Payment System Functionality

This document includes a description of user stories for the Payment System and describes roles and actions of both users and administrators in the system. A detailed description of user stories with acceptance criteria can be found in the full specification, <u>TokenD functionality in User Stories (EN)</u>.

Note: TokenD is a white-label framework which is used as an underlying architectural solution for the described real estate platform to have it built fast (6 weeks) and for a price generally decreased by a factor of three. Brief description of the terms and functionality can be found in the following two-pager document.

Roles

The set of roles available in the system is configured during system deployment. By default, the following roles are available:

- Platform owner. Note: technically this role can perform other roles such as the role of a platform administrator
- Administrators
 - Platform administrator
- Users
 - Unverified
 - Verified
 - Corporate

User and administrator roles can be configured depending on the system's goals and business processes. For example, the platform administrator role can be split into and be performed by different administrators:

- o KYC/AML administrator
- o Fees administrator
- Limits administrator
- Trade administrator
- Opportunity administrator
- Security administrator
- Issuance administrator

In this case, each administrator role will only have part of the super administrator's abilities. User roles can also have extended configuration depending on the business processes.



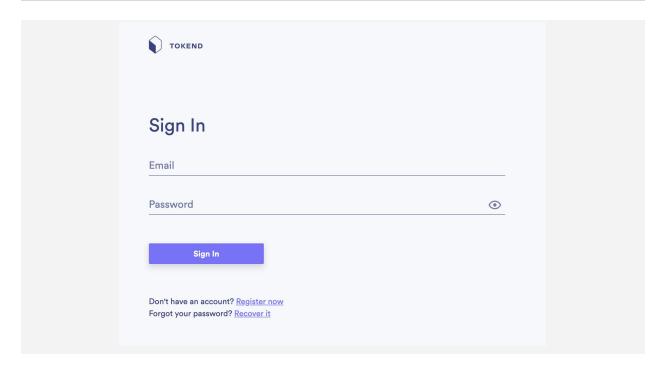
Requirements

- Registration and log-in
- Deposit and withdrawal
- Tokenized assets lifecycle management
- Transactions and operation management
- Identity control and management
- Account access and management
- Application requirements
- Ledger synchronization

User Stories

Note: in the following examples, TokenD is being used as a brand of a platform, but that's only for demo purposes. In reality, TokenD is not the platform but rather the framework with ready-made toolsets to build your own branded platform.

Registration and log-in requirements



User



- As a **user**, I want to **sign up to the platform** by entering an email address and password.
- As a **user**, I want to **confirm registration** by email.
- As a **user**, I want to **sign in to the platform** by entering an email address and password.

Administrator

- As an **administrator**, I want to be able to **sign up to the platform** with the ability to confirm the process using 2FA.
- As an **administrator**, I want to be able to **sign in to the platform** by entering an email address, password, and confirmation **through 2FA code**.

Deposit and withdrawal requirements

Deposit

Verified user

- As a **verified user**, I want to be able to **select asset to deposit** from the list of those available for deposit.
- As a verified user, I want to be able to view asset deposit address both as text and as QR code.
- As a verified user, I want to be able to deposit cryptocurrencies and digital currencies to the platform from my accounts / addresses of other accounting systems.
- As a **verified user**, I want to be able to **deposit fiat currencies** onto the platform **using a credit card or bank transfer.**
- As a verified user, I want to be able to deposit assets of Stellar to the platform using my Stellar account(s)



Corporate user

- As a corporate user, I want to be able to select an asset to deposit from the list of ones available for depositing.
- As a corporate user, I want to be able to view asset deposit address both as text and as QR code.
- As a corporate user, I want to be able to deposit cryptocurrencies and digital currencies on the platform from my accounts / my addresses in other accounting systems.
- As a corporate user, I want to be able to deposit fiat currencies onto the platform using a credit card or bank transfer.
- As a corporate user, I want to be able to deposit assets of Stellar to the platform using my Stellar account(s)

Withdraw

Verified user

- As a verified user, I want to be able to withdraw cryptocurrencies and digital currencies on the platform to external address / account.
- As a verified user, I want to be able to conduct the withdrawal of fiat currencies from the platform to a credit card or bank account.
- As a **verified user**, I want to be able to **withdraw applicable assets** from the platform to **Stellar account**.
- As verified user, I want to be able to manage the withdrawal details of cryptocurrencies, digital currencies, fiat currencies as well as to access information related to withdrawals.

