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LTFBA Simulation Platform User Guide

USER GUIDE DOCUMENTATION FOR:

Long-Term Flow-Based Allocation Simulation Platform

JAO • 2 RUE DE BITBOURG L-1273• LUXEMBOURG-HAMM • LUXEMBOURG

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Document Versions

Version	Date	Created by	Version description
1.0	27.11.2023.	Mihaela Gec Dumbović	Initial version
1.1	19.02.2024.	Zlatko Ofak	Add JAO helpdesk contact info and update views
1.2	28.03.2024.	Zlatko Ofak	Updated configurations page and maintenance mode
1.3	14.04.2025	Zlatko Ofak	Historical order books enabled
1.4	26.11.2025	Ljubica Čakalo	Flow-Based Results XLSX added to 6.2 Overview

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1   Introduction

This document provides a description of Long-Term Flow-Based Allocation (LTFBA) Simulation Platform web interface which allows users to verify the flow-based capacity parameters and simulate long-term flow-based auctions. Tool is available for all market participants, transmission system operators and JAO users.

Should you require further support, please contact JAO Helpdesk at the following email addresses:

- TSOs: helpdesk.tso@jao.eu
- Market Participants: helpdesk@jao.eu

2   Login

By navigating to the LTFBA Simulation Platform web address, user is redirected to login page.

Figure 1 LTFBA Simulation Platform login form

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By entering correct credentials, i.e., username and password, tool automatically redirects user to the home page.
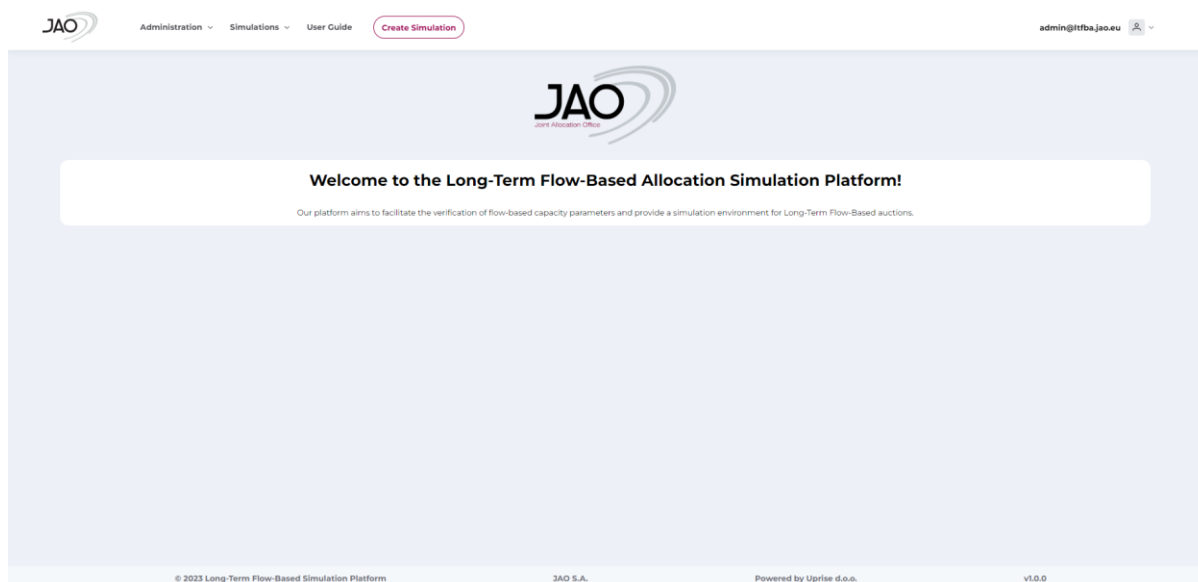

