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**Base URL**: https://192.2.42.176:8000/api/

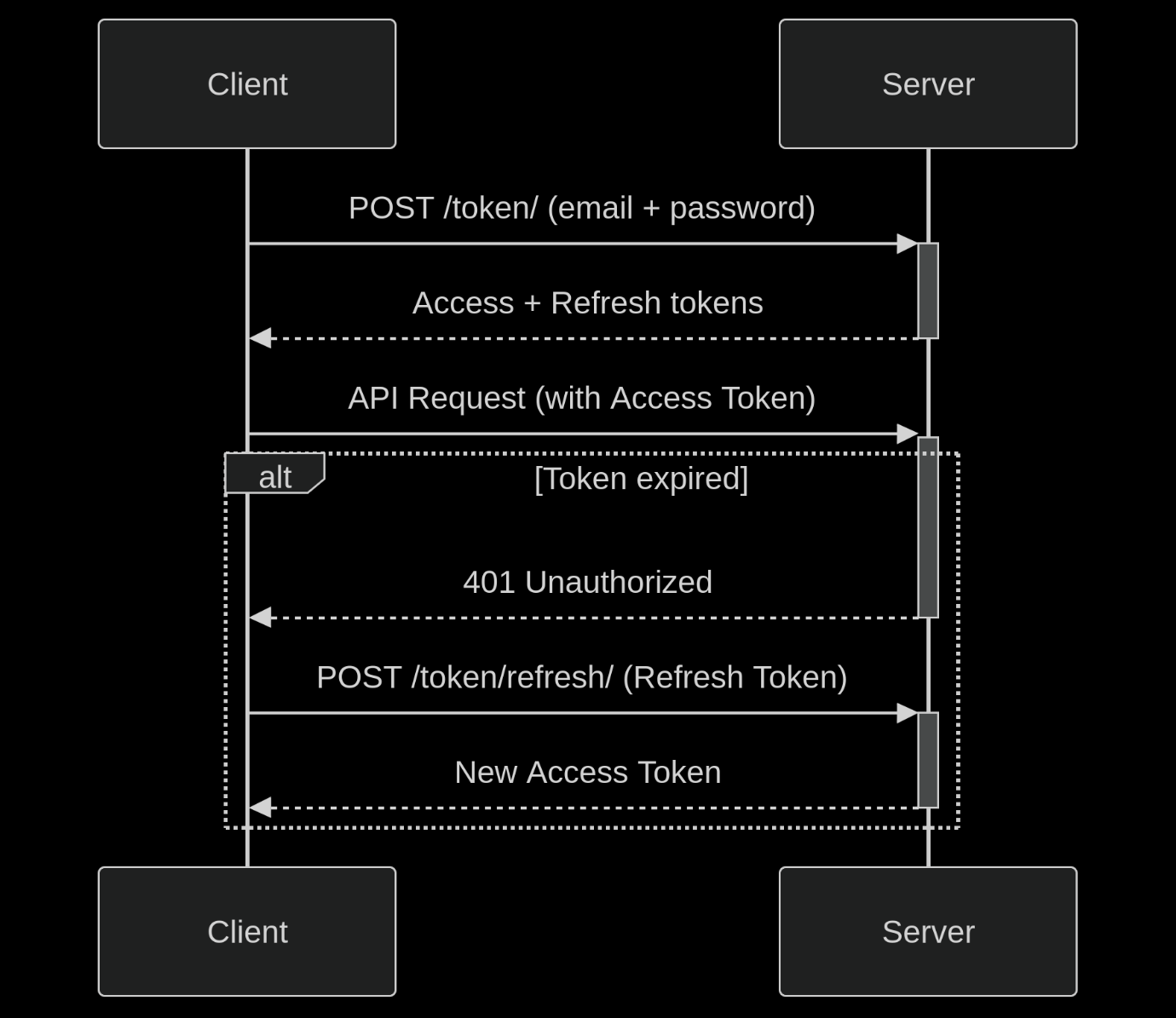
Letsema is a distributed microfinance system that enables MFI’s to securely share borrower data, process loans, and track repayments. This API facilitates:

* Borrower identity verification
* Loan application workflows
* Real-time transaction recording

**Requirements**:

All requests must include:

* Content-Type: application/json header
* Authorization: Bearer <token>, for protected routes