Corporate user

• As a corporate user, I want to be able to withdraw cryptocurrencies and digital currencies on the platform to external address / account.

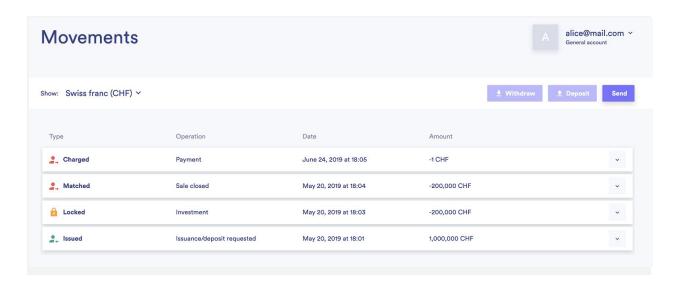


- As a corporate user, I want to be able to conduct the withdrawal of fiat currencies from the platform to a credit card or bank account.
- As a **corporate user**, I want to be able to **withdraw applicable assets** from the platform to **Stellar account**.
- As corporate user, I want to be able to manage the withdrawal details of cryptocurrencies, digital currencies, fiat currencies as well as to access information related to withdrawals.

Transactions and operation management requirements

User

• As a user, I want to be able to view the details of transactions associated with my account.



Verified user

- As a verified user, I want to be able to view the transaction details about outcoming payments.
- As a **verified user**, I want to be able to **view** the transaction details **about incoming payments**..

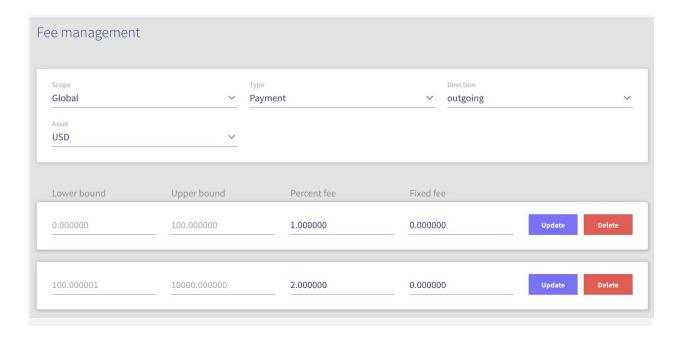


- As a verified user, I want to be able to view the details about deposit transactions.
- As a **verified user**, I want to be able to **view** the details **about withdrawal transactions**.
- As a verified user, I want to be able to view the details of transactions regarding asset selling.
- As a verified user, I want to be able to view the details of transactions regarding asset selling.

Administrator

Fee requirements for administrator

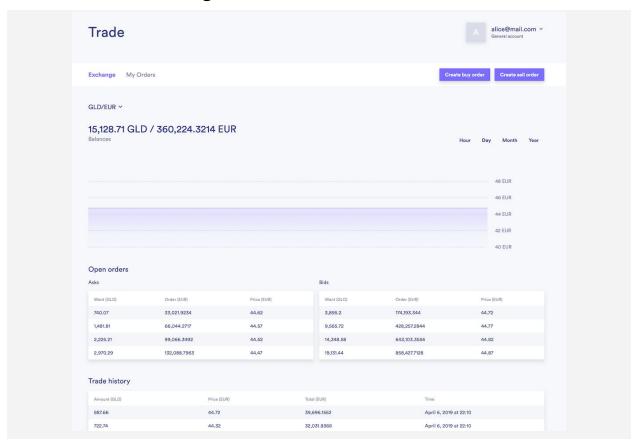
• As a **fees administrator**, I want to be able to **manage details of fees related to asset** trading.



