

# ONESOURCE™ INDIRECT TAX DATA FILE INTEGRATOR

## USER GUIDE

VERSION 1.X

Document Version 2

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## DOCUMENT HISTORY

| VERSION NUMBER | VERSION DATE    | SUMMARY  |
|----------------|-----------------|--|
| 1              | August 29, 2014 | First version of this guide for ONESOURCE Indirect Tax Data File Integrator 1.x.   |
| 2              | March 22, 2022  | Added Simple Mail Transfer Protocol (SMTP) information and information about enabling encryption of Tomcat Data Source user credentials. |

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# ABOUT THIS GUIDE

This guide shows you how to use the ONESOURCE Indirect Tax Data File Integrator, a comma-separated values (CSV) file integrator. Data File Integrator, or DFI, allows users to configure and process files using ONESOURCE Indirect Tax Determination web services, including tax calculations and entity configurations such as customers, certificates and product mappings.

Data File Integrator can be used and installed with Determination by customers who do not use a standard ERP system for which Thomson Reuters provides a standard Integration.

## HOW THIS GUIDE IS ORGANIZED

This guide contains the following chapters:

- [Application Overview \(page 3\)](#)
- [Getting Started \(page 7\)](#)
- [Processing CSV Files \(page 27\)](#)
- [List of Fields Not Supported \(page 35\)](#)

## STYLE CONVENTIONS

This section describes the styles used in this document.

**Bold** text indicates user input, commands, most user interface elements (for example, pages, windows, menu items and buttons), and values that can be selected from the user interface.

*Italic* text indicates file and directory names and user names.

`Courier` text indicates command-line or tax file input.



Indicates suggestions or additional information.



Indicates important text that you should review before proceeding.





# APPLICATION OVERVIEW

This chapter provides information on the use of Data File Integrator and consists of the following sections:

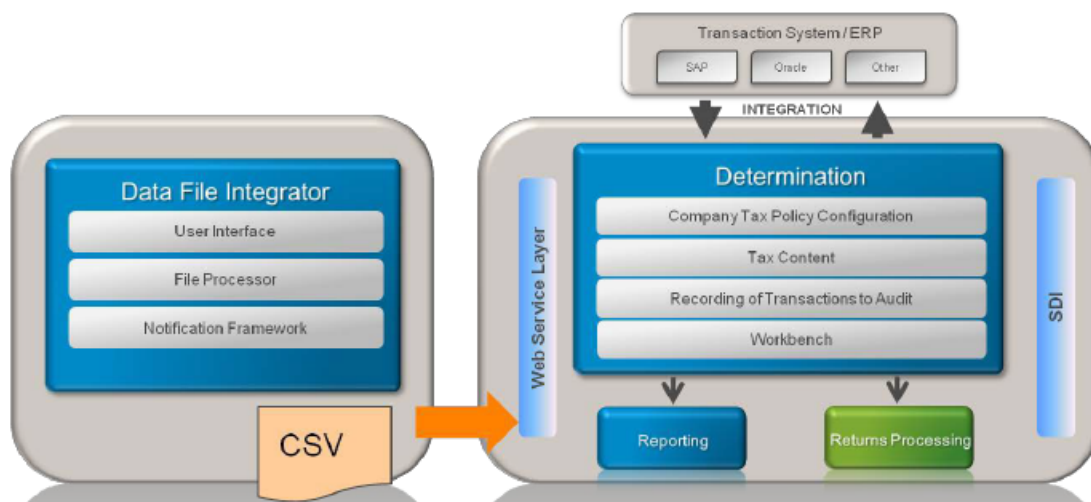
- [Purpose and Benefits \(page 3\)](#)
- [System Prerequisites \(page 4\)](#)

## PURPOSE AND BENEFITS

The ONESOURCE Indirect Tax Data File Integrator enables customers using ONESOURCE Determination to calculate tax to quickly integrate to their source systems, by creating CSV file templates based on existing Configuration and Tax Calculation web services. Data File Integrator enables you to create, manage and test these templates through a simple to use user interface. In addition, Data File Integrator enables automated processing of CSV data using your file system.

Most customers who use Data File Integrator do not need real-time integrations, but rather use extract, process and load based processes. Usually, this applies to legacy systems, processes for tax validation and heterogeneous system landscapes where data from different systems have to be loaded to or extracted from Determination.

## System Overview



Data File Integrator is installed along with Determination, either in its own web application server and database or in a shared setup with Determination. Data File Integrator has three main components:

- **User Interface**

Provides user access to a rich set of functions to configure, test and save CSV file templates.

This guide provides complete information on how to use Data File Integrator.

- **File Processor**

A watcher process that scans a set of defined directories to see if a CSV file has been dropped off for processing, then picks the file and sends it through the applicable web service to Determination for processing. The returned results are converted into a new CSV results file and put back into the directory structure for later pickup and optional processing by your source system processes.

- **Notification Network**

Allows for e-mail notifications based on the result of the processed job.

## SYSTEM PREREQUISITES

This guide assumes you have an existing instance of Determination installed and configured. Data File Integrator uses Determination to authenticate users.

To confirm that you are using supported software components that will enable the integration of this version of Data File Integrator with Determination, see the following documents on the ONESOURCE Indirect Tax Knowledge Base:

- *ONESOURCE Indirect Tax Global Software Suite Platform Support Guide:*  
[https://www.onesourceidtsupport.com/cgi-bin/sabrix.cfg/php/enduser/std\\_adp.php?p\\_faqid=527](https://www.onesourceidtsupport.com/cgi-bin/sabrix.cfg/php/enduser/std_adp.php?p_faqid=527)
- *ONESOURCE Indirect Tax Global Software Suite End of Product Service Notice Update:*  
[https://www.onesourceidtsupport.com/cgi-bin/sabrix.cfg/php/enduser/std\\_adp.php?p\\_faqid=679](https://www.onesourceidtsupport.com/cgi-bin/sabrix.cfg/php/enduser/std_adp.php?p_faqid=679)



If you are not using software components supported by ONESOURCE Indirect Tax, you may encounter errors.

## Other Documents

**Install Guide** - Available from the Software Support Network in PDF format.

**Knowledge Base Articles** - Available from the Software Support Network addressing best practices, known workarounds and similar issues. You should always check first for a Knowledgebase article when encountering an issue and before asking a question of the support team.

## Downloading the Documentation

The latest documentation files are available in the Thomson Reuters [Knowledge Base](#).

1. Open your browser and navigate to the Knowledge Base.
2. Log on using the **Username** and **Password** assigned by Customer Support.
3. Search for the desired document(s).
4. Select the document file(s) relevant to your task and save them locally to your system.



It may be best to create a new *DataFileIntegrator* <version> directory, where <version> is the release number of the product documentation downloaded. Then save all documents to that folder.



# GETTING STARTED

This section describes the Data File Integrator User Interface and the Determination web services currently supported by Data File Integrator. It then describes how to work with mappings: definitions of your CSV files mapped to web services fields. You will learn how to create, modify, test, and save mappings including modifying file formats and authentication. Finally, this section describes how to export your properties and test data files so that you can begin testing uploads from your source system.

This chapter includes the following topics:

[Understanding the User Interface \(page 7\)](#)

[Supported Web Services \(page 9\)](#)

[Key Components of a Mapping \(page 11\)](#)

[Creating a Mapping \(page 13\)](#)

[Modifying Mapping Settings \(page 15\)](#)

[Configuring Authentication \(page 17\)](#)

[Simple Mail Transfer Protocol \(SMTP\) in Data File Integrator \(page 18\)](#)

[Encryption of Credentials in Tomcat Server \(page 19\)](#)

[Working with Fields \(page 21\)](#)

[Testing and Saving Your Mapping \(page 25\)](#)

[Exporting the Properties and Test Data Files \(page 26\)](#)

[Deleting or Reloading Your Mapping \(page 26\)](#)

## UNDERSTANDING THE USER INTERFACE

The Data File Integrator user interface can be accessed from a web browser on any system that has access to the system hosting Data File Integrator. Your IT staff can provide the URL to you. The image below shows the Login page. You will log in using your **Username** and **Password** from Determination. Note that, within Determination, this user must be assigned the **Source System** role. If this role is not assigned to the user, you will not be able to log in successfully.

