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## RADIANT Platform v4.18.2

### Complete Documentation

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### Multi-Tenant AWS SaaS Platform for AI Model Access & Orchestration

Version: 4.18.2 | Last Updated: December 28, 2024

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## 1. Platform Overview

### 1.1 What is RADIANT?

RADIANT is a multi-tenant AWS SaaS platform providing unified access to 106+ AI models through:

- **50 External Provider Models:** OpenAI, Anthropic, Google, xAI, DeepSeek, and more
- **56 Self-Hosted Models:** Running on AWS SageMaker for cost control and privacy
- **Intelligent Routing:** Brain router for optimal model selection
- **Neural Engine:** Personalization learning from user interactions

### 1.2 Components

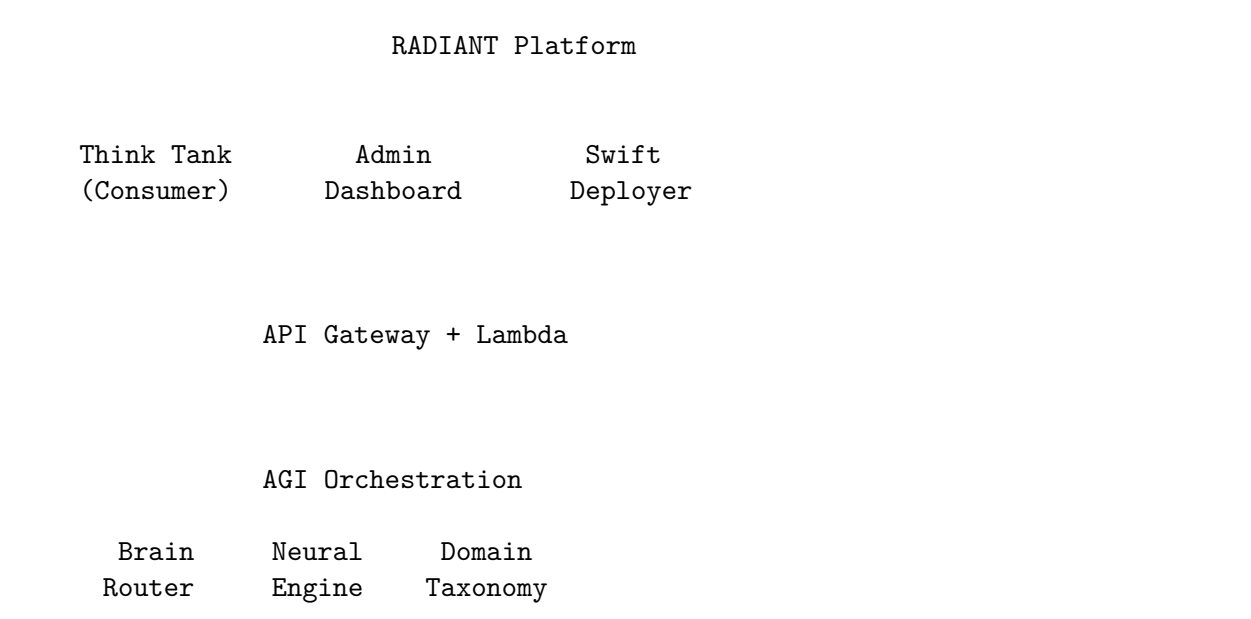
Component	Location	Purpose
Swift Deployer App	apps/swift-deployer/	macOS app that deploys infrastructure
AWS Infrastructure	packages/infrastructure/	CDK stacks, Lambdas, databases
Admin Dashboard	apps/admin-dashboard/	Next.js web admin interface
Think Tank	Consumer product	AI chat interface for end users

### 1.3 Technology Stack

- **Swift App:** SwiftUI, macOS 13.0+, Swift 5.9+, Xcode 15+, SQLCipher
- **Infrastructure:** AWS CDK (TypeScript), Aurora PostgreSQL, Lambda, API Gateway
- **Dashboard:** Next.js 14, TypeScript, Tailwind CSS
- **AI Integration:** 106+ models, LiteLLM proxy

