

# OVERVIEW

ADDI's **Federated Data Sharing Appliance (FDSA)** is a linux based production implementation of the [FDSA Common-API](#). FDSA enables federated research on highly secured and sensitive datasets where the data use agreements prevent the data from being moved and/or prevent the data from being accessed directly.

FDSA Supports remote querying and the return of record level data (Level 1) and remote querying and the return of only summary/analysis level data (Level 2).

## FDSA SERVICES FEATURES

### FDSA Administration

- Built-in Mobile Authenticator 2-Factor authentication.
- User management (Add new users, auto end-user creation upon Data Access Requests, User actions (change roles, disable, update, and reset MFA).
- Integration with **ADWB FAIR Data Access Requests** for Reviewing, Approving and Denying requests.
- FDSA Job/Task Query Management including Job states: Queued, Initializing, Running, Quarantined, Approved/Rejected, Complete/Rejected
- Azure Docker Registry Connector Management, to enable Level 2 Federated Analysis of data via Docker Containers running end user analysis code.
- Database Connectors to enable easy connections to remote data sources served up as federated data.
- Researcher FDSA Query Management enabling the setup and management of end user research access tokens, token expirations, project IDs, project ID Expirations and FDSA Data Access.

## Release Notes

### v1.3.32 – May 9, 2024

#### What is new:

- **Automatic Data Access Request (DAR) Approval:** We've introduced the "Automatic DAR Approval" feature for datasets. Admins can now configure datasets to automatically approve all associated Data Access Requests. This feature streamlines the approval process, enhancing efficiency and reducing administrative workload.
- **Enhanced Welcome Email:** We've upgraded the welcome emails for new users. These now include detailed information about the Federated Data Sharing Appliance (FDSA) and the base URL, providing more informative onboarding experience.

## v1.3.22 – April 23, 2024

### What is new:

- **New approach on Data Access Request reviews:** To streamline the DAR review process, we now require a FAIR Data Steward token. This change ensures that reviewers meet our data governance standards. Additionally, we've introduced a new column in the datasets view to indicate whether the token has been saved, enhancing visibility and compliance tracking.
- **Improved Upgrade Script:** We've made minor changes to the upgrade script, optimizing performance and reliability.

## v1.3.13 – April 8, 2024

### What is new:

- **Enhanced Performance:** We've polished our bash scripts to ensure the software runs even more efficiently. Expect smoother operations and a more resilient codebase.

### Bug fixes:

- **Connectivity After Update:** In some cases, updating FDSA disrupted communication between certain components. We've identified and resolved this issue, ensuring uninterrupted connectivity after updates.
- **Reliability Upon Restart:** We've fixed a problem where FDSA wouldn't restart properly after your server reboots. Now, you can expect a seamless experience, even after restarting your device.
- **License Update Flexibility:** We addressed an issue with the license verification process that hindered users from updating their license if the current one became invalid. Now, changing your license is straightforward and hassle-free.

## v1.3.0 – Mar 22, 2024

### What is new:

- **Enhanced Support Experience:** Now, when you send a support request email, you can easily attach the logs by clicking one button. This helps us understand and address your concerns faster, enhancing your support experience.
- **Improved Data Access Logs:** We've enhanced the logging for the Data Access Requests API, ensuring detailed and useful information about any possible error with the DAR API.
- **Advanced Whitelisting Capabilities:** The whitelists section now offers the option to specify certain IP addresses that can access the Data Access Requests API. This enhancement improves security and control, allowing you to manage who can access your data more effectively.

# v1.2.153 – Mar 13, 2024

What is new:

## **Query Enhancements:**

- **Ability to Query Datasets with Multiple Tables:** Users now have the capability to query datasets that contain multiple associated tables. To ensure optimal performance, it is recommended to configure table indexes beforehand.
- **Support for Remote Querying on Distributed Data Sets:** This feature empowers data researchers to remotely query record-level data from distributed data sets hosted in data contributor environments, following the necessary approval processes.

## **UI/UX Upgrades:**

- **Enhanced Configuration Options for Data Contributor Admins:** Admins now can configure datasets for remote querying at the record level, supporting 'distributed' datasets, or enable 'Federated Query' for federated datasets. This functionality is accessible through the Admin UI, streamlining the process for data contributors.

## **Performance Enhancements:**

- **Optimization of FDSA Database Performance:** Fine-tuned the performance of the FDSA database, particularly in cloud configurations. Iterations and enhancements have been implemented to ensure smoother operations and improved efficiency within the FDSA DB environment.

## **Logging Improvements:**

- **Enhanced Logging for DAR Failures and Web Analytics:** With this update, logging capabilities have been enhanced to provide detailed insights into DAR (Data Access Request) failures. Additionally, web analytics capture has been improved, enabling better monitoring and analysis of user interactions and system behaviors.

