



ACCESS Software Documentation Service (SDS) at CU Boulder

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View the Slides



https://github.com/ResearchComputing/rmacc_2026

Overview

What is the ACCESS SDS?

- ACCESS = ACCESS is a program established and funded by the National Science Foundation (NSF) to help researchers and educators utilize the nation's advanced computing systems and services. (access-ci.org)
- SDS – Software Documentation Service
 - A software package to automate the creation of user-facing software documentation on HPC systems
 - Originally developed by ACCESS to help users find which software is available on which ACCESS Resource Providers (clusters)

Why SDS?

- User-facing documentation is typically:
 - Time-consuming
 - Labor-intensive
 - Difficult to keep current
- SDS:
 - Generates documentation automatically or semi-automatically using an LLM
 - Updates automatically
 - Easy to configure

Transforming ACCESS SDS into CU SDS

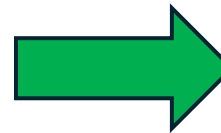


ACCESS Resource Advisor

Software Documentation Service

Explore software available on ACCESS Resources.

Software	Installed on	Description	Tags	Documentation, Uses, and more
abaqus	ACES Expense	Abaqus is a software suite used for finite element analysis and computer-aided engineering simulations for a wide range of industrial applications. It provides powerful simulation capabilities to analyze the behavior of materials and structures under various conditions.	Simulation, Finite Element Analysis, Computer-Aided Engineering, Materials Analysis	DETAILS
abinit	Bridges-2	Abinit is a first-principles simulation software for materials science, condensed matter physics, and related fields. It performs electronic structure calculations based on density functional theory (DFT) and many-body perturbation theory.	Materials Science, Condensed Matter Physics, Electronic Structure Calculations	DETAILS
abseil	ACES	Abseil is an open-source collection of C++ code (compliant to C++11) designed to augment the C++ standard library. It provides	C++ Library, Open Source, Cross-	DETAILS



Software Documentation Service

Software	Resource	Description	Tags	Documentation, Uses, and more
abaqus	blanca, alpine	Abaqus is a software suite for finite element analysis and computer-aided engineering, primarily used in engineering and design fields for simulating the behavior of structures and materials under various conditions. It offers advanced capabilities for modeling, analysis, and visualization, making it a powerful tool for solving complex engineering challenges.	Simulation, Finite Element Analysis, Computer-Aided Engineering, Materials Analysis	DETAILS
advisor	blanca, alpine	Intel Advisor is a performance analysis tool designed to help developers optimize and parallelize their software on Intel architectures. It provides insights for efficient vectorization, threading, and offloading to accelerators, aiding in achieving maximum performance from applications.	Hpc, Performance Optimization, Parallel Computing	DETAILS
allinea	blanca, alpine	Allinea (now Linaro Forge) is a leading suite of HPC development tools designed to help scientists and engineers debug, profile, and optimize parallel applications. It supported MPI, OpenMP, CUDA, and hybrid workloads at scale — from laptops to top-tier supercomputers.	HPC, Debugging, Performance Analysis, Parallel Computing	DETAILS
alphafold	blanca, alpine	AlphaFold, the state-of-the-art AI system developed by DeepMind, is able to computationally predict protein structures with unprecedented accuracy and speed. Description Source: https://alphafold.ebi.ac.uk/about	Protein Folding, Structure Prediction, Deep Learning,	DETAILS

ReadTheDocs Integration

CURC-Provided Software

The following page provides a list of all software that is included in CURC's software stack. This list includes the software applications, compilers, libraries, and software development kits (SDKs) installed as modules on CURC. These modules are accessible on both Alpine and Blanca. For more information on viewing and using modules, please refer to our [Modules System](#) page.

Important

Before requesting a software installation, please review our [Software installations](#) policy. This should be done before each request, as the policy is subject to change. If you have any questions about this policy, please feel free to reach out to us by submitting a [support request form](#).



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Software Documentation Service

Search Table Show Filters

Software **Resource** **Description** **Tags** **Documentation**
Search S Search R Search Description Search Tags **Uses, and more** 530

Implementation

- Virtual machine running Podman/Docker
 - Highly maintainable
 - Web services configured with yaml files
- Lmod (module spider output) for LLM to generate docs
 - Obtain model output via API

Demo

Check it out!



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

Questions?