

Project: Task Tracker API(Phase 1)

Tech Stack: FastAPI + Python

Security: JWT authentication (HS256)

Data Storage: In-Memory Lists Only (No DB)

Goal: Build a secure backend API that manages tasks.

TEST CASESWITH INPUT + EXPECTED

OUTPUT

SECTION 1 — LOGIN API TEST CASES

1.1 Successful Login

The screenshot shows a POST request to the '/login' endpoint. The request body is set to application/json and contains the following JSON payload:

```
{
  "username": "rahul",
  "password": "password123"
}
```

Output:

The response details section includes the following information:

- Curl command: curl -X 'POST' \ -H 'accept: application/json' \ -H 'Content-Type: application/json' \ -d '{ "username": "rahul", "password": "password123" }'
- Request URL: <http://127.0.0.1:8000/login>
- Server response code: 200
- Response body (JSON):

```
{
  "access_token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJzdWIiOiIxMjM0NTY3Mzc0LDE1MDI5NzE0.L0l2Q2UaXugyUoa4xPjaJkqEfIk-NZVydglyIgV9pNM",
  "token_type": "bearer"
}
```
- Response headers:

```
content-length: 165
content-type: application/json
date: Tue, 25 Nov 2025 05:28:13 GMT
server: uvicorn
```

1.2 Login –Wrong Password

The screenshot shows a POST request to the '/login' endpoint. The request body is a JSON object with 'username': 'rahul' and 'password': 'wrongpass'. The response button is highlighted.

Output:

The output shows a curl command to make the POST request. The response code is 401 Unauthorized, with a JSON body containing 'detail': 'Invalid username or password'. The response headers include content-length: 41, content-type: application/json, date: Tue, 25 Nov 2025 05:30:02 GMT, and server: unicorn.

1.2 Login –Wrong Username

The screenshot shows a POST request to the '/login' endpoint. The request body is a JSON object with 'username': 'Abhi' and 'password': 'password123'. The response button is highlighted.

Output:

The output shows a curl command to make the POST request. The response code is 401 Unauthorized, with a JSON body containing 'detail': 'Invalid username or password'. The response headers include content-length: 41, content-type: application/json, date: Tue, 25 Nov 2025 05:30:58 GMT, and server: unicorn.

1.3 Login – Missing Username

POST /login Login

Parameters

No parameters

Request body required

application/json

{ "password": "password123" }

Execute Clear

Output:

Responses

Curl

```
curl -X 'POST' \
'http://127.0.0.1:8000/login' \
-H 'accept: application/json' \
-H 'Content-Type: application/json' \
-d '{
  "password": "password123"
}'
```

Request URL

http://127.0.0.1:8000/login

Server response

Code	Details
422	Error: Unprocessable Entity Response body { "detail": [{ "type": "missing", "loc": ["body", "username"], "msg": "Field required", "input": { "password": "password123" } }] }

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SECTION 2 — CREATE TASK TEST CASES (POST /tasks)

2.1 Create Task – Valid

POST /tasks Create Task Endpoint

Parameters

No parameters

Request body required

application/json

{ "title": "Buy Milk", "description": "Buy Nandini milk from nearby shop" }

Execute Clear

Expected Output

Server response

Code	Details
200	<p>Response body</p> <pre>{ "id": 4, "title": "Buy Milk", "description": "Buy Nandini milk from nearby shop", "completed": false }</pre> <p>Download</p> <p>Response headers</p> <pre>content-length: 95 content-type: application/json date: Tue,25 Nov 2025 05:37:04 GMT server: uvicorn</pre>

2.2 Create Task –With Long Description

POST /tasks Create Task Endpoint

Parameters

No parameters

Request body required

application/json

Edit Value | Schema

```
{
  "title": "Apply PAN Card",
  "description": "Visit NSDL center in Bangalore and submit documents"
}
```