**ONESOURCE™ INDIRECT TAX DATA FILE INTEGRATOR**

**LOGIN**

Username:

Password:

**LOGIN**

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When you log in to Data File Integrator, you initially see only the Import Mapping and Service prompts:

**ONESOURCE INDIRECT TAX DATA FILE INTEGRATOR**

Import Mapping:

Service:

[Configure](#) [About](#) [Logout](#)

Only after you select a Mapping or a Service will you see the entire user interface. The example shown here is of a configured mapping based on a template file:

**ONESOURCE INDIRECT TAX DATA FILE INTEGRATOR**

Import Mapping:

Export Properties Export Test Data

[Configure](#) [About](#) [Logout](#)

Settings Authentication Test Save Mapping Save Mapping As... Delete Reload

Service:

Mapped Fields

**Available Fields**

- ☐ CALLINGSYSTEMNUMBER
- ☐ COMPANYID
- ☐ COMPANYNAME
- ☐ COMPANYROLE
- ☐ EXTERNALCOMPANYID
- ☐ HOSTREQUESTINFO.HOSTREQUESTID
- ☐ HOSTREQUESTINFO.HOSTREQUESTLOGENTRYID
- ☐ HOSTSYSTEM
- ☐ INVOICE.ALLOCATIONGROUPNAME
- ☐ INVOICE.ALLOCATIONGROUPOWNER
- ☐ INVOICE.ALLOCATIONNAME
- ☐ INVOICE.ATTRIBUTE1
- ☐ INVOICE.ATTRIBUTE10
- ☐ INVOICE.ATTRIBUTE11
- ☐ INVOICE.ATTRIBUTE12
- ☐ INVOICE.ATTRIBUTE13
- ☐ INVOICE.ATTRIBUTE14

**Selected Fields**

| Position | Field                         | Default | Test         |
|----------|-------------------------------|---------|--------------|
| 1        | INVOICE.EXTERNALCOMPANYID     |         | DaveCo       |
| 2        | INVOICE.INVOICENUMBER         |         | 3233429      |
| 3        | INVOICE.INVOICEDATE           |         | 2013-07-26   |
| 4        | INVOICE.ORIGINALINVOICENUMBER |         |              |
| 5        | INVOICE.ORIGINALINVOICEDATE   |         |              |
| 6        | INVOICE.DOCUMENTTYPE          |         | INVOICE      |
| 7        | INVOICE.CALCULATIONDIRECTION  | F       |              |
| 8        | INVOICE.ISAUDITED             | N       |              |
| 9        | INVOICE.CUSTOMERNUMBER        |         | 117616       |
| 10       | INVOICE.CUSTOMERNAME          |         | AA Associati |
| 11       | INVOICE.ISEXEMPT.COUNTRY      |         |              |
| 12       | INVOICE.ISEXEMPT.STATE        |         |              |
| 13       | INVOICE.ISEXEMPT.COUNTY       |         |              |
| 14       | INVOICE.ISEXEMPT.CITY         |         |              |
| 15       | INVOICE.ISEXEMPT.DISTRICT     |         |              |
| 16       | INVOICE.LINE.ID               |         | 1            |
| 17       | INVOICE.LINE.LINENUMBER       |         | 4            |

Mapping Comments

The Data File Integrator home screen, shown above, allows you to perform all Data File Integrator tasks:

- Import and export mappings, properties files and test data files on the Import/Export bar.
- Configure file formats and authentications, and test, save, delete or reload mappings on the Tasks bar.
- Select the type of web service to work with on the Service bar.
- Map input and output fields to your CSV files, including adding default and test values.
- Reorder and delete selected input and output fields.

Each of these tasks is described later in this guide.

## SUPPORTED WEB SERVICES

Data File Integrator allows you to select from a variety of Configuration and Tax Calculation web services. In most cases, each web service consists of multiple requests, each of which can be mapped separately. The services are:

| SERVICE   | REQUEST   |
|---|---|
| <b>CompanyService</b><br><br>This configuration web service enables you to create, modify, update, find and delete Determination companies (transacting entities).  | <ul style="list-style-type: none"><li>• CreateCompany</li><li>• ModifyCompany</li><li>• UpdateCompany</li><li>• FindCompany</li><li>• DeleteCompany</li></ul> |
| <b>CustomerManagementPortType</b><br><br>This configuration web service enables you to test for the presence of, create, modify or delete Determination customers (used in Determination's Exemption Certificate module). | <ul style="list-style-type: none"><li>• CreateUpdateCustomer</li><li>• DeleteCustomer</li><li>• CustomerExists</li></ul>                                      |
| <b>EstablishmentService</b><br><br>This configuration web service enables you to modify establishment data for a Determination company at the Zone or Authority level.  | <ul style="list-style-type: none"><li>• ModifyEstablishment</li><li>• ModifyTopLevelEstablishment</li></ul>   |

| SERVICE   | REQUEST   |
|---|---|
| <b>ExemptionCertificatePortType</b><br><br>This configuration web service enables you to test for the presence of, create, modify and delete Determination Exemption Certificates.  | <ul style="list-style-type: none"> <li>• CreateUpdateExemptionCertificate</li> <li>• ExemptionCertificateExists</li> <li>• DeleteExemptionCertificate</li> </ul>  |
| <b>ExemptionCertificateService</b><br><br>This configuration web service enables you perform advanced configuration of Determination Exemption Certificates, including managing certificate authorities, exempt reasons and limited use criteria. | <ul style="list-style-type: none"> <li>• ModifyCertificateAuthority</li> <li>• ModifyLimitedUseCertificate</li> <li>• ModifyTopLevelCertificateAuthority</li> <li>• FindExemptReason</li> <li>• ModifyExemptReason</li> <li>• DeleteExemptReason</li> <li>• FindExemptCertificatesByCustomer</li> </ul> |
| <b>ProductMappingService</b><br><br>This configuration web service enables you find, create, update and delete product mappings, which are mappings between your product codes and Determination product categories.                              | <ul style="list-style-type: none"> <li>• FindProductMapping</li> <li>• UpdateProductMapping</li> <li>• CreateProductMapping</li> <li>• DeleteProductMapping</li> </ul>  |
| <b>TaxCalculationService</b><br><br>This calculation web service enables you to submit transactions to Determination for the purpose of audited or non- audited calculations.   | <ul style="list-style-type: none"> <li>• CalculateTax</li> </ul>  |



| SERVICE  | REQUEST  |
|--|--|
| <b>TaxCodeQualifierService</b><br><br>This configuration web service enables you find, create, update and delete tax code qualifier groups, qualifiers and conditions. | <ul style="list-style-type: none"> <li>• DeleteTaxCodeQualifierGroup</li> <li>• UpdateTaxCodeQualifier</li> <li>• CreateTaxCodeQualifierGroup</li> <li>• UpdateTaxCodeQualifierGroup</li> <li>• FindTaxCodeQualifierGroup</li> <li>• FindTaxCodeQualifier</li> <li>• DeleteTaxCodeQualifier</li> <li>• CreateTaxCodeQualifier</li> <li>• CreateTaxCodeQualifierCondition</li> <li>• DeleteTaxCodeQualifierCondition</li> </ul> |
| <b>UserService</b><br><br>This configuration web service enables you find, create, update and delete Determination users.  | <ul style="list-style-type: none"> <li>• UpdateUser</li> <li>• FindUser</li> <li>• DeleteUser</li> <li>• CreateUse</li> </ul>  |
| <b>ZoneLookupService</b><br><br>This configuration web service enables you to test an address against the Determination Zone Tree.                                     | <ul style="list-style-type: none"> <li>• LookupZone</li> </ul>   |

## KEY COMPONENTS OF A MAPPING

The primary purpose of the Data File Integrator user interface is to create mappings between your CSV input and output files and Determination input and output fields. This section describes the key components of mappings. The sections that follow describe how to create and modify these components.