Figure 2 LTFBA Simulation Platform home page

In case Simulation Platform is in maintenance mode, associated warning message will be present on the home page indicating that user are not able to create any new simulations.
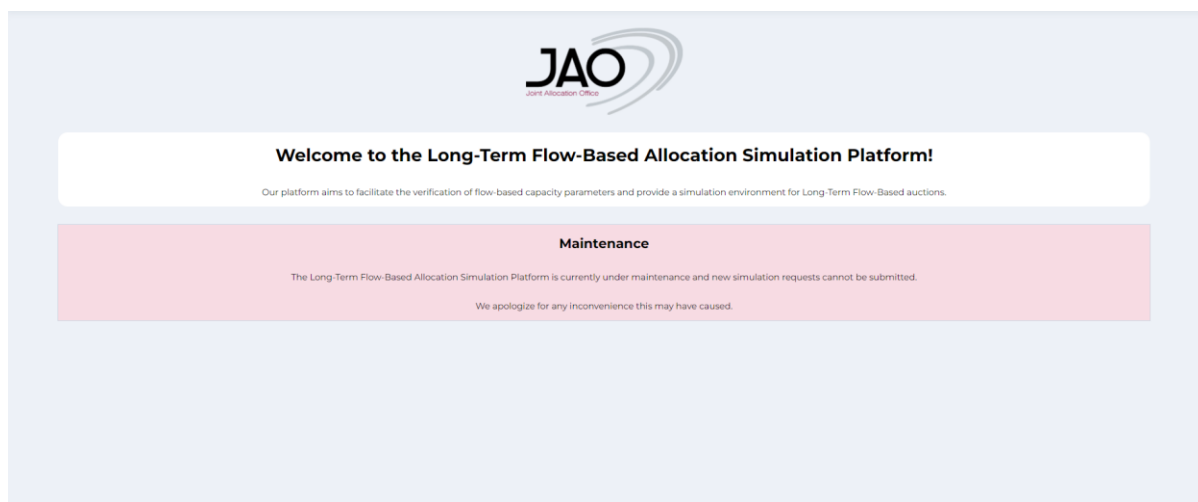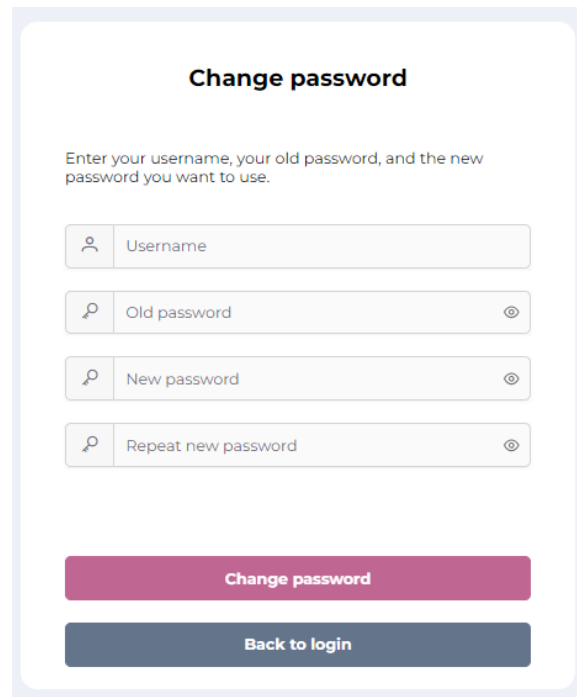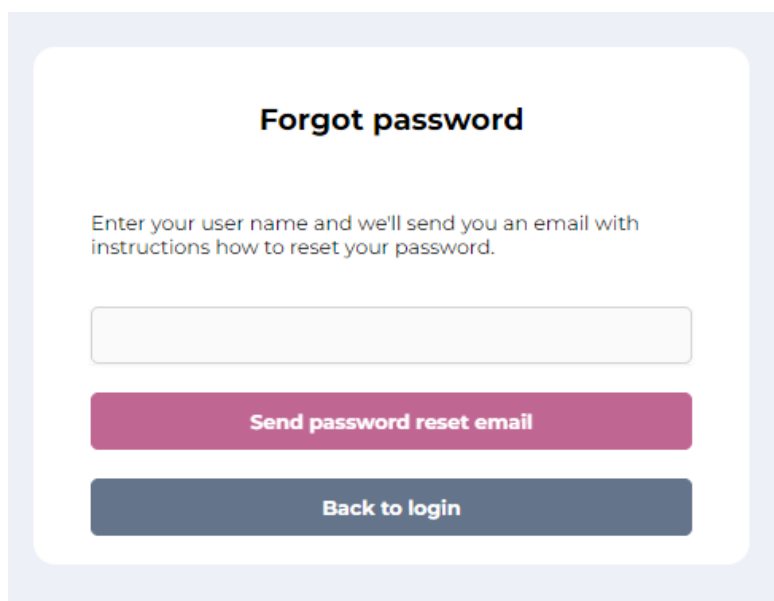

Figure 3 LTFBA Simulation Platform home page while in maintenance mode

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On the login page form, user is able to navigate to the password change screen by clicking on the "Change password" button or to request password reset link in case of forgot password by clicking on the "Forgot password" link. In case reset of password is requested, user will receive a dedicated email with further instructions on how to reset it.

Figure 4 Form for password change

Figure 5 Form for password reset

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2.1 Password rules

When user account is being created in the tool, users are assigned with initial password which is sent in a dedicated email. Prior to the email containing initial password, users receive an email with information that new account is being created for them, together with the username. Initial password created by the tool must be changed on the initial login.

Either password is forced to be changed for the first time or user is setting it manually on its' own, password must conform to the following rules:

- Must have at least 12 characters
- Must contain at least 3 different kinds of characters (uppercase letters, lowercase letters, numeric digits, symbols)
- Must not be similar to last 20 passwords (passwords are considered similar if only one character is changed or if 1 character is added to the beginning or the end)

Every password is going to expire every 90 days.

