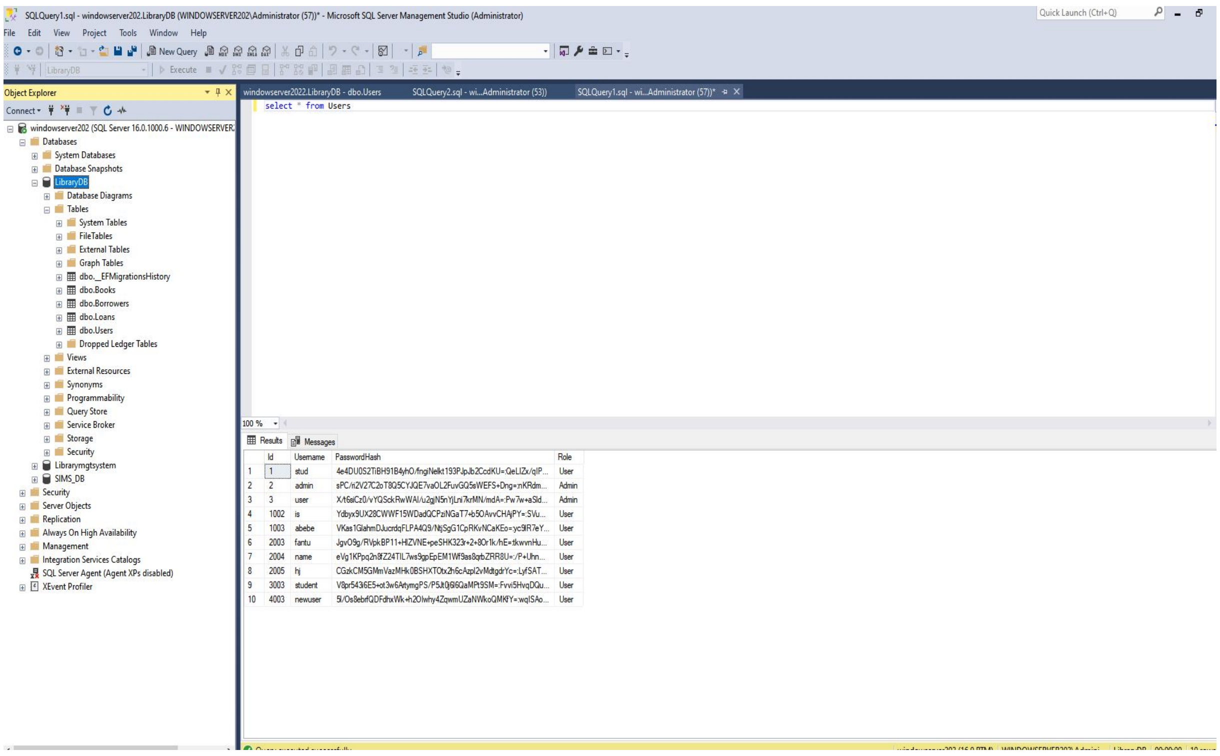
LibraryWebAPI Backend

- The **Library Web API** is designed to streamline library management by providing functionalities for handling books, borrowers, and loans efficiently

- **NOTE**:The Library Web API system provides role-based access control to ensure secure and efficient management. **Admins** have full privileges, allowing them to add, update, and delete books, borrowers, and loans. They can also manage user accounts and oversee overdue loans. **Users** have limited access, primarily focused on searching for books, borrowing them, and returning loans. They can view their loan history but cannot modify or remove records.

