

# DataImport User Guide

This guide describes how to configure Data Import using an existing template to load data to the Ed-Fi ODS.

## Prerequisites

- Data Import version 2.1 (or later) is installed ([Data Import Installation](#)).
- Ed-Fi ODS / API instance with a valid key and secret.
- Data Import template JSON file ( please see [Published Data Import Templates](#) for a list of Ed-Fi Exchange templates).
- A modern web browser such as Google Chrome, Mozilla Firefox, or Microsoft Edge. Internet Explorer 11 (a pre-installed browser on Windows Server) may load, but may not function correctly when using Data Import.

## Step 1. First-time configuration

In this step, You will need to create a Data Import user, if you don't have one already. Then after you can log in to the application, you will need to set up the API connection to your Ed-Fi Web API. Please see the following documentation that describes how to do this step by step ([Data Import First-time Configuration](#))

For this step, you will need a valid key and secret and the URL to connect to your Ed-Fi Web API. For instance:

### API Connection Info

APIURL: `https://yourserver.domain.test/webapi/data/v3`  
Key: `zRULptocPdVd`  
Secret: `Suvd3kzUCEgJsQYvzpqqNEGF`



### Claim set requirements

The claim set (key & secret) provided needs to enable authorized access to read/write the Ed-Fi ODS / API /schools resource. If you use an "out of box" claimset, then you will need to use either the "Ed-Fi Sandbox" or "SIS Vendor" claim sets. Alternatively, you can use the Admin App's [Claim Set Editor](#) to create a custom claim set.

## Step 2. Import template

Once the Ed-Fi ODS connection is configured, import the JSON template that contains the definition of the map between the ODS resource and your source data file. For instructions on how to import a template please see Step 3 of the [Data Import's Quick Start](#) guide.

With the template imported, verify existing Maps (click [Configure Maps](#) ), and you should see the imported maps. Optionally, you can test a map with a "small sample" of your source data file. Please note, that you should not upload a huge data file to the map as it may break your browser, for that reason we advise you to make a copy of the source data file that only contains three to five rows. If the data loads correctly you should see a table in your browser with the data from the source file. If there is an error the Maps will display an error message which will give you a hint as to what needs to be done to fix the source data file to match the Data Import map.

Open the Map (click [Configure Maps](#) ), then find the map you would like to test and click the Edit icon to view the definition of the map.

## Maps

Add Data Map

- Agents
- Maps
- Lookups
- Preprocessors
- Bootstrap Data



Name	Resource	Actions
TEA Finance ActualExt	Actual Exts [TX]	
TEA Finance BudgetExt	Budget Exts [TX]	
TEA Finance ContractedInstructionalStaffFTEExt	Contracted Instructional Staff FTE Exts [TX]	
TEA Finance PayrollExt	Payroll Exts [TX]	
TEA Finance SharedServiceArrangementExt	Shared Service Arrangement Exts [TX]	
TEA HR StaffEducationOrganizationEmploymentAssociation	Staff Education Organization Employment Associations	
TEA HR StaffSchoolAssociation	Staff School Associations	
TEA HR staff	Staffs	
TEA HR staffEducationOrganizationAssignmentAssociations	Staff Education Organization Assignment Associations	



And the map will look like this:

## Data Mapper

Map Name	TEA HR StaffSchoolAssociation I		
API Version	6.1		
Map To Resource	Staff School Associations		
Processor	Select Processor ▾		
Sample Input File	<input type="button" value="Choose File"/> No file chosen		<input type="button" value="Upload"/>
CSV Fields			
Program Assignment Descriptor*	lookup-table ▾	ProgramAssignment ▾	TEA HR ProgramAssignmentDescriptor ▾
	Default Value	<input type="button" value="Q"/>	
Calendar Reference			
Calendar Code*	Select Data Source ▾		
School Id*	Select Data Source ▾		
School Year*	Select Data Source ▾		
School Reference*			
School Id*	column ▾	School ▾	Default Value
School Year*			

Upload your "small" sample data source file, and if the file is successfully loaded or at least partially loaded you should see a table in the browser with the content of your sample file.