Execute Clear

Expected Output

Request URL

http://127.0.0.1:8000/tasks

Server response

Code	Details
200	<p>Response body</p> <pre>{ "id": 5, "title": "Apply PAN Card", "description": "Visit NSDL center in Bangalore and submit documents", "completed": false }</pre> <p>Download</p> <p>Response headers</p> <pre>content-length: 119 content-type: application/json date: Tue,25 Nov 2025 05:37:44 GMT server: uvicorn</pre>

Responses

2.3 Create Task – Missing Title

POST /tasks Create Task Endpoint

Parameters

No parameters

Request body required

application/json

Edit Value | Schema

```
{
  "description": "Pay LIC premium"
}
```

Execute Clear

Expected Output

Request URL
`http://127.0.0.1:8000/tasks`

Server response

Code	Details
422	Error: Unprocessable Entity

Response body

```
{ "detail": [ { "type": "missing", "loc": [ "body", "title" ], "msg": "Field required", "input": { "description": "Pay LIC premium" } } ] }
```

2.4 Create Task – Missing Description

POST `/tasks` Create Task Endpoint

Parameters

No parameters

Request body required

application/json

Edit Value | Schema

```
{"title": "Pay Broadband Bill"}
```

Execute Clear

Expected Output

Request URL
`http://127.0.0.1:8000/tasks`

Server response

Code	Details
422	Error: Unprocessable Entity

Response body

```
{ "detail": [ { "type": "missing", "loc": [ "body", "description" ], "msg": "Field required", "input": { "title": "Pay Broadband Bill" } } ] }
```

Response headers

```
content-length: 122
content-type: application/json
date: Tue, 25 Nov 2025 05:39:37 GMT
server: uvicorn
```

2.5 Create Task – Empty Fields

The screenshot shows a POST request to the '/tasks' endpoint. The 'Request body' field contains the following JSON:

```
{"title": "", "description": ""}
```

Below the request body, there are 'Execute' and 'Clear' buttons.

Expected Output

The screenshot shows the server response for a successful POST request (status code 200). The response body is:

```
{"id": 6, "title": "", "description": "", "completed": false}
```

The response headers are:

```
content-length: 54
content-type: application/json
date: Tue, 25 Nov 2025 05:40:22 GMT
server: unicorn
```

Below the response, there are 'Responses' and 'Responses' sections.

SECTION 3—GET ALL TASKS (GET /tasks)

The screenshot shows a GET request to the '/tasks' endpoint. The 'Request URL' is:

```
http://127.0.0.1:8000/tasks
```

Below the URL, there are 'Responses' and 'Responses' sections.

Output:

Server response

Code	Details
200	Response body

```
[{"title": "Apply PAN Card", "description": "Visit NSDL center in Bangalore and submit documents", "id": 1, "completed": false}, {"title": "Buy Milk", "description": "Buy Nandini milk from nearby shop", "id": 2, "completed": false}, {"title": "Buy Milk", "description": "Buy Nandini milk from nearby shop", "id": 3, "completed": false}, {"title": "Buy Milk", "description": "Buy Nandini milk from nearby shop", "id": 4, "completed": false}, {"title": "Apply PAN Card", "description": "Visit NSDL center in Bangalore and submit documents", "id": 5, "completed": false}]
```

Download

SECTION 4 — GET SINGLE TASK (GET /tasks/{task_id})

4.1 Valid — Get Task 1

GET /tasks/{task_id} Get Single Task Endpoint

Parameters

Name	Description
task_id <small>* required</small>	integer (path) 1

Execute

Expected Output

Server response

Code	Details
200	Response body

```
{ "title": "Apply PAN Card", "description": "Visit NSDL center in Bangalore and submit documents", "id": 1, "completed": false}
```

Response headers

```
content-length: 119
content-type: application/json
date: Tue, 25 Nov 2025 05:45:28 GMT
server: unicorn
```