  
Below is a JWT Token Flow diagram

|  |  |  |  |
| --- | --- | --- | --- |
| **Endpoint** | **Method** | **Description** | **Request Body** |
| /auth/login/ | POST | Obtain tokens | {email, password} |
| /auth/refresh/ | POST | Refresh access token | {refresh} |

* **Borrower Management**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Endpoint** | **Method** | **Description** | **Authentication** | **Parameters** |
| /borrowers/register/ | POST | Register borrower | No | {name, surname, email, password, dob, gender, idNummber, address, phone} |
| /borrowers/payment-methods/ | GET | List payment methods | Yes | - |
| /borrowers/loans/ | GET | Get borrower’s loans | Yes | ?status=APPROVED |

Below is a sample request:

POST /borrowers/register/ HTTP/1.1

Content-Type: application/json

{

"name": "Thabo",

"surname": "Mokoena",

"email": "thabo@letsema.ls",

"password": "Pass@1234",

"dob": "1990-10-01",

"gender": "M",

"idNumber": "1990123456789",

"address": "Mazenod, Maseru",

"phone": "+266 5922 5678"

}

* **Loan Processing**

|  |  |  |  |
| --- | --- | --- | --- |
| **Endpoint** | **Method** | **Description** | **Authentication** |
| /loans/application/ | POST | Submit loan | Borrower |
| /loans/repay/ | POST | Make repayment | Borrower |

PENDING → APPROVED → DISBURSED → REPAID

↘ REJECTED

* **MFI Operations**

|  |  |  |
| --- | --- | --- |
| **Endpoint** | **Method** | **Description** |
| /mfi/loan-requests/ | GET | List pending loans |
| /mfi/active-loans/ | GET | View approved loans |

* **Transactions**

|  |  |  |
| --- | --- | --- |
| **Endpoint** | **Method** | **Description** |
| /transactions/ | GET | Filter transactions |

Example:  
**GET /transactions/?loan\_id=5&payment\_method=MOBILE\_MONEY**  
This request filters transactions for only those linked to loan\_id=5 and only payments made via MOBILE\_MONEY method. It results in a subset of transactions matching both conditions.

1. **Borrower Model**

interface Borrower {

id: string;

email: string;

name: string;

surname: string;

dob: string;

gender: "M" | "F" | "Other";

idNumber: string;

address: string;

credit\_score: number;

created\_at: string;

payment\_methods: PaymentMethod[];

}

Validation Rules:

* + password: Write-only, min 8 chars
  + idNumber: Unique, required
  + email: Unique, validated format

1. **MFI Model**

interface MFI {

id: string;

name: string;

email: string;

interest\_rate: number;

licenseID: string;

created\_at: string;

}

Key Constraints**:**

* interest\_rate: Min 0.01, max 1.00
* licenseID: Government-issued format

1. **Loan Model**

interface Loan {

id: string;

borrower: Borrower;

mfi: MFI;

amount: number;

interest\_rate: number;

status: "PENDING" | "APPROVED" | "REJECTED" | "DISBURSED" | "REPAID";

payment\_method: "BANK" | "MOBILE\_MONEY";

amount\_due: number;

application\_date: string;

}

1. **Transaction Model**

interface Transaction {

id: string;

loan: Loan;

mfi: MFI;

borrower: Borrower;

amount: number;

payment\_method: string;

timestamp: string;

Type: "REPAYMENT" | "DISBURSEMENT" | "PAYMENT";

}

1. **Payment Method Model**

interface PaymentMethod {

id: string;

borrower: Borrower;

method\_type: "bank\_account" | "mobile\_money";

details: {

account\_number?: string;

bank\_name?: string;

phone\_number?: string;

provider?: string;

};

is\_default: boolean;

}

**Common Errors**:  
 {

"status": 403,

"code": "forbidden",

"message": "Insufficient permissions"

}

Standard HTTP Status Codes

|  |  |  |
| --- | --- | --- |
| **Status Code** | **Error Type** | **Resolution** |
| 400 | Invalid Request | Validate request body |
| 401 | Unauthorized | Refresh or obtain new token |
| 403 | Forbidden | Verify user permissions |
| 404 | Not Found | Check endpoint URL |
| 429 | Rate Limited | Reduce request frequency |