

**Fusion XI**

# Release Notes



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# Overview

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Fusion is a comprehensive geological database management system tailored for mining and exploration projects with a focus on drilling and sample data. It integrates multiple data sources, ensuring accurate and efficient data handling with features like centralized data management, QA/QC checks, robust security and governance, advanced analytics, and automated processing. Fusion, through its unique mobile, local and central architecture, supports remote work and collaboration, enforcing business rules with real-time data validation. Its scalable and customizable platform offers a simple, intuitive interface for capturing, managing, and reporting geological data. Fusion addresses the complexity of reliably and securely managing large volumes of diverse raw geological data, ensuring data quality and regulatory compliance.

## Further Information

This document includes cumulative release notes for Fusion XI.

Release notes for other versions of Fusion are available via the Support Portal <https://www.dataminesoftware.com/support/>.

## Documentation

HTML documentation for Fusion Administrator is available online at <https://docs.dataminesoftware.com/Fusion/index.htm>.

# Fusion XI Service Pack 1.2 (September 2025)

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The **Fusion XI SP1.2** update delivers a series of stability improvements, bug fixes, and targeted enhancements across key modules. Users will notice increased reliability in **QuickLogger**, **DHLogger**, and **FusionAPI**, along with new capabilities in **FusionWebAPI** that streamline data extraction and integration workflows.

Key highlights include:

- Resolved critical issues affecting check-in failures, interval logging accuracy, and display inconsistencies in **Show All** mode.
- Enhanced **FusionAPI** handling of special characters during imports, and reduced unnecessary API queries during local logging.
- Improved **ImportBatchSamples** API messaging to provide clearer, more informative feedback during batch sample imports.
- A new **CopyOut** endpoint in **FusionWebAPI**, enabling advanced and efficient data extraction for integration and migration workflows.

## Improved Messaging in ImportBatchSamples API

The FusionAPI's **ImportBatchSamples** endpoint now provides clearer, more informative messaging to improve transparency during batch import processes.

This enhancement makes it easier for you to track and understand the outcome of each import operation, with improved feedback on successes, warnings, and errors. Whether you're importing large volumes of assay data or updating sample information, the more descriptive messaging helps you identify issues quickly and take corrective action with confidence.

## FusionWebAPI CopyOut Endpoint Implementation

A new **CopyOut** endpoint has been implemented in the **FusionWebAPI**, delivering a more efficient and flexible way to extract data for integration and migration tasks.

This addition allows you to access and export structured data directly from Fusion in a streamlined manner, supporting a wide range of operational and system integration scenarios. Whether you are moving data between environments or integrating Fusion with third-party systems, the **CopyOut** endpoint enables consistent and reliable extraction.

## Defect Fixes

- An issue in **QuickLogger** caused parent interval IDs to be incorrectly assigned when logging major and minor intervals, leading to inaccurate interval hierarchies. This has been fixed to ensure that interval relationships are correctly maintained during logging operations.
- A crash occurred in **DHLogger** when users attempted to initiate an **External Transfer Out**. This issue has been resolved, restoring stability to the transfer process.
- API queries were incorrectly triggered during local database logging in **DHLogger**, causing unnecessary external interactions. These queries are now disabled during local operations to ensure appropriate system behaviour.
- **Standalone Check-In** failed in **QuickLogger** when records included modular samples, preventing data from being saved. This defect has been corrected so that check-ins now succeed regardless of sample configuration.
- The FusionAPI's **ImportBatchSamples** function failed when result values included symbol characters. The import process now properly handles symbol characters to prevent errors during data import.
- In the **Samples** tab, checkbox columns were not displayed when using **Show All** mode, affecting the visibility of sample attributes. This display issue has been fixed so that checkbox fields render correctly in all views.



# Fusion XI Service Pack 1.1 (July 2025)

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Fusion XI Service Pack 1.1 delivers key stability, usability, and integration enhancements across **DHLogger**, **Report Manager**, and **Fusion Administrator**.

This release resolves several issues that previously impacted work-flow continuity, including a system crash when filtering by dispatch date and a login error affecting new users until a restart was performed. Email functionality is also back to full strength, with the reintroduction of the missing SendEmail.exe component ensuring consistent communications from within the platform.

