FDSA Query Builder

Overview

Users of AD Workbench can discover remote datasets, request access, and work in a free, trusted digital research environment called AD Workspace. In AD Workspace, researchers can easily set up virtual machines, work with Jupyter notebooks, R Studio, and use Query Builder to retrieve distributed and federated datasets shared by data contributors using the federated data sharing appliance (FDSA).

How it works:

Researchers find datasets they are interested in in the AD Workbench FAIR Catalog and request access. Once they have access, they use the Query Builder web service, a browser app to conduct remote data retrieval. Once approved, the results of that query are transferred into an airlocked Workspace on AD Workbench for further analysis.

Release Notes

v2.0 – Oct 24, 2024

Modernized Design: Enhanced User Interface for Improved Remote data querying

Query Builder has undergone a comprehensive redesign, offering a modernized interface that enhances both functionality and ease of use.

Intuitive Navigation for Seamless User Experience:

- **Streamlined Layout:**
    - The new UI organizes key features and tools into a clear, logical structure, reducing clutter and simplifying navigation.
    - Researchers can quickly access frequently used features without unnecessary clicks, allowing them to focus more on their work.

- **Improved Visual Hierarchy:**
    - The interface highlights critical elements such as active queries, task statuses, and model outputs with intuitive visual cues.

Dashboard View with Clear "Call to Action" Items:

- **Centralized Action Panel:**

- o Upon logging in, users are greeted with a dashboard that presents all essential actions and updates in one place.

- o Key "Call to Action" items like creating a new query, monitoring task progress, and reviewing outputs are prominently displayed.

- **Quick Access to Key Features:**

  - o The dashboard includes direct links to start a new query, view task history, access dataset documentation, and check task processes.

  - o Task submission progress and query outputs are presented in a visually engaging format with status indicators and actionable buttons.

- **Personalized Notifications:**

  - o Alerts and notifications specific to each user, such as task completion or approval updates, are displayed prominently in the dashboard.

  - o This ensures researchers are always informed about the status of their queries.

Enhanced Usability

- **Responsive Design:**

  - o The new UI is fully responsive, providing an optimized experience across different devices, whether on desktop, tablet, or mobile.

  - o Researchers can seamlessly switch between devices without compromising functionality or user experience.

- **Tooltips and Guidance:**

  - o Each feature in the Query Builder is now equipped with concise tooltips and inline guides, helping new users quickly understand how to use the platform.

  - o Step-by-step prompts for actions like setting up a query or reviewing outputs guide users through the process effortlessly.

Consistency with FDSA Interface Standards:

- The Query Builder's design aligns with the latest FDSA interface updates, ensuring a cohesive user experience across ADDI tools.

- This consistency reduces the learning curve for researchers using multiple ADDI systems.

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Release Notes History

v1.2.0 – March 13, 2024

New Features:

- **GraphQL Joins for Multi-Table Queries:**

    o Query Builder now supports GraphQL joins for both **Remote Queries (Level 1)** and **Federated Queries (Level 2)**.

    o This allows researchers to seamlessly query multiple datasets and establish relationships across tables, enhancing data analysis flexibility and capability.

- **New Design for Query Creation:**

    o A revamped design has been implemented for:

        ▪ **"New Task Query" (Level 2 Requests):** A streamlined UI to simplify federated query creation with multi-table support.

        ▪ **"New Query" (Level 1 Requests):** An intuitive layout for remote query creation with integrated GraphQL joins.

- **Query History for Level 1:**

    o Researchers can now view a comprehensive **Query History** on the "Data Selection" tab for Remote Queries.

    o This provides a clear record of previously executed queries, improving traceability and reducing redundant efforts.

- **Downloadable Query Results (Level 1):**

    o Researchers can download the results of previously executed queries directly from the Query History.

    o This feature eliminates the need to re-run queries, saving time and computational resources.

- **Error Details for Query Execution (Level 1):**

    o When a query fails, detailed error messages are displayed, enabling researchers to identify and resolve issues faster.

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v1.1.0 – February 13, 2024

New Features:

- **R Model Support:**

  - Researchers can now build and execute models using the **R programming language**, in addition to Python.

  - This addition caters to researchers in statistical and data-heavy domains where R is widely used.

- **Support for Level 1 Requests:**

  - Query Builder now supports **Remote Queries (Level 1)**, where data remains within the custodian environment.

  - Researchers can execute secure queries and receive verified results without data leaving its original location.

- **Automatic Logout for Inactivity:**

  - Users are automatically logged out after 1 hour of inactivity, improving security by preventing unauthorized access.

- **Error Log Downloads for Failed Tasks:**

  - Researchers can now download detailed error logs for tasks that fail with the "EXECUTION ERROR" status.

  - These logs provide in-depth insights to help debug and resolve issues effectively.

Bug Fixes:

- **UI Enhancements:**

  - Fixed minor UI bugs to improve overall usability and user experience.

- **Model Update Bug:**

  - Resolved an issue where updating a model's friendly name to an already existing one caused errors. Now, the system validates and prevents duplicates.

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v1.0.0 – December 13, 2023

New Features:

- **Models Section Added:**
    - A new "Models" section has been introduced to the UI, allowing researchers to manage their computational models.

- **Private Model Registry:**
    - Researchers can securely save their models to a private registry for future use.
    - This ensures model integrity and facilitates reuse across multiple projects.

- **Run Models via UI:**
    - Models can now be executed directly from the UI against datasets, making the process more accessible and user-friendly.

- **Model Management Features:**
    - Researchers can **update** and **delete** models through the UI.
    - Validations are performed before saving models to ensure correctness and prevent errors.

- **Error Feedback for Models:**
    - If a model contains code errors, detailed error messages are displayed to guide researchers in resolving issues.

- **Error Log Downloads for Tasks:**
    - Introduced functionality to download error logs for tasks with the "EXECUTOR_ERROR" status, aiding in debugging and troubleshooting.

- **Enhanced Task View:**
    - Updated the task standard view to display additional fields, providing more comprehensive task details at a glance.

- **Matomo Analytics Integration:**
    - Metrics such as app logins and usage patterns are now monitored via Matomo, offering valuable insights into system usage.

- **Load Balancer Support:**
    - Query Builder has been tested with **HAProxy**, **Azure**, and **AWS** load balancers, ensuring reliable scaling and availability in production environments.

Bug Fixes:

- **Project Visibility Bug:**
  - Resolved an issue where all users, including admins, could view other users' projects. Now, users can only see their own projects.

- **Pagination Bug:**
  - Fixed a bug in table paginations to ensure smooth navigation and accurate data display.

- **Startup Bug on Reboots:**
  - Query Builder now starts automatically when the server is rebooted, ensuring uninterrupted service availability.