
□ MongoDB Exercise Set #2: Project & Task Tracker

> □ *Database:* `taskmanager` □ *Collections:* `projects`, `tasks`, `users`

□ Section 1: Basic Document Modeling & Insertion

1□ Create a database called `taskmanager`

2□ Insert 3 users into a `users` collection. Each should have:

- `name` (string)
- `email` (string)
- `role` (either `"admin"`, `"manager"`, or `"developer"`)
- `active` (boolean)

3□ Insert 2 projects into a `projects` collection:

- `title`, `description`, `startDate`, `status` (e.g. `"active"`, `"completed"`)
- Embed a `createdBy` sub-document containing the user’s `_id`, `name`

4□ Insert 5 tasks into a `tasks` collection:

- Fields: `title`, `assignedTo` (user `_id`), `projectId`, `priority`, `dueDate`, `status`

□ Section 2: Filtering & Querying

5□ Find all tasks with priority `"high"` that are not completed

6□ Query all active users with role `"developer"`

7□ Find all tasks assigned to a specific user (by `ObjectId`)

8□ Find all projects started in the last 30 days

□ Section 3: Update Operations

9□ Change the `status` of one task to `"completed"`

□ Add a new role field called `"teamLead"` to one of the users

1□1□ Add a new tag array to a task: `["urgent", "frontend"]`

□ Section 4: Array and Subdocument Operations

1□2□ Add a new tag `"UI"` to the task’s tags array using `$addToSet`

1□3□ Remove `"frontend"` from a task’s tag list

1□4□ Use `$inc` to increment a `project`’s progress field by `10`

□ Section 5: Aggregation & Lookup

1□5□ Use `$lookup` to join `tasks` with `users` and show `task title` + `assignee name`

1□6□ Use `$lookup` to join `tasks` with `projects`, and filter tasks where project `status = active`

1⃣7⃣ Use `$group` to get count of tasks per `status`

1⃣8⃣ Use `$match`, `$sort`, and `$limit` to get top 3 soonest due tasks