If any errors, a red textbox will appear at the top of the page. A common error is that the source file is missing columns, to fix the error make sure the source data file has all columns used in the map.

## Data Mapper

This data map contains references to CSV column header names that are not present in the currently uploaded CSV file. In this state, you will not be able to use this data map to import data to the target ODS.

You will need to revise the following CSV header(s) referenced in this data map: STAFFUNIQUEID, BIRTHDATE, HighestCompletedLevelOfEducation, HISPANICLATINOETHNICITY, LASTSURNAME, MIDDLENAME, RACES1, RACES2, RACES3, SEX, \_EXTGENERATIONCODE, \_EXTPKTEACHERREQUIREMENT, \_EXTADDITIONALDAYSPROGRAMTEACHER, \_EXTCREDITABLEYEARSOFSERVICE, \_EXTSTAFFDONOTREPORTTSDS, \_EXTSTAFFID, \_EXTTOTALYEARSPRIORTEACHINGEXPERIENCE, \_EXTTOTALYEARSPROFEXPERIENCE, \_EXTYEARESEXPERIENCEINDISTRICT, \_EXTTEACHERINCENTIVEALLOTMENTDESIGNATIONS1, \_EXTTEACHERINCENTIVEALLOTMENTDESIGNATIONS2, \_EXTTEACHERINCENTIVEALLOTMENTDESIGNATIONS3, \_EXTTYPESETS\_BEGINDATE1, \_EXTTYPESETS\_STAFFTYPE1, \_EXTTYPESETS\_ENDDATE1, \_EXTTYPESETS\_BEGINDATE2, \_EXTTYPESETS\_STAFFTYPE2, \_EXTTYPESETS\_ENDDATE2, \_EXTTYPESETS\_BEGINDATE3, \_EXTTYPESETS\_STAFFTYPE3, \_EXTTYPESETS\_ENDDATE3, \_EXTCERTIFICATIONSET\_BEGINDATE, \_EXTCERTIFICATIONSET\_ENDDATE, \_EXTCERTIFICATIONSET\_CERTIFICATION

Map Name

TEA HR staff

API Version

6.1

Map To Resource

Staffs

Processor

TEA HR staff.ps1 ▾

Attribute

Preprocessor Attribute

This should be provided if the selected preprocessor is configured to require an attribute.

Sample Input File

Choose File

No file chosen

Upload

Preprocessor Log Messages (17) >

StaffUniqueld	BirthDate	HighestDegreeDescriptor	HispanicLatinoEthnicity	FIRSTNAME	LastSurname	MiddleName	Races1	Races2	Races3	Sex	_extGenera
207249	05/25/1983	Bachelor's	FALSE	TAM	Mcp	mcp	Asian			Female	C
207250	06/15/1989	Doctorate	FALSE	TIM	Dickson	Shel	White			Male	3
207252	04/01/1978	Doctorate	TRUE	JON	Kaiser	j	White			Male	2

CSV Fields

Additional error messages will be displayed under the "Processor Log Messages" (see image above)

### Step 3. Create an Agent

Create a Data Import Agent, Agents associate a file transfer with the maps defined for the file, see detailed info in Step 7 of the [Data Import's Quick Start](#) guide. For a more advanced agent configuration please see more details. for instance, processing files directly from an SFTP server.

The agent should look like this (see the image below). Please note that what defines what file is the agent going to process is the map that is associated with the agent.

**Data Import Admin**   Activity   Data Browser ▾   Configure ▾   Admin ▾   test@ed-fi.org ▾

## Agent

### Connection

**Name**

TEA HR Staff

**API Connection**

TEA-lab ▾

**Agent Type**

Manual ▾

**Run Order**


Run Order

☒ **Enabled**

### Data Maps

This agent will apply *all* of the selected data maps to *all* of the files uploaded to it. Referenced columns in the selected data maps must be present in all of the files the agent processes.

If, instead, you wish for *certain* data maps to only be applied to *certain* files, you must define multiple agents.