3 User profiles

The Simulation Platform allows for different user profiles with different levels of access:
- Market participant
- Transmission system Operator (TSO)
- JAO, including Super Admin Role

The access rights are listed in the table:

Table 1 Access rights matrix

Access right	Market Participant	TSO	JAO
Submit a simulation request	Yes	Yes	Yes
Follow-up of simulation requests	Limited to same party (*)	Limited to same party (*)	Yes
Download bid files	Limited to same party (*)	Limited to same party (*)	Yes
Download allocation result files	Limited to same party (*)	Limited to same party (*)	Yes
Download result bid XML files	No	Limited to same party (*)	Yes
Download FB results stream (shadow prices, awarded capacity on CNECs)	No	Limited to same party (*)	Yes
Submit FB domain files through the UI	No	Yes	Yes
Display list of FB domains	Limited (**)	Yes	Yes
Download FBP files	Limited (**)	Yes	Yes
Define available user profiles for FB domains	No	No	Yes
Submit historical order book files through the UI	No	Yes	Yes

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Display list of historical order books	Limited (**)	Yes	Yes
Download historical order book files	Limited (**)	Yes	Yes
Define available user profiles for historical order books	No	No	Yes
Submit CFG files through the UI	No	Yes	Yes
Display list of CFG files	Yes	Yes	Yes
Download CFG files	Yes	Yes	Yes
Download log stream	No	Yes	Yes
Download User Guide	Yes	Yes	Yes
Register a new party	No	No	Yes
Register a new user	No	No	Yes
Display list of registered parties	No	No	Yes
Display list of registered users	No	No	Yes
Manage registered parties	No	No	Yes
Manage registered users	No	No	Yes
Password change through the login page	Limited to same user	Limited to same user	Limited to same user
Display and edit tool configurations page	No	No	Only Super Admin

(*) Limited to same party means that a User is limited to follow the simulation requests and download associated documents related to all Users belonging to the same Party

(**) Limited to the FB domains or historical order books which have been made available by JAO to market participants.

4 Tool Administration

Only JAO users have access to Administration pages of a tool. Within administration part of the tool, it is possible to manage users and parties, as well to configure Simulation Platform properties in case of Super Admin role.

4.1 Parties

Page presents available Parties and a button to add a new one. Besides parties added through the web interface, system presents parties registered and synchronized from the LDAP server. Parties added through web interface are marked as external and can be edited and enabled/disabled by clicking the edit/pencil icon. User can filter the parties by using one of the offered filters on top of the page.

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Figure 6 Parties overview page

Search filter simultaneously searches for the typed in term in Name, Identification and Full Name columns. User selects one of the offered items and clicks Apply button to apply filtering. Search filter also allows to create a new search term which will be applied when user clicks apply. It will return all rows which contain searched term in either of before mentioned columns. Filters for Roles, Type and Status offer a classical multiselect filtering. By clicking Clear button, all selected filters are cleared.

Modal for adding a new party requests user to enter Name, Identification (EIC code), Full Name and select a Role (TSO/Market participant).

Figure 7 Modal for new party registration

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Following rules apply when new party is created:

- Name is mandatory
- Name shall contain a maximum of 50 alphanumeric characters
- Name shall be unique
- Identification shall be a unique code for all registered parties
- Identification shall contain 16 alphanumeric characters
- Third character in the identification shall be "X"
- Full name is mandatory
- Full name shall contain a maximum of 100 alphanumeric characters

4.2 Users

Page presents available Users and a button to add a new one. Besides users added through the web interface, system presents users registered and synchronized from the LDAP server. Users added through web interface are marked as external and can be edited and enabled/disabled by clicking the edit/pencil icon. User can filter the Users by using one of the offered filters on top of the page.

Figure 8 Users overview page

Search filter simultaneously searches for the typed in term in Username, First Name, Last name, Email and Party columns. User selects one of the offered items and clicks Apply button to apply filtering. Search filter also allows to create a new search term which will be applied when user clicks apply. It will return all rows which contain searched term in either of before mentioned columns. Filters for Roles, Type and Status offer a classical multiselect filtering. By clicking Clear button, all selected filters are cleared.

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Modal for adding a new User requests user to enter Username, Email, First Name, Last Name and select a Party. By clicking Generate, password is generated by the tool as the initial user password. This password is the one sent to user by email when account is created.

Similarly, when user is synchronized from the LDAP server, Simulation Platform tool generates the initial password which is different from the one in the LDAP server and is sent via email to the user when account is created.

Figure 9 Form for creation of a new user

Following rules apply when new user is created:

- Username is mandatory
- Username shall contain a maximum of 100 alphanumeric characters
- Username is unique
- Password is mandatory (created by clicking on Generate button)
- Party is mandatory (only TSOs and external parties can be selected)
- Email is mandatory
- Email shall contain a maximum of 80 alphanumeric characters
- Full name is mandatory
- Full name shall contain a maximum of 100 alphanumeric characters.

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4.3 Configuration

This page is available only to Super Admin.

Configuration page offers possibility to set Simulation platform configurations.

1. Maximum number of parallel simulation requests per party in the Message queue – defines maximum number of simulation request that one or more users from the same party can add to the queue. When exceeded, warning message will be displayed and user will not be able to add new simulation request. Number is counted as number of simulation requests from the same party with "Waiting" status.

