Apparo Fast Edit

Excel data import via email

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1 Definition

The Excel Email Import feature enables you to import data that is stored in Excel files (CSV, XLS, XLSX) from email attachments.

That means the user can send an email with **Excel files in attachment and the data of these Excel files will be imported automatically in your relational databases**.

The user is getting automatically answer-emails that are informing the user about the progress or data quality issues.

All activities can be logged in database table, the emails and attachments can be stored physically on the server.

Of course security is an important topic too.

2 Benefits at a glance

It represents the easiest and fastest way to import data from Excel

No browser needed & no Excel plugins : And no other additional software, you will only need Excel and an email client

No login needed: Saves time and also means, beside from your Fast Edit license you will need no additional BI (e.g. Cognos, SAP BO, SAS, QlikView) license

No trainings needed: Users are already familiar with Excel and emails

No time wasted: No more waiting for the import to be finished

Quality and security: The email import is using the same data quality checks as the standard excel import and has some additional security settings like white lists for email server and sender and many more.

3 Example

3.1 Use Case

A big company wants to collect the monthly turnover figures.
100 branches will send their data once a month.
To minimize the effort the data collection shall be done by sending an email with an Excel file in attachment.

All incoming emails and attachments shall be stored and all import attempts logged.
The import shall be secured by restricted sender addresses and a keyword.

This guide shows all necessary steps to setup the “Email Import Business Case” (EIBC).
It contains all definitions for the import.

Explanations concerning our example are marked in text with: **Example:**

3.2 How users experience this feature

For the user this feature will be very comfortable:

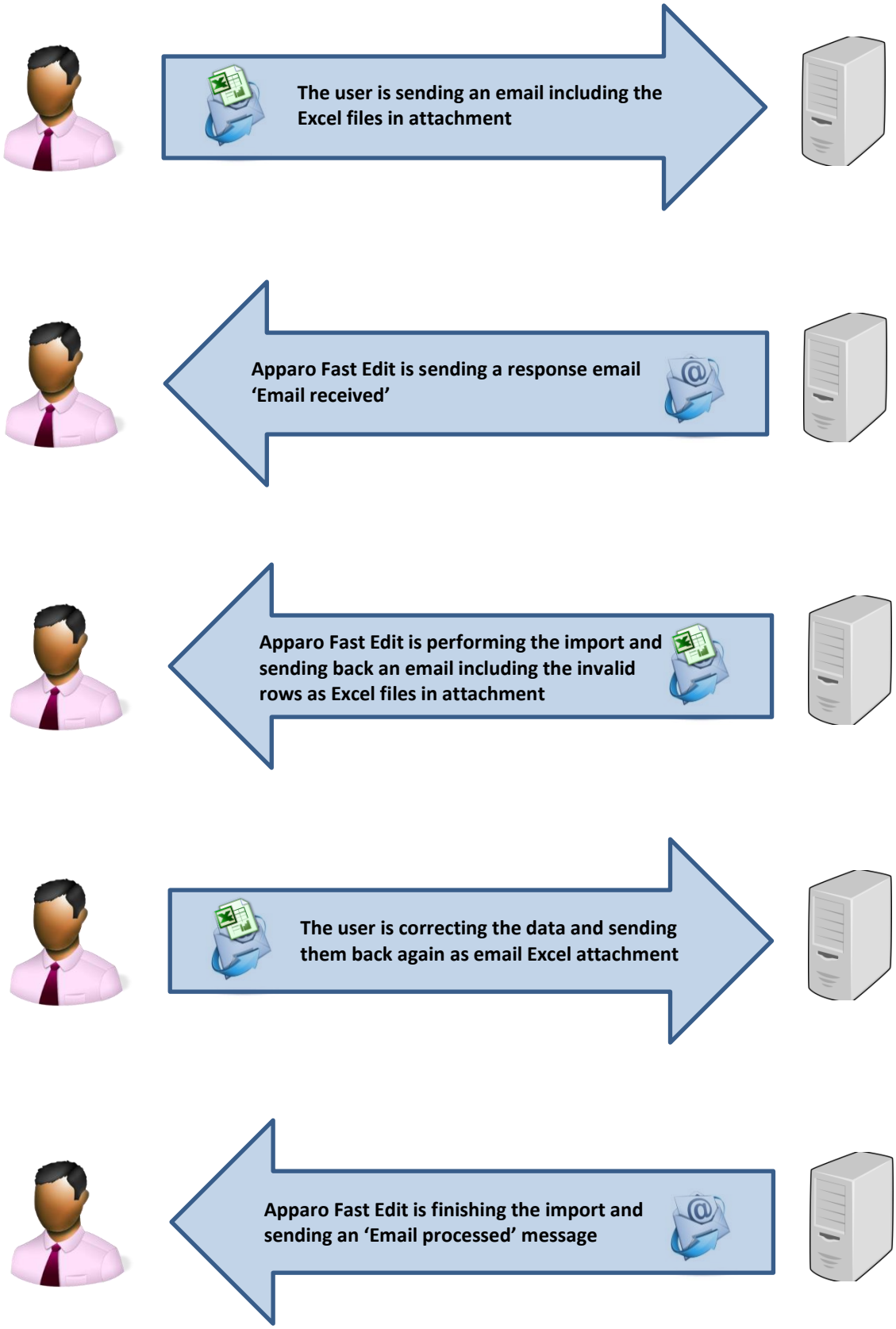
The user needs no additional software, except the two, the users are most familiar with: Excel and the email client.

He is using Excel to add or change data and sends the file to a given email address.

He will get a confirmation that the email arrived and when it is processed (optional).

In case of errors he will get a response email with a description what was wrong.

