Avenir Al Solutions - Database Documentation

Last Updated: October 22, 2025

Total Tables: 24

Database: PostgreSQL (Supabase + Neon Failover)

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1. Client Management

clients

Purpose: Stores all client accounts, API keys, and configuration settings.

What It Does:

- Manages client registration and authentication
- Stores unique API keys for form integration
- Tracks client branding preferences (email tone, booking links, industry)
- Monitors connection health (last login, last lead received)
- Supports bilingual clients (EN/FR)

- id Internal UUID
- client id Public client identifier
- api_key Unique key for API authentication
- business_name Client's business name
- email Client login email
- password hash Encrypted password
- language Preferred language (en/fr)
- **email_tone** Email style (Professional/Friendly/Formal/Energetic)

- ai_personalized_reply Toggle for automated email responses
- booking link Custom booking calendar link
- last connection When last lead was received
- is test Marks test/demo accounts
- is internal Marks internal Avenir accounts

Row Count: ~5-10 clients

2. Lead Processing

```
lead memory
```

Purpose: Central storage for all incoming leads with AI enrichment data.

What It Does:

- · Captures every lead from client contact forms
- Stores Al analysis (intent, tone, urgency, confidence)
- Tracks status changes (archived, deleted, tagged)
- · Maintains history of AI predictions over time
- · Links leads to specific clients

Key Fields:

- id Unique lead identifier
- name Lead's name
- email Lead's email
- message Original lead message
- ai summary Al-generated summary
- intent Al-detected intent (e.g., "B2B partnership")
- tone Al-detected tone (e.g., "Professional")
- urgency Al-detected urgency (High/Medium/Low)
- confidence_score Al confidence (0.00-1.00)
- tone_history JSONB array of tone changes
- confidence history JSONB array of confidence changes
- urgency history JSONB array of urgency changes
- archived Lead archived status
- deleted Lead deleted status
- current tag Current tag (e.g., "Hot Lead", "Converted")
- client_id Which client this lead belongs to
- language Lead language (en/fr)
- is test Marks test leads

Row Count: Growing (100-1000+ leads per client)

lead actions

Purpose: Audit trail of all actions performed on leads.

What It Does:

- Logs every lead action (tag, archive, delete, reactivate)
- Tracks conversion events
- Records reversion reasons (if converted lead reverted)
- · Powers the Activity Log in client dashboard
- Enables client-specific analytics

Key Fields:

- id Action UUID
- lead_id Which lead this action applies to
- client_id Which client performed the action
- action_type Type of action ("tagged", "archived", "deleted", "reactivated", "created")
- tag Tag applied (if action is tagging)
- timestamp When action occurred
- conversion_outcome TRUE if lead converted
- reversion_reason Why converted lead was reverted
- is_test Marks test actions

Row Count: Growing (multiple actions per lead)

Note: The column is action in database, mapped to action in frontend.

lead notes

Purpose: Stores user-added notes for leads.

What It Does:

- · Allows clients to add notes to leads
- · Tracks who added the note
- Maintains note history
- Supports expandable notes UI in dashboard

- id Note UUID
- lead_id Which lead this note belongs to
- client id Which client created the note
- note The note content
- **performed by** Who created the note (usually "admin")
- created at When note was created
- updated_at When note was last modified

• is test - Marks test notes

Row Count: Variable (0-10+ notes per lead)

3. Al Intelligence & Learning

```
growth_brain
```

Purpose: Stores Al-generated growth insights and analytics for each client.

What It Does:

- Analyzes ALL active leads for each client
- Identifies top intents, urgency patterns, tone distributions
- · Calculates engagement scores
- · Generates predictive insights (bilingual)
- Updates weekly or on-demand via "Growth Copilot"

Key Fields:

- id Insight UUID
- client_id Which client this analysis is for
- analysis period start Analysis time range start
- analysis period end Analysis time range end
- total_leads How many leads analyzed
- top intents JSONB array of top 5 intents
- urgency_distribution JSONB: {high, medium, low} counts
- urgency_trend_percentage Week-over-week urgency change
- tone distribution JSONB array of tone frequencies
- tone_sentiment_score 0-100 professional signal score
- avg_confidence Average AI confidence across all leads
- confidence trajectory JSONB array tracking confidence over time
- language_ratio JSONB: {en, fr} percentages
- engagement_score Composite metric (0-100)
- predictive_insights JSONB: {en: {}, fr: {}} with recommendations
- analyzed_at When analysis was performed

Row Count: 1 row per client (UPSERT on client_id)

Unique Constraint: growth brain client unique prevents duplicate client records

```
feedback_tracking
```

Purpose: Tracks AI outcomes and user feedback for continuous learning.

