Converted BRD - 2025-08-13

--- Page 1 ---

BRD | www.simplyfi.tech Loan Against Securities Scope 1. Origination, Eligibility & Documentation Eligible Securities: Shares, mutual funds, bonds, fixed deposits, insurance policies—must be listed/liquid and held by the borrower in their demat/folio/financial account. Eligibility: • Age: Most banks require 21–70 years. • Credit Score: CIBIL/credit scores above specific thresholds (e.g., 701+). • Valid PAN, Aadhaar, proof of address/ownership. Documentation: • KYC documents: PAN, Aadhaar, address proof. • Proof of securities ownership (demat statement). • Income and account statements as required. Digital Mandate: Increasingly facilitated via online depository platforms (NSDL/CDSL), allowing digital pledging and lien marking for speedy processing. 2. Application & Approval Application Channels: Online forms, mobile apps, or bank branches. Presanction Checks: • Security type, market value, and liquidity verification. • Lender sets a LoantoValue (LTV) ratio (typically 50% for shares, up to 80% for debt securities, subject to regulatory ceilings] • Credit Assessment: Financial capability, history, and regulatory compliance are checked. • Mandate Execution: Borrower authorizes the lender with a digital/paper pledge/lien. 3. Loan Disbursement • Creation of Overdraft/Term Facility: An account is set up (often as an overdraft) with a sanctioned limit based on LTV • Disbursal: Borrower can withdraw up to the sanctioned limit; funds credited within 24–48 hours after lien confirmation. • Disclosure: Full loan terms, limits, interest, and charges are communicated and acknowledged.

--- Page 2 ---

BRD | www.simplyfi.tech 4. Servicing & Account Management Interest Calculation: Interest is usually charged only on the drawn amount; calculated daily, settled monthly. Repayment Options: • EMI, bullet payments, or interest only (principal adjusted at closure or offset against collateral). • No penalties for prepayment for most lenders. Collateral Monitoring: • Lenders revalue securities daily due to market volatility. • Borrowers retain ownership and earn any Linked dividends/interest/accruals from pledged assets. • Digital Access: Track withdrawals, repayments, pledged collateral, and outstanding amounts via dashboards or statements. 5. Risk Monitoring & Margin Management • LTV Monitoring: Maintained daily. Market dip may trigger LTV breach. • Margin Calls: If LTV is exceeded, borrower must repay or pledge more securities. Failure to act can result in partial/total sale of securities. • Timelines for action depend on the percentage above allowed LTV and regulator/lender policy (from 1–60 days). • Automated Alerts: Borrowers get timely notifications via SMS/email so they can act promptly. 6. Collections & Delinquency Management • Missed Payments: Automated reminders (email, SMS). Failure to act escalates to collections. • Penalties: Overdue interest is charged over the base interest (e.g., 2% over prescribed rate). • Regulatory Classification: Defaulting accounts move through special mention (SMA) to NPA status in line with RBI norms. • Asset Liquidation: Unaddressed margin calls allow lenders to sell pledged securities to recover dues; borrower loses corresponding investments and faces possible credit score impact. 7. Recovery & Closure • Partial/Full Release of Securities: • Partial: Requests via digital platforms, released within stipulated timelines (24 hours or as per policy). • Full/Foreclosure: After full repayment, securities are released, and a NoDues certificate issued.

--- Page 3 ---

BRD | www.simplyfi.tech • Settlement & Closure: Borrower notified, account closed, companies and depositories updated. 8. Compliance & Regulatory Reporting • SEBI/RBI Norms: • Maintain and monitor LTV limits (capped at 50% for shares—RBI; up to 95% for certain instruments—SEBI, subject to lender’s policy). • Securities must be liquid/marketable; unlisted or illiquid assets generally not allowed. • Maintain mandatory reporting related to margin breaches, collateral revaluation, and NPA. • Loan Purpose: Strict usage—cannot be used for market speculation or prohibited activities per RBI and SEBI rules 9. Portfolio & Risk Management • Stress Testing: Periodic scenario analysis for collateral risk. • Portfolio Limits: Caps by sector, asset type, and rating to avoid risk concentration. • Dynamic Policies: LTVs and eligibility continually revised to match market/regulatory changes. API Documentation 1. Authentication API Endpoint: POST /api/v1/auth/token Description: Authenticates client using OAuth2 and provides an access token. Required Fields: • - client\_id: Client application ID • - client\_secret: Client secret key • - scope: Access scope (e.g., read:securities write:pledge) • - grant\_type: Must be "client\_credentials" Returns: Bearer token with expiration info. 1. 1 Authentication & Security Endpoint Method Parameters Success Response (200) Use Case /auth/login POST { "username": "fi\_user", "password": "\*\*\*\*\*\*", "institution\_id": "NBFC\_123" } { "token": "eyJhb...", "expiry": 3600, "roles": ["loan\_officer"] } User authentication