In case of data errors he will get an Excel file with all erroneous data rows. He can update the data and send them back to import the corrected data.


The user is sending an email including the Excel files in attachment
Apparo Fast Edit is sending a response email 'Email received'
Apparo Fast Edit is performing the import and sending back an email including the invalid rows as Excel files in attachment
The user is correcting the data and sending them back again as email Excel attachment
Apparo Fast Edit is finishing the import and sending an 'Email processed' message

4 Email import Business Case

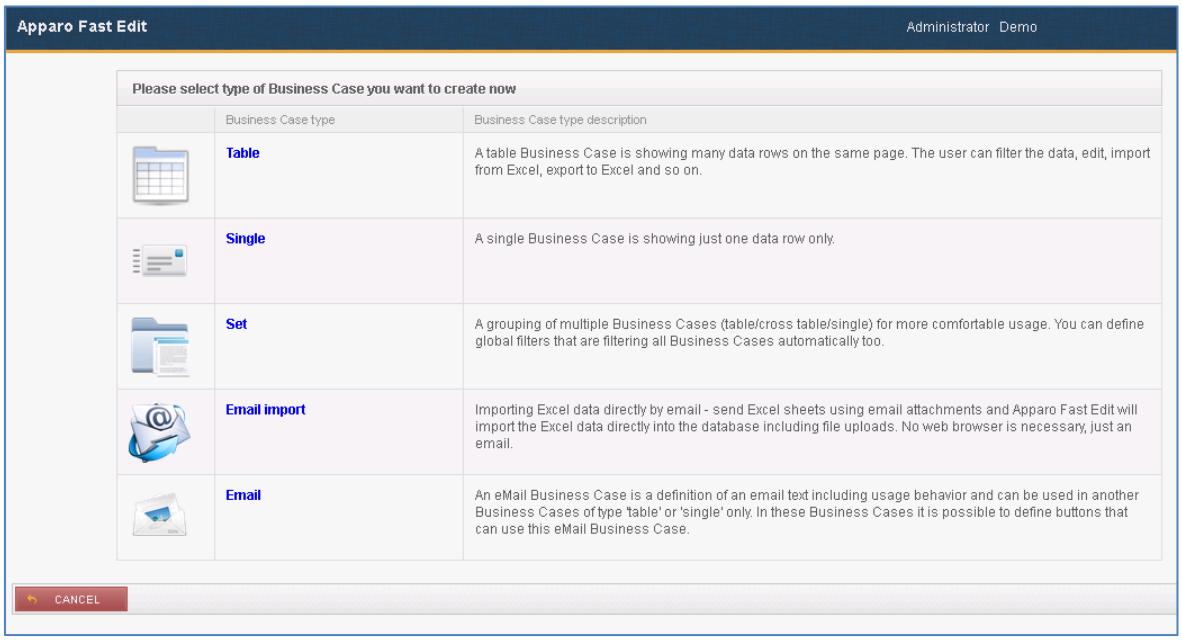
For the setup we will need a pre-defined email connection and at least one database connection, used for the Business Case that will perform the import.

These Business Cases are also containing all definitions for securing the data quality.

The Business Cases must have activated the Excel file import feature.

4.1 Creating a new Business Case of Type 'Email Import'

When clicking on New Business Case in the Business Case list the following selection list will appear:

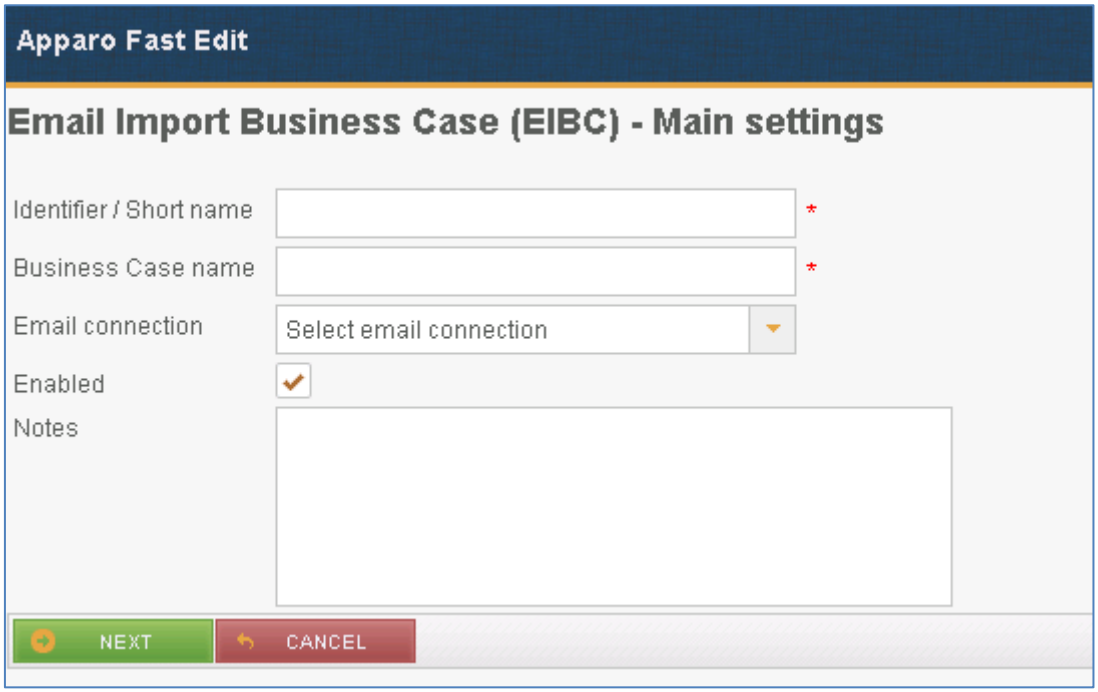


Example: Click on Email Import to create a new 'Email Import Business Case'

4.1.1 New Business Case - Main Settings

The main settings require the following settings:

- **Identifier:** The short name of the Business Case (must be unique)
- **Business Case Name:** This name will appear as name when we link the Business Case to the portal
- **Email connection:** The email connection for sending and receiving emails
- **Internal description:** Optional. For documentation purposes only.