## 2. Architecture

### 2.1 High-Level Architecture



## AI Model Layer

External APIs (50 models)	Self-Hosted (56 models)
------------------------------	----------------------------

## Data Layer

Aurora PostgreSQL   S3   ElastiCache

## 2.2 CDK Stacks

Stack	Purpose
<b>NetworkStack</b>	VPC, subnets, security groups
<b>DatabaseStack</b>	Aurora PostgreSQL, secrets
<b>CacheStack</b>	ElastiCache Redis
<b>StorageStack</b>	S3 buckets, CloudFront
<b>AuthStack</b>	Cognito, JWT validation
<b>APIStack</b>	API Gateway, Lambda functions
<b>AISStack</b>	SageMaker endpoints, LiteLLM
<b>MonitoringStack</b>	CloudWatch, alarms, dashboards

## 2.3 Database Schema

Key tables: - **tenants** - Multi-tenant organization data - **users** - User accounts with tenant association - **ai\_models** - Model registry with capabilities - **ai\_providers** - External API provider configs - **usage\_logs** - Request/token tracking - **billing\_\*** - Subscriptions, credits, transactions - **delight\_\*** - Personality system data

# 3. Deployment Guide

## 3.1 Prerequisites

### AWS Account Setup

Requirement	Action	Verification
AWS Account	Create or use existing	Account ID available
IAM User	Create with AdministratorAccess	Access keys configured
AWS CLI	Install and configure	<code>aws sts get-caller-identity</code>

Requirement	Action	Verification
Route 53 Domain (optional)	Register domain	Domain in hosted zone

## Development Environment

Requirement	Version	Verification
Node.js	20.x LTS	<code>node --version</code>
pnpm	8.x+	<code>pnpm --version</code>
AWS CDK CLI	2.x	<code>cdk --version</code>
Xcode	15.x+	<code>xcode-select -p</code>
Swift	5.9+	<code>swift --version</code>

## 3.2 Quick Start

### Automated Deployment

*# Deploy to dev environment*

```
./scripts/deploy.sh --environment dev
```

*# Deploy to staging*

```
./scripts/deploy.sh --environment staging
```

*# Deploy to production*

```
./scripts/deploy.sh --environment prod
```

**Note:** RADIANT uses a unified deployment model. All features are available in every deployment. Licensing restrictions are handled at the application level, not infrastructure level.

### Verify Deployment

```
./scripts/verify-deployment.sh --environment dev
```

## 3.3 Manual Deployment

### Step 1: Install Dependencies

```
cd radiant
pnpm install
```

### Step 2: Build Packages

*# Shared types*

```
cd packages/shared && npm run build
```

*# Lambda functions*

```
cd packages/infrastructure/lambda && npm install && npm run build
```

```
# Admin dashboard
cd apps/admin-dashboard && npm install && npm run build
```

### Step 3: Deploy CDK Stacks

```
cd packages/infrastructure

# Bootstrap (first time only)
cdk bootstrap aws://ACCOUNT_ID/REGION

# Deploy all stacks
cdk deploy --all --require-approval never
```

## 3.4 Swift Deployer App

The Swift Deployer provides a GUI for deployment:

1. Launch the app: `swift run` from `apps/swift-deployer/`
2. Configure AWS credentials
3. Select environment (dev/staging/prod)
4. Click Deploy

Features: - AI Assistant for deployment guidance - Real-time deployment logs - Rollback support  
- Configuration management

---

## 4. Administrator Guide

### 4.1 Administrator Roles

Role	Permissions	Use Case
<b>Super Admin</b>	Full access to all features	Platform owner
<b>Admin</b>	Tenant management, billing, models	Operations team
<b>Operator</b>	Read access, limited actions	Support team
<b>Auditor</b>	Read-only access to logs	Compliance team

### 4.2 Dashboard Overview

Access at: <https://admin.your-domain.com>

#### Main Sections

Section	Purpose
<b>Dashboard</b>	System health, key metrics
<b>Tenants</b>	Manage organizations
<b>Users</b>	User accounts, permissions
<b>Models</b>	AI model configuration

