ATrad

User Manual

Transaction Monitoring System

Version : 1.1

Date : 28-10-2024

Introduction

Welcome to the Transaction Monitoring System, designed for stock exchange environments. This system allows users to upload transaction data via Excel files and automatically detects anomalies within the transactions. By leveraging advanced analytics, the system helps ensure compliance with financial regulations, mitigate risk, and enhance the overall security of trading operations. This manual provides step-by-step instructions on how to upload files, interpret alerts, and manage flagged transactions efficiently, ensuring a streamlined monitoring process for users.

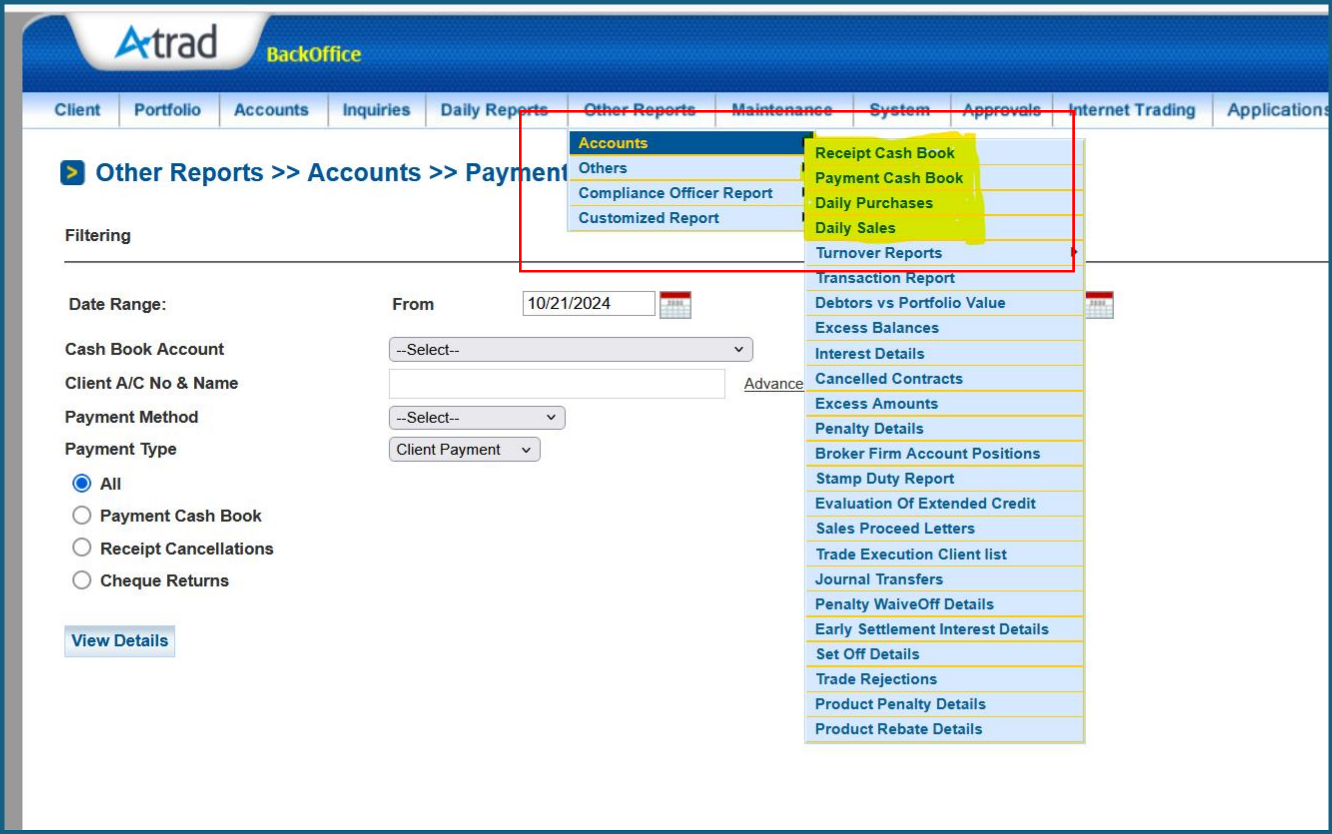
Step 01: Data Set Preparation

1.1 Obtaining the data file:

The required excel files can be retrieved from the following paths within ATrad BBO:

