



Module 9: Monitoring Resource Use

Website: www.rc.colorado.edu

Documentation: <https://curc.readthedocs.io>

Helpdesk: rc-help@colorado.edu

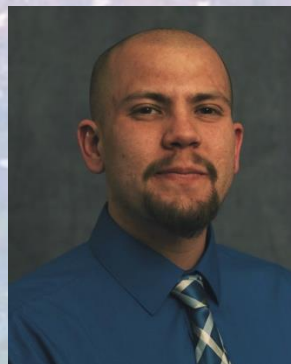


Research Computing
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Learning Objectives

- Calculate your resource usage/consumption
- View average wait times in the CURC queues
- Find your relative "priority"
- Check the efficiency of your research workflows

Overview

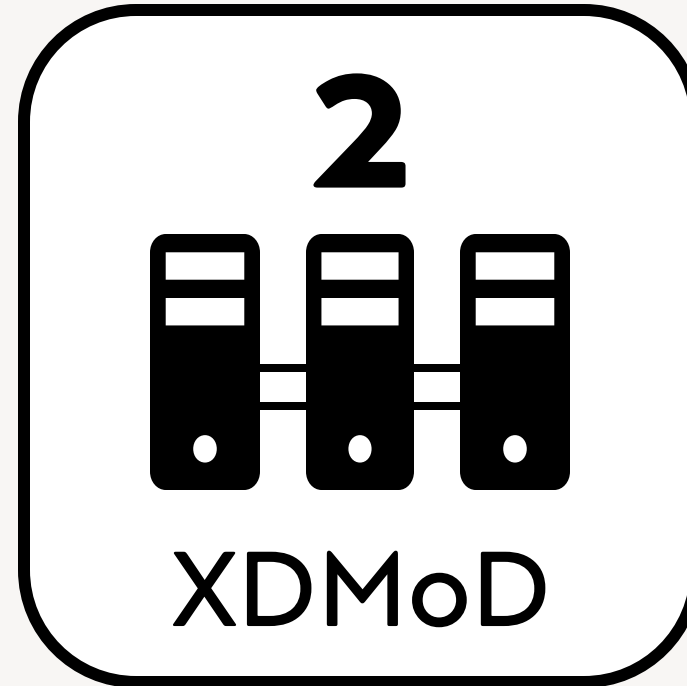
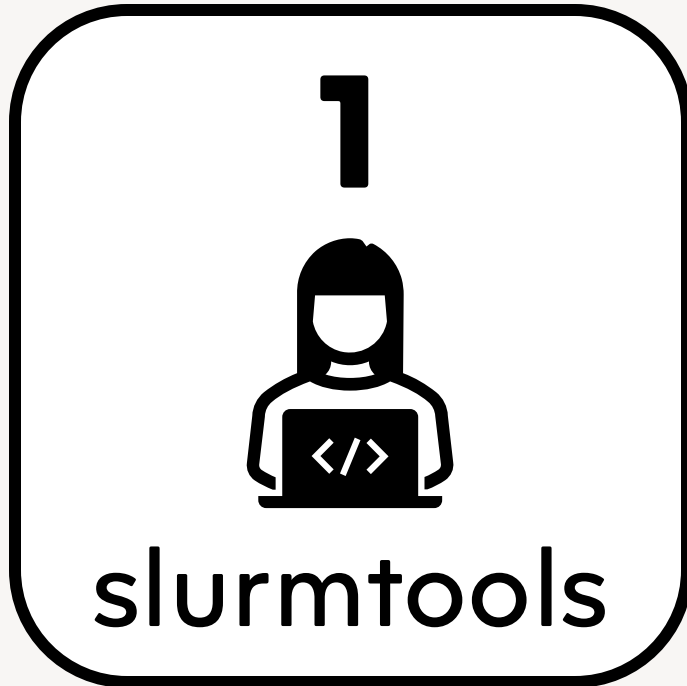
1

slurmtools

2

XDMoD

Overview



The slurmttools Module

A module that loads a collection of functions to assess recent usage statistics

```
$ module load slurm/alpine  
$ module load slurmttools
```



jobstats

What jobs have I run over the past N days?

```
$ jobstats
```

Purpose: This function shows statistics for each job run by a specified user over N days.

