OAK RIDGE National Laboratory

MARCH 19TH 2026 | OAK RIDGE TENNESSEE

Experimental Computing Laboratory (ExCL) Monthly Meeting

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Advanced Computing Systems Research Section

U.S. DEPARTMENT of ENERGY

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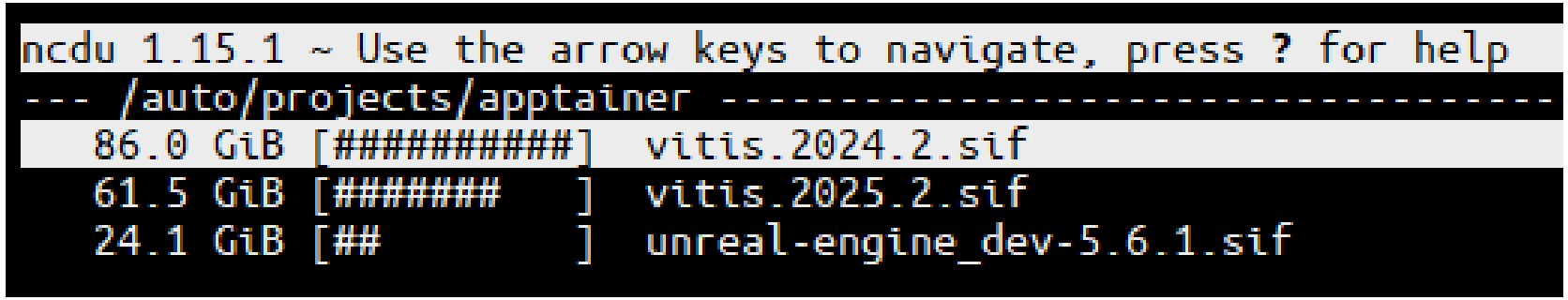
Project Storage Update

- ExCL project folder names are now readable. (i.e., you have read permissions on /auto/projects.) The permissions in the folders are the same, but now you can read the names of the project folders.
    - This change is to make folder navigation much easier. You will still need to enter the name of the directory the first time the folder is entered on the system to trigger the automount; then afterward it's easier to enter as tab complete, and tools like vim and yazi can read the directories.

New shared storage location for large Apptainer images

- Harbor has a 50 GiB limit for projects. This can be raised, but if you want a larger storage of generally useful Apptainer images they can be stored in the new `/auto/project/apptainer` project folder.
    - Currently we are using this storage for large Unreal Engine and Vitis Apptainer images.
    - Storage is currently limited to 1TB to prevent runaways. This can be changed as needed.

