ORACLE NetSuite OpenAir

Integration Manager

7.2

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Table of Contents

Integration Manager Overview 1
Getting Started with Integration Manager 3
Installing, Updating and Uninstalling Integration Manager 6
Integration Manager General Settings and Menu Options 9
- Backing Up Your Integration Manager Settings and Shortcuts 11
- Restoring Your Integration Manager Settings and Shortcuts from the Backup 13
- Transferring Integration Manager Shortcuts to a Different Computer or Environment 14
- Connecting Integration Manager with your OpenAir Account 15
- CSV Character Encoding 16

Exporting OpenAir Data to a CSV File 18
- Adding Header Information to Exported CSV Files 20

Importing Data from a CSV File into OpenAir 22
- Record Creation or Update Rules on Import 26
- Making User Settings Available for Mapping (User Imports Only) 30

Mapping OpenAir Fields to CSV Columns 33
Making OpenAir Custom Fields Available for Mapping 38
Making Additional Information Available for Mapping (Calculated Fields) 41
Combining and Splitting Information 44
OpenAir Field Value Lookup (Export) and Record Lookup (Import) 50
Filtering OpenAir Records for Export 54
Formatting Information for Export and Import 59
- Setting the Date and Time Format Used in the CSV File 59
- Setting Up Conditional Overrides 60
- Validating Field Value Length and Range on Export 66

Accounting Settings 68
Working with Export and Import Shortcuts 71
- Creating an Export or Import Shortcut 72
- Batching Export and Import Shortcuts 76
- Editing Integration Manager Shortcuts 77
- Upgrading Integration Manager Shortcuts 80

Records and Fields Reference 81
- Accounting Period 85
- Actual Cost 86
- Agreement 86
- Agreement to Project 87
- Approval Process 87
- Booking 88
- Booking Type 89
- Budget 89
- Budget Allocation 90
- Category 90
- Category_<N> 91
- Contact 91
- Cost Category 93
- Cost Center 93
- Cost Type 93
- Currency 94
- Customer 94
- Customer PO 97
- Customer PO to Project 98
- Deal 98
- DealContact 99
- DealSchedule 99

Department 100
Entity tag 100
Envelope 101
Estimate 102
EstimateAdjustment 103
EstimateExpense 103
EstimateLabor 104
EstimatePhase 104
Event 104
Expense Item 105
Filter set 106
ForexInput 106
Invoice 107
Issue 108
Item to User Location 109
Job Code 110
Leave accrual rule 110
Leave accrual rule to user 111
Leave accrual trans 111
Loaded Cost 112
Payment 113
Payment Terms 113
Payment Type 114
Payroll Type 114
Product 114
Profile Type 115
Project 116
Project Assignment 120
Project Billing Rule 120
Project Billing Transaction 122
Project Group 124
Project Pricing 124
Project Stage 124
Project Task 125
Project task assign 127
Projecttask_type 127
Proposal 128
ProposalBlock 129
Prospect 130
Proxy 133
Purchase item 133
Purchase order 135
Purchaser 137
Purchase request 137
Rate Card 138
Rate Card Item 138
Receipt 139
Reimbursement 141
Repeat 141
Request Item 142
Resource Profile 143
Resource Request 144
Resource Request Queue 144
Resource Search 145
Rev. Recogn. Amount 146

Rev. Recogn. Rule 146
Rev. Recogn. Trans. 148
Revenue Container 151
Revenue Stage 151
Schedule Exception 152
ScheduleRequest 152
ScheduleRequest item 153
Service 154
Slip Projection 155
Slip Stage 157
Tag Group 158
Tag Group Attribute 158
Target Utilization 158
Task Adjustment 159
Tax Location 159
Tax Rate 160
Time Type 160
TimeBill 161
Timecard 163
Timesheet 164
Timesheet entry 166
Timesheet/Timecard entry 168
Todo 170
User 171
User Location 175
User Project Rate 175
User Workschedule 176
Vendor 177
Workspace Link 178
Workspace User 178
Troubleshooting 179
Troubleshooting Common Errors 179
Creating a Support Case 181

Integration Manager Overview

This guide describes the functionality available in OpenAir Integration Manager 7.0 and later versions.

Important: As announced in the October 8, 2022 OpenAir Release Notes and through Proactive Feature Change Notification (PFCN), support for the QuickBooks integration functionality in OpenAir Integration Manager ended with the OpenAir 2023.1 Release on April 15, 2023. Previous versions of OpenAir Integration Manager, including any shortcuts created using Integration Manager 6.6 or earlier version, can no longer be used to exchange information between OpenAir and QuickBooks.

OpenAir Integration Manager is a Windows desktop application designed to support the exchange of data between OpenAir and third-party applications in your infrastructure. OpenAir Professional Services configures Integration Manager to suit your business requirements as part of your initial OpenAir account setup if you purchase a license for this add-on service. You can maintain and add to the integration as enhancements become available.

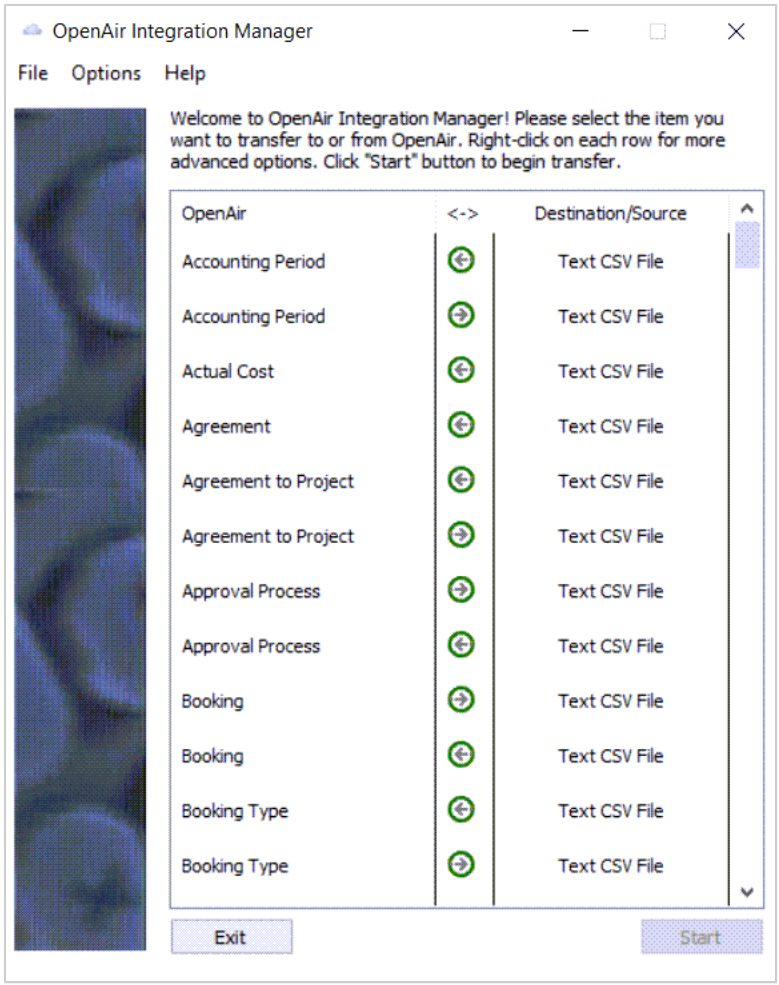
Integration Manager is a licensed add-on service. You must hold a valid license to use Integration Manager. Contact your OpenAir account manager to review licensing or purchase a license for Integration Manager.

Integration Manager lets you:

- Export your OpenAir data to a comma separated values (CSV) file. You can then use this CSV file to import your OpenAir data into third-party software such as a productivity application, a payroll system, or an accounting package.
- Import data from a CSV file into your OpenAir account. Refer to Records and Fields Reference for a list of OpenAir records you can import.
- Use a CSV text in almost any delimited format. Tab, comma, colon, pipe, tilde, semicolon, and other custom delimiters are supported to ensure the generated CSV file is ready for import without having to convert the file to a different format beforehand.
- Set the required or expected format for date and time values in the CSV files you export OpenAir information to or import information from.
- Export and import the information (fields) stored in OpenAir standard and custom fields, in the order you specify. You can map OpenAir fields with the corresponding column in the CSV file.
- Export only those OpenAir records matching specific filter conditions.
- Column naming, adding calculated fields, and concatenating multiple fields help you better meet your operational needs.
- Use filter sets in OpenAir to control who can access the data.
- Update records in bulk on your OpenAir account. If you change project information, you can update all impacted projects in OpenAir, or if timesheet or expense report approvers change for one or more projects, you can update all related OpenAir records at the same time.
- Export transactions associated with accounts payable and accounts receivable. Enter bills, track expenses, create invoices, receive payments, and keep track of inventory and revenue.
- Create shortcuts to run specific imports and exports manually without launching the Integration Manager application, or to schedule imports and exports to run automatically.

Important: Review the following limitations:

- Integration Manager is a Windows application. There are no versions of Integration Manager designed to run on macOS or Linux. Additional setup is required to run Integration Manager on macOS. See Options for using Windows 11 with Mac® computers with Apple® M1® and M2™ chips.
- Integration Manager cannot be used to delete records in OpenAir, only to create or update records.
- Authentication using SAML Single Sign-on is not supported. Users signing in to OpenAir using SAML Single Sign-on will not be able to connect Integration Manager with OpenAir to export or import information.



Getting Started with Integration Manager

Integration Manager is a licensed add-on service. You must hold a valid license to use Integration Manager. OpenAir Professional Services configures Integration Manager to suit your business requirements as part of your initial OpenAir account setup if you purchase a license for this add-on service. You can maintain and add to the Integration Manager setup as new features, product enhancements, and software fixes become available. Appropriate training is required before you can use Integration Manager and change its settings.

Important: You should not use Integration Manager unless you have received the relevant training. You must have a good understanding of the OpenAir application and how its database is structured, as well as knowledge of the Integration Manager application.

Step 1: Get Access to Integration Manager

OpenAir account administrators grant access to Integration Manager at the individual user level. To do so:

1. Go to Administration > Global Settings > Users > Employees > [*Select the employee*] > Access Control
2. Click **Exchange Access**.
3. Add OpenAir Integration Manager to the selected list.

Step 2: Download and Install Integration Manager

OpenAir Professional Services provide you with a download link for Integration Manager. A wizard guides you through the installation process. See Installing Integration Manager.

Step 3: Grant Full User Access Privileges in Windows for the Integration Manager User

In Windows 8 and 10, access to files and folders is restricted unless you have Administrator privileges. An error can occur when a user does not have full permissions. Make sure Integration Manager users can create, modify, and delete files in the Integration Manager installation folder. The default installation location is `C:\Program Files (x86)\OpenAir\IntegrationManager` but you can choose a different location during the installation – see Installing Integration Manager.

Important: Integration Manager does not support a multiple user setup. The same Windows user account should be used to run Integration Manager, and to create or run Integration Manager shortcuts. Running Integration Manager from different Windows user accounts may lead to inconsistent application behavior.

Step 4: Read the Relevant Documentation

This guide provides a reference for using Integration Manager. The guide is organized around the following conceptual topics for ease of reference:

- Integration Manager General Settings and Menu Options — Explore the menu options, review how to connect Integration Manager to your OpenAir account, choose a character encoding scheme, backup your application settings and shortcuts, and restore them from back up, and review the logs.
- Exporting OpenAir Data to a CSV File — Follow the steps to export OpenAir records to a CSV file using Integration Manager.

  Includes steps to add header information to the exported CSV file. See Adding Header Information to Exported CSV Files.
- Importing Data from a CSV File into OpenAir — Follow the steps to import information from a source CSV file into OpenAir using Integration Manager.

  Includes information about rules determining if a record already exists in OpenAir and if the record should be created or updated on import. See Record Creation or Update Rules on Import

  Includes steps to import user settings, including user preferences and user privileges when importing user records from a CSV file. See Making User Settings Available for Mapping (User Imports Only).
- Mapping OpenAir Fields to CSV Columns — Follow the steps to map the OpenAir fields to columns in the CSV file you export information to or import information from.
- Making OpenAir Custom Fields Available for Mapping — Follow the steps to make custom fields you create in OpenAir available for mapping.
- Making Additional Information Available for Mapping (Calculated Fields) — Follow the steps to make additional information that is not in your source data available for mapping.
- Combining and Splitting Information — Follow the steps to split a source field into two or more destination fields (Import only), combine source fields into a single destination field (Import and Export), or combine separate date and time fields in the source CSV file into a datetime field in OpenAir (Import only).
- OpenAir Field Value Lookup (Export) and Record Lookup (Import) — Follow the steps to look up OpenAir field values for record types directly or indirectly related to the record type you selected for export, or to look up OpenAir records associated with the records you import by name or external ID.
- Filtering OpenAir Records for Export — Follow the steps to export only the OpenAir records that meet specific criteria to the CSV file.
- Formatting Information for Export and Import — Review the formatting options in Integration Manager. These options includes, the ability to:
  - Specify the format of values containing both date and time parts in your CSV file. See Setting the Date and Time Format Used in the CSV File.
  - (Export only) Add length and range validation for field values in your CSV file. See Validating Field Value Length and Range on Export.
  - Using conditional overrides to compare numeric or text field values to a fixed value or pattern, and replace the value if the condition is met. See Setting Up Conditional Overrides.
- Accounting Settings — Perform account balancing and secondary balancing on the Receipt, Revenue recognition transaction, TimeBill (charge, slip, or bill), Timesheet entry, or Slip projection records you export, and summarize grouped record data for export, with subtotals for selected fields.
- Working with Export and Import Shortcuts — Follow the steps to create shortcuts to run specific imports and exports manually without launching the Integration Manager application, or to schedule imports and exports to run automatically.
- Records and Fields Reference — Review the OpenAir record types and fields available for export and import, and refer to other reference material about the OpenAir database.
- **Important:** Integration Manager does not support all tables and fields included in the OpenAir Data Dictionary. See OpenAir Data Dictionary.
- Troubleshooting — Review common export and import errors and how to resolve them, follow steps to get additional help or report issues.

Step 5: Set Up Example Export or Import on a Sandbox Environment

Integration Manager lets you export data from your OpenAir account to text CSV files or import from text CSV files to your OpenAir account. Decide which fields to export or import, in what order, and which fields they will map to in the resulting file or account record. You can limit the data that exports to a subset of all the records in your account. You can also specify the date and time formats and the method used to delimit the fields. See Exporting OpenAir Data to a CSV File and Importing Data from a CSV File into OpenAir.

Step 6: Create Export and Import Shortcuts

After you have set up your field mapping settings and other options, you can create and edit shortcuts. See Working with Export and Import Shortcuts.

Installing, Updating and Uninstalling Integration Manager

Important: Review the following guidelines:

- Integration Manager is a licensed add-on service. You must hold a valid license to use Integration Manager.
- Integration Manager should be used by trained users only. It is essential to have a good understanding of the OpenAir application and how its database is structured before you can set up Integration Manager. Contact OpenAir Professional Services for help with setting up Integration Manager or to arrange the relevant training.

OpenAir Professional Services provide you with a link to download the Integration Manager installer EXE file as part of the initial setup. You use this link to download and install the latest version of Integration Manager. For more information, see Installing Integration Manager.

Before you install Integration Manager, review the minimum system requirements – See System Requirements.

You should review OpenAir Release Notes regularly and update Integration Manager to the latest available version to take advantage of new features, product enhancements and defect fixes. For more information, see Updating Integration Manager to a New Version.

You can uninstall Integration Manager at any time. For more information, see Uninstalling Integration Manager.

System Requirements

Integration Manager can be installed on the following platforms:

- Microsoft® Windows Server 2012 or later versions.
- Microsoft® Windows 8 and 10.

Other requirements include:

- Microsoft® .NET Framework Version 3.5 or above.

  Note: Microsoft® .NET framework 3.5 or above is required to run Integration Manager 6.3. If it is not installed on your computer, download it from https://dotnet.microsoft.com/download/dotnet-framework and install it before installing Integration Manager.

- RAM size of at least 1 GB (2+ GB for large integration jobs).

While it is not necessary to run Integration Manager on a dedicated server, other operations running in parallel might hinder the performance of Integration Manager. You should run Integration Manager shortcuts in time slots separate from other CPU-intensive operations.

Installing Integration Manager

Use the following steps to install Integration Manager.

To install Integration Manager:

1. Download the installer EXE file using the link provided by OpenAir Professional Services.
2. Run the Integration Manager installer file.

   The OpenAir Integration Manager Setup Wizard appears.
3. Click **Next**.
4. Read and accept the License Agreement then click **Next**.
5. Choose the location to install Integration Manager then click **Next**.

   The default location is `C:\Program Files(x86)\OpenAir\IntegrationManager`.
6. The installation creates a shortcut icon for Integration Manager on the computer desktop. Clear the **Create a desktop icon** box if you do not want to create a desktop icon, then click **Next**.
7. Review your installation settings, then click **Install**.

   The wizard shows the installation progress. After the installation completes, the wizard shows information about the application (the content of the `README.TXT` file).
8. Review the content of `README.TXT`, then click **Next**.
9. Click **Finish**.

Updating Integration Manager to a New Version

You should review OpenAir Release Notes regularly and update Integration Manager to the latest available version to take advantage of new features, product enhancements and defect fixes.

Important: When upgrading to a new version, you should test Integration Manager, including all shortcuts, on a sandbox environment. Check that all import and export shortcuts run as expected before you upgrade Integration Manager on a production environment. If you use Integration Manager to support business-critical processes, such as exchanging information between OpenAir and your accounting system, for example, you should exercise appropriate responsibility.

To update Integration Manager to a New Version

1. You should back up your Integration Manager settings and shortcuts before updating to a new version. See Backing Up Your Integration Manager Settings and Shortcuts.
2. Close Integration Manager.
3. Follow the steps for installing Integration Manager. See Installing Integration Manager. You do not need to uninstall the previous version beforehand.
4. Upgrade all Integration Manager shortcuts. See Upgrading Integration Manager Shortcuts.

Uninstalling Integration Manager

You can uninstall Integration Manager at any time, if you no longer use it to exchange information between OpenAir and third-party applications.

Integration Manager is a licensed add-on service. If you do not hold a valid license for this add-on service, you must stop using Integration Manager and should uninstall it.

The following steps are given for Windows 10.

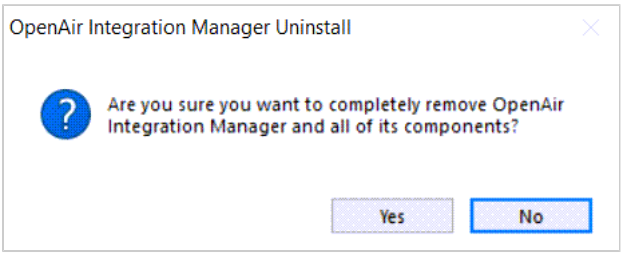
To uninstall Integration Manager:

1. Click the Windows Start menu icon, then **Settings**.

   The Settings screen appears.
2. Click **Apps & Features**.

   The Apps & Features screen appears and lists the applications installed on your computer.
3. Locate and click **OpenAir Integration Manager**.
4. Click **Uninstall**.

   A confirmation window appears.



5. Click **Yes**.

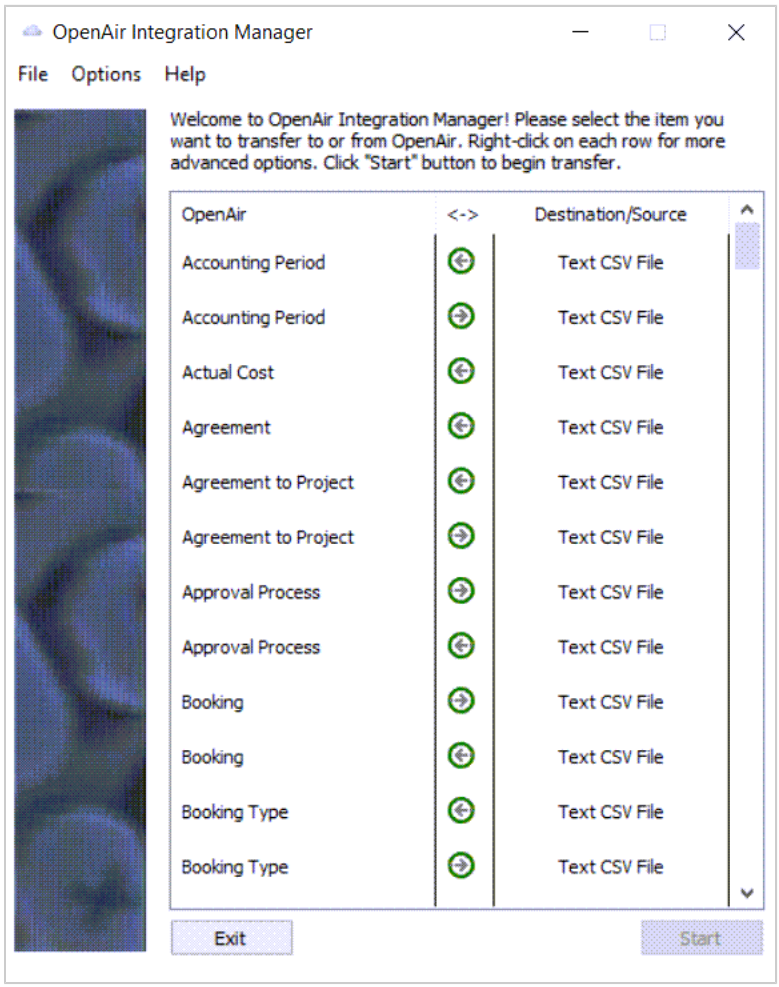
   A confirmation message appears.
6. Click **OK**.
7. (Optional) Delete the installation folder. The default installation location is `C:\Program Files (x86)\OpenAir\IntegrationManager` but you can choose a different location during the installation – see Installing Integration Manager.

> **Important:** Uninstalling Integration Manager does not delete your import and export field mapping.
>
> To remove all settings completely, delete the installation folder.

Integration Manager General Settings and Menu Options

By default, the Integration Manager installation adds a shortcut to your desktop. Double click the shortcut to launch Integration Manager.

The main Integration Manager window includes a top menu bar and a table listing the record types available for import from and export to a CSV file.

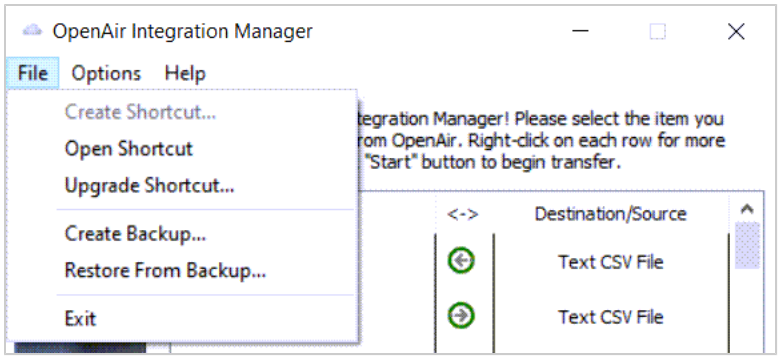


Click the menu headers to view the available menu options:

- **File** — The File menu includes the following options:
  - **Create shortcut**, **Open shortcut**, or **Upgrade shortcut**— You can use shortcuts to run specific imports and exports manually without launching the Integration Manager application, or to schedule imports and exports to run automatically. You should upgrade all your Integration Manager shortcuts after you update the Integration Manager application to a new version. See Working with Export and Import Shortcuts.
  - **Create backup** or **Restore from backup** — You can back up your Integration Manager settings, and restore your application settings from this backup when required. See Backing Up Your Integration Manager Settings and Shortcuts and Restoring Your Integration Manager Settings and Shortcuts from the Backup.

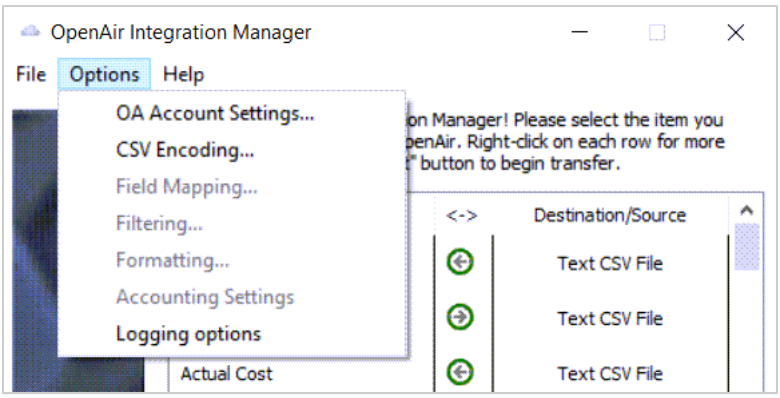
The backup is stored on an OpenAir server to ensure availability. The backup may be useful if you want to transfer shortcuts and other settings to a different computer or environment without having to recreate all the field mapping and logic. See Transferring Integration Manager Shortcuts to a Different Computer or Environment.

- **Exit** — Click **Exit** to close the Integration Manager application.

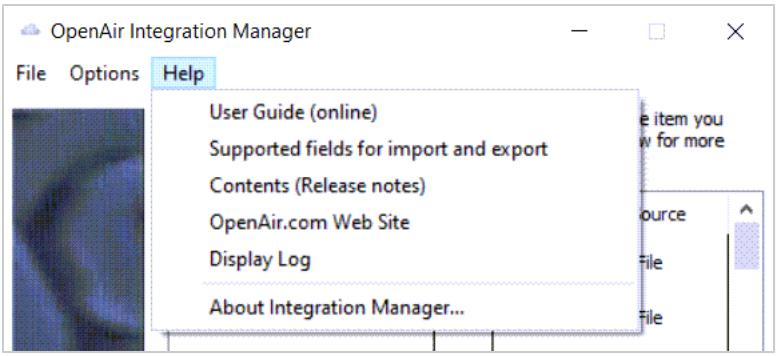


- **Options** — The Options menu includes the following options:
  - **OA Account settings** — You must enter your OpenAir sign-in details to connect Integration Manager with your OpenAir account. See Connecting Integration Manager with your OpenAir Account.
  - **CSV Encoding** — If you are using Integration Manager 6.6 or later version, you can choose the character encoding scheme used for the CSV file you export to or import from. See CSV Character Encoding.
  - The following options are available when you select a record type to export or import:
    - **Field mapping** — Integration Manager lets you map the OpenAir fields for each supported record type to columns in the CSV file you export information to or import information from. You can set the name and order of columns in the CSV file, combine multiple OpenAir fields into a single CSV column (export) or multiple CSV columns into a single OpenAir field (import), split a CSV column into multiple OpenAir fields (import), or include additional information such as custom fields or calculated fields. See Mapping OpenAir Fields to CSV Columns.
    - **Filtering** — You can set up Integration Manager to export only those OpenAir records matching specific filter conditions. See Filtering OpenAir Records for Export.
    - **Formatting** — You can change the format of some of the information you export or import automatically. You can set the date and time format, or set a conditional override. When exporting information from OpenAir to a CSV file, you can also set a maximum field length and the range of acceptable numerical values. See Formatting Information for Export and Import.
    - **Accounting settings** — When you export Receipt, Revenue recognition transaction, TimeBill (charge, slip, or bill), Timesheet entry, or Slip projection records from OpenAir to a CSV file, you can perform account balancing and secondary balancing on the records you are exporting. You can also summarize the information for export, and choose the fields to sum and the combination fields for which you want subtotals. See Accounting Settings.
  - **Logging options** — Integration Manager always adds a log entry when an error occurs. By default, it also adds a log entry with information about each action performed. You can set logging options so that the log only records errors.

    The log file is located in the `AppData` folder for the Windows user – `C:\Users\<username>\AppData\Roaming\OpenAir\Integration Manager\OpenAirManager.log`. To view the log, go to Help > Display log.



- **Help** — The Help menu includes the following options:
- **User guide (online)** — Click to view the latest version of the Integration Manager User Guide (PDF file) in your default browser.
- **Supported fields for import and export** — Click to view the list of tables and fields available for export from and import into OpenAir (CSV file) in your default application for CSV files. See also Records and Fields Reference.
- **Contents (release notes)** — Click to view the `readme.txt` file in your default text editor. The file content includes a version history with a summary of features introduced with each version.
- **OpenAir website** — Click to view the OpenAir product information website (https://www.openair.com/) in your default browser.
- **Display log** — Click to view the Integration Manager log in your default text editor. It lists actions on specific dates and times. When contacting OpenAir Customer Support to report an issue with Integration Manager, it is helpful to attach the log file. See also Troubleshooting.
- **About OpenAir Integration Manager** — Click to view version information.



Note: If you select an item to import or export and right-click on the highlighted row, available items from the options menu also display. They include the option to Create Shortcut as well as Field Mapping, Filtering, and Formatting when applicable.

Backing Up Your Integration Manager Settings and Shortcuts

You should back up your Integration Manager settings after you make any changes to your application or shortcuts settings that you want to preserve or copy to another computer. Backups include the settings

for the main application and all your export and import shortcuts. You can create a backup at any time after you launch the application. Integration Manager prompts you to backup your settings when you close the application.

Important: The Integration Manager back up is stored on the OpenAir servers. Backing up your settings overwrites the previous backup. You can only restore settings from the most recent backup stored on OpenAir servers. Previous backups are not available.

To back up your Integration Manager settings and shortcuts:

1. Connect Integration Manager to your OpenAir account. See Connecting Integration Manager with your OpenAir Account.
2. Do one of the following:
   - In Integration Manager, go to File > Create Backup.
   - When you close the application through File > Exit, a window appears prompting you to backup your settings. To continue with the backup, click **Yes**.

   A window appears with information about the settings and shortcuts to include in the backup and the date they were last modified.
3. Click **OK**.

   A confirmation window appears.
4. To continue with the backup, enter Y in the text box and click **Yes**. Creating a backup overwrites the previous backup stored on OpenAir servers. After you create a new backup, you will not be able to recover settings from the previous backup.

Note: With Integration Manager 6.5.2 and earlier versions, you could select the shortcuts you wanted to include in your backup. In some cases, this was required to stay within the 100 MB maximum backup size.

Integration Manager 6.5.3 and later versions optimize the backup for speed, size, and security faster backup, and remove the requirement to pick and choose shortcuts to stay within the maximum backup size.

To backup selected shortcuts only:

1. You should take a local copy of `C:\im_shortcuts` before you start
2. Delete all but the shortcut files you want to backup from the folders where you created or saved these shortcuts.
3. Delete all but the shortcut bundle directories you want to backup from `C:\im_shortcuts`.
4. Create backup.
5. Restore all the deleted shortcut files and shortcut bundle directories from the Recycle bin.

Restoring Your Integration Manager Settings and Shortcuts from the Backup

You can restore your Integration Manager settings or shortcuts from the backup saved on OpenAir servers at any time.

You can choose to restore:

- All application settings.
- All shortcuts.
- All application settings and all shortcuts.

It is not possible to hand pick and recover only specific application settings or specific shortcuts.

Important: You should always perform extensive tests on a sandbox environment before you restore a backup and overwrite your shortcuts or configuration settings with the backup version on your production environment.

Restoring application settings from the backup replaces all application settings files with the same name. Restoring shortcuts from the backup replaces all shortcut files with the same name in the location you select.

To retain your current application or shortcut settings, including any field mapping settings, create a local copy of relevant files in a different location or rename the current files.

To restore your Integration Manager settings and shortcuts from backup:

1. Connect Integration Manager to your OpenAir account. See Connecting Integration Manager with your OpenAir Account.
2. In Integration Manager, go to File > Restore From Backup.

   A confirmation window appears.
3. Confirm that you want to restore shortcuts from the backup. Do one of the following:
   - To restore shortcuts from the backup, enter Y in the text box and click **Yes**. This will replace current shortcuts with the same name in the selected location with the backup versions. This action cannot be undone.
   - To skip this step and retain the current shortcuts on your computer, click **No**.

   A confirmation window appears.
4. Confirm that you want to restore application settings from the backup. Do one of the following:
   - To restore application settings from the backup, enter Y in the text box and click **Yes**. This will replace current application settings, including all field mapping information stored on your computer with the backup versions. This action cannot be undone.
   - To skip this step and retain the current application settings, click **No**.

   The Browse for Folder window appears.
5. Select the location where restored shortcuts should be saved.
6. Click **OK**.

   After the application settings and shortcuts are restored, a window appears. You must restart the application before you can use the restored settings and shortcuts.
7. Click **OK**.

   Integration Manager closes and restarts.

Transferring Integration Manager Shortcuts to a Different Computer or Environment

You can transfer your Integration Manager settings and shortcuts to a different computer or environment at any time.

To transfer your Integration Manager settings and shortcuts to a different computer:

1. Back up of your Integration Manager settings and shortcuts. See Backing Up Your Integration Manager Settings and Shortcuts.
2. Restore the backup on the other computer. See Restoring Your Integration Manager Settings and Shortcuts from the Backup.
3. Edit the shortcut to use different sign-in details and account settings, or to specify a different name and location for the CSV file. See Editing Integration Manager Shortcuts.

Connecting Integration Manager with your OpenAir Account

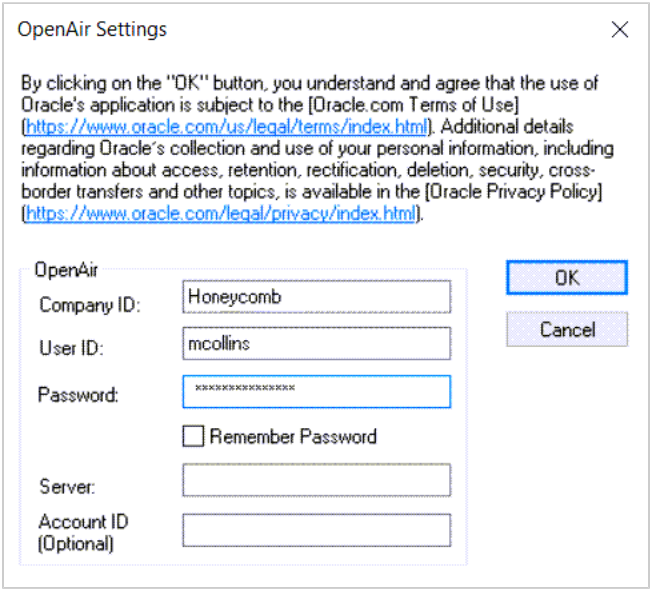
You must connect Integration Manager with your OpenAir account before you can use Integration Manager to exchange information between OpenAir and CSV files.

All operations you perform with Integration Manager will take place using the sign-in details you enter in the following steps. When you make changes to records in your OpenAir account using Integration Manager, OpenAir records your User ID in the audit trail against these changes.

To connect Integration Manager with your OpenAir account:

1. In Integration Manager, go to Options > OA Account Settings.

   The OpenAir Settings window appears.



2. Enter your OpenAir **Company ID**, **User ID**, and **Password**.

   Check the **Remember Password** box to store your OpenAir credentials on this computer.
3. **Server** — Enter the URL for your OpenAir Account. The server URL includes the domain name for your OpenAir account `<account-domain>`. For more information about your account-specific domain name, see the help topic Your OpenAir Account URLs.

   > **Note:** Usage of the generic domain `www.openair.com` for integrations and add-on services is no longer supported. Integration Manager 7.0 and later versions use your account-specific domain even if you enter a generic domain such as `www.openair.com`.

4. **Account ID** – In most cases, you do not need to enter your OpenAir account ID.

5. Click **OK**.

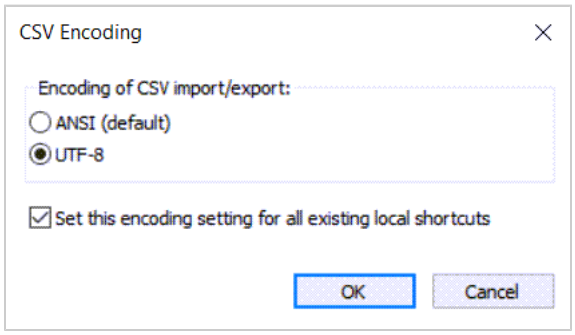
> **Note:** By clicking the **OK** button, you understand and agree that the use of Oracle's application is subject to the Oracle.com Terms of Use. Additional details regarding Oracle's collection and use of your personal information, including information about access, retention, rectification, deletion, security, cross-border transfers and other topics, is available in the Oracle Privacy Policy.

CSV Character Encoding

If you are using Integration Manager 6.6 or later version, you can choose the character encoding scheme used for the CSV file you export to or import from.

There are two encoding options:

- ANSI — ANSI (codepage 1252, Western Europe) is the default character encoding scheme for CSV imports and exports to ensure backward compatibility with existing infrastructures. Integration Manager 6.5.3 and earlier versions use ANSI encoding exclusively.
- UTF-8 — Integration Manager 6.6 or later version supports UTF-8 character encoding for CSV imports and exports.



To update all your existing Integration Manager shortcuts automatically when you change the CSV encoding option, check the **Set this encoding setting to all existing local shortcuts** box. After you click OK, a confirmation window appears – click **Yes** to confirm you want to overwrite all existing shortcuts with the new encoding. You must upgrade all shortcuts to work with Integration Manager 6.6 or later version before you can update them automatically to use the new encoding option.