### Metadata (Settings and Authentication)

Each mapping file maintains unique data about both the file format (**Settings**) and the Determination URL, username and password used to make the connection between Data File Integrator and Determination (**Authentication**).

The image shows two side-by-side configuration windows. The 'Settings' window on the left includes fields for 'Comment Character' (set to '#'), 'Header Lines' (set to '0'), 'Field Delimiter' (set to '|'), 'Line Separator' (set to 'CRLF'), and 'Date Format'. It also has checkboxes for 'Line Level Only' and 'SOAP Logging Enabled', and a 'Required Fields' section. The 'Authentication' window on the right includes fields for 'User Name' (set to 'dfe'), 'Password' (masked with asterisks), 'Determination URL' (set to 'http://dfe.demco.com/dfe'), and 'Authentication email address' (set to 'dfe@demco.com'). Both windows have 'Cancel' and 'Save' buttons.

A set of default **Settings** are provided; however, your **Authentication** settings will always be implementation-specific.

## Input Fields

Data from your source system, placed into a CSV file in a consistent format, needs to be mapped in Data File Integrator to a set of input fields. The mapping is read by Data File Integrator when an input file is processed, and the data in each column data populates a field in the web services call that is sent to Determination. Each column in an input file is mapped to an individual field. For example, in a Tax Calculation Service mapping, column 1 may be mapped so that it always contains the External Company ID (Company Code), column B the Invoice Number and column C the Invoice Date.

The image shows the 'Mapped Fields' dialog box with 'Input' and 'Output' tabs. The 'Input' tab is active, showing a list of 'Available Fields' on the left and a table of 'Selected Fields' on the right. The 'Available Fields' list includes fields like CALLINGSYSTEMNUMBER, COMPANYID, COMPANYNAME, COMPANYROLE, EXTERNALCOMPANYID, HOSTREQUESTINFO.HOSTREQUESTID, HOSTREQUESTINFO.HOSTREQUESTLOGENTRYID, HOSTSYSTEM, INVOICE.ALLOCATIONGROUPNAME, INVOICE.ALLOCATIONGROUPOWNER, INVOICE.ALLOCATIONNAME, INVOICE.ATTRIBUTE1 through INVOICE.ATTRIBUTE14, and INVOICE.ATTRIBUTE15. The 'Selected Fields' table has columns for Position, Field Name, Default, and Test. It lists 17 fields, including INVOICE.EXTERNALCOMPANYID, INVOICE.INVOICENUMBER, INVOICE.INVOICEDATE, INVOICE.ORIGINALINVOICENUMBER, INVOICE.ORIGINALINVOICEDATE, INVOICE.DOCUMENTTYPE, INVOICE.CALCULATIONDIRECTION, INVOICE.ISAUDITED, INVOICE.CUSTOMERNUMBER, INVOICE.CUSTOMERNAME, INVOICE.ISEXEMPT.COUNTRY, INVOICE.ISEXEMPT.STATE, INVOICE.ISEXEMPT.COUNTY, INVOICE.ISEXEMPT.CITY, INVOICE.ISEXEMPT.DISTRICT, INVOICE.LINE.ID, and INVOICE.LINE.LINENUMBER. The 'Default' column contains values like 'DaveCo', '3233429', '2013-07-25', 'INVOICE', 'F', 'N', '117516', 'AA Associate', and '1'. The 'Test' column contains values like 'DaveCo', '3233429', '2013-07-25', 'INVOICE', 'F', 'N', '117516', 'AA Associate', and '1'. There are 'Clear All' and 'Add' buttons on the right.

Within the Data File Integrator user interface, you can select and order the desired input field mappings, and provide default or test values for each.

- Defaults enable you to populate an item that is not or may not always be passed in by your source system (such as a calculation direction or audit flag as shown above).
- Test values enable you to generate a sample file that can be submitted to Determination directly from within Data File Integrator.

Documentation on required fields is provided in the Online Help for Determination, or in the WSDL which can be downloaded from <your\_instance\_name>/sabrix/services.

## Output Fields

You can control which fields are written by Data File Integrator to the results file and in which order. You can include both results as well as diagnostic messaging, if desired.



In the example shown above, the first eight columns to be returned are results and the last three columns are diagnostic messages, including a success indicator, diagnostic message and location within Determination of any error.

Keep in mind the following when generating your output definitions:

- No output fields are required.
- For the Tax Calculation Service only, the setting of the **Line Level Only** flag on **Settings** will determine whether you have access to tax authority level elements. See **Modifying Mapping Settings** below.

## CREATING A MAPPING

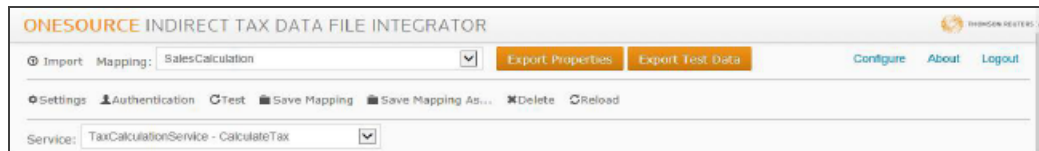
There are three means by which you can create a mapping within Data File Integrator:

- Import an existing mapping that was created outside of this instance of Data File Integrator.
- Load a stored template and save it as a new mapping to modify. Each stored template contains a sample configuration with commonly-used fields that you can modify as needed.
- Start with a blank template and save it as a new mapping to modify. No fields are selected by default. In this case, you will need to add all fields manually.

## Importing A Mapping

To import a mapping created outside this instance of Data File Integrator:

1. Click the **Import** button, which is always at the top left corner of the home page.

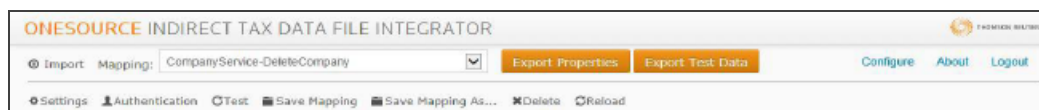


2. Browse to and select a mapping file (the filename extension will always be .properties) that was created in another instance of Data File Integrator.
  - If an error occurs due to an incorrect format, a message displays, indicating the error's cause. You may need to edit the .properties file then attempt to load it again.
3. Once you successfully load the file, its fields will display in the home page. You can then click **Save Mapping** (to save with its current name) or **Save Mapping As...** (to save with a new name.)

## Loading A Stored Template

To load a template contained in this instance of Data File Integrator:

1. Select an item from the **Mapping** drop-down list at the top of the page. In the graphic below, the Delete Company request of the CompanyService has been selected.



2. Once you select the template, its fields, including any defaults, will display in the home page. Click the **Save Mapping As...** button to save the mapping to a new name before modifying it.

## Starting with a Blank Template

To load a blank web service mapping contained in this instance of Data File Integrator:

1. Select an item from the **Service** drop-down list just above the **Mapped Fields** lists. In the graphic below, the Modify Establishment request of the EstablishmentService has been selected. Note that no fields appear in the **Selected Fields** pane to the right side of the page.