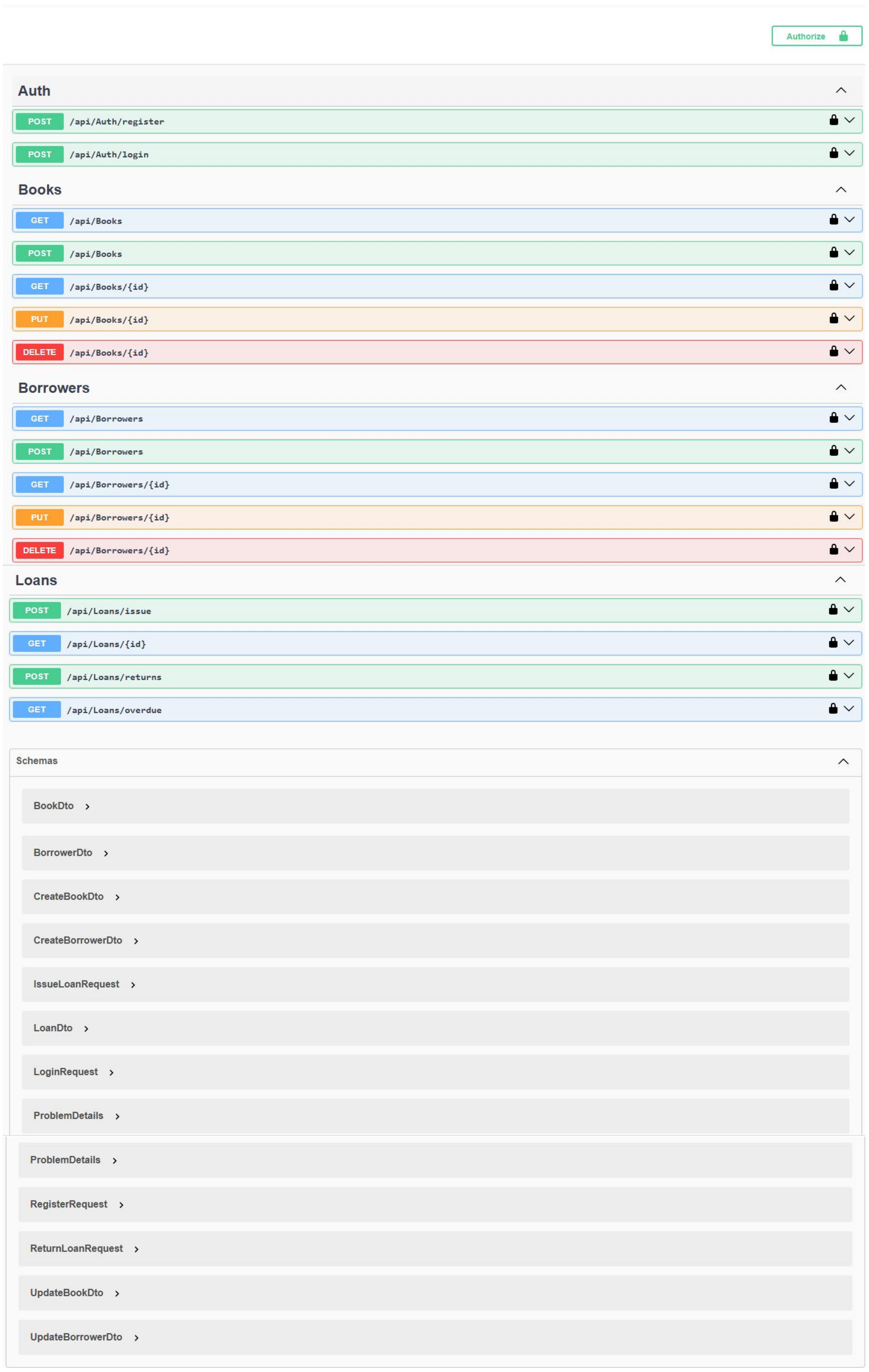
It needs to connect to database with tables Users,Books,Borrowers and Loans



```
select * from Users
```

	Id	Username	PasswordHash	Role
1	1	stud	4e4DU0S2TiBH91B4yhO/fngiNelkt193PJpJb2CcdKU=:QeLIZx/qIP...	User
2	2	admin	sPC/ri2V27C2oT8Q5CYJQE7vaOL2FuvGQ5sWEFS+Dng=:nKRdm...	Admin
3	3	user	X/t6siCz0/vYQSckRwWAl/u2gjN5nYjLni7krMN/mdA=:Pw7w+aSld...	Admin
4	1002	is	Ydbyx9UX28CWWF15WDadQCPziNGaT7+b5OAvvCHAjPY=:SVu...	User
5	1003	abebe	VKas1GlahmDJucrdqFLPA4Q9/NtjSgG1CpRKvNCaKEo=:yc9lR7eY...	User
6	2003	fantu	JgvO9g/RVpkBP11+HIZVNE+peSHK323r+2+8Or1k/hE=:tkwvnHu...	User
7	2004	name	eVg1KPpq2n8fZ24TIL7ws9gpEpEM1Wf9as8qrbZRR8U=:/P+Uhn...	User
8	2005	hj	CGzkCM5GMmVazMHk0BSHXTOtx2h6cAzpl2vMdtgdrYc=:LyfSAT...	User
9	3003	student	V8pr543i6E5+ot3w6ArtymgPS/P5Jt0j6l6QaMPt9SM=:Fvvi5HvqDQu...	User
10	4003	newuser	5l/Os8ebrfQDFdhxWk+h2OIwhy4ZqwmUZaNWkoQMKfY=:wqISAo...	User