You can also edit each Integration Manager shortcut and change the CSV encoding option for that shortcut, if the shortcut uses Integration Manager 6.6 or later version. See Editing Integration Manager Shortcuts.

Important: Review the following guidelines:

- The CSV Encoding menu option is available only if you are using Integration Manager 6.6 or later version.
- Previous versions of Integration Manager use ANSI encoding exclusively. UTF-8 is not supported in Integration Manager 6.5.3 or earlier version.
- ANSI (codepage 1252, Western Europe) is the default character encoding scheme for CSV imports and exports to ensure backward compatibility with existing infrastructures.
- The files you provide for import must be encoded using the character encoding scheme selected in Integration Manager. For example, if CSV Encoding is set to UTF-8, CSV files you provide for import must be UTF-8 encoded — If the CSV files is not UTF-8 encoded, data may be corrupted during import.
- Upgrade all existing shortcuts to work with Integration Manager 6.6 or later version before updating them automatically to use the new encoding option. See Upgrading Integration Manager Shortcuts.

  You can only update all existing shortcuts to use the new encoding option when you change the CSV encoding in the main Integration Manager application. If you are updating it in a shortcut bundle instance, you can only change it for that shortcut bundle.

  Only the shortcuts saved in the shortcut bundle root directory (typically `c:\im_shortcut\`) can be updated automatically to use the new encoding option.

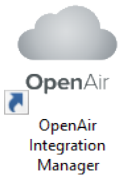
Exporting OpenAir Data to a CSV File

Integration Manager lets you export your OpenAir data to a comma separated values (CSV) file. You can then use this CSV file to import your OpenAir data into third-party software such as a productivity application, a payroll system, or an accounting package.

You can export all records of a supported record type or a subset of records, using filtering options. You can select the fields containing the information you want to export and map them to columns in the exported CSV file, include information stored in the custom fields specific to your OpenAir account, look up and export information from directly and indirectly related tables in the OpenAir database, combine several OpenAir fields into one CSV column, add additional information as a CSV column or as header information. You can specify the format of date and time columns in your exported CSV file, and build in some simple length and range validation for field values, or some simple logic to change a target field value in your exported CSV file based on a test field value in OpenAir.

To export data to a text CSV file:

1. Launch Integration Manager. To do so, do one of the following:
   - Double-click the shortcut icon on your desktop (if you opted to add the shortcut during installation).

   - Enter "Integration Manager" in the search box on the Windows task bar, then double-click **Integration Manager**.
2. Enter your OpenAir account and sign-in details. See Connecting Integration Manager with your OpenAir Account.
3. Select the character encoding scheme for CSV imports and exports. See CSV Character Encoding.
4. In Integration Manager, identify the type of record you want to export and configure the export. To do so:
   a. Map OpenAir fields to CSV columns. See Mapping OpenAir Fields to CSV Columns.

      The field mapping functionality lets you select the OpenAir fields you want to export. All supported standard OpenAir fields for the selected record type and for directly associated record types are selected for export by default. You can exclude any OpenAir fields from your export, change the order of columns in the exported CSV file as well as the column headers. You can also:
      - Include information stored in the custom fields specific to your OpenAir account. See Making OpenAir Custom Fields Available for Mapping.
      - Include additional information not already available in OpenAir as a CSV column. See Making Additional Information Available for Mapping (Calculated Fields).
      - Combine several OpenAir field values under one CSV column. See Combining and Splitting Information.
      - Look up standard and custom field values for OpenAir records directly or indirectly related to the record you are exporting. See OpenAir Field Value Lookup (Export) and Record Lookup (Import).

   b. Set formatting options. See Formatting Information for Export and Import.

      The formatting options let you:

- Specify the format of values containing both date and time parts in your CSV file. See Setting the Date and Time Format Used in the CSV File.
- Add length and range validation for field values in your CSV file. See Validating Field Value Length and Range on Export.
- Build in some simple logic using conditional overrides to change a target field value in your exported CSV file based on a test field value in OpenAir. See Setting Up Conditional Overrides.

c. Set filtering options. See Filtering OpenAir Records for Export.

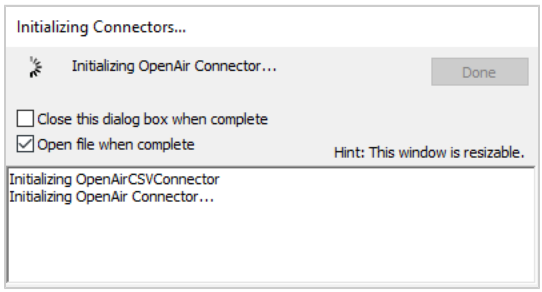
d. Set accounting settings. See Accounting Settings.

e. Include header information at the top of your CSV file content. See Adding Header Information to Exported CSV Files.

5. Create an Integration Manager shortcut if you want to export records of this type on a regular basis manually without launching the Integration Manager application, or to schedule the export to run automatically. This may be useful to support an on-going integration, for example. The Integration Manager shortcut you create captures the field mapping, filter, format and other settings you configured for this export. See Working with Export and Import Shortcuts and Working with Export and Import Shortcuts.

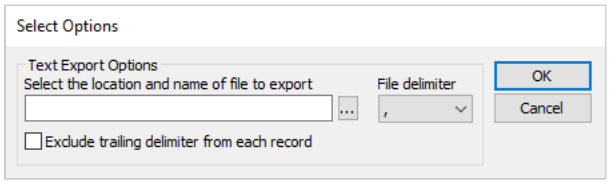
6. On the main Integration Manager window, select the row corresponding to the record type you want to export to a CSV file, then click **Start** to launch the export process.

   A window appear showing the progress of your export.



> **Note:** To keep the export progress status window open after the export completes, clear the **Close this dialog box when complete** box. This may be useful if you want to check the status of your export on completion without viewing the log file.
>
> To open the exported CSV file in the default application associated with CSV files on your computer, check **Open file when complete**.

   Next, the Select Options window appears.



7. Select the CSV file you want to export information to. To do so, click the Select file icon, select the CSV file, or select the location for your CSV file and enter the name if the file does not exist, then click **Open**.

   The Select Options window shows the file path.

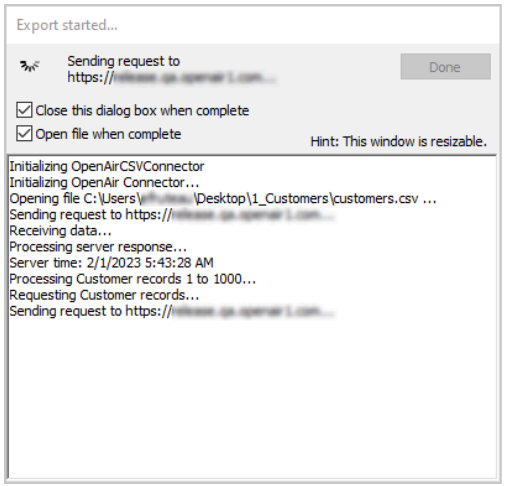
8. Select the delimiter to be used in the exported CSV file from the **File delimiter** dropdown options.

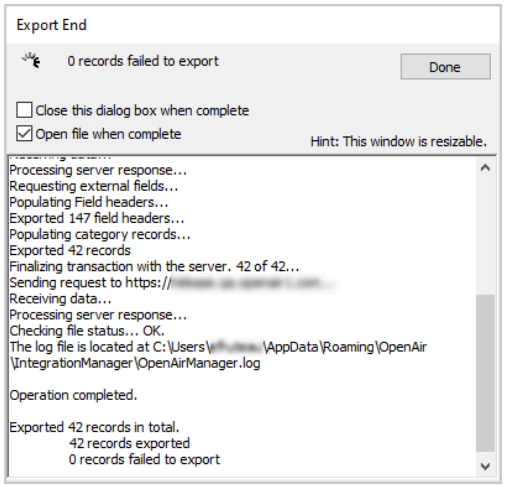
9. By default, Integration Manager adds the selected delimiter at the end of each row (record), after the last column. To exclude the delimiter at the end of each row, check the **Exclude trailing delimiter from each record** box.

> **Note:** Both the CSV delimiter and the optional row end delimiter depend on the third-party application you plan to import the CSV file into and the CSV format it requires.

10. Click **OK**.

The progress status window shows the detailed progress of your export from start to completion.





11. After the export completes, you can open the exported CSV file.

> **Note:** Spreadsheet applications may interpret certain type of information in your CSV file and change the format of the values. For example, alphanumeric values with leading zeros may be interpreted as number fields and leading zeros may be dropped. To check the format of values in the exported CSV file, open the file with a text editor.

Adding Header Information to Exported CSV Files

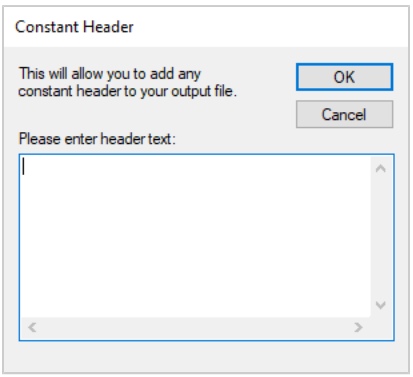
When you export OpenAir data to a CSV file using Integration Manager, you can add default header information at the top of exported CSV files. This may be useful if you plan to import date from the CSV file into a third party application that requires this header information. This header information is defined as a constant for each record type you export — you can have different headers for each record type but the header is the same each time you run an export for a given record type unless you change the constant header.

To add header information to exported CSV files:

1. On the Field Mapping window, click **Const Header**.

> **Note:** For steps to go to the Field Mapping window, see Mapping OpenAir Fields to CSV Columns.

The Constant Header window appears.



2. Enter the header information. You can add as many rows of header information as required. Press Enter to go to the next line (row).
3. Click **OK** to return to the Field Mapping window.
4. Click **OK** to save the field mapping settings and return to the main Integration Manager window.

Importing Data from a CSV File into OpenAir

Integration Manager lets you import information from a comma separated values (CSV) file into OpenAir. You can use this functionality to import information from a third-party software application in two steps, exporting information from that third-party application to a CSV file first, and then importing information from that CSV into OpenAir.

You can use the Integration Manager import functionality to create new records or update existing records in OpenAir. Integration Manager creates a new record if it determines that the record does not exist in OpenAir. The rules determining if a record already exists in OpenAir and if the record should be created or updated depend on the record type and whether the import is configured to lookup any existing OpenAir record with matching external ID. For more information, see Record Creation or Update Rules on Import.

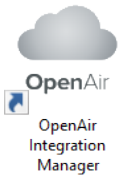
You can select the columns in the CSV file containing the information you want to import into OpenAir and map CSV columns to OpenAir fields, include information you want to store in the custom fields specific to your OpenAir account, look up related OpenAir records by external ID, combine values from several CSV columns into one OpenAir field, split values from a CSV column into several OpenAir fields, import specific information only when the import creates a new record in OpenAir. You can specify the format of date and time columns in the CSV file you import information from, and build in some simple logic to change a target field value in OpenAir based on a test field value in your source CSV file. If you use Integration Manager to import user information for your employees, you can import user settings, including user preferences and user privileges that are stored in the `switch` table, in addition to the employee information stored in the `user` table.

Important: Review the following guidelines:

- Always use caution when importing information from a CSV file into OpenAir. You should not use Integration Manager unless you have received the relevant training. You must have a good understanding of the OpenAir application and how its database is structured, as well as knowledge of the Integration Manager application.
- Integration Manager 6.6 or later version supports Unicode (UTF-8) characters — You can choose between ANSI (codepage 1252, Western Europe) or UTF-8 encoding. Previous versions of Integration Manager use ANSI (codepage 1252, Western Europe) encoding exclusively. When using ANSI encoding, for imports, only Western European characters are supported. Be sure that the source CSV file containing the information you import into OpenAir uses the character encoding scheme selected in the Integration Manager application or shortcut bundle instance you are using to import the information.
- Use only a decimal point to separate the integral part and decimal part of decimal number values imported to OpenAir. Other decimal separators and thousands separators are not supported in integral numbers.
- Most decimal numbers in OpenAir have two-digit precision. To avoid rounding inconsistencies in OpenAir, you should use the same precision in your source CSV file.
- Conditional overrides may be used to modify the format of values following a regular expression pattern. For more information, see Setting Up Conditional Overrides and Regular Expressions Use Case Examples.
- To verify the format and decimal precision of an OpenAir field, refer to the OpenAir Data Dictionary. See OpenAir Data Dictionary.

To import data from a CSV file into OpenAir:

1. Launch Integration Manager. To do so, do one of the following:
   - Double-click the shortcut icon on your desktop (if you opted to add the shortcut during installation).



   - Enter "OpenAir Integration Manager" in the search box on the Windows task bar, then double-click **OpenAir Integration Manager**.
2. Enter your OpenAir account and sign-in details. See Connecting Integration Manager with your OpenAir Account.
3. Select the character encoding scheme for CSV imports and exports. See CSV Character Encoding.
4. In Integration Manager, identify the type of record you want to import and configure the import. To do so:

a. Map OpenAir fields to CSV columns. See Mapping OpenAir Fields to CSV Columns.

The field mapping functionality lets you select the CSV columns you want to import into OpenAir and map each CSV column to the corresponding OpenAir field. You can also:

- Import information into the custom fields specific to your OpenAir account. See Making OpenAir Custom Fields Available for Mapping.
- Include additional information not already available in your source CSV file and import it into an OpenAir field. See Making Additional Information Available for Mapping (Calculated Fields).
- Combine values under several CSV columns and import them into one OpenAir field, or split values under one CSV column and import them into separate OpenAir fields. See Combining and Splitting Information.
- When importing user information for your employees, import user settings, including user preferences and user privileges that are stored in the `switch` table, in addition to the employee information stored in the `user` table. See Making User Settings Available for Mapping (User Imports Only).
- Look up related OpenAir records by external ID. See OpenAir Field Value Lookup (Export) and Record Lookup (Import).

> **Important:** Integration Manager uses an import key field or a combination of import field key fields to determine if a matching record already exists in OpenAir. If the record exists, Integration Manager updates the OpenAir record with the corresponding information in the CSV file. If the record does not exist, Integration Manager adds a new record in OpenAir.
>
> Integration Manager determines which field to use as import key based on the field mapping configuration. For more information about rules determining record creation or update, see Record Creation or Update Rules on Import.

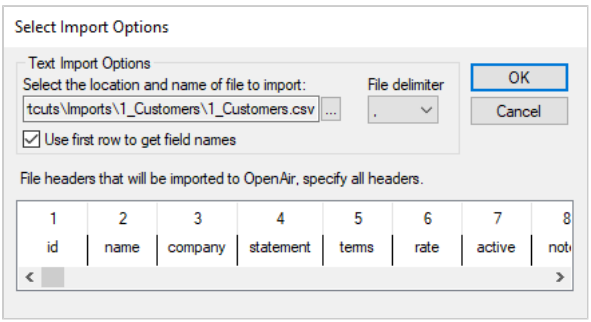
b. Set formatting options. See Formatting Information for Export and Import.

The formatting options let you:

- Specify the format of values containing both date and time parts in your CSV file. See Setting the Date and Time Format Used in the CSV File.
- Build in some simple logic using conditional overrides to change a target field value in OpenAir based on a test field value in your source CSV file. See Setting Up Conditional Overrides.

5. Create an Integration Manager shortcut if you want to import records of this type on a regular basis manually without launching the Integration Manager application, or to schedule the import to run automatically. This may be useful to support an on-going integration, for example. The Integration Manager shortcut you create captures the field mapping, format and other settings you configured for this import. See Working with Export and Import Shortcuts and Working with Export and Import Shortcuts.
6. On the main Integration Manager window, select the row corresponding to the record type you want to import to a CSV file, then click **Start** to launch the import process.

The Select Import Options window appears.



7. Select the CSV file you want to import information from. To do so, click the Select file icon ..., select the CSV file, then click **Open**.

   The Select Import Options window shows the file path.

8. Select the delimiter used in the CSV file from the **File delimiter** dropdown options.

9. Check the **Use first row to get field names** box if the selected CSV file includes column headers (field names) in the first row. If the CSV file does not contain column headers on the first row, enter column headers in the bottom box. You can edit existing column headers if required.

   Important: The name and sequence of column headers in the CSV file must be the same as in the CSV file you used to configure the import.

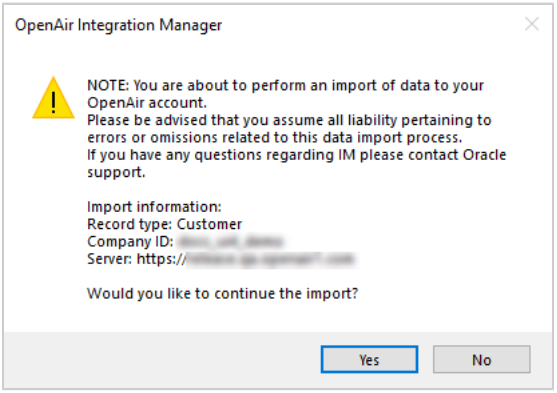
10. Click **OK**.

    The Date/Time Format window appears.

11. Specify the format of values containing both date and time parts in your CSV file. See Setting the Date and Time Format Used in the CSV File.

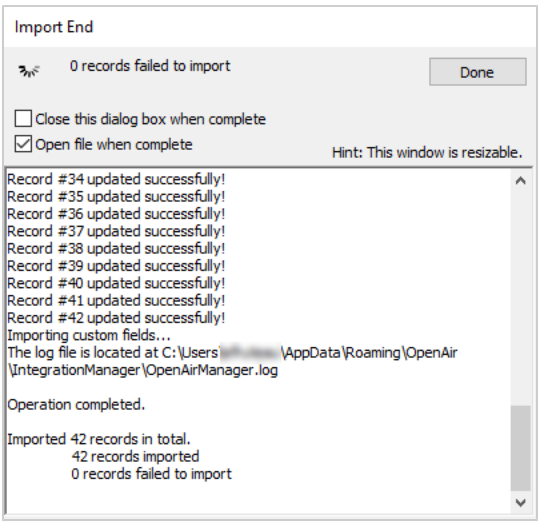
12. Click **OK**.

    A confirmation message appears

13. 

14. Click **Yes** to continue with the import.

    A progress status appears and shows the detailed progress of your export from start to completion.



Note: To keep the import progress status window open after the import completes, clear the **Close this dialog box when complete** box. This may be useful if you want to check the status of your import on completion without viewing the log file.

To open the imported CSV file in the default application associated with CSV files on your computer, check **Open file when complete**.

Record Creation or Update Rules on Import

You can use the Integration Manager import functionality to create new records or update existing records in OpenAir.

Integration Manager uses an import key field or a combination of import field key fields to determine if a matching record already exists in OpenAir. If the record exists, Integration Manager updates the OpenAir record with the corresponding information in the CSV file. If the record does not exist, Integration Manager adds a new record in OpenAir.

Several factors impact the record creation and update rules when importing information from a source CSV file into OpenAir:

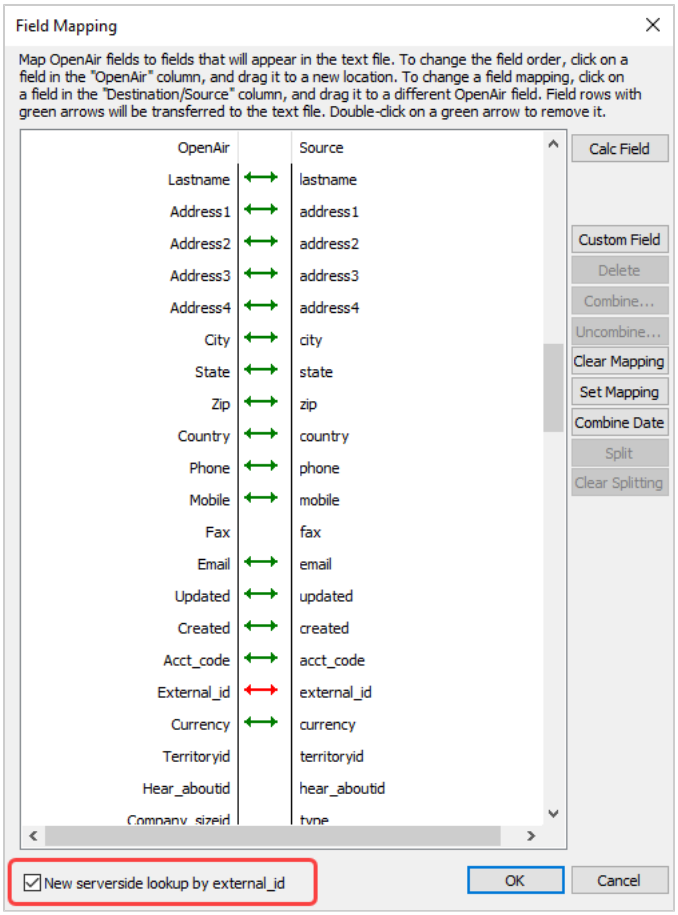
1. **Lookup method** — Two lookup methods are available. The **New serverside lookup by external_id** box on the Field Mapping window control which method Integration Manager uses.

   Important: You should use the server-side import key lookup method. It is faster and more robust than the alternative client-side method. To do so, check the **New serverside lookup by external_id** box. This is the default method – the box is already checked the first time you open the field mapping settings for a specific record type.

   - Server-side lookup (when the box is checked) — Integration Manager uses server-side logic to process each row of information (or record) in the source CSV file one after the other, and searches for the import key field value in OpenAir to determine whether to update or create the corresponding record in OpenAir.
   - Client-side lookup (when the box is cleared) — Integration Manager compares each row of information in the source CSV (on the client-side) with information retrieved from OpenAir before the import. This method also uses import keys, but the record creation or update rules depend on the type of record you import. This method does not cross check the content if

the source CSV file for duplicated import key field values. You must verify your CSV data and be sure that all import key field values are unique to avoid the creation of duplicate records in OpenAir.

The server-side lookup offers a little less flexibility in the type of fields that can be used as import keys. However, it is faster and more robust than the alternative client-side method.



2. **Field mapping** — Integration Manager determines which field to use as the import key based on the field mapping you define for your import. The following table lists the fields that can be used as import key in descending order of precedence from highest to lowest. The import key is the highest of the listed OpenAir field that is mapped to column in the source CSV file.

> **Note:** When the **New serverside lookup by external_id** box is checked, a red color arrow indicates the field used as an import key.

#	OpenAir Field	Descripton
1.	Internal ID [id]	**Map the OpenAir internal ID if you want the import to update OpenAir records only.** The OpenAir internal ID is the unique identifier (primary key) for a record of a given type in OpenAir. OpenAir assigns a unique internal ID sequentially to each new record. The assignment of internal IDs is reserved to OpenAir. If the OpenAir internal ID [Id] is mapped to a column in the source CSV file, Integration Manager uses the internal ID as the import key to find and update the matching OpenAir record. If there are no records with a matching record type and matching internal ID, Integration Manager returns an error.

#	OpenAir Field	Descripton
		A mapped OpenAir internal ID always takes precedence over a custom import key, external ID, or name field. **Important:** Integration Manager never creates a record in OpenAir on import if the OpenAir internal ID is mapped with a column in the CSV file.
2.	Custom Import Key Field	**Define and map a custom import key to create or update OpenAir records.** OpenAir lets you store an **External ID** [External_id] for records imported from a third-party application as standard. You can also create custom fields in OpenAir to store unique identifiers for corresponding records in multiple third-party applications across your IT infrastructure. To do so: a. In OpenAir, create a custom field to use as import key. See the help topic Creating and Modifying Custom Fields. b. In Integration Manager, declare this custom field as an import key by checking the **Its value is unique and the field is used as a key mapping field** box. See Making OpenAir Custom Fields Available for Mapping. Integration Manager uses the custom import key to find and update the matching OpenAir record, if it exists, or to create a new record in OpenAir if there are no records with a matching record type and custom import key, if all the following conditions are met: ■ A custom import key is mapped to a column in the source CSV file. ■ The OpenAir internal ID [Id] is not mapped to a column in the source CSV file. **Important:** You should use the custom import key to reference a unique identifier (primary key) for the corresponding record in the third-party application you import information from. The custom import key can then be used to link an OpenAir record with an external system record in a 1:1 relationship, to ensure that the OpenAir record can be updated after you make changes to the information in the external system, and to avoid the creation of duplicate records.
3.	External ID [external_id]	**Map the external ID standard field to create or update OpenAir records.** OpenAir lets you store an **External ID** [External_id] for records imported from a third-party application. Integration Manager uses the external ID to find and update the matching OpenAir record, if it exists, or to create a new record in OpenAir if there are no records with a matching record type and external ID, if all the following conditions are met: ■ The external ID [External_id] field is mapped to a column in the source CSV file. ■ A custom import key field is **not** mapped to a column in the source CSV file. ■ The OpenAir internal ID [Id] field is **not** mapped to a column in the source CSV file. **Important:** You should use the external ID to reference a unique identifier (primary key) for the corresponding record in the third-party application you import information from. The external ID can then be used to link an OpenAir record with an external system record in a 1:1 relationship, to ensure that the OpenAir record can be updated after you make changes to the information in the external system, and to avoid the creation of duplicate records.
4.	Name [name]	**Map the name standard field to create or update OpenAir records (client-side lookup only) depending on the record type.**

#	OpenAir Field	Descripton
		Depending on the record type, Integration Manager uses the name field to find and update the matching OpenAir record, if it exists, or to create a new record in OpenAir if there are no records with a matching record type and name, if all the following conditions are met: ■ The **New serverside lookup by external_id** box is **not** checked on the Field Mapping window. ■ The name [name] field is mapped to a column in the source CSV file. ■ The external ID [External_id] field is **not** mapped to a column in the source CSV file. ■ A custom import key field is **not** mapped to a column in the source CSV file. ■ The OpenAir internal ID [Id] field is **not** mapped to a column in the source CSV file. **Important:** The **name** cannot be used as the import key field when the server-side lookup is enabled. This lookup behavior depends on the type of records you import. See below.

3. **Record Type** — If using the client-side lookup (when **New serverside lookup by external_id** box is **not** checked), the record creation or update rules depend on the type of record being imported. The following table describes record creation and update rule variations for different types of records.

Record Type	Record Creation and Update Rules Variations
Transaction Records: ■ Booking ■ Envelope ■ Invoice ■ Payment ■ Project Billing Rule ■ Project task ■ Project task assign ■ Receipt ■ Reimbursement ■ Resource Profile ■ TimeBill or Slip (Charges) ■ User Project Rate.	Only the OpenAir internal ID can be used as import key.
Entity Records: ■ Booking Type ■ Cost Center ■ Customer ■ Department ■ Expense Item ■ Prospect ■ Service ■ Vendor	OpenAir internal ID, custom import key, external ID, and name fields can be used as import keys.

Record Type	Record Creation and Update Rules Variations
Special Case: ■ Contact	The OpenAir internal ID can be used as import key. In addition, a combination of `customer_id`, `firstname` and `lastname` is always used as import key. If the customer ID and the contact first and last name in the source CSV file match the customer ID, first and last name of an existing contact record in OpenAir, in addition to a matching internal ID, custom import key, or external ID, that record is updated, and if there are no contact records with a matching customer ID, first and last name, a new record is created.
Special Case: ■ Project	The OpenAir internal ID can be used as import key. The combination of `customer_id` and `name` fields can be used as import key (instead of the `name` field alone). In this case, if both the customer ID and the project name in the source CSV file match the customer ID and name of an existing project record in OpenAir, that record is updated, and if there are no project records with a matching customer ID and matching name, a new record is created.
Special Case: ■ User	OpenAir internal ID, custom import key, and external ID fields can all be used as import keys. The `nickname` can be used as import key (instead of the `name` field).
Special Case: ■ Profile Type	The OpenAir internal ID can be used as import key. The combination of `name` and `type` fields can be used as import key (instead of the name field alone). In this case, if both the name and the type in the source CSV file match the name and type of an existing profile type record in OpenAir, that record is updated, and if there are no profile type records with a matching name and matching type, a new record is created.

Making User Settings Available for Mapping (User Imports Only)

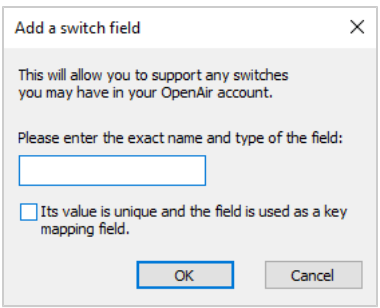
You can import user information for your employees using Integration Manager. In addition to the employee information stored in the `user` table, you can import user settings, including user preferences and user privileges that are stored in the `switch` table.

To make a user setting available for mapping:

1. On the Field Mapping window for user imports, click **Switch**.

   Note: For steps to go to the Field Mapping window, see Mapping OpenAir Fields to CSV Columns.

   The Add a switch field dialog windows.



2. Enter the setting name exactly as used in the OpenAir `switch` table. The setting name display name that is used on forms and list views in the OpenAir UI in addition to the unique field name that is used to reference the custom field.

   To verify the setting name in OpenAir, go to Administration > Global Settings > Users > Employees > [*Select an employee*] then use the developer tools in your browser to inspect the label for the setting. The Inspector pane or window shows the HTML code for the page you are viewing with the element you are inspecting highlighted. The element should read as follows, with the setting name showing in between quotation marks.

```
<label for="setting_name">Setting label</label>
```

> **Note:** Make sure you use the setting name and not the label displayed on the form. The setting name is used to reference the setting in the OpenAir software and contains only alphanumeric or underscore characters.

3. Click **OK** to return to the Field Mapping window.
4. Click **OK** to save the field mapping settings and return to the main Integration Manager window.

Examples of Standard User Settings

Setting Name	Privilege / Preference	Accepted values
ta_module_off	Access to Timesheets module	0 – user can access 1 – user cannot access
te_module_off	Access to Expenses module	0 – user can access 1 – user cannot access
pm_module_off	Access to Projects module	0 – user can access 1 – user cannot access
rm_module_off	Access to Resources module	0 – user can access 1 – user cannot access
ma_module_off	Access to My account module	0 – user can access 1 – user cannot access
tb_module_off	Access to Invoices module	0 – user can access 1 – user cannot access

Setting Name	Privilege / Preference	Accepted values
km_module_off	Access to Worspaces module	`0` – user can access 1 – user cannot access
po_module_off	Access to Purchases module	`0` – user can access 1 – user cannot access
om_module_off	Access to Opportunities module	`0` – user can access 1 – user cannot access
enable_report_editor	Enable the report management and editor interface	`0` – clear the box 1 – check the box
sort_pt_dropdown_alpha	Sort the task drop-downs by name and omit the ID number prefix	`0` – clear the box 1 – check the box
ta_timesheet_required	Timesheet required	`0` – clear the box 1 – check the box
ta_length_user	Timesheet duration	`A` – same as company setting `D` – daily timesheets `W` – weekly timesheets `B` – bi-weekly timesheets `M` – monthly timesheets

ta_open_periods	Timesheet open periods	`MM/DD/YYYY-MM/DD/YYYY`
		`MM/DD/YYYY-MM/DD/YYYY`
		`...`

te_open_periods	Expenses open periods	`MM/DD/YYYY-MM/DD/YYYY`
		`MM/DD/YYYY-MM/DD/YYYY`
		`...`

ta_capture_time	Enable start and end time entry on timesheets	`0` – clear the box 1 – check the box

<allocation_grid_custom_field_name>	Allocation grid custom field	`GridCategory1, PercentageValue1`
		`GridCategory2, PercentageValue2`
		`GridCategory3, PercentageValue3`
		`...`
		Where `GridCategory<N>` are the categories defined for your allocation grid, and `PercentageValue<N>` are the percentage shares for each category.

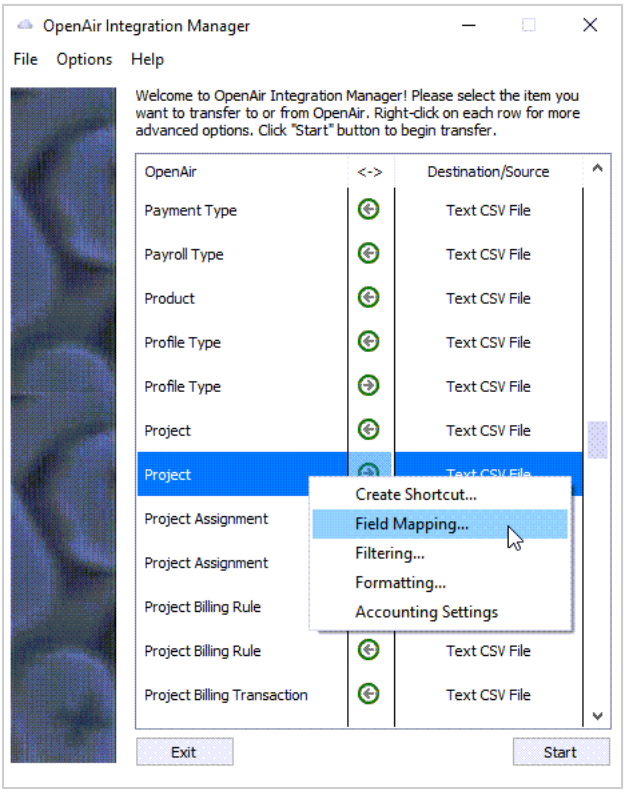
Mapping OpenAir Fields to CSV Columns

Integration Manager lets you map the OpenAir fields for each supported record type to columns in the CSV file you export information to or import information from. You can set the name and order of columns in the CSV file, combine multiple OpenAir fields into a single CSV column (export) or multiple CSV columns into a single OpenAir field (import), split a CSV column into multiple OpenAir fields (import), or include additional information such as custom fields or calculated fields.

Important: Incorrect field mapping can result in corrupted data in OpenAir or third-party application you are integrating OpenAir with, including the creation of duplicate records. You must have a good understanding of OpenAir and its database structure before you create or modify field mappings, and you must proceed with caution.

To map OpenAir fields to CSV columns:

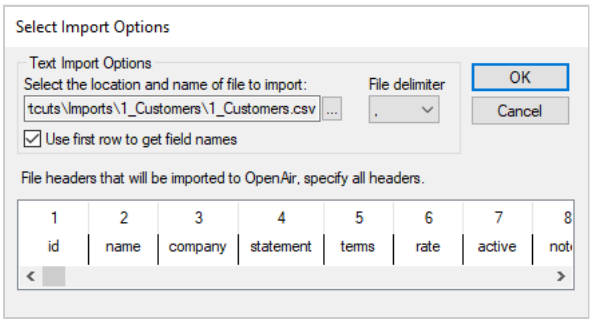
1. In Integration Manager, locate the row corresponding to the record type and the direction required from the table listing the record types available for import from and export to a CSV file.
2. Do one of the following:
   - Click to select the row, then go to Options > Field Mapping.
   - Right-click the row, then click **Field Mapping** from the context menu.



Depending on the direction, the Field Mapping window appears (export) or the Select Import Options window appear (import).

3. (**Import only**) When importing information from a CSV file into OpenAir, do the following in the Select Import Options window:

a. Click the More button [...] and select the CSV file to import information from.

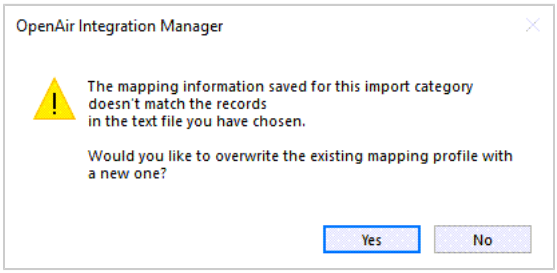


b. Select the **File delimiter** in the CSV file you want to import information from.

c. Check the **Use first row to get field names** box if the selected CSV file includes column headers (field names) in the first row. If the CSV file does not contain column headers on the first row, enter column headers in the bottom box. Each column must have a header. You can edit existing column headers if required.

d. Click **OK**.

A window appears.



e. Click **Yes** to save the mapping profile.

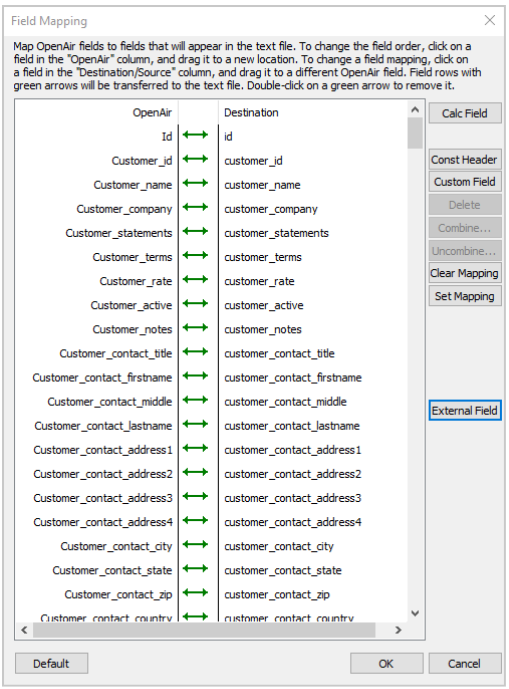
The Field Mapping window appears.