What It Does:

- Logs every Al prediction and its outcome
- Compares predicted vs. actual results
- Tracks positive/negative/neutral outcomes
- Powers the adaptive learning system
- Expires after 1 year (auto-cleanup)

Key Fields:

- id Feedback UUID
- lead id Related lead (optional)
- client id Related client (optional)
- action_type Feedback category: lead_conversion , email_response , user_action ,
 system_performance
- outcome Result: positive, negative, neutral
- confidence_score Confidence in this feedback (0.0-1.0)
- impact score Impact on system (-100 to +100)
- context_data JSONB with action-specific details
- notes Human-readable description
- notes en English notes
- notes fr French notes
- learning applied Has this been processed by learning algorithms?
- learning_impact Impact on AI models (0.0-1.0)
- processed_at When feedback was processed
- expires at Auto-cleanup date (NOW + 1 year)

Row Count: Growing (every AI prediction logged)

```
performance_metrics
```

Purpose: Tracks system performance, Al accuracy, and response times.

What It Does:

- Monitors API response times
- · Tracks AI analysis accuracy
- · Measures success rates
- Detects error patterns
- Enables performance optimization

- id Metric UUID
- event_type Category: api_response , ai_analysis , translation , lead_processing , email_response
- metric_name Specific metric: response_time , accuracy , success_rate , error_rate
- metric_value The actual measurement

```
    metric_unit - Unit: ms , percent , count , score
    response_time_ms - Response time in milliseconds
    success_rate - Success percentage (0.0-1.0)
    ai_accuracy - Al accuracy score (0.0-1.0)
    error_count - Number of errors
    source_component - Which component logged this: lead_api , translation_service , intelligence_engine
    client_id - Client-specific metrics (optional)
    recorded_at - When metric was recorded
    metadata - JSONB with additional context
    error_message_en - English error message
```

Row Count: Growing (continuous logging)

error message fr - French error message

```
prompt_registry
```

Purpose: Stores all Al prompt variants with performance scores.

What It Does:

- Tracks different versions of AI prompts
- Scores prompt performance
- Selects best-performing prompts
- Enables A/B testing
- Powers prompt evolution system

Key Fields:

- id Prompt UUID
- prompt name Prompt identifier
- variant_version Version number
- variant id Unique variant identifier
- prompt text The actual prompt content
- language Prompt language (en/fr)
- score Performance score (0.0-1.0)
- usage count How many times used
- created at When created
- updated_at When last updated

Row Count: Growing (multiple variants per prompt)

```
prompt_performance
```

Purpose: Tracks individual AI prompt execution results.

What It Does:

- Logs every prompt execution
- · Measures quality, accuracy, consistency
- · Tracks token usage and costs
- · Links to feedback for learning
- · Enables prompt optimization

Key Fields:

- id Execution UUID
- prompt registry id Which prompt variant was used
- execution id Unique execution identifier
- client id Client-specific tracking (optional)
- input_data JSONB input to the prompt
- output data JSONB output from the prompt
- output_quality_score Quality rating (0.000-1.000)
- response_time_ms How fast the prompt executed
- token count Tokens used
- cost usd Cost in USD
- accuracy score Accuracy rating
- consistency score Format compliance score
- completeness_score Completeness rating
- error occurred Did an error happen?
- error_message Error details
- feedback id Link to feedback record
- user rating User rating 1-5 (optional)
- executed_at When executed
- environment production , staging , test

Row Count: Growing (every prompt execution logged)

```
prompt_ab_tests
```

Purpose: Manages A/B testing of prompt variants.

What It Does:

- · Configures A/B tests for prompts
- Allocates traffic between control/treatment
- Tracks test results and statistical significance
- Selects winning prompt variants
- · Automates prompt optimization

Key Fields:

• id - Test UUID

- test name Test identifier
- prompt name Which prompt is being tested
- control variant id Control prompt variant
- treatment_variant_id Treatment prompt variant
- control_traffic_percentage Control traffic allocation
- treatment_traffic_percentage Treatment traffic allocation
- min sample size Minimum samples before concluding (default: 100)
- max duration days Max test duration (default: 7 days)
- **significance_level** Statistical significance (default: 0.05)
- status draft, running, completed, cancelled
- control metrics JSONB control group results
- treatment metrics JSONB treatment group results
- statistical significance P-value
- winner_variant_id Winning prompt

Row Count: ~10-50 tests

```
prompt_evolution
```

Purpose: Tracks how AI prompts evolve and improve over time.

