

## 1. Frontend Portals

### Components:

- SME Portal (React)
- Admin/Partner Portal (React)

### Description:

User-facing portals where SMEs can apply for financing, upload documents, and track applications. Admin portal is used by lenders and underwriters to manage and approve financing requests.

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## 2. API Gateway / Auth Layer

### Description:

Handles all incoming requests from frontend. Secures endpoints using JWT, rate limits, and routes requests to backend services. Supports Role-Based Access Control (RBAC).

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## 3. Backend Business Logic

### Description:

Built using Spring Boot (or Node.js), this layer contains the core application logic:

- Validates invoices
  - Applies eligibility rules
  - Connects to scoring engine, bank APIs, etc.
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## 4. Workflow Engine

### Description:

Manages the flow of application lifecycle:

1. Invoice Upload
2. Risk Scoring

3. Offer Matching
4. Approval
5. Disbursement

Built using custom rule engine or BPM tools.

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## 5. Credit Scoring Engine

### **Description:**

Analyzes:

- SME creditworthiness
- Bank statement data
- GST/MCA business data
- Past loan history

Scores are used to filter eligible offers. Can integrate with Karza, Perfios, or CRIF.

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## 6. Document Management System (DMS)

### **Description:**

Stores KYC documents, invoices, bank statements in AWS S3 or MinIO. Backend signs and validates document URLs securely.

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## 7. Database Layer

### **Components:**

- PostgreSQL: For users, applications, offers
  - Redis: For caching and throttling
  - MongoDB (optional): Document metadata and logs
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## 8. Third-party Integrations

### **Description:**

APIs connected via backend:

- Credit bureaus (CIBIL, Experian)
  - MCA & GSTN for company data
  - Bank APIs for disbursement & offer generation
  - eKYC, PAN verification
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## 9. Notification Service

### **Description:**

Sends real-time updates via:

- Email (SendGrid, Mailgun)
  - SMS (Twilio, Exotel)
  - Webhooks (to lenders, partners)
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## 10. Monitoring & Analytics

### **Description:**

- Prometheus + Grafana for infra health
  - ELK stack for logs
  - Mixpanel / GA for user funnel tracking and behavior analytics
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## 11. Security Layer

### **Description:**

- SSL/TLS for secure transmission

- JWT for authentication
- Audit logs for all key actions
- Rate limiting and IP filtering