Name	Processing Order	
TEA HR staff	1	

**Add Data Map**

Select Map ▾

Add Map

### Bootstraps

Bootstrap Name	Resource	Processing Order	
----------------	----------	------------------	--

**Add Bootstrap Data**

Select Bootstrap Data ▾

Add Bootstrap

### Row Processing

**Processor**

Select Row Processor ▾

Save Agent

The agent referenced in the above picture is configured so it will process files that are manually uploaded to the agent via the Data Import web application. If you would like to automate the agent to pull files directly from a remote location, please see the documentation [Configuring Data Import Agent to use FTPS](#). Also once you create an FTP agent (meaning either SFTP or FTPS), the agent execution will follow a schedule, you can learn how to use [Scheduling Data Import Agents](#).

## Step 4. Upload file to Agent

Once you have created the agent, depending on the agent type, if the type is "manual" you can upload the file directly to the agent by clicking the "Upload" icon please see Step 8 of the [Data Import's Quick Start](#) guide. If the agent type is one of the FTP protocols (SFTP or FTPS) make the file available on your server and the next execution of the Data Import TransformLoad will pull the file, and send it to the ODS.

Upload files to the agent by clicking the "Upload" icon

## Agents

[Add Agent](#)

Source	Type	Files	Run Order	Last Executed	Enabled	Actions
TEA HR Staff	Manual	29		2023-12-13 04:45 PM		
TEA HR StaffEducationOrganizationAssignmentAssociations	Manual	4		2023-12-07 03:29 PM	True	
TEA HR StaffSchoolAssociation	Manual	5		2023-12-07 03:29 PM	True	
TEA HR StaffEducationOrganizationEmploymentAssociation	Manual	4		2023-12-07 03:29 PM	True	
TEA Finance ActualExt	Manual	15		2023-12-07 03:25 PM	True	
TEA Finance BudgetExt	Manual	7		2023-12-07 03:25 PM	True	
TEA Finance ContractedInstructionalStaffFTEExt	Manual	5		2023-12-07 03:25 PM	True	
TEA Finance SharedServiceArrangementExt	Manual	3		2023-12-07 03:25 PM	True	
TEA Finance PayrollExt	Manual	2		2023-12-07 03:25 PM	True	