**DHLogger** benefits from several reliability fixes, including improved batch authorization, restored functionality for editing custom sampling columns in "Show All" mode, and stable PDF or email generation. Windows that previously disappeared unexpectedly are now behaving as intended, supporting smoother data handling. **Report Manager** sees improvements as well, with export errors in custom reports now resolved.

Enhancements to charting make it easier to interpret duplicated control charts, as minimum and maximum lines now display correctly. Coordinate conversion has also been refined, with tighter input validation to catch and manage out-of-range data more effectively.

A significant upgrade in **Fusion Administrator** brings support for Microsoft Graph API, enabling modern email integration with more secure and dependable authentication. This update underscores our commitment to continuous improvement and delivering a more robust and seamless Fusion experience.

## Sample Screen in DHLogger

The latest update to the **DHLogger Sample Screen** introduces the ability to sort data while in **Show All** mode. This enhancement allows you to more easily organize and interpret sample data without needing to switch between filters or views.

## Defect Fixes

- An error that caused the application to crash when filtering by dispatch date in the **Sample Dispatch** module has been fixed. The filter now works correctly without affecting application stability.



- A defect where newly created users could not log in until their profiles were manually refreshed has been resolved. New users can now access the system immediately after account creation without any additional steps.
- The SendEmail.exe component, required for email notifications in **DHLogger**, was missing in Fusion XI. This component is now correctly included, ensuring that email functionality works as expected.
- In DHLogger's **Drill Hole Sampling** screen, users were previously unable to edit custom storage columns linked to reference tables while in **Show All** mode. Editing is now fully supported in this mode, improving work-flow flexibility.
- A bug in **Report Manager** that caused errors during the creation of custom exports has been corrected. Custom exports now generate reliably without producing errors.
- In **DHLogger**, users could not immediately perform a QuickTransfer CheckOut after checking in a new hole. This workflow issue has been resolved, and the QuickTransfer function now behaves as expected.
- Logging in as the "admin" user in the Central database caused an error due to a missing API user reference. The login process has been corrected to ensure successful authentication for admin users.
- In **Report Manager**, min/max lines would disappear from **Standard Control Charts** after copying. This visual error has been fixed so that copied charts retain their proper formatting.
- **Fusion Administrator** now supports integration with Microsoft Graph API for email, improving compatibility with modern authentication systems. This ensures secure and reliable email communication.
- In DHLogger's **Batch Authorization** module, the application window would temporarily disappear after selecting a menu item. The window now stays visible and responsive during the loading process.
- Issues with PDF generation and email sending in DHLogger's **Batch Authorization** workflows have been fixed. These functions now operate smoothly without errors.
- A coordinate conversion bug occurred when source coordinates were outside the defined domain during logging. The conversion logic has been updated to handle these edge cases reliably.

# Fusion XI Service Pack 1.0 (June 2025)

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The **Fusion XI** SP1.0 update introduces a range of enhancements across the platform, with a strong emphasis on usability, stability, and intelligent data validation. Users will notice improvements in key areas such as the **App Portal**, **DHLogger**, **Fusion API**, and **Fusion Administrator**.

Key highlights include:

- A new visual progress bar that tracks drilling and logging stages.
- Expanded validation rules that now run during check-in and apply to standalone tables, modular samples, and dispatch modules.
- The ability to update records via the API without requiring check-out.
- Enhanced support for adding reference codes directly within **DHLogger**.

**DHLogger** now includes a dedicated **Email Management** module, making it easier to configure and manage notifications. The **Report Manager** has been upgraded with dynamic filtering options for queries, giving users greater control over data retrieval.

In **Fusion Administrator**, new auditing fields and advanced table configuration tools offer improved flexibility. The Fusion API now supports updating records without the need for a formal check-out, streamlining integrations and saving time.

This release also resolves a significant number of bugs affecting data entry, data transfer, UI behavior, and reporting. Fixes address issues such as leftover temporary tables, delays in user login availability, and inconsistencies in validation reports.

