



Ed-Fi Badge Application

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Name of product	Amorphic
Ed-Fi Badge	API Consumer Badge
Under any circumstances, can access to the badged functionality require a separate fee?	Choose an item.
Optional: is there a Web page that describes the badged functionality – if so, you may provide the URL.	

Narrative

In 1000 words or less, please describe the functionality that is the basis for the badge application. (May be attached on a separate page.)



Amorphic Platform provides a cloud-based data integration, management, processing, storage, and consumption platform for education data. As an Ed-Fi API Consumer, Amorphic integrates with Ed-Fi ODS/API environments to retrieve standardized education data and make that data available through a governed, scalable data-lake architecture for analytics, reporting, APIs, and downstream applications.

Amorphic supports Ed-Fi ODS/API Version 6.2 and Ed-Fi Data Standard Version 4.0.0 for the implementation submitted for this badge.

Ed-Fi API Integration

Amorphic consumes education data through the RESTful Ed-Fi ODS/API, using standard HTTP/JSON-based API interactions. The integration is designed around the Ed-Fi API resource model, allowing the platform to retrieve Ed-Fi-defined resources, their relationships, and associated descriptors from participating ODS/API environments.

The Ed-Fi API provides a standardized and discoverable interface through its resources, descriptors, and API specifications. Amorphic uses the available API configuration and metadata to identify and ingest the applicable Ed-Fi resources rather than requiring each downstream consumer to independently integrate with the source ODS/API.

Authentication and authorization are handled through the security mechanisms provided by the Ed-Fi ODS/API implementation, including OAuth 2.0-based authentication where supported by the source environment. Source-specific credentials and connection configuration are managed as part of the Amorphic ingestion process.

Ed-Fi Standardized Data Model

Amorphic consumes the Ed-Fi standardized education data model, including education organizations, students, staff, enrollment and associations, courses, sections, attendance, assessments, programs, calendars, academic records, discipline, and other applicable Ed-Fi resources.

The Ed-Fi model provides consistent definitions for education entities, relationships, identifiers, references, and descriptors. Amorphic preserves these source relationships during ingestion and transforms the API data into structured datasets suitable for analytical and application use.

This allows data from multiple participating education organizations to be processed using a common Ed-Fi-based foundation while retaining source-specific information needed by individual implementations.

Extensibility

The integration supports the Ed-Fi core data model while accommodating implementation-specific extensions where required by the source ODS/API. Core Ed-Fi resources and standardized elements are processed according to the Ed-Fi model, while supported extensions can be retained and incorporated into the Amorphic data-processing workflow without requiring the core Ed-Fi representation to be discarded.

This approach allows education organizations to address state, local, or implementation-specific data requirements while maintaining the interoperability provided by the Ed-Fi foundation.



Incremental and Change-Oriented Integration

Amorphic supports Full/Historic data load data integration patterns to get years of historic data from Ed-Fi ODS/API for ingestion in the platform.

Amorphic also supports change-oriented/incremental data integration patterns using the capabilities of the Ed-Fi ODS/API, including ChangeVersion-based retrieval where supported by the source implementation.

Instead of requiring a complete reload of all source data for every processing cycle, the ingestion framework can maintain source-specific ingestion state and retrieve applicable changes since a previous successful synchronization point. Retrieved data is then processed through the Amorphic data pipeline.

This approach supports efficient synchronization of large education datasets and reduces unnecessary data movement and processing during recurring ingestion cycles.

Amorphic Data-Lake Processing

After retrieval from the Ed-Fi ODS/API, the API responses are ingested into the Amorphic data lake using a medallion-style architecture.

The Bronze layer retains the source API data in its raw JSON representation, providing a durable source-aligned copy for traceability and subsequent processing.

The Silver layer transforms the source data into structured datasets. Processing includes parsing JSON resources, handling nested and repeating structures, resolving relationships and references, processing descriptors, applying data-quality rules, deduplicating records, and maintaining historical changes where required.