2. Maximum number of parallel simulation requests per user profile in the Message queue – defines maximum number of simulation request that one or more users from the same user profile (i.e., Market participant, TSO or JAO) can add to the queue. When exceeded, warning message will be displayed and user will not be able to add new simulation request. Number is counted as number of simulation requests from the same user profile with "Waiting" status.

3. Maximum number of parallel simulation requests per user in the Message queue – defines maximum number of simulation request that one user can add to the queue. When exceeded, warning message will be displayed and user will not be able to add new simulation request. Number is counted as number of simulation requests from the same user with "Waiting" status.

4. Time for daily eCAT synchronization – Defines time when daily check for synchronization of users and parties from the LDAP server will be performed. When application is started for the first time, all users are parties are synchronized to the Simulation Platform database. All details except the password remain the same, while new password is assigned by the tool and needs to be changed on the first login. Every day the tool checks if there are new users or parties in LDAP that don't exist in the Simulation Platform, and if yes, they are synchronized.

5. Log level – Defined minimum level of log types that will be included in the Simulation Platform log file. Possible options in ascending order: Debug, Information, Error.

6. Inactivity period for web session closing in seconds – Maximum time in seconds after which user is automatically logged out from the tool if no action was performed.

7. Number JAO/TSO LTFBA Algorithm instances – Defines number of LTFBA algorithm instances available for TSOs/JAO queue, i.e., maximum number of simulations that can be executed in parallel for TSO or JAO.

8. Number Market Participants LTFBA Algorithm instances – Defines number of LTFBA algorithm instances available for Market participants queue, i.e., maximum number of simulations that can be executed in parallel for Market participants.

9. Synchronize TSO users from eCAT – Defines if TSO users will be synchronized from the LDAP server each time synchronization is started.

10. Synchronize MP users from eCAT - Defines if Market Participant users will be synchronized from the LDAP server each time synchronization is started.

11. Maintenance mode – Defines if Simulation Platform maintenance mode is active or not. When activated, users will not be able to submit new simulation requests.

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12. Maximum number of retries when connecting to SFTP – Defines number of connection retries with sFTP file storage Simulation Platform will perform before throwing an error.

13. Validation values – used as validation rules upon file upload for MP and TSO/JAO user profiles on maximum number of bids in historical order book per bidding party and per bidding zone border, maximum allowed number of bids per bidding party and per oriented allocation border, CNECs in FB document and bids in Bid document. Empty value/cell indicates that no limit is in place.

Figure 10 Simulation Platform Configurations page

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5 Simulation input files upload

5.1 Flow Based Domains

Page presents available Flow Based (FB) domain documents and a button to add a new one. User can download a document by clicking a download icon next to file name. JAO user can set FB domain document available to market participants. User can filter the files by using one of the offered filters on top of the page.

Figure 11 Flow based domains overview page

Filters for Parties and Users offer a classical multiselect filtering, while for submission date user can select a time period in which files were submitted. After selecting desired filters, user clicks Apply button to apply the filters. By clicking Clear button, all selected filters are cleared.

To upload a document user clicks on a "Add new FB domain document" button and is redirected to an upload page. After clicking browse, option to select a file is offered. User selects a file, clicks Open and then Upload buttons. If user selects a file to upload which has the same name as an already uploaded file, implemented automatic versioning will save the newly uploaded file with adjusted file name, increasing the file version.

Validation is performed against XSDs and file is validated. User gets a "Upload success" message if validation passed or "Validation fail" message if validation failed.

