

# How to file a good ticket



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# What we will cover: all the questions about tickets you were too afraid to ask!

And...

- Ticket MYTHS vs FACTS
- Common problems and troubleshooting tips
- DOs and DON'Ts for filing a good ticket

For example:

Do: ask questions during this presentation

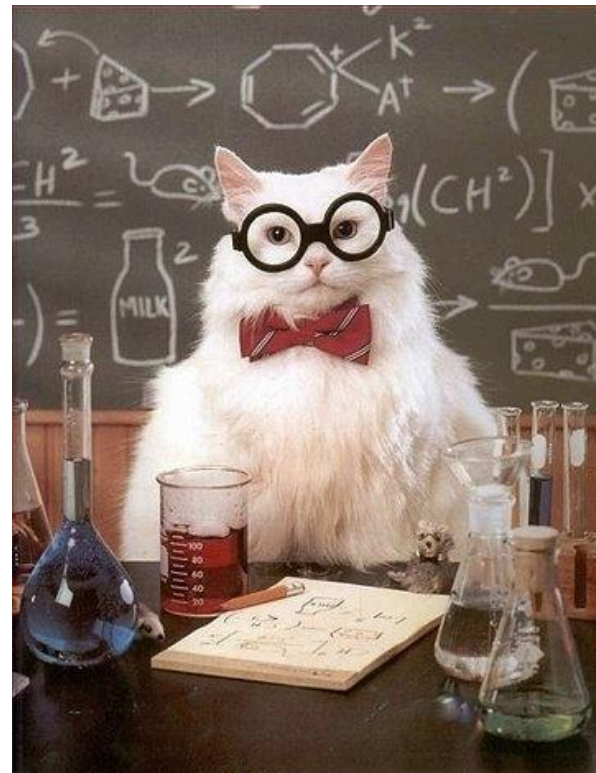
Don't: assume you are the only person who needs help!

# But First! (Not so) Trivial Trivia!



How many consultants does NERSC have?

- A. 10
- B. 20
- C. 40
- D. 80



How many consultants does NERSC have?

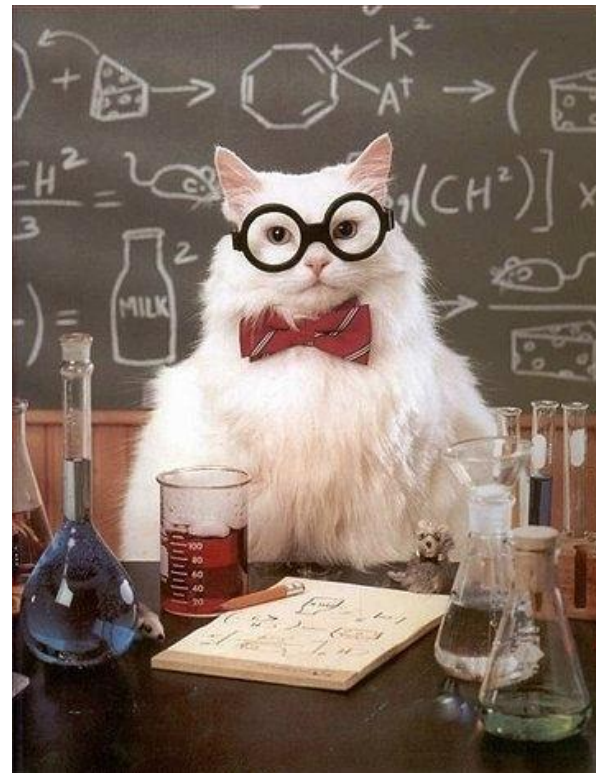
A. 10

B. 20

C. 40

D. 80

Answer: C. About 40 (NERSC as a whole has about 140 people).



How long should it take a consultant to reply to your question?

- A. 10 minutes
- B. 2 hours
- C. 4 hours
- D. 8 hours



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- B. 2 hours
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Answer: C. Note these are business hours, not regular hours. Business hours are 8am - 5pm Pacific Time!



# Ticket MYTHS vs. FACTS



MYTH: NERSC consultants do NOT like  
answering tickets

**MYTH: NERSC consultants do NOT like answering tickets**

**FACT: Many of us work at NERSC because we like helping people. It can very satisfying to help someone solve a technical problem!**

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**FACT: All users can and should submit tickets.  
Beginner questions are very welcome!**

MYTH: I need to have spent days stuck on a problem before I file a ticket

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FACT: Sometimes the answer might be easy or something we've seen before. Go ahead and submit your question after you've done some troubleshooting, NOT after you've been stuck for days.