Tokenized assets lifecycle management requirements



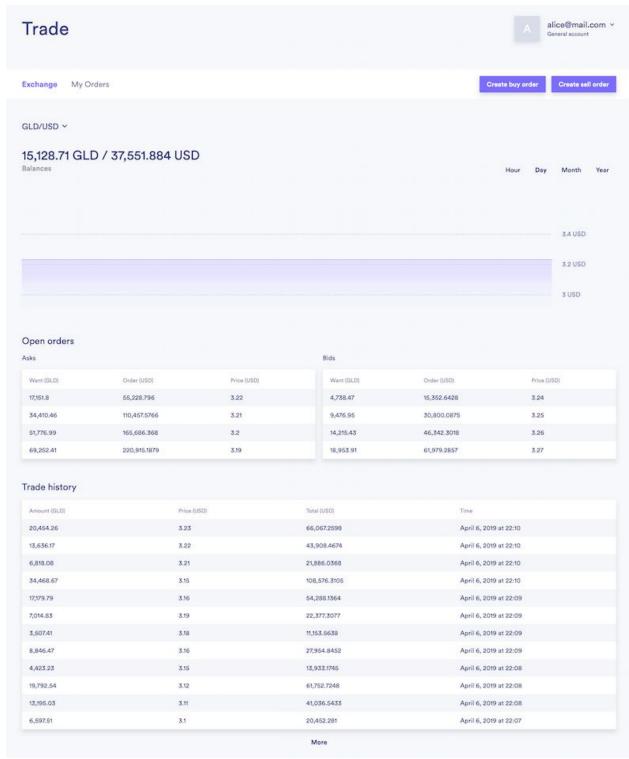
Tokenized assets trading



Verified user

- As a **verified user**, I want to be able to **exchange one tokenized asset for another** without the risk of losing the first one.
- As a **verified user**, I want to be able **to trade tokenized assets** within the platform.
- As a **verified user**, I want to be able to **create orders** for buying and selling assets.
- As a verified user, I want to be able to manage orders.
- As a verified user, I want to be able to sell / buy tokenized assets for cryptocurrencies and digital currencies.
- As a verified user, I want to be able to buy / sell tokenized assets for fiat currency.





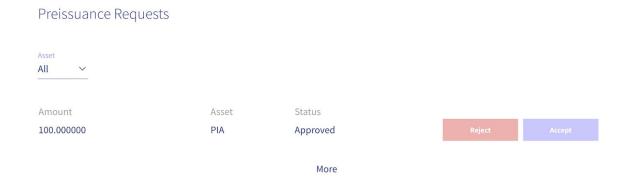
Asset creation



Administrator

Pre-issuance requirements for administrator

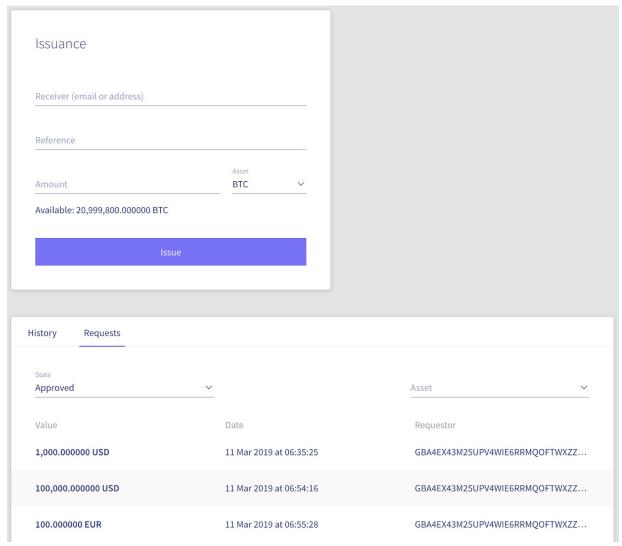
• As an administrator, I want to be able to view and process requests for creating tokined assets.



Issuance requirements for administrator

- As an **administrator**, I want to be able to **create tokenized assets** on the platform.
- As an administrator, I want to be able to update configuration of a specific asset
- As an **administrator**, I want to be able to **setup a system asset** that can be deposited from or withdrawn to **Stellar account(s)**..
- As an administrator, I want to be able to view and process requests for issuance.





Identity requirements

User

- As a user, I want to be able to provide my KYC data to change my account permissions.
- As a user, I want to be able to current state of my request for confirming KYC data.

Unverified user



- As an unverified user, I want to be able to provide my KYC data to verify them and become verified user.
- As an unverified user, I want to be able to provide my KYC data to verify them and become corporate user.

Verified user

• As a **verified user**, I want to be able to change (update) my KYC data.