In case of successful validation, file is transformed into the format needed for LTFBA algorithm. In case transformation was successful, file is uploaded and is presented on the list of available FB domain files.
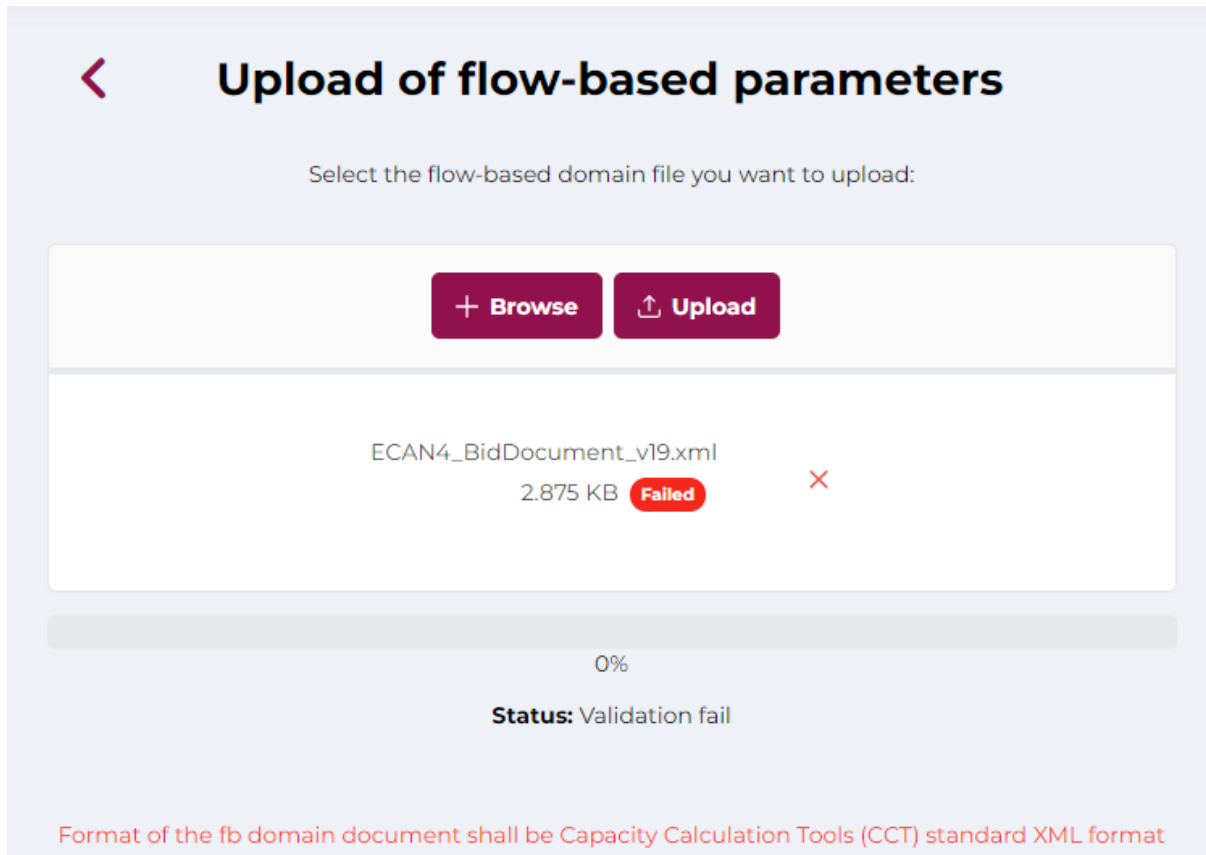
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Figure 12 FB domain document upload and failed validation
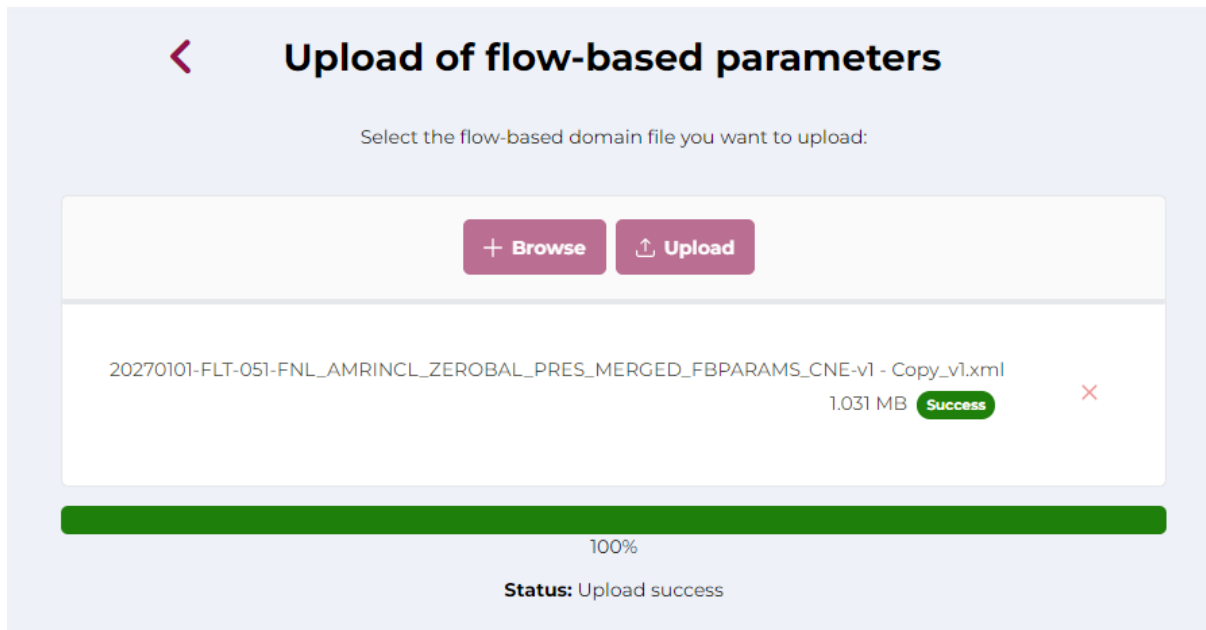
Figure 13 FB domain document upload with successful validation

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5.2   Historical Order Books

Page presents available historical order book files in XLSX format and a button to add a new one. User can download a document by clicking a download icon next to file name. JAO user can set historical order book file available to market participants. User can filter the files by using one of the offered filters on top of the page.