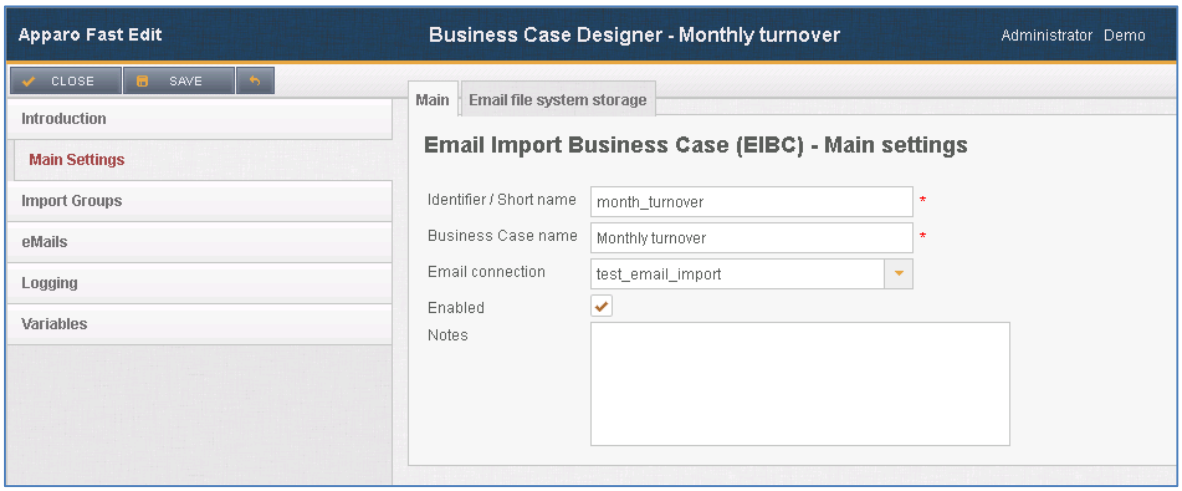


Example: Fill all necessary fields and click 'Next' to create the Business Case

4.2 Overview of all possible settings

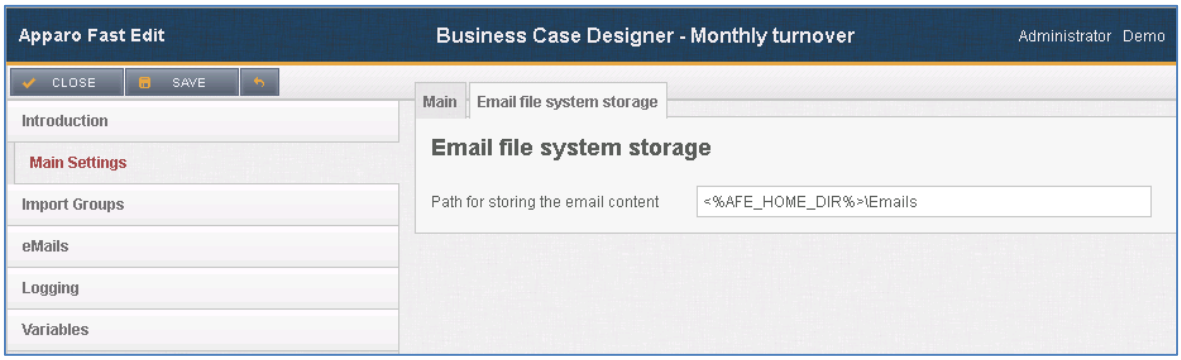
Once the Business Case is created we will see the following overview.
Here you can save and close the Business Case and click though the tabs of the settings:

- **Introduction:** Contains usage examples and explanations
- **Main Settings:** Contains the main settings and the server path for storing emails and attachments
- **Importing Groups:** Contains the import groups, the detailed settings how shall be imported
- **eMails:** Here you can define the text of a failure email, for the case that no import group is matching
- **Logging:** Contains the logging settings, details like user name can be mapped here to a database column
- **Variables:** Contains predefined variables and you can create own JavaScript variables



4.3 Main Settings

This tab contains, beside from the main settings, the path for storing emails and attachments physically on the server.

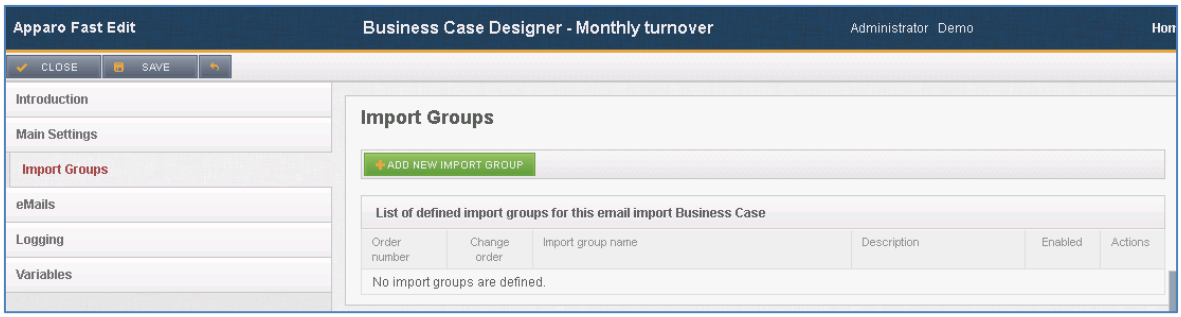


email file system storage

4.4 Importing Groups

An import group contains the definitions what attachments are expected and what Business Case shall perform the import. It also contains the security settings, log settings and the response email texts.