Download

4.2 Valid — Get Task 2

GET /tasks/{task_id} Get Single Task Endpoint

Parameters

Name	Description
task_id <small>* required</small>	integer (path) 2

Execute

Clear

Expected Output

Server Response

Code	Details
200	<p>Response body</p> <pre>{ "title": "Buy Milk", "description": "Buy Nandini milk from nearby shop", "id": 2, "completed": false }</pre> <p>Download</p> <p>Response headers</p> <pre>content-length: 95 content-type: application/json date: Tue, 25 Nov 2025 05:46:23 GMT server: unicorn</pre>

4.3 Non-Existing Task

GET /tasks/{task_id} Get Single Task Endpoint

Cancel

Parameters

Name	Description
task_id <small>required</small>	integer (path)

10

Execute Clear

Expected Output:

Code	Details
404 <small>Undocumented</small>	<p>Error: Not Found</p> <p>Response body</p> <pre>{ "detail": "Task not found" }</pre> <p>Download</p> <p>Response headers</p> <pre>content-length: 27 content-type: application/json date: Tue, 25 Nov 2025 05:47:12 GMT server: unicorn</pre>

SECTION 5 — UPDATE TASK (PUT /tasks/{task_id})

5.1 Update Existing Task (Valid)

PUT /tasks/{task_id} Update Task Endpoint

Cancel Reset

Parameters

Name	Description
task_id <small>required</small>	integer (path)

1

Request body required

application/json

Edit Value | Schema

```
{ "title": "Buy Vegetables", "description": "Buy tomatoes and onions from Big Bazaar", "completed": true }
```

Execute

Expected Output:

The screenshot shows a browser interface with a request URL of <http://127.0.0.1:8000/tasks/1>. The response code is 200, and the response body is a JSON object with fields title, description, id, and completed. The id field is highlighted with a red box. The response headers include content-length, content-type, date, and server.

```
{ "title": "Buy Vegetables", "description": "Buy tomatoes and onions from Big Bazaar", "id": 1, "completed": true }
```

content-length: 106
content-type: application/json
date: Tue, 25 Nov 2025 05:49:40 GMT
server: uvicorn

5.2 Update Task — Toggle Completion Only

The screenshot shows a UI for updating a task. It has tabs for Parameters, Request body, and Response body. The Parameters tab shows a parameter named task_id with a value of 2. The Request body tab shows a JSON object with fields title, description, and completed. The Response body tab shows a JSON object with fields title, description, id, and completed, where the id field is highlighted with a red box. Buttons for Execute and Clear are at the bottom.

Parameters

Name	Description
task_id * required	2

Request body required

```
{ "title": "Apply PAN Card", "description": "Visit NSDL center in Bangalore and submit documents", "completed": true }
```

Edit Value | Schema

Execute Clear

Expected Output:

The screenshot shows a browser interface with a request URL of <http://127.0.0.1:8000/tasks/1>. The response code is 200, and the response body is a JSON object with fields title, description, id, and completed. The id field is highlighted with a red box. The response headers include content-length, content-type, date, and server.

```
{ "title": "Apply PAN Card", "description": "Visit NSDL center in Bangalore and submit documents", "id": 2, "completed": true }
```

content-length: 118
content-type: application/json
date: Tue, 25 Nov 2025 05:50:18 GMT
server: uvicorn

5.3 Update Task — Empty Title Allowed

PUT /tasks/{task_id} Update Task Endpoint

Parameters

Name	Description
task_id <small>* required</small> integer (path)	3

Request body required

application/json

```
{"title": "", "description": "This was an empty task earlier", "completed": false}
```

Execute Clear

Expected Output:

Request URL

http://127.0.0.1:8000/tasks/3

Server response

Code	Details
200	Response body

```
{ "title": "", "description": "This was an empty task earlier", "id": 3, "completed": false}
```

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Response headers

```
content-length: 84
content-type: application/json
date: Tue, 25 Nov 2025 05:51:06 GMT
server: uvicorn
```

5.4 Update Non-Existing Task

PUT /tasks/{task_id} Update Task Endpoint

Parameters

Name	Description
task_id <small>* required</small> integer (path)	99

Request body required

application/json

```
{"title": "Ghost", "description": "This task does not exist", "completed": false}
```

