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Facilitating the heterogeneous scientific data sharing with the THREDDS Control Center - Demo

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Scientific data management is a critical aspect of collaborative research, especially in disciplines reliant on large datasets such as earth system sciences. The THREDDS Data Server (TDS), an open-source, Java-based web application, serves as a powerful tool for managing, sharing, and enabling metadata and data access to heterogeneous scientific datasets. However, its complex configuration may hinder wider adoption, especially among non-technical scientists. In response to this challenge, the open-source Django app, THREDDS Control Center, presents a solution by implementing a user-friendly web interface.

This software demonstration introduces the app, showcasing its capability to allow scientists to efficiently manage providing catalog, metadata, and access services for their datasets on THREDDS without having to deal with complex technical aspects. The application eliminates the need for direct access to the THREDDS data server infrastructure, making it accessible to a broader audience.

Key features include a flexible permission-based user management system that facilitates collaborative resource editing on the THREDDS server. This functionality empowers scientists to collectively contribute to and curate datasets without the need for extensive technical knowledge. Admins of the THREDDS-Server benefit from global server-side configurations, such as OpenDAP, WMS, etc., and an automatic reload of the THREDDS Server after configuration changes. Furthermore, the application incorporates a moderation mechanism managed by a dedicated data management team, ensuring data integrity and quality control.

One noteworthy aspect of the THREDDS Control Center is its integration with the Helmholtz AAI. This integration enables the selective sharing of resources on the THREDDS server with specific user groups or the general public. Scientists can leverage this feature to disseminate their findings to a targeted audience, fostering collaboration and information exchange within the scientific community.

In conclusion, the THREDDS Control Center presents a valuable solution for simplifying the management and sharing of NetCDF files on THREDDS servers. By providing an intuitive web frontend, collaborative editing capabilities, and seamless integration with authentication systems, this software contributes to the advancement of data-driven scientific research.

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