App schema



Authorize

Auth

POST /api/Auth/register

POST /api/Auth/login

Books

GET /api/Books

POST /api/Books

GET /api/Books/{id}

PUT /api/Books/{id}

DELETE /api/Books/{id}

Borrowers

GET /api/Borrowers

POST /api/Borrowers

GET /api/Borrowers/{id}

PUT /api/Borrowers/{id}

DELETE /api/Borrowers/{id}

Loans

POST /api/Loans/issue

GET /api/Loans/{id}

POST /api/Loans/returns

GET /api/Loans/overdue

Schemas

BookDto

BorrowerDto

CreateBookDto

CreateBorrowerDto

IssueLoanRequest

LoanDto

LoginRequest

ProblemDetails

ProblemDetails

RegisterRequest

ReturnLoanRequest

UpdateBookDto

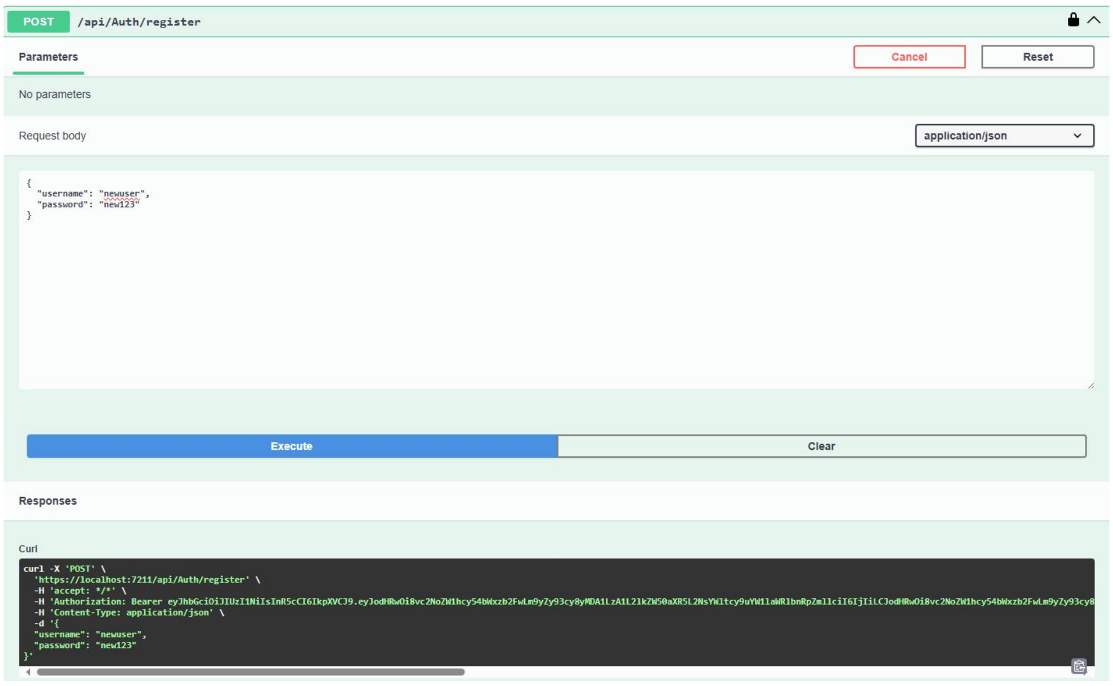
UpdateBorrowerDto

What it do?

Register new user and Authentication

Register

- ➢ Implement registration (POST /api/Auth/register) so users can sign up.