Account management and access requirements

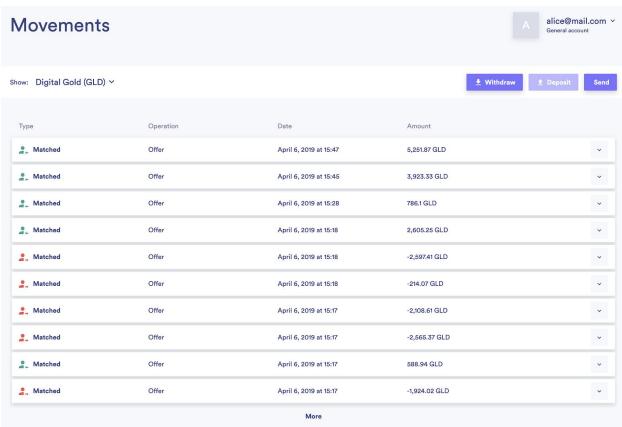
Platform owner

- As a **platform owner**, I want to be able to **perform the initial configuration** of the platform by **changing the initialization scripts**, namely: to configure the roles of users and administrators of the platform, system assets, trading pairs of assets.
- As a **platform owner**, I want to **have access to all transactions** conducted on the platform.

User (Unverified, Verified)

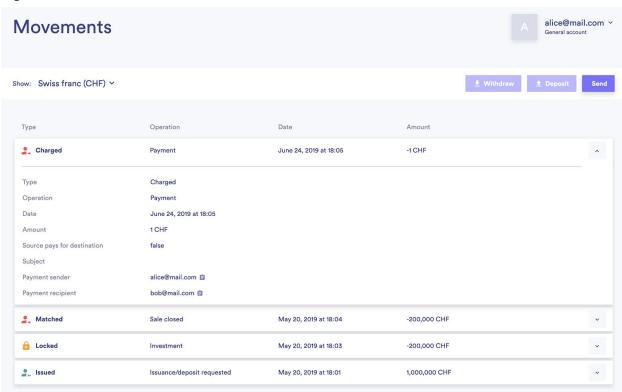
• As a **user**, I want to **have access to all transactions** associated with my account.



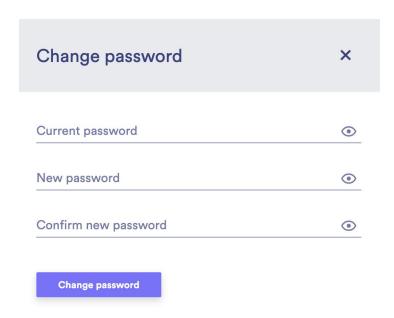


• As a user, I want to be able to view other users' account identifiers.





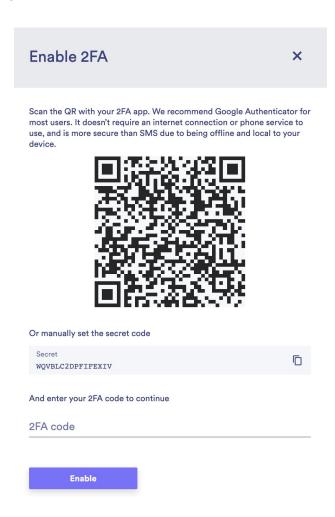
• As a **user**, I want to be able to **change the password** of my account.



 As a user, I want to be able to restore access to my account in case its password is lost.

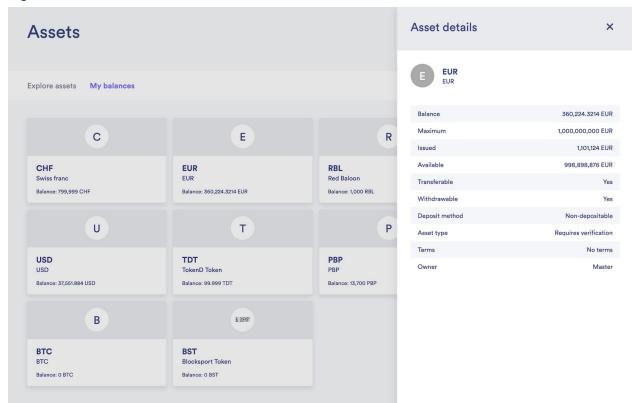


• As a **user**, I want to be able to **configure two-factor authentication** to increase account security.

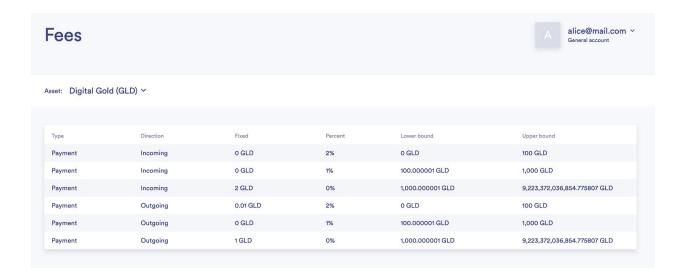


- As a user, I want to be able to view the balances of my account.
- As a user, I want to view the balances of my assets as a catalog.