## **API Additions:**

- **Expanded API Functionality: Multi-Table Query and Relationship Linking:** The API now supports multi-table queries and facilitates linking relationships between tables, enabling more comprehensive data analysis and retrieval.
- **Remote Query Execution:** This addition allows for the execution of queries remotely, enhancing flexibility and accessibility for users interacting with the system through APIs.

Bug fixes:

- **Error Handling Improvements:** Enhanced Installation Process Handling, when errors occur and surface with relevant error message, ensuring that any issues during container building are addressed promptly and accurately.
- **Improved Error Messaging for User MFA Reset:** When attempting to reset the MFA (Multi-Factor Authentication) for a user who hasn't configured it yet, the error message has been refined for clarity and specificity. Users now receive more informative feedback regarding the configuration status of their MFA setup.
- **Refined Error Messages for User Addition:** In cases where adding a user failed due to incorrect SMTP (Simple Mail Transfer Protocol) credentials, the error messages have been enhanced. Users now receive clearer notifications indicating the reason for the failure, specifically related to SMTP credential errors, facilitating easier troubleshooting and resolution.
- **Resolution of Error in DAR Approval Process:** Addressed an issue causing errors during the approval of DAR (Data Access Request). With this fix, the approval process now ensures that

state changes are made only upon successful communication with the callback URL, improving the reliability and accuracy of the DAR approval workflow.

## v1.2.100 – Dec 13, 2023

### What is new:

- FDSA now supports PostgreSQL Views.
- New functionality to download error logs from Task with status EXECUTOR\_ERROR.
- New option to add or edit SMTP configuration without authentication required.
- New option to test SMTP config before saving it.
- FDSA now can spin up as many workers as desired (three is the default), each worker can run one task at a time, with three workers, three tasks can be processed at a time.
- FDSA now supports load balancers, it has been tested with Haproxy, Azure, AWS.

### Bug fixes:

- Bug fixed on table paginations.
- Healthcheck has been improved so now when a container fails, it is rebooted.

## v1.2.77 – Sep 28, 2023

### What is new:

#### New Features & Bug Fixes:

- FDSA now supports using passwordless SMTP credentials for local SMTP servers.
- Bug found and fixed when updating Rocky OS FDSA.

#### Enhanced User Interface:

- Updated values in view Tasks filter to 'Standard' and 'Detailed'.
- 'Standard' view for Tasks now shows the columns: created\_at, id, name, user\_email, actions.
- Moved the 'Support' button to the top right corner, also an animation was added.
- When a user doesn't have a role the 'Not defined' is being highlighted in red.
- 'Add dataset' action was added to the dataset list window.
- 'Settings' section tables were reordered.
- UI support added for using local SMTP servers without user credentials.

#### Process Improvements:

- DAR response sent back to FAIR has been updated. Now QBT's URL is also being returned.

## v1.2.70 – Sep 14, 2023

### Bug Fixes:

- FDSA was not asking new users to update their password after login in for the first time.
- Adding incorrect Datasource can break GET Datasources API
- Audit log columns were not big enough making the app break when some long strings were being saved in the table.

### Enhanced User Interface:

- Validator implemented when approving or rejecting a task, so there is always a reason for the decision.
- Validator implemented so 'root' can not be used when adding a Datasource.
- Improved rendering for datasets. List was not filtering by datasource after performing actions.

#### Process Improvements:

- Label updated on MFA authentication apps, now it shows this: `FDSA: <FQDN>`
- DAR response sent back to FAIR has been updated. Registry credentials removed, since they were no longer needed.

## v1.2.52 – Jul 27, 2023

#### Bug Fixes:

- A minor bug has been resolved. Previously, when displaying a list of datasets, the 'show datasets' action would list all datasets from all datasources. Now, it has been corrected to only display datasets that belong to the selected datasource.

## v1.2.51 – Jul 21, 2023

#### What is new:

#### Security upgrades:

- Implemented schema level audit check for dataset additions, ensuring data integrity and preventing unauthorized access.
- Bounded the 'Token Lifetime' to a maximum of 365 days, enhancing security by limiting session durations.
- Strengthened password requirements for initial registration: Passwords must be a minimum of 8 characters long, including at least 1 capital letter, 1 special character (@\$!%\*#?&), and 1 number, providing robust protection against unauthorized access.
- FDSA now supports a load balancer infrastructure.

#### Process Improvements:

- Upgraded the installation script to support Rocky OS installations accommodating client environments and enhancing compatibility.
- Automatically track database table relationships when adding a Dataset, simplifying data dependency management, reducing manual efforts, and preparing future support of multi-table federated querying
- Introduced the ability to manually refresh datasets, allowing data owners to reflect the latest data updates and ensure accuracy.

#### Enhanced User Interface:

- Improved visibility of trusted datasets through the addition of logos in the add/edit catalogue forms, making it easier to identify reliable data sources.
- Updated tooltips for webhook setup guidance, providing clearer instructions and support during configuration.
- Enhanced data access transparency on the Data Access Request (DAR) details page, displaying information about the applied 'trust' type.
- The 'Resend' action for DARs will now be displayed only when a webhook URL is configured on the 'Settings' tab, improving the user interface and user experience.