4. The Field Mapping window includes a table listing OpenAir fields and CSV column headers.

A green color arrow in the middle column indicates that the information in this OpenAir field or CSV column is included in the export or import.

- For export field mappings, the CSV is noted as **Destination**. The middle column shows green color arrows for each row – all available OpenAir fields are included in the export by default.
- For import field mappings, the CSV is denoted as **Source**. The middle column is empty – no information is included in the import by default. When the **New serverside lookup by external_id** box is checked, a red color arrow indicates the field used as an import key. OpenAir Integration manager uses the import key to determine if a matching record already exists. If the record exists, Integration Manager updates the OpenAir record with the corresponding information in the CSV file. If the record does not exist, Integration Manager adds a new record in OpenAir. Integration Manager automatically determines the import key. See Record Creation or Update Rules on Import.

Listed OpenAir fields include supported standard fields for the OpenAir record type you selected for export or import. If you select an OpenAir record type for export, the listed OpenAir fields also include supported standard fields for other record types directly related with the record type you selected for export. In this case, the field name appears in the list as `<record_type>_<field>`, where `<record_type>` is the name of the associated record type and `<field>` is the field name. For example, when exporting project records, `Customer_name` and other customer fields are also listed in the field mapping table.



Export

Import

To map a CSV column with an OpenAir field, or change an existing field mapping, drag the CSV column name under the Source or Destination column to the corresponding field name under the OpenAir column.

(Export only) To change the order of the CSV columns, drag the OpenAir field to the new position.

(Export only) To change the name of a CSV column, double click the CSV column name and enter the new name.

To add or remove an OpenAir field or CSV column from the import or export, double-click the middle column on the corresponding row.

To add or remove several OpenAir fields or CSV columns from the import or export at the same time, use the Shift key or Ctrl key to select multiple rows and click **Set Mapping** or **Clear Mapping**.

(Export only) To set field level formatting for a specific OpenAir field to CSV column mapping, right-click the row then click Format. For more information about formatting, see Formatting Information for Export and Import and Validating Field Value Length and Range on Export.

You can:

- Make custom fields defined for your OpenAir account available for mapping. See Making OpenAir Custom Fields Available for Mapping.
- Make additional information not in your source data available for mapping. See Making Additional Information Available for Mapping (Calculated Fields).
- Split a source field into two or more destination fields (Import only), combine source fields into a single destination field (Import and Export), or combine separate date and time fields in the source CSV file into a datetime field in OpenAir (Import only). See Combining and Splitting Information.
- (Import only) Import specific information only when the import creates a new record in OpenAir. By default, the information is imported into all mapped fields both when the import creates a new record and when the import updates an existing record. You can specify the fields you do

not want to be updated when the import updates a record. See Importing Field Values on Initial Import Only.

- (Export only) Look up OpenAir standard or custom field values for record types directly or indirectly related to the record type you selected for export. See OpenAir Field Value Lookup (Export) and Record Lookup (Import).
- (Import only) Look up OpenAir records associated with the records you import by name or external ID. See OpenAir Field Value Lookup (Export) and Record Lookup (Import).
- (Export only) Add default header information to your exported CSV files. See Adding Header Information to Exported CSV Files.
- (User import only) Make user settings, including privileges and preferences, available for mapping. See Making User Settings Available for Mapping (User Imports Only).

5. (Import only) The **New serverside lookup by external_id** box is checked by default. You should keep this box checked.

> **Note:** When importing information into OpenAir, Integration Manager uses an import key to check if any of the records in your source CSV file already exist in OpenAir. If a record with a matching import key value exists in OpenAir, Integration Manager updates that record with the information in the CSV file. If Integration Manager does not find a matching import key value, it creates a new record in OpenAir.
>
> The server-side lookup (when the box is checked) optimizes the import process. It is both faster and more robust than the alternative client-side method (when the box is cleared), which may result in the creation of duplicate records in OpenAir if the source CSV file contains several rows with the same import key field values.
>
> For more information, see Record Creation or Update Rules on Import.

6. Click **OK** to save the field mapping settings and return to the main Integration Manager window.

Importing Field Values on Initial Import Only

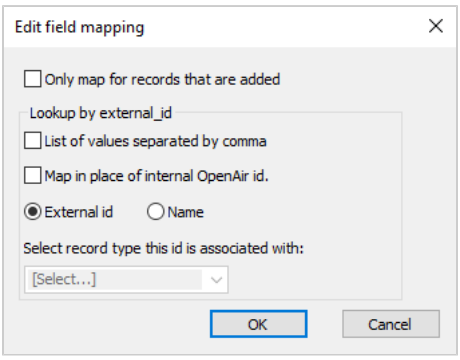
You can set up Integration Manager to import specific information only during the initial import of a record (when the import creates a new record in OpenAir). By default, the information is imported into all mapped fields both when the import creates a new record and when the import updates an existing record. You can specify the fields you do not want to be updated when the import updates a record.

To import field values on initial import only:

1. On the Field Mapping window, right-click on a field mapping with a green arrow, and click **Edit**.

> **Note:** For steps to go to the Field Mapping window, see Mapping OpenAir Fields to CSV Columns.

The Edit field mapping window appears. External ID is selected by default.



2. Check the **Only map for records that are added** box.
3. Click **OK** to return to the Field Mapping window.
4. Click **OK** to save the field mapping settings and return to the main Integration Manager window.

Making OpenAir Custom Fields Available for Mapping

By default, only supported OpenAir standard fields are available for mapping. You can add custom fields for a specific record type in OpenAir and make these custom fields available for mapping in Integration Manager. You can then export and import information to and from OpenAir custom fields in the same way as you import and export information to and from OpenAir standard fields. You can rename, reorder, map, combine, or split into OpenAir custom fields in the same way as you work with standard fields.

Note: Each custom field in OpenAir is associated with a specific record type. When you make a custom field available for mapping in Integration Manager, ensure that:

- For export field mappings, the custom field is associated with either the record type selected for import, or a record type directly related with the record type selected for import.
- For import field mappings, the custom field is associated with the record type selected for import.

For export field mappings, you can also look up OpenAir custom field values for record types directly or indirectly related to the record type you selected for export. See OpenAir Field Value Lookup (Export) and Record Lookup (Import).

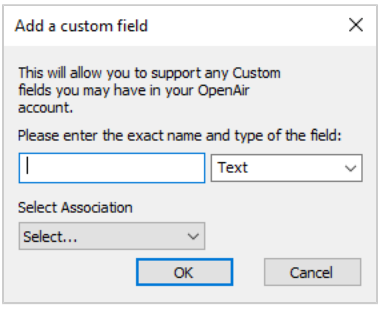
After you make a custom field available for mapping, you can edit its properties or remove it at any time. See Editing the Properties of a Custom Field Available for Mapping and Removing a Custom Field Available for Mapping.

To make an OpenAir custom field available for mapping:

1. On the Field Mapping window, click **Custom Field**.

   Note: For steps to go to the Field Mapping window, see Mapping OpenAir Fields to CSV Columns.

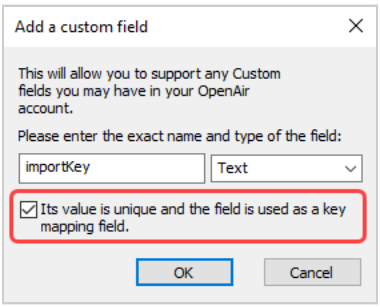
   The Add a custom field window appears.



2. Enter the custom field name and select the custom field type exactly as defined in OpenAir.

> **Note:** To verify the name and type of custom fields in OpenAir, go to Administration > Global Settings > Custom Fields.
>
> Custom fields may have an optional display name that is used on forms and list views in the OpenAir UI in addition to the unique field name that is used to reference the custom field. This field name may contain only alphanumeric and underscore characters. For more information about custom fields, see the help topic Custom Fields.
>
> Not all custom field types are available for selection. For example, to import a URL custom field, select `Text` instead of `URL` and ensure that the field values follow the expected format for import into OpenAir. The expected format for URL custom field values is `[Example of visible link text](https://www.example.com/example)`.

3. (Export only) Select the record type for which this custom field is defined under **Select Association**. Dropdown list options include the record type selected for export and other supported record types directly related to the record type selected for export.
4. (Import only) To use a custom field as an import key, check the **Its value is unique and the field is used as a key mapping field** box. Integration Manager can use a custom import key to find and update the matching OpenAir record, if it exists, or to create a new record in OpenAir if there are no records with a matching record type and custom import key, if certain conditions are met. For more information about using custom import keys, see Record Creation or Update Rules on Import.



5. Click **OK** to return to the Field Mapping window.
6. Click **OK** to save the field mapping settings and return to the main Integration Manager window.

Editing the Properties of a Custom Field Available for Mapping

After you make a custom field available for mapping, you can edit its properties at any time.

To edit the properties of a custom field available for mapping:

1. On the Field Mapping window, locate and right-click the custom field you want to edit.

   A context menu appears.
2. Click **Edit**.

   The Edit a custom field window appears.

3. Modify the properties as required. For more information, see Making OpenAir Custom Fields Available for Mapping.
4. Click **OK** to return to the Field Mapping window.
5. Click **OK** to save the field mapping settings and return to the main Integration Manager window.

Removing a Custom Field Available for Mapping

After you make a custom field available for mapping, you can remove it at any time.

To remove a custom field available for mapping:

1. On the Field Mapping window, locate and click the custom field you want to edit.
2. Click **Delete**.

   A confirmation window appears.
3. Click **Yes**.
4. Click **OK** to save the field mapping settings and return to the main Integration Manager window.

Making Additional Information Available for Mapping (Calculated Fields)

You can use **calculated fields** to make additional information available for mapping, and then export this information to a column in your CSV file, or import it into a standard or custom field in OpenAir. This additional information can be:

- A **constant** — This may be useful when setting default values, such as marking records as **Active** when importing them into OpenAir, for example, or to substitute any required information that cannot be extracted from your source of data with a constant value.
- A **copy of a source field** — This may be useful if you need to map the same source field to several destination fields.
- A **prompt input** — This may be useful if you want to enter the information when running the export or import. A prompt dialog appears before the export or import and lets you enter the field value.
- (Export only) A **current date and time stamp** — This may be useful if you want to record the data and time of the export run.
- (Export only) A **counter** — This may be useful if you want to:
  - Increment a field value by 1 for each exported record across the whole export run, or for each exported record with the same reference field value. For example, if you export receipt records, you can increment a receipt counter by 1 for each receipt included in the entire export run, or for each receipt in the same expense report (each receipt with the same expense report tracking number [`envelope_number`]) with the counter being reset for each expense report.
  - Add information about the number of records exported across the whole export run, or about the number of exported records with the same reference field value. For example, if you export receipt records, you can add information about the number of receipts exported in this export run, or about the number of receipts in the same expense report.
  - Summarize grouped record data and increment a field value by 1 for each group, or include information about the number of groups. This may be useful to number the distribution lines in an Accounts Receivable invoice or an Accounts Payable voucher, or include the number of distributions in an Accounts Receivable invoice, for example. For more information about summarizing grouped data, see Accounting Settings.

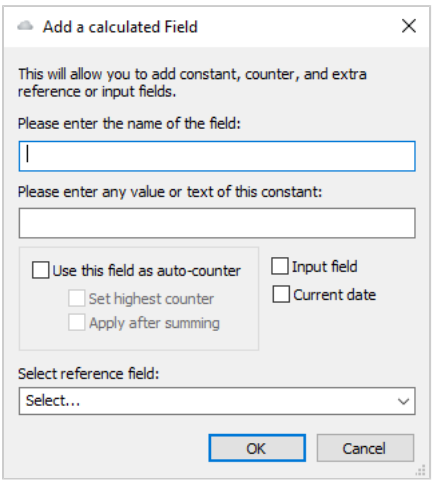
After you add a calculated field, it appears at the bottom of the field mapping table under **OpenAir** (for export field mappings) or under **Source** (for import field mapping). You can rename, reorder, map, combine calculated fields in the same way as you work with standard fields, however calculated fields do not exist in your source data.

To make additional information available for mapping:

1. On the Field Mapping window, click **Calc Field**.

   Note: For steps to go to the Field Mapping window, see Mapping OpenAir Fields to CSV Columns.

   The Add a calculated field window appears.



2. Enter the name of the field.

> **Note:** You should give the field a name that tells what it is supposed to accomplish. For example:
>
> If you are defining a constant to mark OpenAir records imported from a CSV file, name the constant "`Active - 1`".
>
> If you are using a constant to import projects into OpenAir at a certain stage, name the constant "`Project Stage = In-flight`".
>
> If you are copying a source field, use the same source field name and append the mention "`(Copy)`" at the end.

3. Do one of the following:

   - To use a default field value (constant) across all exported or imported records, enter a numerical or string value in the **Please enter any value or text for this constant** box.
   - To copy an existing source field, select the source field you want to copy from the **Select reference field** dropdown options.
   - To show an input prompt before the export or import run starts and use the value entered at the prompt, check the **Input field** box. To set a default value for the input prompt, enter a numerical or string value in the **Please enter any value or text for this constant** box.
   - (Export only) To use the date and time of the export run, check the **Current date** box.
   - (Export only) To use a counter, check the **Use this field as auto-counter** box. By default, this results in incrementing the field value by 1 for each exported record across the whole export run.
     - To increment the field value by 1 for each exported record in the run with the same reference field value, select the counter reference field from the **Select reference field** dropdown options. You can use this to include a unique reference for each transaction records (such as receipts, for example) within a specific container (such as an expense report). The counter is reset with each new container record.

- To add information about the number of records exported across the whole export run, check the **Set highest counter** box.
- To add information about the number of exported records in the run with the same reference field value (under the same container), check the **Set highest counter** box and select the counter reference field from the **Select reference field** dropdown options.
- To summarize grouped record data and increment a field value by 1 for each summary group, check the **Apply after summing** box.
- To summarize grouped record data and increment a field value by 1 for each summary group with the same reference field value (under the same container), check the **Apply after summing** box and select the counter reference field from the **Select reference field** dropdown options. For more information about summarizing grouped data, see Accounting Settings.

> **Note:** If you check both the **Input field** and **Current date** boxes, the **Input field** box is ignored – the input prompt is not shown before the export run starts.
>
> The value you enter in the **Please enter any value or text for this constant** box is ignored if you check the **Use this field as auto-counter** or the **Current date** box.

4. Click **OK** to return to the Field Mapping window.
5. Click **OK** to save the field mapping settings and return to the main Integration Manager window.

Combining and Splitting Information

You can combine several source fields into a single destination field (Import and Export), combine separate date and time fields in the source CSV file into a `datetime` or `timestamp` field in OpenAir (Import only), or split a source field into two or more destination fields (Import only).

- Combining Several Source Fields into a Single Destination Field (Import and Export)
- Combining Date and Time Fields for Import
- Undoing a Field Combination
- Splitting a Source CSV Field into Several OpenAir Fields for Import
- Undoing a Field Split

Combining Several Source Fields into a Single Destination Field (Import and Export)

You can combine information stored under several columns in your CSV file and import it into a single OpenAir field. You can also combine information stored in several OpenAir fields and export it to a CSV file under a single column. You can combine information in either one of three ways:

- **Concatenate** — You can join two or more text strings into one string and specify a separator to use between the source strings in the destination string.
- **Add** — (Export only) You can sum numerical values in two or more OpenAir fields and use the total to populate the value under the destination column in the CSV file.
- **Multiply** — (Export only) You can multiply numerical values in two or more OpenAir fields and use the product to populate the value under the destination column in the CSV file.

Note: To modify a combined field mapping, or exclude the fields from the information exported or imported, you must undo the field combination first. You can then combine the fields again, or remove the fields from the export or import as required. For more information about undoing a field combination, see Undoing a Field Combination.

To combine several source fields into a single destination field:

1. On the Field Mapping window, line up the source fields you would like to combine so they are adjacent. Drag each field to change the order they appear in the list if necessary.

   The source fields are under **OpenAir** for export field mappings, or under **Source** for import field mappings. If you want to concatenate the source field values, line them up in the order you want them to be concatenated. Source fields lined up top to bottom are concatenated left to right in the destination field.

   Note: For steps to go to the Field Mapping window, see Mapping OpenAir Fields to CSV Columns.

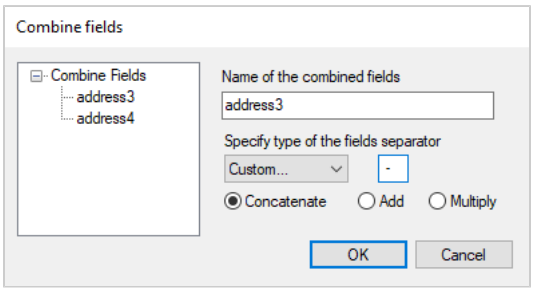
2. Hold `Ctrl` and click the fields you want to combine.

   Selected fields are highlighted in blue.

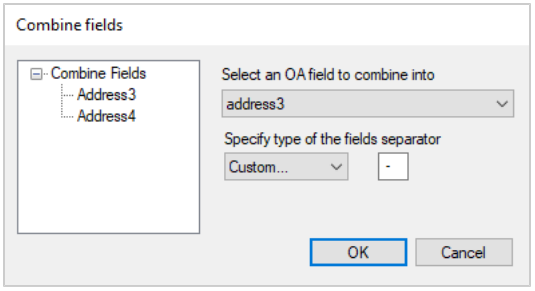
3. Click **Combine**.

   The Combine fields window appears.

4. Do one of the following:
   - For exports, enter the name of the CSV column that will hold the combined OpenAir field values in the **Name of the combined fields** box.



- For imports, select the OpenAir field that will hold the combined CSV values from the **Select an OA field to combine into** dropdown options.

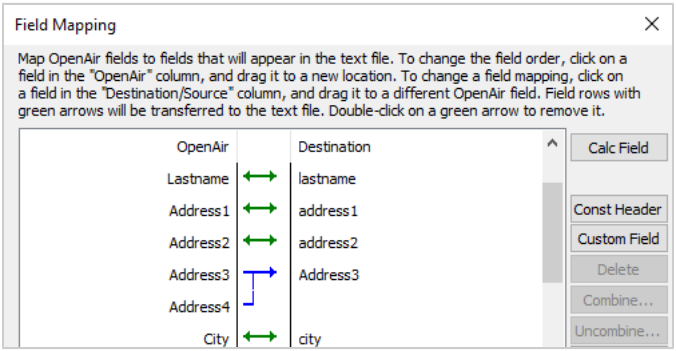


5. (Export only) Choose the combining method. Three combining methods are available: Concatenate, Add, and Multiply.
   - You can combine any OpenAir field values using the **Concatenate** method, regardless of the combined field data types — non-string values are converted to string before being concatenated.
   - When combining field values using the **Add** or **Multiply** methods, the combined OpenAir field values should be either numbers or decimals. The resulting value is `0` otherwise.

> **Note:** For import field mappings, you can only combine source fields using the Concatenate method.

6. If you are combining fields using the **Concatenate** method, select the separator to use between field values in the resulting string from the **Specify type of the fields separator** dropdown options. If you select the `Custom` separator option, enter the separator in the text box, or leave it empty to combine the fields with no separator.
7. Click **OK** to return to the Field Mapping window.

   The Field Mapping window shows the combined fields with a blue branched arrow.



8. Click **OK** to save the field mapping settings and return to the main Integration Manager window.

Combining Date and Time Fields for Import

You can combine separate date and time fields in your source CSV file into fields containing both date and time parts when importing information into OpenAir. This may be useful if date and time information are recorded in separate columns in your CSV file and you want to import information into OpenAir fields such as `created` (`datetime` data type) or `updated` (`timestamp` data type), for example.

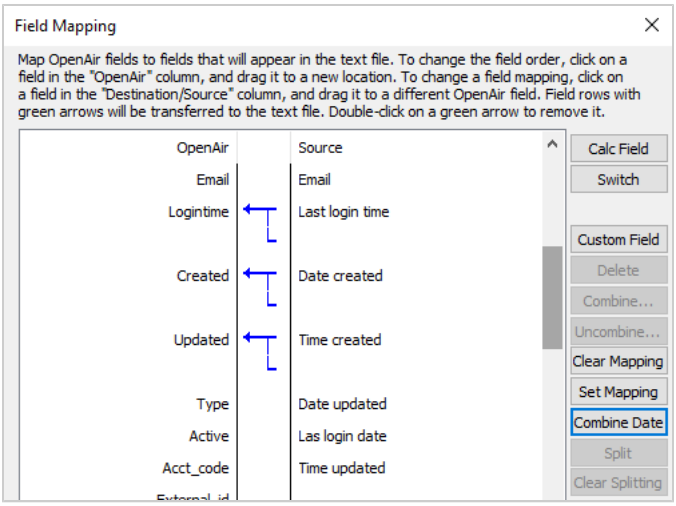
To combine date and time fields for import:

1. On the Field Mapping window, click **Combine Date**.

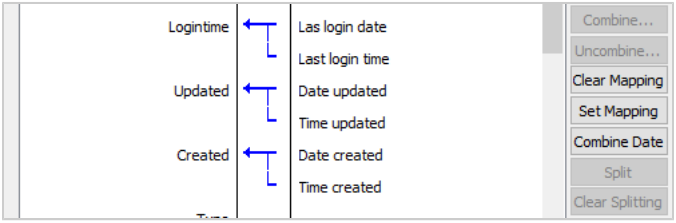
   Note: For steps to go to the Field Mapping window, see Mapping OpenAir Fields to CSV Columns.

   The Field Mapping Windows shows blue branched arrows for each `datetime` or `timestamp` fields in the OpenAir record type.

   You can undo the field combination for any of OpenAir `datetime` or `timestamp` fields if you do not need to import the information, or if the column values already contain both date and time parts in the source CSV file. For more information about undoing a field combination, see Undoing a Field Combination.



2. Drag the date and time fields in your source CSV file to the end of the blue branched arrow for the corresponding OpenAir `datetime` or `timestamp` fields. The time field must be below the date field.



3. Click **OK** to save the field mapping settings and return to the main Integration Manager window.

Undoing a Field Combination

You can undo a field combination at any time after you combine fields. To modify a combined field mapping, or exclude the fields from the information exported or imported, you must undo the field combination first. You can then combine the fields again, or remove the fields from the export or import as required.

To undo a field combination

1. On the Field Mapping window, click the field combination you want to undo.

   Note: For steps to go to the Field Mapping window, see Mapping OpenAir Fields to CSV Columns.

2. Click **Uncombine**.
3. Click **OK** to save the field mapping settings and return to the main Integration Manager window.

Splitting a Source CSV Field into Several OpenAir Fields for Import

You can split a field from the source CSV file into two or more fields when importing information into OpenAir.

Note: To modify a split field mapping, or exclude the fields from the information imported, you must undo the split field first. You can then split the fields again, or remove the fields from the import as required. For more information about undoing a field split, see Undoing a Field Split.

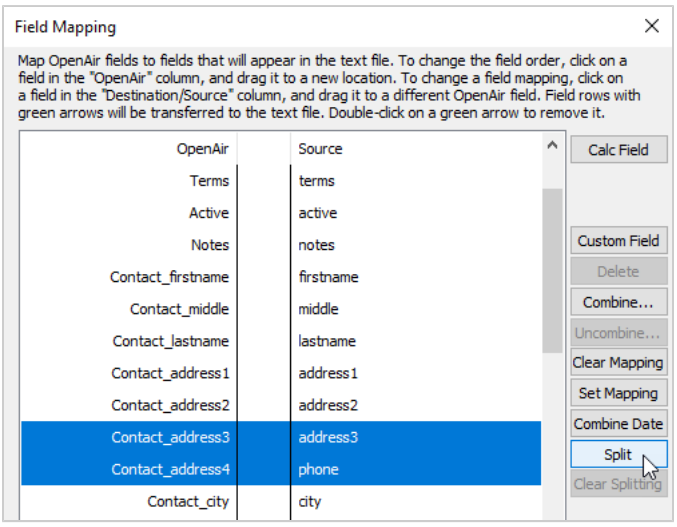
To split a source CSV field into a several OpenAir fields for import:

1. On the Field Mapping window, line up the OpenAir fields you want to split the information into so they are adjacent. The source CSV field value is split left to right and will populate the selected OpenAir fields top to bottom. Line up the source CSV field containing the information you want to split with the top OpenAir field that will receive the information. Drag each field to change the order they appear in the list if necessary.

   Note: For steps to go to the Field Mapping window, see Mapping OpenAir Fields to CSV Columns.

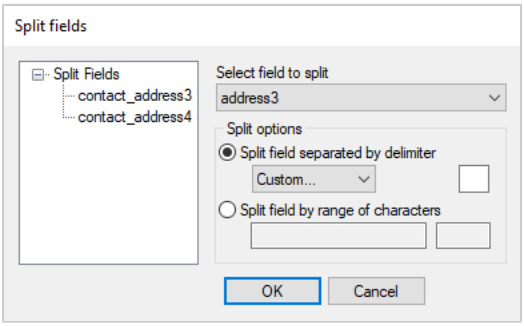
2. Hold `Ctrl` and click the fields you want to split the information into.

   Selected fields are highlighted in blue.



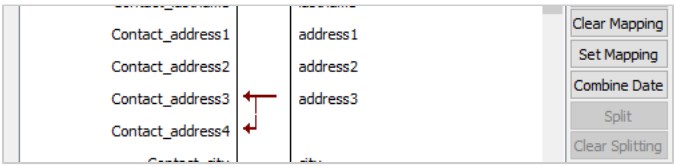
3. Click **Split**.

   The Split fields window appears.



4. Select the CSV field containing the information to split.
5. Choose a method under **Split options**.
   - Split using delimiter — Select a delimiter or specify a custom delimiter.
   - Split using character range — enter the character range for each OpenAir fields.
6. Click **OK** to return to the Field Mapping window.

   The Field Mapping window shows the split fields with a red branched arrow.



7. Click **OK** to save the field mapping settings and return to the main Integration Manager window.

Undoing a Field Split

You can undo a field split at any time after you split fields. To modify a split field mapping, or exclude the fields from the information imported, you must undo the field split first. You can then split the fields again, or remove the fields from the import as required.

To undo a field combination

1. On the Field Mapping window, click the field split you want to undo.

   Note: For steps to go to the Field Mapping window, see Mapping OpenAir Fields to CSV Columns.

2. Click **Clear Splitting**.
3. Click **OK** to save the field mapping settings and return to the main Integration Manager window.

OpenAir Field Value Lookup (Export) and Record Lookup (Import)

You can use the following lookup options when mapping OpenAir fields to columns in the CSV file you export information to or import information from:

- Field value lookup (Export) — You can look up OpenAir standard or custom field values for record types directly or indirectly related to the record type you export from OpenAir to a CSV file. This may be useful when you need to include:
  - Information stored in a custom field for a record type directly related to the record type you selected for export.

    Note: Standard fields for supported record types directly related with the record type you selected for export are available for mapping without additional setup. See Mapping OpenAir Fields to CSV Columns.
  - Information stored in a standard or custom field for a record type indirectly related to the record type you selected for export. If the record type you export includes a foreign key to a related record type that itself includes a foreign key to a third record type, you can make information from that third record type available for mapping. For example, each project is associated to a customer referenced using the foreign key `customer_id` in the `project` table, there is a named employee who approves invoices for each customer and this named employee is referenced using the foreign key `tb_approver` in the `customer` table. If you export projects, you can use a field value lookup to include information from the `user` table about the employee who approves invoices for the customer you are delivering the project for.

    Note: You can use external field lookup to export information about the payment terms associated with your invoices in invoice and time bill exports.

    The optional feature **Save Payment Terms Internal ID on Invoice Records** must be enabled for your account. This feature adds a hidden payment terms ID field (payment_termsid), that can then be used for external field lookup.

    For more information, see Optional Features.
  - Information stored in a standard or custom field for a related record of the same type you selected for export. For example, a rebill invoice or a credit note is an `invoice` object that relates to an original invoice referenced by the foreign key `original_invoiceid`. If you export invoices, you can use a field lookup to include information about the original invoice associated with a rebill invoice or a credit note.
- Related record lookup (Import) — You can look up OpenAir records associated with the records you import by name or external ID. For example, a CSV file contains information about expense receipts and includes the name of the project for which the expense was incurred, or the unique ID for that project in the third-party software application from which you extracted the information. If you import receipts from that CSV file into OpenAir, you can use a record lookup by name or external ID to include the internal ID of the OpenAir project record associated with each receipt you import.

Looking Up OpenAir Field Values (Export)

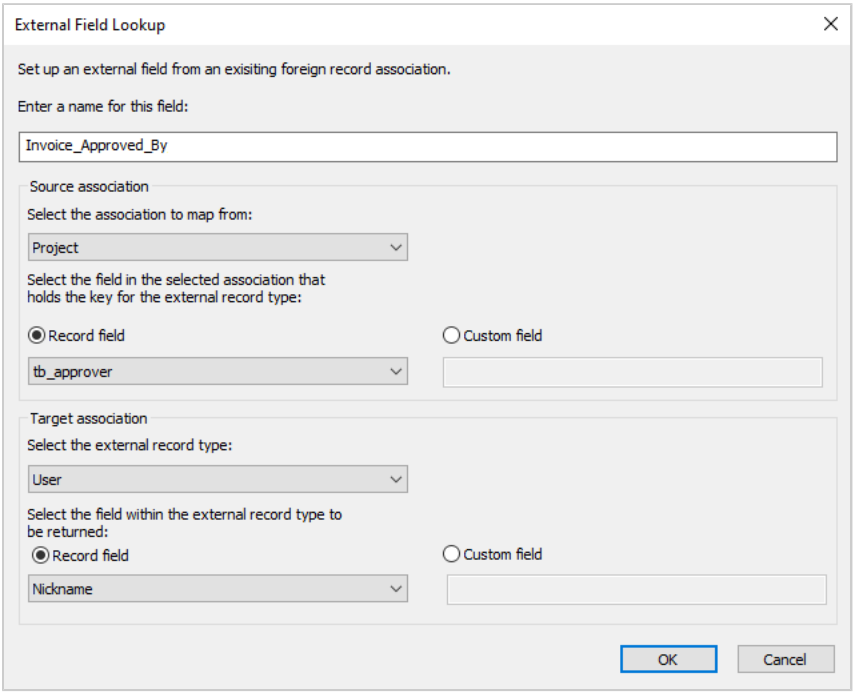
Use the following steps to look up OpenAir standard or custom field values for record types directly or indirectly related to the record type you export from OpenAir to a CSV file.

To look up OpenAir field values on export:

1. On the Field Mapping window, select a field mapping with a green arrow and click **External Field**.

   Note: For steps to go to the Field Mapping window, see Mapping OpenAir Fields to CSV Columns.

   The External Field Lookup window appears.



2. Enter a name for the OpenAir field value lookup.
3. **Source Association** — Select the record type and the field for this record type containing the foreign key. To do so:
   a. Select a record type under **Select the association to map from**. Dropdown list options include the record type selected for export and other supported record types directly related to the record type selected for export.
   b. Do one of the following:
      - If the field containing the foreign key is a standard OpenAir field, choose **Record field** and select one of the standard fields for that record type.
      - If the field containing the foreign key is a custom field, choose **Custom field** and enter the custom field name exactly as defined in OpenAir.

> **Note:** The custom field type must be a pick list or hold a foreign key referencing an OpenAir object by its internal ID.
>
> To verify the name and type of custom fields in OpenAir, go to Administration > Global Settings > Custom Fields.
>
> Custom fields may have an optional display name that is used on forms and list views in the OpenAir UI in addition to the unique field name that is used to reference the custom field. This field name may contain only alphanumeric and underscore characters. For more information about custom fields, see the help topic Custom Fields.

4. **Target Association** — Select the record type and the field for this record type containing the looked up field value. To do so:
    a. Select a record type under **Select the external record type**. Dropdown list options include all supported record types.
    b. Do one of the following:
        - If the lookup field is a standard OpenAir field, choose **Record field** and select one of the standard fields for that record type.
        - If the lookup field is a custom field, choose **Custom field** and enter the custom field name exactly as defined in OpenAir.

> **Note:** To verify the name and type of custom fields in OpenAir, go to Administration > Global Settings > Custom Fields.
>
> Custom fields may have an optional display name that is used on forms and list views in the OpenAir UI in addition to the unique field name that is used to reference the custom field. This field name may contain only alphanumeric and underscore characters. For more information about custom fields, see the help topic Custom Fields.

5. Click **OK** to return to the Field Mapping window.
6. Click **OK** to save the field mapping settings and return to the main Integration Manager window.

Looking Up Associated OpenAir Records (Import)

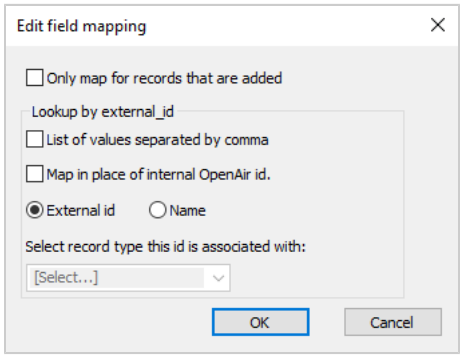
Use the following steps to look up OpenAir records associated with the records you import by name or external ID.

To look up associated OpenAir records on import:

1. On the Field Mapping window, right-click on a field mapping linking a foreign key in the OpenAir table to any column in the CSV file with a green arrow, and click **Edit**.

> **Note:** For steps to go to the Field Mapping window, see Mapping OpenAir Fields to CSV Columns.

The Edit field mapping window appears.



2. If the field value can reference several associated records referenced by a comma-separated list of external IDs or names, check the **List of values separated by comma**.
3. Check the **Map in place of internal OpenAir ID** box.
4. Choose the lookup option. You can look up the OpenAir record (and its OpenAir internal ID) by **External ID** (default) or by **Name**.

> **Note:** OpenAir lets you store a unique **External ID** [`external_id`] for records imported from a third-party application. You should use this **External ID** to reference the primary key of each record in the external system you import it from, and lookup record associations using external IDs. Names may not necessarily be unique, unless you have some strict validation in place to avoid duplicate names.

5. Select the OpenAir record type to look up from the **Select record type this id is associated with** dropdown list.
6. Click **OK** to return to the Field Mapping window.

   A confirmation window appears.
7. Click **Yes** to confirm that the value of the external ID or name field is unique for each record in the selected record type, and continue.
8. Click **OK** to save the field mapping settings and return to the main Integration Manager window.

Filtering OpenAir Records for Export

Note: The Filtering functionality is not available when importing information from a CSV file into your OpenAir account.

You can use filters to export only the OpenAir records that meet specific criteria to the CSV file.

The following filter options are available as standard:

- **Only new items since the last export** — Use this filter option to export only records that were not exported previously. You can choose to take into account either:
  - Recorded exports to CSV file done using Integration Manager or an Integration Manager shortcut, or since the last export done using any application.
  - Recorded exports done by any application integrating with OpenAir.

  Note: By default, Integration Manager and other applications and integrations provided and supported by OpenAir add an `exported` date and time stamp on a record when this record, and a row in the OpenAir **import_export** table when the record is exported. The applications can then use this information to exclude previously exported records from the export.

  You can configure filter options in Integration Manager so that it does not mark records as exported in OpenAir. This may be useful for testing, or when you want to export the same set of records several times, if you want to be able to export the same records again while using the **Only new items since last export** filter option.
- **Only deleted records** — Use this filter option to export only deleted records.

  Note: When a user deletes a record in OpenAir, the record is flagged as deleted. It is not removed immediately from the OpenAir database. Deleted records are retained in the OpenAir database for a minimum of 180 days. Older deleted records, that is, records marked as deleted and last updated 180 or more days ago, are removed permanently from the database according to a routine schedule.

  For more information, see the help topic Data Deletion.

You can define a custom filter and add multiple filter conditions to it. Each filter condition compares the value of a field for the selected OpenAir record type (first operand) with a static value, a range of values, or another field value, depending on the comparison operator and the data type of the field you select as the first operand.

All fields available for mapping are also available as operands in your filter condition. This includes not only standard OpenAir fields, custom fields, but also calculated fields and field value lookups defined in Integration Manager.

You can compare datetime fields with a custom date range or metavalue relative to the current date. Available date metavalues include `last month`, `this month`, `<N> days ago`, `<N> hours ago` (where `<N>` is an integer), `today`, or `next month`.

The following comparison operators are available: `equal to`, `not equal to`, `is empty`, `is filled`, `contains`, `not contains`, `before`, `after` and `between`.

The following logical operators are available:

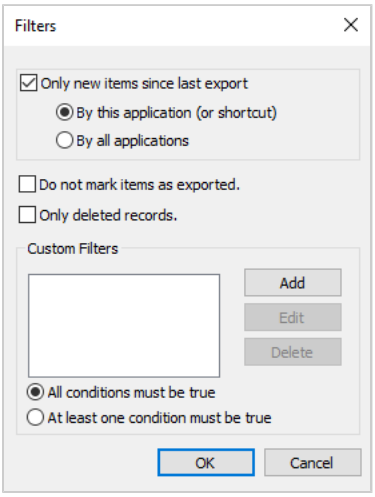
- **All conditions must be true** — Records must match all the filter conditions to be exported (AND logical operator).
- **At least one condition must be true** — Records must match one or more filter conditions to be exported (OR logical operator).