Section	Purpose
<b>Providers</b>	External API providers
<b>Billing</b>	Subscriptions, credits
<b>Orchestration</b>	AGI settings, weights
<b>Think Tank</b>	Delight, domains, plans
<b>Audit</b>	Activity logs, compliance

## 4.3 Tenant Management

### Creating a Tenant

1. Navigate to **Tenants** → **Create New**
2. Enter organization details
3. Configure limits and quotas
4. Assign initial administrator
5. Set billing plan

### Tenant Settings

Setting	Description
Name	Organization display name
Slug	URL-friendly identifier
Status	active, suspended, trial
Plan	Subscription tier
Limits	API calls, storage, users

## 4.4 AI Model Configuration

### Model Properties

Property	Description
Provider	OpenAI, Anthropic, etc.
Model ID	Provider's model identifier
Display Name	User-facing name
Capabilities	text, vision, code, etc.
Pricing	Input/output token costs
Status	enabled, disabled, beta

### Self-Hosted Models

Configure SageMaker endpoints: 1. Navigate to **Models** → **Self-Hosted** 2. Add endpoint ARN 3. Configure scaling 4. Set health checks

## 4.5 Billing Administration

### Subscription Plans



Plan	Credits/Month	Features
Free	100	Basic models
Starter	1,000	All external models
Pro	10,000	+ Self-hosted models
Team	50,000	+ Collaboration
Business	200,000	+ Priority support

## Credit Management

- View credit balances
- Add bonus credits
- Set usage alerts
- Export billing reports

## 4.6 AGI Orchestration Settings

### Service Weights

Adjust influence of AGI components:

Service	Default Weight	Purpose
consciousness	0.8	Self-awareness modeling
metacognition	0.7	Learning from interactions
moral_compass	0.9	Ethical guardrails
domain_taxonomy	0.8	Domain expertise matching
brain_router	0.9	Model selection

### Decision Weights

Weight	Purpose
modelQualityWeight	Prefer higher quality
modelCostWeight	Prefer lower cost
modelLatencyWeight	Prefer faster response

## 4.7 Delight System Administration

The Delight System provides personality and engagement features.

### Dashboard Overview

Metric	Description
Messages Shown	Total delight messages displayed
Achievements Unlocked	Total achievements earned
Easter Eggs Found	Hidden features discovered
Active Users	Users with Delight enabled

Metric	Description
--------	-------------

## Managing Categories

Category	Purpose
Domain Loading	Messages while loading expertise
Time Awareness	Time-of-day messages
Model Dynamics	AI consensus feedback
Achievements	Milestone celebrations
Wellbeing	Break reminders
Easter Eggs	Hidden features
Sounds	Audio feedback

## Statistics Dashboard

Access at **Think Tank** → **Delight** → **View Statistics**:

- Weekly trends (12-week history)
- Top messages by engagement
- Achievement unlock rates
- Easter egg discovery metrics
- User engagement leaderboard

## API Endpoints

Endpoint	Method	Description
/api/admin/delight/dashboard	GET	Dashboard data
/api/admin/delight/statistics	GET	Detailed statistics
/api/admin/delight/categories/:id	PATCH	Toggle category
/api/admin/delight/messages	POST	Create message

## 4.8 Localization

### Supported Languages

Configure in **Settings** → **Localization**:

Language	Code	Status
English	en	Default
Spanish	es	Available
French	fr	Available
German	de	Available
Japanese	ja	Available

## Translation Management

1. Navigate to **Localization** → **Translations**
  2. Select namespace (common, chat, settings)
  3. Edit translations per language
  4. Publish changes
- 

## 5. Think Tank User Guide

### 5.1 Getting Started

#### Creating Your Account

1. Visit **thinktank.ai**
2. Click **Get Started Free**
3. Sign up with email or social login
4. Verify your email
5. Complete your profile