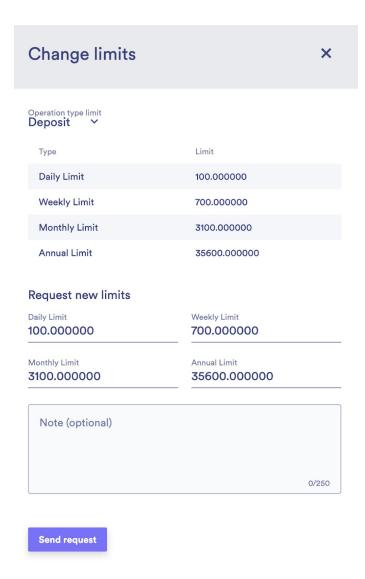
- As a user, I want to be able to view the details of the fees details for my account.
- As a **user**, I want to be able to **view the fees details for a particular asset** on the platform.





Verified user

• As a **verified user**, I want to be able to **create requests for changing limits** of my account.

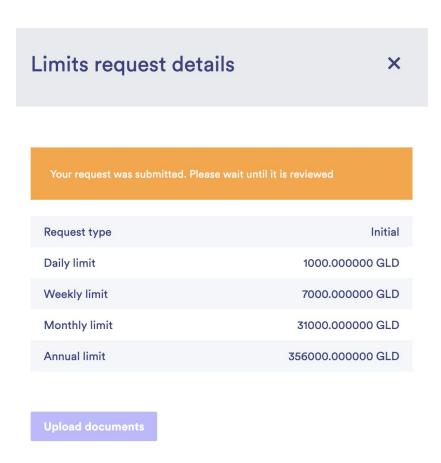


• As a **verified user**, I want to be able to view the state of the request for changing limits.



equests				
Date	Request type	State	Asset	
August 6, 2019 at 16:40	Initial	Pending	GLD	Details

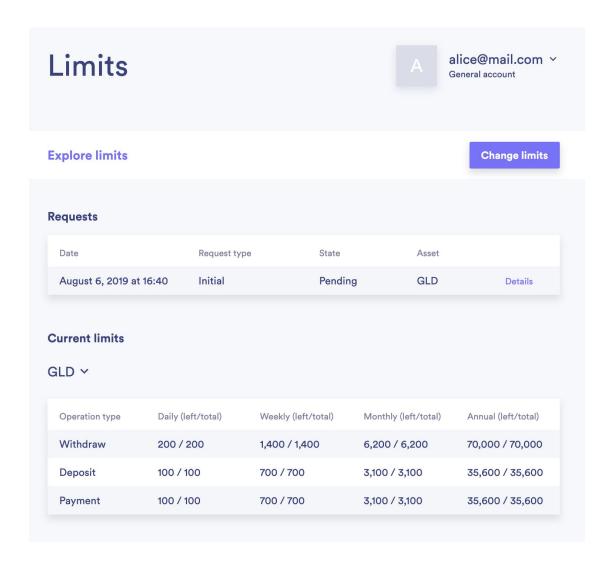
- As a verified user, I want to receive information about the documents required for changing limits.
- As a verified user, I want to be able to upload the documents required for changing limits.



• As a verified user, I want to be able to view details of my account limits on asset transfers.



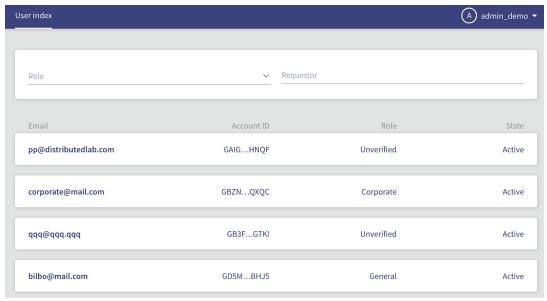
- As a verified user, I want to be able to view details of my account limits on asset withdrawals.
- As a verified user, I want to be able to view details of my account limits on asset deposits.



