

# BackRail V1

## Backend API Requirements: RDSO Documents

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### 1. Summary

The RDSO Documents application backend serves as the central source of truth for authentication, document access, synchronization, and administrative control.

The mobile client follows an **Offline-First architecture**; therefore, the backend must support:

- Secure authentication
  - Metadata synchronization (full + delta updates)
  - Secure document streaming
  - Action queue processing
  - Administrative approval workflows
  - Activity logging and auditing
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### 2. Authentication & Session Management

#### 2.1 User Registration

- **Endpoint:** `POST /register`
- **Fields:** `Name`, `HRMS ID`, `Password`, `Email` (Optional)
- **Process:** Creates a user entry with status `PENDING` by default.

#### 2.2 User Login

- **Endpoint:** `POST /login`
- **Fields:** `HRMS ID`, `Password`
- **Logic:** Verifies credentials and checks account status ( `Pending`, `Approved`, or `Rejected` ).
- **Returns:** `200 OK` : JWT Access Token + Refresh Token (if approved).  
`403 Forbidden` : Message if account is pending or rejected.

#### 2.3 Token Refresh

- **Endpoint:** `POST /refresh`
  - **Requirement:** Automatically refresh authentication session; refresh token expiry ~30 days.
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### 3. Data Synchronization (Offline Support)

## 3.1 Metadata Dump

- **Endpoint:** GET /dump
- **Query Parameters:**
  - last\_synced\_timestamp : (Optional) ISO 8601 string.
  - diff : (Boolean) true or false .
- **Logic:** \* If diff=false : Return complete metadata dump.
  - If diff=true : Return only modified metadata since the provided timestamp.
- **Returns:** Structured JSON containing Categories hierarchy, Document metadata, and the latest Server Timestamp.

## 3.2 Action Queue Synchronization

- **Endpoint:** POST /actions/batch
  - **Accepts:** A batch list of actions:
    - Document ID , Type (Comment/Feedback), Body , Client Timestamp .
  - **Returns:** List of Action IDs with individual success/failure statuses.
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# 4. Secure Document Access

## 4.1 Document Streaming (In-App View)

- **Endpoint:** GET /view/document/{document\_id}?download=false
- **Action:** Streams raw PDF binary for temporary viewing.

## 4.2 Secure Download with Watermark

- **Endpoint:** GET /view/document/{document\_id}?download=true
  - **Logic:**
    1. Retrieve original PDF.
    2. Apply watermark: User HRMS ID + Server Timestamp .
    3. Return modified binary stream.
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# 5. Collaboration & Feedback

## 5.1 Fetch Document Feedback

- **Endpoint:** GET /view/feedback/{document\_id}
- **Returns:** Chronological list including Author Name, HRMS ID, Timestamp, and Comment Text.

## 5.2 Submit Feedback

- **Note:** Feedback submission is handled via the batch endpoint: POST /actions/batch .
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## 6. Administration Module

### 6.1 Pending User Retrieval

- **Endpoint:** GET /admin/registrations
- **Returns:** List of all users currently in PENDING status.

### 6.2 User Approval Workflow

- **Endpoint:** POST /admin/users/{user\_id}/decision
  - **Fields:** Decision (Approve/Reject), Rejection Reason (Optional).
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## 7. Logs & Auditing

### 7.1 Document Logs

- **Endpoint:** GET /admin/logs/documents
- **Filters:** Document ID, User ID, Time Range .

### 7.2 User Activity Logs

- **Endpoint:** GET /admin/logs/users
  - **Filters:** User ID, Time Range .
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## 8. API Overview Reference

Category	Endpoint	Method
Auth	/register, /login, /refresh	POST
Sync	/dump	GET
Sync	/actions/batch	POST
Docs	/view/document/{id}	GET
Feedback	/view/feedback/{id}	GET
Admin	/admin/registrations	GET
Admin	/admin/users/{id}/decision	POST
Logs	/admin/logs/documents, /admin/logs/users	GET