

Service Layer:

Front end console:

(AI conveniently wrote a tester that demonstrates invocation of all endpoints defined in service layer)

```
Mcarey@MattCarey ~ % cd CSCE548_Project_1 /main > java -jar taskmanager-console-client/target/taskmanager-console-client-1.0-SNAPSHOT.jar
Service Console Frontend
API base URL: http://localhost:8080/api

Menu:
1) Run full CRUD demo through service layer
Q) Quit
Choose: 1

*** USER CRUD DEMO ***

Create user -> HTTP 201
{"userId":11,"name":"Service Demo User"}

Get created user -> HTTP 200
{"userId":11,"name":"Service Demo User"}

List users -> HTTP 200
[{"userId":1,"name":"Alice"}, {"userId":2,"name":"Bob"}, {"userId":3,"name":"Charlie"}, {"userId":4,"name":"Dana"}, {"userId":5,"name":"Evan"}, {"userId":6,"name":"Matt"}, {"userId":11,"name":"Service Demo User"}]

Update user -> HTTP 200
{"userId":11,"name":"Service Demo User Updated"}

Get updated user -> HTTP 200
{"userId":11,"name":"Service Demo User Updated"}

Delete user -> HTTP 204

Get deleted user (expect 404) -> HTTP 404

*** CATEGORY CRUD DEMO ***

Create category -> HTTP 201
{"categoryId":10,"name":"Service Demo Category"}

Get created category -> HTTP 200
{"categoryId":10,"name":"Service Demo Category"}
```

```
List categories -> HTTP 200
[{"categoryId":1,"name":"School"}, {"categoryId":2,"name":"Work"}, {"categoryId":3,"name":"Personal"}, {"categoryId":4,"name":"Health"}, {"categoryId":5,"name":"Errand"}, {"{"categoryId":10,"name":"Service Demo Category"}]

Update category -> HTTP 200
{"categoryId":10,"name":"Service Demo Category Updated"}

Get updated category -> HTTP 200
{"categoryId":10,"name":"Service Demo Category Updated"}

Delete category -> HTTP 204

Get deleted category (expect 404) -> HTTP 404

==== TASK CRUD DEMO ====

Create task owner user -> HTTP 201
{"userId":12,"name":"Task Owner User"}

Create task category -> HTTP 201
{"categoryId":11,"name":"Task Demo Category"}

Create task -> HTTP 201
{"taskId":53,"userId":12,"categoryId":11,"description":"Task created from console client","completed":false}

Get created task -> HTTP 200
{"taskId":53,"userId":12,"categoryId":11,"description":"Task created from console client","completed":false}
```

```
Mcare@MattCarey ~ $ main.java -jar taskmanager-console-client/target/taskmanager-console-client-1.0-SNAPSHOT.jar
List tasks --> HTTP 200
[{"taskId":1,"userId":1,"categoryId":1,"description":"Study for midterm","completed":false}, {"taskId":2,"userId":1,"categoryId":2,"description":"Finish project report","completed":false}, {"taskId":3,"userId":1,"categoryId":3,"description":"Clean room","completed":true}, {"taskId":4,"userId":1,"categoryId":4,"description":"Go for a run","completed":false}, {"taskId":5,"userId":1,"categoryId":5,"description":"Buy groceries","completed":true}, {"taskId":6,"userId":2,"categoryId":1,"description":"Read chapter 5","completed":true}, {"taskId":7,"userId":2,"categoryId":2,"description":"Prepare slides","completed":false}, {"taskId":8,"userId":2,"categoryId":2,"description":"Call mom","completed":true}, {"taskId":9,"userId":2,"categoryId":4,"description":"Doctor appointment","completed":false}, {"taskId":10,"userId":2,"categoryId":5,"description":"Pick up laundry","completed":true}, {"taskId":11,"userId":3,"categoryId":1,"description":"Submit homework","completed":true}, {"taskId":12,"userId":3,"categoryId":2,"description":"Team meeting","completed":false}, {"taskId":13,"userId":3,"categoryId":3,"description":"Watch a movie","completed":true}, {"taskId":14,"userId":3,"categoryId":4,"description":"Gym workout","completed":false}, {"taskId":15,"userId":3,"categoryId":5,"description":"Post office visit","completed":true}, {"taskId":16,"userId":4,"categoryId":1,"description":"Group study","completed":false}, {"taskId":17,"userId":4,"categoryId":2,"description":"Update resume","completed":true}, {"taskId":18,"userId":4,"categoryId":3,"description":"Organize desk","completed":false}, {"taskId":19,"userId":4,"categoryId":4,"description":"Yoga session","completed":true}, {"taskId":20,"userId":4,"categoryId":5,"description":"Car wash","completed":false}, {"taskId":21,"userId":5,"categoryId":1,"description":"Practice coding","completed":true}, {"taskId":22,"userId":5,"categoryId":2,"description":"Client email","completed":false}, {"taskId":23,"userId":5,"categoryId":3,"description":"Read a book","completed":true}, {"taskId":24,"userId":5,"categoryId":4,"description":"Meditation","completed":false}, {"taskId":25,"userId":5,"categoryId":5,"description":"Buy pet food","completed":true}, {"taskId":26,"userId":1,"categoryId":1,"description":"Review notes","completed":true}, {"taskId":27,"userId":1,"categoryId":2,"description":"Fix bugs","completed":false}, {"taskId":28,"userId":3,"categoryId":3,"description":"Meal prep","completed":true}, {"taskId":29,"userId":4,"categoryId":4,"description":"Stretching","completed":true}, {"taskId":30,"userId":5,"categoryId":5,"description":"Pay