1- Other Reports >> Accounts >> Receipt Cash Book
2- Other Reports >> Accounts >> Payment Cash Book
3- Other reports>> Accounts>> Daily Purchases
4- Other reports>> Accounts>> Daily Sales

However, users are able to upload any transaction-related Excel file to the system, provided it meets the required format and structure for processing.



Step 01: Data Set Preparation

1.2 Excel file preparation:

Before processing, the Excel file must be prepared according to the following guidelines:

- Remove any headers containing broker details.
- Only files in .xlsx format are allowed for upload and processing.
- Delete any rows containing values such as "Total," "Subtotal," or similar, ensuring only the transaction data is retained.
- Remove any unnecessary **empty rows and columns.**
- The final file should be formatted to include **only one header row** and relevant transaction data, as illustrated below, to comply with the system's requirements

	A	B	C	D	E	F
1						
2						
3				Broker Name		
4				123nawam MawathaColombo 02,Sri Lanka		
5				Tel:0121212121 Fax:0121212121/Email: iot@iot.com		
6						
7				Payment Cash Book From: 09/11/2019 To: 09/11/2024		
8						
9						
10						
11	Payment Cashbook					
12						
13						
14	Payment Date	Voucher No	Client A/C No	Client Name	Cash Book Account	Payment Type
15	11/09/2019	PVN20190901	ABC-11111111-VN/00	MS. A.B.C. Perera	Commercial Bank 0000	Projected Settlement
16	12/09/2019	PVN20190902	ABC-22222222-VN/00	MS. A.B.C. Perera	Commercial Bank 0000	Projected Settlement
17	12/09/2019	PVN20190903	ABC-11111111-VN/00	MS. A.B.C. Perera	Commercial Bank 0000	Projected Settlement
18	12/09/2019	PVN20190904	AMA-23065-LI/00	MS. A.B.C. Perera	Commercial Bank 0000	Projected Settlement
19						
20						