After you add a filter condition, you can edit or delete it at any time.

To filter OpenAir records for export:

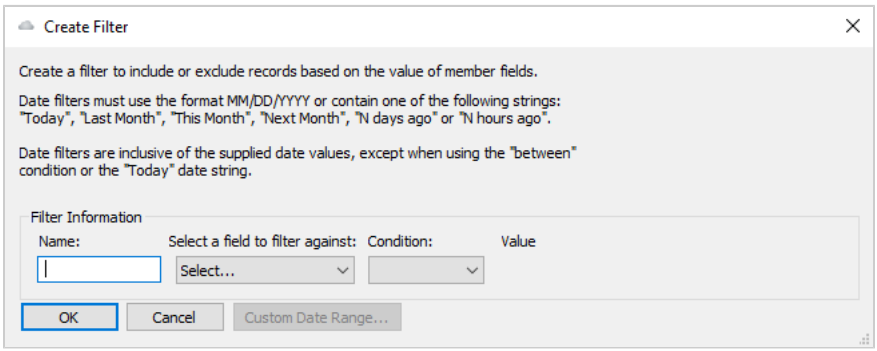
1. In Integration Manager, locate the row corresponding to the OpenAir record type available for export to a CSV file.
2. Do one of the following:
   - Click to select the row, then go to Options > Filtering.
   - Right-click the row, then click **Filtering** from the context menu.

   The Filters window appears.



3. (Optional) Check the **Only new items since last export** box to export only records that were not exported previously. Choose one of the following options:
   - **By this application (or shortcut)** — to export only records that were not exported previously to a CSV file using either Integration Manager or an Integration Manager shortcut.
   - **By all applications** — to export only records that are not marked as exported in OpenAir.
4. (Optional) Check the **Do not mark items as exported** box to export records without marking them as exported in OpenAir.
5. (Optional) Check the **Only deleted records** box to export only deleted records.
6. (Optional) Create a custom filter. To do so::
   a. Click **Add** to add a filter condition.

      The Create Filter window appears.



   b. Enter a **Name** for the filter condition.

c. Select one of the fields for the selected record type from the **Select a field to filter against** dropdown options.

   Depending on the field you select, the **Value** box and **Select a field to compare with** dropdown field appear. If you select a datetime field, the current date appears in the **Value** box.

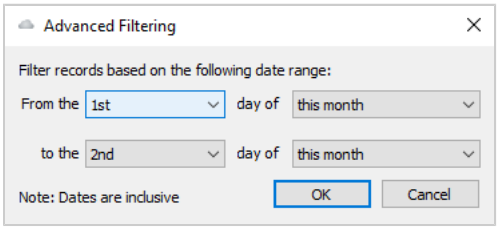
d. Do one of the following:

   - Select a comparison operator from the **Condition** dropdown options, then enter a static **Value**, enter two static values defining a range, or select a field from the **Select a field to filter against** dropdown options. When comparing numbers, check the **Numeric comparison** box, otherwise clear the box.

     Note: Available comparison operators in the **Condition** dropdown options depend on the datatype of the field you select as first operand. The ability to enter a static **Value**, enter two static values defining a range, or select a field as the second operand depends on the comparison operator you select.

   - If you want to compare a datetime field to a custom date range relative to the current date, click **Custom Date Range**.

     The Advanced Filtering window appears. Select the day of the month and the month relative to the current date for the start date and for end date to define an inclusive date range, and click **OK**. Relative month options include `this month`, `last month` and each previous month, up to `12 months ago`.



     Note: You can also compare datetime field values to a relative date range using the comparison operator `between` and supported date metavalues.

e. Click **OK**.

   The Filters window shows the filter condition you added. Remember that dates are inclusive and you should use date filters to limit the amount of data OpenAir needs to process.

f. Repeat the steps to add other filter conditions as required.

   You can also edit or deleted filter conditions at any time, to do so click the filter condition name in the **Custom filters** box and click **Edit** or **Delete**.

g. If you have two or more filter conditions, choose whether **all conditions must be true** (equivalent to an `AND` logical operator between all filter conditions) or **At least one condition must be true** (equivalent to an `OR` logical operator between all filter conditions).

7. Click **OK** to save the filter settings and return to the main Integration Manager window.

Filtering Best Practice

Integration Manager uses server-side or client-side filtering depending on the situation. Server-side filtering can reduce export time significantly.

Server-side filtering is used for filter conditions in each of the following cases:

- The selected field is native to the exported record type, the **Condition** is set to "Equal to" or "Not equal to", **all conditions must be true** is selected, and both the **Only new items since last export** and **Only deleted records** filtering options are disabled. Note that if you use both "Equal to" and "Not equal to" filter conditions, server-side filtering is done based on the first of these filter conditions.
- The selected field is the timesheet or envelope **status** field, the **exported** field, and date fields native to the exported record type.

Note: The distinction between native fields and non-native fields is best illustrated by examples:

- `slip.date` and `slip.updated` on a TimeBill export are native fields.
- `slip.invoice_date` and `slip.invoice_updated` on a TimeBill export are not native fields as they relate to the invoice this time bill is associated to. Client-side filtering is used in this case.

Client-side filtering is used in all other situations. To reduce the time it takes to run regular exports for a specific subset of records, you run a cleanup export before you run the production export.

- You can use the cleanup export to mark all records that are not in the required subset as exported.
- You can then exclude all records that are already exported in your production export.

For example, if you want to create a TimeBill export and include only TimeBill records that are not yet exported and that are associated with a specific project stage (for example, the project stage with the internal ID 2):

1. Create a cleanup export shortcut to export all TimeBill records that are associated with all project stages other than the project stage — for example, `slip.project_project_stage_id` not equal to "2".
2. Run the cleanup export and discard the output CSV file.
3. Create a production export shortcut to export TimeBills records, excluding records already exported, and including only the records for which `slip.project_project_stage_id` is equal to "2".

Known Limitations

- Filter conditions on Boolean or numeric fields with the **Condition** is set to "Equal to" may not work as expected when OpenAir API returns an empty field value.

  Workaround: Specify a conditional override and check the **Numeric comparison** box and try the export again. With the **Numeric comparison** option enabled, the empty field value will be interpreted as `0` in the filter condition.
- Filter conditions on Boolean fields may not work as expected when the Boolean value is `0` (False). OpenAir API returns an empty field value in some cases.

  Workaround: As above.
- Filter conditions on numeric fields may not work as expected. The value returned by OpenAir API may include a decimal part (for example, `.00`) with a specific number of decimal places, depending on the field type and definition, and may not match exactly the value specified in the filter condition.

  Workaround: Use the same number of decimal places for the value specified in the filter condition, as in the values returned by OpenAir API. For custom fields, decimal places are determined by the

decimal positions setting on the custom field entity form in OpenAir. For built-in field types and definitions, refer to the OpenAir data dictionary. See OpenAir Data Dictionary.

Formatting Information for Export and Import

The formatting options in Integration Manager let you:

- Specify the format of values containing both date and time parts in your CSV file. Integration Manager supports different formats for date and time information in your CSV file, and converts OpenAir date and time values into the format you specify when exporting OpenAir information to a CSV file, or converts date and time values from the format you specify to the format used by the OpenAir database, when you import information a CSV file into OpenAir. See Setting the Date and Time Format Used in the CSV File.
- (Export only) Add length and range validation for field values in your CSV file. See Validating Field Value Length and Range on Export.
- Using conditional overrides to compare numeric or text field values to a fixed value or pattern, and replace the value if the condition is met. See Setting Up Conditional Overrides.

Setting the Date and Time Format Used in the CSV File

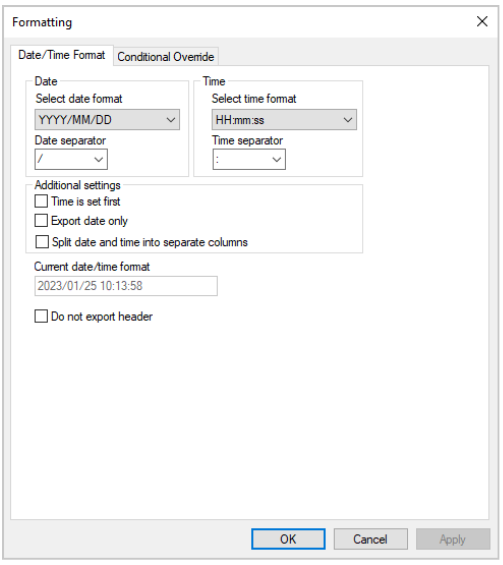
You can specify the format of values containing both date and time parts in your CSV file. Integration Manager supports different formats for date and time information in your CSV file, and converts OpenAir date and time values into the format you specify when exporting OpenAir information to a CSV file, or converts date and time values from the format you specify to the format used by the OpenAir database, when you import information a CSV file into OpenAir.

Important: The date and time information in your import CSV file must be the same as the format specified in the Integration Manager Formatting options. Otherwise, the Integration Manager log shows the error "Error: Non valid string specified as DATE".

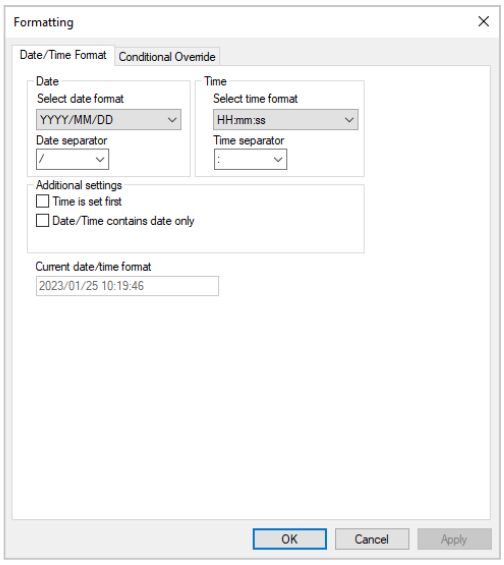
To set the date and time format used in the CSV file:

1. In Integration Manager, locate the row corresponding to the record type and the direction required from the table listing the record types available for import from and export to a CSV file.
2. Do one of the following:
   - Click to select the row, then go to Options > Formatting.
   - Right-click the row, then click **Formatting** from the context menu.

   The Formatting window appears. The date and time formatting options are slightly different for export and import.



Export



Import

3. Select the date format from the dropdown options and specify the separator between date components (year, month, and day).

> **Note:** The **Current date/time format** box shows a preview of the date and time format as you change the settings.

4. Select the time format from the dropdown options and specify the separator between time components (hours, minutes, and seconds).
5. If the date and time values in the CSV file show, or should show the time before the date, check the **Time is set first** box.
6. If the CSV file includes, or should include date information only without information about time, check the **Export date only** box (Export) or **Date/Time contains date only** box (Import).
7. (Export only) If the CSV file should include date information and time information in separate columns, check the **Split date and time into separate columns**. The two columns will have headers including the CSV column name as listed on the Field Mapping screen followed by `(date)` and `(time)`. For example if the OpenAir field `created` is mapped to a CSV column `dateCreated`, the two separate columns will have `dateCreated(date)` and `dateCreated(time)` for headers.
8. (Export only) To exclude column headers from the exported CSV file, check the **Do not export the header** box. All column headers will be excluded, not only the date and time column headers.
9. Click **OK** to save the date and time formatting settings and return to the main Integration Manager window.

Setting Up Conditional Overrides

Conditional overrides are a way to build in some light logic on export and import in Integration Manager. You can use conditional overrides to:

- Compare test field values with a fixed value, and replace a reference field value with a custom value or a field value if the condition is met.

- Replace reference field values with a custom value or a field value if the test field value contains a specific pattern of text (regular expression).
- Use regular expressions to search for a specific pattern of text in the reference field value, and replace this pattern with a custom value or a field value.

The reference field is the source field containing the values you want to override if the condition is met.

The condition that determines if the reference field value should be replaced is a simple logical expression with two operands and a comparison operator.

- The first operand is a test field, or if you select more than one test field, the sum of numeric test field values (Export only), or the result of concatenating text test field values. The test field and the reference field can be the same field.
- The second operand can be either a fixed value or a pattern (regular expression), depending on the selected comparison operator.
- The following comparison operators are available: `Equals`, `Not Equals`, `Regex` (regular expression), `Contains`, `Not Contains`.

  Use the `Regex` comparison operator to find test field values that contain a specific pattern of text. The condition evaluates as true if the test field value or the result of concatenating text test field values contains a portion of text matching the regular expression pattern. If the test field is the same as the reference field, you can use the `Regex` comparison operator to match and substitute a pattern of text in the reference field value with a custom value, instead of replacing the entire reference field value with that custom value. You may use capturing groups in the regular expression pattern and use these capturing groups for string substitution. For examples of conditional overrides using regular expressions, see Regular Expressions Use Case Examples.

Note: For more information about regular expression, see https://en.wikipedia.org/wiki/Regular_expression and https://cheatography.com/davechild/cheat-sheets/regular-expressions/.

You should discuss your requirements with OpenAir Professional Services before you start using regular expressions in conditional overrides.

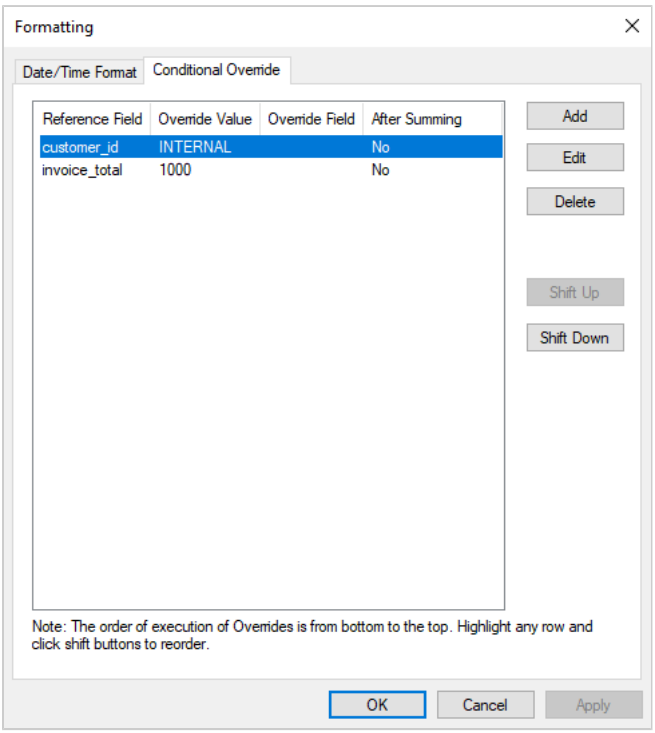
Conditional overrides are evaluated before field combinations. If you are using field combination to combine several source fields into one destination field, you can use conditional overrides to replace each source field values before the source field values are combined.

You can define multiple conditional overrides for the same field (reference field). Integration Manager evaluates each conditional override for every record included in the export or import in the order from the bottom to the top of the list. On export, conditional overrides with the **Override after summing entries** box checked are evaluated last. You should set the evaluation order carefully as the test fields used in one conditional override can be modified by a previous conditional override.

To set up conditional overrides:

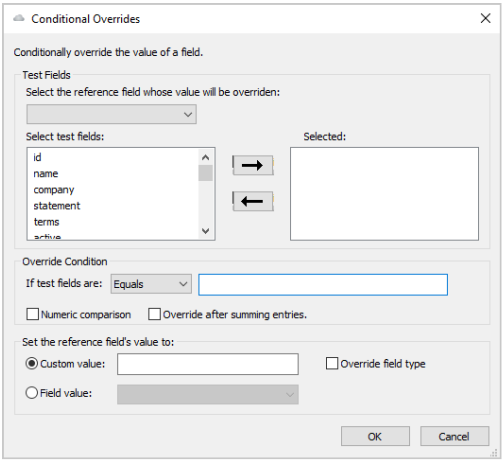
1. In Integration Manager, locate the row corresponding to the record type and the direction required from the table listing the record types available for import from and export to a CSV file.
2. Do one of the following:
   - Click to select the row, then go to Options > Formatting.
   - Right-click the row, then click **Formatting** from the context menu.

   The Formatting window appears.
3. Click the Conditional Override tab.

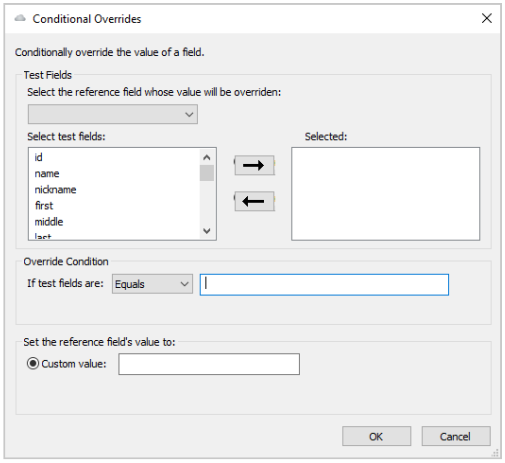


4. Click Add.

   The Conditional Overrides window appears.



Export



Import

5. Select the reference field (the source field containing the values you want to override if the condition is met) To do so, select a field from the **Select the reference field whose value will be overridden** the dropdown options.
6. Select one or more test fields (the fields used as first operand in the condition determining if the reference field value should be replaced). Use the arrows to add fields to (arrow pointing right), or remove fields from (arrow pointing left) the **Selected** column. If you select more than one field, the logical expression compares the result of concatenating the test field values —or on export, the sum of numeric test field values— with the value or pattern you specify.
7. Specify the comparison operator and the value or pattern you want to compare the test values with under **Override Condition**.

8. (Export only) Check the **Numeric comparison** box if you are comparing numeric values.
9. (Export only) **Check the Override after summing entries** box if you want to and apply the conditional override to summarized grouped record data. For more information about summarizing grouped record data, see Accounting Settings.
10. Set the override value. To do so, do one of the following:
    - Choose and enter a **Custom value**.

      If you select Regex (regular expression) as the comparison operator, and if the test field is the same as the reference field, Integration Manager substitute the custom value for the portions of the reference field value matching the regular expression pattern. You can include capturing groups in the regular expression pattern and use these capturing groups for string substitution in the custom value. For examples of conditional overrides using regular expressions, see Regular Expressions Use Case Examples.

      (Export only) You can use any value even if the value is not a valid value for the field data type. To allow any value, independently of the field data type, check the **Override field type** box.
    - (Export only) Choose and select a **Field value** from the dropdown options.
11. Click **OK** to save the conditional override and return to the Formatting window.

    The Conditional override tab on the Formatting window shows a summary of the conditional override you added.
12. Add other conditional overrides as required.
13. After you add conditional overrides, you can:
    - Edit or delete any listed conditional overrides. To edit or delete a conditional override, click the conditional override, and click **Edit** or **Delete**.
    - Change the order of evaluation for your conditional overrides. To do so, click the conditional override you want to move up or down the list, and click **Shift Up** or **Shift Down**.

      Important: Integration Manager evaluates each conditional override one after the other following the order from the bottom of the list (first) to the top of the list (last). On export, conditional overrides with the **Override after summing entries** box checked are evaluated last. You should set the evaluation order carefully as the test fields used in one conditional override can be modified by a previous conditional override.
14. Click **OK** to save the running order of conditional overrides and return to the main Integration Manager window.

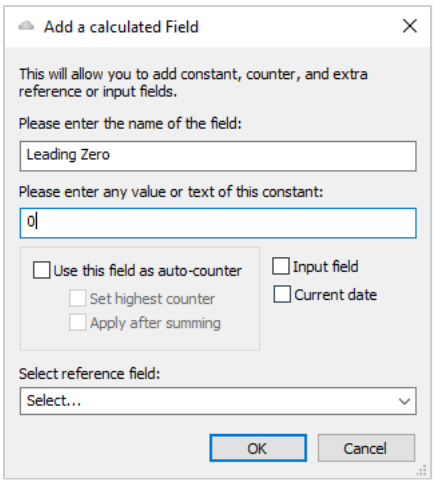
Regular Expressions Use Case Examples

The following example illustrate a possible use of regular expressions.

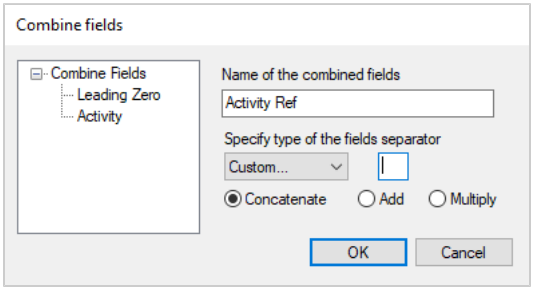
Leading zeros

In this example, the source field value is an integer with up to 3 digits and the destination field value must always be a 4-digit number converted to string with leading zeros. You can use a calculated field and conditional overrides to add 2 or 3 leading zeros depending on the number of digits in the source field value. To do so:

1. Add a calculated field with the name `Leading Zero` and the constant value `0` (zero). See Making Additional Information Available for Mapping (Calculated Fields).

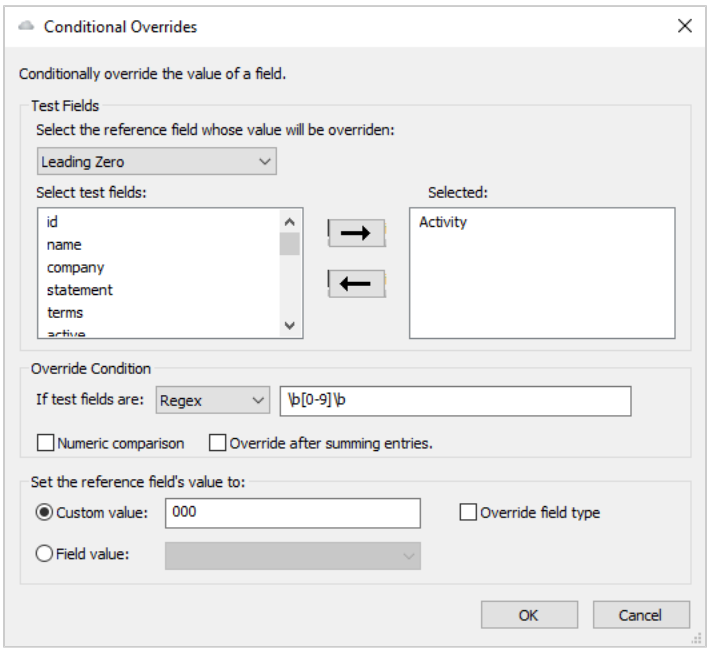


2. Combine the `Leading Zero` and the source field (in this example `Activity`) into the destination field `Activity Ref`. See Combining and Splitting Information.



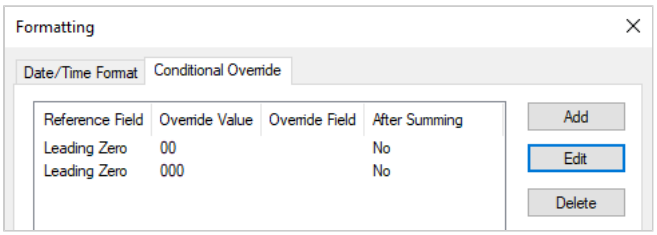
3. Create a conditional override with `Leading Zero` as reference field, `Activity` as test field, Regex as comparison operator, enter the pattern `\b[0-9]\b`, and the custom override value `000` (three zeros).

   The regular expression `\b` is a word boundary anchor marking either end of a continuous series of non-space characters, and `[0-9]` is a number digit. The pattern `\b[0-9]\b` matches any 1-digit integer values. The conditional override adds three leading zeros if `Activity` is a 1-digit integer.



4. Create a conditional override with `Leading Zero` as reference field, `Activity` as test field, Regex as comparison operator, enter the pattern `\b[0-9][0-9]\b`, and the custom override value `00` (two zeros).

   The conditional override adds two leading zeros if `Activity` is a 2-digit integer.



Note: In this case, the evaluation order of conditional overrides does not matter.

Changing Dates to First Day of the Month

In this example, the source field value is a date field in the `MM/DD/YY` and the destination date field value must always be the first day of the month. You can use a conditional override to change the `DD` component to `01` in the source date field.

To do so, create a conditional override with the source date field as both reference field and test field, Regex as the comparison operator, enter the pattern `/[0-3][0-9]/` and the custom override value `/01/`.

Number Format for Import

When importing information into OpenAir from a CSV file, numeric values must use the following format:

- Decimal separator: dot (.)
- Thousands separator: *none*

Important: Imported numeric values must not contain commas.

Imported numeric values should have the same maximum number of decimal digits (decimal precision) as the destination field in OpenAir. Otherwise, values will be rounded to the decimal precision of the OpenAir field.

You can use conditional overrides to change the format of the imported numeric values, if required. Examples:

- To change the decimal comma to a decimal dot, create a conditional override with the source number field as both reference field and test field, Regex as the comparison operator, enter the pattern , and the custom override value ..
- To remove commas separating groups of thousands, create a conditional override with the source number field as both reference field and test field, Regex as the comparison operator, enter the pattern ,, and leave the custom override value empty.

To verify the format of the OpenAir field, refer to the OpenAir Data Dictionary. See OpenAir Data Dictionary.

Validating Field Value Length and Range on Export

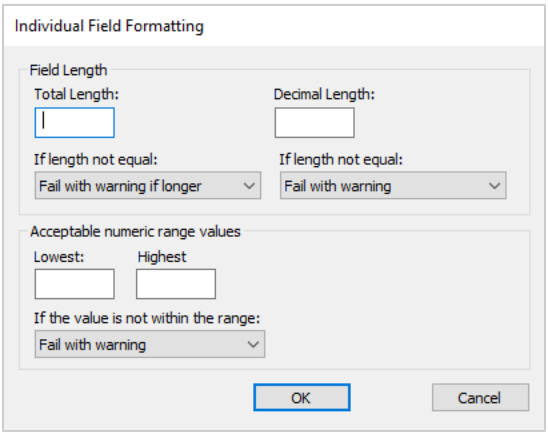
You can add length and range validation for field values exported from OpenAir to a CSV file.

To validate field length and range on export:

1. On the Field Mapping window, right-click on an OpenAir field, and click **Format**.

   Note: For steps to go to the Field Mapping window, see Mapping OpenAir Fields to CSV Columns.

   The Individual Field Formatting window appears.



2. Length validation — To validate the length of the field value, do the following:
   a. Enter the **Total Length** (maximum or expected number of characters or digits) for field values.
   b. Select the validation outcome from the dropdown options under **Total Length**. This determines what happens when the field value length is greater or less than the specified **Total Length**. The following options are available:

- Fail with warning if longer — Integration Manager does not export a record and adds a log entry for the error if the field value length is greater than the specified **Total Length** for that record.
- Truncate the end if longer — Integration Manager exports all records and shortens the field value to match the specified **Total Length** by removing digits or characters from the right of the field value.
- Truncate the beginning if longer — Integration Manager exports all records and shortens the field value to match the specified **Total Length** by removing digits or characters from the left of the field value.
- Pad left with spaces — Integration Manager exports all records and lengthens the field value to match the specified **Total Length** by adding spaces to the left of the field value.
- Pad right with spaces — Integration Manager exports all records and lengthens the field value to match the specified **Total Length** by adding spaces to the right of the field value.
- Pad left with zeros — Integration Manager exports all records and lengthens the field value to match the specified **Total Length** by adding zeros to the left of the field value.

c. Enter the **Decimal Length** (maximum number of digits in the decimal part) for field values.

d. Select the validation outcome from the dropdown options under **Decimal Length**. This determines what happens when the field value length is greater or less than the specified **Total Length**. The following options are available:

- Fail with warning — Integration Manager does not export a record and adds a log entry for the error if the length of the field value decimal part is greater than the specified **Decimal Length** for that record.
- Truncate — Integration Manager exports all records and shortens the decimal part of the field value to match the specified **Decimal Length** by removing digits from the left of the decimal part.

3. Range validation — To validate the range of the field value, do the following:

a. Enter the minimum value under **Lowest**.

b. Enter the maximum value under **Highest**.

c. Select the validation outcome from the dropdown options. This determines what happens when the field value is outside the range (less than the specified **Lowest** value, or greater than the specified **Highest** value). The following options are available:

- Fail with warning — Integration Manager does not export a record and adds a log entry for the error if the field value is outside the specified range for that record.
- Set to closest range — Integration Manager exports all records and changes the field value either to the minimum value (**Lowest**) if less than that value, or to the maximum value (**Highest**) if greater.

4. Click **OK** to return to the Field Mapping window.
5. Click **OK** to save the field mapping settings and return to the main Integration Manager window.

Accounting Settings

Accounting Settings contains two areas of functionality: Account Balancing/Secondary Balancing and Sum/Sum By. These two functions are often used together when creating exports of transactions with a container/detail-line relationship, but they can also be used independently. Each is explained as follows.

- **Account Balancing/Secondary Balancing -** lets you create exports containing extra records that correspond to the records created from summed or individual OpenAir transactions. Using Account Balancing/Secondary Balancing, the export file contains more records than would otherwise be created.
- **Sum/Sum By -** lets you create exports where one record in the export file is created from multiple records in OpenAir. For example, an OpenAir expense report may contain many receipts for the same expense item and the desired export file would contain one record containing the sum of those receipts. Using Sum/Sum By, the export file therefore contains the same number or fewer records than the number of OpenAir transactions from which it was created.

When you export a category from OpenAir to a text CSV file, you have the option to perform Account Balancing and Secondary Balancing on the category you are exporting. You can also select fields to Sum By as well as fields to Sum. These accounting settings features are available for the following categories:

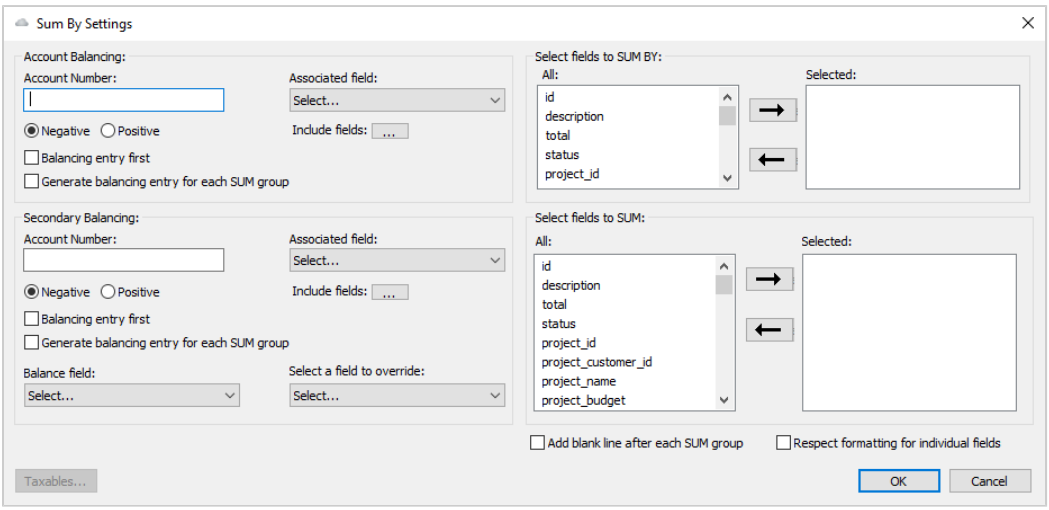
- Receipt
- Revenue Recognition Transactions (Rev. Recogn. Trans.)
- TimeBill (charge, slip, or bill)
- Timesheet entry
- Slip projection

Access Accounting Settings

To access Account Balancing and Sum By settings:

1. In Integration Manager, locate the row corresponding to the record type and the direction required from the table listing the record types available for import from and export to a CSV file.
2. Do one of the following:
   - Click to select the row, then go to Options > Accounting Settings.
   - Right-click the row, then click **Accounting Settings** from the context menu.

   The Sum By Settings window appears.



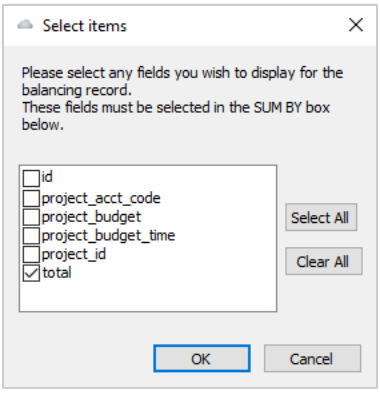
Create Balancing Entries

To create balancing entries:

1. Type the **Account Number**. This is a value you want to appear on every record created as a balancing entry in your export file. If you are creating balancing lines as part of an A/R export, this may be your accounting system's A/R account. Even if you do not have a fixed value you want to appear on every balancing line, you must enter something here as this is what triggers OpenAir to create a balancing line.
2. Select whether the total field for the balancing line is a Negative or Positive balancing total. The balancing line always creates a balancing value for the total field in the record being exported. To create a balancing value for other fields, see Secondary Balancing below in step 6.
3. Select the check boxes as desired for Balancing entry first to place the balancing line in the export file ahead of the line or lines it is balancing.
4. Select Generate balancing entry for each SUM group to generate a balancing line for each single record in the export file generated by Sum/Sum By. If you do not check this box, OpenAir generates one balancing line per container for exports. For example, OpenAir would generate one balancing line per invoice for timebill exports, one balancing line per envelope for receipt exports, or one balancing line per timesheet for timesheet entry exports. When OpenAir exports transactions that do not have containers, such as revenue transactions, it creates one balancing line per export file.
5. Select the Associated field using the drop-down list. This is the column in which the Account Number value will appear on balancing lines.
6. If desired, generate Secondary Balancing. Type the Account Number.
7. Select whether the field being balanced should be balanced as a Negative or Positive total.
8. Select the check boxes as desired for Balancing entry first and Generate balancing entry for each SUM group.
9. Select the Associated field using the drop-down list.
10. Click the Include fields ... button and select the check boxes of the item(s) to sum and display for the balancing record.
11. Select a Balance field from the drop-down list of fields you selected to SUM. This field's value is balanced for all the records being summed (if Sum/Sum By is used) or for an individual record.

12. Select a field to override from the drop-down list of fields you selected to SUM.
13. If required, check the **Add blank line after each SUM group** box.
14. Click the Include fields ... button.

    The Select items window appears.



15. Check the boxes corresponding to the item(s) you want to display for the balancing record. Click OK. These are the fields you previously selected to SUM BY. If you do not select any values, the balancing record contains blank columns except for the associated field and any fields you selected in the sum box.

Use Sum/Sum By

To use the Sum/Sum By function:

1. Select the fields to SUM BY. Highlight the item(s) and click the arrow to include the selected fields. OpenAir creates one record in the export file for every transaction record in OpenAir where the values of all the fields selected in Sum By are the same. For example, if exporting receipts and sum by user, envelope, expense item, the export file contains one record for all receipts that have the same user, envelope, and expense item.
2. Select the fields to SUM. Highlight the item(s) and click the arrow to include the selected fields. Fields you select here are summed from the values in all the records grouped by the Sum By fields above. The total value displays in the output record. Fields picked here are always money or quantity fields. Note that only fields that appear in Sum By or Sum are available to be selected in the field mapping dialogue.
3. If required,check the **Respect formatting for individual fields** box. This causes a date field (used in summing as an example) to be displayed properly formatted based on date format settings.
4. On a TimeBill export, you may click the Taxables button to select which columns in the output record contain the total taxable amount and total non-taxable amount for each record. These are defined by calculated fields in the field mapping window. See Making Additional Information Available for Mapping (Calculated Fields).
5. Click OK.
6. To export data, refer to Exporting OpenAir Data to a CSV File.

Working with Export and Import Shortcuts

You can create Integration Manager shortcuts for each record import or export you want to run on a regular basis without having to launch the Integration Manager application. This may be useful to support an on-going integration, for example. Each Integration Manager shortcut you create captures the field mapping, filter, format and other settings you configured for a specific export or import and for a specific record type. You can configure each Integration Manager shortcut to send email messages to report errors, regular status notifications or both. See Creating an Export or Import Shortcut.

Each Integration Manager shortcut includes the following components:

- A separate instance of Integration Manager — This instance may also be referred to as an Integration Manager shortcut bundle, and includes a copy of the Integration Manager executable file, and all the supporting files for that program, including the files containing the field mapping and other configuration settings for the corresponding export or import process. When you create a shortcut or restore a shortcut from the backup version, Integration Manager stores the shortcut bundle in a dedicated folder `C:\im_shortcuts\<shortcutFilename>_oabundle\`, where `<shortcutFilename>` is the name you enter when creating the shortcut.

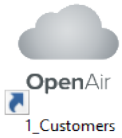
  For example, if you create the shortcut `1_Customers.lnk`, the Integration Manager shortcut bundle is located in.
- A shortcut pointing to `C:\im_shortcuts\<shortcutFilename>_oabundle\OpenAirManager.exe` and saved under the location you select when creating the shortcut.

