

# Documentation

## Table of contents

1. Introuction .....	1
2. Links .....	1
3. Database Tables .....	1
3.1. Users Table .....	1
3.2. Wallets Table .....	2
3.3. Transfers Table .....	2
3.4. Payouts Table .....	2
4. Topping up a Wallet via B2BinPay .....	3
4.1. Description .....	3
4.2. Process diagram .....	3
4.3. Scenario: Top-up a wallet via B2BinPay .....	5

## 1. Introuction

This specification contains a description of the technical implementation of the integration of the Personal Account system with the B2BinPay payment system.

## 2. Links

Document	Link
B2BinPayAPI	<a href="#">B2BinPayAPI</a>

## 3. Database Tables

### 3.1. Users Table

Column Name	Data Type	Description
id	string	User unique identifier
name	string	User full name
email	string	User email address
created_at	timestamp	Record creation date and time
updated_at	timestamp	Record update date and time

## 3.2. Wallets Table

Column Name	Data Type	Description
id	string	Wallet unique identifier for the wallet
user_id	string	User unique identifier
currency_id	string	Wallet currency unique identifier
balance	string	Current wallet balance
created_at	timestamp	Record creation date and time
updated_at	timestamp	Record update date and time

## 3.3. Transfers Table

Column Name	Data Type	Description
id	string	Transfer unique identifier
user_id	string	User unique identifier
source_wallet_id	string	Wallet unique identifier for replenishment
destination_wallet_id	string	Wallet unique identifier from which to top up
amount	string	Transfer amount
fee_mode	boolean	Fee mode (only for enterprise wallets)
fee_amount	string	Fee amount (only for enterprise wallets)
status	string	Transfer status: <ul style="list-style-type: none"><li>• <b>confirmed</b> - confirmed by user</li><li>• <b>waiting</b> - waiting for user confirmation</li></ul>
created_at	timestamp	Record creation date and time
updated_at	timestamp	Record update date and time

## 3.4. Payouts Table

Column Name	Data Type	Description
id	string	Payout unique identifier
user_id	string	User unique identifier
source_wallet_id	string	Wallet unique identifier for replenishment
destination_wallet_id	string	Wallet unique identifier from which to top up
amount	string	Payout amount

status	string	Payout status: <ul style="list-style-type: none"> <li>• <b>confirmed</b> - Successfully completed</li> <li>• <b>failed</b> - Error during execution</li> <li>• <b>pending</b> - In the process of execution</li> </ul>
created_at	timestamp	Record creation date and time
updated_at	timestamp	Record update date and time