What It Does:

- Records parent-child prompt relationships
- Logs evolution strategies (mutation, crossover, optimization)
- Compares performance improvements
- Links feedback to prompt changes
- · Documents evolution history

Key Fields:

- id Evolution UUID
- parent prompt id Original prompt
- child prompt id Evolved prompt
- evolution_type mutation , crossover , optimization , manual_edit
- evolution strategy Specific strategy used
- parent performance JSONB parent metrics
- **child performance** JSONB child metrics
- improvement score Measured improvement (0.000-1.000)
- feedback data JSONB feedback that drove evolution
- optimization_goals Array of goals
- evolved at When evolution occurred
- evolution_algorithm Algorithm used

Row Count: Growing (tracks all prompt improvements)

4. Prospect Discovery

prospect candidates

Purpose: Stores discovered prospects from People Data Labs, Google, Apollo.

What It Does:

- · Holds all discovered prospect companies
- Tracks automation need scores (45-95 range)
- · Monitors contact status
- · Links to outreach logs and form tests
- · Powers daily prospect queue

Key Fields:

- id Prospect UUID
- business_name Company name
- website Company website (unique)
- contact_email Contact email
- industry Industry category
- region Geographic region
- language Target language (en/fr)
- form url Contact form URL
- last_tested Last form test date
- response score Response quality score
- automation_need_score Al-calculated automation need (45-95)
- contacted Has been contacted?
- metadata JSONB with discovery source, LinkedIn data, etc.
- created at When discovered
- updated_at Last update

Row Count: 34,823+ prospects from PDL taxonomy mapping

```
prospect_outreach_log
```

Purpose: Tracks all outreach emails sent to prospects.

What It Does:

- · Logs every outreach email
- Tracks engagement (opened, replied)
- Monitors email status
- Stores reply content
- · Enables outreach performance analysis

- id Log UUID
- prospect id Which prospect was contacted
- subject Email subject line
- email_body Email content
- sent_at When email was sent
- opened_at When email was opened
- replied at When prospect replied
- status sent , opened , replied , bounced , ignored
- reply_content Prospect's reply
- metadata JSONB with campaign info

Row Count: Growing (one row per outreach email)

```
prospect_industry_performance
```

Purpose: Aggregates prospect performance by industry for learning.

What It Does:

- · Tracks which industries respond best
- Calculates open rates and reply rates per industry
- Measures average response times
- · Assigns priority scores to industries
- Optimizes targeting based on performance

Key Fields:

- id Performance UUID
- industry Industry name (unique)
- total_contacted Total outreach count
- total opened Total emails opened
- total_replied Total replies received
- open_rate Open percentage
- reply_rate Reply percentage
- avg_response_time_hours Average time to reply
- priority score Industry priority (0-100)
- last_updated Last calculation date

Row Count: ~10-20 industries

```
prospect_form_tests
```

Purpose: Records automated form testing results.

- · Tests prospect contact forms
- Measures response quality
- · Detects autoresponders
- Scores autoresponder personalization
- Validates form functionality

Key Fields:

- id Test UUID
- prospect id Which prospect was tested
- test submitted at When form test was submitted
- response received at When response arrived
- response_time_minutes Response delay
- has_autoresponder Did they have an autoresponder?
- autoresponder tone robotic , human , personalized , none
- autoresponder_content The autoresponder message
- score Quality score (0-100)
- test_status pending, completed, failed, timeout
- metadata JSONB with test details

Row Count: Growing (one row per form test)

5. Outreach Automation

```
outreach_campaigns
```

Purpose: Manages outreach campaigns for prospect engagement.

What It Does:

- Organizes outreach into campaigns
- · Links campaigns to clients
- · Tracks campaign status
- Stores target criteria
- Manages follow-up schedules

- id Campaign UUID
- name Campaign name
- client id Which client owns this campaign
- status draft, active, paused, completed
- target criteria JSONB filtering rules
- email_template_id Which template to use
- **follow_up_schedule** JSONB follow-up timing
- created_at Campaign creation date

- updated at Last update
- metadata JSONB campaign settings

Row Count: Growing (~5-20 campaigns per client)

```
outreach_emails
```

Purpose: Stores individual outreach emails with tracking.