Usage: `jobstats [userid] [days, default 5]`

Hint: `jobstats ralphie 15`

Service Units

$$SU_1 = \text{CPU Icon}_1 \times \text{Clock Icon}_1$$

Service units (SUs), sometimes called “core hours”, reflect the processing that a core performs in one hour modified by some scaling factor

suuser

How many Service Units (SUs) have I used?

```
$ suuser
```

Purpose: This function computes the number of Service Units (SUs) consumed by a specified user over N days.

Usage: `suuser [userid] [days, default 30]`

Hint: `suuser ralphie 15`

suacct

Who is using all the SUs on my group's account?

```
$ suacct
```

Purpose: This function computes the number of Service Units (SUs) consumed by each user of a specified account over N days.

Usage: `suacct [account_name] [days, default 30]`

Hint: `suacct ucb-general 15`

seff

How efficient are my jobs?

```
$ seff
```

```
Usage: seff [Options] <Jobid>
```

Options:

- h Help menu
- v Version
- d Debug mode: display raw Slurm data

seff-array

How efficient are my array jobs?

```
$ levelsfs
```

```
usage: seff-array.py [-h] [-c CLUSTER] [--version] jobid
```

```
positional arguments: jobid
```

```
options:
```

- h, --help show this help message and exit
- c CLUSTER, --cluster CLUSTER
- version show program's version number and exit

Priority

- A job's priority determines its position in the queue.
- A job's priority is based on multiple factors, including:
 - ☐ FairShare score
 - ☐ Age
 - ☐ Resources requested
 - ☐ Job size
 - ☐ QOS

levelfs

What is my priority?

```
$ levelfs
```

Purpose: This function shows the current fair share priority of a specified user.
A value of 1 indicates average priority compared to other users in an account.

