MLFP: MallsLabs Fiat Protocol

*Global Fiat-Crypto Infrastructure on Solana*

# Abstract

MLFP (MallsLabs Fiat Protocol) is a universal, production-ready, fiat-to-crypto bridge built entirely on Solana and seamlessly integrated with MoonPay and Raydium. It enables instant crypto-to-fiat and fiat-to-crypto transactions, native cross-chain delivery, and real-world merchant payments—all coordinated through two smart, self-custodial wallets. MLFP transforms crypto into a real-world payment rail, unlocking global peer-to-peer settlements, merchant adoption, and frictionless user onboarding.

# Wallet Overview

MLFP is built around two distinct wallet applications:  
  
1. MLFP Wallet – designed for everyday users to buy, sell, and convert between fiat, Solana, and any native token.  
2. MLFP Merchant Wallet – designed for merchants and businesses, includes all user wallet features plus merchant-specific tools like QR generation, markup configuration, auto fiat settlement, and webhook-based payment confirmations.

# How It Works

MLFP coordinates token logic on Solana with fiat transfers through MoonPay and token swaps via Raydium. The flow leverages wrapped tokens and SOL as intermediaries, making cross-chain and fiat interactions seamless.

# Transaction Flows

# Detailed Transaction Flows

## Buy Solana with Fiat

* Front end: User sends Buy details
* Back end: MoonPay API —> triggers Buy for Solana with Fiat
* KYC (if first time)
* Generated fiat payment link
* Payment sent by bank account
* Crypto sent by MoonPay to destination address

## Buy Native Token with Fiat

* Front end: User sends Buy details
* Back end: MoonPay API —> triggers Buy for Native Token with Fiat
* KYC (if first time)
* Generated fiat payment link
* Payment sent by bank account
* Crypto sent by MoonPay to destination address

## Buy Any Solana Token with Fiat

* Front end: User sends Buy details
* Back end: MoonPay API —> triggers Buy for Solana with Fiat
* KYC (if first time)
* Generated fiat payment link
* Payment sent by bank account
* Crypto sent by MoonPay to destination address
* Triggers automated Swap request for SOL to Token —> Raydium API
* Swap completed —> User wallet receives Token

## Sell Solana for Fiat

* Front end: User sends Sell details
* Back end: MoonPay API —> Trigger Sale for Solana to Fiat
* KYC (if first time)
* Generated crypto payment address
* Triggers automated Solana txn to generated crypto payment address
* Fiat sent by MoonPay to destination bank account

## Sell Any Solana Token for Fiat

* Front end: User sends Sell details
* Back end: Raydium API —> automated swap of (token) to SOL
* MoonPay API —> Trigger Sale for Solana to Fiat
* KYC (if first time)
* Generated crypto payment address
* Triggers automated Solana txn to generated crypto payment address
* Fiat sent by MoonPay to destination bank account

## Convert Any Native Token into Solana

* Front end: User sends Swap details
* Back end: MoonPay API —> Trigger Swap for Native Token to Solana
* KYC (if first time)
* Generated crypto payment address
* User manually sends Native Token to generated crypto payment address from external wallet
* Solana sent by MoonPay to destination wallet address

## Convert Any Native Token into Solana Wrapped Token

* Front end: User sends Swap details
* Back end: MoonPay API —> Trigger Swap for Native Token to Solana
* KYC (if first time)
* Generated crypto payment address
* User sends Native Token to generated crypto payment address from external wallet
* Solana sent by MoonPay to destination wallet address
* Triggers a Swap of Solana to Wrapped Token —> Raydium API
* Swap completed —> User receives Wrapped token

## Convert Solana into a Native Token

* Front end: User sends Swap details
* Back end: MoonPay API —> Trigger Swap for Solana to Native Token
* KYC (if first time)
* Generated crypto payment address
* Triggers automated txn of Solana to generated crypto payment address from external wallet
* Native Token sent by MoonPay to destination wallet address

## Convert Any Solana Token into a Native Token

* Front end: User sends Swap details
* Back end: Raydium API —> Swaps token into SOL
* MoonPay API —> Trigger Swap for Solana to Native Token
* KYC (if first time)
* Generated crypto payment address
* Triggers automated txn of Solana to generated crypto payment address from external wallet
* Native Token sent by MoonPay to destination wallet address