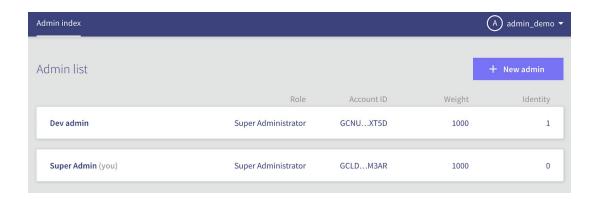
Administrator

• As an administrator, I want to be able to view details of all the platform users' accounts.



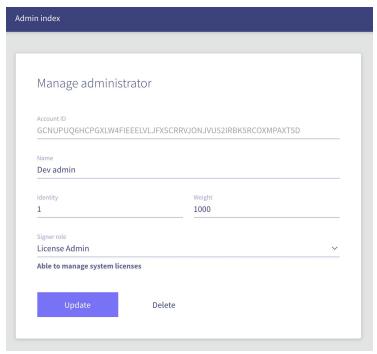


• As an administrator, I want to be able to view the list of all other platform administrators.

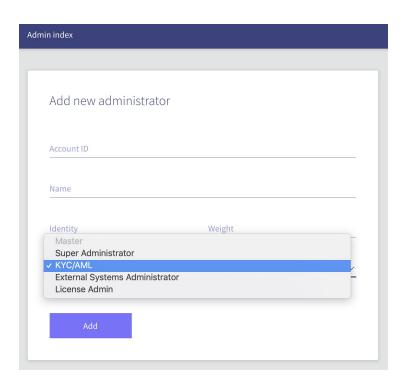


• As an **administrator**, I want to be able to **view updates** associated with **platform administrators' accounts**.





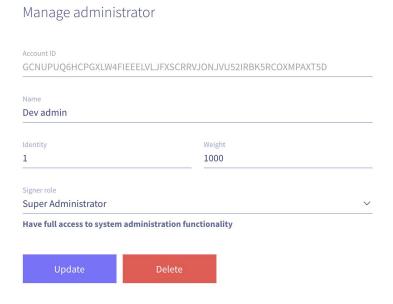
• As an **administrator**, I want to be able to **create platform administrators** using predefined templates.



• As an **administrator**, I want to be able to **update administrator accounts** on the platform.



• As an administrator, I want to be able to delete platform administrators.



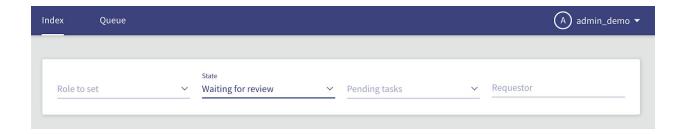
KYC/AML and identity requirements for administrator

• As an administrator, I want to be able to view and verify users' KYC data.





- As an administrator, I want to be able to view history of KYC requests.
- As an administrator, I want to be able to view list of pending KYC requests.
- As an administrator, I want to be able to view pending new KYC requests.
- As an administrator, I want to be able to view update KYC requests of verified users.
- As an administrator, I want to be able to view pending new KYC requests of corporate users.
- As an administrator, I want to be able to view pending update KYC requests of corporate users.



Pre-issuance requirements for administrator

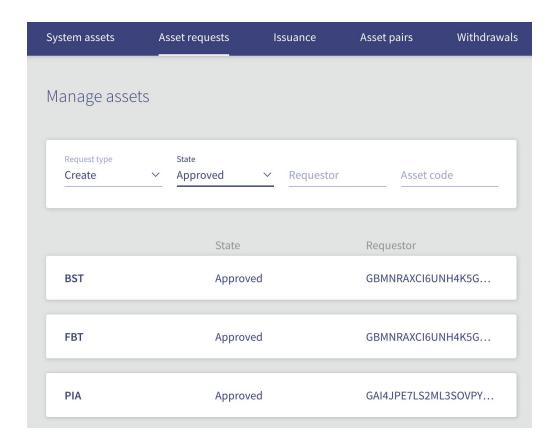
• As an **administrator**, I want to be able to **view and process requests for pre-issuance**.





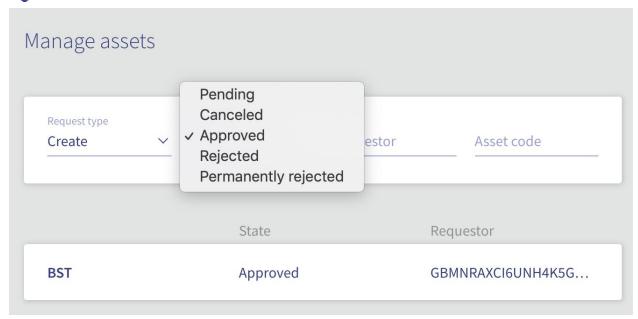
Issuance requirements for administrator

- As an **administrator**, I want to be able to **view all assets** on the platform.
- As an administrator, I want to be able to view requests for issuing tokenized assets.