Ongoing development efforts are focused on further improving performance and reliability in future service packs.

## Email Management in DHLogger

DHLogger now includes a new **Email Management** module that allows users to configure and manage email notifications directly within the application.

## Validation Rule Enhancements

Validation rules now support trigger conditions during check-in and extend to **Standalone Tables**, **Modular Samples**, and **Sample Dispatch**, enhancing data integrity across all modules.

## Query Module Enhancements

The **Query** module in **Report Manager** now supports dynamic filtering, enabling more flexible and efficient data querying.

## Hole Progress Bar Implementation

DHLogger now features a visual progress bar that displays the drilling and logging status of each drill hole.

## Fusion Administrator Enhancements

Fusion Administrator now includes new auditing fields and custom storage column configuration, providing enhanced traceability and greater flexibility.

## Fusion API Improvements

The Fusion API now supports updating records without requiring check-out, simplifying workflows for integrated systems.

## Language Translations

All language translations have been updated to ensure consistency and improved localization support.

## Audit and Rule Enforcement

Check-in validation rules are now enforced even when records are automatically unlocked, while logging-level validation prevents the insertion of invalid records.

# Performance Optimizations

Batch Authorization performance improvements from earlier versions have been migrated to Fusion XI SP1.0.

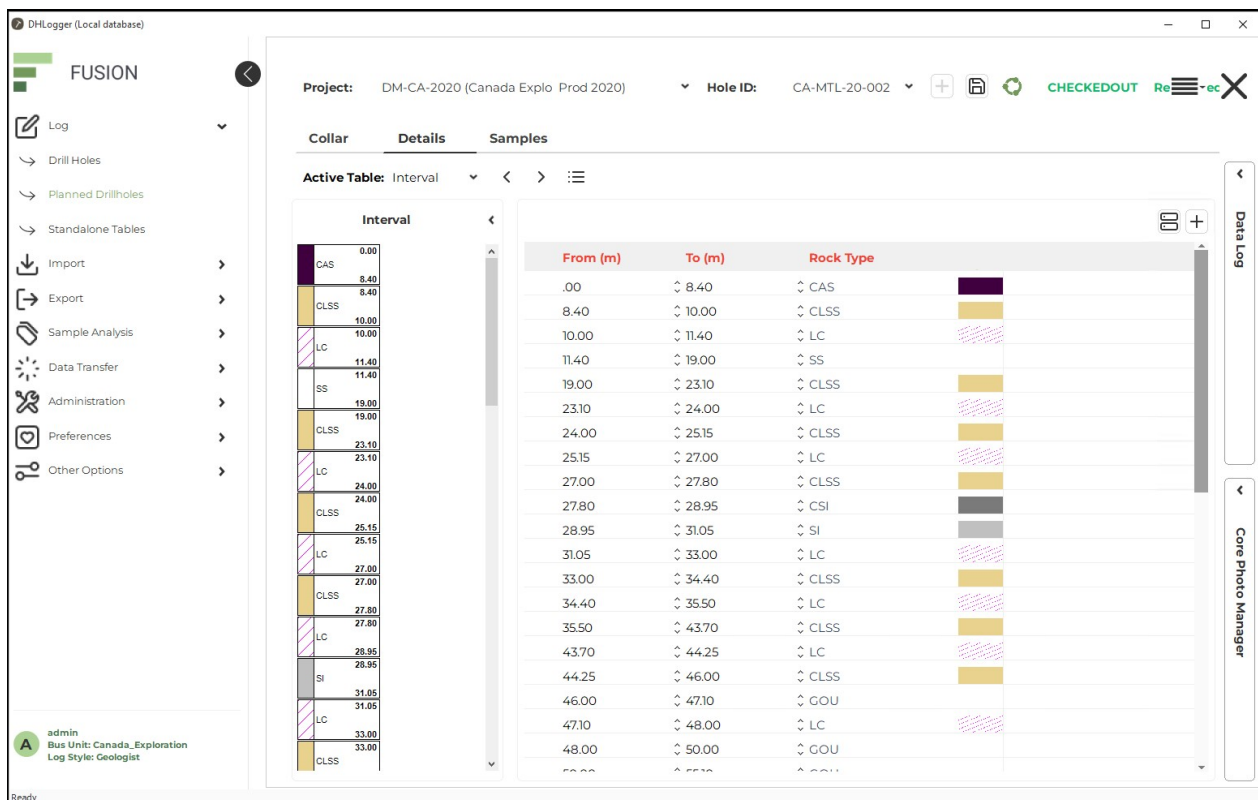
## Defect Fixes

- Issues with QC sample generation, inheritance of sample values, and sample display in the user interface have been resolved. These fixes ensure consistent data handling and improve the reliability of sample entry and review processes.
- Batch authorization now correctly displays all samples in the imported results tab, resolving previous inconsistencies in sample visibility. External data transfer issues have also been fixed, ensuring smooth and reliable data exchange between systems.
- Improvements to tab navigation, visual layout, and picklist functionality in the **Fusion Portal** and Administrator interfaces have eliminated several usability roadblocks. These enhancements make navigating and configuring the system more intuitive and efficient for users.
- Temporary **QuickLogger** tables are now correctly cleared, preventing unnecessary data buildup and improving system performance. Login refresh issues have been resolved, and calculated fields now trigger reliably after saving in standalone tables, ensuring data accuracy and integrity.
- Depth reference validation messages now display accurately, helping users identify and resolve data issues more effectively. Report filters function as expected, and chart data errors in Report Manager have been fixed to ensure reliable and accurate reporting.

# Fusion XI (September 2024)

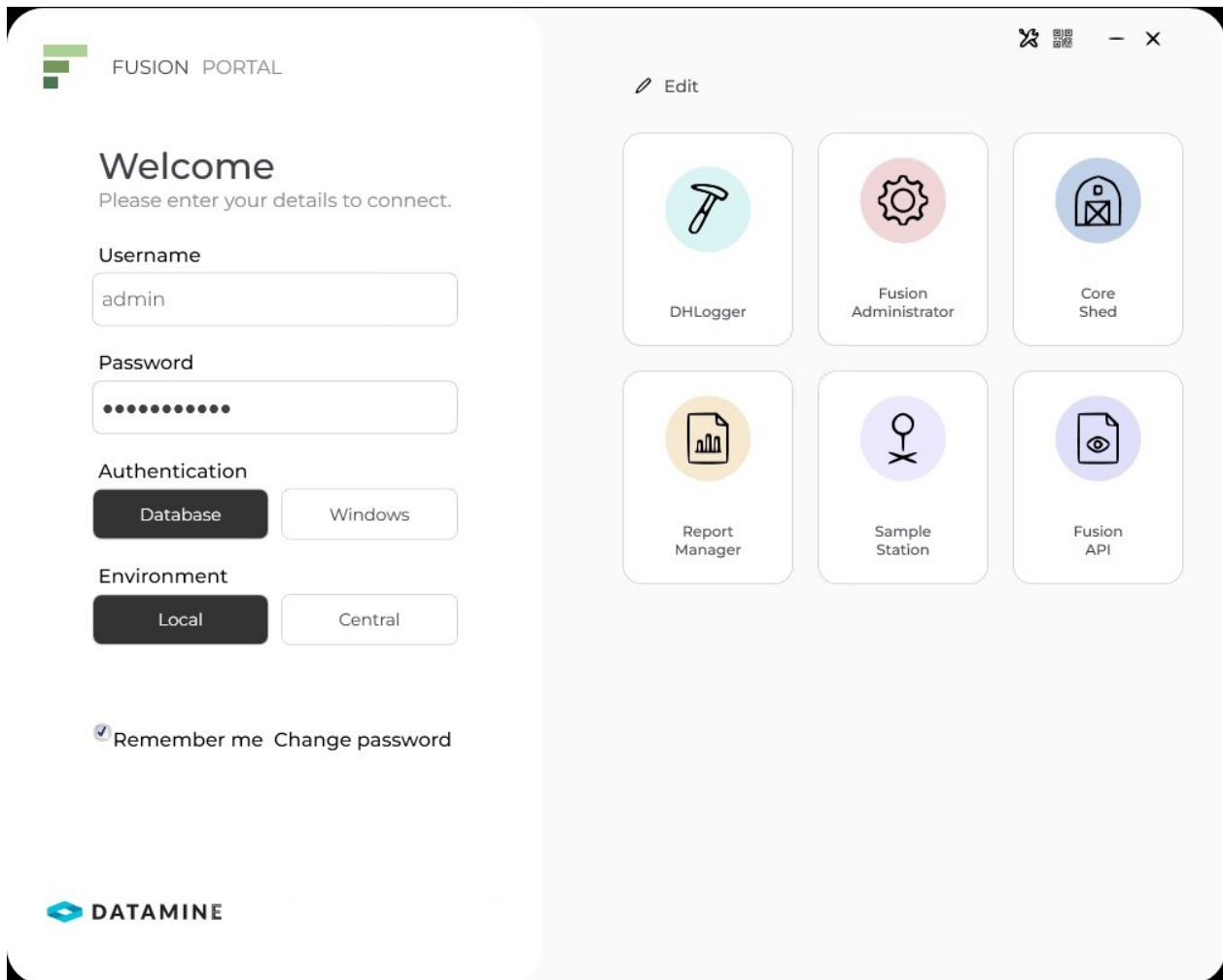
## Revamped the User Interface for the Drill Hole Module in DHLogger