  For example, `C:\Users\<username>\Desktop\OAIMShortcuts\Imports\1_Customers\1_Customers.lnk`.

Each Integration Manager shortcut is associated with a separate instance of Integration Manager. If you have three shortcuts on your computer, for example, there will be four instances of Integration Manager: the main Integration Manager application and the three shortcut bundles. Launching a shortcut launches that instance of Integration Manager in the background.

After you create Integration Manager shortcuts, you can:

- Run Integration Manager shortcuts manually. To do so, double-click the shortcut.



> **Note:** Running a shortcut is similar to launching the export or import from the main Integration Manager application. Depending on the shortcut configuration, you may need to select the CSV file you want to export information to, or import information from in the same way as you do after you launch the export or import from the main application. See Exporting OpenAir Data to a CSV File and Importing Data from a CSV File into OpenAir.

- Schedule Integration Manager shortcuts to run automatically using Task Scheduler on Windows or other automatic scheduling utilities. See the vendor documentation for more information about task scheduling.
- Batch Integration Manager shortcuts to run them one after the other in the required sequence without having to launch or schedule these shortcuts individually. Batching Export and Import Shortcuts.
- Upgrade your shortcut bundles after updating the main instance of Integration Manager to a new version. Unless you upgrade the shortcut bundle, the shortcut uses the same version of Integration Manager as the version you used to create the shortcut. See Upgrading Integration Manager Shortcuts.

Note: You can continue to use shortcut bundle using an older version of Integration Manager after you update the main Integration Manager application to a new version. Shortcut bundles are not updated to the new version automatically. However, you must either close the main Integration Manager application and launch the shortcut bundle instance, or upgrade the shortcut bundle to the same version as that of the instance you are using before you can launch the shortcut or open the shortcut for edit. You cannot run two different version instances of Integration Manager at the same time.

- Edit Integration Manager shortcuts to change your OpenAir sign-in details (account type, company ID, user ID, and password), or to modify the configuration as your integration requirements change. See Editing Integration Manager Shortcuts.

Important: When using a shortcut to import information into OpenAir, the structure and format of your CSV file must be the same every time you run the shortcut. The column headers in the CSV file you are importing information from must match the column headers in the CSV file you used to set up the field mapping settings exactly. If you need to add or remove a column as your integration requirements change, you must modify or redo the field mapping configuration for the shortcut. In most cases, it is best to make changes to the existing shortcut rather than creating a new one.

Creating an Export or Import Shortcut

You can create Integration Manager shortcuts for each record import or export you want to run on a regular basis without having to launch the Integration Manager application. Each Integration Manager shortcut you create captures the field mapping, filter, format and other settings you configured for a specific export or import and for a specific record type. You can configure each Integration Manager shortcut to send email messages to report errors, regular status notifications or both.

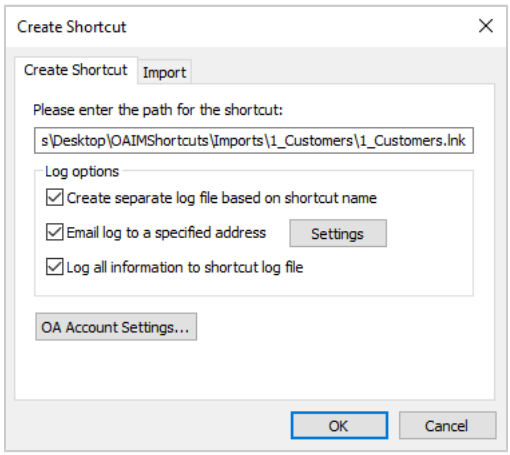
To create an Export or Import shortcut:

1. In Integration Manager, locate the row corresponding to the record type and the direction required from the table listing the record types available for import from and export to a CSV file.
2. Set up the export or import.
   a. Set up the field mapping for the export or import — See Mapping OpenAir Fields to CSV Columns.
   b. Set up Filtering options — See Filtering OpenAir Records for Export.
   c. Set up Formatting options — See Formatting Information for Export and Import.
   d. Set up Accounting settings — See Accounting Settings.
3. Do one of the following:
   - Click to select the row, then go to File > Create Shortcut.
   - Right-click the row, then click **Create Shortcut** from the context menu.

   A files selection window appears.
4. Select a location, enter a filename for the shortcut then click **Save**. The default shortcut location is your desktop.

   The Create Shortcut window appears. The path under Please enter the path for the shortcut is sourced from the location you selected and the filename you entered.

Note: You should create a folder for your Integration Manager shortcut. You can save your export and import CSV files in the same folder.



5. Accept the default shortcut location or change it.
6. You should check the **Create separate log file based on shortcut name** box. This will create a separate log file for this shortcut and name the log file based on the shortcut filename. The log file may be useful to troubleshoot any issues with your export or import.

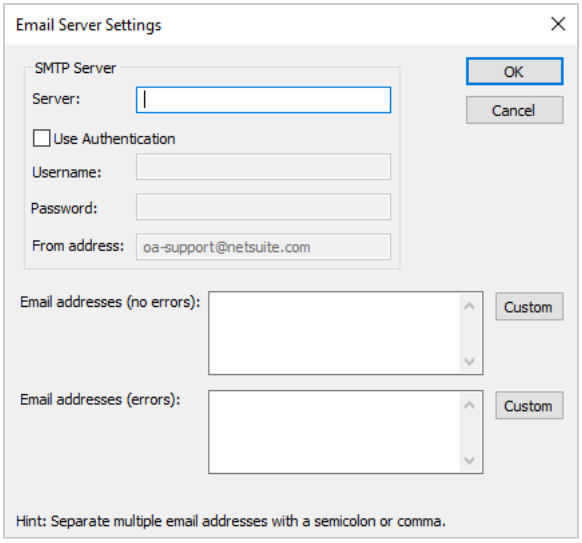
   The following settings become available:

   a. To send the export or import status notification and log by email, do the following:

      i. Check the **Email log to a specified address** box.

      ii. Click **Settings**.

      The Email Server Settings window appears.



      iii. Enter the **Server**. This is the name of your outgoing SMTP email server.

      iv. Check the **User Authentication** box for, then enter your **Username** and **Password**, if required.

v. Enter the **Email addresses** you want to send the status notification email and log to when the export or import completes with no errors. You can enter several email addresses separated by a semicolon (;) or comma (,).

vi. (Optional) Click **Custom**, enter the message body text for email sent when the export or import completes with no errors, then click **OK**.

vii. Enter the **Email addresses** you want to send the status notification email and log to when the export or import completes with errors.

viii. (Optional) Click **Custom**, enter the message body text for email sent when the export or import completes with errors, then click **OK**.

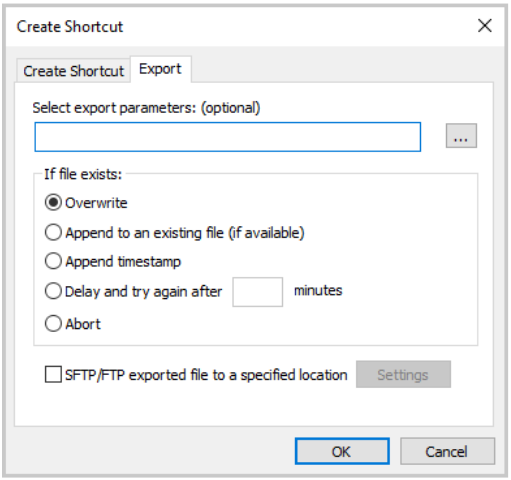
b. Check the **Log all information to shortcut log file** box.

7. To enter OpenAir sign-in details specific for this shortcut, click **OA Account Settings**.

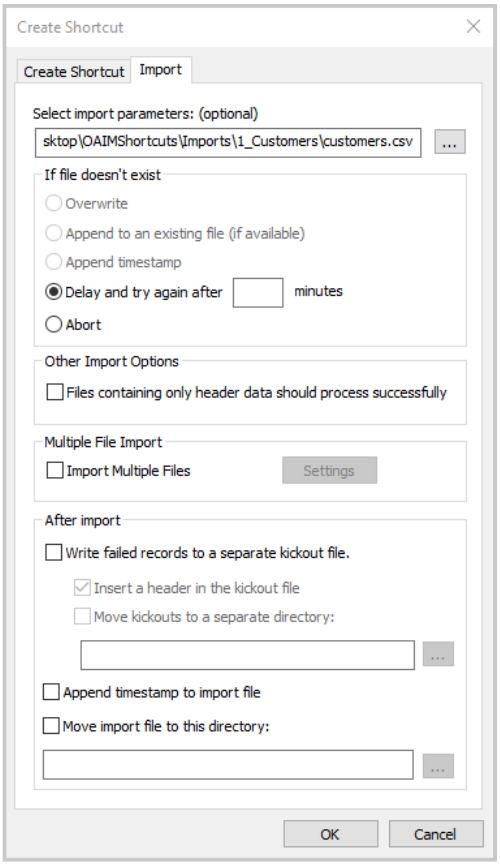
   The Account Settings window appears. The account settings are sourced from the settings entered in Options > OA account settings. See Connecting Integration Manager with your OpenAir Account.

   Enter new sign-in details if necessary. In most cases, you would use the same OpenAir sign-in details for your shortcuts and for the Integration Manager application.

8. Click the Import or Export tab.



Export



Import

9. Under **Select export parameters** or **Select import parameters**, click the Select file button ... and select the CSV file you want to export information to or import information from. If you do not select a file, Integration Manager will prompt you to select a file each time you run the shortcut. For imports, the file you select must exist when you run the shortcut and be in the correct format.

When importing information from multiple CSV files, select the path to a directory containing files with filenames matching the pattern you specify. See below.

10. Choose the action Integration Manager should take when the selected file exists (Export) or does not exist (Import). The following options are available:
    - (Export only) Overwrite — Replace the content of the file with the exported information. Previous file content will be lost; it will not be possible to recover it.
    - (Export only) Append to an existing file — The exported information is added at the end of the previous file content.
    - (Export only) Append timestamp — Creates a new CSV file with a timestamp at the end of the filename.
    - Delay and try again after ... minutes — When choosing this option, enter the retry delay time in minutes.
    - Abort — Terminate the shortcut.

    > **Note:** On import, it is typically best to choose **Abort** and stop trying to process the import if the CSV file does not exist. If you schedule an import shortcut to run automatically and the import is dependent on other automatic process to generate the import CSV file, you should select **Delay and try again after**.
    >
    > On export, you should choose **Append timestamp** to keep a track of each export.

11. (Export Only) To transfer the exported CSV file to a remote server, check the **SFTP/FTP exported file to a specified location** box, then click **Settings** and enter the FTP server details in the FTP Settings window.
12. (Import only) If you want to schedule the shortcut to run automatically, you should check the **Files containing only header data should process successfully** box. This ensures that the import will be successful even if the CSV file contains no data.
13. (Import only) To import information from multiple files, check the **Import multiple files**, click **Settings** and enter the name pattern for files to import. You can use the wild card character * to match any number of characters. All files must be in the directory you selected under **Select import parameters**.

    If you want to schedule the shortcut to run automatically, this option lets you import information from more than one CSV file generated by the source system since your last import.
14. (Import only) You should check the **Write failed records to a separate kickout file** box. The kickout file contains a row for each record that could not be imported with all the information in the original import CSV file, and an additional column with the error code and description. You can review the kickout file and resolve any error before you try to import again. For more information, see Import Kickout files.
    a. Clear the **Insert a header in the kickout file** box, if you do not want the kickout file to include a header. The box is checked by default.
    b. You should check the **Move kickouts to a separate directory** box and create a folder for kickout files within your shortcut folder for better organization.
15. (Import only) To append a timestamp to the name of the CSV file after importing information from that file, check the **Append timestamp to import file** box. If your integration does not use external ID values to avoid the creation of duplicate records on import, you should check either or both this box and the **Move import file to this directory** box. This prevents the import CSV file from being imported a second time by renaming it and moving it to a different folder.
16. (Import only) To move the CSV file to a directory after importing information from that file, check the **Move import file to this directory** box, then select the directory.
17. Click **OK**.

    A window appears and shows some basic information about the shortcut you created.

18. Click **OK**.

    The shortcut is added to the location you selected. You can double click the shortcut to launch the export or import process you configured.

    The `C:\Im_shortcuts\` folder on your computer contains a copy of the shortcut file as well as the folder holding the shortcut application.

Import Kickout files

You can configure your import shortcuts to create a kickout file automatically when creating or editing an import shortcut. The kickout CSV file contains a row for each record that could not be imported with all the information in the original import CSV file, and an additional column with the error code and description at the end of the row. This additional information can be useful to resolve import errors.

To do so, when creating or editing an import shortcut, do the following:

1. On the Create Shortcut window, Import tab, check the **Write failed records to a separate kickout file** box.
2. By default, the kickout file includes a header row at the top. Clear the **Insert a header in the kickout file** box, if you do not want the kickout file to include a header.
3. You should check the **Move kickouts to a separate directory** box and create a folder for kickout files within your shortcut folder for better organization.

For more information about creating or editing an import shortcut, see Creating an Export or Import Shortcut and Editing Integration Manager Shortcuts.

After you have resolved the errors, you can import the kickout CSV file to complete the import. If the kickout CSV file still contains errors, a second kickout file is created during the import of the first kickout file.

Important: Do not modify the error column of the kickout file as this may cause import errors.

Sample kickout file showing a header and error column

```
id;nickname;first;last;country;role_id;IM Import Errors
123456789;jadmin;John;Admin;CANADA;3;Import Error:Record #2 for OA type User failed to import. Error Code: 601, Error Description:
 Invalid ID. There isn't a record matching the ID or code you asked for..
555555555;mcollins;Marc;Collins;USA;3;Import Error:Record #6 for OA type User failed to import. Error Code: 818, Error Description:
 Duplicate User nickname.
```

Batching Export and Import Shortcuts

You can batch Integration Manager shortcuts to run sequentially in the order specified to save you having to launch or schedule these shortcuts one at a time.

To batch export and import shortcuts:

1. Identify the sequence in which the integration routine should be completed.

2. In a text editor, create a new text file.
3. For each shortcut you want to include, and in the required running sequence, do the following:
   a. Go to the folder that contains the LNK shortcut file.
   b. Right-click the LNK shortcut file, and click **Properties** from the context menu.

      The Shortcut properties window appears.
   c. On the Shortcut tab, copy the path in the **Target** box.
   d. Paste the path on a new line of your BAT file.
4. Save the BAT file. Be sure to name the file with a BAT extension, such as `example.bat`.

> **Note:** To do so in Notepad, go to File > Save As, select `All Files (*.*)` from the **Save as type** dropdown options, and enter a **File name** with a BAT extension.

Editing Integration Manager Shortcuts

You can edit Integration Manager shortcuts at any time, to change your OpenAir sign-in details (account type, company ID, user ID, or password), or to modify the configuration as your integration requirements change.

To edit an Integration Manager shortcut, you must open the shortcut using the same version of Integration Manager as the shortcut bundle instance. To open a shortcut for edit, do either of the following:

- Launch the Integration Manager shortcut bundle instance — Locate the shortcut bundle folder corresponding to the shortcut you want to edit and double-click the EXE file `C:\im_shortcuts\<shortcutFilename>_oabundle\OpenAirManager.exe`, where `<shortcutFilename>` is the name you entered when creating the shortcut.
- Launch the main Integration Manager application instance and upgrade the shortcut to the same version, before you can open the shortcut for edit. See Upgrading Integration Manager Shortcuts.

> **Important:** Do not edit a shortcut in a different version of Integration Manager than the one used with the shortcut. If you do so, Integration Manager prompts you to exit the application and then to launch the version stored in `C:\im_shortcuts\<shortcutFilename>_oabundle\OpenAirManager.exe`.

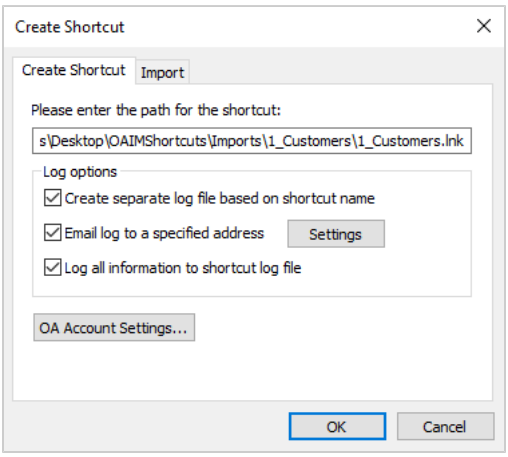
To edit an Integration Manager shortcut:

1. Launch the Integration Manager shortcut bundle instance — `C:\im_shortcuts\<shortcutFilename>_oabundle\OpenAirManager.exe`, where `<shortcutFilename>` is the name you entered when creating the shortcut.

   > **Note:** You cannot have two different instances of Integration Manager running at the same time. To launch either the main application instance or the shortcut bundle instance, you must exit the other first.
2. In the main Integration Manager window, go to File > Open Shortcut.

   A File Selector window appears.
3. Locate and select the shortcut you would like to edit, then click **Open**.

   The Create Shortcut window appears.



4. To change your OpenAir password or any other sign-in details, click **OA Account Settings**.

   The Account Settings window appears.

   Enter your new password or any other sign-in details. See also Connecting Integration Manager with your OpenAir Account.

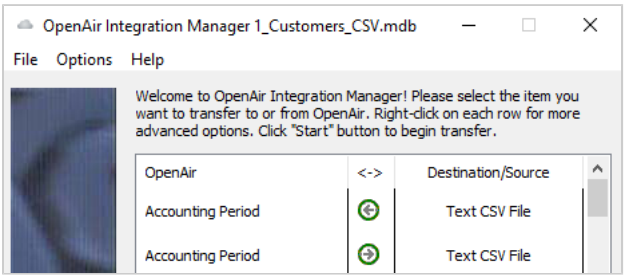
5. Change other shortcut settings as required. For more information about the shortcut configuration settings, see Creating an Export or Import Shortcut.

6. Click **OK**.

   A confirmation message appears.

7. Click **OK**.

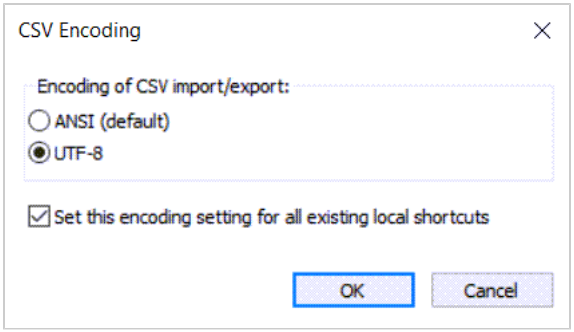
   The OpenAir Integration Manager window appears with the name of the shortcut in the title.



8. To change the character encoding scheme of the CSV file you are importing information from or exporting information to, use the following steps:

   a. Go to Options > CSV Encoding

      The CSV Encoding window appears.



b. Choose **ANSI** or **UTF-8**.

c. Click **OK**.

Important: Review the following guidelines:

- The files you provide for import must be encoded using the character encoding scheme selected in Integration Manager. For example, if CSV Encoding is set to UTF-8, CSV files you provide for import must be UTF-8 encoded — If the CSV files is not UTF-8 encoded, data may be corrupted during import.
- The CSV Encoding menu option is available only if you the shortcut uses a version of Integration Manager 6.6 or later version.
- Previous versions of Integration Manager use ANSI encoding exclusively. UTF-8 is not supported in Integration Manager 6.5.3 or earlier version.
- ANSI (codepage 1252, Western Europe) is the default character encoding scheme for CSV imports and exports to ensure backward compatibility with existing infrastructures.
- When editing a shortcut, you can only change the CSV character encoding scheme for this shortcut. The **Set this encoding setting for all existing local shortcuts box** has no effect. To update all your existing Integration Manager shortcuts at the same time, change the CSV encoding option in the main Integration Manager application instance, and check the **Set this encoding setting for all existing local shortcuts box** box. See CSV Character Encoding.

9. For all other changes, use the following steps:

a. Locate the row corresponding to the record type and the direction corresponding to your shortcut from the table listing the record types available for import from and export to a CSV file.

Important: Be sure to select the same record type and direction that the shortcut was created for.

b. Follow the usual steps to change any of the field mapping, filtering, formatting, and accounting settings. For more information, see the following topics:

- Mapping OpenAir Fields to CSV Columns
- Filtering OpenAir Records for Export
- Formatting Information for Export and Import
- Accounting Settings

c. Click **Exit** to save your changes and exit the application.

Upgrading Integration Manager Shortcuts

You can upgrade your shortcut bundles after updating the main instance of Integration Manager to a new version. Unless you upgrade the shortcut bundle, the shortcut uses the same version of Integration Manager as the version you used to create the shortcut.

You can continue to use shortcut bundle using an older version of Integration Manager after you update the main Integration Manager application to a new version. Shortcut bundles are not updated to the new version automatically. However, you must either close the main Integration Manager application and launch the shortcut bundle instance, or upgrade the shortcut bundle to the same version as that of the instance you are using before you can launch the shortcut or open the shortcut for edit. You cannot run two different version instances of Integration Manager at the same time.

To upgrade a shortcut, you will need to enter a password. Contact OpenAir Professional Services or OpenAir Customer Support to request this password. For more information about contacting OpenAir Customer Support, see Creating a Support Case.

Important: You must contact OpenAir Professional Services or OpenAir Customer Support to discuss your requirements before upgrading any Integration Manager shortcuts.

If you created shortcuts for business-critical processes such as accounting system integrations, ensure they run correctly under the new version of Integration Manager. Regression test any business-critical applications in a sandbox environment before you upgrade a shortcut on your production environment.

To upgrade an Integration Manager shortcut:

1. In the updated version of the main Integration Manager application, go to File > Upgrade Shortcut.

   A File Selector window appears.
2. Locate and select the shortcut you would like to upgrade, then click **Open**.

   The Shortcut Upgrade window displays and prompts for a password. To obtain the password, contact OpenAir Customer Support.
3. Enter the **Upgrade password**, and click **OK**.

   A window appears showing messages about the progress of the shortcut upgrade. A confirmation message appears on completion.
4. Click **OK**.

Records and Fields Reference

OpenAir provide technical documentation for identifying record types, corresponding tables in the OpenAir database, and field names. See OpenAir Data Dictionary.

Integration Manager does not support all tables and fields in the OpenAir database. This section provides a list of OpenAir record types available for import and export using Integration Manager, see OpenAir Records Available for Export and Import.

Click the links in the list of supported record types to view the list of standard fields supported for each record type.

OpenAir Data Dictionary

The OpenAir Data Dictionary provides a summary of all tables, and standard fields in OpenAir.

The Database Guide also provides an overview of the corresponding tables and their relationships for most record types in OpenAir with cross-references to the OpenAir Data Dictionary for details. See Database Guide.

Note: To view the OpenAir Data Dictionary, use the following URL: `https://<account-domain>/database/single_user.html`.

- The URL includes the domain name for your OpenAir account `<account-domain>`. For more information about your account-specific domain name, see the help topic Your OpenAir Account URLs.
- To view the details of a specific table, append a hash symbol # followed by the table name to the end of the data dictionary URL. For example, use `https://<account-domain>/database/single_user.html#project` to view the details of the Project table.
- You can access the data dictionary from the OpenAir Help Center using the link in the navigation bar if you have the View Help Center role permission.

OpenAir Records Available for Export and Import

The following table lists the OpenAir record types available for import and export using Integration Manager. Some record types are supported only when exporting information from OpenAir to a CSV file, or only when importing information from a CSV file into OpenAir. Check marks under the Export and Import columns indicate that you can export or import records of that type.

When exporting information from OpenAir to a CSV file, supported standard fields for other record types directly related with the record type you selected for export are also available for mapping. A check mark under the Export (Related Object) column indicates the record types available as related objects and the fields available for these related object. Some of records are only supported as related object.

Click the links in the list of supported record types to view the list of standard fields supported for each record type.

OpenAir Record	Export	Export (Related Object)	Import
Accounting Period	✓	—	✓

OpenAir Record	Export	Export (Related Object)	Import
Actual Cost	—	—	✓
Agreement	—	✓	✓
Agreement to Project	✓	—	✓
Approval Process	✓	—	✓
Booking	✓	—	✓
Booking Type	✓	—	✓
Budget	✓	—	✓
Budget Allocation	✓	—	✓
Category	—	✓	—
Category_1 (see Category_<N>)	✓	—	✓
Category_2 (see Category_<N>)	✓	—	✓
Category_3 (see Category_<N>)	✓	—	✓
Category_4 (see Category_<N>)	✓	—	✓
Category_5 (see Category_<N>)	✓	—	✓
Contact	✓	—	✓
Cost Category	—	—	✓
Cost Center	✓	✓	✓
Cost Type	—	—	✓
Currency	✓	—	✓
Customer	✓	✓	✓
Customer PO	—	✓	✓
Customer PO to Project	—	—	✓
Deal	✓	✓	—
DealContact	✓	—	—
DealSchedule	✓	—	—
Department	✓	✓	✓
Entity tag	✓	—	✓
Envelope	✓	✓	✓
Estimate	✓	✓	—

OpenAir Record	Export	Export (Related Object)	Import
EstimateAdjustment	✓	—	—
EstimateExpense	✓	—	—
EstimateLabor	✓	—	—
EstimatePhase	✓	—	—
Event	✓	—	✓
Expense Item	—	✓	✓
Filter set	—	—	✓
ForexInput	—	—	✓
Invoice	✓	✓	✓
Issue	✓	—	✓
Item to User Location	✓	—	✓
Job Code	✓	—	✓
Leave accrual rule	✓	✓	✓
Leave accrual rule to user	✓	—	✓
Leave accrual trans	✓	—	✓
Loaded Cost	✓	—	✓
Payment	✓	—	✓
Payment Terms	✓	—	✓
Payment Type	✓	✓	✓
Payroll Type	—	✓	✓
Product	—	✓	✓
Profile Type	✓	✓	✓
Project	✓	✓	✓
Project Assignment	✓	—	✓
Project Billing Rule	✓	✓	✓
Project Billing Transaction	✓	—	✓
Project Group	✓	—	✓
Project Stage	—	✓	—
Project Task	✓	✓	✓

OpenAir Record	Export	Export (Related Object)	Import
Project task assign	✓	—	✓
Projecttask_type	—	—	✓
Proposal	✓	✓	—
ProposalBlock	✓	—	—
Prospect	✓	—	✓
Proxy		—	✓
Purchase item	✓	—	✓ (only non-PO purchase items)
Purchase order	—	✓	—
Purchaser	—	✓	—
Purchase request	—	✓	—
Rate Card	—	—	✓
Rate Card Item	✓	—	✓
Receipt	✓	✓	✓
Reimbursement	✓	—	✓
Repeat	✓	—	✓
Resource Profile	✓	—	✓
Resource Request	✓	—	✓
Resource Request Queue	✓	—	✓
Resource Search	✓	—	✓
Rev. Recogn. Amount	—	—	✓
Rev. Recogn. Rule	✓	—	✓
Rev. Recogn. Trans.	✓	—	✓
Revenue Container	✓	—	✓
Revenue Stage	✓	—	—
Schedule Exception	✓	—	✓
ScheduleRequest	✓	✓	✓
ScheduleRequest item	✓	—	—
Service	✓	—	✓

OpenAir Record	Export	Export (Related Object)	Import
Slip Projection	✓	—	—
Slip Stage	—	✓	—
Tag Group	✓	—	✓
Tag Group Attribute	✓	—	✓
Target Utilization	✓	—	✓
Tax Location	—	—	✓
Tax Rate	—	✓	—
Time Type	—	✓	—
TimeBill	✓	✓	✓
Timecard	—	✓	—
Timesheet	✓	✓	✓
Timesheet entry	✓	—	✓
Timesheet/Timecard entry	✓	—	—
Todo	✓	—	—
User	✓	✓	✓
User Project Rate	✓	—	✓
User Workschedule	✓	—	✓
Vendor	—	—	✓
Workspace Link	✓	—	✓
Workspace User	✓	—	✓

Accounting Period

Field Name	Data Type	Export	Import
active	TEXT	✓	✓
created	DATE	✓	—
current_period	TEXT	✓	✓
default_period	TEXT	✓	✓
end_date	DATE	✓	✓
id	ID	✓	✓

Field Name	Data Type	Export	Import
name	TEXT	✓	✓
notes	TEXT	✓	✓
period_date	DATE	✓	✓
period_date_how	TEXT	✓	✓
start_date	DATE	✓	✓
updated	DATE	✓	—

Actual Cost

Field Name	Data Type	Export	Import
cost	NOT_SET	—	✓
cost_typeid	ID	—	✓
created	DATE	—	✓
currency	NOT_SET	—	✓
date	DATE	—	✓
externalid	NOT_SET	—	✓
id	ID	—	✓
is_accrual	NOT_SET	—	✓
name	NOT_SET	—	✓
notes	NOT_SET	—	✓
period	NOT_SET	—	✓
updated	DATE	—	✓
userid	ID	—	✓

Agreement

Name	Data Type	Export	Export (Related Object)	Import
acct_date	DATE	—	—	✓
active	NOT_SET	—	✓	✓
code	NOT_SET	—	✓	✓

Name	Data Type	Export	Export (Related Object)	Import
created	DATE	—	✓	✓
currency	NOT_SET	—	✓	✓
customer_externalid	NOT_SET	—	—	✓
customer_id	ID	—	✓	✓
date	DATE	—	✓	✓
external_id	NOT_SET	—	✓	✓
id	ID	—	✓	✓
name	NOT_SET	—	✓	✓
notes	NOT_SET	—	✓	✓
number	NOT_SET	—	✓	✓
total	NOT_SET	—	✓	✓
updated	DATE	—	✓	✓

Agreement to Project

Name	Data Type	Export	Import
active	TEXT	✓	✓
agreementid	ID	✓	✓
created	DATE	✓	—
customerid	ID	✓	✓
id	ID	✓	✓
projectid	ID	✓	✓
updated	DATE	✓	—

Approval Process

Name	Data Type	Export	Import
created	DATE	✓	—
external_id	TEXT	✓	✓
id	ID	✓	✓

Name	Data Type	Export	Import
name	TEXT	✓	✓
updated	DATE	✓	—

Booking

Name	Data Type	Export	Import
approval_status	NOT_SET	✓	✓
as_percentage	NOT_SET	✓	✓
▪ booking_type_id (Export) ▪ bookingtype_id (Import)	ID	✓	✓
booking_type_*<field_name>*	*See* Booking Type	✓	—
created	DATE	✓	✓
customer_id	ID	✓	✓
customer_*<field_name>*	*See* Customer	✓	—
enddate	DATE	✓	✓
endtime	NOT_SET	✓	✓
external_id	NOT_SET	✓	✓
hours	NOT_SET	✓	✓
id	ID	✓	✓
invoice_layoutid	ID	✓	—
invoice_prefix	TEXT	✓	—
invoice_text	TEXT	✓	—
job_codeid	ID	✓	✓
locationid	ID	✓	✓
notes	TEXT	✓	✓
ownerid	ID	✓	✓
percentage	NOT_SET	✓	✓
project_assignment_profileid	ID	✓	✓
project_id	ID	✓	✓
project_*<field_name>*	*See* Project	✓	—

Name	Data Type	Export	Import
project_taskid	ID	✓	✓
repeat_id	ID	✓	✓
resource_request_queueid	ID	✓	✓
startdate	DATE	✓	✓
starttime	NOT_SET	✓	✓
updated	DATE	✓	✓
user_id	ID	✓	✓
user_<*field_name*>	*See* User	✓	—

Booking Type

Name	Data Type	Export	Export (Related Object)	Import
active	NOT_SET	✓	✓	✓
created	DATE	✓	✓	✓
id	ID	✓	✓	✓
name	NOT_SET	✓	✓	✓
notes	TEXT	✓	✓	✓
priority	NOT_SET	✓	✓	✓
updated	DATE	✓	✓	✓

Budget

Name	Data Type	Export	Import
budget_category_id	ID	✓	✓
categoryid	ID	✓	✓
created	DATE	✓	✓
currency	NOT_SET	✓	✓
customer_id	ID	✓	✓
date	DATE	✓	✓
id	ID	✓	✓

Name	Data Type	Export	Import
name	NOT_SET	✓	✓
notes	NOT_SET	✓	✓
project_id	ID	✓	✓
total	NOT_SET	✓	✓
updated	DATE	✓	✓

Budget Allocation

Name	Data Type	Export	Import
allocation	NOT_SET	✓	✓
budget_activity_id	ID	✓	✓
budget_category_id	ID	✓	✓
budget_id	ID	✓	✓
created	DATE	✓	✓
currency	NOT_SET	✓	✓
customer_id	ID	✓	✓
date	DATE	✓	✓
id	ID	✓	✓
project_id	ID	✓	✓
total	NOT_SET	✓	✓
updated	DATE	✓	✓
user_id	ID	✓	✓

Category

Name	Data Type	Export	Export (Related Object)	Import
active	NOT_SET	—	✓	—
code	NOT_SET	—	✓	—
cost_centerid	ID	—	✓	—
created	DATE	—	✓	—

Name	Data Type	Export	Export (Related Object)	Import
currency	NOT_SET	—	✓	—
externalid	NOT_SET	—	✓	—
fixed_fee	NOT_SET	—	✓	—
id	ID	—	✓	—
name	NOT_SET	—	✓	—
other_rate	NOT_SET	—	✓	—
other_rate_type	NOT_SET	—	✓	—
rate	NOT_SET	—	✓	—
taxable	NOT_SET	—	✓	—
updated	DATE	—	✓	—

Category_<N>

Name	Data Type	Export	Import
active	NOT_SET	✓	✓
code	NOT_SET	✓	✓
created	DATE	✓	✓
externalid	NOT_SET	✓	✓
id	ID	✓	✓
name	NOT_SET	✓	✓
notes	NOT_SET	✓	✓
updated	DATE	✓	✓

Contact

Name	Data Type	Export	Export (Related Object)	Import
acct_code	NOT_SET	✓	✓	✓
active	NOT_SET	✓	✓	✓
address1	NOT_SET	✓	✓	✓
address2	NOT_SET	✓	✓	✓

Name	Data Type	Export	Export (Related Object)	Import
address3	TEXT	✓	✓	✓
address4	TEXT	✓	✓	✓
can_bill_to	NOT_SET	✓	✓	✓
can_ship_to	NOT_SET	✓	✓	✓
can_sold_to	NOT_SET	✓	✓	✓
city	NOT_SET	✓	✓	✓
country	NOT_SET	✓	✓	✓
created	DATE	✓	✓	✓
customer_company	NOT_SET	✓	✓	✓
customer_externalid	NOT_SET	✓	✓	✓
customer_id	ID	✓	✓	✓
customer_*<field_name>*	*See* Customer	✓	—	—
email	NOT_SET	✓	✓	✓
external_id	NOT_SET	✓	✓	✓
fax	NOT_SET	✓	✓	✓
firstname	TEXT	✓	✓	✓
invoice_layoutid	ID	✓	—	—
invoice_prefix	TEXT	✓	—	—
invoice_text	TEXT	✓	—	—
id	ID	✓	✓	✓
job_title	NOT_SET	✓	✓	✓
lastname	TEXT	✓	✓	✓
middle	TEXT	✓	✓	✓
mobile	NOT_SET	✓	✓	✓
name	TEXT	✓	✓	✓
notes	NOT_SET	✓	✓	✓
phone	NOT_SET	✓	✓	✓
state	NOT_SET	✓	✓	✓
title	NOT_SET	✓	✓	✓

Name	Data Type	Export	Export (Related Object)	Import
updated	DATE	✓	✓	✓
zip	NOT_SET	✓	✓	✓

Cost Category

Name	Data Type	Export	Import
active	NOT_SET	—	✓
created	DATE	—	✓
externalid	NOT_SET	—	✓
id	ID	—	✓
name	NOT_SET	—	✓
notes	NOT_SET	—	✓
updated	DATE	—	✓

Cost Center

Name	Data Type	Export	Export (Related Object)	Import
active	NOT_SET	✓	✓	✓
created	DATE	✓	✓	✓
external_id	NOT_SET	✓	✓	✓
id	ID	✓	✓	✓
name	TEXT	✓	✓	✓
notes	TEXT	✓	✓	✓
updated	DATE	✓	✓	✓

Cost Type

Name	Data Type	Export	Import
active	NOT_SET	—	✓
cost_categoryid	ID	—	✓
created	DATE	—	✓

Name	Data Type	Export	Import
externalid	NOT_SET	—	✓
id	ID	—	✓
name	NOT_SET	—	✓
notes	NOT_SET	—	✓
updated	DATE	—	✓

Currency

Name	Data Type	Export	Import
created	DATE	✓	✓
rate	NOT_SET	✓	✓
symbol	NOT_SET	✓	✓
updated	DATE	✓	✓