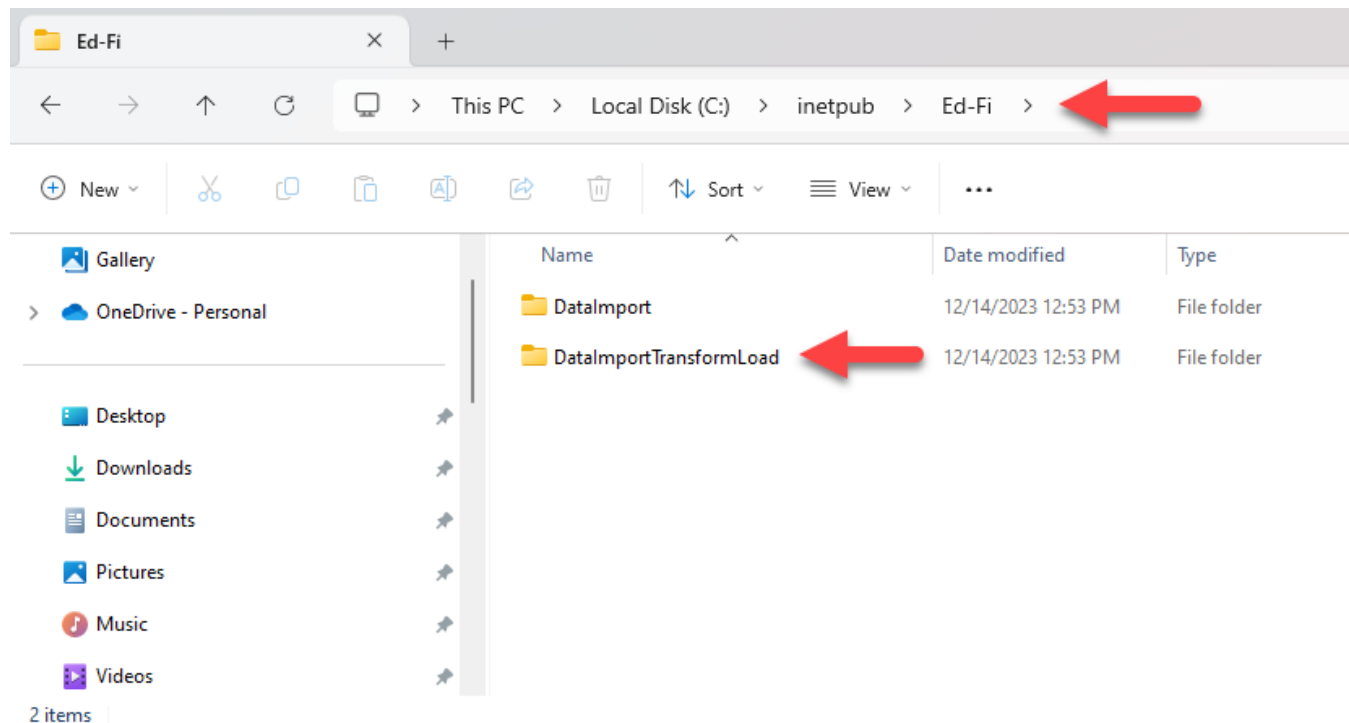


Data Import 2.1

### Step 5. Run the Agent

The job of processing a file and transforming the source data to the format the Ed-Fi ODS Web API understands is done by the TransformLoad command line tool. This application comes with the Data Import web application. Open the directory where DataImport is installed (default path "C:\inetpub\Ed-Fi"), you will find a folder named "DataImportTransformLoad", this is the command line application that runs agents and loads any files associated with the agent to the Ed-Fi ODS Web API. To run the command line application execute the file "DataImport.Server.TransformLoad.exe". For additional instructions please see Step 9 of the [Data Import's Quick Start](#) guide.

The Data Import TransformLoad folder (default path "C:\inetpub\Ed-Fi")



