

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

POST

/login Login

Parameters

No parameters

Request body required

application/json

Edit Value | Schema

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

Execute

Output:

Responses

Curl

```
curl -X 'POST' \
  http://127.0.0.1:8000/login \
  -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	Details
200	<div>Response body</div> <div><pre>{ "access_token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJzdWIiOiJyYWRhIiwiaWF0IjEwMjYyZUaXgyU0a4dPja3kqEFk-NZVydglyIjV9pN0M", "token_type": "bearer" }</pre></div> <div>Response headers</div> <div><pre>content-length: 165 content-type: application/json date: Tue, 25 Nov 2025 05:28:13 GMT server: uvicorn</pre></div>

1.2 Login –Wrong Password

POST

/login Login

Parameters

No parameters

Request body required

application/json

Edit Value | Schema

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

Execute

Output:

Responses

Curl

```
curl -X 'POST' \  'http://127.0.0.1:8000/login' \  -H 'accept: application/json' \  -H 'Content-type: application/json' \  -d '{  "username": "rahul",  "password": "wrongpass"}'
```

Request URL

http://127.0.0.1:8000/login

Server response

Code	Details
401	Error: Unauthorized

Response body

```
{  "detail": "Invalid username or password"}  
```

Response headers

```
content-length: 41  content-type: application/json  date: Tue, 25 Nov 2025 05:30:02 GMT  server: uvicorn
```

1.2 Login –Wrong Username

POST

/login Login

Parameters

No parameters

Request body required

application/json

Edit Value | Schema

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

Execute

Clear

Output:

Server response

Code	Details
401	Error: Unauthorized

Response body

```
{  "detail": "Invalid username or password"}  
```

Response headers

```
content-length: 41  content-type: application/json  date: Tue, 25 Nov 2025 05:30:58 GMT  server: uvicorn
```

1.3 Login – Missing Username

POST /login Login

Parameters

Cancel

Reset

No parameters

Request body required

application/json

Edit Value | Schema

```
{
  "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	<div>Error: Unprocessable Entity</div> <div>Response body<div><pre>{ "detail": [{ "type": "missing", "loc": ["body", "username"], "msg": "Field required", "input": { "password": "password123" } }] }</pre></div><div>Download</div></div>

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

2.1 Create Task – Valid

POST /tasks Create Task Endpoint

Parameters

Cancel

Reset

No parameters

Request body required

application/json


Edit Value | Schema

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

Execute

Clear

Expected Output


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


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


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"
      }
    }
  ]
}
```

Download

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"
      }
    }
  ]
}
```

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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

POST

/tasks

Create Task Endpoint

Parameters

Cancel

Reset

No parameters

Request body

required

application/json

Edit Value

Schema

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

Execute

Clear

Expected Output



Request URL	
<code>http://127.0.0.1:8000/tasks</code>	
Server response	
Code	Details
200	<div><div>Response body</div><div><pre>{ "id": 6, "title": "", "description": "", "completed": false }</pre></div><div> Download</div></div> <div><div>Response headers</div><div><pre>content-length: 54 content-type: application/json date: Tue, 25 Nov 2025 05:40:22 GMT server: uvicorn</pre></div></div>
Responses	

SECTION 3 — GET ALL TASKS (GET /tasks)

GET

/tasks

Get All Tasks Endpoint



Parameters

Cancel

No parameters


Execute

Clear

Responses

Curl

```
curl -X 'GET' \
'http://127.0.0.1:8000/tasks' \
-H 'accept: application/json' \
-H 'Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJ3ZkdWI0I3YmI1bCIsImV4cCI6MTc2NDAlNDYxOH0.qpUumA2GH4XPNjM0uPmMg0Q4XJ3awVWZeEs_SUSwYgu'
```



Request URL

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

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

Cancel

Name	Description
task_id * required integer (path)	<input type="text" value="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 }
```

Download

Response headers

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

4.2 Valid — Get Task 2

GET /tasks/{task_id} Get Single Task Endpoint

Parameters

Cancel

Name	Description
task_id * required integer (path)	<input type="text" value="2"/>

Execute

Clear

Expected Output

Code	Details
200	<div><div>Response body</div><div><pre>{ "title": "Buy Milk", "description": "Buy Nandini milk from nearby shop", "id": 1, "completed": false }</pre></div><div><div>Download</div></div></div> <div><div>Response headers</div><div><pre>content-length: 95 content-type: application/json date: Tue, 25 Nov 2025 05:46:23 GMT server: unicorn</pre></div></div>

4.3 Non-Existing Task

GET

/tasks/{task_id} Get Single Task Endpoint

Download

Lock

Up

Parameters

Cancel

Name

Description

task_id * required

integer

(path)

10

Execute

Clear

Expected Output:

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

Responses

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

5.1 Update Existing Task (Valid)

PUT

/tasks/{task_id} Update Task Endpoint

Download

Lock

Up

Parameters

Cancel

Reset

Name

Description

task_id * required

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:

Request URL

http://127.0.0.1:8000/tasks/1

Server response

Code	Details
200	<div><div>Response body</div><div><pre>{ "title": "Buy Vegetables", "description": "Buy tomatoes and onions from Big Bazaar", "id": 1, "completed": true }</pre></div><div><div></div>Download</div></div> <div><div>Response headers</div><div><pre>content-length: 106 content-type: application/json date: Tue, 25 Nov 2025 05:49:40 GMT server: uvicorn</pre></div></div>

5.2 Update Task — Toggle Completion Only

Parameters

Cancel

Reset

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

Request body required

application/json

Edit Value | Schema

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

Execute

Clear

Expected Output:

Code

Details

200

Response body

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

Download




Response headers

```
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

Cancel

Reset

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

3

Request body required

application/json

Edit Value | Schema

```
{
  "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	<div><div>Response body</div><div><pre>{ "title": "", "description": "This was an empty task earlier", "id": 3, "completed": false }</pre></div><div> <div>Download</div></div></div> <div><div>Response headers</div><div><pre>content-length: 84 content-type: application/json date: Tue, 25 Nov 2025 05:51:06 GMT server: uvicorn</pre></div></div>

5.4 Update Non-Existing Task

PUT

/tasks/{task_id} Update Task Endpoint



Parameters

Cancel

Reset

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

99

Request body required

application/json

Edit Value | Schema

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

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 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

Cancel

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

Cancel

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: uvicorn
```


Responses

6.3 Delete Non-Existing Task

DELETE

/tasks/{task_id}

Delete Task Endpoint

 ^

Parameters

Cancel

Name	Description
task_id * required	
integer	50
(path)	

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: uvicorn
```


SECTION 7 — AUTHENTICATION FAILURE CASES

7.1 Missing Authorization Header

GET

/tasks

Get All Tasks Endpoint

 ^

Parameters

Cancel

No parameters


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: uvicorn
```

7.2 Invalid Token

GET /tasks Get All Tasks Endpoint

Parameters

No parameters

Execute

Clear

Responses

Curl

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

Request URL

http://127.0.0.1:8000/tasks

Server response

Code	Details
401	Error: Unauthorized

Response body

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

Download

7.3 Expired Token

Code	Details
401	Error: Unauthorized

Response body

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

Download

Response headers

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