MYTH: I need to attach all relevant files to the ticket in ServiceNow

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FACT: All NERSC consultants have the power to become NERSC users. If you provide the full paths, we can find your files to look at if needed.



# Troubleshooting tips

When you submit a ticket, you want to resolve the problem ASAP so you can get back to your work.

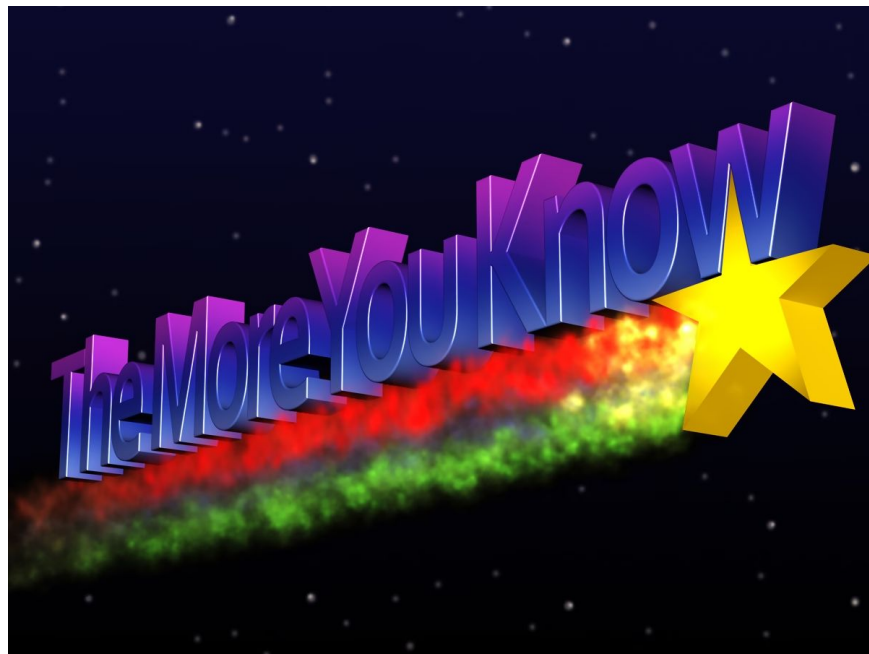
We also want to help you quickly and efficiently!

If you can do a little work up front to explain your problem and provide the relevant info, most likely we can solve it faster.

## Before you file a ticket, there a few basic things you can check:

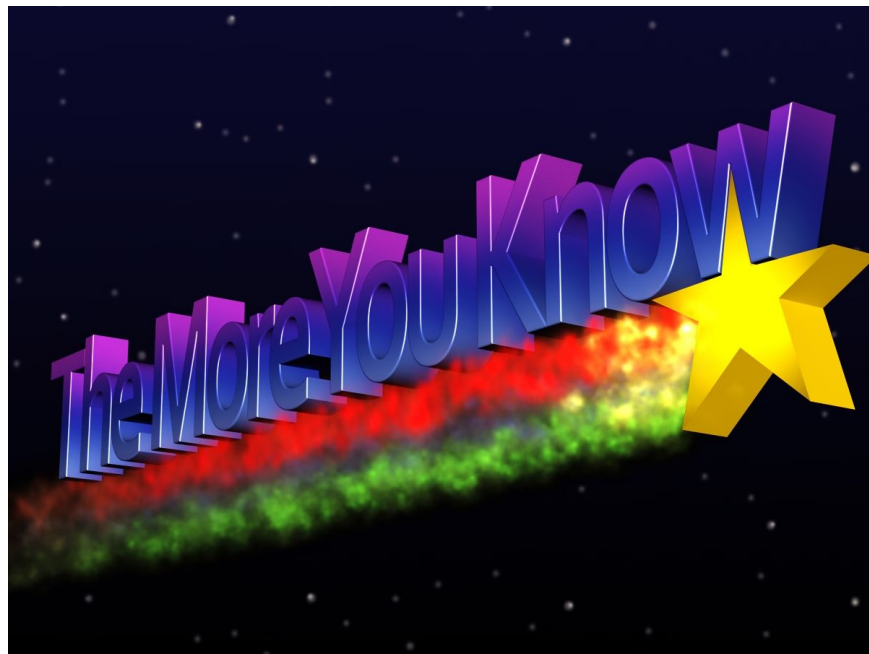
- [NERSC MOTD](#) shows current system status (down, degraded, etc)
- If you're on the NUG slack, this is a good place to check to see if others are reporting similar issues
- [showquota](#)- are you over quota?

