



CLAIX-2023 Performance Monitoring

VI-HPS Porting and Tuning Workshop (TW44)
February 26, 2024

Christian Wassermann, Marc-André Hermanns

Job Monitoring Basics

- Job Monitoring is always on (if not explicitly disabled)
 - Sample measurements of basic metrics over time (Sampling & Tracing)
 - Sampled once per minute for 1 second
 - Must be disabled with `#SBATCH --hwctr=papi` for individual performance tool measurements
- Login via RWTH Single Sign-On
 - <https://perfmon.hpc.itc.rwth-aachen.de/>
- Visualization based on Grafana
 - Joblist -- List of all past and running jobs
 - Job Overview -- Details view of a single job

The Grafana Home Screen

The screenshot shows the Grafana Joblist dashboard. The browser address bar is `https://perfmon.hpc.itc.rwth-aachen.de/grafana/d/uC-9imKVz/joblist?orgId=8`. The dashboard title is "Joblist - Dashboards - Grafana". The left sidebar contains a search icon, a star icon, and a dashboard grid icon. The main content area displays a table of job entries with columns for ID, name, environment, start time, end time, duration, status, number of nodes, and node list. A "Last 90 days" filter is visible in the top right corner.

Annotations with red boxes and arrows point to the following elements:

- Return to Home Screen**: Points to the gear icon in the top left sidebar.
- Search for Dashboards**: Points to the search icon in the top left sidebar.
- List starred Dashboards**: Points to the star icon in the top left sidebar.
- List all Dashboards**: Points to the dashboard grid icon in the top left sidebar.
- Set History Timespan**: Points to the "Last 90 days" filter in the top right corner.

ID	Name	Env	Start	End	Duration	Status	NumNodes	Nodelist
43845280	reference	c23test	2024-02-25 17:59:28	2024-02-25 18:20:59	21.3 min	COMPLETED	2	i23m0001, i23m0002
43845104	reference	c23test	2024-02-25 17:48:15	2024-02-25 17:49:25	1.17 min	COMPLETED	2	i23m0001, i23m0002
43818096	interactive	c23test	2024-02-25 17:45:42	2024-02-25 17:45:52	10 s	FAILED	2	i23m0001, i23m0002
43818086	interactive	c23test	2024-02-25 17:44:39	2024-02-25 17:44:49	10 s	FAILED	8	i23m0001, i23m0002, i23...
43817970	interactive	c23test	2024-02-25 17:42:29	2024-02-25 17:42:38	9 s	FAILED	1	i23m0001
42874660	interactive	devel	2024-02-25 17:16:26	2024-02-25 17:16:48	22 s	COMPLETED	1	i23m0001
42874636	interactive	devel	2024-02-25 17:14:53	2024-02-25 17:15:03	10 s	FAILED	1	i23m0001
42874636	interactive	devel	2024-02-23 15:24:47	2024-02-23 15:40:06	15.3 min	TIMEOUT	1	i23m0002
42874636	interactive	devel	2024-02-23 15:21:53	2024-02-23 15:24:16	2.38 min	COMPLETED	1	i23m0002
42874636	interactive	devel	2024-02-23 15:15:14	2024-02-23 15:21:40	6.43 min	COMPLETED	1	i23m0001
42874636	interactive	devel	2024-01-26 12:37:48	2024-01-26 12:50:09	12.4 min	COMPLETED	1	ncm0001
42874636	interactive	devel	2024-01-26 12:31:28	2024-01-26 12:32:29	1.02 min	FAILED	1	ncm0001

The Grafana Home Screen

The screenshot shows the Grafana Joblist dashboard in a Mozilla Firefox browser. The dashboard title is "General / Joblist" and it displays a table of job execution details. A filter dropdown menu is open over the "JobState" column, showing options for "COMPLETED", "FAILED", and "TIMEOUT".