No parameters

Request body

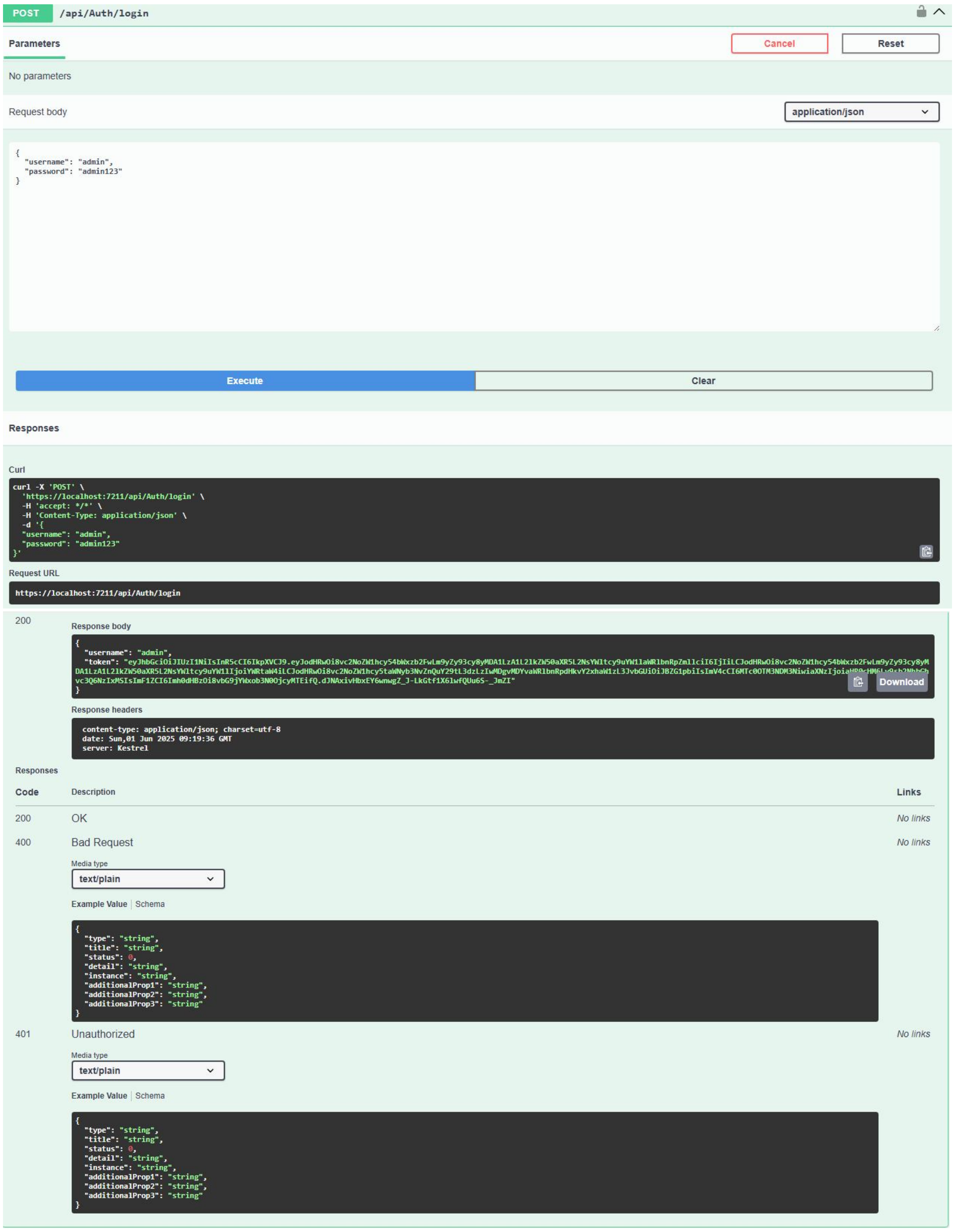
```
{
  "username": "newuser",
  "password": "new123"
}
```

Curl

```
curl -X 'POST' \
  'https://localhost:7211/api/Auth/register' \
  -H 'accept: */*' \
  -H 'Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L21kZW50aXR5L2NsYWltcy9uYW1laWRlbnRpZmllciI6IjIiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8
  -H 'Content-Type: application/json' \
  -d '{
  "username": "newuser",
  "password": "new123"
}'
```

Login

- ➢ Enable login (POST /api/Auth/login) to authenticate and authorize users


POST /api/Auth/login

Parameters

No parameters

Request body application/json

```
{
  "username": "admin",
  "password": "admin123"
}
```

Responses

Curl

```
curl -X 'POST' \
  'https://localhost:7211/api/Auth/login' \
  -H 'accept: */*' \
  -H 'Content-Type: application/json' \
  -d '{
  "username": "admin",
  "password": "admin123"
}'
```

Request URL

```
https://localhost:7211/api/Auth/login
```

200

Response body

```
{
  "username": "admin",
  "token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L21kZW50aXR5L2NsYWltcy9uYW1laWRlbnRpZmllciI6IjIiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L21kZW50aXR5L2NsYWltcy9uYW1lIjoiYWRtaW4iLCJodHRwOi8vc2NoZW1hcy5taWNyb3NvZnQuY29tL3dzLzIwMDgvMDYvaWRlbnRpdHkvY2xhaW1zL3JvbGUiOiJBZG1pbiIsImV4cCI6MTc0OTM3NDM3NiwiaXNzIjoiaHR0cHM6Ly9sb2NhbGhvc3Q6NzIxMSIsImF1ZCI6Imh0dHBzOi8vbG9jYWxob3N0OjcyMTEifQ.dJNAxivHbxEY6wnwgZ_J-LkGtf1X6lwfQUu6S-_JmZI"
}
```

Response headers

```
content-type: application/json; charset=utf-8
date: Sun,01 Jun 2025 09:19:36 GMT
server: Kestrel
```

Responses

Code	Description	Links
200	OK	*No links*
400	Bad Request	*No links*
401	Unauthorized	*No links*

400 Bad Request — Media type: text/plain — Example Value

```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

401 Unauthorized — Media type: text/plain — Example Value