--- Page 4 ---

BRD | www.simplyfi.tech /auth/refresh POST { "refresh\_token": "def502..." } { "token": "eyJhb...new" } Session renewal /auth/audit GET date\_from=2025-07-01 [ { "user": "fi\_user", "action": "pledge\_initiated", "time": "2025-07-04T10:22Z" } ] Compliance audit 2. Customer Onboarding & KYC 2.1 Identity Verification Endpoint Method Parameters Success Response Integration /kyc/aadhaar POST { "aadhaar\_no": "2345\*\*\*\*7890", "consent": true } { "name": "Rajesh Kumar", "dob": "1985-11-23", "status": "VERIFIED" } UIDAI e-KYC /kyc/pan POST { "pan": "ABCPK1234D" } { "name\_match": 98.7, "status": "VALID" } NSDL PAN /kyc/video POST file: video.mp4 { "liveness\_score": 92.3, "face\_match": 95.1 } Video KYC AI 2.2 Document Management Endpoint Method Parameters Success Response Feature /docs/upload POST file: cheque.jpg, type: CANCELLED\_CHEQUE { "doc\_id": "DOC\_789", "ocr\_data": { "acc\_no": "XXX7890", "ifsc": "HDFC000123" } } OCR Processing /docs/esign POST { "doc\_id": "DOC\_789", "aadhaar": "2345\*\*\*\*7890" } { "signature\_id": "SIGN\_XYZ", "nsdl\_ref": "eSign1234" } NSDL e-Sign 3. Loan Origination Engine 3.1 Credit Decisioning Endpoint Method Parameters Success Response Data Source /credit/bureau POST { "pan": "ABCPK1234D", "consent": true } { "cibil\_score": 781, "active\_loans": 2, "dti\_ratio": 28.3 } CIBIL API /credit/decision POST { "loan\_amount": 500000, "collateral\_value": 750000 } { "decision": "APPROVED", "risk\_rating": "B+", "recommended\_ltv": 65 } AI Scoring Engine 3.2 Application Workflow Endpoint Method Parameters Success Response Business Rule

--- Page 5 ---

BRD | www.simplyfi.tech /application/create POST { "product": "LAS", "customer\_id": "CUST\_123" } { "app\_id": "APP\_2025XY7Z", "workflow\_stage": "KYC\_PENDING" } New Application /workflow/next POST { "app\_id": "APP\_2025XY7Z", "action": "KYC\_COMPLETE" } { "next\_stage": "PLEDGE\_INIT", "tasks": [ State Machine Transition 4. Collateral & Pledge Management 4.1.1 Fetch Equity Holdings API Endpoint: GET /api/v1/securities/equity Description: Fetches equity holdings based on PAN and optional Demat details. Query Parameters: • - pan: PAN number of user • - dp\_id: Optional DP ID of Demat account • - client\_id: Optional client ID Returns: List of equity holdings with details like ISIN, name, quantity, value, LTV, and pledge eligibility. 4.1.2 Fetch Mutual Fund Holdings API Endpoint: GET /api/v1/securities/mutual-funds Description: Fetches mutual fund holdings via PAN. Query Parameters: • - pan: PAN number of user Returns: List of mutual fund holdings including scheme name, NAV, units, value, LTV, and pledge eligibility 4.1.3 Fetch Insurance Policy Details API Endpoint: GET /api/v1/securities/insurance Description: Fetches insurance policy details including LIC policies. Query Parameters: • - pan: Optional PAN of the user • - policy\_number: Policy number to search • - provider: Name of insurance provider

--- Page 6 ---

BRD | www.simplyfi.tech Returns: Insurance policy details such as insurer name, sum assured, surrender value, maturity date, and pledge eligibility. 4.1 Portfolio Integration Endpoint Method Parameters Success Response Depository /portfolio/fetch POST { "dp\_id": "IN123456", "client\_id": "CL789012" } { "holdings": [ { "isin": "INE002A01018", "qty": 150, "value": 412500 } ] } CDSL EASI /portfolio/ltv POST { "holdings": [...] } { "eligible\_ltv": 980000, "haircuts": { "EQUITY": 30, "DEBT": 15 } } RBI Rule Engine 4.2 Pledge Automation Endpoint Method Parameters Success Response Compliance /pledge/initiate POST { "app\_id": "APP\_2025XY7Z", "isin": "INE002A01018", "qty": 100 } { "pledge\_id": "PLD\_2025ABC", "cdsl\_ref": "CDSL123", "otp\_required": true } SEBI Pledge Rules /pledge/confirm POST { "pledge\_id": "PLD\_2025ABC", "otp": "7890" } { "status": "CONFIRMED", "timestamp": "2025-07-04T11:30Z" } OTP Verification 4.2.1 Pledge Verified Webhook Triggered when a pledge is successfully verified. Payload: • - user\_id: Unique identifier of the user • - pledge\_id: ID of the verified pledge • - status: Status message 4.2.3 LTV Breach Webhook Triggered when LTV breaches the predefined threshold. Payload: • - user\_id: Unique identifier of the user • - ltv: Current LTV percentage • - asset: Asset name for which LTV is breached 5. Disbursal & Account Setup 5.1 Loan Activation Endpoint Method Parameters Success Response Payment Rail