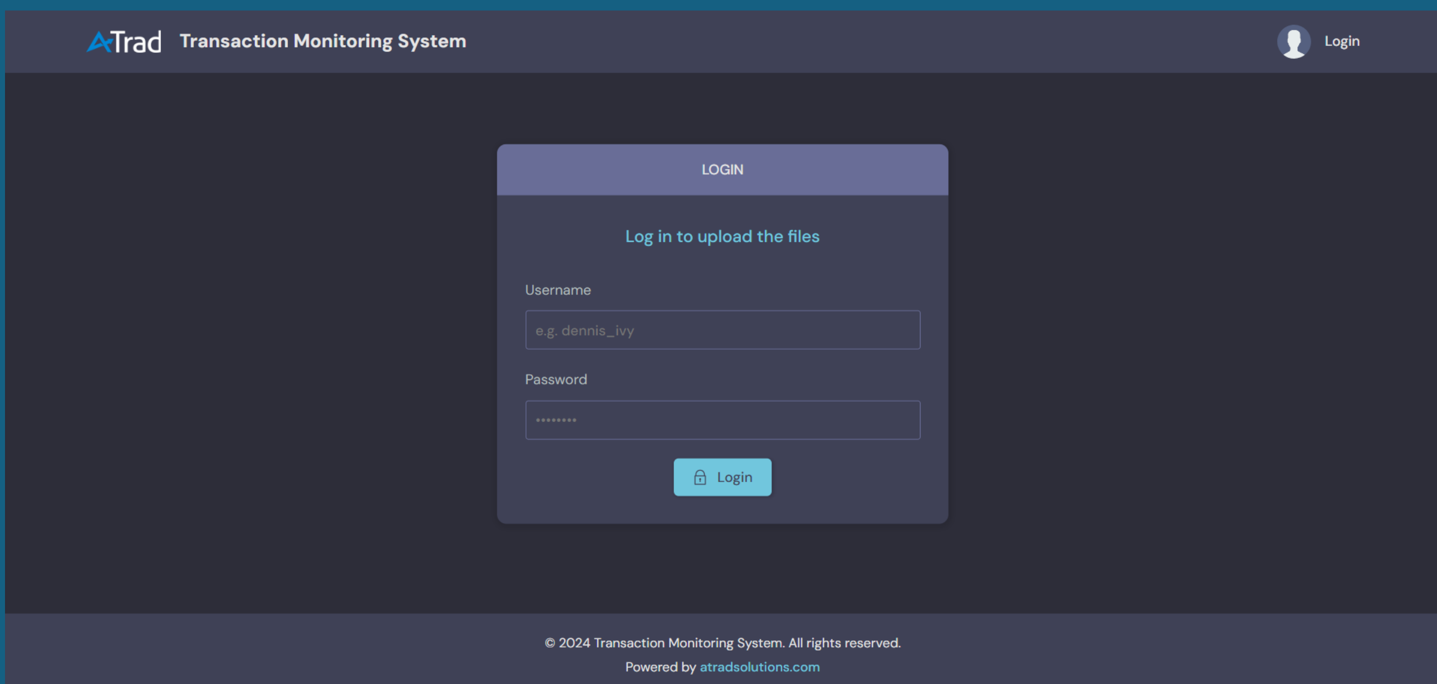
ATrad BBO Report

	A	B	C	D	E	F
1	Payment Date	Voucher No	Client A/C No	Client Name	Cash Book Account	Payment Type
2	11/09/2019	PVN20190901	ABC-11111111-VN/00	MS. A.B.C. Perera	Commercial Bank 0000	Projected Settlement
3	12/09/2019	PVN20190902	ABC-22222222-VN/00	MS. A.B.C. Perera	Commercial Bank 0000	Projected Settlement
4	12/09/2019	PVN20190903	ABC-11111111-VN/00	MS. A.B.C. Perera	Commercial Bank 0000	Projected Settlement
5	12/09/2019	PVN20190904	AMA-23065-LI/00	MS. A.B.C. Perera	Commercial Bank 0000	Projected Settlement
6						
7						

Processing Ready Excel File

Step 02: Login to Transaction Monitoring System

- Users must provide their valid **username and password** on the login page.