Bonus Trivia: What does MOTD stand for?



# Before you file a ticket, there a few basic things you can check:

- [Iris](#)- is your account current? Do you still have compute hours?
- Dotfiles - is there anything in your .bashrc, .bash\_profile files that you might have forgotten about or that needs to be updated? You'd be surprised how often these settings cause problems for users
- Try the search bar in our [docs](#)
- If none of these help, it's time to submit a ticket!



# DOs and DON'Ts for submitting a good ticket

# DO: be specific!

## Hard to troubleshoot

- My code is slow
- My job won't start
- Perlmutter is broken



**It's always helpful to include the actual error message, even if it's long!**

## Better to troubleshoot

- JobID 123456 was 3x slower than JobID 234566.
- The jobscript located at `$HOME/submit_job.sh` works on Cori but not on Perlmutter. This was the error message:...
- Running python `$SCRATCH/test_cori.py` crashes with this error message.

# DON'T: just paste your error message without any context!

- We are pretty good at computers, but without any context, it can be really hard to look an error message and understand what went wrong
- We'll have to ask you to provide more information, which just slows the process down
- **Just like school, show your work!**



# DO: show your work!

- Imagine you are looking at your problem for the first time
- What are all the steps a NERSC consultant needs to reproduce the error from a fresh login?
- What troubleshooting steps have you tried?
- If you are using a software package, where is the repo/documentation?
- If a job failed, what was the jobid?
- [More tips in our docs](#)



Pasting  
a bare  
error message



Providing  
all  
the steps  
to reproduce

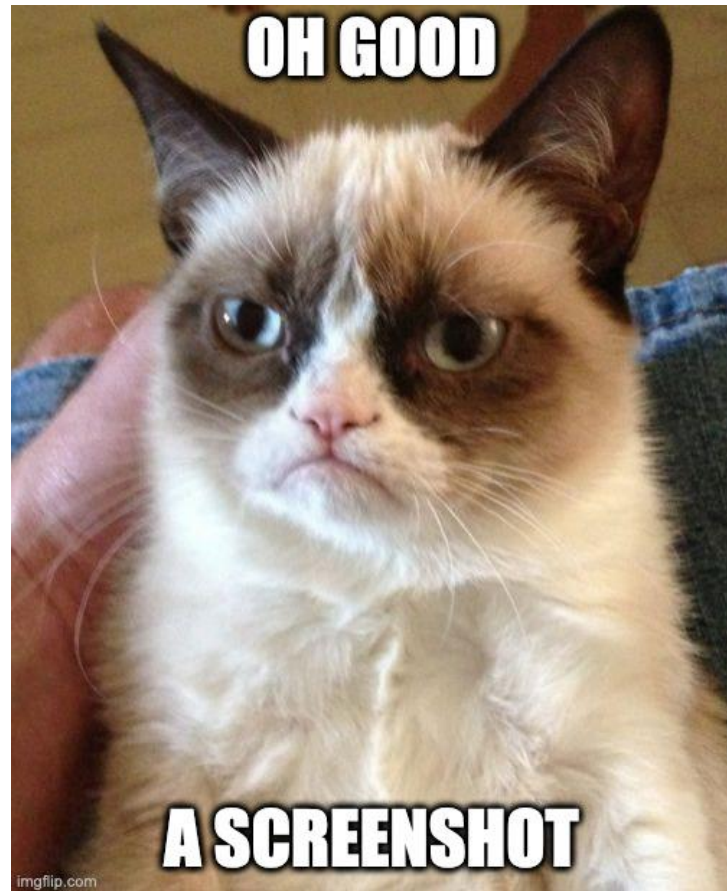


## **DON'T: send screenshots!**

As consultants we like to be able to copy and paste the paths in your error message to look at your files, to search stackoverflow, etc.

If you give us a screenshot we can't copy/paste anything, which just slows us down  
This also applies to pictures of your screen you took with your phone

**DO: Please paste your error message in plain text, even if it seems really long!**



# Now you try!





Update & Exit

Save & Stay

Resolve Incident

Responses



\* Title

"Perlmutter" is broken



Notes

Event Details

Related Records

Staff work notes  
(NERSC private)

Staff work notes (NERSC private)



Additional  
comments  
(Customer visible)

Additional comments (Customer visible)

Post

Guest  
Comments

Hi, when I log into perlmutter from cori, it does not set NERSC\_HOST to anything (it's blank). Others in my group get "perlmutter."