Figure 14 Historical order books overview page

Filters for Parties and Users offer a classical multiselect filtering, while for submission date user can select a time period in which files were submitted. After selecting desired filters, user clicks Apply button to apply the filters. By clicking Clear button, all selected filters are cleared.

To upload a document user clicks on a "Add new Historical order book" button and is redirected to an upload page. After clicking browse, option to select a XLSX file is offered. User selects a file, clicks Open and then Upload buttons. If user selects a file to upload which has the same name as an already uploaded file, implemented automatic versioning will save the newly uploaded file with adjusted file name, increasing the file version.

Validation is performed against XLSX file structure and associated limit of maximum number of bids per bidding party and per bidding zone border. User gets a "Upload success" message if validation passed or "Validation fail" message if validation failed.

In case of successful validation, the XLSX file is uploaded and is presented on the list of available historical order book files.
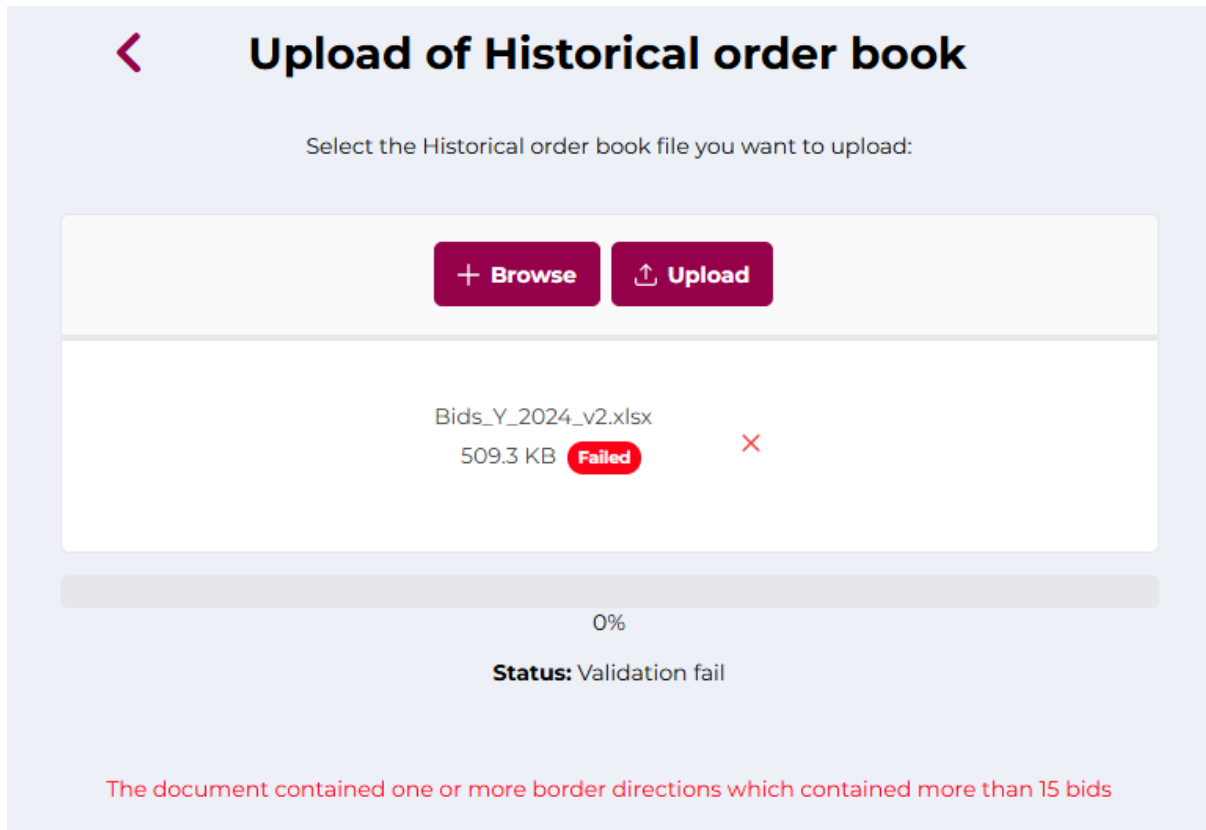
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Figure 15 Historical order book upload and failed validation
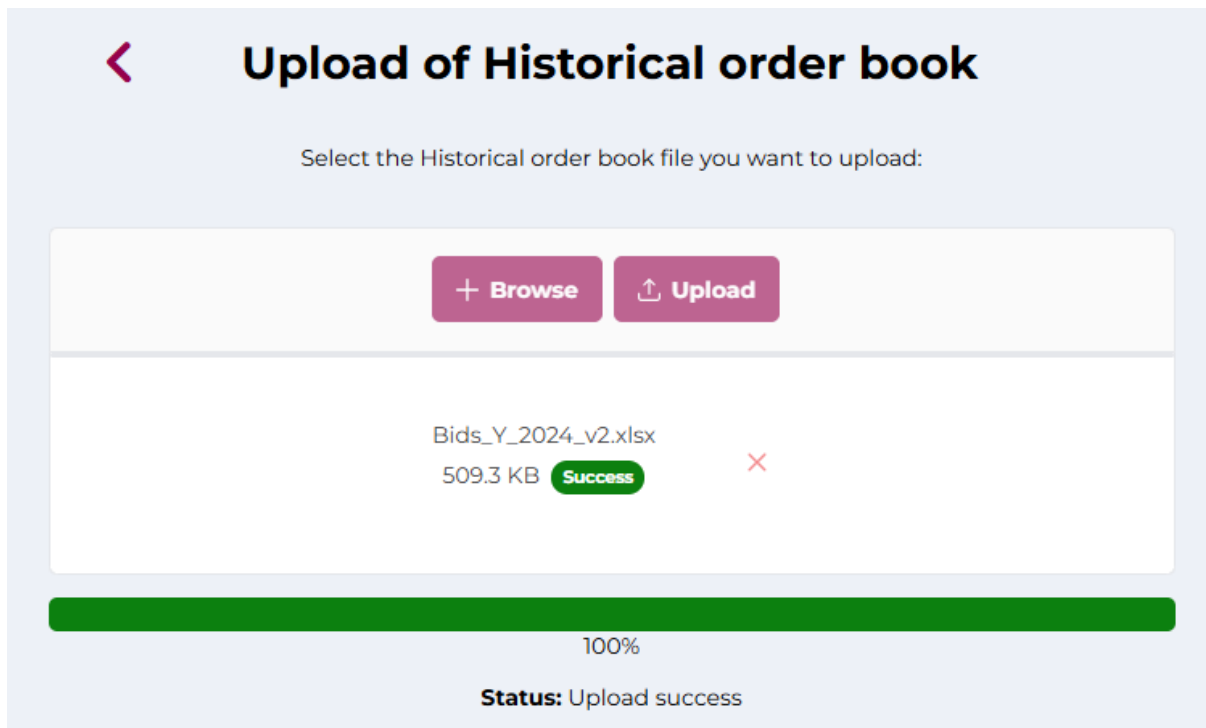
Figure 16 Historical order book upload with successful validation

