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Chapter 1. Overview: Building SaaS with Quantum

Quantum is a Quarkus-based framework that accelerates building multi-tenant SaaS platforms on MongoDB. It provides:

- Multi-tenancy primitives for tenant creation, isolation, and data sharing
- A domain-first programming model with Functional Areas, Functional Domains, and Actions
- Data security and contextual evaluation via DataDomain, DomainContext, and RuleContext
- Consistent REST resources for find/get/list/save/update/delete operations
- Pluggable authentication with a provided JWT module and extension points

This guide targets mid-level Java developers and follows a structure similar to Spring's reference docs. Use Maven to generate HTML/PDF: see docs module README for commands.

1.1. SaaS and Multi-Tenancy First

SaaS solutions require:

- Onboarding automation: programmatic tenant creation, freemium/trial flows
- Isolation with selective sharing
- Policy-driven access that adapts to user, org, tenant, and action
- Operational efficiency (observability, cost control, upgradeability)

Quantum's building blocks address these needs out-of-the-box while remaining flexible to fit your architecture.