Example: When opening this tab the first time there is no defined Import Group and we have to add one by clicking on the button 'Add New Import Group'

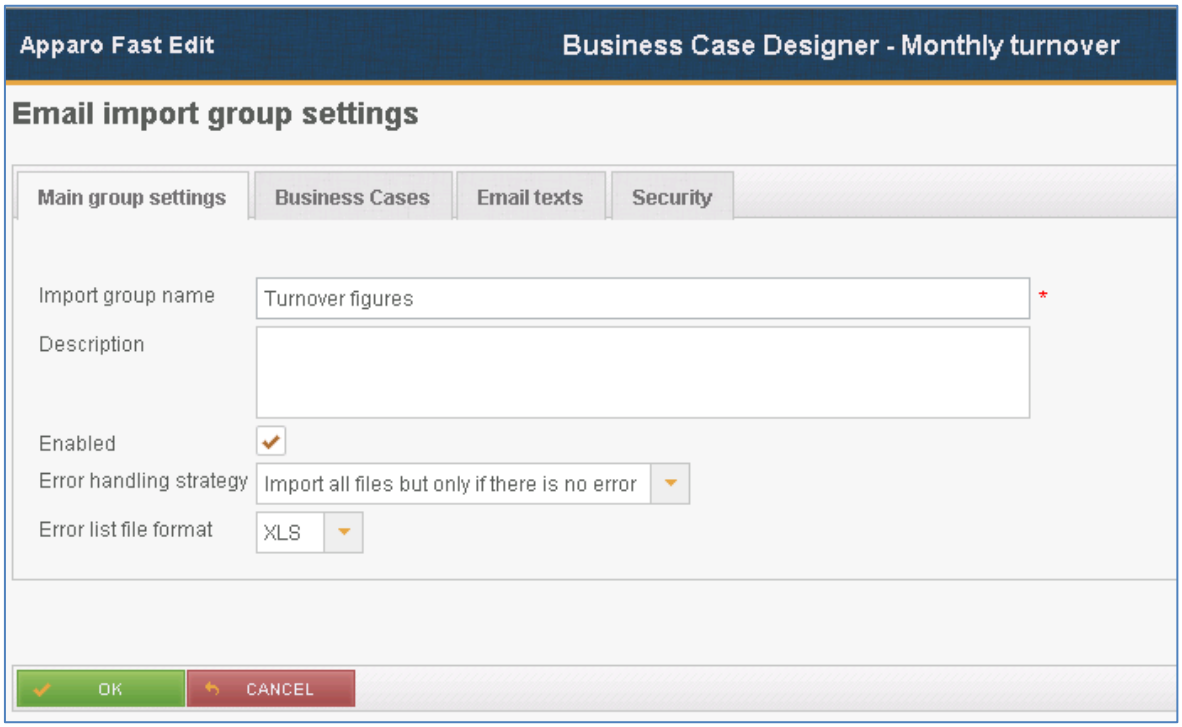


Adding a new import group

4.5 Importing group settings

4.5.1 Main group settings

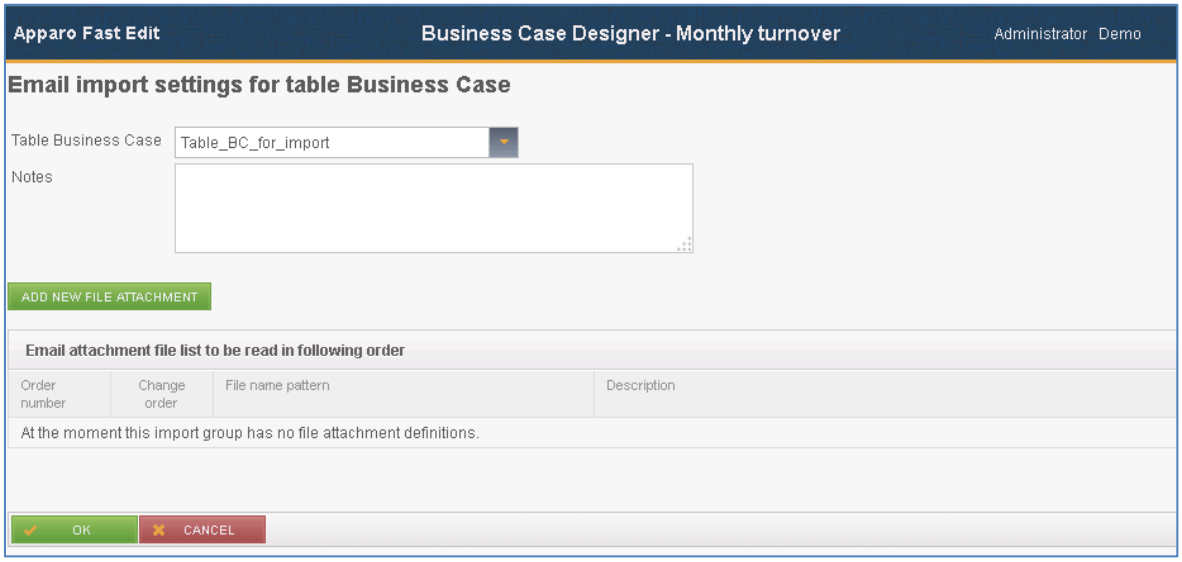
It contains the import group name (unique) and an optional description text.
You can enable or disable the import group here.