The user interface within the DHLogger has undergone a comprehensive redesign to enhance usability and interaction. The new UI is modern, intuitive and significantly improves navigation and productivity for users working with drill hole data.



## User Interface Redesign for the GDMS Portal

Redesigned the Fusion portal with a strong focus on improving usability, aesthetics and functionality.



## New Users Management Strategy

Fusion XI introduces a new application-level access control strategy, reducing dependency on SQL Server roles. This change increases security and simplifies user management by centralizing access control within the application itself. When enabled, a single SQL login within the SQL instance manages security.

## General Performance Improvements

Performance improvements have been made, including to the Central Database interactions by optimizing database queries, infrastructure, and configurations. We have increased the system's responsiveness and scalability, ensuring a smoother user experience.

# Removed the ODBC Connection Strings from the Fusion Suite

ODBC connection strings have been removed to address performance, compatibility, and security concerns. This change results in faster data retrieval, better software compatibility, and enhanced security.

The screenshot displays the Fusion Portal interface, divided into a login section on the left and a connection configuration section on the right.

**Login Section (Left):**

- Welcome:** Please enter your details to connect.
- Username:** Input field containing "admin".
- Password:** Input field with masked characters (dots).
- Authentication:** Two buttons: "Database" (selected) and "Windows".
- Environment:** Two buttons: "Local" (selected) and "Central".
- Remember me:** A checked checkbox.
- Change password:** A link.
- Footer:** DATAMINE Fusion11(Runtime: 22.2.0.3356)

**Connection Configuration Section (Right):**

- Select Connection:** A dropdown menu showing "Central".
- Connection Name:** Input field containing "Central".
- Server:** Input field containing "ML-RefVm-881805".
- Database:** Input field containing "FusionX\_Demo\_Central".
- Authentication:** Two buttons: "Database" (selected) and "Windows".
- API URL:** Input field containing "10.0.0.11".
- API Port:** Input field containing "4589".
- SSL Enabled:** Two buttons: "On" and "Off" (selected).
- Test Connection:** A button.
- Save Connection:** A button.
- Delete Connection:** A button.

## Encryption for Connection Strings

For added security we have implemented encryption for connection strings, including user IDs and passwords.



# DHLogger Users Can Modify Sample Fields in "Show All" View

Geologists can modify sample details directly when the **Show All** option is selected in the **Samples Tab**. This enhancement streamlines work-flow by enabling direct modifications without requiring additional steps, which improves overall efficiency.