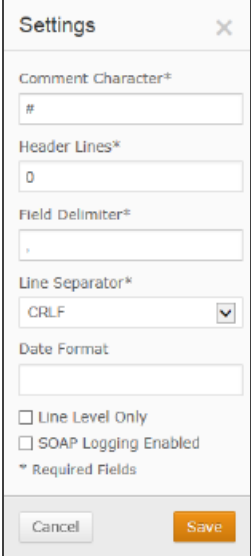

The screenshot shows the 'ONESOURCE INDIRECT TAX DATA FILE INTEGRATOR' application. At the top, there's a navigation bar with 'Import', 'Mapping', 'Configure', 'About', and 'Logout'. Below this, there's a 'Settings' section with 'Authentication', 'Test', and 'Save Mapping As...' buttons. The 'Service' dropdown is set to 'EstablishmentService - ModifyEstablishment'. The 'Mapped Fields' section has two tabs: 'Input' and 'Output'. The 'Input' tab is active, showing a list of 'Available Fields' on the left and a 'Selected Fields' pane on the right. The 'Available Fields' list includes: AuthorityNameOrType.AuthorityName, AuthorityNameOrType.AuthorityType, CompanyInfo.CompanyName, CompanyInfo.ExternalCompanyId, DataProvider, Established, and InterstateTaxType. The 'Selected Fields' pane is currently empty, with a 'Clear All' button and a 'Position' label.


2. Click the **Save Mapping As...** button to save the mapping to a new name before modifying it.

## MODIFYING MAPPING SETTINGS

Once you have selected or created the desired mapping, you will want to verify that the metadata (file settings) are correct

Select **Settings** from the task bar. You can then modify the following and, when finished, click **Save** or **Cancel**.

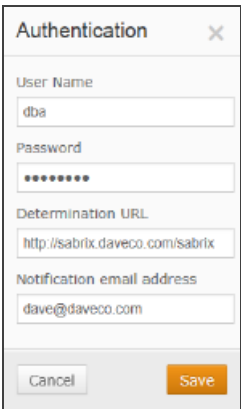
| GRAPHIC   | FIELD DESCRIPTIONS   |
|---|--|
|  | <ul style="list-style-type: none"> <li>• Select a <b>Comment Character</b> to indicate that a line of an input file is a comment line and should not be processed. Only a single character can be entered.</li> <li>• Specify a number of <b>Header Lines</b> to skip a certain number of lines at the beginning of an input file. Only a number can be entered in this text box. Zero means no header line.</li> <li>• Enter a <b>Field Delimiter</b> to indicate which character should be used to separate fields in the request and response files. Only a single character can be entered. Common characters include comma (,), carat (^) and pipe ( ).</li> </ul> <p> If you use a static TCQ you cannot use the same <b>Field Delimiter</b> in Data File Integrator as the <b>Concatenation Delimiter</b> in the TCQ.</p> <ul style="list-style-type: none"> <li>• Select the desired <b>Line Separator</b>:             <ul style="list-style-type: none"> <li>◦ <b>SYSTEM</b> - Uses the default on the system where the file processor runs.</li> </ul> <p><b>Internet Explorer only:</b> if you have the <b>Line Separator</b> set to a non- Windows setting, the line breaks are not displayed correctly. Use of <i>LF</i> (everything on one line), or <i>CRLF</i> (each line of data on a new line with an extra space at the beginning of new lines), or a value of <i>CR</i> (each line of data on a new line) instead.</p> <ul style="list-style-type: none"> <li>◦ <b>CRLF</b> (Carriage Return Line Feed)</li> <li>◦ <b>CR</b> (Carriage Return)</li> <li>◦ <b>LF</b> (Line Feed)</li> </ul> </li> </ul> |

| GRAPHIC         | FIELD DESCRIPTIONS   |
|-----------------|--|
| (Same as above) | <ul style="list-style-type: none"><li>• Configure the <b>Date Format</b> of dates included in the input files. Default is “2012-01-02” for January, 2, 2012. The format should be a valid date format supported in the Determination XSD.</li><li>• The <b>Line Level Only</b> check box, visible only for the Tax Calculation Service, determines what information is returned in the Output File:<ul style="list-style-type: none"><li>◦ Cleared (default), tax details (authority level) are returned in the output file.</li><li>◦ Selected, summarized tax at the line level is returned in the output file.</li></ul><div> If you check this box, do not include any TAX level output elements in your mapping. These elements begin with INVOICE.LINE.TAX. in the field list.</div></li><li>• The <b>SOAP Logging Enabled</b> check box allows you to turn on logging of the SOAP request (the actual web services call to Determination). This can be useful during development but is not recommended for production use due to the potential for generating very large log files.</li></ul> |

## CONFIGURING AUTHENTICATION

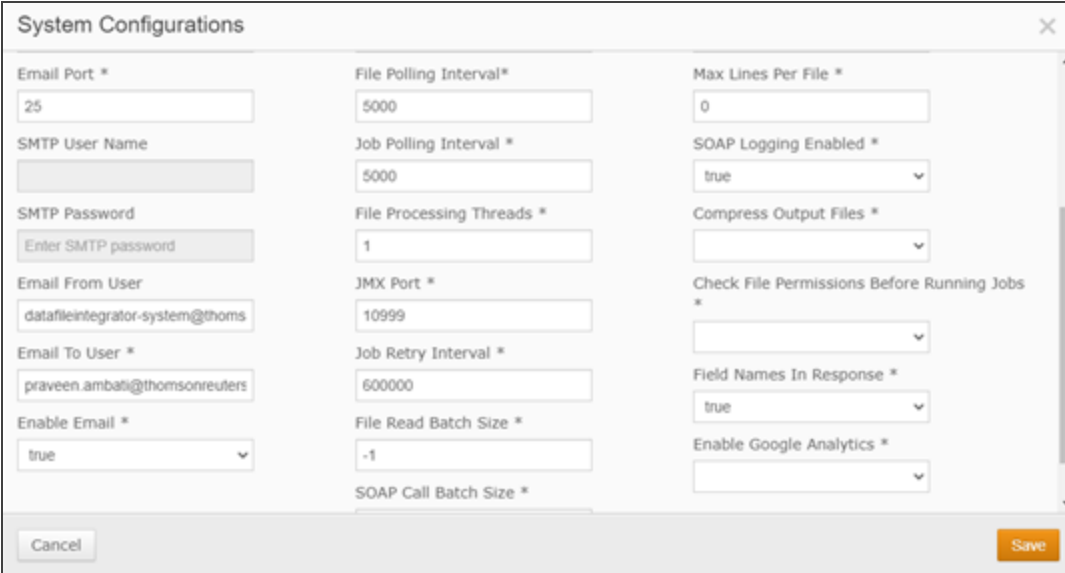
Each web services call to Determination requires that you specify the authentication user name and password as well as the URL of the Determination instance.

Select **Authentication** from the task bar. You can then modify the following and, when finished, click **Save** or **Cancel**:

| GRAPHIC   | FIELD DESCRIPTIONS  |
|---|---|
|  | <ul style="list-style-type: none"> <li>• Enter a <b>User Name</b> for a user that is enabled in Determination to accept web services calls (has the <b>Source System</b> role assigned to it).</li> <li>• Enter the <b>Password</b> for that user.</li> <li>• Enter the <b>Determination URL</b> for the instance to which you are connecting.</li> <li>• Enter a <b>Notification email address</b> of the user who you want to receive status messages from Data File Integrator.</li> </ul> |

## SIMPLE MAIL TRANSFER PROTOCOL (SMTP) IN DATA FILE INTEGRATOR

To enable more SMTP servers to allow connection and send notification emails, you can provide the user name and password for a port number other than 25.