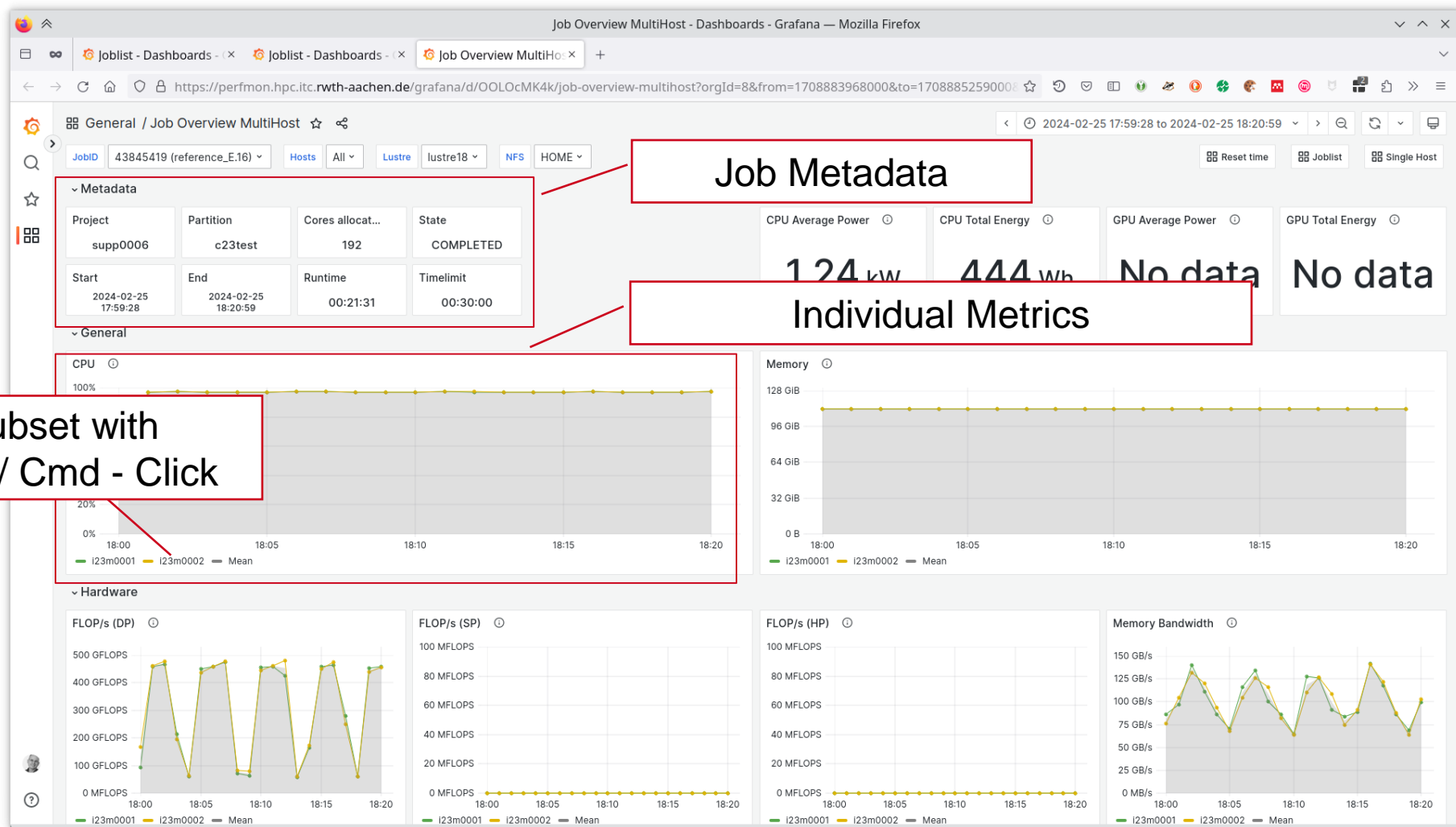
JobID	JobName	Partition	Start	End	Runtime	JobState	NumNodes	Nodelist
43845419	reference_E.16	c23test	2024-02-25 17:59:28	2024-02-25 18:20:59	21.5 min	COMPLETED	2	i23m0001, i23m0002
43845402	reference_D.16	c23test	2024-02-25 17:48:15	2024-02-25 17:49:25	1.17 min	COMPLETED	2	i23m0001, i23m0002
43845394	reference_D.16	c23test	2024-02-25 17:45:42	2024-02-25 17:45:52	10 s	FAILED	2	i23m0001, i23m0002
43845387	reference_D.16	c23test	2024-02-25 17:44:39	2024-02-25 17:44:49	10 s	FAILED	8	i23m0001, i23m0002, i23...
43845383	reference	c23test	2024-02-25 17:42:29	2024-02-25 17:42:38	9 s	FAILED	1	i23m0001
43845280	reference	c23test	2024-02-25 17:16:26	2024-02-25 17:16:48	22 s	COMPLETED	1	i23m0001
43845104	reference	c23test	2024-02-25 17:14:53	2024-02-25 17:15:03	10 s	FAILED	1	i23m0001
43818096	interactive	c23test	2024-02-23 15:24:47	2024-02-23 15:40:06	15.3 min	TIMEOUT	1	i23m0002
43818086	interactive	c23test	2024-02-23 15:21:53	2024-02-23 15:24:16	2.38 min	COMPLETED	1	i23m0002
43817970	interactive	c23test	2024-02-23 15:15:14	2024-02-23 15:21:40	6.43 min	COMPLETED	1	i23m0001
42874660	interactive	devel	2024-01-26 12:37:48	2024-01-26 12:50:09	12.4 min	COMPLETED	1	ncm0001
42874636	interactive	devel	2024-01-26 12:31:28	2024-01-26 12:32:29	1.02 min	FAILED	1	ncm0001

