LinkVault: Database Schema and Data Flow Diagram

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Database Schema:

Field Name	Data Type	Required	Description
_id	ObjectId	Yes	Auto-generated unique identifier by MongoDB.
shortId	String	**Yes**	Unique 8-character ID used for the shareable link (e.g., nanoid(8)).
type	String	**Yes**	Enum: ['text', 'file']. Determines if the drop is a text snippet or a file upload.
textContent	String	No	Stores the raw text if type is 'text'.
fileUrl	String	No	The Cloudinary URL where the file is stored (if type is 'file').
publicId	String	No	Cloudinary identifier used to delete the file later.
originalName	String	No	Original name of the uploaded file.
mimeType	String	No	File format (e.g., image/png, application/pdf).
password	String	No	Hashed string (bcrypt) if the user sets a password protection.

Model Name: drop
Source file: drop.js

oneTimeView	Boolean	No	Default false. If true, the link expires immediately after one successful view.
maxDownloads	Number	No	Optional limit on how many times the link can be accessed.
viewCount	Number	No	Default 0. Tracks how many times the link has been accessed.
deleteToken	String	**Yes**	A secret token (nanoid(16)) returned to the uploader to allow manual deletion.
createdAt	Date	No	Default Date.now. Timestamp of creation.
expiresAt	Date	**Yes**	Timestamp when the drop will automatically be deleted.

Data Flow Diagram

User / Client

1. Uploads File   A. Click Link   5. Return Link   D. Redirect

Express API Server

4. Save Metadata   B. Query DB   C. Return Info

MongoDB Database

2. Streams Binary   Find Expired   Hourly Check   3. Secure URL

Cron Job

Delete Cmd

Cloudinary Storage