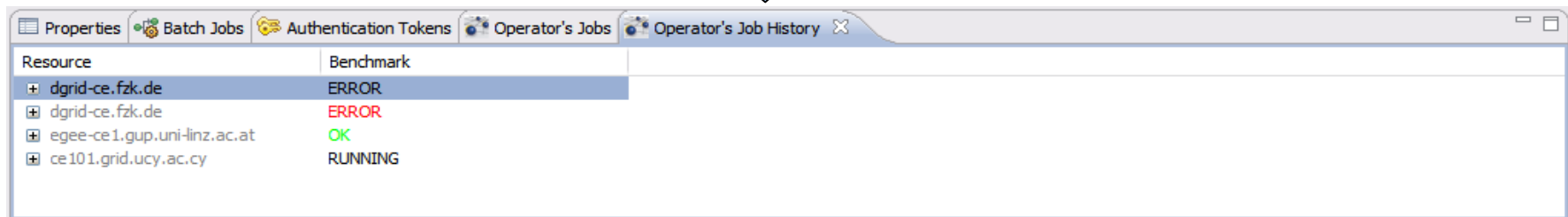
Benchmark Job Monitoring



| Resource | Benchmark |
|-----------------------------|-----------|
| dgrid-ce.fzk.de | RUNNING |
| dgrid-ce.fzk.de | RUNNING |
| egee-ce1.gup.uni-linz.ac.at | RUNNING |
| ce101.grid.ucy.ac.cy | RUNNING |



Monitor as the Benchmark Job progresses through various states.(RUNNING / ERROR / OK)



| Resource | Benchmark |
|-----------------------------|-----------|
| dgrid-ce.fzk.de | ERROR |
| dgrid-ce.fzk.de | ERROR |
| egee-ce1.gup.uni-linz.ac.at | OK |
| ce101.grid.ucy.ac.cy | RUNNING |

Benchmark View

The screenshot shows the g-Eclipse (Operator) interface. The main window is titled 'Benchmark View' and contains the following sections:

- Database Maintenance:** Create or drop the tables that are used to store the results of the benchmarks. Buttons: Create Tables, Drop Tables, Export, Import.
- Benchmarks:** View the benchmarks that are stored in the database. Includes a checkbox for 'Present average results by resource', date pickers for 'From' and 'To' (both set to 08 February 2009), a 'Type' dropdown, and a 'Present Results' button.
- Details/Chart:** A tabbed area with 'Details' selected, showing a table of benchmark results.

The 'Details' table shows the following data:

| Resource | Benchmark |
|-----------------------------|-----------|
| dgrid-ce.fzk.de | ERROR |
| dgrid-ce.fzk.de | ERROR |
| egee-ce1.gup.uni-linz.ac.at | OK |
| ce101.grid.ucy.ac.cy | OK |

A green callout bubble with the text 'Open the Benchmark View' points to the 'Benchmark View' tab in the top window pane.

Present Benchmark Results

The screenshot shows the g-Eclipse (Operator) interface. The main window is titled "Benchmarking" and contains the following elements:

- Database Maintenance:** "Create or drop the tables that are used to store the results of the benchmarks" with buttons for "Create Tables", "Drop Tables", "Export", and "Import".
- Benchmarks:** "View the benchmarks that are stored in the database". It includes a checkbox for "Present average results by resource", date pickers for "From" and "To" (both set to "08 February 2009"), a "Type:" dropdown menu, and a "Present Results" button. A green callout bubble points to this button with the text: "Select the **Flops Benchmark** from the dropdown and click **Present Result**".
- Details/Chart:** A tabbed area with "Details" and "Chart" tabs, currently showing a blank table.
- Properties:** A table at the bottom showing benchmark results for various resources.

| Resource | Benchmark |
|-----------------------------|-----------|
| dgrid-ce.fzk.de | ERROR |
| dgrid-ce.fzk.de | ERROR |
| egee-ce1.gup.uni-linz.ac.at | OK |
| ce101.grid.ucy.ac.cy | OK |

Present Benchmark Results(2)

The screenshot shows the g-Eclipse (Operator) interface. The main window displays the 'Benchmarking' view, which includes a 'Database Maintenance' section with buttons for 'Create Tables', 'Drop Tables', 'Export', and 'Import'. Below this is the 'Benchmarks' section, which allows users to view benchmarks stored in the database. The 'Present average results by resource' checkbox is unchecked. The 'From' and 'To' date pickers are set to '08 February 2009'. The 'Type' dropdown is set to 'Flops Benchme', and the 'Present Results' button is visible.

The 'Details' tab is selected, showing a table of benchmark results:

| Resource | Date | MFLOPS(1) | MFLOPS(2) | MFLOPS(3) | MFLOPS(4) |
|-----------------------------|---------------------|-----------|-----------|-----------|-----------|
| egee-ce1.gup.uni-linz.ac.at | 08/03/2009 14:53:30 | 567.03 | 565.18 | 798.27 | 1005.56 |
| egee-ce1.gup.uni-linz.ac.at | 08/03/2009 14:54:49 | 479.77 | 441.3 | 642.69 | 759.85 |
| ce101.grid.ucy.ac.cy | 08/03/2009 15:10:56 | 951.02 | 893.08 | 1277.58 | 1634.93 |
| ce101.grid.ucy.ac.cy | 08/03/2009 15:12:04 | 951.57 | 892.08 | 1275.64 | 1632.01 |

A green speech bubble points to the table with the text: "Results are shown per resource in a tabular form."

The 'Properties' view at the bottom shows the status of the benchmark for each resource:

| Resource | Benchmark |
|-----------------------------|-----------|
| dgrid-ce.fzk.de | ERROR |
| dgrid-ce.fzk.de | ERROR |
| egee-ce1.gup.uni-linz.ac.at | OK |
| ce101.grid.ucy.ac.cy | OK |

Benchmark Graphs

Chart tab shows results in a **graphical form.**

| Resource | Benchmark |
|-----------------------------|-----------|
| dgrid-ce.fzk.de | ERROR |
| dgrid-ce.fzk.de | ERROR |
| egee-ce1.gup.uni-linz.ac.at | OK |
| ce101.grid.ucy.ac.cy | OK |