# Journal Database Schema

## 1. Overall Architecture (What This Schema Covers)

This schema supports:

- Manuscript ingestion from **PDF / DOC / DOCX**
- Peer review workflow
- Editorial decisions
- Publication & issue management
- Scopus / WoS / Google Scholar metadata compliance

## 2. Core Tables (Production-Level)

### 2.1 journals

*(Single or multi-journal support)*

| Field | Type | Description |
|---|---|---|
| journal_id (PK) | INT | Unique journal identifier |
| journal_title | VARCHAR | Full journal name |
| issn_print | VARCHAR | Print ISSN |
| issn_online | VARCHAR | Online ISSN |
| publisher | VARCHAR | Publisher name |
| country | VARCHAR | Country of publication |
| scope | TEXT | Aims & scope |
| indexing_status | VARCHAR | Scopus / WoS / ESCI / Pending |
| website_url | VARCHAR | Official URL |

### 2.2 users

*(Authors, reviewers, editors – role-based)*

| Field | Type | Description |
|---|---|---|
| user_id (PK) | INT | Unique user ID |
| full_name | VARCHAR | Author/editor name |
| email | VARCHAR | Unique email |

| Field | Type | Description |
|---|---|---|
| affiliation | VARCHAR | Institution |
| country | VARCHAR | Country |
| orcid_id | VARCHAR | ORCID (optional but recommended) |
| role | ENUM | Author / Reviewer / Editor / Admin |
| created_at | DATETIME | Account creation |

### 2.3 manuscripts

*(Central table – extracted from PDF/Word)*

| Field | Type | Description |
|---|---|---|
| manuscript_id (PK) | INT | Internal manuscript ID |
| journal_id (FK) | INT | Linked journal |
| title | TEXT | Article title |
| abstract | TEXT | Abstract |
| keywords | TEXT | Keywords |
| subject_area | VARCHAR | Discipline |
| submission_date | DATE | Initial submission |
| status | ENUM | Submitted / Under Review / Accepted / Rejected |
| plagiarism_score | FLOAT | iThenticate / Turnitin |
| corresponding_author_id (FK) | INT | User reference |

### 2.4 manuscript_files

*(Stores PDF / Word versions)*

| Field | Type | Description |
|---|---|---|
| file_id (PK) | INT | File ID |
| manuscript_id (FK) | INT | Linked manuscript |
| file_type | ENUM | DOCX / PDF |
| file_path | VARCHAR | Server location |

| Field | Type | Description |
|---|---|---|
| version | INT | Revision number |
| uploaded_at | DATETIME | Upload time |

### 2.5 manuscript_authors

*(Many-to-many mapping)*

| Field | Type | Description |
|---|---|---|
| id (PK) | INT | Row ID |
| manuscript_id (FK) | INT | Manuscript |
| author_id (FK) | INT | User |
| author_order | INT | Author sequence |

### 2.6 reviews

*(Peer review traceability – critical for Scopus)*

| Field | Type | Description |
|---|---|---|
| review_id (PK) | INT | Review ID |
| manuscript_id (FK) | INT | Manuscript |
| reviewer_id (FK) | INT | Reviewer |
| review_round | INT | Round number |
| recommendation | ENUM | Accept / Minor / Major / Reject |
| comments_to_author | TEXT | Visible feedback |
| comments_to_editor | TEXT | Confidential |
| submitted_at | DATETIME | Review date |

### 2.7 editorial_decisions

| Field | Type | Description |
|---|---|---|
| decision_id (PK) | INT | Decision ID |
| manuscript_id (FK) | INT | Manuscript |
| editor_id (FK) | INT | Editor |

| Field | Type | Description |
|---|---|---|
| decision | ENUM | Accept / Reject / Revise |
| decision_date | DATE | Date |
| remarks | TEXT | Notes |

**2.8 issues**

*(Publication structure)*

| Field | Type | Description |
|---|---|---|
| issue_id (PK) | INT | Issue ID |
| journal_id (FK) | INT | Journal |
| volume | INT | Volume number |
| issue | INT | Issue number |
| year | INT | Publication year |
| publication_date | DATE | Release date |