What It Does:

- · Generates personalized outreach emails
- Tracks email status (pending → sent → opened → replied)
- Links to prospects and campaigns
- · Monitors Gmail delivery
- · Handles follow-up sequences

Key Fields:

- id Email UUID
- campaign id Which campaign this email belongs to
- prospect_id Target prospect
- prospect_email Prospect's email address
- prospect name Prospect's name
- company_name Company name
- website Company website
- template_id Email template used
- **subject** Email subject
- content Email body (HTML)
- status pending, approved, rejected, sent, delivered, opened, replied, bounced
- sent_at When sent
- opened_at When opened
- replied_at When replied
- thread id Gmail thread ID
- gmail_message_id Gmail message ID
- **follow_up_sequence** Follow-up number (1, 2, 3...)
- sender email From email address
- missing email Flag for prospects without email
- metadata JSONB tracking details

Row Count: Growing (one row per email)

```
outreach_tracking
```

Purpose: Tracks granular email engagement events.

What It Does:

- Logs every email action (sent, delivered, opened, clicked, replied)
- Timestamps each event
- Links events to emails, prospects, campaigns
- Enables detailed engagement analytics

Key Fields:

- id Event UUID
- email id Which email this event is for
- prospect id Related prospect
- campaign_id Related campaign
- action Event type: sent , delivered , opened , clicked , replied , bounced , unsubscribed
- timestamp When event occurred
- metadata JSONB event details

Row Count: Growing (multiple events per email)

```
outreach metrics
```

Purpose: Aggregates outreach campaign performance metrics.

What It Does:

- Calculates campaign-level statistics
- Tracks total emails sent, opened, replied
- Computes open rates and reply rates
- Monitors revenue generated from campaigns
- Enables campaign optimization

- id Metrics UUID
- campaign_id Which campaign these metrics are for
- total emails sent Total sent count
- total_emails_delivered Successfully delivered
- total emails opened Emails opened
- total_emails_clicked Links clicked
- total_emails_replied Replies received
- total emails bounced Bounced emails
- total emails unsubscribed Unsubscribes
- open_rate Open percentage
- click rate Click percentage
- reply_rate Reply percentage

- bounce rate Bounce percentage
- revenue generated USD revenue from campaign
- created at When metrics started tracking
- updated_at Last update

Row Count: 1 row per campaign (updated continuously)

```
email_templates
```

Purpose: Stores reusable email templates for outreach.

What It Does:

- · Manages email templates
- Supports personalization variables
- Tracks template performance
- Enables A/B testing
- · Powers automated outreach

Key Fields:

- id Template UUID
- name Template name
- description Template description
- **subject** Email subject (with variables)
- html_content HTML email body
- plain_content Plain text email body
- language Template language (en/fr)
- category Template type
- variables JSONB list of personalization variables
- is active Template enabled?
- usage count Times used
- **performance score** Performance rating (0.0-1.0)
- created at When created
- updated at Last update

Row Count: ~10-30 templates

6. Translation System

```
translation_cache
```

Purpose: Caches AI translations to reduce API costs.

- · Stores translated text for reuse
- Prevents duplicate translation API calls
- Speeds up bilingual responses
- · Tracks translation quality
- Expires old translations (90 days)

Key Fields:

id - Cache UUID
 source_text - Original text
 source_language - Source language (en/fr)
 target_language - Target language (fr/en)
 translated_text - Translated result
 context_type - Context: lead_summary , intent , tone , ui_text
 quality_score - Translation quality (0.0-1.0)
 verified - Human-verified?
 created_at - When translated
 last_used_at - Last usage

Row Count: Growing (cached translations)

expires at - Expiration date (NOW + 90 days)

```
translation_dictionary
```

Purpose: Stores verified translations for common terms.

What It Does:

- Maps specific terms to verified translations
- Ensures consistent terminology
- Provides instant lookups (no Al needed)
- · Supports fuzzy matching
- Bilingual glossary

- id Dictionary UUID
- source_text Original term
- source_language Source language
- target_language Target language
- translated_text Verified translation
- context Usage context
- category Term category
- verified Human-verified?
- usage count Times used
- **confidence** Translation confidence (0.0-1.0)
- created_at When added

• updated at - Last update

Row Count: ~50-200 verified terms

7. Background Processing

```
queue_jobs
```

Purpose: Background job queue for long-running operations.

What It Does:

- Queues asynchronous jobs (daily prospect discovery, bulk operations)
- Processes jobs with 300-second timeout (vs. 60s API limit)
- Tracks job status (pending → processing → completed/failed)
- · Stores job results and errors
- Enables reliable background processing

Key Fields:

- id Job UUID
- job_type Job category: daily_prospect_queue , bulk_email , intelligence_analysis
- status pending, processing, completed, failed
- payload JSONB input data for job
- result JSONB output data after completion
- error Error message if failed
- created at When job was queued
- started_at When processing began
- completed at When job finished

Row Count: Growing (cleared periodically after completion)

8. Supporting Tables

```
integration logs
```

Purpose: Logs all API integrations and form submissions.