The screenshot shows the DHLogger application interface. On the left is a sidebar with a 'FUSION' logo and a list of navigation items: Log, Drill Holes, Planned Drillholes, Standalone Tables, Import, Export, Sample Analysis, Data Transfer, Administration, Preferences, and Other Options. The main window title is 'DHLogger (Local database)'. Below the title bar, there's a header section with 'Project: DM-CA-2020 (Canada Explo Prod 2020)', 'Hole ID: CA-MTL-20-002', and status indicators 'CHECKEDOUT' and 'Re-opened'. The 'Samples' tab is active, showing a table with columns: Sample ID, From (m), To (m), Length, and Sample Type / Standard Code. The table contains 16 rows of sample data. A vertical 'Interval' column on the left of the table shows depth ranges and sample types (CAS, CLSS, LC, SS, CSI, SI). On the right side of the table, there are panels for 'Data Log' and 'Core Photo Manager'. The bottom status bar shows 'Ready'.

Sample ID	From (m)	To (m)	Length	Sample Type / Standard Code
CA-MTL-20-002-00001	8.40	9.00	0.60	ASSAY
CA-MTL-20-002-00002	9.00	10.00	1.00	ASSAY
CA-MTL-20-002-00003	11.40	12.00	0.60	ASSAY
CA-MTL-20-002-00004	12.00	13.50	1.50	ASSAY
CA-MTL-20-002-00005	13.50	15.00	1.50	ASSAY
CA-MTL-20-002-00006	15.00	16.50	1.50	ASSAY
CA-MTL-20-002-00007	16.50	18.00	1.50	ASSAY
CA-MTL-20-002-00008				OREAS 920
CA-MTL-20-002-00009	18.00	19.00	1.00	ASSAY
CA-MTL-20-002-00010	19.00	20.50	1.50	ASSAY
CA-MTL-20-002-00011	20.50	22.00	1.50	ASSAY
CA-MTL-20-002-00012	22.00	23.10	1.10	ASSAY
CA-MTL-20-002-00013	24.00	25.15	1.15	ASSAY
CA-MTL-20-002-00014	27.00	27.80	0.80	ASSAY
CA-MTL-20-002-00015	28.95	30.00	1.05	ASSAY
CA-MTL-20-002-00016	30.00	31.05	1.05	ASSAY

## New Intro Page for DHLogger

Rebuilt the Fusion HTML intro page to create a more visually appealing and interactive landing experience. Utilizing modern HTML, CSS, and JavaScript. The new intro pages allows clients to stay informed on our latest features and releases.

## QR Code for QL API Configuration

A new feature introduces a QR code for configuring the URL required to establish a connection with the API has been added. This enhancement simplifies the API configuration process, making setup quicker and more convenient.

The screenshot displays the Fusion Portal interface, which is divided into two main sections. The left section, titled 'FUSION PORTAL', contains a 'Welcome' message and a login form. The login form includes fields for 'Username' (pre-filled with 'admin') and 'Password' (masked with dots). Below these are buttons for 'Authentication' (Database and Windows) and 'Environment' (Local and Central). A 'Remember me' checkbox and a 'Change password' link are also present. The bottom of the left section shows the 'DATAMINE' logo and the text 'Fusion11(Runtime: 22.2.0.3356)'. The right section, titled 'Api Config', contains fields for 'Connection Alias' (pre-filled with 'Default Connection'), 'API URL' (pre-filled with 'http://10.0.0.11:80/api/'), and 'Azure API Subscription Key (Optional)'. Below these fields is a QR code and a button to download it. At the bottom of the right section is a field for 'Encrypted Subscription Key (Copy + Paste)'.

**Welcome**  
Please enter your details to connect.

**Username**  
admin

**Password**  
.....

**Authentication**  
Database Windows


**Environment**  
Local Central

☒ Remember me [Change password](#)