4.5.2 Business Cases

Contain the mapping to all Business Cases that are defined to perform the import. When an email from a valid sender arrives, Apparo Fast Edit automatically analyses the structure of the attachments and comparing the structure with the defined import groups.

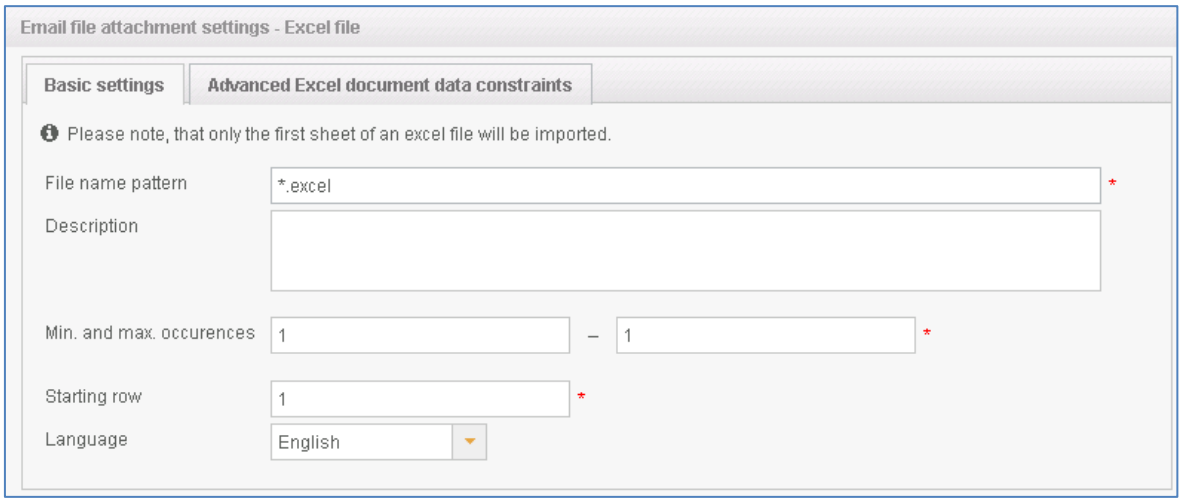
Example:
For our examples we need to create a new mapping with the 'Add New Business Case' button.
Select the pre-defined Business Case from the dropdown list.



4.5.2.1 Add new attachment

You need to define at least one email attachment for every defined importing Business Case.

Example: For our example we will need only one attachment.



Creating a new file attachment

The following properties are expected:

- **File name pattern:** Defines the allowed file extension (*.excel allows all Excel files: .xls, .xlsx, .csv)
- **Description:** For the internal documentation
- **Starting row:** For the case the contains a header in row 1, we start the import in row 2
- **Min and Max occurrences:** The minimum should be at least 1 – the user gets an error email if the attachment contains less attachments than expected
- **Language:** Important for language sensitive data types e.g. date

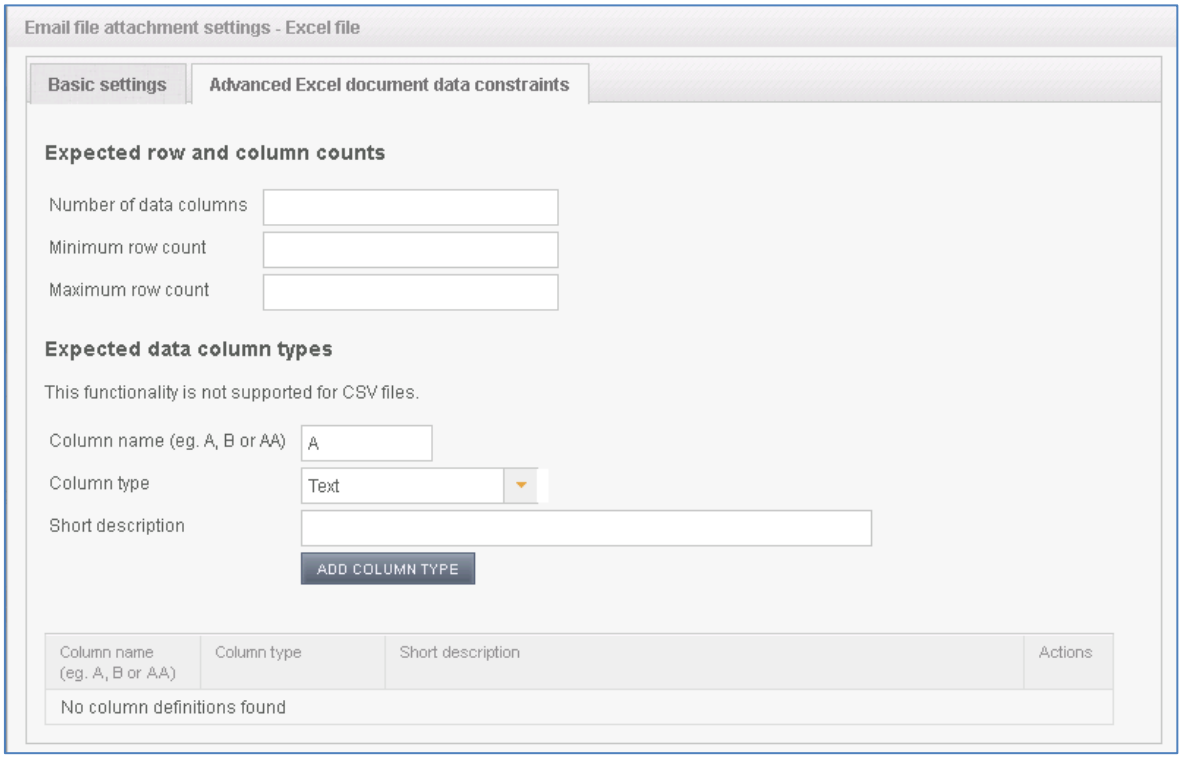
Example: Our Excel document contains no header and we start the import in row 1

4.5.2.2 Advanced Excel document data constraints

This feature is optional:

Here you can define the expected data column types, this feature allows Apparo Fast Edit to better distinguish similar Excel file attachments.

