Task Title: **Analyse How to Keep the MongoDB Data Locally**

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Objective:
To explain how MongoDB manages data locally, including how it stores and accesses data files, and how local storage behavior impacts application performance and deployment.

MongoDB Local Data Storage: How It Works

1. Storage Engine

MongoDB uses a **storage engine** to handle how data is stored, managed, and accessed on disk. The default engine is:

- **WiredTiger** (default since MongoDB 3.2)
    - Supports compression
    - Handles concurrency well

2. Data Directory Structure

By default, MongoDB stores its data in the following location:

- **Linux/macOS**: `/data/db`
- **Windows**: `C:\data\db`

This can be changed using the `--dbpath` flag:

```shell
mongod --dbpath /custom/path/to/db
```

3. File Types

MongoDB stores the following file types in the data directory:

- `.wt` files (WiredTiger data tables)
- `WiredTiger.turtle` (configuration and metadata)
- `journal/` directory (write-ahead logs for crash recovery)
- `collection-*.wt`, `index-*.wt` (data and index files)

4. Journaling

- MongoDB uses journaling to maintain data integrity.
- Journal files are stored under the `journal/` folder.
- On startup, MongoDB will use journal files to recover from crashes.

5. Localhost Binding & Access

MongoDB binds to `localhost` by default for security:

```
None
net:
  bindIp: 127.0.0.1
  port: 27017
```

This ensures that only local applications can access the database, keeping it secure for local development.

6. Working with MongoDB Locally

To run a local instance:

```
Shell
mongod --dbpath /your/local/path
```

Then use MongoDB Compass or shell:

```shell
mongo
```

Or connect via your app (Node.js, Python, etc.):

```javascript
mongodb://localhost:27017
```

7. Backups and Portability

- You can create local backups using:

```shell
mongodump --out ./backup
```

- Restore via:

```shell
mongorestore ./backup
```

- You can zip and move the `/data/db` folder between systems for portability (though not recommended for production).

Conclusion:
MongoDB stores all data locally under the specified `dbpath`, using a combination of data files (`.wt`), journaling for recovery, and metadata. It is designed to support high concurrency and safe local development, with tools like `mongodump` and `mongorestore` for easy backup and transfer.

This explains the internal mechanics of local data handling without external dependencies.