**2.9 published_articles**

*(Final Scopus-indexed record)*

| Field | Type | Description |
|---|---|---|
| article_id (PK) | INT | Article ID |
| manuscript_id (FK) | INT | Source manuscript |
| issue_id (FK) | INT | Published issue |
| doi | VARCHAR | DOI |
| start_page | VARCHAR | Page start |
| end_page | VARCHAR | Page end |
| article_pdf | VARCHAR | Final PDF |
| published_date | DATE | Publication date |

### 2.10 references

*(Mandatory for indexing quality)*

| Field | Type | Description |
|---|---|---|
| reference_id (PK) | INT | Reference ID |
| article_id (FK) | INT | Article |
| reference_text | TEXT | Full citation |
| doi | VARCHAR | Cited DOI (if available) |

## 3. How PDF / Word Data Fits Into This Schema

### Step-by-Step Ingestion Workflow

1. **Upload PDF / DOCX**
   → stored in manuscript_files
2. **Metadata extraction** (manual or automated):
   - Title → manuscripts.title
   - Abstract → manuscripts.abstract
   - Keywords → manuscripts.keywords
   - Authors → users + manuscript_authors
   - References → references
3. **Peer review & editorial workflow**
   → reviews + editorial_decisions
4. **Acceptance & publication**
   → issues + published_articles

# Journal Website Frontend Schema

This frontend schema is modeled on journals running on **Open Journal Systems** and publisher platforms indexed in **Scopus**.

### 1. Frontend Architecture Overview

The website frontend must expose **structured, crawlable, and persistent pages** for:

- Readers
- Authors
- Reviewers
- Editors
- Indexing bots (Google Scholar, Scopus crawlers)

Each page maps **directly to backend tables**.

### 2. Core Frontend Pages (Mandatory)

#### 2.1 Home Page (/)

**Purpose**

- Journal identity & credibility
- Indexing signals

**Frontend Sections**

- Journal title, ISSN (Print & Online)
- Publisher details
- Aims & Scope (short)
- Latest issue highlights
- Indexing badges (Scopus, WoS, Crossref)
- Editorial board preview

**Backend Mapping**

- journals
- issues
- published_articles

#### 2.2 About Journal (/about)

**Purpose**

- Editorial transparency (critical for Scopus)

**Sections**

- Aims & Scope (full)
- Publication ethics
- Peer review policy
- Open access policy
- Archiving policy
- Plagiarism policy

**Backend Mapping**

- journals
- Static policy tables (or CMS content)

**2.3 Editorial Board (/editorial-board)**

**Purpose**

- Reviewer/editor legitimacy (high-weight Scopus criterion)

**Sections**

- Editor-in-Chief
- Associate Editors
- Section Editors
- Editorial Board Members

**Displayed Fields**

- Name
- Affiliation
- Country
- Role

**Backend Mapping**

- users (role = Editor)
- Editorial role table (optional)

**2.4 Current Issue (/issue/current)**

**Purpose**

- Immediate content access

**Sections**

- Volume, Issue, Year
- TOC (Table of Contents)

**Each Article Displays**

- Title
- Authors
- Pages
- DOI
- PDF link

**Backend Mapping**

- issues
- published_articles
- manuscript_authors

**2.5 Archive (/issue/archive)**

**Purpose**

- Long-term discoverability

**Structure**

- Year → Volume → Issue → Articles

**Backend Mapping**

- issues
- published_articles

**3. Article Landing Page (MOST IMPORTANT)**

**3.1 Article Page (/article/view/{article_id})**

This page **must exist as HTML**, not only PDF.