Execute Clear

Expected Output:

Code Details

404 Error: Not Found
Undocumented

Response body

```
{ "detail": "Task not found" }
```

Download

Response headers

```
content-length: 27
content-type: application/json
date: Tue, 25 Nov 2025 05:52:08 GMT
server: uvicorn
```

SECTION 6 — DELETE TASK (DELETE /tasks/{task_id})

6.1 Delete Valid Task

DELETE /tasks/{task_id} Delete Task Endpoint

Parameters

Name Description

task_id * required
integer
(path)

2

Execute Clear

Expected Output:

Code Details

200 Response body

```
{ "message": "Task deleted successfully" }
```

Download

Response headers

```
content-length: 39
content-type: application/json
date: Tue, 25 Nov 2025 06:46:57 GMT
server: uvicorn
```

6.2 Try Getting Deleted Task

DELETE /tasks/{task_id} Delete Task Endpoint

Parameters

Name Description

task_id * required
integer
(path)

2

Execute Clear

Expected Output:

Code Details

404 Undocumented Error: Not Found

Response body

```
{ "detail": "Task not found" }
```

Download

Response headers

```
content-length: 27
content-type: application/json
date: Tue, 25 Nov 2025 06:47:34 GMT
server: unicorn
```

Responses

6.3 Delete Non-Existing Task

DELETE /tasks/{task_id} Delete Task Endpoint

Parameters

Name Description

task_id * required integer (path) 50

Cancel

Execute Clear

Expected Output:

Code Details

404 Undocumented Error: Not Found

Response body

```
{ "detail": "Task not found" }
```

Download

Response headers

```
content-length: 27
content-type: application/json
date: Tue, 25 Nov 2025 06:48:17 GMT
server: unicorn
```

SECTION 7 — AUTHENTICATION FAILURE CASES

7.1 Missing Authorization Header

GET /tasks Get All Tasks Endpoint

Parameters

No parameters

Cancel

Execute Clear

Responses

Curl

```
curl -X 'GET' \
'http://127.0.0.1:8000/tasks' \
-H 'accept: application/json'
```

Request URL

```
http://127.0.0.1:8000/tasks
```

Server response

Code Details

403 Undocumented Error: Forbidden

Response body

```
{ "detail": "Not authenticated" }
```

Download

Response headers

```
content-length: 30
content-type: application/json
date: Tue, 25 Nov 2025 06:51:00 GMT
server: unicorn
```

7.2 Invalid Token

The screenshot shows a REST API documentation interface. At the top, it says "GET /tasks Get All Tasks Endpoint". Below this, there's a "Parameters" section which says "No parameters". There are "Execute" and "Clear" buttons. Under "Responses", there's a "Curl" section with the command:

```
curl -X 'GET' \
'http://127.0.0.1:8000/tasks' \
-H 'Accept: application/json' \
-H 'Authorization: Bearer 3456'
```

Below that is a "Request URL" field containing "http://127.0.0.1:8000/tasks". The "Server response" section shows a table with "Code" and "Details" columns. The "Code" column has a single entry "401 Undocumented". The "Details" column for this entry says "Error: Unauthorized" and "Response body" contains the JSON object:

```
{ "detail": "Could not validate credentials" }
```

There are "Copy" and "Download" buttons next to the response body.

7.3 Expired Token

The screenshot shows a REST API documentation interface. It displays the same "GET /tasks Get All Tasks Endpoint" details as the previous section. The "Responses" section shows a table with "Code" and "Details" columns. The "Code" column has a single entry "401 Undocumented". The "Details" column for this entry says "Error: Unauthorized" and "Response body" contains the JSON object:

```
{ "detail": "Could not validate credentials" }
```

Below the response body is a "Response headers" section showing the following header information:

```
content-length: 43
content-type: application/json
date: Tue, 25 Nov 2025 06:55:11 GMT
server: unicorn
www-authenticate: Bearer
```

There are "Copy" and "Download" buttons next to the response body.