Example:
For our example we do not define any column types, this is not needed when importing only one Excel file.



Expected data column types

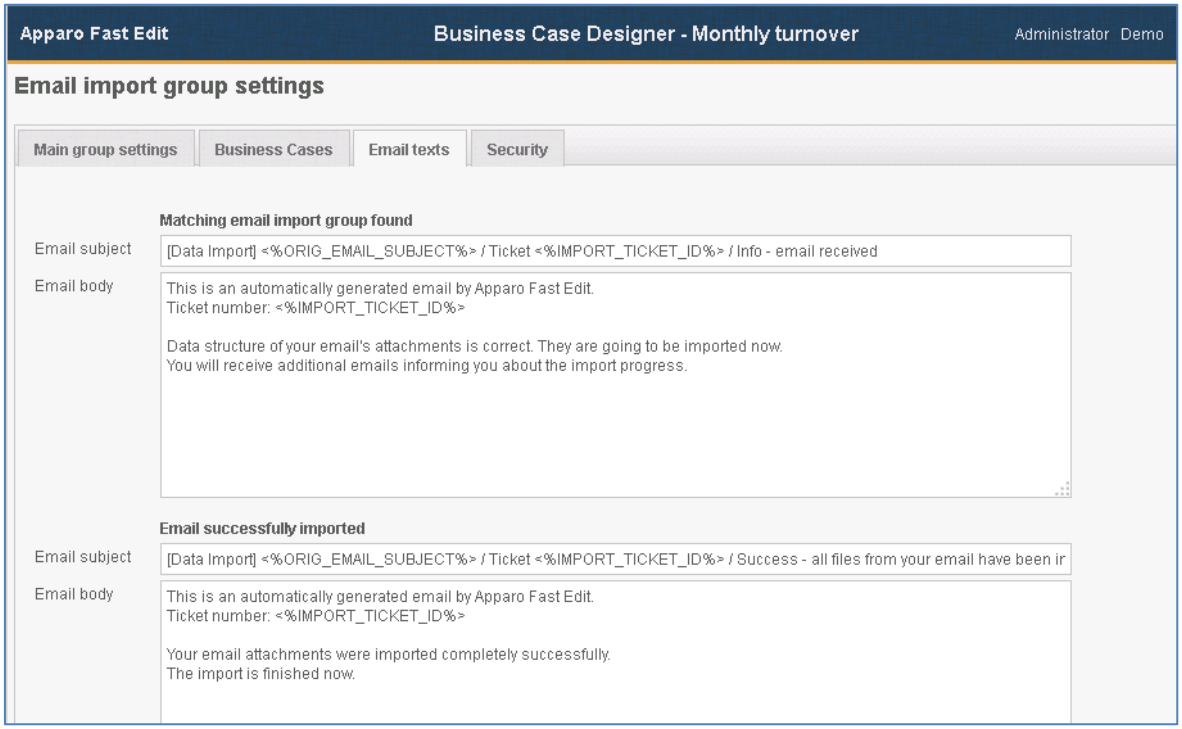
4.5.3 Email texts

Contain the bodies of different auto response emails.
Optional. When empty, no email will be sent.

There different kinds of response emails:

- **'Matching email import group found':** Sent when email received
- **'Confirmation email':** Sent when confirmation by user is necessary
- **'Security constraints not met':** Sender does have the required rights for the import
- **'Email processing cancelled because of error':** Sent in case of data errors and the import is set to 'Cancel the import in case of errors'
- **'Errors occurred, but import was performed':** Sent when the import is finished with errors
- **'Email successfully imported'**
- **'Limited access prevented email processing':** The feature 'limited access' is activated and prevents the import
- **'Error list':** Email with file attachment containing all erroneous rows

Example:
For our example we enter a text for the 'Matching email import group found', the 'Error list' and the 'Email successfully imported' response email.
The user automatically receives an 'Matching email import group found', the 'Email successfully imported' message and in error case a list of all errors.



Auto response email texts

4.5.4 Security

The email import can be secured:

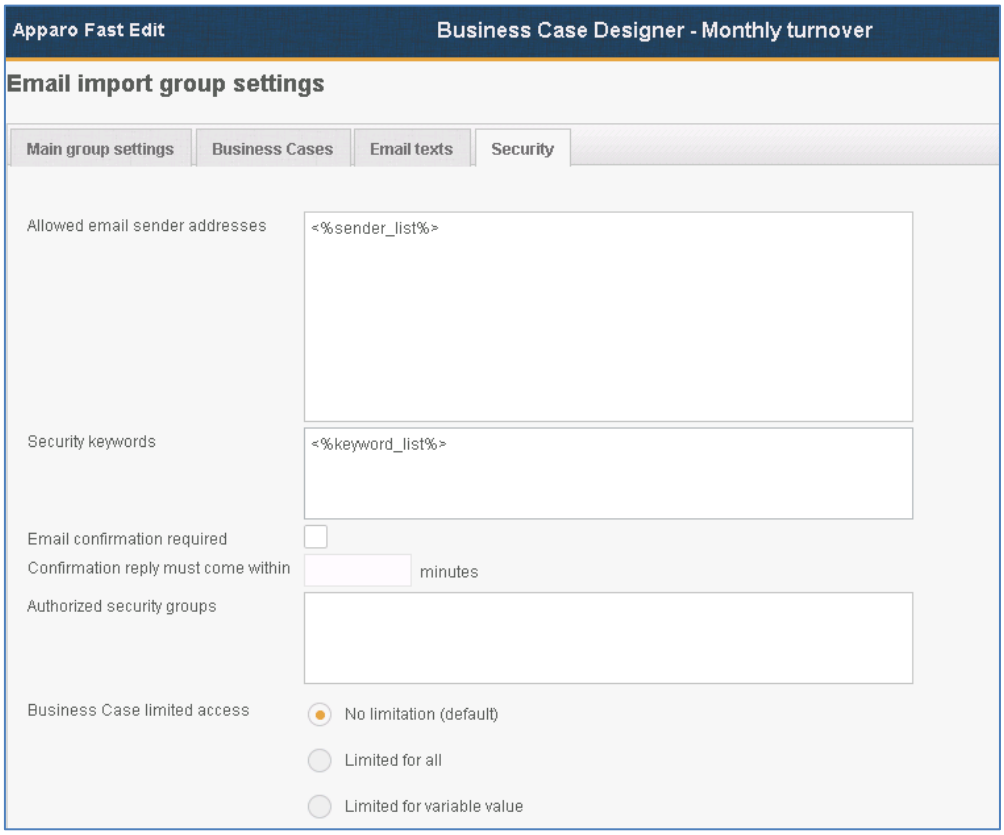
- **by limiting the allowed email senders (as list of email addresses)**
- **by limiting the email senders based on a security group:**
  - **the user account including email address must be stored in an MS Active Directory system**
- **by using a text keyword that must be delivered in the subject or body of the email**
- **by enabling a confirmation email (an automated email is returned to the sender, which has to be confirmed within a defined timeframe)**
- **by a list of trusted email servers (only emails of listed servers are accepted)**

  All emails can be encrypted using SSL

The general access can be restricted by using the limited access feature in the tab 'Security':

- **No limitations:** Default value, no restrictions
- **Limited for all:** Nobody can use this import group
- **Limited for variable value:** Not useable if a variable return 'true' – e.g. a variable returns true during the time period when the database is performing maintenance tasks

Example:
In our example we limited the allowed sender addresses and defined that the keyword 'monthly figures' must be written in the email.



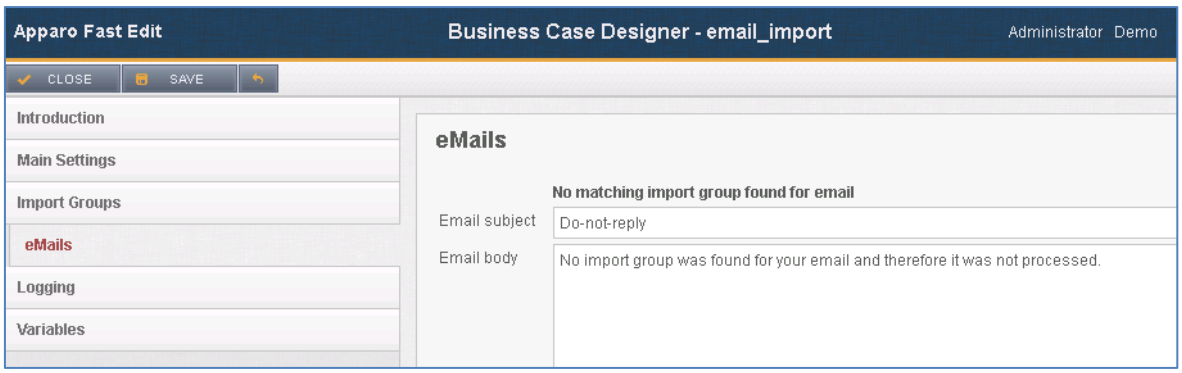
4.6 eMails

It contains the general error message for the case that no matching import group could be found to perform the import.

This can have different causes:

- Erroneous setup of import groups
- Erroneous attachments (e.g. file does not match the file import template)
- The import group can be temporary disabled by the administrator
- disabled by a variable (e.g. a time controlled variable to avoid issues during a maintenance period)

Example: We setup up a short message to inform the user what is wrong. The most likely cause will be a wrong file (wrong template or format).