- Tracks every API request from client forms
- · Logs request/response data
- Monitors integration health
- Debugs integration issues
- · Validates API key usage

Key Fields:

- id Log UUID
- client_id Which client's integration
- api_key API key used (partial)
- endpoint API endpoint called
- method HTTP method
- request body JSONB request data
- response status HTTP status code
- response body JSONB response data
- ip_address Request IP
- user_agent Request user agent
- created_at When logged

Row Count: Growing (every API call logged)

```
avenir_profile_embeddings
```

Purpose: Stores AI embeddings of Avenir's company profile.

What It Does:

- Holds vector embeddings of company description
- Enables semantic matching with prospects
- · Powers similarity scoring
- Optimizes prospect targeting

Key Fields:

- id Embedding UUID
- chunk_text Text chunk from company profile
- **embedding** Vector embedding (1536 dimensions)
- **embedding model** Model used (e.g., text-embedding-ada-002)
- metadata JSONB chunk metadata
- created_at When created

Row Count: ~10-50 chunks (company profile broken into chunks)

```
intent_translations
```

Purpose: Maps lead intents across English and French.

- Ensures consistent intent classification across languages
- Provides English ↔ French intent translations
- Powers bilingual analytics

· Maintains intent taxonomy

Key Fields:

- id Translation UUID
- intent en English intent
- intent_fr French intent
- category Intent category
- created at When added

Row Count: ~20-50 intent mappings

III Database Statistics

Total Tables: 24

By Category:

- Client Management: 1 table
- Lead Processing: 3 tables
- Al Intelligence & Learning: 5 tables
- · Prospect Discovery: 4 tables
- Outreach Automation: 5 tables
- Translation System: 2 tables
- Background Processing: 1 table
- Supporting Tables: 3 tables

Storage Breakdown:

- Lead Data: 70-80% (lead_memory, lead_actions, lead_notes)
- Prospect Data: 10-15% (prospect_candidates, outreach_emails)
- Learning Data: 5-10% (feedback_tracking, performance_metrics, prompt_performance)
- Supporting Data: 5% (caches, logs, translations)

Growth Rate:

- High Growth: lead_memory, lead_actions, feedback_tracking, performance_metrics
- Medium Growth: prospect_candidates, outreach_emails, prompt_performance
- Low Growth: prompt_registry, translation_dictionary, intent_translations
- Static/Slow: email_templates, growth_brain (1 per client)

Security & Access Control

Row Level Security (RLS): Enabled on ALL tables

Policy Types:

- 1. Client Isolation: Clients can only see their own data
- 2. Service Role: Full access for system operations
- 3. Public Read: Some tables allow public read for demos
- 4. Authenticated Write: Most writes require authentication

Key Security Features:

- · API key authentication
- · Encrypted password hashes
- · Client-specific data isolation
- Audit trails (lead_actions, integration_logs)
- Automatic test data flagging (is_test column)

Key Database Features

1. Multi-Tenant Architecture

- Every table links to client id
- · RLS enforces strict data isolation
- · Clients see only their own leads/actions/notes

2. Adaptive Learning Infrastructure

- feedback_tracking + performance_metrics = Learning loops
- prompt_registry + prompt performance = Prompt optimization
- growth brain = Weekly intelligence updates

3. JSONB Flexibility

- metadata fields in most tables for extensibility
- context data for learning system
- predictive insights for bilingual recommendations
- History tracking arrays (tone_history, confidence_history)

4. Bilingual Support

- notes_en + notes_fr columns
- language columns throughout
- intent translations mapping table
- Bilingual insights in growth brain

5. Performance Optimizations

- Comprehensive indexing on all query columns
- · Timestamp indexes for sorting
- · Composite indexes for common queries
- · Foreign key indexes for joins



Lead Capture Flow:

```
Client Form → /api/lead → lead_memory (insert)

→ AI Enrichment

→ lead_actions (log "created")

→ feedback_tracking (log prediction)

→ Email Response
```

Learning Loop Flow:

```
AI Prediction → feedback_tracking (log)

→ performance_metrics (log speed, accuracy)

→ Actual Outcome

→ Compare & Score

→ prompt_performance (log result)

→ Weekly Analysis

→ growth_brain (update insights)

→ Better Future Predictions
```

Prospect Discovery Flow:

Documentation Prepared By: Al Growth Infrastructure Team **Database Type:** PostgreSQL (Supabase Primary, Neon Failover)

Total Tables: 24

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