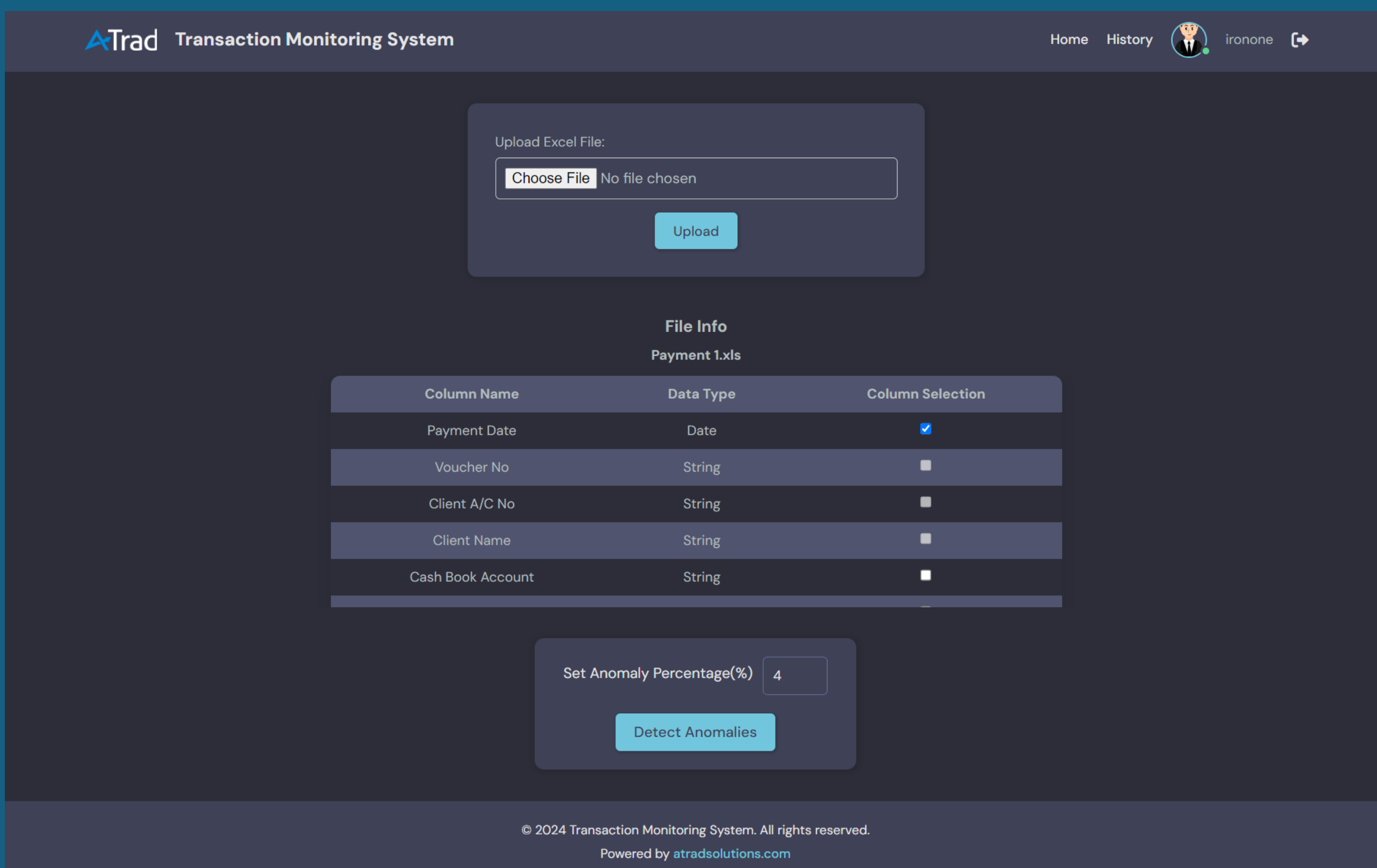


Step 03: Data File Upload

- A successful login will redirect users to the home page of the Transaction Monitoring System where users can upload the prepared excel file to the system.
- Upon selecting the **"Choose File"** option, users can browse and select the prepared Excel file.
- Then, clicking the **"Upload"** button will upload the data file to the system for processing.
- If there are any preparation errors in the Excel file, a relevant error message will be displayed, indicating the issues that need to be addressed.

Step 04: Column Selection

- After uploading the file, users will be redirected to the **column selection window**, where they can choose the relevant columns for anomaly detection.
- Checkboxes for columns that do not support the analysis are **disabled** to prevent selection.
- Users can also set an **"Anomaly Percentage (%)"** within a range of 0-100, which will be factored into the analysis process.
- Anomaly detected file will be downloaded upon clicking on the **"Detect Anomalies"** Button.



Step 05: Obtaining the Anomaly Detected File

The system utilizes **Isolation Forest Algorithm** for anomaly detection, and the results are reflected in the downloaded Excel file. A new column labeled "Anomaly" will be added to the file, indicating the outcome of the analysis.

- If the value is **"Yes"**, it signifies that the corresponding transaction has been identified as an anomaly during the analysis.
- If the value is **"No"**, it signifies that the transaction has been identified as normal during the analysis.