```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

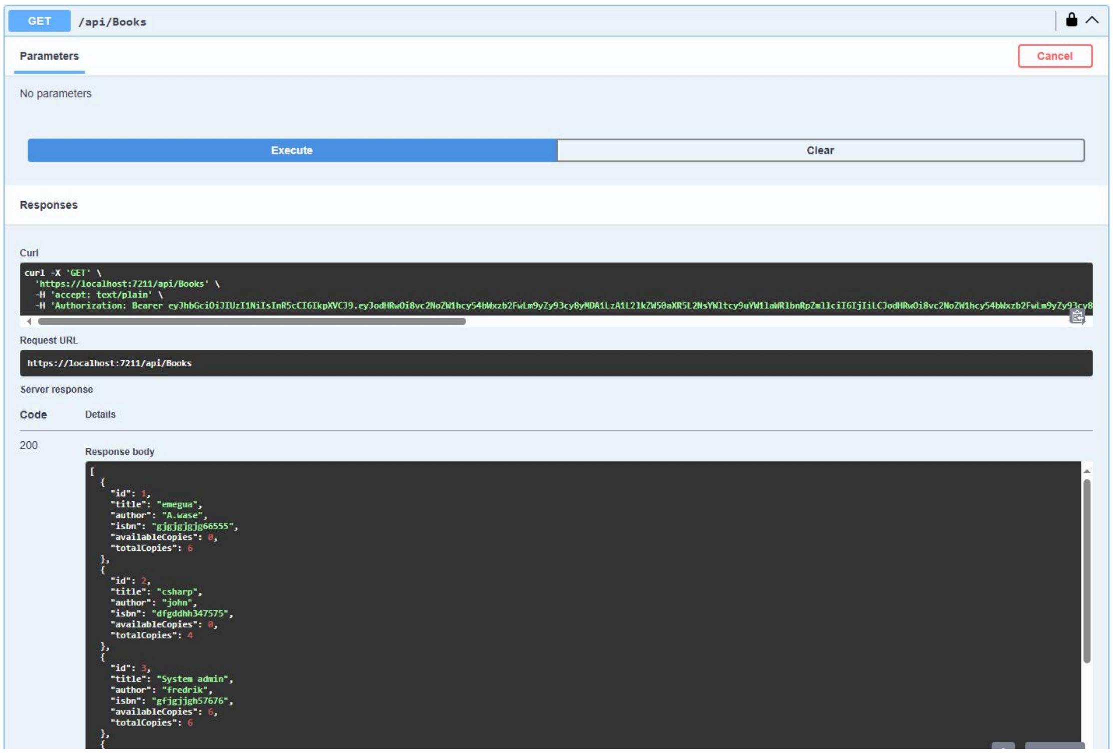
Books Management

- Create endpoints to list books (`GET /api/Books`), add new books (`POST /api/Books`), and retrieve individual book details (`GET /api/Books/{id}`)

➢ Provide update functionality (`PUT /api/Books/{id}`) for modifying book records.

➢ Allow deletion (`DELETE /api/Books/{id}`) to remove books from the system.

1.see all books



Curl

```
curl -X 'GET' \
  'https://localhost:7211/api/Books' \
  -H 'accept: text/plain' \
  -H 'Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L21kZW50aXR5L2NsYW1tcy9uYW1laWRlbnRpZmllciI6IjIiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8
```

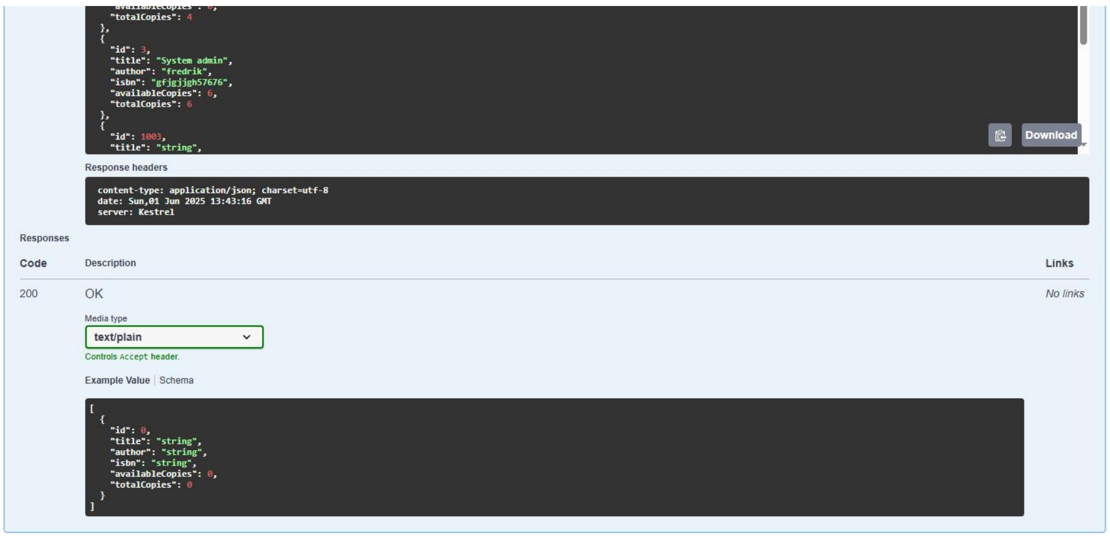
Request URL

```
https://localhost:7211/api/Books
```