**Connection Alias**  
Default Connection

**API URL**  
http://10.0.0.11:80/api/

**Azure API Subscription Key (Optional)**



**Encrypted Subscription Key (Copy + Paste)**

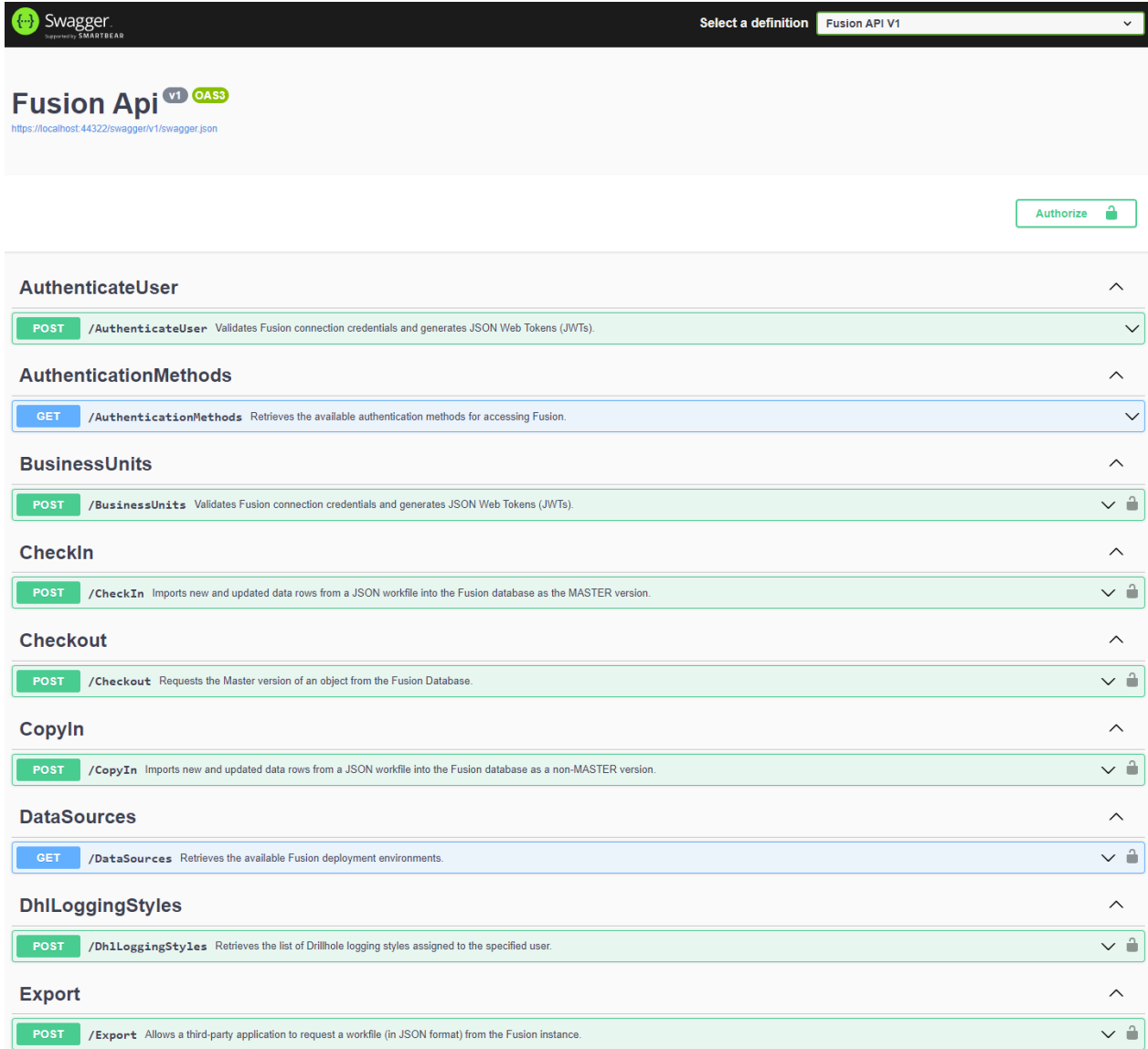
**DATAMINE** Fusion11(Runtime: 22.2.0.3356)

## Upgraded to .NET 4.8

The majority of the dependencies has been upgraded from .NET 3.5 to .NET 4.8, introducing new features and performance optimizations. This upgrade enhances overall application performance, providing users with a faster and more reliable platform.

## API Integration

A new RESTful API is available for extracting and importing data, including assay results, from the Fusion database. The integration improves examples and descriptions for each endpoint within our Swagger API page.