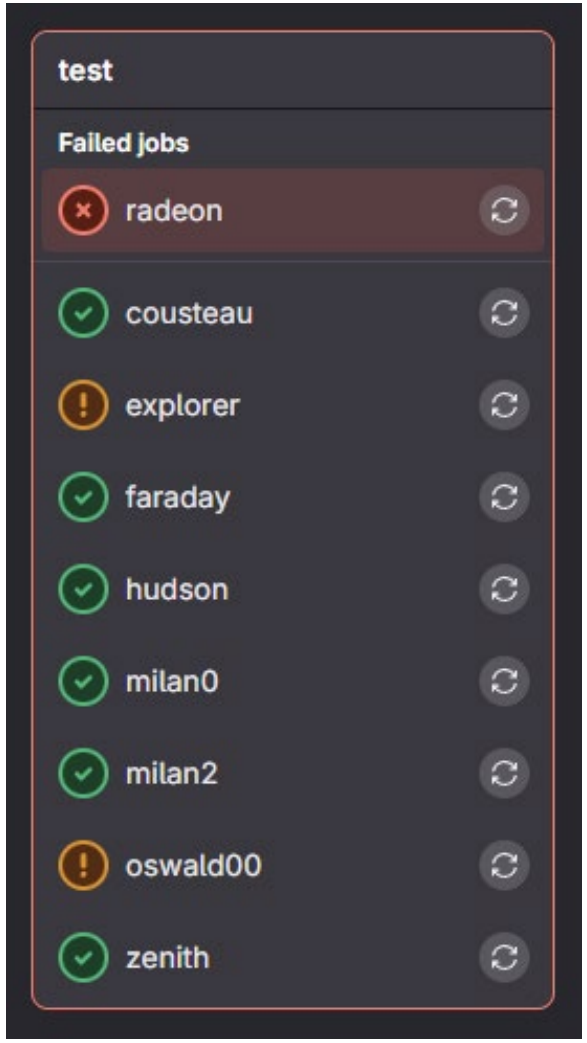


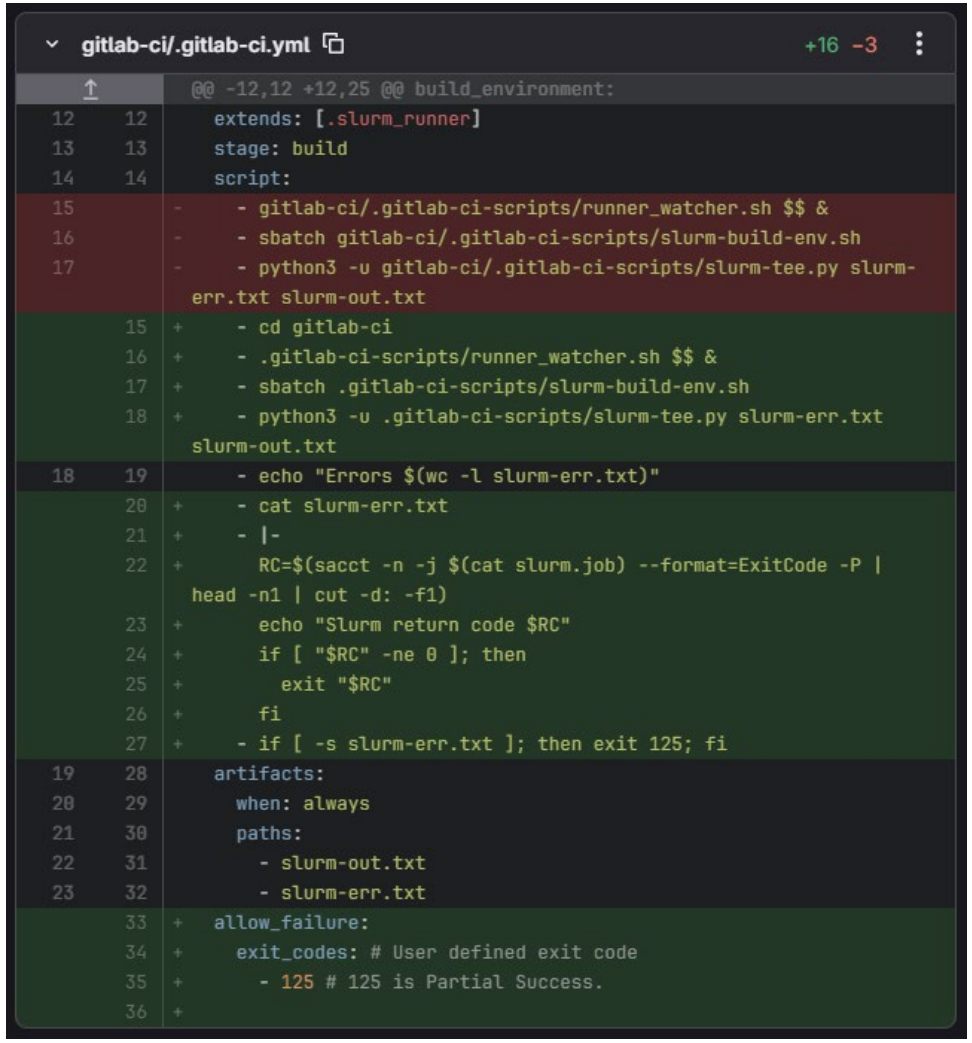
CI — Using Slurm with GitLab CI is the recommend way to run CI across ExCL Nodes.

See Gitlab CI | ExCL User Docs for details.

- New template update. Now it checks the return code from the sbatch script to determine if the job was successful. Standard error output is marked as a warning.
- New system-device-smoke-test to check main systems on ExCL functional CUDA, HIP, OpenMP, OpenCL backends. This script also makes use of ExCL IRIS Setup Scripts which are available for anyone to use.