bills","completed":false}, {"taskId":31,"userId":5,"categoryId":2,"description":"Code cleanup","completed":true}, {"taskId":32,"userId":2,"categoryId":3,"description":"Journal writing","completed":false}, {"taskId":33,"userId":3,"categoryId":4,"description":"Cardio session","completed":true}, {"taskId":34,"userId":4,"categoryId":5,"description":"Pick up package","completed":false}, {"taskId":35,"userId":5,"categoryId":1,"description":"Exam prep","completed":true}, {"taskId":36,"userId":1,"categoryId":3,"description":"Laundry","completed":true}, {"taskId":37,"userId":2,"categoryId":4,"description":"Physical therapy","completed":false}, {"taskId":38,"userId":3,"categoryId":5,"description":"Return item","completed":true}, {"taskId":39,"userId":4,"categoryId":1,"description":"Quiz review","completed":false}, {"taskId":40,"userId":5,"categoryId":2,"description":"Weekly report","completed":true}, {"taskId":41,"userId":1,"categoryId":4,"description":"Walk outside","completed":true}, {"taskId":42,"userId":2,"categoryId":5,"description":"Buy supplies","completed":false}, {"taskId":43,"userId":3,"categoryId":1,"description":"Lecture review","completed":true}, {"taskId":44,"userId":4,"categoryId":2,"description":"Meeting notes","completed":false}, {"taskId":45,"userId":5,"categoryId":3,"description":"Relax time","completed":true}, {"taskId":46,"userId":1,"categoryId":5,"description":"Organize photos","completed":false}, {"taskId":47,"userId":2,"categoryId":1,"description":"Study group session","completed":true}, {"taskId":48,"userId":3,"categoryId":2,"description":"Deploy demo apps","completed":false}, {"taskId":49,"userId":4,"categoryId":3,"description":"Plan weekend","completed":true}, {"taskId":50,"userId":5,"categoryId":4,"description":"Swim laps"}, {"chapter 5 [DONE]"}], "7) [Bob] (Work) - Prepare slides", "8) [Bob] (Personal) - Call mom [DONE]", "9) [Bob] (Health) - Doctor appointment", "10) [Bob] (Errands) - Pick up laundry [DONE]", "11) [Charlie] (School) - Submit homework [DONE]", "12) [Charlie] (Work) - Team meeting", "13) [Charlie] (Personal) - Watch a movie [DONE]", "14) [Charlie] (Health) - Gym workout", "15) [Charlie] (Errands) chapter 5 [DONE]", "7) [Bob] (Work) - Prepare slides", "8) [Bob] (Personal) - Call mom [DONE]", "9) [Bob] (Health) - Doctor appointment", "10) [Bob] (Errands) - Pick up laundry [DONE]", "11) [Charlie] (School) - Submit homework [DONE]", "12) [Charlie] (Work) - Team meeting", "13) [Charlie] (Personal) - Watch a movie [DONE]", "14) [Charlie] (Health) - Gym workout", "15) [Charlie] (Errands) - Post office visit [DONE]", "16) [Dana] (School) - Group study", "17) [Dana] (Work) - Update resume [DONE]", "18) [Dana] (Personal) - Organize desk", "19) [Dana] (Health) - Yoga session [DONE]", "20) [Dana] (Errands) - Car wash", "21) [Evan] (School) - Practice coding [DONE]", "22) [Evan] (Work) - Client email", "23) [Evan] (Personal) - Read a book [DONE]", "24) [Evan] (Health) - Meditation", "25) [Evan] (Errands) - Buy pet food [DONE]", "26) [Alice] (School) - Review notes [DONE]", "27) [Bob] (Work) - Fix bugs", "28) [Charlie] (Personal) - Meal prep [DONE]", "29) [Dana] (Health) - Stretching [DONE]", "30) [Evan] (Errands) - Pay bills", "31) [Alice] (Work) - Code cleanup [DONE]", "32) [Bob] (Personal) - Journal writing", "33) [Charlie] (Health) - Cardio session [DONE]", "34) [Dana] (Errands) - Return item [DONE]", "35) [Evan] (School) - Exam prep [DONE]", "36) [Alice] (Personal) - Laundry [DONE]", "37) [Bob] (Health) - Physical therapy", "38) [Charlie] (Errands) - Pick up package", "39) [Dana] (School) - Quiz review", "40) [Evan] (Work) - Weekly report [DONE]", "41) [Alice] (Health) - Walk outside [DONE]", "42) [Bob] (Errands) - Buy supplies", "43) [Charlie] (School) - Lecture review [DONE]", "44) [Dana] (Work) - Meeting notes", "45) [Evan] (Personal) - Relax time [DONE]", "46) [Alice]
```

```
Update task -> HTTP 200
{"taskId":53,"userId":12,"categoryId":11,"description":"Task updated from console client","completed":true}

Get updated task -> HTTP 200
{"taskId":53,"userId":12,"categoryId":11,"description":"Task updated from console client","completed":true}

Delete task -> HTTP 204

Get deleted task (expect 404) -> HTTP 404

Delete task owner user -> HTTP 204

Delete task category -> HTTP 204

Final users list -> HTTP 200
[{"userId":1,"name":"Alice"}, {"userId":2,"name":"Bob"}, {"userId":3,"name":"Charlie"}, {"userId":4,"name":"Dana"}, {"userId":5,"name":"Evan"}, {"userId":6,"name":"Matt"}]

Final categories list -> HTTP 200
[{"categoryId":1,"name":"School"}, {"categoryId":2,"name":"Work"}, {"categoryId":3,"name":"Personal"}, {"categoryId":4,"name":"Health"}, {"categoryId":5,"name":"Errands"}]

Menu:
1) Run full CRUD demo through service layer
0) Quit
Choose: Q
Mcare@MattCarey ~ > CSCE548_Project_1 \main > |
```