

readme.md for @social.io/social.io

“ ☐ ☐ All-in-one communication platform combining email, chat, calls, and video meetings — built with Deno, TypeScript, and the foss.global ecosystem.

Overview

social.io is a modern, self-hosted communication platform designed for organizations that need complete control over their messaging infrastructure. It provides a unified solution for team collaboration with real-time messaging, direct conversations, file sharing, and more.

☐ Key Features

Feature	Status	Description
☐ Real-time Chat	☐ Ready	Channels, DMs, threads, reactions, typing indicators
☐ Organizations	☐ Ready	Multi-tenant support with workspaces and teams
☐ Authentication	☐ Ready	JWT-based auth with session management
☐ File Storage	☐ Ready	S3-compatible storage with thumbnails
☐ Real-time Events	☐ Ready	WebSocket-powered live updates
☐ Email Integration	☐☐ Coming	IMAP/SMTP integration
☐ Voice Calls	☐☐ Coming	WebRTC peer-to-peer calling
☐ Video Meetings	☐☐ Coming	Scheduled video conferences with screen sharing

Issue Reporting and Security

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Tech Stack

- **Runtime:** [Deno 2.x+](https://deno.land/) - Secure, modern TypeScript runtime
- **Database:** [MongoDB](https://www.mongodb.com/) via [@push.rocks/smartdata](https://github.com/pushrocks/smartdata)
- **Storage:** S3-compatible via [@push.rocks/smartbucket](https://github.com/pushrocks/smartbucket)
- **Real-time:** WebSocket with [@push.rocks/smartsocket](https://github.com/pushrocks/smartsocket)
- **Frontend** (coming): Angular 19 + [@design.estate/dees-catalog](https://github.com/design-estate/dees-catalog)

Quick Start

Prerequisites

- **Deno 2.x+** - [Install Deno](https://deno.land/install/)
- **MongoDB** - Local instance or cloud (Atlas, etc.)
- **S3-compatible storage** - MinIO (local), AWS S3, Cloudflare R2, etc.

1. Clone & Configure

```
git clone https://code.foss.global/design.estate/social.io.git
cd social.io
```

Create a `.nokit/env.json` file for local development:

```
{
  "MONGODB_URL": "mongodb://localhost:27017/socialio",
  "MONGODB_DB": "socialio",
```

```
"S3_ENDPOINT": "http://localhost:9000",
"S3_ACCESS_KEY": "minioadmin",
"S3_SECRET_KEY": "minioadmin",
"S3_BUCKET": "socialio",
"JWT_SECRET": "your-super-secret-key-change-in-production",
"PORT": "3000"
}
```

2. Start Development Server

```
deno task dev
```

This starts the server with hot-reloading enabled. Open <http://localhost:3000> to see the landing page.

3. Production Deployment

Set environment variables and run:

```
deno task start
```

Or compile to standalone binaries:

```
# Build all platform binaries
deno task release

# Or build for specific platforms
deno task compile:linux-x64
deno task compile:linux-arm64
deno task compile:macos-x64
deno task compile:macos-arm64
```

Environment Variables

Variable	Default	Description
<code>MONGODB_URL</code>	<code>mongodb://localhost:27017</code>	MongoDB connection string

Variable	Default	Description
MONGODB_DB	socialio	Database name
S3_ENDPOINT	http://localhost:9000	S3 endpoint URL
S3_ACCESS_KEY	minioadmin	S3 access key
S3_SECRET_KEY	minioadmin	S3 secret key
S3_BUCKET	socialio	S3 bucket name
S3_REGION	-	S3 region (optional)
JWT_SECRET	(random)	JWT signing secret
HOST	0.0.0.0	Server bind address
PORT	3000	HTTP server port
ENABLE_EMAIL	true	Enable email features
ENABLE_CHAT	true	Enable chat features
ENABLE_CALLS	true	Enable call features
ENABLE_MEETINGS	true	Enable meeting features

API Reference

All API endpoints are prefixed with `/api/v1/`. Authentication uses Bearer tokens in the `Authorization` header.