--- Page 7 ---

BRD | www.simplyfi.tech /disbursal/prepare POST { "app\_id": "APP\_2025XY7Z", "account": "XXX7890", "ifsc": "HDFC000123" } { "disbursal\_id": "DIS\_XYZ", "fees": [ { "type": "processing", "amount": 2500 } ] } Sanction Memo /disbursal/execute POST { "disbursal\_id": "DIS\_XYZ" } { "utr": "HDFC20250704123456", "amount": 500000 } IMPS/NEFT 5.2 Customer Communication Endpoint Method Parameters Success Response Channel /comms/sms POST { "phone": "9198\*\*\*\*21", "template": "DISBURSAL\_SUCCESS", "params": { "amount": 500000 } } { "msg\_id": "MSG\_789", "status": "QUEUED" } SMS Gateway /comms/email POST { "email": "user@gmail.com", "template": "LOAN\_SUMMARY" } { "msg\_id": "MSG\_790" } Email Service 6. Loan Management System (LMS) 6.1 Repayment Processing Endpoint Method Parameters Success Response Feature /repayment/schedule GET loan\_id=LN2025XY7Z { "emi": 48230, "schedule": [ { "due\_date": "2025-08-05", "principal": 39210, "interest": 9020 } ] } Amortization /repayment/auto-debit POST { "loan\_id": "LN2025XY7Z", "mandate\_id": "NPCIM2025ABC" } { "next\_debit": "2025-08-05", "status": "ACTIVE" } NPCI AutoPay 6.2 Account Operations Endpoint Method Parameters Success Response Operation /loan/partial-prepay POST { "loan\_id": "LN2025XY7Z", "amount": 100000 } { "new\_emi": 38584, "savings": "₹96,460 interest" } Prepayment /loan/topup POST { "loan\_id": "LN2025XY7Z", "additional\_amt": 200000 } { "new\_limit": 700000, "new\_pledge\_req": "PLD\_NEW1" } Limit Increase 7. Risk & Compliance 7.1 Collateral Monitoring Endpoint Method Parameters Success Response Trigger

--- Page 8 ---

BRD | www.simplyfi.tech /risk/margin-check POST { "loan\_id": "LN2025XY7Z" } { "current\_ltv": 72.3, "margin\_shortfall": 0, "status": "SAFE" } Daily Batch /alerts/margin-call POST { "loan\_id": "LN2025XY7Z", "breach\_level": 85 } { "sms\_sent": true, "email\_sent": true } LTV Breach 7.2 Regulatory Reporting Endpoint Method Parameters Success Response Agency /report/cersai POST { "loan\_id": "LN2025XY7Z" } { "cersai\_ref": "CERSAI2025MH123", "filing\_time": "0.8s" } CERSAI API /report/rbi POST { "month": "2025-07" } { "report\_id": "RBI\_MASTER\_202507" 8. Error Handling Standard { "error\_id": "ERR20250704-78B2", "code": "COLLATERAL\_SHORTFALL", "message": "Security value dropped 15% - margin shortfall ₹85,000", "action": "INITIATE\_MARGIN\_CALL", "doc\_link": "https://docs.domain.com/errors/collateral-shortfall" } HTTP Code Error Code Scenario 400 INSUFFICIENT\_COLLATERAL Pledge qty > available holdings 403 KYC\_EXPIRED CKYC data > 3 years old 429 RATE\_LIMIT API throttling by depository 503 CDSL\_DOWNTIME Depository maintenance window External API Table : CDSL https://www.cdslindia.com/DP/APIs.html NSDL https://nsdl.co.in/API-BP/api\_brief.html CIBIL https://www.cibil.com/developer-api KFINTECH https://docs.finsire.com/docs/3-fetch-mutual-funds https://docs.finsire.com/docs/loan-against-mutualfunds-1 CAMS https://docs.finsire.com/docs/cams-mutual-funds UpStox https://upstox.com/developer/api Kites (Zerodha) https://kite.trade/docs/connect/v3/websocket/ LIC https://inspay.in/service/lic-premium-payment-api

--- Page 9 ---

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