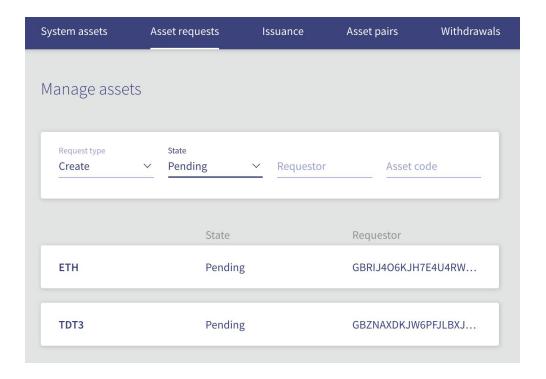


• As an **administrator**, I want to be able to **view** the entire **history of events** related to **asset issuance**.



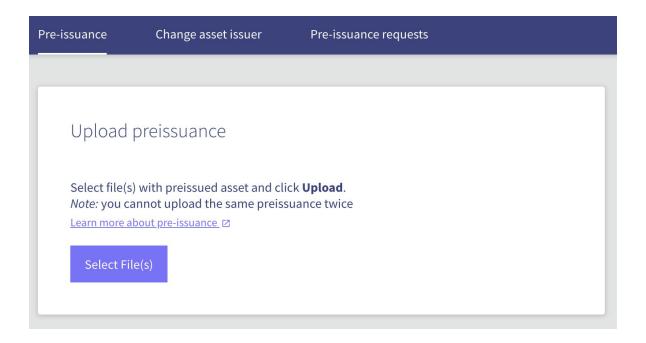


- As an administrator, I want to be able to view pre-issuance files.
- As an administrator, I want to be able to approve requests for asset issuance.
- As an administrator, I want to be able to reject requests for asset issuance.





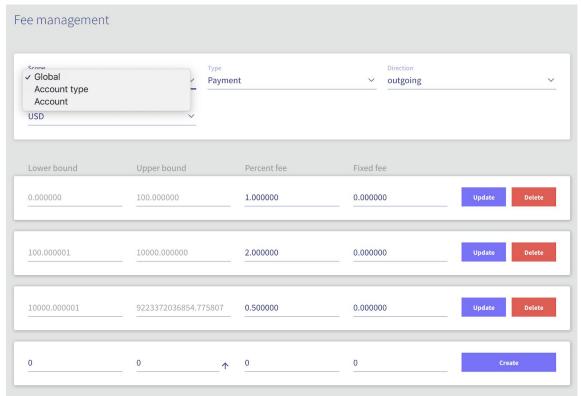
• As an **administrator**, I want to be able to **sign and upload pre-issuance files** on the platform.



Fees requirements for administrator

- As an administrator, I want to be able to view and manage fees on the platform to fulfill regulatory and business requirements.
- As an **administrator**, I want to be able to **view detailed fees configurations** for a particular account type, a particular asset, and a particular account.
- As an administrator, I want to be able to manage fees for a particular asset.
- As an administrator, I want to be able to manage fees for a particular account type.
- As an administrator, I want to be able to manage fees for a particular account.