#### Your First Chat

1. Click **New Chat** or press **Ctrl+N**
2. Type your question
3. Press **Enter** or click **Send**
4. Watch AI respond in real-time

### 5.2 Choosing Models

#### Available Models

Provider	Top Models
OpenAI	GPT-4o, GPT-4 Turbo, o1
Anthropic	Claude 3.5 Sonnet, Claude 3 Opus
Google	Gemini 1.5 Pro, Gemini Ultra
xAI	Grok-2
Meta	Llama 3.1 405B

#### Auto Mode

Enable **Auto Mode** to let the Brain Router select the optimal model based on: - Query complexity  
- Domain expertise needed - Cost optimization - Response speed requirements

### 5.3 Focus Modes & Personas

#### Focus Modes

Mode	Best For
General	Everyday questions
Coding	Programming help
Creative	Writing, brainstorming
Research	Deep analysis
Analysis	Data interpretation

## Personas

Create custom AI personalities: 1. Go to **Personas** → **Create** 2. Set name and description 3. Define behavior instructions 4. Save and activate

## 5.4 Canvas & Artifacts

### Canvas Features

- Rich text editing
- Code blocks with syntax highlighting
- Image generation and editing
- Diagram creation
- Export to PDF, Markdown, Word

### Artifact Types

Type	Description
Document	Long-form text
Code	Executable snippets
Image	AI-generated visuals
Diagram	Flowcharts, diagrams
Table	Structured data

## 5.5 Collaboration

### Sharing Chats

1. Click **Share** on any chat
2. Choose visibility (link, team, public)
3. Set permissions (view, comment, edit)
4. Copy share link

### Team Features

- Shared workspaces
- Real-time collaboration
- Comment threads
- Version history

## 5.6 Credits & Billing

### Understanding Credits

Action	Credits
GPT-4o message	1-5
Claude 3 Opus message	2-8
Image generation	5-20
Voice transcription	1-3

### Plans

Plan	Price	Credits/Month
Free	\$0	100
Starter	\$29	1,000
Pro	\$99	10,000
Team	\$49/user	5,000/user

## 5.7 Delight System

Think Tank includes a personality system for engaging interactions.

### What is Delight?

Contextual, friendly messages during conversations: - **Domain Loading**: “Consulting the fundamental forces...” for physics - **Time Awareness**: “Burning the midnight tokens” late at night - **Model Dynamics**: “Consensus forming...” when models agree - **Wellbeing**: “Time for a break?” after long sessions

### Personality Modes

Mode	Description
Professional	Minimal feedback
Subtle	Light personality
Expressive	Full personality
Playful	Maximum fun

### Achievements

Achievement	Unlock
Domain Explorer	10+ domains
Week Warrior	7-day streak
Renaissance Mind	50+ domains
Monthly Mind	30-day streak

## Sound Themes

Theme	Style
Default	Pleasant chimes
Mission Control	NASA beeps
Library	Book sounds
Workshop	Tool clicks

## Customization

Toggle in **Settings** → **Delight**: - Domain messages - Model personality - Time awareness - Achievements - Wellbeing nudges - Easter eggs - Sound effects

## 5.8 Keyboard Shortcuts

Shortcut	Action
Ctrl+N	New chat
Ctrl+/ Ctrl+Enter	Focus input
Ctrl+Enter	Send message
Ctrl+K	Command palette
Ctrl+B	Toggle sidebar
Esc	Stop generation

## 6. API Reference

### 6.1 Authentication

All API requests require authentication via JWT token:

Authorization: Bearer <token>

#### Obtaining Tokens

POST /api/auth/login

Content-Type: application/json

```
{
  "email": "user@example.com",
  "password": "password"
}
```

Response:

```
{
  "access_token": "eyJ...",
  "refresh_token": "eyJ..."
}
```

```
  "expires_in": 3600
}
```

## 6.2 Core Endpoints

### Chat Completions

POST /api/v2/chat/completions  
Content-Type: application/json

```
{
  "model": "gpt-4o",
  "messages": [
    {"role": "user", "content": "Hello!"}
  ],
  "stream": true
}
```

