LendHub – DeFi Lending and Borrowing

Architecture Documentation

Document Control

Version	Date	Author	Description
1.1	28 – March- 2023	Shubham Prajapati	Architecture Diagram and Description.

Approval Status

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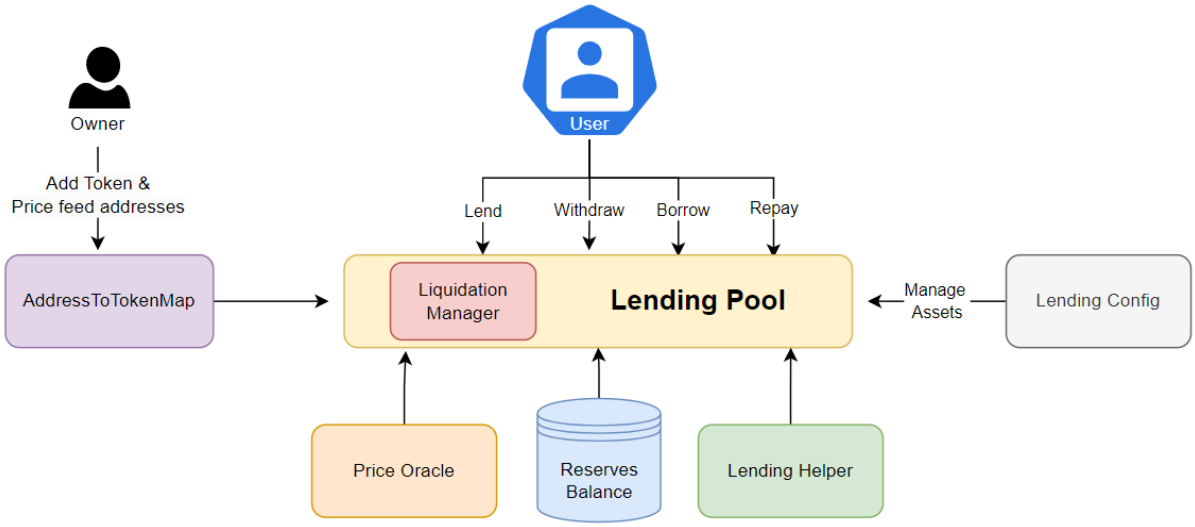

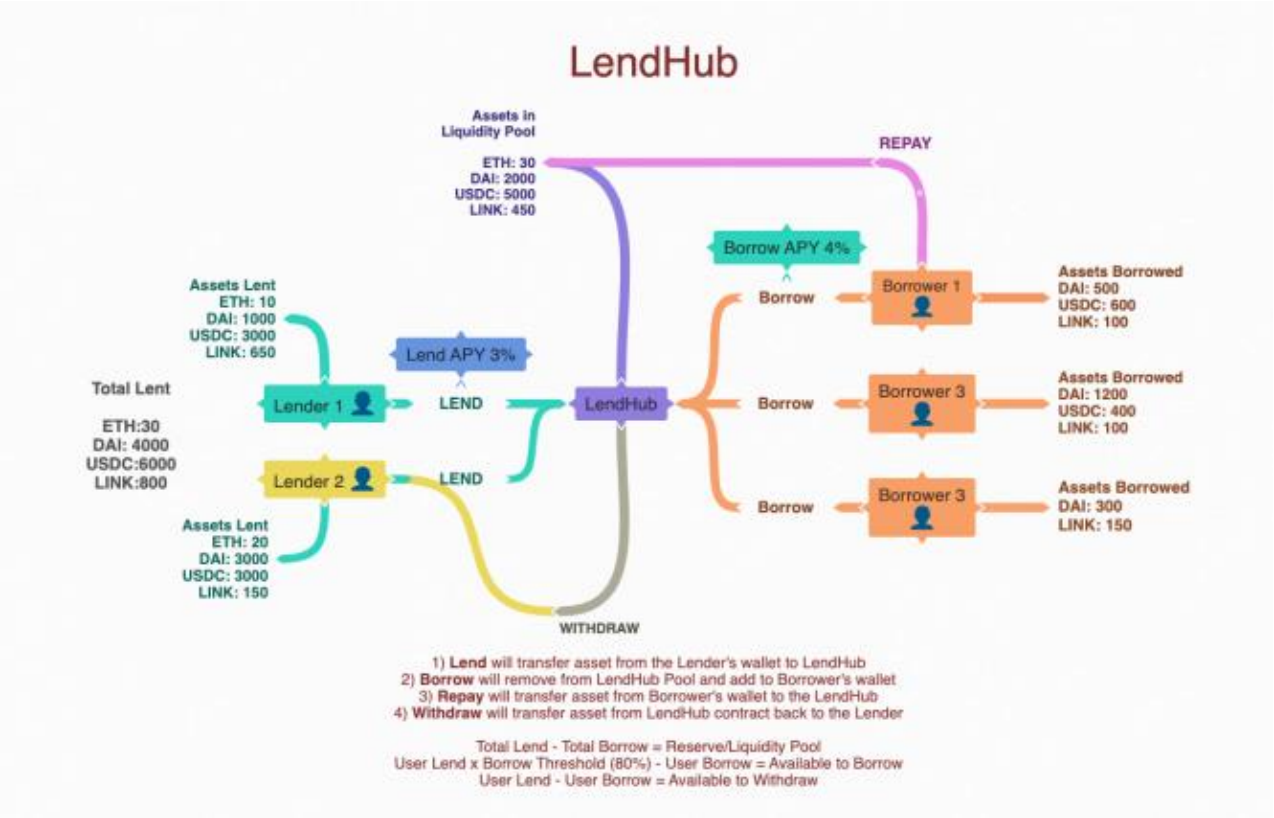

2. Architecture Description

2.1 AddressToTokenMap

This contract is responsible for maintaining mapping between token address (ERC20 address) to symbols and Token to Chainlink price feed address mapping (address that can be used to retrieve token USD price from Chainlink oracles).

2.2 LendingConfig

This contract does the configuration of Assets and maintains them. It sets a lent interest rate and borrow interest rate. As they are dynamic in nature and are based on the volatility of the assets, hence subjected to change, there are some maintenance functions as well. It also includes some helper functions for the upkeep of the assets.

2.3 LendingHelper

This contract can be construed as a library rather than a contract. It has token related functions to help with building the core logic. It also has a function to calculate the logic to calculate the reward per token lent or interest accrued per borrowed.

2.4 LendingPool

This contract has functions that run core logic of the DeFi App.

- The lend functionality allows users to lend tokens to the DeFi platform to obtain interest rates better than conventional rates for fiat currency. Using this platform for digital asset storage will yield greater returns and also provide stability to the token. Some examples of coins/tokens that can be lent are ETH, LINK, MATIC, and stable coins like USDC and DAI.
- The lent assets and borrowed assets show the user that have been lent and borrowed respectively
- The borrow functionality lets the user borrow any asset available in the reserve/liquidity pool for short term loan at a borrow APY that is higher than the lent app. The difference in APY is made by the DeFi App.
- The repay functionality lets the user repay borrowed assets plus the borrowed interest accrued to the DeFi App.
- The withdraw functionality lets the user withdraw assets quantities that are lent minus borrowed

2.5 Price Oracle

- This is a Chainlink API which retrieves the current price of the coin/token using a price oracle called AggregatorV3.

2.6 Reserve Pool

- This has the DeFi App's liquidity or reserves any coin/token at any moment of time. This is very useful for controlling and determining the volatility of any asset.