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RADIANT v4.18.0

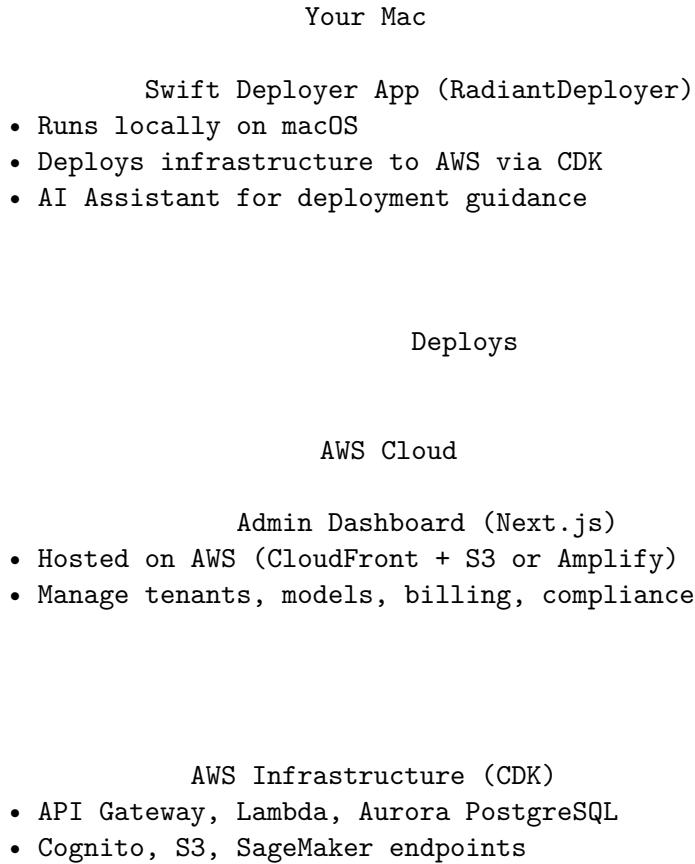
A multi-tenant AWS SaaS platform for AI model access and orchestration.

Overview

RADIANT consists of three components:

Component	Location	Purpose
Swift Deployer App	apps/swift-deployer/	macOS app for deploying AWS infrastructure
AWS Infrastructure	packages/infrastructure/	CDK stacks, Lambdas, databases (deployed to AWS)
Admin Dashboard	apps/admin-dashboard/	Next.js web admin interface (deployed to AWS)

Architecture



Requirements

Swift Deployer App

- macOS 13.0 (Ventura) or later
- Xcode 15.0+ or Swift 5.9+

AWS Infrastructure

- Node.js 20.0+
- pnpm 8.0+
- AWS CDK 2.120.0+
- AWS Account with appropriate permissions

Quick Start

Option A: Use Swift Deployer (Recommended)

The Swift Deployer is a macOS app that guides you through deployment with an AI assistant.

```
cd apps/swift-deployer  
swift build  
swift run
```

This opens the RadianDeployer app which will: 1. Validate your AWS credentials 2. Guide you through configuration 3. Deploy all infrastructure to AWS 4. Deploy the Admin Dashboard to AWS

Option B: Manual Deployment

```
# 1. Install dependencies  
pnpm install  
  
# 2. Build shared package  
pnpm build:shared  
  
# 3. Deploy infrastructure to AWS  
pnpm deploy:dev
```

Accessing the Admin Dashboard

After deployment, the Admin Dashboard is accessible at your configured domain (e.g., `admin.yourdomain.com`). It is **not** run locally - it's deployed to AWS and accessed via browser.

Project Structure

```
radiant/  
  package.json                      # Root monorepo config  
  pnpm-workspace.yaml                # pnpm workspace config  
  tsconfig.base.json                 # Base TypeScript config  
  .github/workflows/ci.yml          # CI/CD pipeline  
  .husky/pre-commit                  # Pre-commit hooks  
  
  apps/  
    swift-deployer/                 # RadianDeployer macOS app (runs locally)  
      Package.swift  
    Sources/RadianDeployer/  
      Models/  
      Services/  
      Views/  
    Tests/                           # Swift unit & E2E tests  
  
    admin-dashboard/                 # Next.js admin UI (deployed to AWS)  
      app/(dashboard)/  
      components/  
      lib/  
      e2e/                            # Playwright E2E tests
```

```

packages/
  shared/                               # @radiant/shared - Types & constants
    src/
      types/
      constants/
      utils/
      errors/                           # Standardized error codes
      testing/                          # Test utilities

  infrastructure/                      # @radiant/infrastructure - CDK stacks
    bin/radianit.ts
    lib/stacks/
    lambda/
      admin/_tests_/      # Lambda unit tests
      billing/_tests_/
      shared/_tests_/
    migrations/

docs/
  TESTING.md                         # Testing guide
  ERROR_CODES.md                     # Error codes reference
  sections/                          # Full specification documents