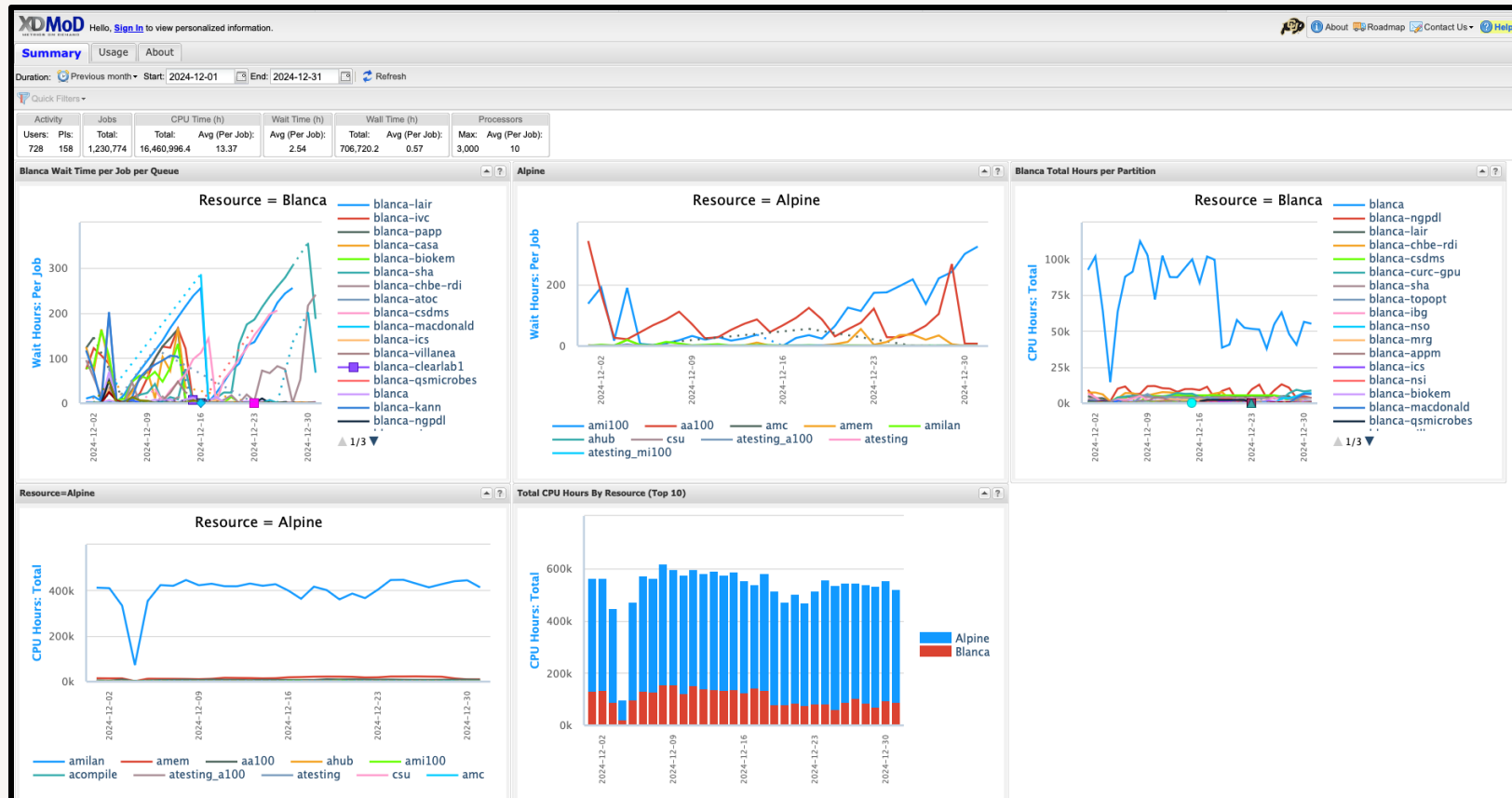
A value of < 1 indicates lower than average priority
(longer than average queue waits)

A value of > 1 indicates higher than average priority
(shorter than average queue waits)

