

Getting Help with Research Computing

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Andy Monaghan



Learning Objectives

1. What resources do I have available?
2. How do I choose which resource is best?
3. How can I compose an effective ticket?

Things to take note of:

- HPC can have confusing, ambiguous, highly nuanced concepts
- CURC User Support is here to alleviate some of the confusion around HPC!



Ask Questions!

Help! I'm stuck, where do I go?

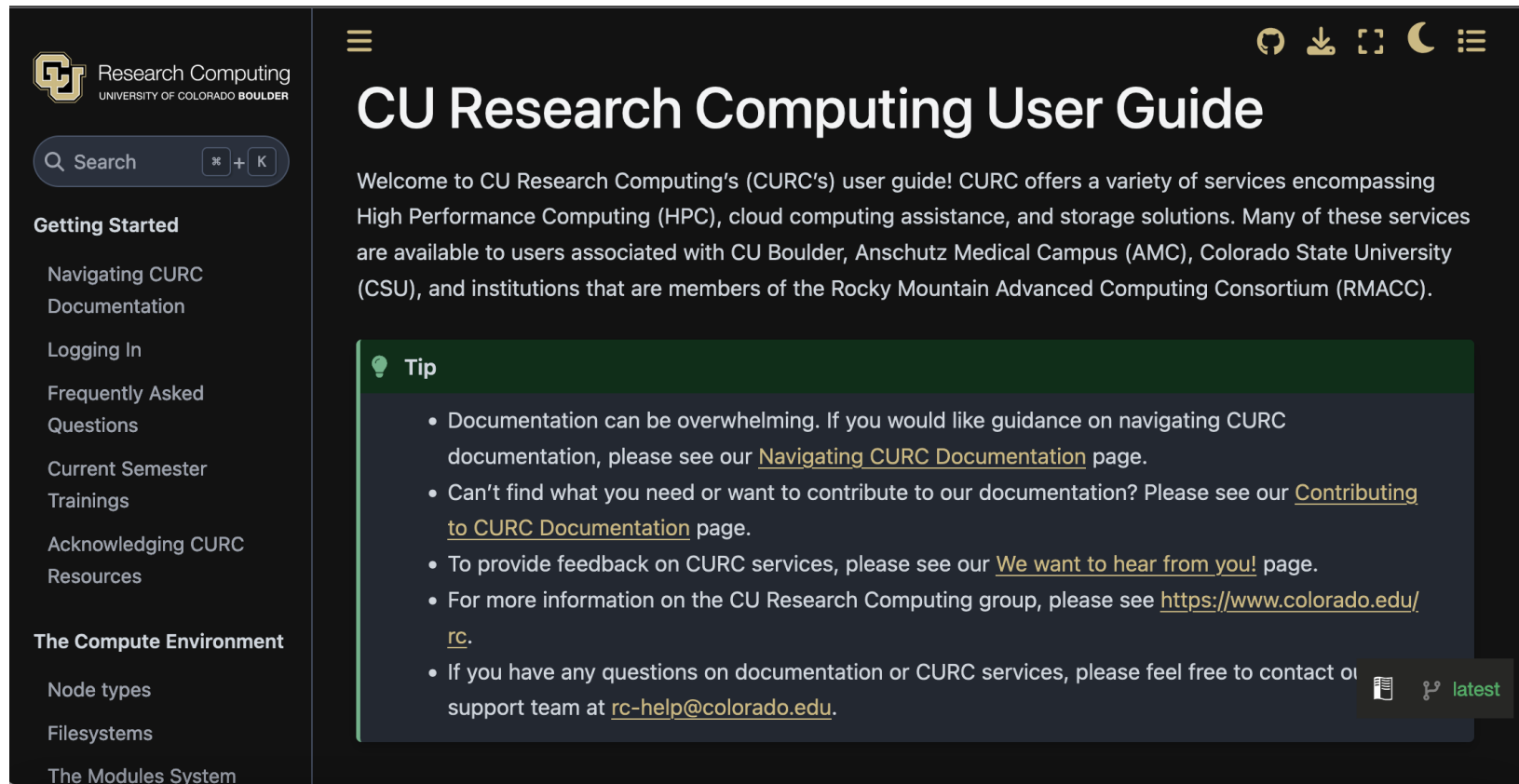
- **CURC Documentation:** curc.readthedocs.io
- **External Resources**
 - Rocky Mountain Advanced Computing Consortium (RMACC) Cyber Infrastructure Portal
 - The Internet! (Stack Overflow, YouTube, etc.)
- **Trainings & Consults with Center for Research Data and Digital Scholarship (CRDDS)**
- **CURC Helpdesk:** rc-help@colorado.edu

When should I use these?