```

Infrastructure Tiers

Tier	Name	Monthly Cost	Features
1	SEED	\$50-150	Dev/test, minimal resources
2	STARTUP	\$200-400	Small production, WAF
3	GROWTH	\$1,000-2,500	Self-hosted models, HIPAA
4	SCALE	\$4,000-8,000	Multi-region, global DB
5	ENTERPRISE	\$15,000-35,000	Enterprise-grade global

Documentation

- [Architecture Overview](#)
- [Full Specifications](#)

Development Phases

Phase	Description	Status
1-9	Core Platform (Sections 0-46)	Complete
10-24	PROMPT-32 Update	Complete
25-31	PROMPT-33 Update v3	Complete
32-33	Verification & Testing	Complete

v4.18.0 New Features (PROMPT-33)

Feature	Description
Unified Package System	Atomic component versioning with .pkg format
Cost Management	Real-time cost tracking with AI recommendations
Compliance Reports	SOC2, HIPAA, GDPR, ISO27001 report generation
Security Dashboard	Anomaly detection and intrusion alerts
A/B Testing	Hash-based experiments with statistical analysis
Deployment Settings	SSM-synced configuration with lock-step mode
AI Assistant	Claude-powered deployment guidance in Swift app

Admin Dashboard

The admin dashboard provides a complete management interface:

Page	Description
Dashboard	Overview metrics and activity
Models	AI model configuration
Providers	Provider management and credentials
Orchestration	Neural patterns and workflows
Administrators	User management and invitations
Billing	Credits, subscriptions, transactions
Storage	Storage usage monitoring
Localization	Translation management
Configuration	System settings
Migrations	Database migration approval
Audit Logs	Activity tracking
Notifications	System alerts
Settings	User preferences, deployment settings, timeouts
Analytics	Cost analytics with AI recommendations
Compliance	SOC2/HIPAA/GDPR/ISO27001 reports
Security	Anomaly detection and threat monitoring
Experiments	A/B testing with statistical analysis
Time Machine	Conversation history and versioning

Running the Dashboard

```
cd apps/admin-dashboard  
pnpm dev
```

Database Migrations

44 migrations covering: - Core schema (tenants, users, admins) - AI models and providers - Orchestration patterns and workflows - Billing and credits - Storage management - Localization - Configuration management

Running Migrations

```
cd packages/infrastructure  
pnpm migrate
```

Seed Data

Demo data is available for development:

```
psql -d radiant -f migrations/seed/001_demo_data.sql
```

Lambda Handlers

Handler	Purpose
router	Main API router
admin	Admin operations
feedback	Feedback learning
orchestration	Neural orchestration
proposals	Workflow proposals
localization	Translation API
configuration	Config management
billing	Credits and subscriptions
storage	Storage tracking
migration-approval	Dual-admin approval
cost-logger	Real-time cost tracking
compliance-reporter	SOC2/HIPAA/GDPR/ISO27001 reports
anomaly-detector	Security intrusion detection
experiment-tracker	A/B test assignment and analysis

Environment Variables

Copy the template and configure:

```
cp .env.example .env
```

Required variables: - AWS_REGION - AWS region - AWS_ACCOUNT_ID - AWS account ID - DB_CLUSTER_ARN - Aurora cluster ARN - DB_SECRET_ARN - Database secret ARN - COGNITO_USER_POOL_ID - Cognito user pool - COGNITO_CLIENT_ID - Cognito client ID

Testing

RADIANT includes comprehensive testing at multiple levels:

```
# Run all tests  
pnpm test
```

```
# Run Lambda unit tests  
cd packages/infrastructure && pnpm test
```

```
# Run E2E tests
```

```
cd apps/admin-dashboard && pnpm test:e2e  
  
# Run Swift tests  
cd apps/swift-deployer && swift test
```

See [Testing Guide](#) for detailed information.

Error Handling

RADIANT uses standardized error codes across all services. See [Error Codes Reference](#).

```
import { ErrorCode, RadiantError } from '@radiant/shared';  
  
throw new RadiantError(ErrorCode.AUTH_INVALID_TOKEN);
```

CI/CD

GitHub Actions workflow includes:

- Linting and type checking
- Unit tests with coverage
- E2E tests
- CDK synthesis validation
- Automated deployment (on merge to main)

License

MIT