#### Bug Fixes:

- Fixed idle timeout errors by automatically closing the database connection after each query, ensuring smoother query execution and minimizing potential disruptions.

## v1.2.42 – Jun 23, 2023

### What is new:

#### Improved Dataset and Data Access Requests:

- Introducing the 'trust' mechanism: Data owners can now trust specific datasets or project codes. This allows researchers to access task results without admin review and approval, eliminating the need for quarantine approval. It saves time for researchers to explore data.

#### Enhanced User Interface:

- Login screen visual appeal: We've added app version and release date information, giving the login screen a more informative look.

#### Streamlined Installer:

- Improved installation process: The installer now reads from the environment file and performs post-install clean-up activities for a smoother installation experience.

#### Metadata Management:

- Better organization and categorization: FDSA Admins can now add and update metadata for datasets, making it easier to organize and categorize your data.

#### Token Lifetime Configuration:

- Customize token lifetime: You can now adjust the token lifetime under the settings configuration. The default lifetime is 30 days, but you have the flexibility to set it according to your needs.

#### User Management:

- Improved admin rights and super admin extensions: Admins now have enhanced control over user management, including the ability to delete other admins and standard users.

#### External Database Support:

- Enhanced performance and operation: FDSA now supports external databases, ensuring seamless operation and improved performance.

## v1.2.0 – Mar 24, 2023

### What is new:

- Added support for custom email SMTP settings which will enable FDSA to send all communication emails from the data owner's own email service.
- Added a Data Access Request Web Hook to support for third party Access Request systems.
- Numerous installation, startup, and operating improvements and bug fixes.
- Ability to automatically upgrade (or downgrade) an installation.
- BUG: If the same database is listed in FAIR as both L1 & L2, and the same user receives approval for both L1 & L2 to the same dataset, it is possible for the user to use their L2 Token with the L1 Project ID and retrieve record level data using a L1 Query. This use case is highly unlikely, but it will be fixed in our next release.

## v1.1.0 – Jan 06, 2023

### What is new:

- Enhancement: FDSA v1.1 now supports and requires a license from ADDI. Licenses are provided for free to any organization that has a signed license agreement. Licenses last for

one year, and can be renewed easily. How licensing works: a) Request the FDSA License agreement by sending an email to: [fdsa.crm@alzheimersdata.org](mailto:fdsa.crm@alzheimersdata.org). Include your organization name, purpose for using FDSA and confirm you will not be using FDSA for any commercial purposes. b) Once your FDSA Agreement is signed, ADDI will send you a License key. c) Add your license key either during the FDSA Installation, or post install via the ADMIN GUI. d) Once licensed, FDSA will operate normally for one year. When the license is within 30 days of expiring or after the license is expired, FDSA will show a license renewal button in the Admin GUI, that can be used to easily renew the license. (Note: If the FDSA license is invalid or expired, all FDSA Admin functions will continue to work, but End user Common API's will return an error message stating that the license needs to be renewed.)

- UI FIX: Requester role currently has access to tasks tab. We will remove this section for this role since it is out of scope for this kind of user.
- UI FIX: Remove Approve/Reject option on tasks that have already been approved.
- UI FIX: Add a close button on the show datasets pop-up.
- UI FIX: Remove the Auto Complete on post login forms so that the browser won't try to pre-populate the users ID and PWD from their login.
- UI FIX: Add a "loading" screen while loading a dataset so the user has a better view of what is happening.
- DOCUMENTATION: Convert our training videos to HTML docs.
- UI FIX: Improve the usability of the Whitelist Page.
- UI FIX: Remove the user Updated field in the User info pop-up as it's not being used.
- UI FIX: Remove the New User password field and make it auto generated.
- BUG: The API that restores the MFA has been fixed, now it works as expected.
- Enhancement: We successfully tested our code against the following tools, semgrep, pylint (8.5 score), coverage (83% coverage), sonarqube, OWASP ZAP, bandit, whispers, mozilla rating A+, and much more. After testing we found non critical issues like for example cleaning TODO comments on the python source code and we also ran penetration tests without a full scan configuration.

# Known Issues & Fixes planned for FDSA v1.3

## FDSA Administration

- UI FIX: Enable Quarantine Review in-browser so that no results are downloaded to the Admin local machine.
- UI FIX: When quarantine is in review in-browser, support the possibility of multi-file results that must be reviewed including Tabular Data, Text Data, HTM, and some minimum image types.
- UI FIX: Enable additional Super Admin users so the default Super Admin account can be removed.
- SECURITY UPDATE: Enable FDSA TOTP Token name to be customized so that if users have access to more than one FDSA they will be able to tell the difference in the TOTP App.
- IDENTITY UPDATE: Add Federated OIDC Support so FDSA users can login with federated accounts.

# SUPPORT

To get support email: [fdsa.support@alzheimersdata.org](mailto:fdsa.support@alzheimersdata.org)

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