Run the command line tool by executing the file "DataImport.Server.TransformLoad.exe". We recommend opening a command window and executing the file from the command prompt since the application will write an output log to the console and you will be able to track all the steps of the execution in the console. Alternatively, you can check tables ("ApplicationLogs" and "IngestionLogs") in the DataImport Database for log messages, please see ([Data Import Log Tables](#)), and/or you can configure the application to log to a file by modifying the logging.json configuration file.

```
C:\Windows\System32\cmd.exe X + -
C:\inetpub\Ed-Fi\DataImportTransformLoad>
C:\inetpub\Ed-Fi\DataImportTransformLoad>DataImport.Server.TransformLoad.exe
[2023-12-14 16:40:42,809] [INFO] [] Building host
[2023-12-14 16:40:43,228] [INFO] [] Migrating database
[2023-12-14 16:40:44,122] [INFO] [DataImport.Server.TransformLoad.Program] "DataImport.Server.TransformLoad" "2.1.1" Starting

[2023-12-14 16:40:44,126] [INFO] [] Starting host
[2023-12-14 16:40:45,336] [INFO] [DataImport.Server.TransformLoad.Features.LoadResources.FileProcessor] No files found for processing for API Connection "v5.3_Ys_2022". If you expect a file to be processed, check the file status and ensure the agent is enabled.
[2023-12-14 16:40:45,356] [INFO] [DataImport.Server.TransformLoad.Features.LoadResources.FileProcessor] No files found for processing for API Connection "v5.3_Ys_2023". If you expect a file to be processed, check the file status and ensure the agent is enabled.
[2023-12-14 16:40:45,579] [INFO] [DataImport.Server.TransformLoad.Features.LoadResources.PostBootstrapData] Inserting bootstrap data for ID: 1071
[2023-12-14 16:40:45,819] [INFO] [DataImport.Server.TransformLoad.Features.LoadResources.PostBootstrapData] Inserting bootstrap data for ID: 1072
[2023-12-14 16:40:45,930] [INFO] [DataImport.Server.TransformLoad.Features.LoadResources.PostBootstrapData] Inserting bootstrap data for ID: 1073
[2023-12-14 16:40:46,029] [INFO] [DataImport.Server.TransformLoad.Features.LoadResources.PostBootstrapData] Inserting bootstrap data for ID: 1074
[2023-12-14 16:40:46,050] [INFO] [DataImport.Server.TransformLoad.Features.LoadResources.PostBootstrapData] Inserting bootstrap data for ID: 1075
[2023-12-14 16:40:46,068] [INFO] [DataImport.Server.TransformLoad.Features.LoadResources.FileProcessor] No files found for processing for API Connection "v5.3_Sandbox_jPPcrlH483Cr". If you expect a file to be processed, check the file status and ensure the agent is enabled.
[2023-12-14 16:40:46,083] [INFO] [DataImport.Server.TransformLoad.Features.LoadResources.FileProcessor] No files found for processing for API Connection "v5.3_new". If you expect a file to be processed, check the file status and ensure the agent is enabled.
[2023-12-14 16:40:46,092] [INFO] [DataImport.Server.TransformLoad.Features.LoadResources.FileProcessor] No files found for processing for API Connection "6.1_Ys". If you expect a file to be processed, check the file status and ensure the agent is enabled.
[2023-12-14 16:40:46,102] [INFO] [DataImport.Server.TransformLoad.Features.LoadResources.FileProcessor] No files found for processing for API Connection "6.1_Sandbox". If you expect a file to be processed, check the file status and ensure the agent is enabled.
[2023-12-14 16:40:46,104] [INFO] [DataImport.Server.TransformLoad.Application] Time Elapsed: 00:00:01.9722575
[2023-12-14 16:40:46,146] [INFO] [Microsoft.Hosting.Lifetime] Application started. Press Ctrl+C to shut down.
[2023-12-14 16:40:46,148] [INFO] [Microsoft.Hosting.Lifetime] Hosting environment: "Production"
[2023-12-14 16:40:46,149] [INFO] [Microsoft.Hosting.Lifetime] Content root path: "C:\inetpub\Ed-Fi\DataImportTransformLoad"

C:\inetpub\Ed-Fi\DataImportTransformLoad>
```

## Data Import Logs

After the execution of the TransformLoad, you can check the ingestion logs (click Admin Logs ) to see a detailed report of processed rows and errors if any.

There are three logs "Files", "Ingestion", and "Application".

In the "Files" log you can see a history of processed files and their status.

In the "Ingestion" log you will find the request payload and API response for each processed row in the file, Controls on the page will allow you to filter results to find a specific record. Note Ingestion logs will not be available if the file errored out because of mal-formed header columns or other higher-level issue.

In the "Application" log you will find general application logging, such as when processing was started and finished, and also detailed error messages.

Then on the logs page click on the "Ingestion" tab and you should see the Ed-Fi ODS Web API response for each row of your source file. In the event the row was not processed successfully, expand the row by clicking on the "plus" icon and you should see a detailed error message. For more details about viewing the logs please see Step 10 of the [Data Import's Quick Start](#) guide.

See logs, (click Admin Logs ), then click on the "Ingestion" tab to see the output log of the TransformLoad for each of the lines processed.