Authentication

```
# Register a new user
POST /api/v1/auth/register
{ "email": "user@example.com", "username": "johndoe", "password": "secret" }

# Login
POST /api/v1/auth/login
{ "email": "user@example.com", "password": "secret" }

# Get current user
GET /api/v1/auth/me

# Refresh access token
```

```
POST /api/v1/auth/refresh
```

```
{ "refreshToken": "..." }
```

```
# Logout
```

```
POST /api/v1/auth/logout
```

```
# List active sessions
```

```
GET /api/v1/auth/sessions
```

☐☐ Organizations

```
# List user's organizations
```

```
GET /api/v1/organizations
```

```
# Create organization
```

```
POST /api/v1/organizations
```

```
{ "slug": "my-org", "displayName": "My Organization" }
```

```
# Get/Update/Delete organization
```

```
GET /api/v1/organizations/:orgId
```

```
PUT /api/v1/organizations/:orgId
```

```
DELETE /api/v1/organizations/:orgId
```

```
# Manage members
```

```
GET /api/v1/organizations/:orgId/members
```

```
PUT /api/v1/organizations/:orgId/members/:userId
```

```
DELETE /api/v1/organizations/:orgId/members/:userId
```

☐☐ Invitations

```
# List organization invitations
```

```
GET /api/v1/organizations/:orgId/invitations
```

```
# Send invitation
```

```
POST /api/v1/organizations/:orgId/invitations
```

```
{ "email": "newuser@example.com", "role": "member" }
```

```
# Get invitation details (public)
GET /api/v1/invitations/:token

# Accept invitation
POST /api/v1/invitations/:token/accept

# Revoke invitation
DELETE /api/v1/organizations/:orgId/invitations/:invitationId
```

☐☐ Workspaces

```
GET /api/v1/organizations/:orgId/workspaces
POST /api/v1/organizations/:orgId/workspaces
GET /api/v1/workspaces/:workspaceId
PUT /api/v1/workspaces/:workspaceId
DELETE /api/v1/workspaces/:workspaceId
```

☐☐ Teams

```
# Team CRUD
GET /api/v1/organizations/:orgId/teams
POST /api/v1/organizations/:orgId/teams
GET /api/v1/teams/:teamId
PUT /api/v1/teams/:teamId
DELETE /api/v1/teams/:teamId

# Team members
GET /api/v1/teams/:teamId/members
POST /api/v1/teams/:teamId/members
PUT /api/v1/teams/:teamId/members/:userId
DELETE /api/v1/teams/:teamId/members/:userId
```

☐☐ Channels

```
# Channel CRUD
GET /api/v1/organizations/:orgId/channels
```

```
POST /api/v1/organizations/:orgId/channels
GET /api/v1/channels/:channelId
PUT /api/v1/channels/:channelId
DELETE /api/v1/channels/:channelId

# Archive/Unarchive
POST /api/v1/channels/:channelId/archive
POST /api/v1/channels/:channelId/unarchive

# Channel membership
GET /api/v1/channels/:channelId/members
POST /api/v1/channels/:channelId/join
POST /api/v1/channels/:channelId/leave
POST /api/v1/channels/:channelId/members
PUT /api/v1/channels/:channelId/members/:userId
DELETE /api/v1/channels/:channelId/members/:userId

# Notification settings
POST /api/v1/channels/:channelId/read
PUT /api/v1/channels/:channelId/notifications
POST /api/v1/channels/:channelId/mute
POST /api/v1/channels/:channelId/unmute

# Messages
GET /api/v1/channels/:channelId/messages
POST /api/v1/channels/:channelId/messages
GET /api/v1/channels/:channelId/messages/search?q=keyword

# Pin messages
POST /api/v1/channels/:channelId/pin/:messageId
DELETE /api/v1/channels/:channelId/pin/:messageId
```

Messages

```
# Get/Edit/Delete message
GET /api/v1/messages/:messageId
PUT /api/v1/messages/:messageId
DELETE /api/v1/messages/:messageId
```

```
# Thread replies
GET /api/v1/messages/:messageId/replies

# Reactions
GET /api/v1/messages/:messageId/reactions
POST /api/v1/messages/:messageId/reactions
DELETE /api/v1/messages/:messageId/reactions/:emoji
```