For port number 25, the **SMTP User Name** and **SMTP Password** fields are unavailable. The fields are enabled for other port numbers.



| Field  | Value                           |
|--|---------------------------------|
| Email Port *                                 | 10                              |
| SMTP User Name                               |                                 |
| SMTP Password                                | Enter SMTP password             |
| Email From User                              | datafileintegrator-system@thoms |
| Email To User *                              | praveen.ambati@thomsonreuters   |
| Enable Email *                               | true                            |
| File Polling Interval*                       | 5000                            |
| Job Polling Interval *                       | 5000                            |
| File Processing Threads *                    | 1                               |
| JMX Port *                                   | 10999                           |
| Job Retry Interval *                         | 600000                          |
| File Read Batch Size *                       | -1                              |
| SOAP Call Batch Size *                       |                                 |
| Max Lines Per File *                         | 0                               |
| SOAP Logging Enabled *                       | true                            |
| Compress Output Files *                      |                                 |
| Check File Permissions Before Running Jobs * |                                 |
| Field Names In Response *                    | true                            |
| Enable Google Analytics *                    |                                 |

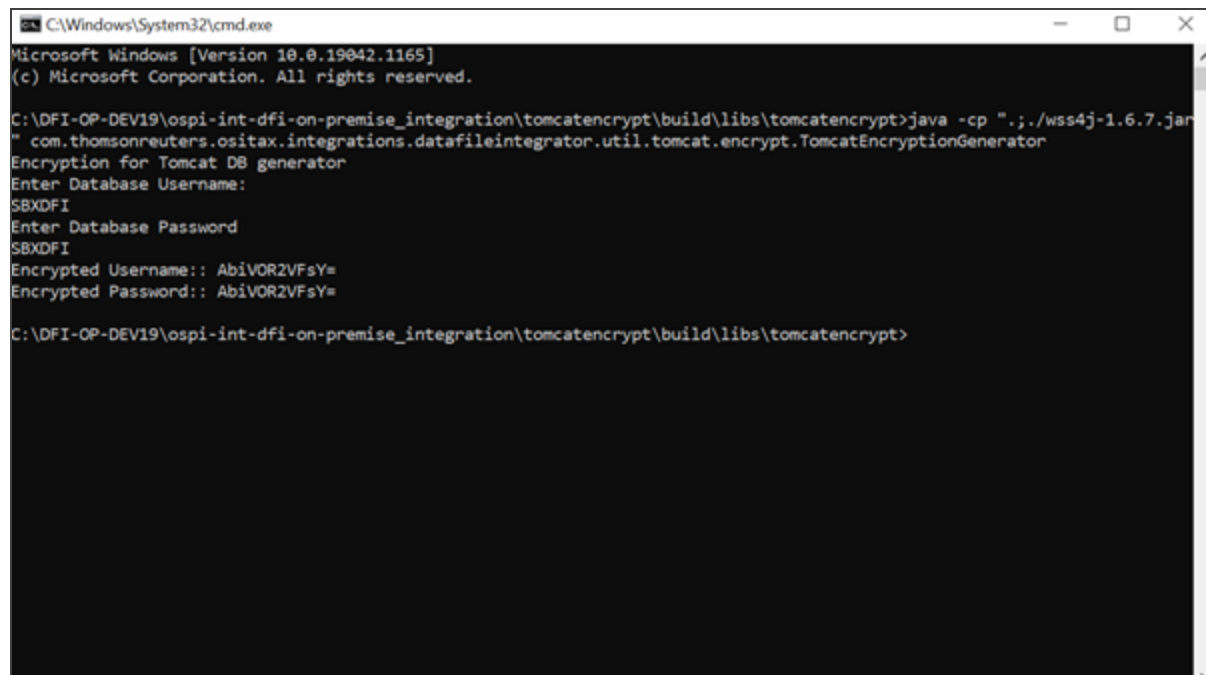
## ENCRYPTION OF CREDENTIALS IN TOMCAT SERVER

If you have the platform combination of Oracle 19c, Tomcat 9 and Windows 2016, you can enable encryption of Tomcat Data Source user credentials for security reasons. It is implemented in AES 256 and is available in the package.

To enable encryption of Tomcat Data Source user credentials:

1. Go to <ONESOURCEIDTDataFileIntegrator-1.4.0.0.02>.zip and extract the zip folder.
2. Navigate to the .jar folder, which is available in the extracted folder from the above step.
3. Extract tomcatencrypt.jar as <tomcatencrypt>.
4. Go to Command Prompt and move to extracted folder from the previous step.
5. Run the following command:

```
java -cp ".;wss4j-1.6.7.jar"
com.thomsonreuters.ositax.integrations.datafileintegrator.util.tomcat.encrypt.TomcatEncryptionGenerator
```



```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19042.1165]
(c) Microsoft Corporation. All rights reserved.

C:\DFI-OP-DEV19\ospi-int-dfi-on-premise_integration\tomcatencrypt\build\libs\tomcatencrypt>java -cp ".;./wss4j-1.6.7.jar"
com.thomsonreuters.ositax.integrations.datafileintegrator.util.tomcat.encrypt.TomcatEncryptionGenerator
Encryption for Tomcat DB generator
Enter Database Username:
SBXDFI
Enter Database Password:
SBXDFI
Encrypted Username:: AbiVOR2VFsY=
Encrypted Password:: AbiVOR2VFsY=

C:\DFI-OP-DEV19\ospi-int-dfi-on-premise_integration\tomcatencrypt\build\libs\tomcatencrypt>
```

6. Provide the username and password you want to encrypt. This generates the encrypted username and password. Keep the encrypted username and password.
7. Update the factory class and username and password in server.xml. Complete the following:
  - Update the factory as specified in the code below.
  - Replace the username and password parameters with the correct values for your database.
  - In the url parameter, replace *<database name>* with the name of the database your data will be stored in.

```
<Resource name="jdbc/DataFileIntegratorDataSource"
auth="Container"
type="javax.sql.DataSource"
factory="com.thomsonreuters.ositax.integrations.datafileintegrator.util.tomcat.encrypt.SecureTo
mcatDBImpl"
username="<encrypted username>"
password="<encrypted Password>"
driverClassName="oracle.jdbc.driver.OracleDriver"
url="jdbc:oracle:thin:@localhost:1521/<database name>"
validationQuery="select user from dual"
maxActive="10"
maxIdle="4"/>
```

8. Copy the tomcatencrypt.jar and wss4j-1.6.7.jar files, which are available in the .jar folder from step 2 above, to the lib folder of Tomcat.

|  |                  |                     |          |
|--|------------------|---------------------|----------|
|  tomcatencrypt.jar      | 09-09-2021 23:49 | Executable Jar File | 3,496 KB |
|  tomcat-i18n-es.jar     | 20-06-2018 20:51 | Executable Jar File | 66 KB    |
|  tomcat-i18n-fr.jar     | 20-06-2018 20:51 | Executable Jar File | 40 KB    |
|  tomcat-i18n-ja.jar    | 20-06-2018 20:51 | Executable Jar File | 42 KB    |
|  tomcat-jdbc.jar      | 20-06-2018 20:51 | Executable Jar File | 145 KB   |
|  tomcat-jni.jar       | 20-06-2018 20:51 | Executable Jar File | 34 KB    |
|  tomcat-util.jar      | 20-06-2018 20:51 | Executable Jar File | 140 KB   |
|  tomcat-util-scan.jar | 20-06-2018 20:51 | Executable Jar File | 204 KB   |
|  tomcat-websocket.jar | 20-06-2018 20:51 | Executable Jar File | 220 KB   |
|  websocket-api.jar    | 20-06-2018 20:51 | Executable Jar File | 37 KB    |
|  wss4j-1.6.7.jar      | 31-08-2021 19:41 | Executable Jar File | 411 KB   |