**Mandatory Sections**

- Article title (H1)
- Author names + affiliations
- Abstract
- Keywords
- DOI
- Citation formats (APA, MLA, Chicago)
- References list
- PDF download link

**Indexing Requirements**

- One URL = One article (permanent)

- Metadata visible in HTML
- No login required

**Backend Mapping**

- published_articles
- manuscripts
- users
- references

**4. Author & Submission Pages**

**4.1 Author Guidelines (/author-guidelines)**

**Sections**

- Manuscript format
- Ethics
- APC (if any)
- Review timeline

**Backend**

- Static content

**4.2 Online Submission (/submission)**

**Functions**

- Author login / register
- Upload Word / PDF
- Enter metadata

**Form Fields**

- Title
- Abstract
- Keywords
- Authors
- Upload files

**Backend Mapping**

- users
- manuscripts
- manuscript_files
- manuscript_authors

**5. Reviewer & Editor Dashboards (Restricted)**

**5.1 Reviewer Dashboard (/reviewer/dashboard)**

**Functions**

- View assigned manuscripts
- Submit review reports

**Backend**

- reviews
- manuscripts

**.2 Editor Dashboard (/editor/dashboard)**

**Functions**

- Assign reviewers
- Make decisions
- Communicate with authors

**Backend**

- editorial_decisions
- reviews

**6. Search & Discoverability**

**6.1 Search Page (/search)**

**Search By**

- Title
- Author
- Keyword
- DOI
- Year

**Backend**

- manuscripts
- published_articles
- users

**7. SEO & Indexing Schema (CRITICAL)**

**Metadata Exposed Per Article Page**

- <title> → Article title
- <meta name="citation_title">

- <meta name="citation_author">
- <meta name="citation_journal_title">
- <meta name="citation_doi">
- <meta name="citation_pdf_url">

This ensures compatibility with:

- Google Scholar
- Scopus crawlers

**8. Frontend–Backend Mapping Summary**

| Frontend Page | Backend Tables |
|---|---|
| Home | journals, issues |
| About | journals |
| Editorial Board | users |
| Current Issue | issues, published_articles |
| Archive | issues |
| Article Page | manuscripts, published_articles, references |
| Submission | manuscripts, files |
| Review | reviews |
| Editor | editorial_decisions |

# Backend Database Schema

**This schema powers:**

- Public journal website
- Author submission system
- Reviewer & editor dashboards
- Indexing and metadata exposure

Modeled on live platforms such as **Open Journal Systems** and compliant with **Scopus**.

## 1. Core Identity & Configuration

### 1.1 journals

| Field | Type | Purpose |
|---|---|---|
| journal_id (PK) | INT | Journal identifier |
| title | VARCHAR | Journal name |
| short_title | VARCHAR | Abbreviation |
| issn_print | VARCHAR | Print ISSN |
| issn_online | VARCHAR | Online ISSN |
| publisher | VARCHAR | Publisher |
| country | VARCHAR | Country |
| aims_scope | TEXT | Aims & scope |
| language | VARCHAR | Publication language |
| website_url | VARCHAR | Official URL |
| created_at | DATETIME | Setup date |

**Frontend:** Home, About

## 2. User & Role Management

### 2.1 users

| Field | Type | Purpose |
|---|---|---|
| user_id (PK) | INT | User identity |
| full_name | VARCHAR | Name |
| email | VARCHAR | Login |
| affiliation | VARCHAR | Institution |
| country | VARCHAR | Country |
| orcid | VARCHAR | ORCID |
| password_hash | VARCHAR | Security |
| is_active | BOOLEAN | Status |
| created_at | DATETIME | Created |

**2.2 roles**

| role_id | role_name |
|---|---|
| 1 | Author |
| 2 | Reviewer |
| 3 | Editor |
| 4 | Admin |

**2.3 user_roles**

**user_id (FK) role_id (FK)**

**Frontend:** Editorial Board, Dashboards

**3. Manuscript Submission Engine**

**3.1 manuscripts**

| Field | Type | Purpose |
|---|---|---|
| manuscript_id (PK) | INT | Manuscript |
| journal_id (FK) | INT | Journal |
| title | TEXT | Title |

| Field | Type | Purpose |
|---|---|---|
| abstract | TEXT | Abstract |
| keywords | TEXT | Keywords |
| subject_area | VARCHAR | Discipline |
| status | ENUM | Workflow |
| submission_date | DATE | Submitted |
| corresponding_author_id | INT | Contact |