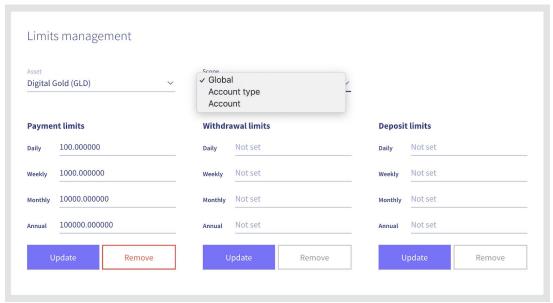




Limits requirements for administrator

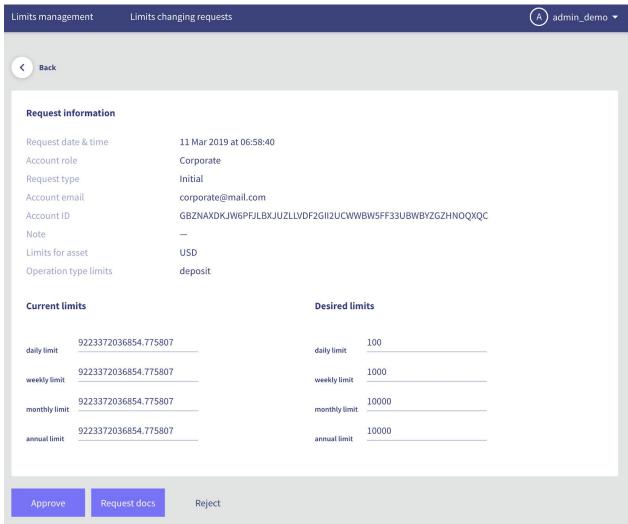
- As an **administrator**, I want to be able to **view and manage limits** on the platform to fulfill regulatory and business requirements.
- As an **administrator**, I want to be able to **manage limits** for a **particular account type**.
- As an administrator, I want to be able to manage limits for a particular account.





- As an administrator, I want to be able to manage user's requests for changing limits.
- As an administrator, I want to be able to manage requests for changing limits with documents uploading.
- As an administrator, I want to be able to view details of verified users' accounts.
- As an administrator, I want to be able to view details of corporate users' accounts.

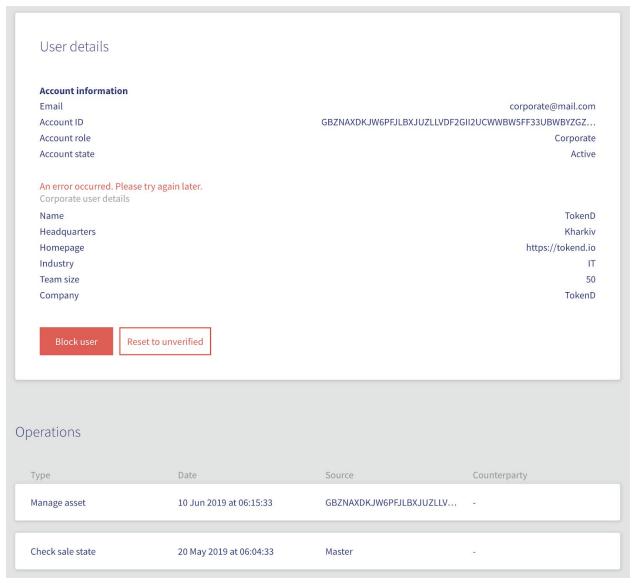




Security requirements for administrator

- As an administrator, I want to be able to view details of user accounts.
- As an **administrator**, I want to be able to **monitor users' actions** on the platform to detect security policy threats.
- As an **administrator**, I want to be able to **ban user accounts** to comply with platform security policy.
- As an **administrator**, I want to be able to **unban user accounts** to restore user access to platform services..





Applications requirements

User

- As a user, I want my wallet to store all transactions associated with me.
- As a user, I want to be able to manage my account and assets via web application.
- As a user, I want to be able to manage my account and assets via mobile wallet.



- As a user, I want to be able to access my wallet from any device at any time convenient for me.
- As a **user**, I want to be able to **restore access to my account** in case my password is lost.
- As a **user**, I want to be able to log out of the platform.

Administrator

- As an administrator, I want to be able to manage operations via web application.
- As an administrator, I want to be able to log out of the platform.
- As an administrator, I want to be able to generate keys file on offline device.
- As an administrator, I want to be able to log in on offline device with password.
- As an administrator, I want to be able to create pre-issuance file on offline device.
- As an administrator, I want to be able to review details of pre-issuance file on offline device.
- As an administrator, I want to be able to log out of application on offline device.

Ledger synchronization and auditing requirements

- As a platform owner, I want to be able to perform the initial configuration of the platform by changing the initialization scripts, namely: to configure the roles of users and administrators of the platform, system assets, trading pairs of assets.
- As a platform owner, I want to be able to distribute maintaining history between several parties with possible real-time synchronization between them.



Learn More

https://tokend.io/

https://docs.tokend.io/

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About TOKEND

TOKEND is a white label blockchain software platform that consolidates best practices of tokenization solutions. It allows you to issue, transfer and exchange your assets with a high level of privacy, security, and auditability while following regulations of your jurisdiction. TOKEND is designed for enterprises who are willing to take advantage of tokenization or experiment with blockchain technology without the need for maintaining the expensive team of blockchain experts and within the shortest time to market.

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