Usage: `levelfs [userid]`

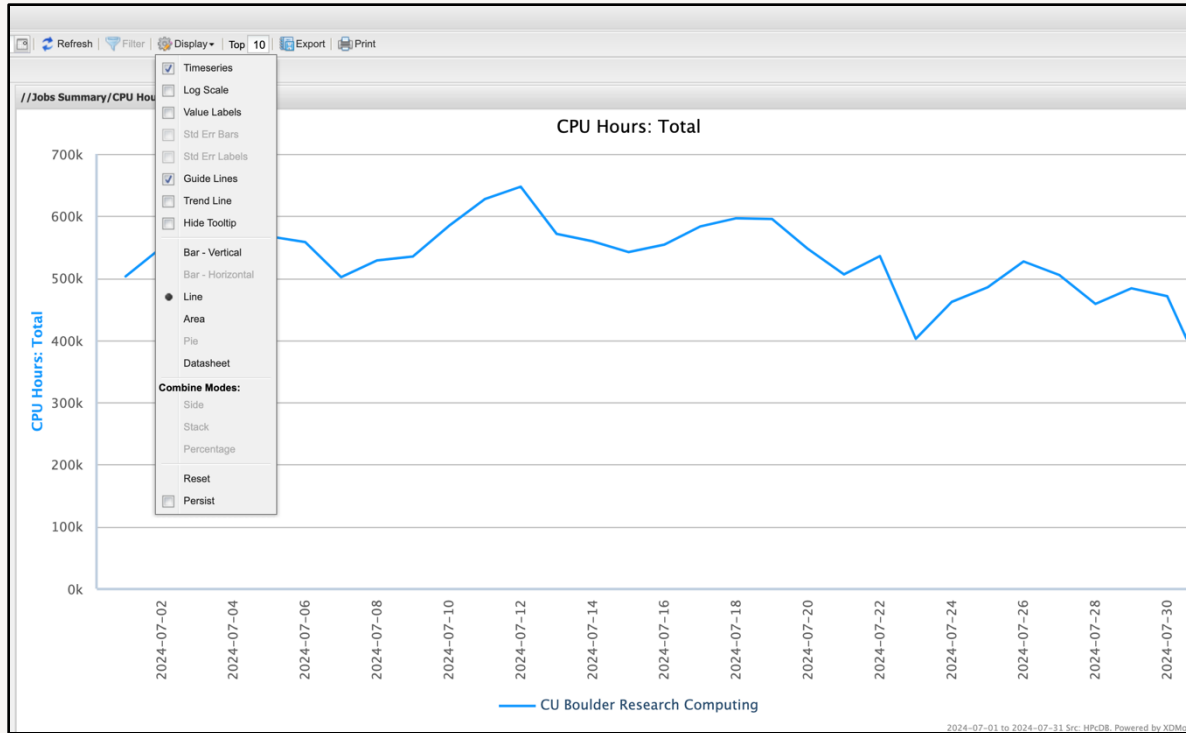
Hint: `levelfs ralphie`

XDMoD

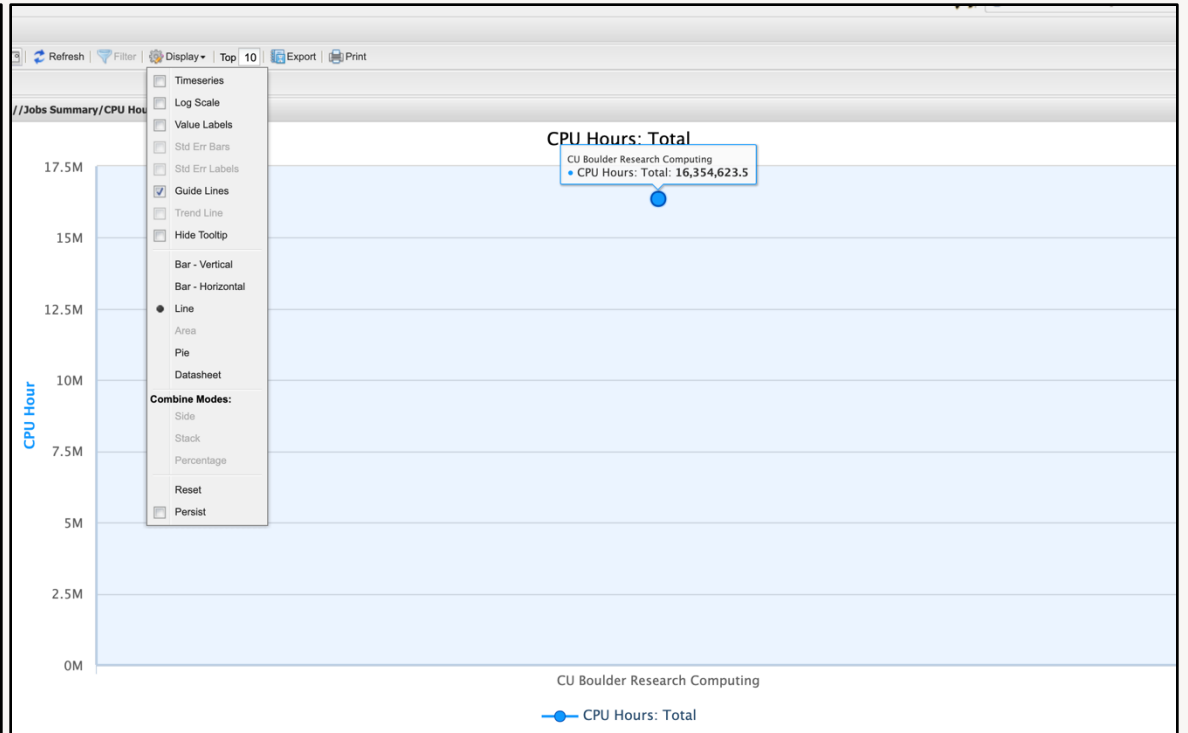


<https://xdmod.rc.colorado.edu/>

XDMoD Display Menu Defaults

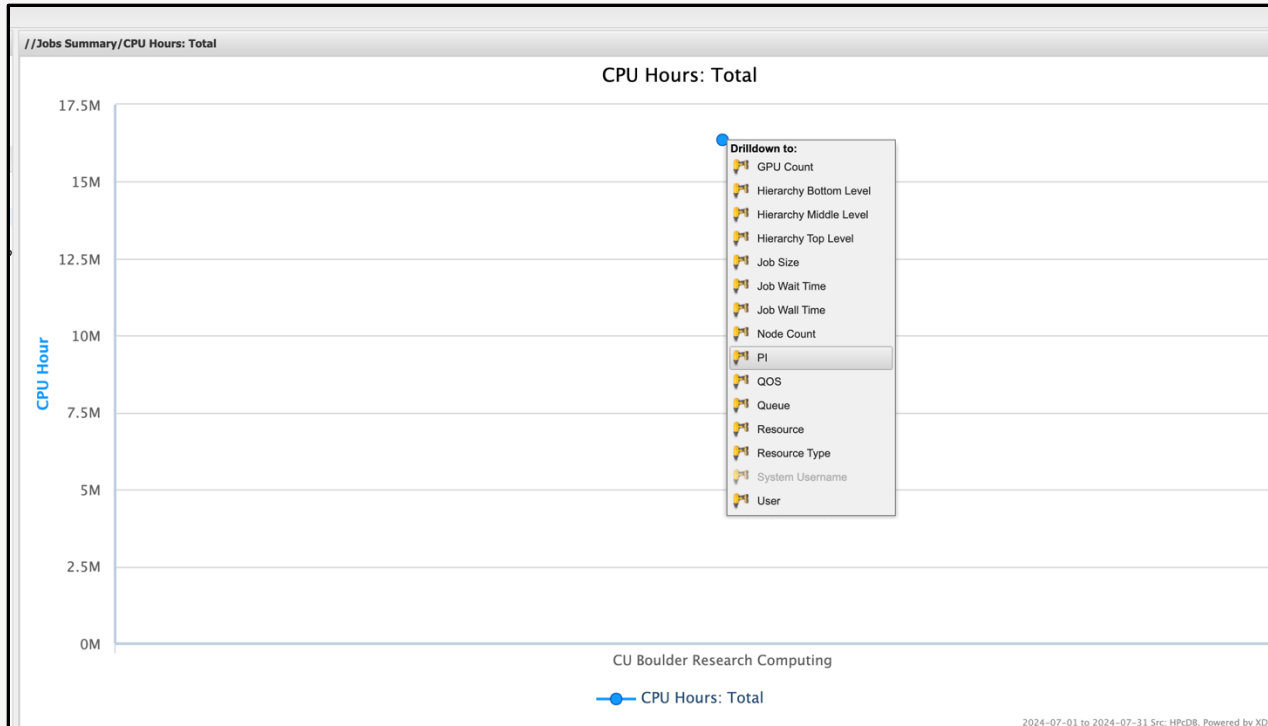


Display Menu: timeseries checked (default)



Display Menu: timeseries unchecked

XDMoD Drilldown and Filter



The screenshot shows the "Filter by PI" dialog box. It has a search bar with the text "asc". Below the search bar is a list of items with checkboxes: amc1_asc1, rmacc_asc1, rmacc1_asc1, rmacc2_asc1, rmacc4_asc1, ucb234_asc1, ucb260_asc1, ucb269_asc1 (checked), ucb269_asc2, and ucb278_asc1. At the bottom, there are buttons for "Clear All", "Select All", "Preview", "Ok", and "Cancel". The footer text reads "CU Boulder Research Computing: CU Boulder Research Computing Utilization" and "GPU Count: Per Job".

Click on a data point to see Drilldown menu
(PI = Slurm allocation)

Filter and search