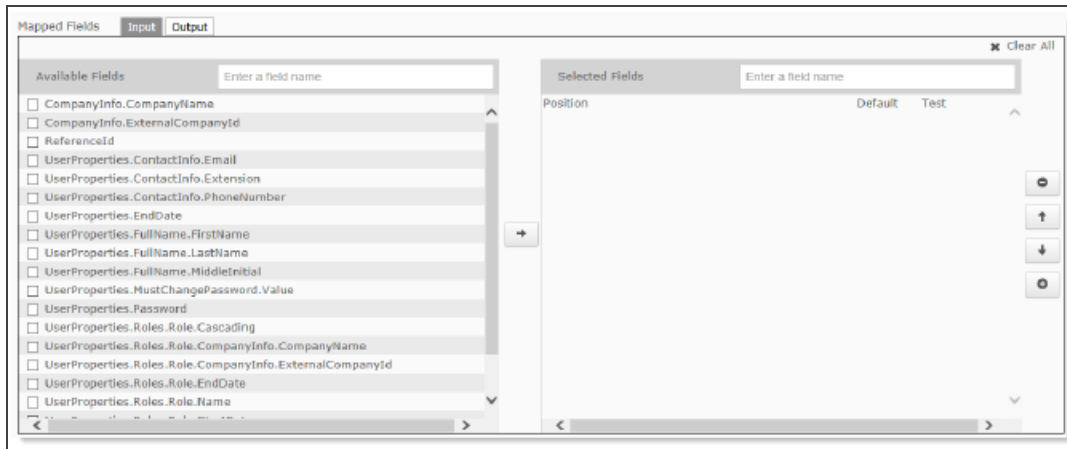
9. Restart Tomcat.

## WORKING WITH FIELDS

After you validate your file format and authentication settings, you are ready to work with your input and output fields. Remember to specify both input and output fields.

### Selecting Fields

Unless you are starting from a sample template or an existing mapping, when you start configuring fields, none will be selected. The graphic below shows a new mapping based on the CreateUser request of UserService, but before any input fields have been selected:



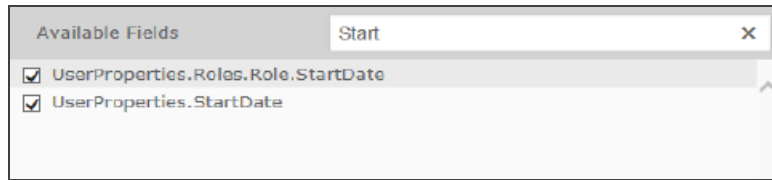
Note that the input fields are displayed as shown in the upper left of the image.

To select fields for your mapping:

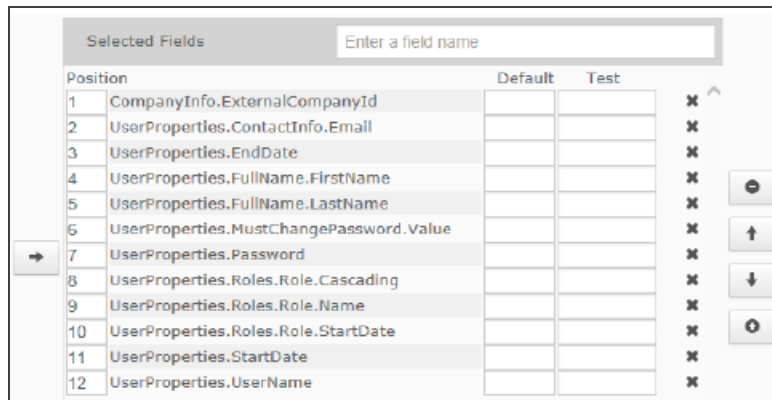
1. Click the check box next to one or more fields listed in the **Available Fields** pane.



If you want to display a field that is not visible, you can either scroll to it or begin typing its name in the search box in the upper right of the pane.



- Click the arrow between the panes to move the selected fields to the **Selected Fields** pane.



- Save the mapping each time you make changes so you do not lose your work.
- Click **Output** at the top of the **Available Fields** list then repeat steps 1 through 3 for the output fields. Alternatively, you can finish ordering your input fields and adding **Default** and **Test** values before configuring the output.

## Changing the Order of Fields

The order of the fields is completely configurable to meet the requirements of your input and output files. There are several tools available that enable you to change field order:

- Use the + and – buttons to move the selected field(s) up or down one position.
- Use the up and down arrow buttons to swap the position of a selected field with the field directly above or below it.

For example, you may want to have the StartDate and EndDate fields and the UserName and Password fields contiguous to each other, in addition to other changes that make the list more readable than an alphabetical list. By moving the StartDate and UserName fields up using these tools, you see a newly-ordered list:

Selected Fields

Enter a field name

| Position |   | Default | Test |
|----------|---|---------|------|
| 1        | CompanyInfo.ExternalCompanyId           |         |      |
| 2        | UserProperties.UserName                 |         |      |
| 3        | UserProperties.Password                 |         |      |
| 4        | UserProperties.StartDate                |         |      |
| 5        | UserProperties.EndDate                  |         |      |
| 6        | UserProperties.FullName.FirstName       |         |      |
| 7        | UserProperties.FullName.LastName        |         |      |
| 8        | UserProperties.ContactInfo.Email        |         |      |
| 9        | UserProperties.MustChangePassword.Value |         |      |
| 10       | UserProperties.Roles.Role.Name          |         |      |
| 11       | UserProperties.Roles.Role.StartDate     |         |      |
| 12       | UserProperties.Roles.Role.Cascading     |         |      |

## Adding Default Values

Default values enable you to populate fields without needing to obtain the data from your source system. For example, you may always be submitting tax calculations using the Forward calculation method and may, unless otherwise specified, not be auditing (recording) those transactions. The example shown here indicates both of those default values:

| All / Top Level / Invoice / Line |                               |                    |              |   |
|----------------------------------|-------------------------------|--------------------|--------------|---|
| Selected Fields                  |                               | Enter a field name |              |   |
| Position                         |                               | Default            | Test         |   |
| 1                                | INVOICE.EXTERNALCOMPANYID     |                    | daveco       | x |
| 2                                | INVOICE.INVOICENUMBER         |                    | 3233429      | x |
| 3                                | INVOICE.INVOICEDATE           |                    | 2013-07-26   | x |
| 4                                | INVOICE.ORIGINALINVOICENUMBER |                    |              | x |
| 5                                | INVOICE.ORIGINALINVOICEDATE   |                    |              | x |
| 6                                | INVOICE.DOCUMENTTYPE          |                    | INVOICE      | x |
| 7                                | INVOICE.CALCULATIONDIRECTION  | F                  |              | x |
| 8                                | INVOICE.ISAUDITED             | N                  |              | x |
| 9                                | INVOICE.CUSTOMERNUMBER        |                    | 117616       | x |
| 10                               | INVOICE.CUSTOMERNAME          |                    | AA Associate | x |



If the column is populated in the input file, it will override any default value specified in the mapping. In this example, if column 8 contains a value of **Y**, the transaction will be audited.