Customer

Name	Data Type	Export	Export (Related Object)	Import
acct_code	NOT_SET	✓	✓	✓
active	CHAR	✓	✓	✓
address1	TEXT	✓	✓	✓
address2	TEXT	✓	✓	✓
address3	TEXT	✓	✓	✓
address4	TEXT	✓	✓	✓
billing_address1	NOT_SET	✓	✓	✓
billing_address2	NOT_SET	✓	✓	✓
billing_address3	TEXT	✓	✓	✓
billing_address4	TEXT	✓	✓	✓
billing_city	NOT_SET	✓	✓	✓
billing_code	TEXT	✓	—	✓
billing_contact_id	ID	✓	—	✓

Name	Data Type	Export	Export (Related Object)	Import
billing_country	NOT_SET	✓	✓	✓
billing_email	NOT_SET	✓	✓	✓
billing_fax	NOT_SET	✓	✓	✓
billing_firstname	TEXT	✓	✓	✓
billing_lastname	TEXT	✓	✓	✓
billing_middle	TEXT	✓	✓	✓
billing_mobile	NOT_SET	✓	✓	✓
billing_phone	NOT_SET	✓	✓	✓
billing_state	NOT_SET	✓	✓	✓
billing_title	NOT_SET	✓	✓	✓
billing_zip	NOT_SET	✓	✓	✓
bus_typeid	ID	✓	✓	✓
city	TEXT	✓	✓	✓
company	TEXT	✓	✓	✓
company_sizeid	ID	✓	✓	✓
contact_address1	NOT_SET	✓	✓	✓
contact_address2	NOT_SET	✓	✓	✓
contact_address3	TEXT	✓	✓	✓
contact_address4	TEXT	✓	✓	✓
contact_city	NOT_SET	✓	✓	✓
contact_country	NOT_SET	✓	✓	✓
contact_email	NOT_SET	✓	✓	✓
contact_fax	NOT_SET	✓	✓	✓
contact_firstname	TEXT	✓	✓	✓
contact_lastname	TEXT	✓	✓	✓
contact_middle	TEXT	✓	✓	✓
contact_mobile	NOT_SET	✓	✓	✓
contact_phone	NOT_SET	✓	✓	✓
contact_state	NOT_SET	✓	✓	✓

Name	Data Type	Export	Export (Related Object)	Import
▪ contact_titles (Export) ▪ contact_title (Import)	NOT_SET	✓	✓	✓
contact_zip	NOT_SET	✓	✓	✓
cost_center_id	ID	✓	✓	✓
cost_center_*<field_name>*	*See* Cost Center	✓	—	—
country	TEXT	✓	✓	✓
created	DATE	✓	✓	✓
credit_invoice_layout_id	NOT_SET	✓	✓	✓
currency	NOT_SET	✓	✓	✓
customer_locationid	NOT_SET	✓	—	—
email	TEXT	✓	✓	✓
external_id	NOT_SET	✓	✓	✓
fax	TEXT	✓	✓	✓
filterset_ids	NOT_SET	✓	—	✓
firstname	TEXT	✓	✓	✓
hear_aboutid	ID	✓	✓	✓
hierarchy_node_ids	IDS	✓	—	✓
id	ID	✓	✓	✓
invoice_layoutid	ID	✓	—	✓
invoice_prefix	TEXT	✓	—	✓
invoice_text	TEXT	✓	—	✓
lastname	TEXT	✓	✓	✓
middle	TEXT	✓	✓	✓
mobile	NOT_SET	✓	✓	✓
name	TEXT	✓	✓	✓
notes	TEXT	✓	✓	✓
phone	TEXT	✓	✓	✓
primary_contactid	ID	✓	—	✓
rate	DECIMAL	✓	✓	✓

Name	Data Type	Export	Export (Related Object)	Import
shipping_contactid	ID	✓	—	✓
state	TEXT	✓	✓	✓
▪ statement (Export) ▪ statements (Import)	TEXT	✓	✓	✓
ta_include	NOT_SET	✓	—	—
tb_approvalprocess	ID	✓	✓	✓
tb_approver	ID	✓	✓	✓
te_include	NOT_SET	✓	—	—
terms	TEXT	✓	✓	✓
territoryid	ID	✓	✓	✓
title	TEXT	✓	✓	✓
type	NOT_SET	✓	✓	—
updated	DATE	✓	✓	✓
userid	ID	✓	✓	✓
user_<*field_name*>	*See* User	✓	—	—
web	TEXT	✓	✓	✓
zip	TEXT	✓	✓	✓

Customer PO

Name	Data Type	Export	Export (Related Object)	Import
acct_date	DATE	—	—	✓
active	NOT_SET	—	✓	✓
code	NOT_SET	—	✓	✓
created	DATE	—	✓	✓
currency	NOT_SET	—	✓	✓
customer_externalid	NOT_SET	—	—	✓
customer_id	ID	—	✓	✓
date	DATE	—	✓	✓
external_id	NOT_SET	—	✓	✓

Name	Data Type	Export	Export (Related Object)	Import
id	ID	—	✓	✓
name	NOT_SET	—	✓	✓
notes	NOT_SET	—	✓	✓
number	NOT_SET	—	✓	✓
total	NOT_SET	—	✓	✓
updated	DATE	—	✓	✓

Customer PO to Project

Name	Data Type	Export	Import
active	NOT_SET	—	✓
created	DATE	—	✓
customer_id	ID	—	✓
customerpoid	ID	—	✓
external_id	NOT_SET	—	✓
id	ID	—	✓
projectid	ID	—	✓
updated	DATE	—	✓

Deal

Name	Data Type	Export	Export (Related Object)	Import
active	NOT_SET	✓	✓	—
closed	DATE	✓	✓	—
created	DATE	✓	✓	—
customer_id	ID	✓	✓	—
customer_*<field_name>*	*See* Customer	✓	—	—
exported	NOT_SET	✓	✓	—
id	ID	✓	✓	—
invoice_layoutid	ID	✓	—	—

Name	Data Type	Export	Export (Related Object)	Import
invoice_prefix	TEXT	✓	—	—
invoice_text	TEXT	✓	—	—
name	NOT_SET	✓	✓	—
notes	TEXT	✓	✓	—
opened	DATE	✓	✓	—
rating	NOT_SET	✓	✓	—
stage	NOT_SET	✓	✓	—
status	NOT_SET	✓	✓	—
territory_id	ID	✓	✓	—
updated	DATE	✓	✓	—
user_id	ID	✓	✓	—
user_*<field_name>*	*See* User	✓	—	—

DealContact

Name	Data Type	Export	Import
contact_id	ID	✓	—
contact_*<field_name>*	*See* Contact	✓	—
created	DATE	✓	—
deal_id	ID	✓	—
deal_*<field_name>*	*See* Deal	✓	—
id	ID	✓	—
updated	DATE	✓	—

DealSchedule

Name	Data Type	Export	Import
amount	NOT_SET	✓	—
created	DATE	✓	—
date	DATE	✓	—

Name	Data Type	Export	Import
deal_id	ID	✓	—
deal_<*field_name*>	*See* Deal	✓	—
id	ID	✓	—
updated	DATE	✓	—

Department

Name	Data Type	Export	Export (Related Object)	Import
created	DATE	✓	✓	✓
external_id	NOT_SET	✓	✓	✓
id	ID	✓	✓	✓
name	TEXT	✓	✓	✓
notes	NOT_SET	✓	✓	✓
updated	DATE	✓	✓	✓
user_id	ID	✓	✓	✓
user_<*field_name*>	*See* User	✓	✓	—

Entity tag

Name	Data Type	Export	Import
created	DATE	✓	—
customerid	ID	✓	✓
default_for_entity	NOT_SET	✓	✓
end_date	DATE	✓	✓
externalid	TEXT	✓	✓
id	ID	✓	✓
projectid	ID	✓	✓
start_date	DATE	✓	✓
tag_group_attribute_name	NOT_SET	✓	—
tag_group_attributeid	ID	✓	✓

Name	Data Type	Export	Import
tag_group_id	NOT_SET	✓	—
updated	DATE	✓	—
userid	ID	✓	✓

Envelope

Name	Data Type	Export	Export (Related Object)	Import
acct_date	DATE	✓	✓	✓
advance	NUMBER	✓	✓	✓
approved	DATE	✓	✓	✓
balance	NUMBER	✓	✓	✓
created	DATE	✓	✓	✓
currency	NOT_SET	✓	✓	✓
currency_exchange_intolerance	NOT_SET	✓	—	✓
customerid	NUMBER	✓	—	✓
date	DATE	✓	✓	✓
date_end	DATE	✓	✓	✓
date_start	DATE	✓	✓	✓
errors	NOT_SET	✓	—	—
external_id	NOT_SET	✓	✓	✓
id	ID	✓	✓	✓
is_overlapping	NOT_SET	✓	✓	✓
log	NOT_SET	✓	—	—
name	NOT_SET	✓	✓	✓
notes	TEXT	✓	✓	✓
number	NOT_SET	✓	✓	✓
projectid	NUMBER	✓	—	✓
status	NOT_SET	✓	✓	✓
submitted	DATE	✓	✓	✓
▪ tax_locationid (Export)	ID	✓	✓	✓

Name	Data Type	Export	Export (Related Object)	Import
■ tax_location_id (Import)				
thin_clientid	NOT_SET	✓	—	✓
total	NUMBER	✓	✓	✓
totreimburse	NUMBER	✓	✓	✓
tottickets	NUMBER	✓	✓	✓
trip_reason	NOT_SET	✓	✓	✓
updated	DATE	✓	✓	✓
user_id	ID	✓	✓	✓
user_*<field_name>*	*See* User	✓	—	—
warnings	NOT_SET	✓	—	—

Estimate

Name	Data Type	Export	Export (Related Object)	Import
created	DATE	✓	✓	—
customer_id	ID	✓	✓	—
customer_*<field_name>*	*See* Customer	✓	—	—
deal_id	ID	✓	✓	—
deal_*<field_name>*	*See* Deal	✓	—	—
hide_expenses	NOT_SET	✓	✓	—
id	ID	✓	✓	—
invoice_layoutid	ID	✓	—	—
invoice_prefix	TEXT	✓	—	—
invoice_text	TEXT	✓	—	—
name	NOT_SET	✓	✓	—
notes	TEXT	✓	✓	—
updated	DATE	✓	✓	—

EstimateAdjustment

Name	Data Type	Export	Import
adjustment_type	NOT_SET	✓	—
amount	NUMBER	✓	—
amount_type	NOT_SET	✓	—
created	DATE	✓	—
estimate_id	ID	✓	—
estimate_*<field_name>*	*See* Estimate	✓	—
id	ID	✓	—
name	NOT_SET	✓	—
updated	DATE	✓	—

EstimateExpense

Name	Data Type	Export	Import
created	DATE	✓	—
date	DATE	✓	—
description	TEXT	✓	—
estimate_id	ID	✓	—
estimate_*<field_name>*	*See* Estimate	✓	—
id	ID	✓	—
item_id	ID	✓	—
item_*<field_name>*	*See* Expense Item	✓	—
markup	NUMBER	✓	—
markup_type	NOT_SET	✓	—
price	NOT_SET	✓	—
quantity	NOT_SET	✓	—
updated	DATE	✓	—

EstimateLabor

Name	Data Type	Export	Import
amount	NUMBER	✓	—
amount_type	NOT_SET	✓	—
billing_rate	NOT_SET	✓	—
description	TEXT	✓	—
end_date	DATE	✓	—
created	DATE	✓	—
estimate_id	ID	✓	—
estimate_<*field_name*>	*See* Estimate	✓	—
id	ID	✓	—
loaded_cost	NOT_SET	✓	—
start_date	DATE	✓	—
updated	DATE	✓	—
user_id	ID	✓	✓
user_<*field_name*>	*See* User	✓	—

EstimatePhase

Name	Data Type	Export	Import
created	DATE	✓	—
estimate_id	ID	✓	—
estimate_<*field_name*>	*See* Estimate	✓	—
id	ID	✓	—
name	NOT_SET	✓	—
updated	DATE	✓	—

Event

Name	Data Type	Export	Import
contactid	ID	✓	✓

Name	Data Type	Export	Import
contact_<*field_name*>	*See* Contact	✓	—
created	DATE	✓	✓
▪ customer_id (Export) ▪ customerid (Import)	ID	✓	✓
customer_<*field_name*>	*See* Customer	✓	—
▪ deal_id (Export) ▪ dealid (Import)	ID	✓	✓
deal_<*field_name*>	*See* Deal	✓	—
id	ID	✓	✓
invoice_layoutid	ID	✓	—
invoice_prefix	TEXT	✓	—
invoice_text	TEXT	✓	—
name	TEXT	✓	✓
notes	TEXT	✓	✓
occurred	DATE	✓	✓
updated	DATE	✓	✓
▪ user_id (Export) ▪ userid (Import)	ID	✓	✓
user_<*field_name*>	*See* User	✓	—

Expense Item

Name	Data Type	Export	Export (Related Object)	Import
acct_code	NOT_SET	—	✓	✓
active	CHAR	—	✓	✓
cost	NUMBER	—	✓	✓
cost_center_id	ID	—	✓	✓
created	DATE	—	✓	✓
external_id	NOT_SET	—	✓	✓
id	ID	—	✓	✓
item_currency	NOT_SET	—	✓	✓

Name	Data Type	Export	Export (Related Object)	Import
name	NAME	—	✓	✓
tax_locationid	ID	—	—	✓
taxable	NOT_SET	—	✓	✓
tp_comp	NOT_SET	—	—	✓
tp_cost	NOT_SET	—	—	✓
tp_notes_required	NOT_SET	—	—	✓
tp_unit_or_total	NOT_SET	—	—	✓
type	NOT_SET	—	✓	✓
unitm	NOT_SET	—	✓	✓
updated	DATE	—	✓	✓

Filter set

Name	Data Type	Export	Import
active	NOT_SET	—	✓
all_access	NOT_SET	—	✓
created	DATE	—	✓
default_filter_set	NOT_SET	—	✓
id	ID	—	✓
name	NOT_SET	—	✓
notes	NOT_SET	—	✓
updated	DATE	—	✓

ForexInput

Name	Data Type	Export	Import
base	NOT_SET	—	✓
enddate	DATE	—	✓
future	NOT_SET	—	✓
past	NOT_SET	—	✓

Name	Data Type	Export	Import
rate	NOT_SET	—	✓
startdate	DATE	—	✓
symbol	NOT_SET	—	✓

Guidelines

The *base* currency must be one of the user-defined reporting currencies. It is not possible to set historical foreign currency exchange rates if the base currency is one of the currencies supported by OpenAir as standard. If one record in the import CSV file includes a system-supported currency as the base currency, the Integration Manager log shows "OA type ForexInput failed to import. Error Code: 837; Error Description: Not a valid account currency, You can only specify a currency currently enabled for the account. API Error: Invalid base currency specified. It must be one of user-defined currencies."

For more information about user-defined reporting currencies, see the help topic User-Defined Reporting Currencies.

Invoice

Name	Data Type	Export	Export (Related Object)	Import
access_log	NOT_SET	✓	✓	✓
accounting	NOT_SET	✓	✓	✓
acct_date	DATE	✓	✓	✓
approval_status	NOT_SET	✓	✓	✓
balance	NOT_SET	✓	✓	✓
contactid	ID	✓	✓	✓
created	DATE	✓	✓	✓
credit	NOT_SET	✓	✓	✓
credit_reason	NOT_SET	✓	✓	✓
credit_rebill_status	TEXT	✓	—	✓
currency	NOT_SET	✓	✓	✓ | ▪ customer_id (Export) ▪ customerid (Import)	ID	✓	✓	✓
customer_<*field_name*>	*See* Customer	✓	—	—
date	DATE	✓	✓	✓
draw	NOT_SET	✓	✓	✓

Name	Data Type	Export	Export (Related Object)	Import
draw_date	DATE	✓	✓	✓
emailed	DATE	✓	✓	✓
externalid	NOT_SET	✓	✓	✓
id	ID	✓	✓	✓
invoice_layoutid	ID	✓	✓	✓
invoice_prefix	TEXT	✓	—	—
invoice_text	TEXT	✓	—	—
notes	NOT_SET	✓	✓	✓
number	NOT_SET	✓	✓	✓
original_invoiceid	ID	✓	✓	✓
paperrequest	DATE	✓	✓	✓
papersend	DATE	✓	✓	✓
payment_termsid	ID	✓	—	—
shipping_contactid	ID	✓	✓	✓
sold_to_contactid	ID	✓	—	✓
status	NOT_SET	✓	✓	✓
tax	NOT_SET	✓	✓	✓
tax_federal	NUMBER	✓	✓	✓
tax_gst	NUMBER	✓	✓	✓
tax_hst	NUMBER	✓	✓	✓
tax_pst	NUMBER	✓	✓	✓
tax_state	NUMBER	✓	✓	✓
terms	NOT_SET	✓	✓	✓
total	NOT_SET	✓	✓	✓
updated	DATE	✓	✓	✓

Issue

Name	Data Type	Export	Import
attachment_id	ID	✓	✓

Name	Data Type	Export	Import
created	DATE	✓	—
customer_id	ID	✓	✓
date	DATE	✓	✓
date_resolution_expected	DATE	✓	✓
date_resolution_required	DATE	✓	✓
date_resolved	DATE	✓	✓
description	NOT_SET	✓	✓
id	ID	✓	✓
issue_category_id	ID	✓	✓
issue_notes	NOT_SET	✓	✓
issue_severity_id	ID	✓	✓
issue_source_id	ID	✓	✓
issue_stage_id	ID	✓	✓
issue_status_id	ID	✓	✓
name	NOT_SET	✓	✓
number	NOT_SET	✓	✓
owner_id	ID	✓	✓
prefix	NOT_SET	✓	✓
priority	NOT_SET	✓	✓
project_id	ID	✓	✓
project_task_id	ID	✓	✓
resolution_notes	NOT_SET	✓	✓
updated	DATE	✓	—
user_id	ID	✓	✓

Item to User Location

Name	Data Type	Export	Import
created	DATE	✓	—
id	ID	✓	✓

Name	Data Type	Export	Import
itemid	ID	✓	✓
tax_locationid	ID	✓	✓
updated	DATE	✓	—
user_locationid	ID	✓	✓

Job Code

Name	Data Type	Export	Import
active	NOT_SET	✓	✓
code	NOT_SET	✓	✓
created	DATE	✓	✓
currency	NOT_SET	✓	✓
▪ externalid (Export) ▪ external_id (Import)	NOT_SET	✓	✓
id	ID	✓	✓
loaded_cost	NOT_SET	✓	✓
name	NOT_SET	✓	✓
notes	NOT_SET	✓	✓
updated	DATE	✓	✓
userid_fte	ID	✓	✓

Leave accrual rule

Name	Data Type	Export	Export (Related Object)	Import
active	NOT_SET	✓	✓	✓
amount	NOT_SET	✓	✓	✓
cap	NOT_SET	✓	✓	✓
category_filter	NOT_SET	✓	✓	✓
created	DATE	✓	✓	✓
draw_down_when	NOT_SET	✓	✓	✓
grace_days	NOT_SET	✓	✓	✓

Name	Data Type	Export	Export (Related Object)	Import
id	ID	✓	✓	✓
lose_how	NOT_SET	✓	✓	✓
name	NOT_SET	✓	✓	✓
notes	NOT_SET	✓	✓	✓
period	NOT_SET	✓	✓	✓
project_filter	NOT_SET	✓	✓	✓
project_task_filter	IDS	✓	✓	✓
timetype_filter	NOT_SET	✓	✓	✓
timing	NOT_SET	✓	✓	✓
updated	DATE	✓	✓	✓

Leave accrual rule to user

Name	Data Type	Export	Import
created	DATE	✓	✓
end_date	DATE	✓	✓
id	ID	✓	✓
leave_accrual_rule_id	ID	✓	✓
leave_accrual_rule_*<field_name>*	*See* Leave accrual rule	✓	—
start_date	DATE	✓	✓
transfer_balance_to	ID	✓	✓
updated	DATE	✓	✓
user_id	ID	✓	✓
user_*<field_name>*	*See* User	✓	—

Leave accrual trans

Name	Data Type	Export	Import
amount	NOT_SET	✓	✓
created	DATE	✓	✓

Name	Data Type	Export	Import
date	DATE	✓	✓
from_run	NOT_SET	✓	✓
id	ID	✓	✓
leave_accrual_rule_id	ID	✓	✓
leave_accrual_rule_*<field_name>*	*See* Leave accrual rule	✓	—
notes	NOT_SET	✓	✓
taskid	ID	✓	✓
type	NOT_SET	✓	✓
updated	DATE	✓	✓
user_id	ID	✓	✓
user_*<field_name>*	*See* User	✓	—

Loaded Cost

Name	Data Type	Export	Import
cost	NOT_SET	✓	✓
created	DATE	✓	✓
currency	NOT_SET	✓	✓
current	NOT_SET	✓	✓
customerid	ID	✓	✓
end	DATE	✓	✓
external_id	TEXT	✓	✓
id	ID	✓	✓
lc_level	NOT_SET	✓	✓
project_taskid	ID	✓	✓
projectid	ID	✓	✓
start	DATE	✓	✓
updated	DATE	✓	✓
userid	ID	✓	✓
user_*<field_name>*	*See* User	✓	—

Guidelines

The `loaded_cost` table includes historical user loaded cost information. To import current user loaded cost information, map the OpenAir field `current` to a constant set to 1 unless you have a matching field in your import CSV file.

Payment

Name	Data Type	Export	Import
bulk_payment_id	ID	✓	✓
created	DATE	✓	✓
currency	NOT_SET	✓	✓
customer_id	ID	✓	✓
customer_*<field_name>*	*See* Customer	✓	—
date	DATE	✓	✓
externalid	NOT_SET	✓	✓
id	ID	✓	✓
invoice_id	ID	✓	✓
invoice_layoutid	ID	✓	—
invoice_number	NOT_SET	✓	✓
invoice_prefix	TEXT	✓	—
invoice_text	TEXT	✓	—
invoice_*<field_name>*	*See* Invoice	✓	—
notes	NOT_SET	✓	✓
total	NUMBER	✓	✓
updated	DATE	✓	✓

Payment Terms

Name	Data Type	Export	Import
active	NOT_SET	✓	✓
created	DATE	✓	✓
default_terms	NOT_SET	✓	✓

Name	Data Type	Export	Import
id	ID	✓	✓
name	NOT_SET	✓	✓
notes	NOT_SET	✓	✓
updated	DATE	✓	✓

Payment Type

Name	Data Type	Export	Export (Related Object)	Import
active	NOT_SET	✓	✓	✓
created	DATE	✓	✓	✓
id	ID	✓	✓	✓
name	NOT_SET	✓	✓	✓
notes	NOT_SET	✓	✓	✓
updated	DATE	✓	✓	✓

Payroll Type

Name	Data Type	Export	Export (Related Object)	Import
active	NOT_SET	—	✓	✓
created	DATE	—	✓	✓
externalid	NOT_SET	—	✓	✓
id	ID	—	✓	✓
name	NOT_SET	—	✓	✓
notes	NOT_SET	—	✓	✓
updated	DATE	—	✓	✓

Product

Name	Data Type	Export	Export (Related Object)	Import
acct_code	NOT_SET	—	✓	✓

Name	Data Type	Export	Export (Related Object)	Import
active	NOT_SET	—	✓	✓
created	DATE	—	✓	✓
currency	NOT_SET	—	✓	✓
externalid	NOT_SET	—	✓	✓
id	ID	—	✓	✓
manufacturer_part	NOT_SET	—	✓	✓
manufacturerid	ID	—	✓	✓
name	NOT_SET	—	✓	✓
notes	NOT_SET	—	✓	✓
standard_cost	NOT_SET	—	✓	✓
taxable	NOT_SET	—	✓	✓
um	NOT_SET	—	✓	✓
updated	DATE	—	✓	✓
vendor_sku	NOT_SET	—	✓	✓
vendorid	ID	—	✓	✓

Profile Type

Name	Data Type	Export	Export (Related Object)	Import
active	NOT_SET	✓	✓	✓
created	DATE	✓	✓	✓
description	TEXT	✓	✓	✓
externalid	NOT_SET	✓	✓	✓
id	ID	✓	✓	✓
name	NOT_SET	✓	✓	✓
related_id	ID	✓	✓	✓
related_table	NOT_SET	✓	✓	✓
type	NOT_SET	✓	✓	✓
updated	DATE	✓	✓	✓

Project

Name	Data Type	Export	Export (Related Object)	Import
acct_code	NOT_SET	✓	✓	✓
active	CHAR	✓	✓	✓
auto_bill	NOT_SET	✓	✓	✓
auto_bill_cap	NOT_SET	✓	✓	✓
auto_bill_cap_value	NOT_SET	✓	✓	✓
auto_bill_override	NOT_SET	✓	✓	✓
az_approvalprocess	ID	✓	✓	✓
az_approver	ID	✓	✓	✓
billing_code	NOT_SET	✓	—	✓
billing_contact_id	ID	✓	✓	✓
billing_contact_*<field_name>*	*See* Contact	✓	—	—
br_approvalprocess	ID	✓	✓	✓
br_approver	ID	✓	✓	✓
budget	NOT_SET	✓	✓	✓
budget_time	NOT_SET	✓	✓	✓
category_filter	NOT_SET	✓	—	✓
copy_approvers	NOT_SET	✓	—	✓
copy_custom_fields	NOT_SET	✓	—	✓
copy_dashboard_settings	NOT_SET	✓	—	✓
copy_invoice_layout_settings	NOT_SET	✓	—	✓
copy_issues	NOT_SET	✓	—	✓
copy_loaded_cost	NOT_SET	✓	—	✓
copy_notification_settings	NOT_SET	✓	—	✓
copy_project_billing_auto_settings	NOT_SET	✓	—	✓
copy_project_billing_rules	NOT_SET	✓	—	✓
copy_project_pricing	NOT_SET	✓	—	✓
copy_revenue_recognition_auto_settings	NOT_SET	✓	—	✓

Name	Data Type	Export	Export (Related Object)	Import
copy_revenue_recognition_rules	NOT_SET	✓	—	✓
cost_center_id	ID	✓	✓	✓
cost_center_*<field_name>*	*See* Cost Center	✓	—	—
create_workspace	NOT_SET	✓	—	✓
created	DATE	✓	✓	✓
credit_invoice_layout_id	NOT_SET	✓	✓	✓
currency	NOT_SET	✓	✓	✓
current_dr	NUMBER	✓	✓	✓
current_wip	NUMBER	✓	✓	✓
customer_id	ID	✓	✓	✓
customer_name	TEXT	✓	—	✓
customer_*<field_name>*	*See* Customer	✓	—	—
exported_dr	NUMBER	✓	✓	✓
exported_wip	NUMBER	✓	✓	✓
external_id	NOT_SET	✓	✓	✓
filtersetids	NOT_SET	✓	—	✓
finish_date	DATE	✓	✓	✓
hierarchy_node_ids	IDS	✓	—	✓
id	ID	✓	✓	✓
invoice_layoutid	ID	✓	✓	✓
invoice_prefix	TEXT	✓	—	—
invoice_text	NOT_SET	✓	✓	✓
is_portfolio_project	TEXT	✓	—	✓
location_active	NOT_SET	✓	—	—
location_created	DATE	✓	—	—
location_name	NOT_SET	✓	—	—
location_related_table	NOT_SET	✓	—	—
location_relatedid	ID	✓	—	—
location_type	NOT_SET	✓	—	—

Name	Data Type	Export	Export (Related Object)	Import
location_updated	DATE	✓	—	—
locationid	ID	✓	✓	✓
message	TEXT	✓	—	✓
msp_link_type	NOT_SET	✓	—	✓
name	TEXT	✓	✓	✓
notes	TEXT	✓	✓	✓
notify_assignees	NOT_SET	✓	✓	✓
notify_issue_assigned_to	NOT_SET	✓	—	✓
notify_issue_closed_assigned_to	NOT_SET	✓	—	✓
notify_issue_closed_customer_owner	NOT_SET	✓	—	✓
notify_issue_closed_project_owner	NOT_SET	✓	—	✓
notify_issue_created_customer_owner	NOT_SET	✓	—	✓
notify_issue_created_project_owner	NOT_SET	✓	—	✓
notify_owner	NOT_SET	✓	✓	✓
notify_sr_submitted_project_owner	NOT_SET	✓	—	✓
only_owner_can_edit	NOT_SET	✓	—	✓
payroll_type_filter	NOT_SET	✓	—	✓
pm_approver_1	ID	✓	—	✓
pm_approver_2	ID	✓	—	✓
pm_approver_3	ID	✓	—	✓
po_approvalprocess	ID	✓	✓	✓
po_approver	ID	✓	✓	✓
portfolio_projectid	ID	✓	—	✓
pr_approvalprocess	ID	✓	✓	✓
pr_approver	ID	✓	✓	✓
project_stageid	ID	✓	✓	✓
project_stage_*<field_name>*	*See* Project Stage	✓	—	—
rate	NOT_SET	✓	✓	✓
rate_cardid	NUMBER	✓	—	✓

Name	Data Type	Export	Export (Related Object)	Import
rm_approvalprocess	ID	✓	—	✓
rm_approver	ID	✓	—	✓
rv_approvalprocess	ID	✓	—	✓
rv_approver	ID	✓	—	✓
shipping_contact_id	ID	✓	—	✓
shipping_contact_*<field_name>*	*See* Contact	✓	—	—
sold_to_contact_id	ID	✓	—	✓
sqa_labor	NOT_SET	✓	✓	✓
start_date	DATE	✓	✓	✓
sync_workspace	NOT_SET	✓	—	✓
ta_approvalprocess	ID	✓	✓	✓
ta_approver	ID	✓	✓	✓
ta_include	NOT_SET	✓	—	✓
tax_location_id	ID	✓	✓	✓
tax_location_name	NOT_SET	✓	✓	✓
tb_approvalprocess	ID	✓	✓	✓
tb_approver	ID	✓	✓	✓
te_allowance_approvalprocess	NUMBER	✓	—	✓
te_allowance_approver	NUMBER	✓	—	✓
te_approvalprocess	ID	✓	✓	✓
te_approver	ID	✓	✓	✓
te_include	NOT_SET	✓	—	✓
template_project_id	ID	✓	—	✓
timetype_filter	NOT_SET	✓	—	✓
tracked	CHAR	✓	✓	✓
updated	DATE	✓	✓	✓
user_filter	NOT_SET	✓	—	✓
user_id	ID	✓	✓	✓
user_*<field_name>*	*See* User	✓	—	—

Project Assignment

Name	Data Type	Export	Import
allocation	NOT_SET	✓	✓
created	DATE	✓	✓
customerid	ID	✓	✓
id	ID	✓	✓
job_codeid	ID	✓	✓
project_groupid	ID	✓	✓
projectid	ID	✓	✓
updated	DATE	✓	✓
userid	ID	✓	✓

Project Billing Rule

Name	Data Type	Export	Export (Related Object)	Import
accounting_period_id	ID	✓	—	✓
acct_date	DATE	✓	—	✓
acct_date_how	NOT_SET	✓	—	✓
active	NOT_SET	✓	✓	✓
adjust_if_capped	NOT_SET	✓	✓	✓
agreementid	ID	✓	✓	✓
amount	NUMBER	✓	✓	✓
backout_gst	NOT_SET	✓	✓	✓
cap	NOT_SET	✓	✓	✓
cap_by_customerpo	NUMBER	✓	—	✓
cap_hours	NOT_SET	✓	✓	✓
category_1id	ID	✓	—	✓
category_2id	ID	✓	—	✓
category_3id	ID	✓	—	✓
category_4id	ID	✓	—	✓

Name	Data Type	Export	Export (Related Object)	Import
category_5id	ID	✓	—	✓
category_filter	TEXT	✓	✓	✓
category_when	NOT_SET	✓	✓	✓
categoryid	ID	✓	✓	✓
cost_center_id	ID	✓	—	✓
created	DATE	✓	✓	✓
currency	NOT_SET	✓	✓	✓
customerpoid	ID	✓	✓	✓
daily_cap_hours	NOT_SET	✓	—	✓
daily_cap_is_per_user	NOT_SET	✓	✓	✓
daily_cap_period	NOT_SET	✓	✓	✓
daily_rate_multiplier	NOT_SET	✓	—	✓
daily_roll_to_next	NOT_SET	✓	✓	✓
description	TEXT	✓	✓	✓
end_date	DATE	✓	✓	✓
end_milestone	ID	✓	✓	✓
exclude_archived_ts	NOT_SET	✓	✓	✓
exclude_non_billable	NOT_SET	✓	✓	✓
exclude_non_reimbursable	NOT_SET	✓	✓	✓
id	ID	✓	✓	✓
item_filter	TEXT	✓	✓	✓
job_code_filter	NOT_SET	✓	—	✓
markup	NOT_SET	✓	✓	✓
markup_category	ID	✓	✓	✓
markup_type	NOT_SET	✓	✓	✓
name	NOT_SET	✓	✓	✓
notes	TEXT	✓	✓	✓
percent	NOT_SET	✓	✓	✓
percent_how	NOT_SET	✓	✓	✓

Name	Data Type	Export	Export (Related Object)	Import
position	NOT_SET	✓	✓	✓
product_filter	NOT_SET	✓	✓	✓
project_id	ID	✓	—	✓
project_<*field_name*>	*See* Project	✓	—	—
project_task_filter	IDS	✓	✓	✓
project_task_id	NUMBER	✓	—	✓
rate_cardid	ID	✓	✓	✓
rate_from	NOT_SET	✓	✓	✓
rate_multiplier	NUMBER	✓	✓	✓
repeat_id	ID	✓	✓	✓
round_rules	TEXT	✓	✓	✓
slip_stage_id	ID	✓	✓	✓
slip_stage_<*field_name*>	*See* Slip Stage	✓	—	—
start_date	DATE	✓	✓	✓
start_milestone	ID	✓	✓	✓
stop_if_capped	NOT_SET	✓	✓	✓
ticket_maximums	NOT_SET	✓	✓	✓
timetype_filter	TEXT	✓	✓	✓
type	NOT_SET	✓	✓	✓
updated	DATE	✓	✓	✓
user_filter	TEXT	✓	✓	✓

Project Billing Transaction

Name	Data Type	Export	Import
agreementid	ID	✓	✓
categoryid	ID	✓	✓
cost	DECIMAL	✓	✓
cost_centerid	ID	✓	✓
created	DATE	✓	—

Name	Data Type	Export	Import
currency	TEXT	✓	✓
customerid	ID	✓	✓
customerpoid	ID	✓	✓
date	DATE	✓	✓
description	TEXT	✓	✓
hour	DECIMAL	✓	✓
id	ID	✓	✓
itemid	ID	✓	✓
job_codeid	ID	✓	✓
minute	DECIMAL	✓	✓
notes	TEXT	✓	✓
payroll_typeid	ID	✓	✓
project_billing_ruleid	ID	✓	✓
project_taskid	ID	✓	✓
projectid	ID	✓	✓
quantity	DECIMAL	✓	✓
rate	DECIMAL	✓	✓
slip_stage_id	ID	✓	✓
slipid	ID	✓	✓
taskid	ID	✓	✓
ticketid	ID	✓	✓
timetypeid	ID	✓	✓
total	DECIMAL	✓	✓
type	CHAR	✓	✓
um	TEXT	✓	✓
updated	DATE	✓	—
userid	ID	✓	✓

Guidelines

Import requires the Modify Project Billing Transaction Using OpenAir API feature enabled. Otherwise, the Integration Manager log shows "OA type Projectbillingtransaction failed to import. Error Code: 1; Error Description: Unknown Error". To enable the Modify Project Billing Transaction Using OpenAir API feature, contact OpenAir Customer Support

Project Group

Name	Data Type	Export	Import
active	TEXT	✓	✓
assigned_users	TEXT	✓	✓
created	DATE	✓	—
id	ID	✓	✓
name	TEXT	✓	✓
notes	TEXT	✓	✓
updated	DATE	✓	—

Project Pricing

Name	Data Type	Export	Import
created	DATE	✓	—
customerid	ID	✓	✓
discount_rate_cardid	ID	✓	✓
id	ID	✓	✓
projectid	ID	✓	✓
standard_rate_cardid	ID	✓	✓
updated	DATE	✓	—

Project Stage

Name	Data Type	Export	Export (Related Object)	Import
created	DATE	—	✓	—
enable_analysis	NOT_SET	—	✓	—
enable_billing	NOT_SET	—	✓	—

Name	Data Type	Export	Export (Related Object)	Import
enable_phase_and_task	NOT_SET	—	✓	—
enable_pricing	NOT_SET	—	✓	—
enable_project_assignments	NOT_SET	—	✓	—
enable_recognition	NOT_SET	—	✓	—
enable_team	NOT_SET	—	✓	—
enable_utilization	NOT_SET	—	✓	—
id	ID	—	✓	—
name	NOT_SET	—	✓	—
notes	NOT_SET	—	✓	—
position	NOT_SET	—	✓	—
updated	DATE	—	✓	—