The Grafana Home Screen

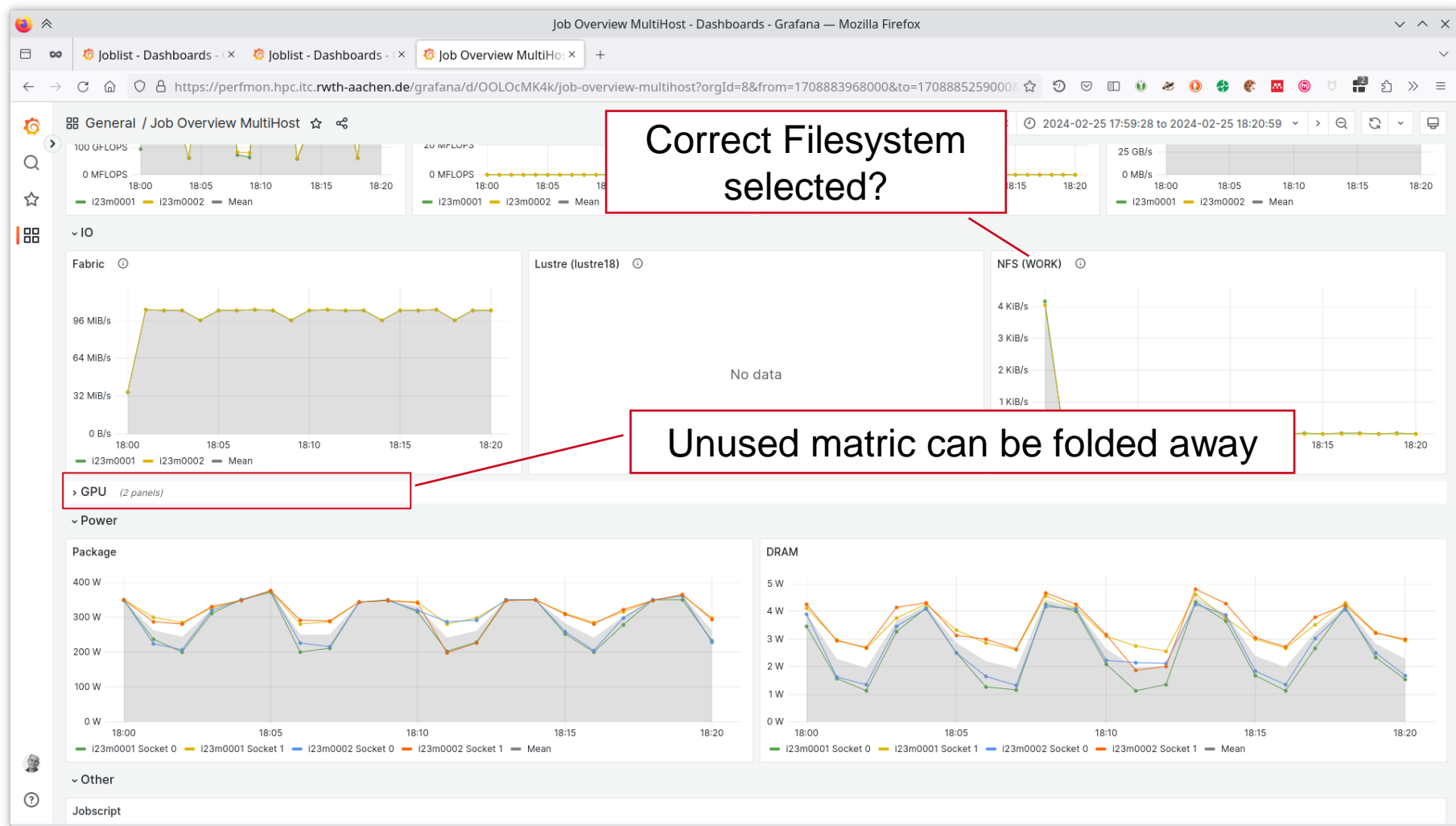
The screenshot shows the Grafana Joblist dashboard with a table of job entries. A red box at the top center contains the text "Select specific job for detailed view". Below the table, several red boxes with arrows point to specific columns, each containing a question: "What name?", "On which partition?", "When did it run?", "How long did it run?", "On how many nodes?", and "On which nodes?".

JobID	JobName	Partition	Start	End	Runtime	JobState	NumNodes	Nodelist
43845419	reference_E.16	c23test	2024-02-25 17:59:28	2024-02-25 18:20:59	21.5 min	COMPLETED	2	i23m0001, i23m0002
43845402	reference_D.16	c23test	2024-02-25 17:48:15	2024-02-25 17:49:25	1.17 min	COMPLETED	2	i23m0001, i23m0002
43845280	reference	c23test	2024-02-25 17:16:26	2024-02-25 17:16:48	22 s	COMPLETED	1	i23m0001
43818086	interactive	c23test	2024-02-23 15:21:53	2024-02-23 15:24:16	2.38 min	COMPLETED	1	i23m0002
43817970	interactive	c23test	2024-02-23 15:15:14	2024-02-23 15:21:40	6.43 min	COMPLETED	1	i23m0001
42874660	interactive	devel	2024-01-26 12:37:48	2024-01-26 12:50:09	12.4 min	COMPLETED	1	ncm0001

For HPC Group Members – Accessing the Admin Joblist



For HPC Group Members – Accessing the Admin Joblist



Live Demo

**Thank you
for your attention**