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5.3   Configuration Parameters

Page presents available CFG documents and a button to add a new one. User can download a document by clicking a download icon next to file name. User can filter the files by using one of the offered filters on top of the page.

Figure 17 Configuration parameters overview page

Filters for Parties and Users offer a classical multiselect filtering, while for submission date user can select a time period in which files were submitted. After selecting desired filters, user clicks Apply button to apply the filters. By clicking Clear button, all selected filters are cleared.

To upload a document user clicks on a "Add new CFG document" button and is redirected to an upload page. After clicking browse, option to select a file is offered. User selects a file, clicks Open and then Upload buttons. If user selects a file to upload which has the same name as an already uploaded file, implemented automatic versioning will save the newly uploaded file with adjusted file name, increasing the file version.

Validation is run against an XSD and file is validated. User gets a "Upload success" message if validation passed or "Validation fail" message if validation failed.

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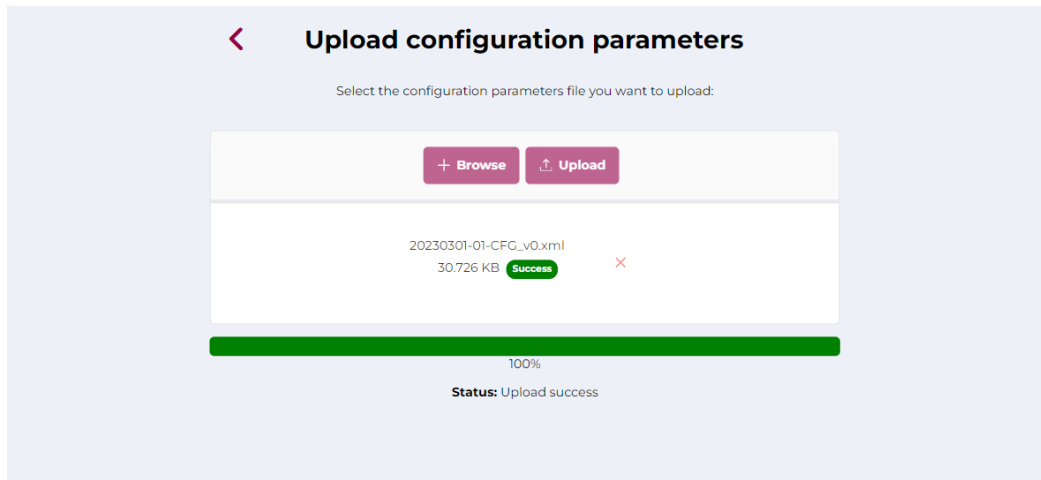
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Figure 18 Upload of configuration parameters file with successful validation
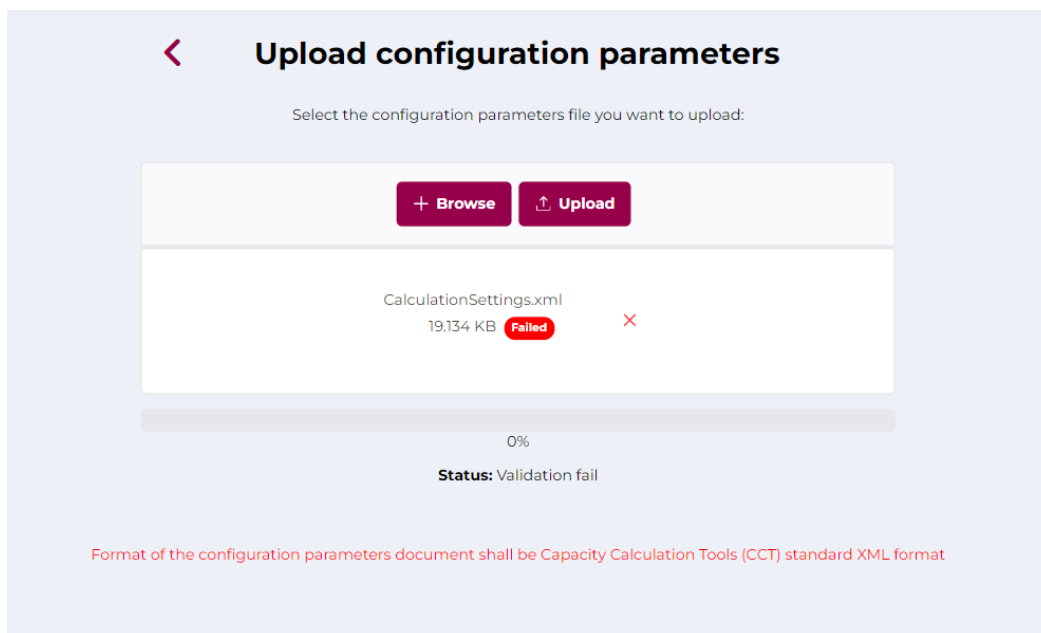
Figure 19 Upload of configuration parameters file with failed validation