Project Task

Name	Data Type	Export	Export (Related Object)	Import
all_can_assign	NUMBER	✓	✓	✓
assign_user_names	TEXT	✓	—	✓
calculated_finishes	DATE	✓	✓	✓
calculated_starts	DATE	✓	✓	✓
category_*<field_name>*	*See* Category	✓	—	—
closed	NOT_SET	✓	✓	✓
cost_center_id	ID	✓	✓	✓
cost_center_*<field_name>*	*See* Cost Center	✓	—	—
created	DATE	✓	✓	✓
currency	TEXT	✓	✓	✓
customer_id	ID	✓	✓	✓
customer_name	TEXT	✓	—	✓
default_category	ID	✓	✓	✓
default_category_1	ID	✓	—	✓
default_category_2	ID	✓	—	✓

Name	Data Type	Export	Export (Related Object)	Import
default_category_3	ID	✓	—	✓
default_category_4	ID	✓	—	✓
default_category_5	ID	✓	—	✓
estimated_hours	NUMBER	✓	✓	✓
external_id	TEXT	✓	✓	✓
fnlt_date	DATE	✓	✓	✓
id	ID	✓	✓	✓
id_number	NOT_SET	✓	✓	✓
manual_task_budget	NOT_SET	✓	—	✓
name	NOT_SET	✓	✓	✓
non_billable	NUMBER	✓	✓	✓
notes	TEXT	✓	✓	✓
parentid	ID	✓	✓	✓
percent_complete	NOT_SET	✓	✓	✓
phase	NOT_SET	✓	✓	✓
planned_hours	NOT_SET	✓	✓	✓
predecessors	NOT_SET	✓	✓	✓
predecessors_lag	NOT_SET	✓	✓	✓
predecessors_type	NOT_SET	✓	✓	✓
priority	NOT_SET	✓	✓	✓
project_id	ID	✓	✓	✓
project_name	TEXT	✓	—	✓
project_<*field_name*>	*See* Project	✓	—	—
projecttask_typeid	ID	✓	✓	✓
seq	NOT_SET	✓	✓	✓
starts	DATE	✓	✓	✓
task_budget_cost	NUMBER	✓	✓	✓
task_budget_revenue	NUMBER	✓	✓	✓
timetype_filter	NOT_SET	✓	✓	✓

Name	Data Type	Export	Export (Related Object)	Import
updated	DATE	✓	✓	✓
use_project_assignment	NUMBER	✓	✓	✓

Project task assign

Name	Data Type	Export	Import
allocation	NUMBER	✓	✓
bookingid	ID	✓	✓
closed_for_envelope	NUMBER	✓	✓
closed_for_timesheet	NUMBER	✓	✓
created	DATE	✓	✓
external_id	TEXT	✓	✓
id	ID	✓	✓
job_codeid	ID	✓	✓
pending_bookingid	ID	✓	✓
planned_hours	NUMBER	✓	✓
project_assignment_profileid	ID	✓	✓
project_groupid	NOT_SET	✓	✓
project_id	ID	✓	✓
project_<*field_name*>	*See* Project	✓	—
projecttask_id	ID	✓	✓
projecttask_<*field_name*>	*See* Project Task	✓	—
updated	DATE	✓	✓
user_id	ID	✓	✓
user_<*field_name*>	*See* User	✓	—

Projecttask_type

Name	Data Type	Export	Import
active	NOT_SET	—	✓

Name	Data Type	Export	Import
created	DATE	—	✓
id	ID	—	✓
name	NOT_SET	—	✓
notes	NOT_SET	—	✓
supress_notification	NOT_SET	—	✓
updated	DATE	—	✓

Proposal

Name	Data Type	Export	Export (Related Object)	Import
access_log	NOT_SET	✓	✓	—
approved	DATE	✓	✓	—
approved_by	NOT_SET	✓	✓	—
attachment_id	ID	✓	✓	—
created	DATE	✓	✓	—
created_by	NOT_SET	✓	✓	—
customer_id	ID	✓	✓	—
customer_*<field_name>*	*See* Customer	✓	—	—
description	TEXT	✓	✓	—
expires	DATE	✓	✓	—
id	ID	✓	✓	—
invoice_layoutid	ID	✓	✓	—
invoice_prefix	TEXT	✓	—	—
invoice_text	TEXT	✓	—	—
name	NOT_SET	✓	✓	—
notes	TEXT	✓	✓	—
number	NOT_SET	✓	✓	—
project_id	ID	✓	✓	—
project_*<field_name>*	*See* Project	✓	—	—
responded	DATE	✓	✓	—

Name	Data Type	Export	Export (Related Object)	Import
response	NOT_SET	✓	✓	—
sent	DATE	✓	✓	—
status	NOT_SET	✓	✓	—
submitted	DATE	✓	✓	—
total	NOT_SET	✓	✓	—
updated	DATE	✓	✓	—
user_id	ID	✓	✓	—
user_*<field_name>*	*See* User	✓	—	—
viewed	DATE	✓	✓	—

ProposalBlock

Name	Data Type	Export	Import
category_id	ID	✓	—
category_*<field_name>*	*See* Category	✓	—
content	NOT_SET	✓	—
cost	NOT_SET	✓	—
created	DATE	✓	—
description	TEXT	✓	—
hour	NOT_SET	✓	—
id	ID	✓	—
item_id	ID	✓	—
item_*<field_name>*	*See* Expense Item	✓	—
minute	NOT_SET	✓	—
name	NOT_SET	✓	—
proposal_id	ID	✓	—
proposal_*<field_name>*	*See* Proposal	✓	—
quantity	NUMBER	✓	—
rate	NOT_SET	✓	—
seq	NUMBER	✓	—

Name	Data Type	Export	Import
slip_id	ID	✓	—
slip_<*field_name*>	*See* TimeBill	✓	—
template_id	ID	✓	—
total	NUMBER	✓	—
type	NOT_SET	✓	—
um	NOT_SET	✓	—
updated	DATE	✓	—

Prospect

Name	Data Type	Export	Import
acct_code	NOT_SET	✓	✓
active	CHAR	✓	✓
address1	TEXT	✓	✓
address2	TEXT	✓	✓
address3	TEXT	✓	✓
address4	TEXT	✓	✓
billing_address1	NOT_SET	✓	✓
billing_address2	NOT_SET	✓	✓
billing_address3	TEXT	✓	✓
billing_address4	TEXT	✓	✓
billing_city	NOT_SET	✓	✓
billing_contact_id	ID	✓	✓
billing_country	NOT_SET	✓	✓
billing_email	NOT_SET	✓	✓
billing_fax	NOT_SET	✓	✓
billing_firstname	TEXT	✓	✓
billing_lastname	TEXT	✓	✓
billing_middle	TEXT	✓	✓
billing_mobile	NOT_SET	✓	✓

Name	Data Type	Export	Import
billing_phone	NOT_SET	✓	✓
billing_state	NOT_SET	✓	✓
billing_title	NOT_SET	✓	✓
billing_zip	NOT_SET	✓	✓
bus_typeid	ID	✓	✓
city	TEXT	✓	✓
company	TEXT	✓	✓
company_sizeid	ID	✓	✓
contact_address1	NOT_SET	✓	✓
contact_address2	NOT_SET	✓	✓
contact_address3	TEXT	✓	✓
contact_address4	TEXT	✓	✓
contact_city	NOT_SET	✓	✓
contact_country	NOT_SET	✓	✓
contact_email	NOT_SET	✓	✓
contact_fax	NOT_SET	✓	✓
contact_firstname	TEXT	✓	✓
contact_lastname	TEXT	✓	✓
contact_middle	TEXT	✓	✓
contact_mobile	NOT_SET	✓	✓
contact_phone	NOT_SET	✓	✓
contact_state	NOT_SET	✓	✓
contact_title	NOT_SET	✓	✓
contact_zip	NOT_SET	✓	✓
cost_center_id	ID	✓	✓
cost_center_*<field_name>*	*See* Cost Center	✓	—
country	TEXT	✓	✓
created	DATE	✓	✓
currency	NOT_SET	✓	✓

Name	Data Type	Export	Import
email	TEXT	✓	✓
external_id	NOT_SET	✓	✓
fax	TEXT	✓	✓
firstname	TEXT	✓	✓
hear_aboutid	ID	✓	✓
id	ID	✓	✓
invoice_layoutid	ID	✓	✓
invoice_prefix	TEXT	✓	✓
invoice_text	TEXT	✓	✓
lastname	TEXT	✓	✓
middle	TEXT	✓	✓
mobile	NOT_SET	✓	✓
name	TEXT	✓	✓
notes	TEXT	✓	✓
phone	TEXT	✓	✓
primary_contactid	ID	✓	✓
rate	DECIMAL	✓	✓
shipping_contactid	ID	✓	✓
state	TEXT	✓	✓
▪ statement (Export) ▪ statements (Import)	TEXT	✓	✓
terms	TEXT	✓	✓
territoryid	ID	✓	✓
title	TEXT	✓	✓
type	CHAR	✓	—
updated	DATE	✓	✓
userid	ID	✓	✓
user_<*field_name*>	*See* User	✓	—
web	TEXT	✓	✓

Name	Data Type	Export	Import
zip	TEXT	✓	✓

Proxy

Name	Data Type	Export	Import
created	DATE	—	✓
expiration	DATE	—	✓
id	ID	—	✓
own	NOT_SET	—	✓
proxy_id	ID	—	✓
role_id	ID	—	✓
updated	DATE	—	✓
user_id	ID	—	✓

Guidelines

Import requires the Modify Proxy Using OpenAir API feature enabled. Otherwise, the Integration Manager log shows "Error code 425: Functionality not available". To enable the Modify Proxy Using OpenAir API feature, contact OpenAir Customer Support.

Purchase item

Name	Data Type	Export	Import
acct_date	DATE	✓	✓
allow_vendor_substitution	NOT_SET	✓	✓
approved_cost	NOT_SET	✓	✓
attachmentid	ID	✓	✓
cost	NOT_SET	✓	✓
created	DATE	✓	✓
currency	NOT_SET	✓	✓
▪ customer_id (Export) ▪ customerid (Import)	ID	✓	✓
customer_*<field_name>*	*See* Customer	✓	—

Name	Data Type	Export	Import
date	DATE	✓	✓
date_fulfilled	DATE	✓	✓
id	ID	✓	✓
manufacturer_part	NOT_SET	✓	✓
manufacturerid	ID	✓	✓
name	NOT_SET	✓	✓
non_po	NOT_SET	✓	✓
notes	NOT_SET	✓	✓
order_reference_number	NOT_SET	✓	✓
productid	ID	✓	✓
product_*<field_name>*	*See* Product	✓	—
projectid	ID	✓	✓
project_*<field_name>*	*See* Project	✓	—
▪ purchaseorder_id (Export) ▪ purchaseorderid (Import)	ID	✓	✓
purchaseorder_*<field_name>*	*See* Purchase order	✓	—
purchaserequestid	ID	✓	✓
purchaserequest_*<field_name>*	*See* Purchase request	✓	—
purchaserid	ID	✓	✓
purchaser_*<field_name>*	*See* Purchaser	✓	—
quantity	NOT_SET	✓	✓
quantity_fulfilled	NOT_SET	✓	✓
quantity_payable	NOT_SET	✓	✓
request_itemid	ID	✓	✓
request_item_*<field_name>*	*See* Request Item	✓	—
tax_location_name	NOT_SET	✓	✓
total	NOT_SET	✓	✓
um	NOT_SET	✓	✓
updated	DATE	✓	✓

Name	Data Type	Export	Import
userid	ID	✓	✓
user_*<field_name>*	*See* User	✓	—
vendor_quote_number	NOT_SET	✓	✓
vendor_sku	NOT_SET	✓	✓
vendorid	ID	✓	✓
vendor_*<field_name>*	*See* Vendor	✓	—

Guidelines

There are several limitations impacting the import of purchase item information into OpenAir:

- Imports can create or modify a purchase item record only if it is not associated with a PO record. These purchase items are also referred to as "Quick POs" or "non-po purchase items".
  - The Quick PO functionality must be enabled for your OpenAir account. Otherwise, the Integration Manager log shows "Error code 846: Cannot create non-po purchase items".

    To enable the Quick PO functionality, go to Administration > Application Settings > Purchases > Other Settings. Scroll down and check the **Enable the ability to create quick POs. These are purchase items for purchases made without an OpenAir PO** box.
  - `non_po` must be set to 1. Otherwise, the Integration Manager log shows "Error code 848: Only non_po purchase items can be added/modified".
  - `purchaseorderid` must be empty. Otherwise, the Integration Manager log shows "Error code 847: `purchaseorderid` must be blank".
- An optional feature lets you update the project association (**Customer: Project**) for purchase item records associated with a PO on import. This is the only information you can modify. To enable project association update for purchase items associated with a PO, contact OpenAir Customer Support.

Purchase order

Name	Data Type	Export	Export (Related Object)	Import
accounts_payableid	NOT_SET	—	✓	—
approval_status	NOT_SET	—	✓	—
attachmentid	ID	—	✓	—
auto_track_payable_with_fulfilled	NOT_SET	—	✓	—
carrierid	ID	—	✓	—
created	DATE	—	✓	—
currency	NOT_SET	—	✓	—
date	DATE	—	✓	—

Name	Data Type	Export	Export (Related Object)	Import
date_approved	DATE	—	✓	—
date_expected	DATE	—	✓	—
date_fulfilled	DATE	—	✓	—
date_order_placed	DATE	—	✓	—
date_required	DATE	—	✓	—
date_shipped	DATE	—	✓	—
date_submitted	DATE	—	✓	—
description	NOT_SET	—	✓	—
id	ID	—	✓	—
locationid	ID	—	✓	—
name	NOT_SET	—	✓	—
notes	NOT_SET	—	✓	—
number	NOT_SET	—	✓	—
prefix	NOT_SET	—	✓	—
purchase_items_fulfilled	NOT_SET	—	✓	—
quantity_fulfilled	NOT_SET	—	✓	—
receivingid	ID	—	✓	—
ship_complete_only	NOT_SET	—	✓	—
shipping_cost	NOT_SET	—	✓	—
shipping_termsid	ID	—	✓	—
terms	NOT_SET	—	✓	—
total	NOT_SET	—	✓	—
total_purchase_items	NOT_SET	—	✓	—
total_quantity	NOT_SET	—	✓	—
updated	DATE	—	✓	—
userid	ID	—	✓	—
vendorid	ID	—	✓	—

Purchaser

Name	Data Type	Export	Export (Related Object)	Import
accounts_payableid	ID	—	✓	—
carrierid	ID	—	✓	—
created	DATE	—	✓	—
id	ID	—	✓	—
name	NOT_SET	—	✓	—
notes	NOT_SET	—	✓	—
receivingid	ID	—	✓	—
ship_complete_only	NOT_SET	—	✓	—
updated	DATE	—	✓	—
userid	ID	—	✓	—

Purchase request

Name	Data Type	Export	Export (Related Object)	Import
approval_status	NOT_SET	—	✓	—
attachmentid	ID	—	✓	—
created	DATE	—	✓	—
currency	NOT_SET	—	✓	—
customerid	ID	—	✓	—
date	DATE	—	✓	—
date_approved	DATE	—	✓	—
date_fulfilled	DATE	—	✓	—
date_required	DATE	—	✓	—
date_submitted	DATE	—	✓	—
description	NOT_SET	—	✓	—
id	ID	—	✓	—
name	NOT_SET	—	✓	—
notes	NOT_SET	—	✓	—

Name	Data Type	Export	Export (Related Object)	Import
number	NOT_SET	—	✓	—
ordered_request_items	NOT_SET	—	✓	—
prefix	NOT_SET	—	✓	—
projectid	ID	—	✓	—
quantity_fulfilled	NOT_SET	—	✓	—
request_items_fulfilled	NOT_SET	—	✓	—
total	NOT_SET	—	✓	—
total_quantity	NOT_SET	—	✓	—
total_request_items	NOT_SET	—	✓	—
updated	DATE	—	✓	—
userid	ID	—	✓	—

Rate Card

Name	Data Type	Export	Import
active	NOT_SET	—	✓
created	DATE	—	✓
id	ID	—	✓
name	NOT_SET	—	✓
notes	NOT_SET	—	✓
updated	DATE	—	✓

Rate Card Item

Name	Data Type	Export	Import
created	DATE	✓	—
currency	NOT_SET	✓	✓
current	NOT_SET	✓	✓
end	DATE	✓	✓
id	ID	✓	✓

Name	Data Type	Export	Import
job_code_id	ID	✓	✓
rate	NOT_SET	✓	✓
rate_card_id	ID	✓	✓
start	DATE	✓	✓
updated	DATE	✓	—

The `rate_card_item` table includes historical rate card item information. To import current rate card item information, map the OpenAir field `current` to a constant set to 1 unless you have a matching field in your import CSV file.

Receipt

Name	Data Type	Export	Export (Related Object)	Import
acct_date	DATE	✓	✓	✓
▪ categoryid (Export) ▪ category_id (Import)	ID	✓	✓	✓
category_*<field_name>*	*See* Category	✓	—	—
city	NOT_SET	✓	✓	✓
cost	NUMBER	✓	✓	✓
cost_center_id	ID	✓	✓	✓
cost_center_*<field_name>*	*See* Cost Center	✓	—	—
created	DATE	✓	—	✓
currency	NOT_SET	✓	✓	✓
currency_cost	NOT_SET	✓	✓	✓
currency_exchange_intolerance	NOT_SET	✓	—	✓
currency_rate	NOT_SET	✓	✓	✓
currency_symbol	TEXT	✓	✓	✓
currency_total	NOT_SET	—	✓	—
currency_total_tax_paid	NOT_SET	✓	—	✓
customer_id	ID	✓	✓	✓
customer_*<field_name>*	*See* Customer	✓	—	—
date	DATE	✓	✓	✓

Name	Data Type	Export	Export (Related Object)	Import
description	TEXT	✓	✓	✓
envelope_id	ID	✓	✓	✓
envelope_*<field_name>*	*See* Envelope	✓	—	—
externalid	NOT_SET	✓	—	✓
id	ID	✓	✓	✓
invoice_layoutid	ID	✓	—	—
invoice_prefix	TEXT	✓	—	—
invoice_text	TEXT	✓	—	—
item_id	ID	✓	✓	✓
item_*<field_name>*	*See* Expense Item	✓	—	—
missing_receipt	NOT_SET	✓	✓	✓
non_billable	NOT_SET	✓	✓	✓
notes	TEXT	✓	✓	✓
paymethod	NOT_SET	✓	✓	✓
paytype_id	ID	✓	✓	✓
paytype_*<field_name>*	*See* Payment Type	✓	—	—
project_id	ID	✓	✓	✓
project_*<field_name>*	*See* Project	✓	—	—
projecttask_id	ID	✓	✓	✓
projecttask_typeid	ID	✓	—	✓
projecttask_*<field_name>*	*See* Project Task	✓	—	—
quantity	NUMBER	✓	✓	✓
reference_number	NUMBER	✓	✓	✓
slipid	ID	✓	—	✓
status	NOT_SET	✓	✓	✓
tax_location_id	ID	—	✓	✓
tax_location_name	NOT_SET	✓	✓	✓
▪ tax_rateid (Export) ▪ tax_rate_id (Import)	ID	✓	✓	✓

Name	Data Type	Export	Export (Related Object)	Import
tax_rate_*<field_name>*	*See* Tax Rate	✓	—	—
thin_clientid	NOT_SET	✓	—	✓
total	NUMBER	✓	✓	✓
total_no_tax	NUMBER	✓	✓	✓
total_tax_paid	NOT_SET	✓	✓	✓
updated	DATE	✓	✓	✓
user_id	ID	✓	✓	✓
user_locationid	ID	✓	—	✓
user_*<field_name>*	*See* User	✓	—	—
vendor_id	ID	✓	✓	✓
vendor_*<field_name>*	*See* Vendor	✓	—	—

Reimbursement

Name	Data Type	Export	Import
created	DATE	✓	✓
currency	NOT_SET	✓	✓
date	DATE	✓	✓
envelope_id	ID	✓	✓
envelope_number	NOT_SET	✓	✓
envelope_*<field_name>*	*See* Envelope	✓	—
id	ID	✓	✓
notes	NOT_SET	✓	✓
total	NUMBER	✓	✓
updated	DATE	✓	✓

Repeat

Name	Data Type	Export	Import
created	DATE	✓	—

Name	Data Type	Export	Import
end	DATE	✓	✓
every	NOT_SET	✓	✓
exclude_dow	NOT_SET	✓	✓
frequency	NOT_SET	✓	✓
how_end	NOT_SET	✓	✓
id	ID	✓	✓
occur_number	NOT_SET	✓	✓
updated	DATE	✓	—

Request Item

Name	Data Type	Export	Export (Related Object)	Import
allow_vendor_substitution	NOT_SET	—	✓	—
attachmentid	ID	—	✓	—
cost	NOT_SET	—	✓	—
created	DATE	—	✓	—
currency	NOT_SET	—	✓	—
customerid	ID	—	✓	—
date	DATE	—	✓	—
date_fulfilled	DATE	—	✓	—
id	ID	—	✓	—
manufacturer_part	NOT_SET	—	✓	—
manufacturerid	ID	—	✓	—
name	NOT_SET	—	✓	—
notes	NOT_SET	—	✓	—
productid	ID	—	✓	—
projectid	ID	—	✓	—
purchase_itemid	ID	—	✓	—
purchaseorderid	ID	—	✓	—
purchaserequestid	ID	—	✓	—

Name	Data Type	Export	Export (Related Object)	Import
quantity	NOT_SET	—	✓	—
quantity_fulfilled	NOT_SET	—	✓	—
request_reference_number	NOT_SET	—	✓	—
total	NOT_SET	—	✓	—
um	NOT_SET	—	✓	—
updated	DATE	—	✓	—
userid	ID	—	✓	—
vendor_quote_number	NOT_SET	—	✓	—
vendor_sku	NOT_SET	—	✓	—
vendorid	ID	—	✓	—

Resource Profile

Name	Data Type	Export	Import
attribute_id	ID	✓	✓
comment	TEXT	✓	✓
created	DATE	✓	✓
desirability	NOT_SET	✓	✓
expertise	NOT_SET	✓	✓
externalid	NOT_SET	✓	✓
id	ID	✓	✓
name	NOT_SET	✓	✓
resourceprofile_type_id	ID	✓	✓
resourceprofile_type_*<field_name>*	*See* Profile Type	✓	—
type	NOT_SET	✓	✓
updated	DATE	✓	✓
user_id	ID	✓	✓
user_*<field_name>*	*See* User	✓	—

Resource Request

Name	Data Type	Export	Import
booking_typeid	ID	✓	✓
created	DATE	✓	—
customerid	ID	✓	✓
date_end	DATE	✓	✓
date_finalized	DATE	✓	✓
date_start	DATE	✓	✓
date_start_expected	DATE	✓	✓
externalid	TEXT	✓	✓
id	ID	✓	✓
name	TEXT	✓	✓
notes	TEXT	✓	✓
number	TEXT	✓	✓
ownerid	ID	✓	✓
percent_fulfilled	TEXT	✓	✓
projectid	ID	✓	✓
status	TEXT	✓	✓
updated	DATE	✓	—

Resource Request Queue

Name	Data Type	Export	Import
created	DATE	✓	—
customerid	ID	✓	✓
date_end	DATE	✓	✓
date_start	DATE	✓	✓
externalid	TEXT	✓	✓
id	ID	✓	✓
name	TEXT	✓	✓

Name	Data Type	Export	Import
notes	TEXT	✓	✓
percent_fulfilled	TEXT	✓	✓
projectid	ID	✓	✓
resource_requestid	ID	✓	✓
resourcesearchid	ID	✓	✓
slots	NUMBER	✓	✓
status	TEXT	✓	✓
updated	DATE	✓	—

Resource Search

Name	Data Type	Export	Import
as_percentage	TEXT	✓	✓
availability_search	TEXT	✓	✓
consecutive_availability	TEXT	✓	✓
created	DATE	✓	—
enddate	DATE	✓	✓
excluding	TEXT	✓	✓
externalid	TEXT	✓	✓
hours	DECIMAL	✓	✓
id	ID	✓	✓
include_generic_resources	TEXT	✓	✓
include_inactive_resources	TEXT	✓	✓
include_regular_resources	TEXT	✓	✓
name	TEXT	✓	✓
percentage	DECIMAL	✓	✓
preferred	TEXT	✓	✓
required	TEXT	✓	✓
resource_request_queueid	ID	✓	✓
startdate	DATE	✓	✓

Name	Data Type	Export	Import
updated	DATE	✓	—

Rev. Recogn. Amount

Name	Data Type	Export	Import
acct_code	NOT_SET	—	✓
agreement_id	ID	—	✓
amount	NOT_SET	—	✓
category_1id	ID	—	✓
category_2id	ID	—	✓
category_3id	ID	—	✓
category_4id	ID	—	✓
category_5id	ID	—	✓
category_id	ID	—	✓
cost_center_id	ID	—	✓
created	DATE	—	✓
currency	NOT_SET	—	✓
customerpo_id	ID	—	✓
id	ID	—	✓
recognition_type	NOT_SET	—	✓
revenue_recognition_rule_id	ID	—	✓
updated	DATE	—	✓

Rev. Recogn. Rule

Name	Data Type	Export	Import
accounting_period_id	ID	✓	✓
acct_code	NOT_SET	✓	✓
acct_date	DATE	✓	✓
acct_date_how	NOT_SET	✓	✓

Name	Data Type	Export	Import
active	NOT_SET	✓	✓
agreement_id	ID	✓	✓
amount	NOT_SET	✓	✓
asb_exclude_slip_type	NOT_SET	✓	✓
asb_which_slips	NOT_SET	✓	✓
break_by_user	NOT_SET	✓	✓
category_1id	ID	✓	✓
category_2id	ID	✓	✓
category_3id	ID	✓	✓
category_4id	ID	✓	✓
category_5id	ID	✓	✓
category_id	ID	✓	✓
created	DATE	✓	✓
currency	NOT_SET	✓	✓
customer_id	ID	✓	✓
customerpo_id	ID	✓	✓
end_date	DATE	✓	✓
end_milestone	ID	✓	✓
expense_how	NOT_SET	✓	✓
extra_data	NOT_SET	✓	✓
id	ID	✓	✓
item_filter	NOT_SET	✓	✓
marked_as_ready	NOT_SET	✓	✓
name	NOT_SET	✓	✓
notes	NOT_SET	✓	✓
percent	NOT_SET	✓	✓
percent_how	NOT_SET	✓	✓
percent_trigger	NOT_SET	✓	✓
phase	ID	✓	✓

Name	Data Type	Export	Import
product_filter	NOT_SET	✓	✓
project_billing_rule_filter	TEXT	✓	✓
project_id	ID	✓	✓
project_task_filter	IDS	✓	✓
purchase_how	NOT_SET	✓	✓
recognition_type	NOT_SET	✓	✓
repeat_id	ID	✓	✓
slip_stage_filter	NOT_SET	✓	✓
start_date	DATE	✓	✓
start_milestone	ID	✓	✓
timetype_filter	NOT_SET	✓	✓
type	NOT_SET	✓	✓
updated	DATE	✓	✓
user_filter	NOT_SET	✓	✓

Rev. Recogn. Trans.

Name	Data Type	Export	Import
acct_code	NOT_SET	✓	✓
acct_date	DATE	✓	✓
agreement_externalid	NOT_SET	✓	✓
▪ agreement_id (Export) ▪ agreementid (Import)	NOT_SET	✓	✓
agreement_*<field_name>*	*See* Agreement	✓	—
category_1_id	ID	✓	✓
category_2_id	ID	✓	✓
category_3_id	ID	✓	✓
category_4_id	ID	✓	✓
category_5_id	ID	✓	✓
category_externalid	NOT_SET	✓	✓

Name	Data Type	Export	Import
▪ category_id (Export) ▪ categoryid (Import)	ID	✓	✓
category_*<field_name>*	*See* Category	✓	—
cost_center_id	ID	✓	✓
cost_center_*<field_name>*	*See* Cost Center	✓	—
created	DATE	✓	✓
currency	NOT_SET	✓	✓
customer_externalid	NOT_SET	✓	✓
▪ customer_id (Export) ▪ customerid (Import)	ID	✓	✓
customer_*<field_name>*	*See* Customer	✓	—
customerpo_id	NOT_SET	✓	✓
date	DATE	✓	✓
decimal_hours	NOT_SET	✓	✓
hour	NOT_SET	✓	✓
id	ID	✓	✓
invoice_layoutid	ID	✓	—
invoice_prefix	TEXT	✓	—
invoice_text	TEXT	✓	—
is_from_open_stage	TEXT	✓	✓
job_codeid	ID	✓	✓
minute	NOT_SET	✓	✓
notes	NOT_SET	✓	✓
offsetsid	ID	✓	✓
originatingid	ID	✓	✓
other_rate_type	NOT_SET	✓	✓
percent_complete	NOT_SET	✓	✓
portfolio_projectid	ID	✓	✓
project_externalid	NOT_SET	✓	✓

Name	Data Type	Export	Import
▪ project_id (Export) ▪ projectid (Import)	ID	✓	✓
project_*<field_name>*	*See* Project	✓	—
projecttask_externalid	NOT_SET	✓	✓
▪ projecttask_id (Export) ▪ project_taskid (Import)	ID	✓	✓
projecttask_*<field_name>*	*See* Project Task	✓	—
rate	NOT_SET	✓	✓
recognition_type	NOT_SET	✓	✓
revenue_containerid	ID	✓	✓
▪ revenue_recognition_rule_id (Export) ▪ revenue_recognition_ruleid (Import)	ID	✓	✓
rev_rec_rule_*<field_name>*	*See* Rev. Recogn. Rule	✓	—
revenue_stageid	ID	✓	✓
▪ slip_id (Export) ▪ slipid (Import)	ID	✓	✓
slip_*<field_name>*	*See* TimeBill	✓	—
▪ task_id (Export) ▪ taskid (Import)	ID	✓	✓
task_*<field_name>*	*See* Timesheet entry	✓	—
▪ ticket_id (Export) ▪ ticketid (Import)	ID	✓	✓
ticket_*<field_name>*	*See* Receipt	✓	—
total	NOT_SET	✓	✓
type	NOT_SET	✓	✓
updated	DATE	✓	✓
user_externalid	NOT_SET	✓	✓
▪ user_id (Export) ▪ userid (Import)	ID	✓	✓
user_*<field_name>*	*See* User	✓	—

Revenue Container

Name	Data Type	Export	Import
acct_date	DATE	✓	—
approval_status	TEXT	✓	—
balancing_type	TEXT	✓	—
created	DATE	✓	—
currency	TEXT	✓	—
customerid	ID	✓	—
date	DATE	✓	—
date_approved	DATE	✓	—
date_submitted	DATE	✓	—
externalid	TEXT	✓	✓
id	ID	✓	✓
name	TEXT	✓	—
notes	TEXT	✓	—
number	ID	✓	—
prefix	TEXT	✓	—
projectid	ID	✓	—
total_accrued	NUMBER	✓	—
total_deferred	NUMBER	✓	—
total_invoiced	NUMBER	✓	—
total_posted	NUMBER	✓	—
total_recognized	NUMBER	✓	—
updated	DATE	✓	—

Revenue Stage

Name	Data Type	Export	Import
created	DATE	✓	—
id	ID	✓	—

Name	Data Type	Export	Import
name	TEXT	✓	—
revenue_stage_type	TEXT	✓	—
updated	DATE	✓	—

Schedule Exception

Name	Data Type	Export	Import
created	DATE	✓	—
enddate	DATE	✓	✓
exception_type	TEXT	✓	✓
id	ID	✓	✓
name	TEXT	✓	✓
schedule_request_itemid	ID	✓	✓
startdate	DATE	✓	✓
timetypeid	ID	✓	✓
updated	DATE	✓	—
userid	ID	✓	✓
workhours	NUMBER	✓	✓
workscheduleid	ID	✓	✓

ScheduleRequest

Name	Data Type	Export	Export (Related Object)	Import
approval_status	NOT_SET	✓	✓	✓
attachmentid	ID	✓	✓	✓
categoryid	ID	✓	✓	✓
category_*<field_name>*	*See* Category	✓	—	—
created	DATE	✓	✓	—
customerid	ID	✓	✓	✓
customer_*<field_name>*	*See* Customer	✓	—	—

Name	Data Type	Export	Export (Related Object)	Import
date	DATE	✓	✓	✓
date_approved	DATE	✓	✓	✓
date_submitted	DATE	✓	✓	✓
description	NOT_SET	✓	✓	✓
enddate	DATE	✓	✓	✓
externalid	NOT_SET	✓	✓	✓
id	ID	✓	✓	✓
invoice_layoutid	ID	✓	—	—
invoice_prefix	TEXT	✓	—	—
invoice_text	TEXT	✓	—	—
name	NOT_SET	✓	✓	✓
notes	NOT_SET	✓	✓	✓
number	NOT_SET	✓	✓	✓
prefix	NOT_SET	✓	✓	✓
project_taskid	ID	✓	✓	✓
projectid	ID	✓	✓	✓
project_<*field_name*>	*See* Project	✓	—	—
startdate	DATE	✓	✓	✓
projecttask_<*field_name*>	*See* Project Task	✓	—	—
timetypeid	ID	✓	✓	✓
timetype_<*field_name*>	*See* Time Type	✓	—	—
updated	DATE	—	✓	—
userid	ID	✓	✓	✓
user_<*field_name*>	*See* User	✓	—	—

ScheduleRequest item

Name	Data Type	Export	Import
categoryid	ID	✓	—
category_<*field_name*>	*See* Category	✓	—

Name	Data Type	Export	Import
created	DATE	✓	—
customerid	ID	✓	—
customer_<*field_name*>	*See* Customer	✓	—
date	DATE	✓	—
externalid	NOT_SET	✓	—
hours	NOT_SET	✓	—
id	ID	✓	—
invoice_layoutid	ID	✓	—
invoice_prefix	TEXT	✓	—
invoice_text	TEXT	✓	—
name	NOT_SET	✓	—
projectid	ID	✓	—
project_<*field_name*>	*See* Project	✓	—
project_taskid	ID	✓	—
projecttask_<*field_name*>	*See* Project Task	✓	—
request_reference_number	NOT_SET	✓	—
schedule_requestid	ID	✓	—
schedule_request_<*field_name*>	*See* ScheduleRequest	✓	—
timetypeid	ID	✓	—
timetype_<*field_name*>	*See* Time Type	✓	—
updated	DATE	✓	—
userid	ID	✓	—
user_<*field_name*>	*See* User	✓	—

Service

Name	Data Type	Export	Import
active	TEXT	✓	✓
code	NOT_SET	✓	✓
■ cost_centerid (Export)	ID	✓	✓

Name	Data Type	Export	Import
▪ cost_center_id (Import)			
created	DATE	✓	✓
currency	NOT_SET	✓	✓
▪ externalid (Export) ▪ external_id (Import)	NOT_SET	✓	✓
fixed_fee	NOT_SET	✓	✓
id	ID	✓	✓
name	TEXT	✓	✓
notes	TEXT	✓	✓
other_rate	DECIMAL	✓	✓
other_rate_type	NOT_SET	✓	✓
rate	DECIMAL	✓	✓
taxable	NOT_SET	✓	✓
updated	DATE	✓	✓

Slip Projection

Name	Data Type	Export	Import
agreement_id	NOT_SET	✓	—
agreement_<*field_name*>	*See* Agreement	✓	—
billing_contactid	ID	✓	—
billing_contact_<*field_name*>	*See* Contact	✓	—
booking_typeid	ID	✓	—
category_id	ID	✓	—
category_<*field_name*>	*See* Category	✓	—
city	NOT_SET	✓	—
cost	NOT_SET	✓	—
created	DATE	✓	—
currency	NOT_SET	✓	—
customer_id	ID	✓	—

Name	Data Type	Export	Import
customer_<*field_name*>	*See* Customer	✓	—
customerpo_id	ID	✓	—
customerpo_<*field_name*>	*See* Customer PO	✓	—
date	DATE	✓	—
decimal_hours	NOT_SET	✓	—
description	NOT_SET	✓	—
hour	NOT_SET	✓	—
id	ID	✓	—
invoice_id	ID	✓	—
invoice_<*field_name*>	*See* Invoice	✓	—
item_id	ID	✓	—
item_<*field_name*>	*See* Expense Item	✓	—
minute	NOT_SET	✓	—
notes	NOT_SET	✓	—
paytype_id	ID	✓	—
paytype_<*field_name*>	*See* Payment Type	✓	—
product_id	ID	✓	—
product_<*field_name*>	*See* Product	✓	—
projectid	ID	✓	—
project_<*field_name*>	*See* Project	✓	—
project_billing_rule_id	ID	✓	—
project_billing_rule_<*field_name*>	*See* Project Billing Rule	✓	—
project_taskid	ID	✓	—
projecttask_<*field_name*>	*See* Project Task	✓	—
quantity	NOT_SET	✓	—
rate	NOT_SET	✓	—
shipping_contactid	ID	✓	—
shipping_contact_<*field_name*>	*See* Contact	✓	—
slip_projection_type	NOT_SET	✓	—