This method helps to isolate and flag anomaly transactions for further review.

Trade Date	Contract No	CDS No	Client	Security	Quanti	Price	Turnover	Brokerage	Other Fees	Net Amount	Settlement Date	CSE Fees	CDS Fees	SEC Fees	Share Transaction Levy	Anomaly
2/10/2023	2023084	ABC-11111111-VN/00	MS. A.B.C. Perera	KZOO.N0000	820	9.9	8,118.00	51.96	38.96	8,208.92	5/10/2023	6.82	1.95	5.84	24.35	No
2/10/2023	2023085	ABC-22222222-VN/00	MS. A.B.C. Perera	KZOO.N0000	345	9.9	3,415.50	21.86	16.4	3,453.76	5/10/2023	2.87	0.82	2.46	10.25	Yes
2/10/2023	2023086	ABC-11111111-VN/00	MS. A.B.C. Perera	KZOO.N0000	6,800	9.9	67,320.00	430.85	323.14	68,073.99	5/10/2023	56.55	16.16	48.47	201.96	No
2/10/2023	2023087	AMA-23065-LI/00	MS. A.B.C. Perera	KZOO.N0000	35	9.9	346.5	2.22	1.66	350.38	5/10/2023	0.29	0.08	0.25	1.04	No

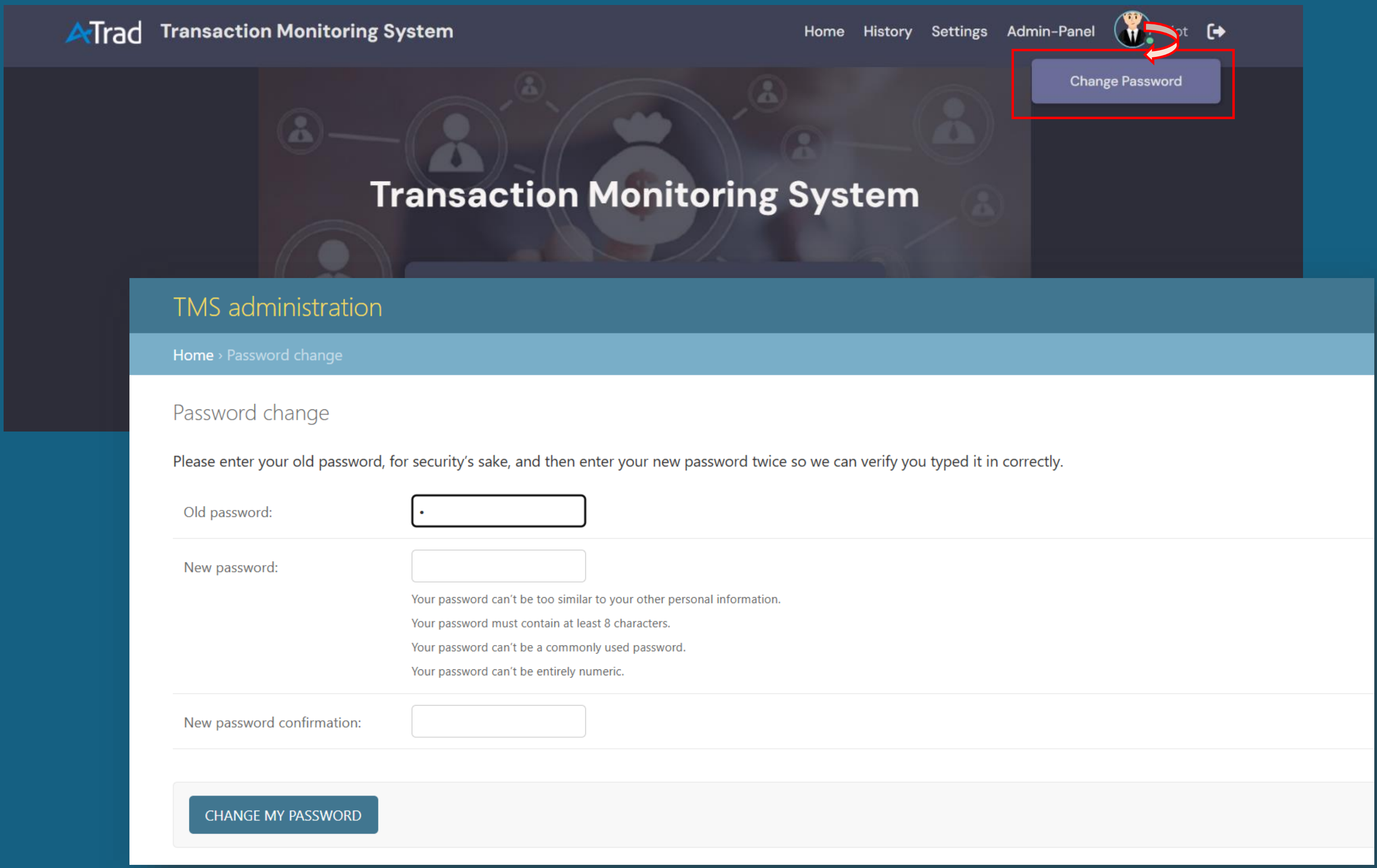
Action History

- Users can access the audit log within the Transaction Monitoring System, providing full transparency and traceability of all activities.
- For each transaction file uploaded, two records will be available: File upload detail, and file download detail.

Username	Action	File Name	Timestamp	Original/Selected Columns	Anomaly Percentage	Row Count	Anomaly Count	Status
ironone	File Upload	Payment 1.xls	Oct. 18, 2024, 10:15 a.m.	Payment Date, Voucher No, Client A/C No, Client Name, Cash Book Account, Payment Type, Cheque No, Cancelled Cheque, Paid Amount, Added By, Added Date, Address1, Address2, Address3, Town, Country	N/A	2391	N/A	File Uploaded Successfully
ironone	File Upload	Daily purchase 1.xlsx	Oct. 18, 2024, 10:14 a.m.	Trade Date, Contract No, CDS No, Client, Security, Quantity, Price, Turnover, Brokerage Fee, Other Fees, Net Amount, Settlement Date, CSE Fees, CDS Fees, SEC Fees, Share Transaction Levy	N/A	8051	N/A	File Uploaded Successfully