**Frontend:** Submission, Article Page

### 3.2 manuscript_files

| Field | Type | Purpose |
|---|---|---|
| file_id (PK) | INT | File |
| manuscript_id (FK) | INT | Parent |
| file_type | ENUM | PDF/DOCX |
| file_path | VARCHAR | Storage |
| version | INT | Revision |
| uploaded_at | DATETIME | Time |

### 3.3 manuscript_authors

| manuscript_id | author_id | author_order |
|---|---|---|

**Frontend:** Article Page, TOC

## 4. Peer Review System

### 4.1 review_assignments

| Field | Type | Purpose |
|---|---|---|
| assignment_id (PK) | INT | Assignment |
| manuscript_id (FK) | INT | Manuscript |
| reviewer_id (FK) | INT | Reviewer |

| Field | Type | Purpose |
|---|---|---|
| review_round | INT | Round |
| assigned_at | DATETIME | Date |
| status | ENUM | Pending/Submitted |

### 4.2 reviews

| Field | Type | Purpose |
|---|---|---|
| review_id (PK) | INT | Review |
| assignment_id (FK) | INT | Assignment |
| recommendation | ENUM | Decision |
| comments_author | TEXT | Visible |
| comments_editor | TEXT | Confidential |
| submitted_at | DATETIME | Timestamp |

**Frontend:** Reviewer Dashboard

## 5. Editorial Decision Layer

### 5.1 editorial_decisions

| Field | Type | Purpose |
|---|---|---|
| decision_id (PK) | INT | Decision |
| manuscript_id (FK) | INT | Manuscript |
| editor_id (FK) | INT | Editor |
| decision | ENUM | Accept/Reject |
| remarks | TEXT | Notes |
| decision_date | DATE | Date |

**Frontend:** Editor Dashboard

## 6. Publication & Issue Management

### 6.1 issues

| Field | Type | Purpose |
|---|---|---|
| **issue_id (PK)** | **INT** | **Issue** |
| **journal_id (FK)** | **INT** | **Journal** |
| **volume** | **INT** | **Volume** |
| **issue** | **INT** | **Issue** |
| **year** | **INT** | **Year** |
| publication_date | DATE | Release |

**Frontend:** Current Issue, Archive

### 6.2 published_articles

| Field | Type | Purpose |
|---|---|---|
| article_id (PK) | INT | Article |
| manuscript_id (FK) | INT | Source |
| issue_id (FK) | INT | Issue |
| doi | VARCHAR | DOI |
| start_page | VARCHAR | Page |
| end_page | VARCHAR | Page |
| article_url | VARCHAR | Canonical URL |
| published_date | DATE | Date |

**Frontend:** Article Landing Page

## 7. References & Citations

### 7.1 references

| Field | Type | Purpose |
|---|---|---|
| reference_id (PK) | INT | Reference |

| Field | Type | Purpose |
|---|---|---|
| article_id (FK) | INT | Article |
| reference_text | TEXT | Citation |
| doi | VARCHAR | DOI |

**Frontend:** Article Page

### 8. Website Content & Policies

#### 8.1 pages

| page_id | slug | title | content |
|---|---|---|---|

Used for:

- About
- Ethics
- Policies
- Author Guidelines

### 9. Indexing & SEO Metadata (CRITICAL)

#### 9.1 article_metadata

| Field | Purpose |
|---|---|
| article_id (FK) | Article |
| meta_key | citation_title |
| meta_value | Value |

Supports:

- Google Scholar

### 10. Frontend–Backend Mapping (Proof of Alignment)

| Frontend Page | Backend Tables |
|---|---|
| Home | journals, issues |
| About | pages |
| Editorial Board | users, user_roles |

| Frontend Page | Backend Tables |
|---|---|
| Submission | manuscripts, files |
| Reviewer | reviews |
| Editor | editorial_decisions |
| Archive | issues |
| Article Page | manuscripts, published_articles, references |

### 11. Why This Backend Schema Is Scopus-Safe

- End-to-end peer review traceability
- Clear editorial accountability
- Persistent article URLs
- Structured citation metadata
- Matches live indexed journal systems