Name	Data Type	Export	Import
slip_stage_id	ID	✓	—
slip_slip_stage_<*field_name*>	*See* Slip Stage	✓	—
sold_to_contactid	ID	✓	—
sold_to_contact_<*field_name*>	*See* Contact	✓	—
timer_start	NOT_SET	✓	—
timetype_id	ID	✓	—
timetype_<*field_name*>	*See* Time Type	✓	—
total	NOT_SET	✓	—
transactionid	ID	✓	—
type	NOT_SET	✓	—
unitm	NOT_SET	✓	—
updated	DATE	✓	—
user_id	ID	✓	—
user_<*field_name*>	*See* User	✓	—

Slip Stage

Name	Data Type	Export	Export (Related Object)	Import
created	DATE	—	✓	—
enable_slip_tab	NOT_SET	—	✓	—
exclude_from_invoicing	NOT_SET	—	✓	—
id	ID	—	✓	—
name	NOT_SET	—	✓	—
notes	NOT_SET	—	✓	—
position	NOT_SET	—	✓	—
updated	DATE	—	✓	—

Tag Group

Name	Data Type	Export	Import
active	TEXT	✓	✓
created	DATE	✓	—
entity_type	TEXT	✓	✓
externalid	TEXT	✓	✓
id	ID	✓	✓
name	TEXT	✓	✓
searchable	TEXT	✓	✓
updated	DATE	✓	—

Tag Group Attribute

Name	Data Type	Export	Import
active	TEXT	✓	✓
created	DATE	✓	—
externalid	TEXT	✓	✓
id	ID	✓	✓
name	TEXT	✓	✓
tag_groupid	ID	✓	✓
updated	DATE	✓	—

Target Utilization

Name	Data Type	Export	Import
created	DATE	✓	✓
end_date	DATE	✓	✓
id	ID	✓	✓
percentage	NOT_SET	✓	✓
start_date	DATE	✓	✓
updated	DATE	✓	✓

Name	Data Type	Export	Import
user_id	ID	✓	✓

Task Adjustment

Name	DataType	Export	Import
created	NOT_SET	✓	—
deleted	NOT_SET	✓	—
id	NOT_SET	✓	—
new_taskid	NOT_SET	✓	—
new_timesheetid	NOT_SET	✓	—
old_taskid	NOT_SET	✓	—
old_timeshettid	NOT_SET	✓	—
updated	NOT_SET	✓	—

Tax Location

Name	DataType	Export	Import
acct_code_federal	NOT_SET	—	✓
acct_code_gst	NOT_SET	—	✓
acct_code_hst	NOT_SET	—	✓
acct_code_pst	NOT_SET	—	✓
acct_code_state	NOT_SET	—	✓
active	NOT_SET	—	✓
created	DATE	—	✓
deferal_rate	NOT_SET	—	✓
gst_rate	NOT_SET	—	✓
hst_rate	NOT_SET	—	✓
id	ID	—	✓
name	NOT_SET	—	✓
notes	NOT_SET	—	✓

Name	DataType	Export	Import
pst_rate	NOT_SET	—	✓
state_rate	NOT_SET	—	✓
tax_method	NOT_SET	—	✓
updated	DATE	—	✓

Tax Rate

Name	Data Type	Export	Export (Related Object)	Import
created	DATE	—	✓	—
currency	NOT_SET	—	✓	—
date	DATE	—	✓	—
federal	NUMBER	—	✓	—
gst	NUMBER	—	✓	—
hst	NUMBER	—	✓	—
notes	TEXT	—	✓	—
pst	NUMBER	—	✓	—
purchase_itemid	ID	—	✓	—
slipid	ID	—	✓	—
state	NUMBER	—	✓	—
tax_locationid	ID	—	✓	—
ticketid	ID	—	✓	—
updated	DATE	—	✓	—
tax_rateid	ID	—	✓	—

Time Type

Name	Data Type	Export	Export (Related Object)	Import
acct_code	NOT_SET	—	✓	—
active	NOT_SET	—	✓	—
cost_center_id	ID	—	✓	—

Name	Data Type	Export	Export (Related Object)	Import
created	DATE	—	✓	—
external_id	NOT_SET	—	✓	—
id	ID	—	✓	—
name	NOT_SET	—	✓	—
notes	NOT_SET	—	✓	—
updated	DATE	—	✓	—

TimeBill

Name	DataType	Export	Export (Related Object)	Import
acct_date	DATE	✓	✓	✓
agreement_id	ID	✓	✓	✓
agreement_*<field_name>*	*See* Agreement	✓	—	—
billing_contactid	ID	✓	✓	✓
billing_contact_*<field_name>*	*See* Contact	✓	—	—
category_1id	ID	✓	—	✓
category_2id	ID	✓	—	✓
category_3id	ID	✓	—	✓
category_4id	ID	✓	—	✓
category_5id	ID	✓	—	✓
category_id	ID	✓	✓	✓
category_*<field_name>*	*See* Category	✓	✓	—
city	NOT_SET	✓	✓	✓
cost	NUMBER	✓	✓	✓
cost_centerid	ID	✓	✓	✓
cost_center_*<field_name>*	*See* Cost Center	✓	—	—
created	DATE	✓	✓	✓
currency	NOT_SET	✓	✓	✓
customer_id	ID	✓	✓	✓
customer_*<field_name>*	*See* Customer	✓	—	—

Name	DataType	Export	Export (Related Object)	Import
customerpo_id	ID	✓	✓	✓
customerpo_<*field_name*>	*See* Customer PO	✓	—	—
date	DATE	✓	✓	✓
decimal_hours	NOT_SET	✓	✓	✓
description	TEXT	✓	✓	✓
hour	NUMBER	✓	✓	✓
id	ID	✓	✓	✓
invoice_id	ID	✓	✓	✓
invoice_<*field_name*>	*See* Invoice	✓	—	—
item_id	ID	✓	✓	✓
item_<*field_name*>	*See* Expense Item	✓	—	—
job_code_id	ID	✓	—	✓
minute	NUMBER	✓	✓	✓
notes	TEXT	✓	✓	✓
payroll_typeid	ID	✓	✓	✓
paytype_id	ID	✓	✓	✓
paytype_<*field_name*>	*See* Payment Type	✓	—	—
product_id	ID	✓	✓	✓
product_<*field_name*>	*See* Product	✓	—	—
project_id	ID	✓	✓	✓
project_<*field_name*>	*See* Project	✓	—	—
▪ project_billing_rule_id (Export) ▪ project_billing_ruleid (Import)	ID	✓	✓	✓
project_billing_rule_<*field_name*>	*See* Project Billing Rule	✓	—	—
projecttask_id	ID	✓	✓	✓
projecttask_<*field_name*>	*See* Project Task	✓	—	—
quantity	NUMBER	✓	✓	✓
rate	NOT_SET	✓	✓	✓
ref_slipid	ID	✓	—	✓

Name	DataType	Export	Export (Related Object)	Import
shipping_contactid	ID	✓	✓	✓
shipping_contact_<*field_name*>	*See* Contact	✓	—	—
slip_stage_id	ID	✓	✓	✓
slip_slip_stage_<*field_name*>	*See* Slip Stage	✓	—	—
sold_to_contactid	ID	✓	✓	✓
sold_to_contact_<*field_name*>	*See* Contact	✓	—	—
tax_location_name	NOT_SET	✓	✓	✓
tax_rate_adjusted	NUMBER	—	—	—
tax_rateid	ID	—	—	—
timer_start	DATE	✓	✓	✓
timetype_id	ID	✓	✓	✓
timetype_<*field_name*>	*See* Time Type	✓	—	—
total	NUMBER	✓	✓	✓
total_tax	NUMBER	✓	—	✓
total_with_tax	NUMBER	✓	—	✓
type	NOT_SET	✓	✓	✓
unitm	NUMBER	✓	✓	✓
updated	DATE	✓	✓	✓
user_id	ID	✓	✓	✓
user_<*field_name*>	*See* User	✓	—	—

Timecard

Name	DataType	Export	Export (Related Object)	Import
break_end	DATE	—	✓	—
break_start	DATE	—	✓	—
created	DATE	—	✓	—
date	DATE	—	✓	—
hours	NOT_SET	—	✓	—
id	ID	—	✓	—

Name	DataType	Export	Export (Related Object)	Import
notes	NOT_SET	—	✓	—
time_end	DATE	—	✓	—
time_start	DATE	—	✓	—
timesheetid	ID	—	✓	—
updated	DATE	—	✓	—
userid	ID	—	✓	—

Timesheet

Name	DataType	Export	Export (Related Object)	Import
acct_date	DATE	✓	—	✓
approved	DATE	✓	✓	✓
created	DATE	✓	—	✓
▪ dflt_category_id (Export) ▪ default_categoryid (Import)	ID	✓	✓	✓
dflt_category_*<field_name>*	*See* Category	✓	—	✓
▪ dflt_customer_id (Export) ▪ default_customerid (Import)	ID	✓	✓	✓
dflt_customer_*<field_name>*	*See* Customer	✓	—	✓
dflt_invoice_layoutid	ID	✓	—	—
dflt_invoice_prefix	TEXT	✓	—	—
dflt_invoice_text	TEXT	✓	—	—
▪ dflt_payrolltype_id (Export) ▪ default_payrolltypeid (Import)	ID	✓	✓	✓
dflt_payrolltype_*<field_name>*	*See* Payroll Type	✓	—	✓
▪ dflt_project_id (Export) ▪ default_projectid (Import)	ID	✓	✓	✓
▪ dflt_project_*<field_name>* ▪ project_*<field_name>*	*See* Project	✓	—	—
▪ dflt_timetype_id (Export) ▪ default_timetypeid (Import)	ID	✓	✓	✓
timetype_*<field_name>*	*See* Time Type	✓	✓	—

Name	DataType	Export	Export (Related Object)	Import
duration	NOT_SET	✓	✓	✓
ends	DATE	✓	✓	✓
errors	NOT_SET	✓	—	—
log	NOT_SET	✓	—	—
id	ID	✓	✓	✓
name	NOT_SET	✓	✓	✓
notes	NOT_SET	✓	✓	✓
starts	DATE	✓	✓	✓
status	NOT_SET	✓	✓	✓
submitted	DATE	✓	✓	✓
thin_clientid	NOT_SET	✓	—	✓
total	NUMBER	✓	✓	✓
updated	DATE	✓	✓	✓
userid	ID	✓	✓	✓
user_<*field_name*>	*See* User	✓	—	—
warnings	NOT_SET	✓	—	—

Guidelines

Review the following guidelines:

- By default, it is not possible to modify time entries from a timesheet when:
  - The timesheet is submitted for approval, approved, or archived (`status` value is `S`, `A`, or `X`) in OpenAir. To be able to update approved and archived time entries when importing time entries from a CSV file, the Modify Approved and Archived Timesheets feature must be enabled for your account. To enable the Modify Approved and Archived Timesheets feature, contact OpenAir Customer Support.
  - The timesheet has already been exported. To be able to update exported time entries when importing time entries from a CSV file, contact OpenAir Customer Support.

  In both cases, the Integration Manager user must be an account administrator or have the necessary role permission to perform the update.

  The Integration Manager log shows "Error code 821: The timesheet cannot be modified because it is no longer Open or has been exported" if time entries in a timesheet cannot be updated because the timesheet was approved or exported, and the authenticated user does not have sufficient privileges.

Timesheet entry

Name	DataType	Export	Import
acct_date	DATE	✓	✓
category_1id	ID	✓	✓
category_2id	ID	✓	✓
category_3id	ID	✓	✓
category_4id	ID	✓	✓
category_5id	ID	✓	✓
category_externalid	NOT_SET	✓	✓
▪ category_id (Export) ▪ categoryid (Import)	ID	✓	✓
category_*<field_name>*	*See* Category	✓	✓
cost_center_externalid	NOT_SET	✓	✓
▪ cost_center_id (Export) ▪ cost_centerid (Import)	ID	✓	✓
cost_center_*<field_name>*	*See* Cost Center	✓	—
created	DATE	✓	✓
▪ customer_id (Export) ▪ customerid (Import)	ID	✓	✓
customer_*<field_name>*	*See* Customer	✓	—
date	DATE	✓	✓
decimal_hours	NOT_SET	✓	✓
description	NOT_SET	✓	✓
end_time	DATE	✓	✓
▪ hour (Export) ▪ hours (Import)	NOT_SET	✓	✓
id	ID	✓	✓
invoice_layoutid	ID	✓	—
invoice_prefix	TEXT	✓	—
invoice_text	TEXT	✓	—
job_codeid	ID	✓	✓

Name	DataType	Export	Import
loaded_cost	NUMBER	✓	—
loaded_cost_2	NUMBER	✓	—
loaded_cost_3	NUMBER	✓	—
▪ minute (Export) ▪ minutes (Import)	NOT_SET	✓	✓
notes	NOT_SET	✓	✓
▪ payroll_type_id (Export) ▪ payroll_typeid (Import)	ID	✓	✓
payroll_type_*<field_name>*	*See* Payroll Type	✓	—
▪ project_id (Export) ▪ projectid (Import)	ID	✓	✓
project_externalid	NOT_SET	✓	✓
project_*<field_name>*	*See* Project	✓	—
▪ projecttask_id (Export) ▪ projecttaskid (Import)	ID	✓	✓
▪ projecttask_external_id (Export) ▪ project_task_externalid (Import)	NOT_SET	✓	✓
projecttask_typeid	ID	✓	✓
projecttask_*<field_name>*	*See* Project Task	✓	—
▪ slip_id (Export) ▪ slipid (Import)	ID	✓	✓
slip_*<field_name>*	*See* TimeBill	✓	—
start_time	DATE	✓	✓
thin_clientid	NOT_SET	✓	—
▪ timesheet_id (Export) ▪ timesheetid (Import)	ID	✓	✓
timesheet_*<field_name>*	*See* Timesheet	✓	—
▪ timetype_id (Export) ▪ timetypeid (Import)	ID	✓	✓
timetype_externalid	NOT_SET	✓	✓
timetype_*<field_name>*	*See* Time Type	✓	—
updated	DATE	✓	✓

Name	DataType	Export	Import
▪ user_id (Export) ▪ userid (Import)	ID	✓	✓
user_externalid	NOT_SET	✓	✓
user_<*field_name*>	*See* User	✓	—

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  - The timesheet has already been exported. To be able to update exported time entries when importing time entries from a CSV file, contact OpenAir Customer Support.

  In both cases, the Integration Manager user must be an account administrator or have the necessary role permission to perform the update.

  The Integration Manager log shows "Error code 821: The timesheet cannot be modified because it is no longer Open or has been exported" if time entries in a timesheet cannot be updated because the timesheet was approved or exported, and the authenticated user does not have sufficient privileges.
- The ability to capture a start time and end time on time entries must be enabled in OpenAir at an account level (Administration > Application Settings > Timesheets > Other Settings) and user level (Administration > Global Settings > Users > Employees > [*Select an employee*] > Demographic) to import a `start_time` and `end_time`.

Timesheet/Timecard entry

Name	DataType	Export	Import
category_1id	ID	✓	—
category_2id	ID	✓	—
category_3id	ID	✓	—
category_4id	ID	✓	—
category_5id	ID	✓	—
category_id	ID	✓	—
category_<*field_name*>	*See* Category	✓	—
cost_center_id	ID	✓	—
cost_center_<*field_name*>	*See* Cost Center	✓	—

Name	DataType	Export	Import
created	DATE	✓	—
customer_id	ID	✓	—
customer_*<field_name>*	*See* Customer	✓	—
date	DATE	✓	—
decimal_hours	NOT_SET	✓	—
description	NOT_SET	✓	—
hour	NOT_SET	✓	—
id	ID	✓	—
invoice_layoutid	ID	✓	—
invoice_prefix	TEXT	✓	—
invoice_text	TEXT	✓	—
minute	NOT_SET	✓	—
notes	NOT_SET	✓	—
payroll_type_id	ID	✓	—
payroll_type_*<field_name>*	*See* Payroll Type	✓	—
phase_id	ID	✓	—
phase_*<field_name>*	*See* Project Task	✓	—
project_id	ID	✓	—
project_*<field_name>*	*See* Project	✓	—
projecttask_id	ID	✓	—
projecttask_*<field_name>*	*See* Project Task	✓	—
slip_id	ID	✓	—
slip_*<field_name>*	*See* TimeBill	✓	—
timecard_id	ID	✓	—
timecard_*<field_name>*	*See* Timecard	✓	—
timesheet_id	ID	✓	—
timesheet_*<field_name>*	*See* Timesheet	✓	—
timesheet_id	ID	✓	—
timetype_*<field_name>*	*See* Time Type	✓	—

Name	DataType	Export	Import
updated	DATE	✓	—
user_id	ID	✓	—
user_<*field_name*>	*See* User	✓	—

Todo

Name	DataType	Export	Import
contact_id	ID	✓	—
contact_<*field_name*>	*See* Contact	✓	—
created	DATE	✓	—
created_by_id	ID	✓	—
customer_id	ID	✓	—
customer_<*field_name*>	*See* Customer	✓	—
deal_id	ID	✓	—
deal_<*field_name*>	*See* Deal	✓	—
due	DATE	✓	—
finished	DATE	✓	—
id	ID	✓	—
invoice_layoutid	ID	✓	—
invoice_prefix	TEXT	✓	—
invoice_text	TEXT	✓	—
name	NOT_SET	✓	—
notes	TEXT	✓	—
priority	NOT_SET	✓	—
start	DATE	✓	—
status	NOT_SET	✓	—
updated	DATE	✓	—
user_id	ID	✓	—
user_<*field_name*>	*See* User	✓	—

User

Name	Data Type	Export	Export (Related Object)	Import
account_workschedule_externalid	NOT_SET	✓	—	✓
acct_code	NOT_SET	✓	✓	✓
active	CHAR	✓	✓	✓
address1	NOT_SET	✓	✓	✓
address2	NOT_SET	✓	✓	✓
address3	TEXT	✓	✓	✓
address4	TEXT	✓	✓	✓
az_approvalprocess	ID	✓	✓	✓
az_approver	ID	✓	✓	✓
az_approver_externalid	NOT_SET	✓	—	✓
book_assign_stamp	NOT_SET	✓	—	✓
br_approvalprocess	ID	✓	✓	✓
br_approver	ID	✓	✓	✓
br_approver_externalid	NOT_SET	✓	—	✓
city	NOT_SET	✓	✓	✓
cost	NOT_SET	✓	—	✓
cost_center_externalid	NOT_SET	✓	—	✓
cost_center_id	ID	✓	✓	✓
cost_center_*<field_name>*	*See* Cost Center	✓	—	—
cost_currency	NOT_SET	✓	—	✓
cost_end_date	DATE	✓	—	✓
cost_lc_level	NOT_SET	✓	—	✓
cost_start_date	DATE	✓	—	✓
country	NOT_SET	✓	✓	✓
created	DATE	✓	✓	✓
currency	NOT_SET	✓	✓	✓
department_externalid	NOT_SET	✓	—	✓

Name	Data Type	Export	Export (Related Object)	Import
departmentid	ID	✓	✓	✓
department_<*field_name*>	*See* Department	✓	—	—
dr_approvalprocess	ID	✓	✓	✓
dr_approver	ID	✓	✓	✓
dr_approver_externalid	NOT_SET	✓	—	✓
email	NOT_SET	✓	✓	✓
external_id	NOT_SET	✓	✓	✓
fax	NOT_SET	✓	✓	✓
filterset_ids	NOT_SET	✓	—	✓
filterset_stamp	TEXT	✓	—	✓
firstname	TEXT	✓	✓	✓
generic	NOT_SET	✓	✓	✓
hierarchy_node_ids	IDS	✓	✓	✓
id	ID	✓	✓	✓
job_code_externalid	NOT_SET	✓	—	✓
job_code_id	ID	✓	✓	✓
km_filter_set	ID	✓	—	✓
km_filter_set_externalid	NOT_SET	✓	—	✓
lastname	TEXT	✓	✓	✓
line_manager_externalid	NOT_SET	✓	—	✓
line_managerid	ID	✓	✓	✓
locked	NOT_SET	✓	—	✓
logintime	DATE	✓	✓	✓
ma_filter_set	ID	✓	—	✓
ma_filter_set_externalid	NOT_SET	✓	—	✓
mfa_status	NOT_SET	✓	—	✓
middle	TEXT	✓	✓	✓
mobile	NOT_SET	✓	✓	✓
name	TEXT	✓	✓	✓

Name	Data Type	Export	Export (Related Object)	Import
nickname	TEXT	✓	✓	✓
om_filter_set	ID	✓	—	✓
om_filter_set_externalid	NOT_SET	✓	—	✓
password	NOT_SET	✓	—	✓
password_forced_change	NOT_SET	✓	—	✓
pb_approvalprocess	ID	✓	✓	✓
pb_approver	ID	✓	✓	✓
pb_approver_externalid	NOT_SET	✓	—	✓
phone	NOT_SET	✓	✓	✓
pm_filter_set	ID	✓	—	✓
pm_filter_set_externalid	NOT_SET	✓	—	✓
po_approvalprocess	ID	✓	✓	✓
po_approver	ID	✓	✓	✓
po_approver_externalid	NOT_SET	✓	—	✓
po_filter_set	ID	✓	—	✓
po_filter_set_externalid	NOT_SET	✓	—	✓
pr_approvalprocess	ID	✓	✓	✓
pr_approver	ID	✓	✓	✓
pr_approver_externalid	NOT_SET	✓	—	✓
primary_filter_set	ID	✓	—	✓
primary_filter_set_externalid	NOT_SET	✓	—	✓
project_access_nodes	TEXT	✓	—	✓
rate	NOT_SET	✓	✓	✓
report_filter_set	NOT_SET	✓	—	✓
report_filter_set_externalid	NOT_SET	✓	—	✓
rm_approvalprocess	ID	✓	—	✓
rm_approver	ID	✓	—	✓
rm_filter_set	ID	✓	—	✓
rm_filter_set_externalid	NOT_SET	✓	—	✓

Name	Data Type	Export	Export (Related Object)	Import
role_externalid	NOT_SET	✓	—	✓
role_id	ID	✓	✓	✓
sr_approvalprocess	ID	✓	✓	✓
sr_approver	ID	✓	✓	✓
sr_approver_externalid	NOT_SET	✓	—	✓
ssn	NOT_SET	✓	✓	✓
state	NOT_SET	✓	✓	✓
ta_approvalprocess	ID	✓	✓	✓
ta_approver	ID	✓	✓	✓
ta_approver_externalid	NOT_SET	✓	—	✓
ta_filter_set	ID	✓	—	✓
ta_filter_set_externalid	NOT_SET	✓	—	✓
tag_end_date	DATE	✓	—	✓
tag_group_attribute_id	ID	✓	—	✓
tag_group_id	ID	✓	—	✓
tag_start_date	DATE	✓	—	✓
tb_filter_set	ID	✓	—	✓
tb_filter_set_externalid	NOT_SET	✓	—	✓
te_allowance_approvalprocess	NUMBER	✓	—	✓
te_allowance_approver	NUMBER	✓	—	✓
te_approvalprocess	ID	✓	✓	✓
te_approver	ID	✓	✓	✓
te_approver_externalid	NOT_SET	✓	—	✓
te_filter_set	ID	✓	—	✓
te_filter_set_externalid	NOT_SET	✓	—	✓
timezone	NOT_SET	✓	✓	✓
title	NOT_SET	✓	✓	✓
type	CHAR	✓	✓	✓
update_cost	NOT_SET	✓	—	✓

Name	Data Type	Export	Export (Related Object)	Import
update_tag	NOT_SET	✓	—	✓
updated	DATE	✓	✓	✓
user_location_externalid	NOT_SET	✓	—	✓
user_locationid	ID	✓	✓	✓
week_starts	NOT_SET	✓	✓	✓
workscheduleid	ID	✓	✓	✓
zip	NOT_SET	✓	✓	✓

User Location

Name	DataType	Export	Import
acct_code	TEXT	✓	✓
active	CHAR	✓	✓
created	DATE	✓	—
externalid	TEXT	✓	✓
id	ID	✓	✓
name	TEXT	✓	✓
notes	TEXT	✓	✓
updated	DATE	✓	—

User Project Rate

Name	DataType	Export	Import
categoryid	ID	✓	✓
created	DATE	✓	✓
currency	NOT_SET	✓	✓
customerid	ID	✓	✓
duration	NOT_SET	✓	✓
id	ID	✓	✓
job_codeid	ID	✓	✓

Name	DataType	Export	Import
notes	NOT_SET	✓	✓
project_billing_rule_id	ID	✓	✓
project_billing_rule_<*field_name*>	*See* Project Billing Rule	✓	—
project_id	ID	✓	✓
project_<*field_name*>	*See* Project	✓	—
rate	NOT_SET	✓	✓
updated	DATE	✓	✓
user_id	ID	✓	✓
user_<*field_name*>	*See* User	✓	—

User Workschedule

Name	DataType	Export	Import
account_workscheduleid	ID	✓	✓
acct_code	TEXT	✓	✓
created	DATE	✓	—
externalid	TEXT	✓	✓
id	ID	✓	✓
master_workscheduleid	ID	✓	✓
name	TEXT	✓	✓
sample_date	DATE	✓	✓
updated	DATE	✓	—
use_this_schedule	TEXT	✓	✓
userid	ID	✓	✓
week_num	TEXT	✓	✓
workdays	TEXT	✓	✓
workhourid	ID	✓	✓
workhours	TEXT	✓	✓

Vendor

Name	DataType	Export	Import
acct_code	NOT_SET	—	✓
active	CHAR	—	✓
address1	NOT_SET	—	✓
address2	NOT_SET	—	✓
address3	TEXT	—	✓
address4	TEXT	—	✓
attention	NOT_SET	—	✓
city	NOT_SET	—	✓
country	NOT_SET	—	✓
created	DATE	—	✓
currency	NOT_SET	—	✓
email	NOT_SET	—	✓
external_id	NOT_SET	—	✓
fax	NOT_SET	—	✓
firstname	TEXT	—	✓
id	ID	—	✓
lastname	TEXT	—	✓
middle	TEXT	—	✓
mobile	NOT_SET	—	✓
name	TEXT	—	✓
notes	TEXT	—	✓
phone	NOT_SET	—	✓
po_email_text	TEXT	—	✓
po_text	TEXT	—	✓
state	NOT_SET	—	✓
tax_location_id	ID	—	✓
terms	NOT_SET	—	✓

Name	DataType	Export	Import
title	NOT_SET	—	✓
type	CHAR	—	✓
updated	DATE	—	✓
web	NOT_SET	—	✓
zip	NOT_SET	—	✓

Workspace Link

Name	DataType	Export	Import
created	DATE	✓	✓
external	NOT_SET	✓	✓
id	ID	✓	✓
recordid	ID	✓	✓
updated	DATE	✓	✓
url	NOT_SET	✓	✓
workspaceid	ID	✓	✓

Workspace User

Name	DataType	Export	Import
access	NOT_SET	✓	✓
created	DATE	✓	✓
id	ID	✓	✓
project_group_id	ID	✓	✓
updated	DATE	✓	✓
userid	ID	✓	✓
user_<*field_name*>	*See* User	✓	—
workspaceid	ID	✓	✓

Troubleshooting

The first step in troubleshooting is to ensure that you have installed the latest version of Integration Manager so that you have the most recent enhancements, fixes, and features. Refer to Updating Integration Manager to a New Version for more information and considerations for updating.

If you are experiencing difficulties with Integration Manager or would like to enable an optional feature for your OpenAir account, create a support case. Our Customer Support staff and engineers will work with you to find a solution to your problem. See Creating a Support Case.

Before you create a support case, review the following resources:

- List of common errors and their solutions. See Troubleshooting Common Errors.
- API error codes. Integration Manager uses the XML API and the log file includes error codes returned by the API. See the help topic Error Codes.

Important: Make sure you attach the Integration Manager log file (compressed as a ZIP file) when creating a support case.

To view the log in Integration Manager, go to Help > Display log.

The log file is located in the `AppData` folder for the Windows user – `C:\Users\<username>\AppData\Roaming\OpenAir\Integration Manager\OpenAirManager.log`.

Troubleshooting Common Errors

The following table lists common errors and their solutions.

Integration Manager uses the XML API and the log file includes error codes returned by the API. See the help topic Error Codes.

Use the following table and the API error code reference in addition to the Integration Manager log file to try and troubleshoot your integration before you contact OpenAir Customer Support.

Error type	Error	Solution
Popup	`Access to bckupdthash was denied`	You may not have full permissions. If you are using Windows 8 or higher, access to files and folders is restricted unless your Windows user account has administrator privileges. Users running Integration Manager must have read-write access to the Integration Manager installation folder (`C:\Program Files(x86)\OpenAir\IntegrationManager`) and be able to create, modify, and delete files in this folder. See Getting Started with Integration Manager.
Log	`ERR: Status: Access is not enabled. Contact your OpenAir account administrator to enable this functionality. ERR: Error while exporting`	The OpenAir user specified in the account settings may not have access to Integration Manager. You must grant access to Integration Manager at the individual user level. See Getting Started with Integration Manager.
Log	Error code 425: Functionality not available	You are attempting to import information that requires a feature that is not enabled for your account. For example, your account configuration

Error type	Error	Solution
		may not allow you to import proxy information. In this case, importing proxy information would result in this error.
Log	Error code 601: Invalid ID. There isn't a record matching the id or code you asked for	You are attempting to import records from a CSV file into OpenAir and the OpenAir internal ID is used as primary import key. Integration Manager logs an error for each record if the value under the column mapped with the OpenAir internal ID is `[blank]` or does not match OpenAir internal ID values for that record type. See also Record Creation or Update Rules on Import.
Log	Error Code 821: The timesheet cannot be modified because it is no longer open or has been exported	By default, it is not possible to modify timesheets and time entries from timesheets that are submitted for approval, approved, or archived (`status` value is `S`, `A`, or `X`) in OpenAir. Your OpenAir account configuration can be changed to allow account administrators to modify timesheets in these cases. You should proceed with caution as such changing approved or archived time entries may have a downstream impact. See also Timesheet and Timesheet entry.

Creating a Support Case

If you are experiencing difficulties with OpenAir or would like to enable an optional feature, go to SuiteAnswers through your OpenAir account and create a support case.

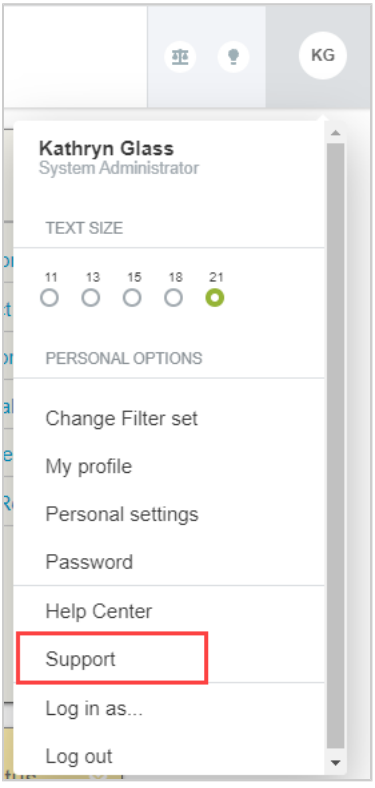
Our support staff and engineers will work with you to find a solution to your problem.

Important: Be sure to review the Support Usage Best Practice Guidelines, Case Severity Definitions and Case Resolution Overview before you submit a support case or call the Support team.

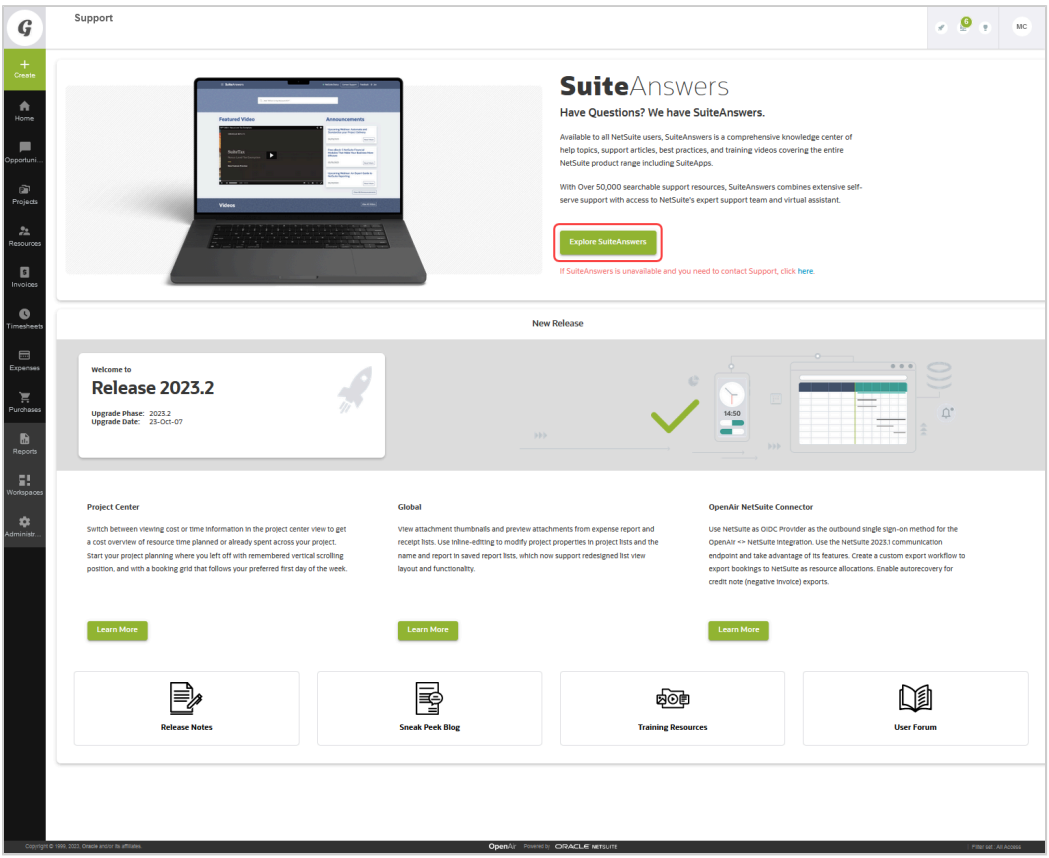
As a part of the support case creation process you will be presented with existing answers that may solve your problem. Take a moment to view the available answers before proceeding to create a support case.

To create a support case:

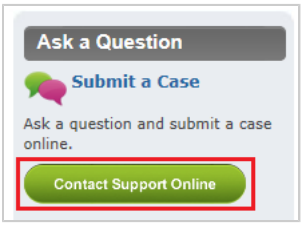
1. Sign in to your OpenAir account and select **Support** from the User Center menu.



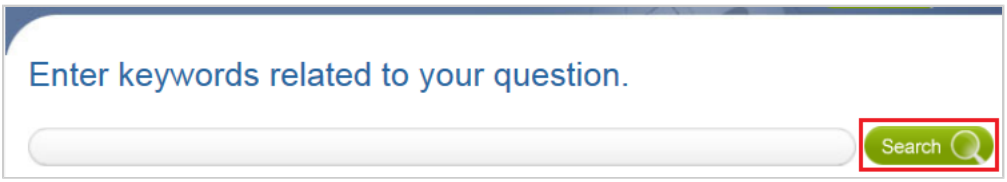
2. Click **Go to SuiteAnswers**.



3. On the OpenAir SuiteAnswers website, click **Contact Support Online**.

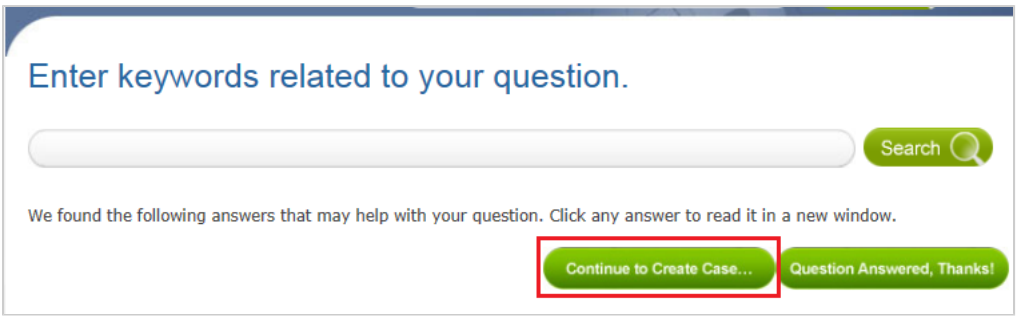


4. Enter keywords corresponding to the question or problem you want to resolve and click **Search**.



Note: If you do not have a question but need a feature enabled, for example, click **Search**.

5. Oftentimes, the answer to your question will be displayed. If you still want to create a support case, click **Continue to Create Case**.



6. Fill out the **Create Case** form and then click **Submit**. You will receive an email confirmation with your support case reference (OpenAir Customer Care #).

Important: Review the **Case severity** definitions and always use the appropriate case severity when submitting a case. See the help topic Case Severity Definitions.

Using the appropriate case severity helps OpenAir Customer Support prioritize between cases. Otherwise, OpenAir Customer Support need to evaluate the true urgency of each case, which slows down the response time to all cases.

Note: An asterisk * indicates a required field.