Server response

Code	Details
200	Response body

```
[
  {
    "id": 1,
    "title": "emegua",
    "author": "A.wase",
    "isbn": "gjgjgjgjg66555",
    "availableCopies": 0,
    "totalCopies": 6
  },
  {
    "id": 2,
    "title": "csharp",
    "author": "john",
    "isbn": "dfgddhh347575",
    "availableCopies": 0,
    "totalCopies": 4
  },
  {
    "id": 3,
    "title": "System admin",
    "author": "fredrik",
    "isbn": "gfjgjjgh57676",
    "availableCopies": 6,
    "totalCopies": 6
  },
  {
```



```
    "availableCopies": 0,
    "totalCopies": 4
  },
  {
    "id": 3,
    "title": "System admin",
    "author": "fredrik",
    "isbn": "gfjgjjgh57676",
    "availableCopies": 6,
    "totalCopies": 6
  },
  {
    "id": 1003,
    "title": "string",
```

Response headers

```
content-type: application/json; charset=utf-8
date: Sun,01 Jun 2025 13:43:16 GMT
server: Kestrel
```

Responses

Code	Description	Links
200	OK	No links

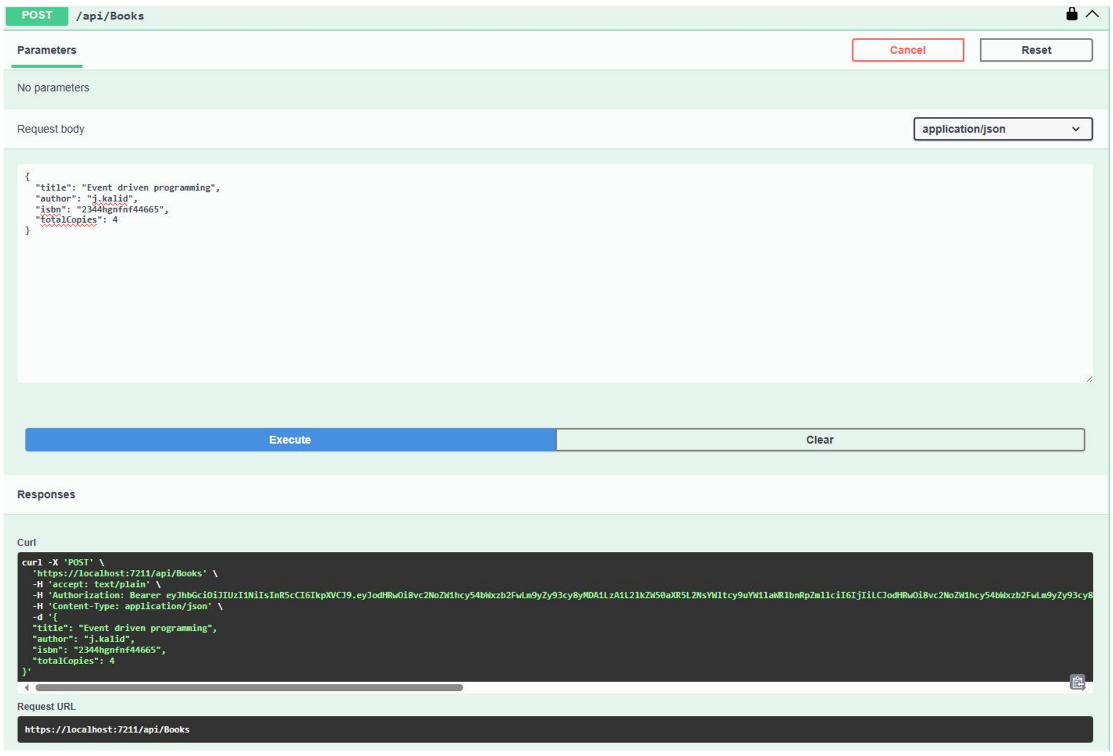
Media type: text/plain

Controls Accept header.

Example Value | Schema

```
[
  {
    "id": 0,
    "title": "string",
    "author": "string",
    "isbn": "string",
    "availableCopies": 0,
    "totalCopies": 0
  }
]
```

2.Add Book



POST /api/Books

Parameters

No parameters

Request body: application/json

```
{
  "title": "Event driven programming",
  "author": "j.kalid",
  "isbn": "2344hgnfnf44665",
  "totalCopies": 4
}
```