General error message

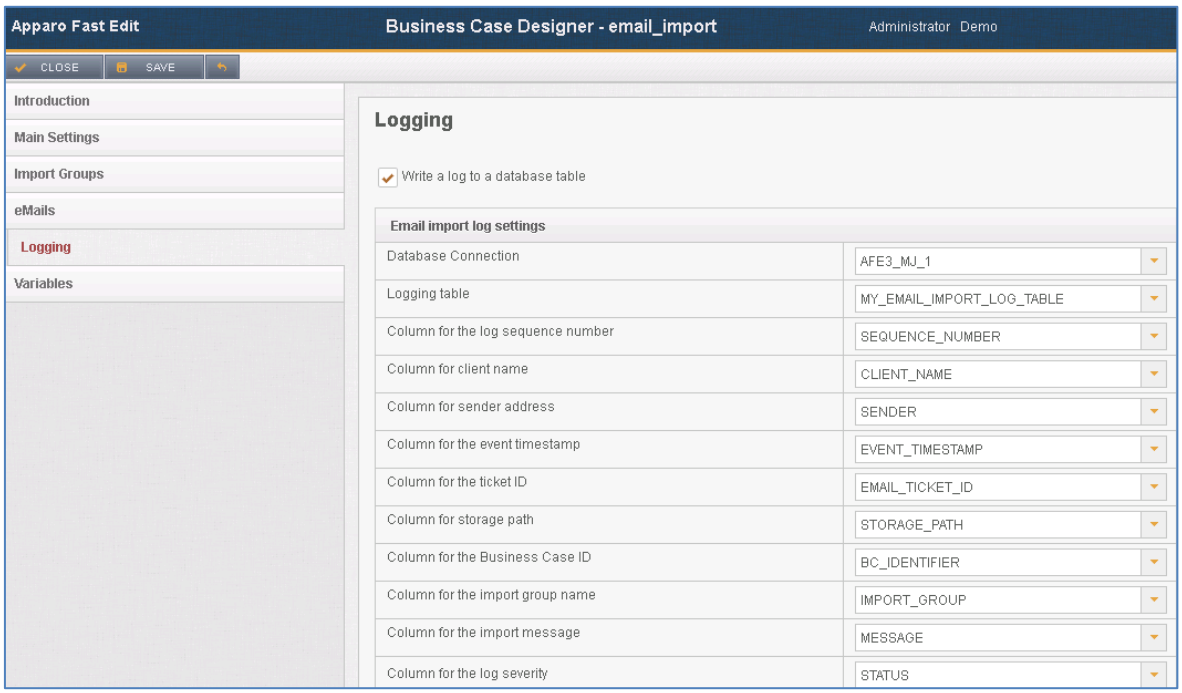
4.7 Logging

All events can be logged into an own database table.

In order to log all possible values the table will need the following columns:

- **Column for client name:** What client was used for the import
- **Column for sender address:** What sender address tried to import
- **Column for event timestamp:** Timestamp
- **Column for ticket ID:** Ticket ID, unique ID for the import event
- **Column for storage path:** Where is the email and attachment stored
- **Column for Business Case ID:** What Business Case performed the import
- **Column for importing group name:** What import group performed the import
- **Column for the import message:** Plain text with error message
- **Column for the log severity:** Can be warning, error, info or debug
- **Column for the message code:** A number representing the message

Example: We want to store all information and have to set all values.

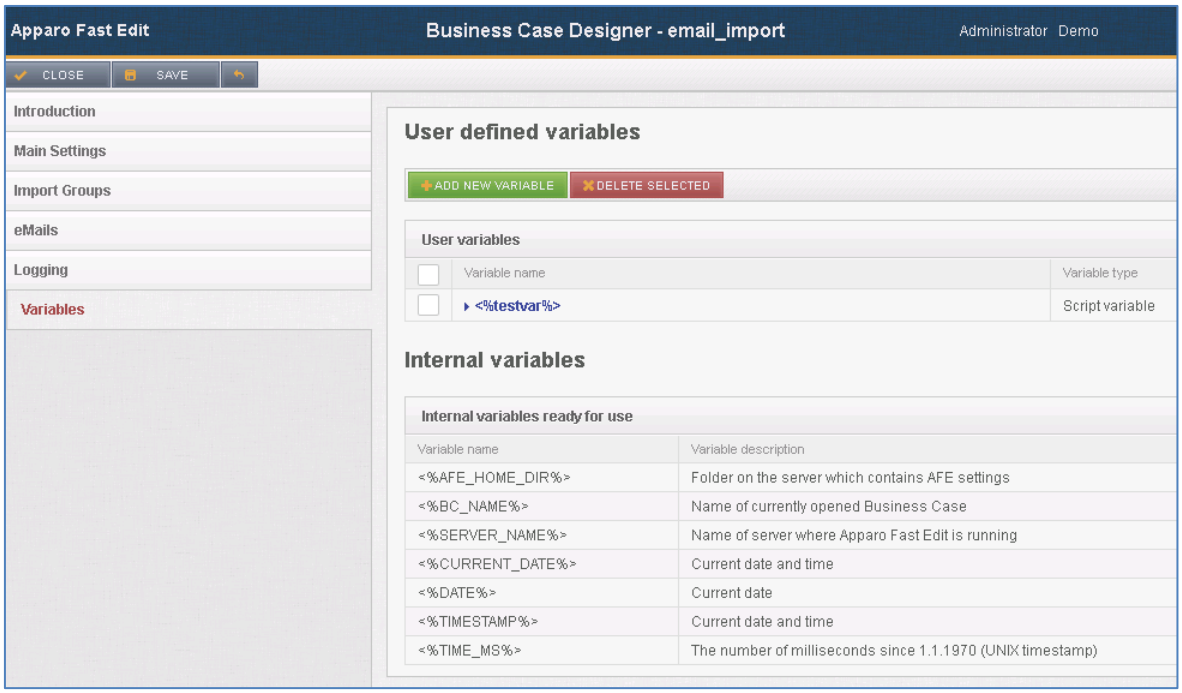


Mapping of the database table based log

4.8 Variables

Allows to create own JavaScript variables.
Hint: JavaScript variables can perform SQL too.

There is a list with pre-defined variables, ready to use.



5 Summary

After setting up all necessary steps we are ready to import the files via email attachment.

Further definitions can be made in the Business Cases that are designed to perform the import.

Example:

Extended use case:

The monthly figures are checked by a controller as part of a workflow. He has questions to some of the figures and returns them with comments to the sender.

The sender is correcting or commenting the figures and sends them again via email.

In this case the importing Business Case must allow the update of existing data and should have enabled Auditing or the History feature to secure the data changes.