## Adding Test Values

Test values enable you to directly call Determination from within Data File Integrator to test your mapping. As long as valid test values were added to all of the required fields for a mapping, the transaction should succeed. In addition, you can create a test CSV file based on this mapping as shown later in this document.

| All / Top Level / Invoice / Line |                               |                    |              |   |
|----------------------------------|-------------------------------|--------------------|--------------|---|
| Selected Fields                  |                               | Enter a field name |              |   |
| Position                         |                               | Default            | Test         |   |
| 1                                | INVOICE.EXTERNALCOMPANYID     |                    | daveco       | x |
| 2                                | INVOICE.INVOICENUMBER         |                    | 3233429      | x |
| 3                                | INVOICE.INVOICEDATE           |                    | 2013-07-26   | x |
| 4                                | INVOICE.ORIGINALINVOICENUMBER |                    |              | x |
| 5                                | INVOICE.ORIGINALINVOICEDATE   |                    |              | x |
| 6                                | INVOICE.DOCUMENTTYPE          |                    | INVOICE      | x |
| 7                                | INVOICE.CALCULATIONDIRECTION  | F                  |              | x |
| 8                                | INVOICE.ISAUDITED             | N                  |              | x |
| 9                                | INVOICE.CUSTOMERNUMBER        |                    | 117616       | x |
| 10                               | INVOICE.CUSTOMERNAME          |                    | AA Associate | x |

## TESTING AND SAVING YOUR MAPPING

After you created your mapping, configured file settings and authentication, and selected and ordered input and output fields, you are ready to test.

- Click the **Test** button in the Task bar. A pop-up displays with your results. Note that unless your input and output field list is very small, you will likely need to horizontally scroll to see the complete results.

| Test Results                        |                       |                       |                               |                             |                              |  |
|-------------------------------------|-----------------------|-----------------------|-------------------------------|-----------------------------|------------------------------|--|
| Mapping: SalesCalculation           |                       |                       |                               |                             |                              |  |
| Input                               |                       |                       |                               |                             |                              |  |
| INVOICE.EXTERNALCOMPANYID           | INVOICE.INVOICENUMBER | INVOICE.INVOICEDATE   | INVOICE.ORIGINALINVOICENUMBER | INVOICE.ORIGINALINVOICEDATE | INVOICE.DOCUMENTTYPE         |  |
| daveco                              | 3233429               | 2013-07-26            |                               |                             | INVOICE                      |  |
| Output                              |                       |                       |                               |                             |                              |  |
| #TaxCalculationService.CalculateTax |                       |                       |                               |                             |                              |  |
| INVOICE.EXTERNALCOMPANYID           | INVOICE.INVOICEDATE   | INVOICE.INVOICENUMBER | INVOICE.TOTALTAXAMOUNT        | INVOICE.LINE.TOTALTAXAMOUNT | INVOICE.LINE.TAX.TAXAMOUNT.D |  |
| "daveco"                            | "2013-07-26"          | "3233429"             | "70.00"                       | "70.00"                     | "40.00"                      |  |
| "daveco"                            | "2013-07-26"          | "3233429"             | "70.00"                       | "70.00"                     | "10.00"                      |  |
| "daveco"                            | "2013-07-26"          | "3233429"             | "70.00"                       | "70.00"                     | "10.00"                      |  |
| "daveco"                            | "2013-07-26"          | "3233429"             | "70.00"                       | "70.00"                     | "10.00"                      |  |

- From this pop-up, you can add another line and re-test, or you can save the mapping without needing to exit to the main page.
1. Click **Add Line** to display an additional line, which you can modify directly in the pop-up. You can then click **Test** to test the additional line(s) you added.

| Test Results              |                       |                     |     |
|---------------------------|-----------------------|---------------------|-----|
| Mapping: SalesCalculation |                       |                     |     |
| Input                     |                       |                     |     |
| INVOICE.EXTERNALCOMPANYID | INVOICE.INVOICENUMBER | INVOICE.INVOICEDATE | INV |
| daveco                    | 3233429               | 2013-07-26          |     |
| daveco                    | 3233430               | 2013-07-26          |     |
| <                         |                       |                     |     |

2. Click **Save Mapping** to save your mapping again.

## EXPORTING THE PROPERTIES AND TEST DATA FILES

Once you are satisfied with your mapping, you can export the Properties and Test Data files.

- Click the **Export Properties** or **Export Test Data** buttons at the top of the page.
- Use your browser's file save function to save the .properties or .csv files to your filesystem.

These files can be used in further testing outside of the Data File Integrator user interface. You can manually (or through a system process) add additional data lines to the test data file. The .properties file may be required when you submit CSV files for processing, depending on how you set up your input directories. For details on these tasks, see [Processing CSV Files \(page 27\)](#) later in this document.

## DELETING OR RELOADING YOUR MAPPING

There are two additional tasks regarding mappings you create:

- You can delete an existing mapping by selecting it then clicking the **Delete** button on the task bar.
- You can reload an existing mapping by selecting it then clicking the **Reload** button on the task bar. You may want to do this to revert to the last saved version of your mapping if you make changes you later want to revert after testing.



# PROCESSING CSV FILES

This chapter provides details on how to process files with the file watcher process and includes the following:

[Process Overview \(page 27\)](#)

[Submitting a File for Processing \(page 28\)](#)

[Input Files \(page 29\)](#)

[Output Files \(page 31\)](#)

## PROCESS OVERVIEW

Data File Integrator is able to automatically process CSV files copied or saved to an input directory in the Data File Integrator file structure, and returns results and log files back to the same structure. When your Data File Integrator instance was installed, your system administrator set up a directory structure similar to the one below, on a server within your organization:

DataFileIntegrator

TaxServiceA

input  
log  
output

TaxServiceB

input  
log  
output

In this example, TaxServiceA and TaxServiceB represent two separate transacting entities that need to access Determination through Data File Integrator's Tax Calculation Service. You can have as many directories as required at this level, but beneath each directory you must have an **input**, **log** and **output** directory.



Contact your system administrator for information on the location of the file system and the required credentials to access the directories.

The system administrator may have changed the names of the input, log and output directories on your system. However, these default names are used throughout this document.

A system process is consistently watching the **input** directory for files to be sent to it. Once new files are detected, Data File Integrator will process them. For a data file to be processed, two files are required:

- **Data File:** The file containing your request information in CSV format with a file extension of .csv.
- **Trigger File:** A zero byte file of the same name as the data file to be processed with a file extension of .trg.

In addition, the following file may be required:

- **Properties File:** The file created using Data File Integrator holding the definition of the CSV file to be processed. This file has an extension of .properties.
  - If this file is present, Data File Integrator will use it.
  - If this file is not present, Data File Integrator will look for a stored mapping in the database that has the same name as the parent folder of the input file. In the example file structure shown above, the file watcher will successfully process data and trigger files in the **TaxServiceA** folder as long as the Data File Integrator database contains a mapping named TaxServiceA.

Data File Integrator will only process a data file if a corresponding .trg file is submitted. This is to ensure that the CSV file is not processed too early (for example, while still being copied onto the file system).



Always submit the .trg file last.

## SUBMITTING A FILE FOR PROCESSING

After your files are prepared, you will need to upload those files to your **input** folder. To process a file, the following steps are required:

1. Prepare your data file for processing.
2. Upload your prepared file to the **input** folder in the directory structure prior setup.
3. Upload the .properties file if required.
4. Upload the corresponding .trg file.
5. Data File Integrator processes the file(s). Note that Data File Integrator may, depending on the settings your administrator configured, split the data file into multiple files based number of invoices or lines to process parameters.

6. As soon as processing by Data File Integrator is complete, you will be notified by email (if configured). Note that files are processed in the order received (first in, first out).
7. Download the processed file(s) from the **output** folder. Any error files will be located in the **log** folder.

All input files are deleted when processing starts.

## Use of an FTP Tool

Customers can elect to use an FTP process to send the files between the source system and the Data File Integrator's file directory structure. There are several solutions available, such as command line utilities built into the operation system (Windows FTP or Linux SFTP) or a client based tool such as the free FileZilla tool (Windows), which can be downloaded from <http://filezilla-project.org/>.

## INPUT FILES

The **input** folder is the destination for the data files that you will upload for processing. For each data file and (optional) .properties file, there must also be an accompanying zero-byte .trg file that triggers the job processing.