- **Documentation**: curc.readthedocs.io
 - Useful at any time! Check the documentation first when you run into issues.
- **External Resources**
 - Useful for learning a new skill or initial troubleshooting. Great first place to look.
- **Trainings with Center for Research Data and Digital Scholarship**
 - Useful for broad, long-term learning
 - Drop-in consult hours are held Tue (12-1p) and Thu (1-2p) during the Fall and Spring semesters
- **CURC Helpdesk**: rc-help@colorado.edu
 - Useful for quick, personalized assistance. We can schedule Zoom consults if needed.

Our Documentation

Located at: <https://curc.readthedocs.io>



The screenshot shows the CU Research Computing User Guide website. The left sidebar contains the CU Research Computing logo and a search bar. Below the search bar are two main sections: 'Getting Started' and 'The Compute Environment'. The 'Getting Started' section includes links for 'Navigating CURC Documentation', 'Logging In', 'Frequently Asked Questions', 'Current Semester Trainings', and 'Acknowledging CURC Resources'. The 'The Compute Environment' section includes links for 'Node types', 'Filesystems', and 'The Modules System'. The main content area features a large heading 'CU Research Computing User Guide' and a welcome message. Below this is a 'Tip' box with a lightbulb icon, containing a list of helpful links and information. The bottom right corner of the page has a 'latest' version indicator.

CU Research Computing User Guide

Welcome to CU Research Computing's (CURC's) user guide! CURC offers a variety of services encompassing High Performance Computing (HPC), cloud computing assistance, and storage solutions. Many of these services are available to users associated with CU Boulder, Anschutz Medical Campus (AMC), Colorado State University (CSU), and institutions that are members of the Rocky Mountain Advanced Computing Consortium (RMACC).

Tip

- Documentation can be overwhelming. If you would like guidance on navigating CURC documentation, please see our [Navigating CURC Documentation](#) page.
- Can't find what you need or want to contribute to our documentation? Please see our [Contributing to CURC Documentation](#) page.
- To provide feedback on CURC services, please see our [We want to hear from you!](#) page.
- For more information on the CU Research Computing group, please see <https://www.colorado.edu/rc>.
- If you have any questions on documentation or CURC services, please feel free to contact our support team at rc-help@colorado.edu.

latest

CRDDS trainings and consult hours

View upcoming events at: <https://www.colorado.edu/crdds/events>

The screenshot shows the CRDDS website with a navigation bar including links for What We Do, Our People, Events (highlighted), Learning Materials, Externally Funded Grants, News, and Contact Us. The main heading is 'Events'. Below it, a paragraph states that CRDDS offers various workshops and events open to all faculty, staff, students, and community members, with a link to sort events by topic. Two event listings are visible: 'Foundations of High-Performance Computing Micro-credential' and 'Research Data Foundations Camp (Virtual)'. Each listing includes a date (JAN 7), a time (9 AM and 10 AM respectively), a location (NORLIN LIBRARY), a description, and an 'I'm Interested' button. On the right side, there are two blue buttons: 'Join Our Mailing List' and 'View Our Workshop Materials'. A text block on the right explains that events are offered in person, virtually, or in a hybrid format, and provides contact information for registration and questions.

University of Colorado Boulder

Translate

Center for Research Data & Digital Scholarship

What We Do Our People **Events** Learning Materials Externally Funded Grants News Contact Us

Events

CRDDS offers a variety of workshops and other events that are open to all faculty, staff, students, and community members unless otherwise noted. If you'd like to sort the events list, choose from the following topics: [All Things Data](#), [Coding and Digital Tools](#), [Research Computing](#), [Scholarly Publishing](#), [Digital Humanities](#), [Consultations](#).

Foundations of High-Performance Computing Micro-credential

This micro-credentialed course is for those who will be tackling computing-, memory-, or storage-intensive research problems that exceed the capacity of a laptop or desktop...

NORLIN LIBRARY

JAN 7 9 AM

I'm Interested

Research Data Foundations Camp (Virtual)

Join the Center for Research Data & Digital Scholarship and Colorado State Universities Libraries from Tuesday, January 7th to Friday, January 10th, 10am-4:30pm each day, for...

JAN 7 10 AM

I'm Interested

Join Our Mailing List

View Our Workshop Materials

Events are offered in person, virtually, or in a hybrid format. Registration is required for all events. There is a registration button in each individual event listing. Unless otherwise noted, anyone is welcome to register. Webinar links will be provided in the days leading up to the event. If you have questions or problems please email crdds@colorado.edu.

