

# Document Management System

## Entities

- **USER:** Stores account details of each system user including role and login metadata.
- **DOCUMENT:** Represents uploaded files with metadata such as title, type, status, and creator.
- **PERMISSION:** Tracks which users have what access (e.g., view, edit) to specific documents.
- **VERSION:** Maintains different versions of a document with file path, size, and comments.
- **DOCUMENT TAG:** A linking table associating documents with tags and tracking when tagging occurred.

## Entities Attributes

### 1. USER

- `User id`: Primary key, unique ID for each user.
- `username`: Unique login name.
- `email`: User's email address.
- `password`: Hashed password for secure login.
- `Profile Photo`: String with link to photo
- `Created at`: When the account was created.
- `Is Admin`: if user is Admin

### 2. DOCUMENT

- `Document Id`: Primary key, unique ID for each document.
- `File Name`: Actual file name on the server.
- `File Path`: File storage location path.
- `Created At`: Date and time when the document was created.
- `Created By`: Foreign key linking to the user who uploaded it.
- `Is Private`: Document status (hidden or not).

### 3. PERMISSION

- `Permission Id`: Primary key, unique ID for the permission record.
- `User Id`: Foreign key, user receiving the permission.
- `Document Id`: Foreign key, document being accessed.
- `Permission Type`: Type of access (e.g., read, write).
- `Granted By`: User who granted the permission.

### 4. VERSION

- `Version Id`: Primary key, unique ID for the version.
- `Document Id`: Foreign key, document to which this version belongs.
- `File path`: Path of the version file.
- `File size`: Size of the version file.
- `Created at`: Timestamp of version creation.
- `Created by`: User who created this version.
- `Comments`: Comments or notes about this version.

### 5. DOCUMENT\_TAG

- `Document id`: Foreign key to DOCUMENT.
- `Tagged at`: When the tag was applied.
- `Tag id`: Primary key, unique tag ID.
- `Tags`: Arrays of Names of the tags (e.g., "urgent", "HR").

## Relationships & Their Meaning

Relationship	Type	Description
USER → DOCUMENT	One-to-Many	A user can create multiple documents.
USER → PERMISSION	One-to-Many	A user can have access to many documents through permissions.
USER → VERSION	One-to-Many	A user can create many versions of documents.
DOCUMENT → PERMISSION	One-to-Many	A document can be accessed by multiple users via permissions.
DOCUMENT → VERSION	One-to-Many	A document can have multiple saved versions.
DOCUMENT → DOCUMENT_TAG	One-to-Many	A document can be tagged multiple times.