ironone	Detect	Payment 1.xls	Oct. 14, 2024, 2:36 p.m.	Payment Date, Payment Type, Paid Amount, Added Date	4.0%	2391	87	Successfully Downloaded
ironone	File Upload	Payment 1.xls	Oct. 14, 2024, 2:35 p.m.	Payment Date, Voucher No, Client A/C No, Client Name, Cash Book Account, Payment Type, Cheque No, Cancelled Cheque, Paid Amount, Added By, Added Date, Address1, Address2, Address3, Town, Country	N/A	2391	N/A	File Uploaded Successfully
ironone	File	Payment	Oct. 14, 2024,	Payment Date, Voucher No, Client A/C No, Client Name, Cash Book Account, Payment Type, Cheque No, Cancelled	N/A	2391	N/A	File Uploaded

Change Password

- Users can change the password to the TMS by clicking on the **change password** option under the profile icon.
- Upon clicking users will be redirected to the password change window.



FAQ

Why are some columns disabled during selection?

- Columns that are not relevant for analysis have been disabled to prevent their selection, as including them could result in inaccurate analysis.

What should be done if the file upload fails?

- If the file upload fails, ensure that the file format and structure adhere to the required specifications. Double-check that the headers are correctly formatted and no additional data is included.

How can users modify the anomaly detection parameters?

- Users can adjust the anomaly detection percentage on the column selection page by setting the desired "Anomaly Percentage (%)" value within the range of 0 to 100 before starting the analysis. Default it is set to 4%.