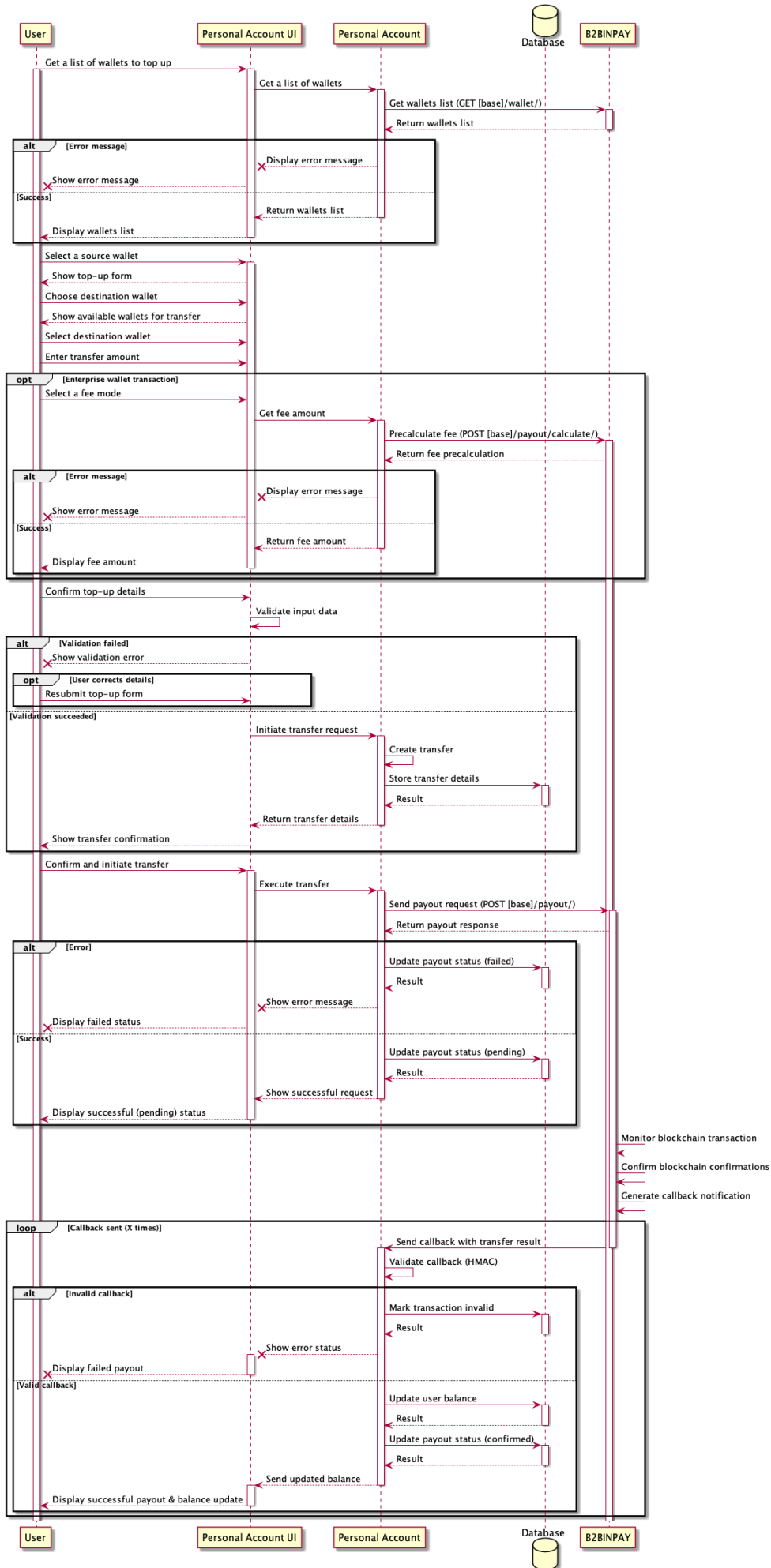
## 4. Topping up a Wallet via B2BinPay

### 4.1. Description

Description of the logic of topping up a wallet balance via B2BinPay

### 4.2. Process diagram

# Top up a wallet by B2BinPay



## 4.3. Scenario: Top-up a wallet via B2BinPay

### Getting wallet list

1. The User initiates the top-up process by requesting a list of available wallets.
2. The Personal Account User Interface (PAUI) sends this request to the Personal Account (PA).
3. The PA system sends B2BinPay using the API: [GET base/wallet/](#) to get a list of wallets.
4. B2BinPay responds with the list of wallets.
5. The PA system sends the list to PAUI.
6. PAUI displays the available wallets to the User.
  - A. If an error occurs while getting the list of wallets, the PA system returns an error message to PAUI.
    - a. PAUI displays the error to the User and the process stops.

### Selecting the wallet and transfer details

1. The User selects a source wallet and begins the top-up process.
2. PAUI displays the top-up form.
3. The User selects a destination wallet for a transfer.
4. PAUI displays the list of wallets available for making the transfer.
5. The User selects the destination wallet.
6. The User enters the transfer amount.
  - A. If the source wallet is an Enterprise wallet, the User selects a fee mode.
    - a. PAUI sends the fee calculation request to the PA system.
    - b. the PA system sends a precalculation request to B2BinPay using the API: [POST base/payout/calculate/](#).
    - c. B2BinPay processes the request and returns the precalculated fee amount.
    - d. If an error occurs while getting the fee, the PA system returns an error message to PAUI.
      - i. PAUI displays the error message to the User.
    - e. If the fee calculation is successful, the PA system sends the fee amount to PAUI.
      - i. PAUI displays the fee details to the User.
7. The User submits the top-up details.
8. PAUI performs input validation.
  - A. If validation fails, PAUI returns an error message to the User.
    - a. The User can correct the form and resubmit it.
  - B. If validation succeeds, PAUI sends the transfer request to the PA system.

### Creating the transfer request

1. The PA system processes the request to create the transfer.
2. The PA system stores the transfer details in the Database.
3. After the transaction data is successfully saved, the PA system sends the transfer details back to PAUI.
4. PAUI displays the transfer confirmation details to the User.

### **Executing the transfer**

1. The User confirms and initiates the transfer.
2. PAUI sends a request to perform the transfer to the PA system.
3. The PA system processes the transfer and sends a payout request to B2BinPay using the API: [POST base/payout/](#).
4. B2BinPay processes the request and returns a payout response to the PA system.
  - A. If an error occurs, the PA system updates the Database with a failed payout status.
    - a. PAUI displays the failed status to the User.
  - B. If the request is successful, the PA system updates the Database with a pending payout status.
    - a. PAUI informs the User that the transfer request has been successfully sent and is awaiting confirmation.

### **Blockchain transaction monitoring and callback processing**

1. B2BinPay monitors the blockchain transaction for the payout.
2. After receiving the required confirmations, B2BinPay generates a callback notification.
3. B2BinPay sends the callback with the transfer result to the PA system.
4. The PA system verifies the callback using HMAC-SHA256 signature authentication.
  - A. If the callback is invalid, the PA system updates the Database marking the transaction as failed.
    - a. PAUI informs the User that the payout has failed.
  - A. If the callback is valid, the PA system updates the User's account balance in the Database.
    - a. The PA system updates the payout status in the Database to confirmed.
    - b. The PA system sends updated balance information to PAUI.
    - c. PAUI displays the successful payout status and the updated balance to the User.

### **Process result**

1. The User sees the status of a successful transaction and the updated balance.
2. The process is complete.