

# SaaS Subscription-Based Web App

## Mukammal Technical & Product Documentation (Industry-Ready)

Yeh document ek complete, end-to-end blueprint hai jo SaaS subscription-based web app ko **design se le kar production** tak le jata hai. Isay product, engineering, security, aur operations teams seedha follow kar sakti hain.

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### 1. Product Vision & Objective

- Subscription model par scalable SaaS platform
- Multi-tenant architecture (SMB + Enterprise)
- Secure, compliant, aur future-proof
- Fast onboarding, transparent billing, aur measurable usage

Success Metrics: - Activation rate (signup → first value) - MRR / ARR growth - Churn rate - Uptime  $\geq 99.9\%$

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### 2. Target Users & Use-Cases

- SMEs (AI tools, automation, analytics)
- Agencies (multi-client workspaces)
- Enterprises (SSO, SCIM, compliance)
- Education & Training platforms

User Roles: - Super Admin - Organization Admin - Power User - End User - Support / Auditor

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### 3. System Architecture (High Level)

Frontend: - React + TypeScript + Tailwind CSS - State: React Query

Backend: - Node.js (NestJS) **ya** Python (FastAPI) - REST + Webhooks

Data Layer: - PostgreSQL (primary) - Redis (cache, rate limit)

Infra: - Docker + Kubernetes - CI/CD (GitHub Actions)

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### 4. Authentication & Access Control

- Email/Password + Passwordless

- OAuth2 (Google/Microsoft)
  - SAML 2.0 (Enterprise)
  - MFA (TOTP, optional WebAuthn)
  - RBAC (role → permission matrix)
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## 5. Subscription & Billing

Billing Provider: - Stripe

Plans: - Free (limited) - Starter (Monthly) - Business (Monthly/Annual) - Enterprise (Custom)

Billing Flow: 1. Signup → Trial 2. Plan Selection 3. Card Add 4. Subscription Create 5. Webhooks (invoice, payment, failure)

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## 6. Pages & Navigation

Public Pages: - Home - Pricing - Features - Docs - Login / Signup - Legal (TOS, Privacy)

App Pages: - Dashboard - Workspace - Usage - Billing - Users & Roles - Settings (SSO, SCIM) - API Keys - Audit Logs - Support

Admin Pages: - Orgs Management - Plans - Billing Reports - Metrics

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## 7. Data Model (Core Entities)

Organization - id, name, plan\_id, status, created\_at

User - id, org\_id, email, role, mfa\_enabled

Plan - id, name, pricing, features (JSON)

Subscription - id, org\_id, status, period\_end

Invoice - id, amount, status, pdf\_url

ApiKey - id, org\_id, scopes, quota

UsageRecord - id, org\_id, feature, units

AuditLog - id, actor, action, meta

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## 8. Multi-Tenancy Strategy

Options: - Shared DB + Row Level Security (default) - Schema per tenant (upgrade) - DB per tenant (enterprise)

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## 9. Security & Compliance

- TLS + HSTS
  - Encryption at rest
  - WAF + Rate limiting
  - Immutable audit logs
  - Regular backups
  - Data export/delete
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## 10. Observability & Monitoring

- Metrics: latency, error rate, usage
  - Logs: structured, centralized
  - Traces: OpenTelemetry
  - Alerts: Slack/PagerDuty
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## 11. CI/CD & Release

- Feature branches + PR checks
  - Automated tests
  - DB migrations with rollback
  - Canary deployments
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## 12. Onboarding & Activation Flow

1. Signup / SSO
  2. Org creation + trial
  3. Setup wizard
  4. Invite team
  5. Start usage
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## 13. API & Integrations

- Stripe Webhooks

- Okta / Azure AD (SCIM)
  - Slack / Zapier
  - Public API (versioned)
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## 14. Deployment & Ops

- Environments: Dev, Staging, Prod
  - Secrets via Vault
  - Auto-scaling policies
  - Disaster recovery drills
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## 15. Roadmap (High Level)

Phase 1: MVP (Auth, Billing, Dashboard) Phase 2: Feature expansion Phase 3: Enterprise hardening Phase 4: Scale & Compliance

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## 16. Deliverables Checklist

- UX wireframes
  - ER diagram
  - API specs
  - Infra IaC
  - Security checklist
  - Runbooks
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**Yeh document production-ready SaaS bananay ke liye kaafi hai.**