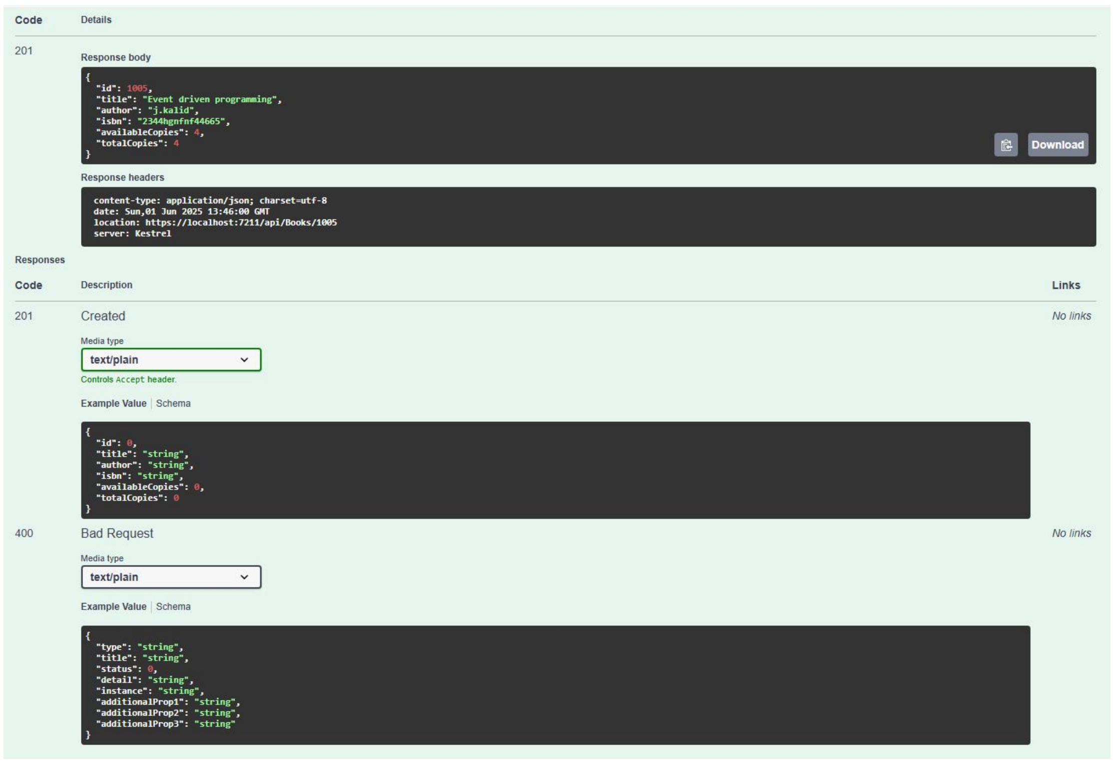
Responses

Curl

```
curl -X 'POST' \
  'https://localhost:7211/api/Books' \
  -H 'accept: text/plain' \
  -H 'Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L2lkZW50aXR5L2NsYWltcy9uYW1laWRlbnRpZmllciI6IjIiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8
  -H 'Content-Type: application/json' \
  -d '{
  "title": "Event driven programming",
  "author": "j.kalid",
  "isbn": "2344hgnfnf44665",
  "totalCopies": 4
}'
```

Request URL

```
https://localhost:7211/api/Books
```



Code Details

201

Response body

```
{
  "id": 1005,
  "title": "Event driven programming",
  "author": "j.kalid",
  "isbn": "2344hgnfnf44665",
  "availableCopies": 4,
  "totalCopies": 4
}
```

Response headers

```
 content-type: application/json; charset=utf-8
 date: Sun,01 Jun 2025 13:46:00 GMT
 location: https://localhost:7211/api/Books/1005
 server: Kestrel
```

Responses

Code Description Links

201 Created *No links*

Media type: text/plain

Controls Accept header.

Example Value | Schema

```
{
  "id": 0,
  "title": "string",
  "author": "string",
  "isbn": "string",
  "availableCopies": 0,
  "totalCopies": 0
}
```