Logs

FilesIngestionApplication

- Logs
- API Connections
- Import / Export

Results

Select Result

Http Statutes

Select Status

File Name

Filter Results

Date	Level	Operation	Process	File Name	Result	Row Number	HTTP Status Code
+ 2023-12-13 04:45 PM	ERROR	TransformingData	DataImport.Server.TransformLoad	Untitled spreadsheet - TEA HR Staff.csv	Error	6	
+ 2023-12-13 04:45 PM	ERROR	TransformingData	DataImport.Server.TransformLoad	Untitled spreadsheet - TEA HR Staff.csv	Error	5	
+ 2023-12-13 04:45 PM	ERROR	TransformingData	DataImport.Server.TransformLoad	Untitled spreadsheet - TEA HR Staff.csv	Error	2	
+ 2023-12-13 04:45 PM	ERROR	TransformingData	DataImport.Server.TransformLoad	Untitled spreadsheet - TEA HR Staff.csv	Error	3	
+ 2023-12-13 04:45 PM	ERROR	TransformingData	DataImport.Server.TransformLoad	Untitled spreadsheet - TEA HR Staff.csv	Error	1	
+ 2023-12-13 04:45 PM	ERROR	TransformingData	DataImport.Server.TransformLoad	Untitled spreadsheet - TEA HR Staff.csv	Error	4	
+ 2023-12-13 04:38 PM	ERROR	TransformingData	DataImport.Server.TransformLoad	Untitled spreadsheet - TEA HR Staff.csv	Error	5	Forbidden
+ 2023-12-13 04:38 PM	INFORMATION	TransformingData	DataImport.Server.TransformLoad	Untitled spreadsheet - TEA HR Staff.csv	Success	1	OK
+ 2023-12-13 04:38 PM	INFORMATION	TransformingData	DataImport.Server.TransformLoad	Untitled spreadsheet - TEA HR Staff.csv	Success	2	OK
+ 2023-12-13	INFORMATION	TransformingData	DataImport.Server.TransformLoad	Untitled spreadsheet - TEA HR	Success	3	OK

Expand to see detailed information for the processed row, whether it was successful or failed, you will see details of the request's payload sent to the API and the response from the API if the request errored out.



Logs

Files

Ingestion

Application

Results

Http Statuses

File Name

Select Result

Select Status

Filter Results

Date	Level	Operation	Process	File Name	Result	Row Number	HTTP Status Code
+ 2023-12-13 04:45 PM	ERROR	TransformingData	DataImport.Server.TransformLoad	Untitled spreadsheet - TEA HR Staff.csv	Error	6	
+ 2023-12-13 04:45 PM	ERROR	TransformingData	DataImport.Server.TransformLoad	Untitled spreadsheet - TEA HR Staff.csv	Error	5	
+ 2023-12-13 04:45 PM	ERROR	TransformingData	DataImport.Server.TransformLoad	Untitled spreadsheet - TEA HR Staff.csv	Error	2	
+ 2023-12-13 04:45 PM	ERROR	TransformingData	DataImport.Server.TransformLoad	Untitled spreadsheet - TEA HR Staff.csv	Error	3	
+ 2023-12-13 04:45 PM	ERROR	TransformingData	DataImport.Server.TransformLoad	Untitled spreadsheet - TEA HR Staff.csv	Error	1	
+ 2023-12-13 04:45 PM	ERROR	TransformingData	DataImport.Server.TransformLoad	Untitled spreadsheet - TEA HR Staff.csv	Error	4	
- 2023-12-13 04:38 PM	ERROR	TransformingData	DataImport.Server.TransformLoad	Untitled spreadsheet - TEA HR Staff.csv	Error	5	Forbidden
<div><div>EndPoint Uri</div><div>http://3.20.26.20:24030/data/v3/ed-fi/staffs</div></div> <div><div>ODS Response</div><div><pre>{   "message": "Authorization denied. No relationships have been established between the caller's education organization id claim (701603) and the resource item's 'StaffUniqueId' value." }</pre></div></div> <div><div>Data</div><div><pre>{   "staffUniqueId": "207254",   "firstName": "Alex",   "lastName": "Z",   "_ext": {     "TX": {       "staffId": "ABC-123"     }   } }</pre></div></div>							
+ 2023-12-13 04:38 PM	INFORMATION	TransformingData	DataImport.Server.TransformLoad	Untitled spreadsheet - TEA HR Staff.csv	Success	1	OK
+ 2023-12-13 04:38 PM	INFORMATION	TransformingData	DataImport.Server.TransformLoad	Untitled spreadsheet - TEA HR Staff.csv	Success	2	OK