The Gold/Platinum layer provides curated, business-oriented datasets optimized for analytics, reporting, and downstream applications. Multiple Ed-Fi resources can be combined into analytical facts, dimensions, associations, and other consumption-oriented structures while retaining their relationship to the underlying Ed-Fi source data.

Data Consumption and Value to Education Organizations

The primary value of the Ed-Fi integration is that Amorphic converts standardized Ed-Fi API data into a reusable, governed, and scalable data asset that can support multiple downstream use cases.

Authorized users and applications can consume the processed data through analytical datasets, reporting and visualization solutions, APIs, and application-facing data services supported by the Amorphic platform.

For example, student, school, enrollment, attendance, assessment, staff, course, section, and program information can be integrated and transformed into curated datasets that support education analytics and operational applications.

This eliminates the need for each consuming application or analytical process to independently build and maintain a direct integration with the Ed-Fi ODS/API.

Interoperability and Scalability

Because the integration is based on the Ed-Fi REST/JSON API and standardized Ed-Fi data model, Amorphic can establish a consistent ingestion and processing framework across multiple Ed-Fi ODS/API



environments. Each participating education organization can maintain its applicable source configuration and credentials while the platform provides centralized orchestration, processing, storage, governance, monitoring, and consumption capabilities.

The architecture separates API ingestion from downstream data processing and consumption, allowing these stages to scale independently as the number of participating education organizations and volume of data increase.

End-to-End Ed-Fi Data Flow

The resulting end-to-end flow is:

Ed-Fi ODS/API → REST/JSON Ingestion → Amorphich Bronze → Silver Processing → Gold Curation → Analytics / APIs / Applications

Through this integration, Amorphich extends the value of the Ed-Fi ODS/API from standardized API-based data exchange to a complete data lifecycle in which Ed-Fi education data can be **securely consumed, incrementally synchronized, standardized, processed, governed, stored, and made available for authorized downstream consumption**.

The integration therefore provides significant additional value to education organizations by combining the interoperability and standardized data model of Ed-Fi with Amorphich's cloud-based data-lake, processing, governance, analytics, and consumption capabilities.

Version Compatibility

Please include the versions of Ed-Fi APIs or technologies with which this product works.

Amorphich Platform supports integration with the **Ed-Fi ODS/API Version 6.2** and **Ed-Fi Data Standard Version 4.0.0**.

The Amorphich Ed-Fi integration consumes data through the Ed-Fi ODS/API REST interfaces and processes Ed-Fi Data Standard 4.0.0 resources and associated data elements. The integration supports ingestion of Ed-Fi education data from participating Ed-Fi ODS/API environments into the Amorphich Platform for subsequent data processing, storage, analytics, and downstream consumption.

Supported Ed-Fi Technologies / Versions:

- **Ed-Fi ODS/API:** Version 6.2
- **Ed-Fi Data Standard:** Version 4.0.0
- **API interaction:** Ed-Fi ODS/API REST APIs
- **Data interchange:** JSON-based Ed-Fi API responses
- **Descriptor handling:** Ed-Fi Descriptor references and descriptor values



Incremental data integration: Ed-Fi ODS/API changed-record / ChangeVersion capabilities, where enabled and supported by the source ODS/API implementation

The Ed-Fi ODS/API 6.2 platform is aligned with Ed-Fi Data Standard 4.0.0.

Availability Information

The Ed-Fi related product functionality in the Product [referenced above] used to meet the requirements for the Ed-Fi Badge [referenced above] is available in its entirety in the following geographies and product versions.

Instructions: use the space below to list the geographies and versions where the functionality is available. If required, geography and version information can be combined (e.g. "State of X version 9.2 and above").

Available across US on version 3.2 and above.

This form should be completed and sent (signed) to certification@ed-fi.org

Information on this form will be published to the Ed-Fi community as public documentation of the badge. Thank you!