\* Title "Perlmutter" is broken



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Hi, when I log into perlmutter from cori, it does not set NERSC\_HOST to anything (it's blank). Others in my group get "perlmutter."

What information might you need to troubleshoot this? What could this user have given us to make this an easier ticket to solve?

## If the User had given this instead....

Guest  
Comments

Hi, when I log into perlmutter from cori, it does not set NERSC\_HOST to anything (it's blank). Others in my group get "perlmutter."

In my `.bash_profile.ext` I have NERSC\_HOST set to:  
`NERSC_HOST=/usr/common/usg/bin/nersc_host`

## The consultant could have noticed the problem quicker!

Consulting  
Comments

Thanks for your question and for providing your settings! Since `/usr/common` was retired on Perlmutter, `$NERSC_HOST` gets no value.

Simply delete this line from your `.bash_profile.ext`, or delete this outdated file altogether.

Let me know if you have more questions!  
-Consultant

**Laurie's Top Tip: Check your dotfiles regularly and keep them updated!**





\* Title

Cupy doesn't work on Perlmutter

Guest  
Comments

Hello, I am trying to run a python program and I get an error when I import cupy. I think cupy is broken on Perlmutter - can you please reinstall it. Thank you!

## Error message:

```
stephey@nid004603:~> python -c "import cupy as cp;cp.arange(10)"
```

```
Traceback (most recent call last):
```

```
File "<string>", line 1, in <module>
```

```
File "/global/common/software/das/stephey/conda/conda_envs/cupy/lib/python3.10/site-packages/cupy/_creation/ranges.py", line 58, in arange
```

```
    ret = cupy.empty((size,), dtype=dtype)
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File "/global/common/software/das/stephey/conda/conda_envs/cupy/lib/python3.10/site-packages/cupy/_creation/basic.py", line 22, in empty
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```
    return cupy.ndarray(shape, dtype, order=order)
```

```
File "cupy/_core/core.pyx", line 136, in cupy._core.core.ndarray.__new__
```

```
File "cupy/_core/core.pyx", line 224, in cupy._core.core._ndarray_base._init
```

```
File "cupy/cuda/memory.pyx", line 742, in cupy.cuda.memory.alloc
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File "cupy/cuda/memory.pyx", line 1419, in cupy.cuda.memory.MemoryPool.malloc
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File "cupy/cuda/memory.pyx", line 1439, in cupy.cuda.memory.MemoryPool.malloc
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```
File "cupy/cuda/device.pyx", line 47, in cupy.cuda.device.get_device_id
```

```
File "cupy_backends/cuda/api/runtime.pyx", line 178, in cupy_backends.cuda.api.runtime.getDevice
```

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File "cupy_backends/cuda/api/runtime.pyx", line 143, in cupy_backends.cuda.api.runtime.check_status
```

```
cupy_backends.cuda.api.runtime.CUDARuntimeError: cudaErrorNoDevice: no CUDA-capable device is detected
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stephey@nid004603:~>
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stephey@nid004603:~>
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What else could this user have included in this ticket to make it quicker to troubleshoot?



## If the User had given this instead....

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Comments

Hello, I am trying to run a python program and I get an error when I import cupy. I think cupy is broken on Perlmutter - can you please reinstall it. Thank you!

Error message:

...

Slurm Command:

```
salloc -N 1 -t 30 -C cpu -A m000 -q interactive
```

## The consultant could have noticed the problem quicker!

Consulting  
Comments

Thanks for your question and for providing your slurm command! Your command requests a cpu node, which does not have CUDA devices for cupy to talk to.

Please use:

```
salloc -N 1 -t 30 -C gpu -A nstaff -q interactive
```

This will get you a gpu-accelerated node, with CUDA devices.

Let me know if you have more questions!

-Consultant

# tl;dr

- ❖ Our job is to help you be productive on NERSC systems!
- ❖ If you get stuck and basic troubleshooting doesn't help, please submit a ticket
  - Beginner questions welcome
  - Don't spend days stuck on something- it might be an easy fix
- ❖ When you submit a ticket:
  - Be specific about the problem
  - Provide the error message and give context
  - Show your work and provide all steps to reproduce (ie. package information, slurm commands etc.)
  - Provide plain text instead of screenshots
- ❖ If you can give us all the information up front, we can most likely solve your problem more quickly!