The image shows the Swagger UI for the Fusion API V1. The header includes the Swagger logo, the text "Select a definition", and a dropdown menu showing "Fusion API V1". Below the header, the title "Fusion Api" is displayed with version "v1" and "OAS3" tags, and the URL "https://localhost:44322/swagger/v1/swagger.json". An "Authorize" button is located on the right. The main content area lists several API endpoints, each with a method (POST or GET), a path, and a description. The endpoints are: AuthenticateUser (POST /AuthenticateUser), AuthenticationMethods (GET /AuthenticationMethods), BusinessUnits (POST /BusinessUnits), CheckIn (POST /CheckIn), Checkout (POST /Checkout), CopyIn (POST /CopyIn), DataSources (GET /DataSources), Dh1LoggingStyles (POST /Dh1LoggingStyles), and Export (POST /Export). Each endpoint entry has a dropdown arrow and a lock icon.

**AuthenticateUser** ^

**POST** /AuthenticateUser Validates Fusion connection credentials and generates JSON Web Tokens (JWTs). v

**AuthenticationMethods** ^

**GET** /AuthenticationMethods Retrieves the available authentication methods for accessing Fusion. v

**BusinessUnits** ^

**POST** /BusinessUnits Validates Fusion connection credentials and generates JSON Web Tokens (JWTs). v lock

**CheckIn** ^

**POST** /CheckIn Imports new and updated data rows from a JSON workfile into the Fusion database as the MASTER version. v lock

**Checkout** ^

**POST** /Checkout Requests the Master version of an object from the Fusion Database. v lock

**CopyIn** ^

**POST** /CopyIn Imports new and updated data rows from a JSON workfile into the Fusion database as a non-MASTER version. v lock

**DataSources** ^

**GET** /DataSources Retrieves the available Fusion deployment environments. v lock

**Dh1LoggingStyles** ^

**POST** /Dh1LoggingStyles Retrieves the list of Drillhole logging styles assigned to the specified user. v lock

**Export** ^

**POST** /Export Allows a third-party application to request a workfile (in JSON format) from the Fusion instance. v lock

## Defect Fixes

- **GDMS-10518** Resolved an issue with the API hanging when running as a console app.
- **GDMS-10509** Resolved the issue with writing rock code bitmap files to a user's system with the new DLL component.
- **GDMS-10339** Resolved the "Validation in progress. Please try again" error message when trying to save a new Standalone record in QuickLogger.
- **GDMS-10306** Resolved the issue with "Batch PDF" save functionality when trying to save reports using Windows Authentication.

- **GDMS-9864** Resolved a Fusion upgrade issue that may be encountered when clients have added custom columns to the Projects table.
- **GDMS-9326** Resolved the issue with drawing the Geology Log component for holes that happen to contain a very large number of major and/or minor intervals.
- **GDMS-5482** Resolved deleting or modifying an interval on the major table in DHLogger.
- **GDMS-8733** Resolved the error creating data window in LAS module.
- **GDMS-8768** Resolved the error when Right Dilution exceeds the length in the Destination Compositor.
- **GDMS-9582** Resolved the "Sample In Use by another user" error when doing Lab Import in DHLogger.
- **GDMS-9631** DHLogger - Logging - Performance Issue when switching between tables
- **GDMS-9850** FusionX - Upgrade Issue - Error adding DSCD\_ID colum to DHL\_SAMPLE\_COLUMN\_DETAILS table in Central DB
- **GDMS-9864** Resolved the custom "PROJECT" columns not being added to the Local database during the upgrade.
- **GDMS-10092** Resolved the External Transfer Error in Quicklogger, where the device ID missing in varbinary field / JSON string.
- **GDMS-10228** Resolved the device ID Not Exported to Workfile in Quicklogger.
- **GDMS-10339** Resolved the "Validation in progress. Please try again" validation message when trying to log a new record in standalone tables in Quicklogger.
- **GDMS-10529** Resolved the calculations not being performed in Sample Station.
- **GDMS-10534** Resolved the performance issue when generating holes against the Fusion Remote database in DHLogger.

Datamine enables efficient and sustainable mining through the application of world-leading technology and services.

## Read the Docs

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