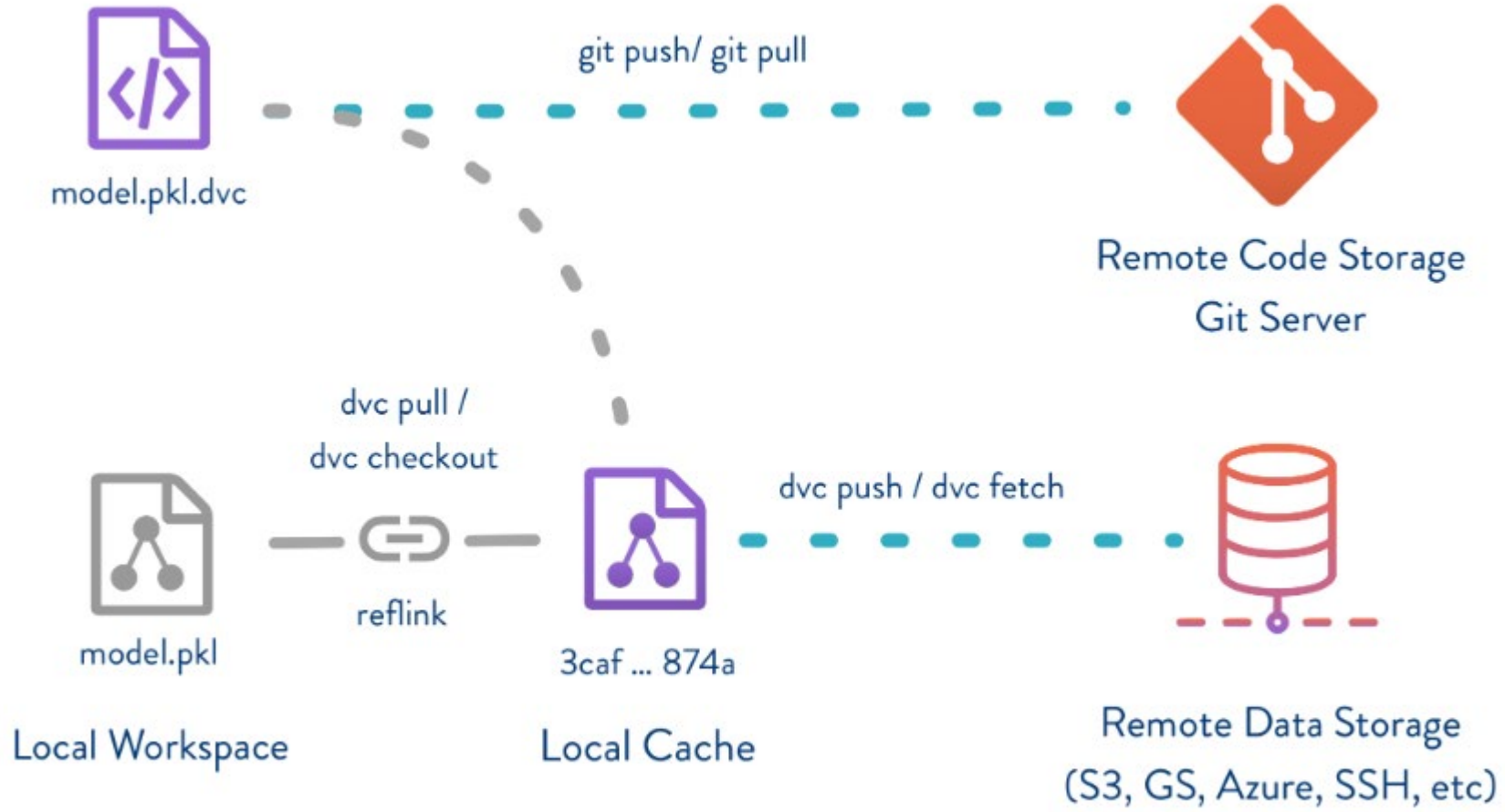
```
source /auto/software/iris/setup-system.source
```





DVC (Data Version Control) — https://dvc.org/

DVC works well with ExCL. On ExCL, data can be stored in a shared cache in the project folder. Outside of ExCL, this same cache, can be used as the remote data storage. See DVC Quick-Start Guide | ExCL User Docs.



From What is DVC? - MLOps Guide.

One Good Tutorial: Defining a “Minimum Viable Documentation Product” for Scientific Software - Consortium for the Advancement of Scientific Software

Best Practice: follow a checklist.

I’ve developed one that defines an MVDP for scientific software.

- [ ] 🗺️ **Synopsis:** 1–3 sentence summary of your project
- [ ] 📑 **Tutorial:** ✨ Show people what your software can do! ✨
- [ ] 💁‍♀️ **Contact Information:** How to ask a human about your software
- [ ] 🚀 **Install Instructions:** How to install your software
- [ ] 📜 **Citation Instructions:** How to cite your software
- [ ] 🙌 **Contribution Statement:** How users can contribute to your project
- [ ] 📚 **Reference Material:** Precise specifications of APIs, etc.
- [ ] ⚖️ **Licensing Statement:** The legal status of your code
- [ ] 🙏 **Acknowledgments:** Credit your funders

find it at: onegoodtutorial.org

Other topics

- The move of the 4xMI100 / 4xV100 system into ExCL is deferred until after the SC26 submission deadline.
- We are working with other sites to bring the Groq inference cards back online. Groq no longer supports this line; after acquisition by Nvidia they are entirely a cloud deployment.
- Acquisition of tenstorrent Blackhole cards in progress
- ExCL will be unavailable on Tuesday March 24 from 9 AM to 11 AM for operating system updates and reboots. NVidia drivers will **not** be updated at this time unless requested.

Questions/Projects/Comments/Discussions

- Does anyone care about Leconte (PowerPC Nvidia V100)?
- Hudson performance analysis. Exclusive access. Slurm-only access? Slurm-only windows of time? Slurm-only GPU?
- Cloud GPU Access.