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6 Simulation creation and overview

6.1 Create Simulations

User needs to click on the "Create Simulation" button on the Simulation Platform menu in order to navigate to the screen dedicated to the simulation requests submission page.

User needs to first select FB domain and CFG files and then upload a bid document.

User has and option to select historical order book as well. Selection is not mandatory and when it comes to the Market participants, only historical order books that were made available are listed in the dropdown list.

To upload a Bid document user clicks Browse button and an option to select a file is offered.

Tool supports upload of two kinds of bid documents:

- ECAN v4 XML bid document
- XLSX bid document

User selects a file, clicks Open and then Upload buttons. If user selects a file to upload which has the same name as an already uploaded file, implemented automatic versioning will save the newly uploaded file with adjusted file name, increasing the file version. Validation is run against XSDs and file is validated.

User gets a "Simulation request processed successfully." message if validation passed or "Validation fail" message if validation failed.

In case of successful validation, file is transformed into the format needed for LTFBA algorithm. Bids from the file are merged with the historical order book bids if the historical order book file was selected. In case transformation was successful, simulation request is created and added to the queue.

After creating simulation, user can use Overview page to follow progress. Simulation next in line to be run is given a rank 1. Rank is given on first come – first serve basis with two separated queues:

- one queue for requests made by JAO and TSOs;
- second one for Market participants.

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Figure 20 Screen for submission of simulation requests with successful validation

6.2   Overview

Overview page allows user to follow-up on simulation requests made. User can filter the files by using one of the offered filters on top of the page.

Figure 21 Screen for the follow up of simulation requests

*Bid results column if visible only to JAO and TSO users

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Filters for Parties, Users, Flow-base domain and Status offer a classical multiselect filtering, while for submission date user can select a time period in which files were submitted. After selecting desired filters, user clicks Apply button to apply the filters. By clicking Clear button, all selected filters are cleared.

For each simulation following data is presented:

Table 2 Simulation requests follow up page parameters

Column name	
Request ID	Unique simulation request ID
Submission time	Time at which simulation was submitted in CET time zone
Party	Party that submitted simulation
Username	Username of a user who submitted simulation
FB domain	**Input** FB domain file used in a simulation
CFG parameters	**Input** CFG parameters file used in a simulation (parameters for market areas, borders and virtual hubs)
Bids	**Input** Bids file used in a simulation
Order Book	**Input** Historical order book file used in a simulation (in case selected)
Allocation results	**Output** Allocation results CSV file transformed by Simulation Platform from Bid results XML generated by the LTFBA algorithm
Bid results	**Output** Bid results XML file generated by the LTFBA algorithm
Flow-Based results	**Output** Flow-Based results file generated by LTFBA algorithm (shadow prices and awarded capacity on the CNECs)
Flow-Based Results XLSX	**Output** Flow-Based results file in XLSX format
Logs	**Output** Logs file generated by simulation by LTFBA algorithm
Rank	Current place of given request in the message queue (JAO/TSO or Market Participant queue)
Status	Status of a simulation. Can be: • Waiting • Incorrect Request • Failed To Start • In Progress • Completed • Failed