### Models

GET /api/v2/models

Response:

```
{
  "models": [
    {
      "id": "gpt-4o",
      "provider": "openai",
      "capabilities": ["text", "vision"],
      "pricing": {
        "input": 0.005,
        "output": 0.015
      }
    }
  ]
}
```

## 6.3 Admin Endpoints

### Tenants

GET /api/admin/tenants  
POST /api/admin/tenants  
GET /api/admin/tenants/:id  
PUT /api/admin/tenants/:id  
DELETE /api/admin/tenants/:id

## Users

GET /api/admin/users  
POST /api/admin/users  
GET /api/admin/users/:id  
PUT /api/admin/users/:id

## Billing

GET /api/admin/billing/subscriptions  
GET /api/admin/billing/transactions  
POST /api/admin/billing/credits/add

## 6.4 Think Tank Endpoints

### Brain Plans

POST /api/thinktank/brain-plan/generate  
GET /api/thinktank/brain-plan/:planId  
POST /api/thinktank/brain-plan/:planId/execute

### Domain Taxonomy

GET /api/v2/domain-taxonomy  
GET /api/v2/domain-taxonomy/fields  
POST /api/v2/domain-taxonomy/detect

### Delight

GET /api/admin/delight/dashboard  
GET /api/admin/delight/statistics  
PATCH /api/admin/delight/categories/:id  
POST /api/admin/delight/messages

## 6.5 Error Codes

Code	HTTP	Description
RADIANT_AUTH_001	401	Invalid token
RADIANT_AUTH_002	401	Token expired
RADIANT_AUTH_003	403	Insufficient permissions
RADIANT_TENANT_001	404	Tenant not found
RADIANT_MODEL_001	404	Model not found
RADIANT_BILLING_001	402	Insufficient credits
RADIANT_RATE_001	429	Rate limit exceeded



## 7. Changelog

[4.18.2] - 2024-12-28

### Added

#### Think Tank Delight System

- Core service with personality modes and trigger types
- AGI Brain integration for real-time messages
- Real-time event streaming
- Persistent statistics with 12-week trends
- Admin dashboard with analytics

#### Localization System

- Database migration for UI string registry
- Translation hook for React
- Language selector in settings

#### Windsurf Workflows

- Policy workflows for code quality

### Changed

#### Unified Deployment Model

- Removed tier 1-5 deployment selection
- Single deployment with all features
- Licensing at application level

#### Documentation

- Updated deployment guide
- Added Delight System documentation
- Added admin guide section 20

[4.18.1] - 2024-12-25

### Added

- Standardized error handling system
- Comprehensive test coverage
- Testing and error code documentation

### Fixed

- TypeScript errors in various services
- Type safety improvements

[4.18.0] - 2024-12-24

## Added

- Unified package system
  - AI Assistant in Swift Deployer
  - Configurable timeouts
  - Cost management
  - Compliance reports
  - A/B testing framework
- 

## Appendix

### A. Quick Reference

#### Swift Deployer Commands

*# Build and run*

```
swift run --package-path apps/swift-deployer
```

*# Run tests*

```
swift test --package-path apps/swift-deployer
```

#### CDK Commands

*# Synthesize*

```
cdk synth
```

*# Deploy specific stack*

```
cdk deploy RadiantAPIStack
```

*# Destroy*

```
cdk destroy --all
```

#### Database Migrations

*# Run migrations*

```
cd packages/infrastructure  
npm run migrate
```

*# Rollback*

```
npm run migrate:rollback
```

### B. Support Resources

---

Resource	URL
Documentation	<a href="https://docs.radiant.example.com">docs.radiant.example.com</a>
Status Page	<a href="https://status.radiant.example.com">status.radiant.example.com</a>

Resource	URL
Support Email	support@radiant.example.com

## C. Version Information

- **RADIANT Version:** 4.18.2
- **Think Tank Version:** 3.2.0
- **Last Updated:** December 28, 2024

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