- A data file holds all of the transaction data, for which you have a web service request. A data file should be placed in the **input** folder. However, the presence of the data file alone does not trigger any event within Data File Integrator; the processing event is only started once a matching trigger file is placed into the **input** folder.
- An (optional) properties file with the definition of the CSV file to be processed. If the properties file is not present, Data File Integrator will search the database for a mapping with the name of the parent folder. For example, if the parent folder is TaxServiceA, Data File Integrator will look for a mapping of that name. If the file is not found, Data File Integrator will not process the data file.
- Trigger files, typically zero-byte, are files with a .trg extension. Data File Integrator monitors these trigger files in the **input** folder structure. Once found, Data File Integrator begins the processing routine. Trigger files are meant as a way for you to indicate that a data file has been delivered and is ready for processing. Trigger files help prevent Data File Integrator from locking a data file prematurely, such as while the data file is still uploading.
- The trigger file must be the last file placed into the directory because job processing starts once the trigger file is found.

- If a trigger file is detected by Data File Integrator but a corresponding data file cannot be found, then an error message is written to the job log and the trigger file is removed from the **input** folder. In all conditions (error or success) the data, trigger, and properties files are removed from the **input** folder as soon as the Data File Integrator starts processing the files.
- The data, trigger, and (optional) properties files must have matching file names but different extensions.

## Data File

| ITEM              | DESCRIPTION   |
|-------------------|---|
| File Type         | Data files are CSV type files and must have an extension of .csv.   |
| Naming Convention | The name of the data file to be processed can be of any legal file name. A best practice should be to name the file so that it is easy to read and meaningful to your business. For example, <b>DecemberInvoices.csv</b> . The file must have the appropriate file extension of .csv. |
| Formatting        | Additional controls to modify the properties file parameters that concern how the request and response files are formatted can be set in the Settings section of the user interface, as described earlier in this document.   |

## Properties File

| ITEM              | DESCRIPTION   |
|-------------------|---|
| Naming Convention | File created by Data File Integrator based on the configurations, field mappings and other settings. This is an XML file. For example, <b>DecemberInvoices.properties</b> |

## Trigger File

| ITEM      | DESCRIPTION   |
|-----------|---|
| File Type | Trigger files are CSV type files that are zero bytes in size with a file extension of .trg. |

| ITEM              | DESCRIPTION   |
|-------------------|---|
| Naming Convention | <p>The name of the trigger file for any given processing job must match the name of the data file. Data File Integrator will scan for any .trg files and, when one is found, will pick up the data file that matches the name of the trigger file. For example, if <b>DecemberInvoices.trg</b> is found, then Data File Integrator will look for a file named <b>DecemberInvoices.csv</b> to start processing.</p> <p>If the file names of the trigger file and the data file do not match, the data file will not be picked up for processing. An error is written to the log file stating that no corresponding data file could be found for that trigger. In this scenario, the file will be removed from the input.</p> |

## OUTPUT FILES

Two files are written to the **output** folder for each data file successfully processed:

- The results data is returned in a file with the .out.csv suffix. For example, **DecemberInvoices.out.csv**.
- A **.end** file appears once the results file is completely written. For example, **DecemberInvoices.end**. Because results files may be very large and take time to write, the only way to ensure that an output file is ready for pickup is to validate that the **.end** file is available.

If the file did not process successfully, a corresponding log file in the **log** folder will describe errors occurring during the processing of the file. For example, **DecemberInvoices.log**. See [Log File \(page 32\)](#) for details.

Remember that, based on configuration regarding invoice and line limitations, an initial input file may be separated into several for processing. You may find you have:

- DecemberInvoices1.out.csv
- DecemberInvoices1.end
- DecemberInvoices2.out.csv
- DecemberInvoices2.end
- DecemberInvoices3.out.csv
- DecemberInvoices3.end

In addition, your results files may be zipped if your system administrator has enabled that option on the Configuration page in the user interface.

## Results File

| ITEM              | DESCRIPTION  |
|-------------------|--|
| File Type         | Results files are .csv type files.   |
| Naming Convention | The naming format for the results file is as follows: <i>&lt;InputFilename&gt;.out.csv</i> . For example, <b>DecemberInvoices.out.csv</b> .  |
| Formatting        | The skipped data rows are not included in the output file. Lines that are marked as commented (with a # character in the first position) are copied over to the results file and appear as they do in the input data file. If you want headers in your output file, use comments in your input data file. The row delimiter setting from the properties file, or saved mapping used to generate these results, will be used as the row delimiter in the output file. |
| Output Fields     | Based on the definition in the properties file as created in the user interface.   |

## Log File

Each log file is located in the **log** folder in the file structure.

Log files for each job typically contain data that show a successful transaction, similar to this:

```
Beginning to process job for trigger file
C:\DataFileIntegrator\TaxServiceA\input\DecemberInvoices.trg.

loading properties file DecemberInvoices.properties
Beginning to parse input
Sending request to Determination
Processing response from Determination
Saving completed status for job.
Deleting files for job
Done processing job. Saving final status.
Closing log file for job
```

If the file instead contains errors, these will often point to the cause of the issue, which may be a formatting error within the input file, connectivity issue, or some other problem which must be resolved prior to re-submitting the file.

| ITEM              | DESCRIPTION  |
|-------------------|--|
| Naming Convention | Each log file will have the same name as the input file, appended with the date and time of processing and a .log extension. The format is: <i>&lt;InputFilename&gt;_&lt;ProcessingDate-Time&gt;.log</i> . For example: <b>DecemberInvoices_12302012101500.log</b> |





# LIST OF FIELDS NOT SUPPORTED

This section outlines some known limitations of the current version of Data File Integrator. The limitations are mainly due to the complex structure of some of the web services. In a few cases, there are limitations within the SOAP service itself.

## COMPANY SERVICE - UPDATE COMPANY

### Request Fields

- Company Options are not supported  
(UpdateCompanyRequest.UpdateCompanies.UpdateCompany.ExtendedCompanyAttributes.CompanyOptions.CompanyOption).

### Response Fields

- Company Options are not supported.

## EXEMPTION CERTIFICATE SERVICE - MODIFY LIMITED USE CERTIFICATE

### Request Fields

- XML elements not supported.

## TAX CALCULATION SERVICE - CALCULATE TAX

### Request Fields

- Allocation lines are not supported/
- TaxCalculationRequest.INDATA.INVOICE.ENDUSE - Only supports one end use element. SOAP supports multiple.

- TaxCalculationRequest.INDATA.INVOICE.LINE.ENDUSE - Only supports one end use element. SOAP supports multiple.
- TaxCalculationRequest.INDATA.INVOICE.LINE.QUANTITIES.QUANTITY.AMOUNT - Can only handle one quantity.
- TaxCalculationRequest.INDATA.INVOICE.LINE.QUANTITIES.QUANTITY.DEFAULT – “”
- TaxCalculationRequest.INDATA.INVOICE.LINE.QUANTITIES.QUANTITY.UOM – “”

## Response Fields

- Only first error description/code/location is returned.
- Return of INDATA is not supported.
- QUANTITIES are not supported.
- CURRENCYCONVERSION fields are not supported.
- AUTHORITYATTRIBUTE fields are not supported.
- LICENSES are not supported.

## USER SERVICE - CREATE COMPANY

### Request Fields

- Only a single role can be updated for a user.

## USER SERVICE - UPDATE COMPANY

### Request Fields

- Only a single role can be updated for a user.

## USER SERVICE - FIND COMPANY

### Response Fields

- Only a single role will be returned.

## ZONE LOOKUP SERVICE - LOOKUP ZONE

### Response Fields

- Only the first MESSAGE per zone is returned.