External Resources - RMACC Cyber Infrastructure Portal



- <https://ask.cyberinfrastructure.org/c/rmacc/65>
- This forum provides opportunity for RMACC members to converse amongst themselves and with the larger, global research computing community.
- The “go to” general Q&A platform for the global research computing community - researchers, facilitators, research software engineers, CI engineers, sys admins and others.

Composing an effective ticket

Helpdesk Tickets: sub-optimal vs optimal (1)

To: rc-help@colorado.edu

Dear Research Computing,

Help! My code won't run! Help!

Help please,
Andy

To: rc-help@colorado.edu

Dear Research Computing,

I am running into issues running my Python script. I am using a conda environment called `my_python_env` with the pytorch software, and I am receiving the following error. I am not sure how to troubleshoot. My job ID is 620350. Let me know what I can try!

```
srun: fatal: SLURM_MEM_PER_CPU,  
SLURM_MEM_PER_GPU, and  
SLURM_MEM_PER_NODE are mutually exclusive.
```

Thanks,
Andy

How can I compose an effective ticket? (1)

- Provide detail!
 - Specify your goal, your Job ID (if applicable), and the issue you are encountering.
 - Specific error messages, error codes, or descriptions of behavior are all helpful. The more information you can provide, the better.
 - Provide job specifics!
 - Which environment or software are you using? What hardware are you taking advantage of? The more information you can provide, the better.

Helpdesk Tickets: sub-optimal vs optimal (2)

To: rc-help@colorado.edu

Dear Research Computing,

Hello, I am having trouble running my job. My job ID is 620350. The job loads in 1 TB of data, on which I am running some scikit-learn operations. The job has a wall clock time of 96 hours.

Thanks,
Andy

To: rc-help@colorado.edu

Dear Research Computing,

Hello, I am having trouble running my job. My job ID is 620350. The job loads in 1 TB of data, on which I am running some scikit-learn operations. I have provided a 10GB test dataset here. The job has a wall clock time of 96 hours, but can be run with the smaller dataset in two hours.

Thanks,
Andy

[attachment: File (10GB)]



How can I compose an effective ticket? (2)

- Provide detail!
- Scale down your workflows for testing!
 - It is a challenge to quickly troubleshoot massive workflows, even for us.
 - If you'd like us to test your workflows using data, please provide a reduced version of the data for testing purposes.

Helpdesk Tickets: sub-optimal vs optimal (3)

To: Andrew.Monaghan@colorado.edu

Dear Research Computing,

I am running into issues running my Python script. I am using a conda environment called `my_python_env` with the pytorch software, and I am receiving the following error. I am not sure how to troubleshoot. My job ID is 620350. Let me know what I can try!

`srun: fatal: SLURM_MEM_PER_CPU, SLURM_MEM_PER_GPU, and SLURM_MEM_PER_NODE are mutually exclusive.`

Thanks,
Andy

To: rc-help@colorado.edu

Dear Research Computing,

I am running into issues running my Python script. I am using a conda environment called `my_python_env` with the pytorch software, and I am receiving the following error. I am not sure how to troubleshoot. My job ID is 620350. Let me know what I can try!

`srun: fatal: SLURM_MEM_PER_CPU, SLURM_MEM_PER_GPU, and SLURM_MEM_PER_NODE are mutually exclusive.`

Thanks,
Andy

How can I compose an effective ticket? (3)

- Provide detail!
- Scale down your workflows for testing!
- Email our helpdesk!
 - We will be significantly more responsive to emails which arrive at our helpdesk than other inboxes.
 - Please do not email us personally. If an issue is particularly urgent, please indicate 'URGENT' in the subject line of your ticket.

Helpdesk Tickets: sub-optimal vs optimal (4)

To: rc-help@colorado.edu

Dear Research Computing,

Can you install pytorch for me?

Thanks,
Andy

To: rc-help@colorado.edu

Dear Research Computing,

I am looking to utilize PyTorch to use in conjunction with AMD GPUs. I have tried an anaconda installation and have so far been unsuccessful. Could you please help me complete this install?

Thanks,
Andy

How can I compose an effective ticket? (4)

- Provide detail!
- Scale down your workflows for testing!
- Email our helpdesk!
- Try a few things and let us know what you've tried!
 - We are not just being lazy – it helps us contextualize the issue.
 - We would likely try the same things as you – if you can eliminate potential solutions, it will help us get to a solution more quickly.

How can I compose an effective ticket? (summary)

- Provide detail!
- Scale down your workflows for testing!
- Email our helpdesk!
- Try a few things and let us know what you've tried!

Items We've Covered

1. What resources do I have available?
2. How do I choose which resource is best?
3. How can I compose an effective ticket?

Questions?