☐☐ Direct Messages (Conversations)

```
# List conversations
GET /api/v1/conversations

# Start direct conversation
POST /api/v1/conversations/direct
{ "userId": "..." }

# Create group conversation
POST /api/v1/conversations/group
{ "participantIds": ["...", "..."], "name": "My Group" }

# Conversation management
GET /api/v1/conversations/:conversationId
PUT /api/v1/conversations/:conversationId
POST /api/v1/conversations/:conversationId/leave

# Participants
GET /api/v1/conversations/:conversationId/participants
POST /api/v1/conversations/:conversationId/participants
DELETE /api/v1/conversations/:conversationId/participants/:userId

# Messages
GET /api/v1/conversations/:conversationId/messages
POST /api/v1/conversations/:conversationId/messages
```

☐☐ Attachments

```
# Upload (multipart/form-data or application/json with base64)
POST /api/v1/attachments/upload

# Get attachment info
GET /api/v1/attachments/:attachmentId

# Download
GET /api/v1/attachments/:attachmentId/download
GET /api/v1/attachments/:attachmentId/thumbnail

# Delete
DELETE /api/v1/attachments/:attachmentId

# Storage usage
GET /api/v1/organizations/:orgId/storage
```

☐☐ Health Check

```
GET /health # Full health status with service states
GET /healthz # Kubernetes-style health probe
```

WebSocket API

Connect to `/ws` for real-time updates.

Client → Server Events

```
// Connect and authenticate
socket.send(JSON.stringify({
  type: 'authenticate',
  userId: 'user-id',
  sessionId: 'session-id'
}));

// Subscribe to a channel
socket.send(JSON.stringify({
```

```

    type: 'subscribe',
    channelId: 'channel-id'
  }));

// Typing indicators
socket.send(JSON.stringify({ type: 'typing_start', channelId: '...' }));
socket.send(JSON.stringify({ type: 'typing_stop', channelId: '...' }));

// Presence update
socket.send(JSON.stringify({ type: 'presence_update', status: 'online' }));

// Keep-alive
socket.send(JSON.stringify({ type: 'ping' }));

```

Server → Client Events

Event	Description
connected	Connection established
authenticated	Authentication successful
subscribed	Subscribed to channel
message:new	New message in channel
typing:start / typing:stop	Typing indicators
presence:update	User presence change
pong	Keep-alive response

Project Structure

```

social.io/
├─ mod.ts           # Entry point
├─ deno.json       # Deno configuration
├─ ts/
│  ├─ index.ts     # Library exports
│  ├─ plugins.ts   # Centralized dependencies
│  ├─ socialio.ts  # Main SocialIO class
│  └─ cli.ts       # CLI commands

```

─ interfaces/	# TypeScript interfaces
─ models/	# MongoDB models (smartdata)
─ services/	# Business logic services
─ api/	# REST API handlers
─ realtime/	# WebSocket managers
─ ui/	# Angular 19 frontend (coming soon)
─ scripts/	# Build scripts

Programmatic Usage

You can also use social.io as a library in your Deno project:

```
import { SocialIO, createSocialIOFromEnv } from '@social.io/social.io';

// Create from environment variables
const app = createSocialIOFromEnv();
await app.start();

// Or with explicit configuration
const app = new SocialIO({
  mongoUrl: 'mongodb://localhost:27017',
  mongoDb: 'socialio',
  s3Endpoint: 'http://localhost:9000',
  s3AccessKey: 'minioadmin',
  s3SecretKey: 'minioadmin',
  s3Bucket: 'socialio',
  port: 3000,
});

await app.init();
await app.start();

// Clean shutdown
await app.stop();
```

Development Commands

```
deno task dev          # Start dev server with hot-reload
deno task start        # Start production server
deno task test         # Run tests
deno task build        # Build Angular UI
deno task bundle-ui    # Bundle UI into embedded assets
deno task compile      # Compile to native binary
deno task release      # Full release build (UI + all binaries)
```

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