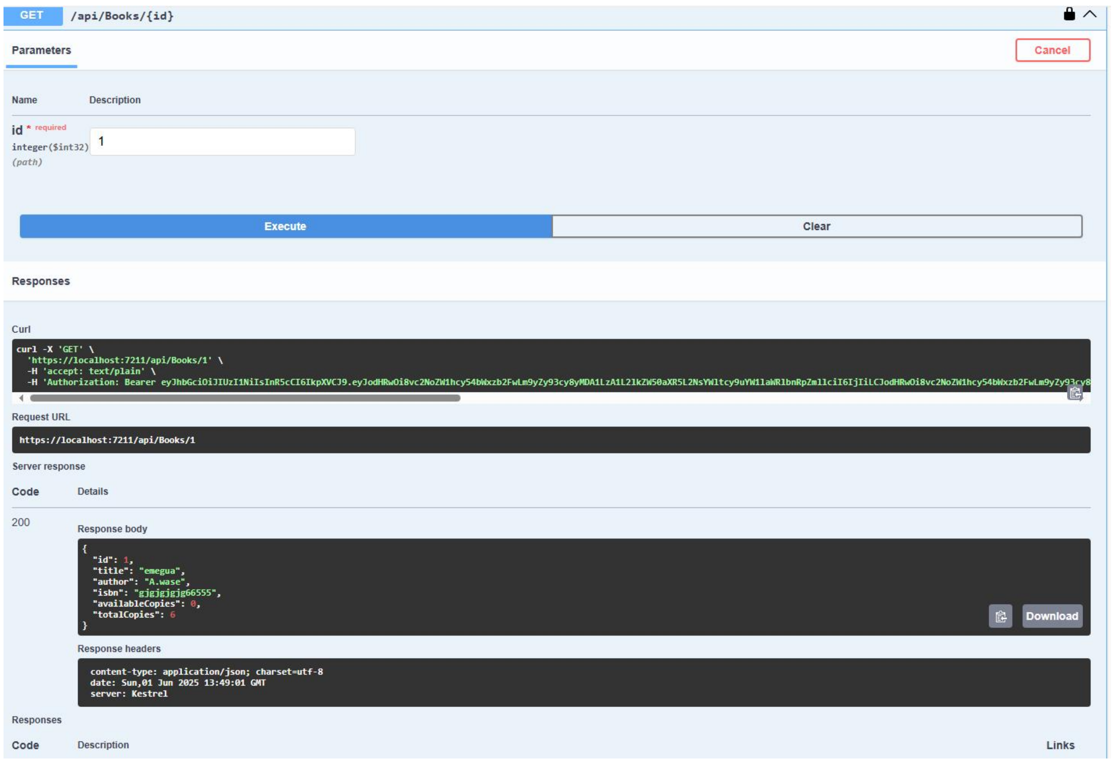
400 Bad Request *No links*

Media type: text/plain

Example Value | Schema

```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

3.Get book by ID



GET /api/Books/{id}

Parameters

Name Description

id * required integer($int32) (path): 1

Responses

Curl

```
curl -X 'GET' \
  'https://localhost:7211/api/Books/1' \
  -H 'accept: text/plain' \
  -H 'Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L2lkZW50aXR5L2NsYWltcy9uYW1laWRlbnRpZmllciI6IjIiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8
```

Request URL

```
https://localhost:7211/api/Books/1
```

Server response

Code Details

200

Response body

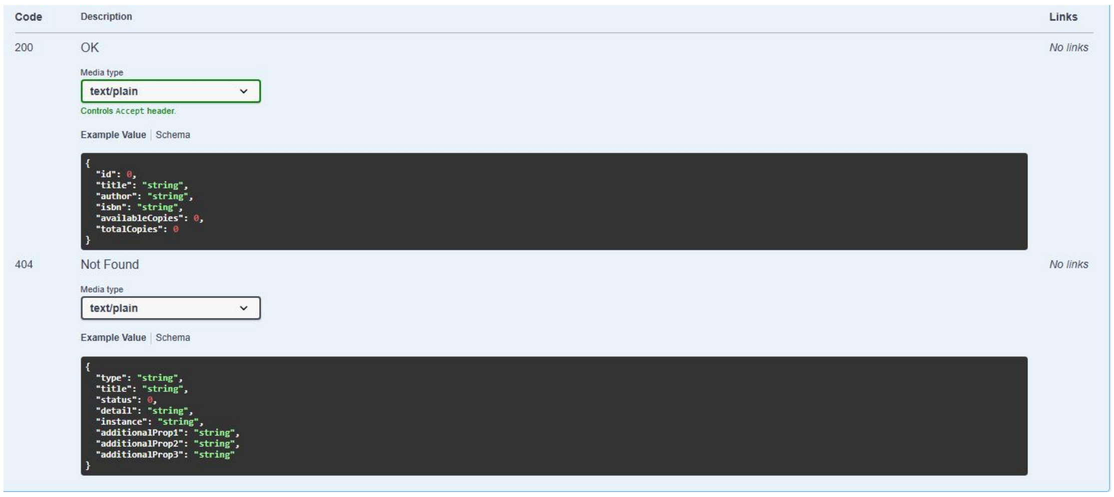
```
{
  "id": 1,
  "title": "emegua",
  "author": "A.wase",
  "isbn": "gjgjgjgjg66555",
  "availableCopies": 0,
  "totalCopies": 6
}
```

Response headers

```
 content-type: application/json; charset=utf-8
 date: Sun,01 Jun 2025 13:49:01 GMT
 server: Kestrel
```

Responses

Code Description Links



Code	Description	Links
200	OK	*No links*
404	Not Found	*No links*

200 OK

Media type: text/plain

Controls `Accept` header.

Example Value | Schema

```
{
  "id": 0,
  "title": "string",
  "author": "string",
  "isbn": "string",
  "availableCopies": 0,
  "totalCopies": 0
}
```

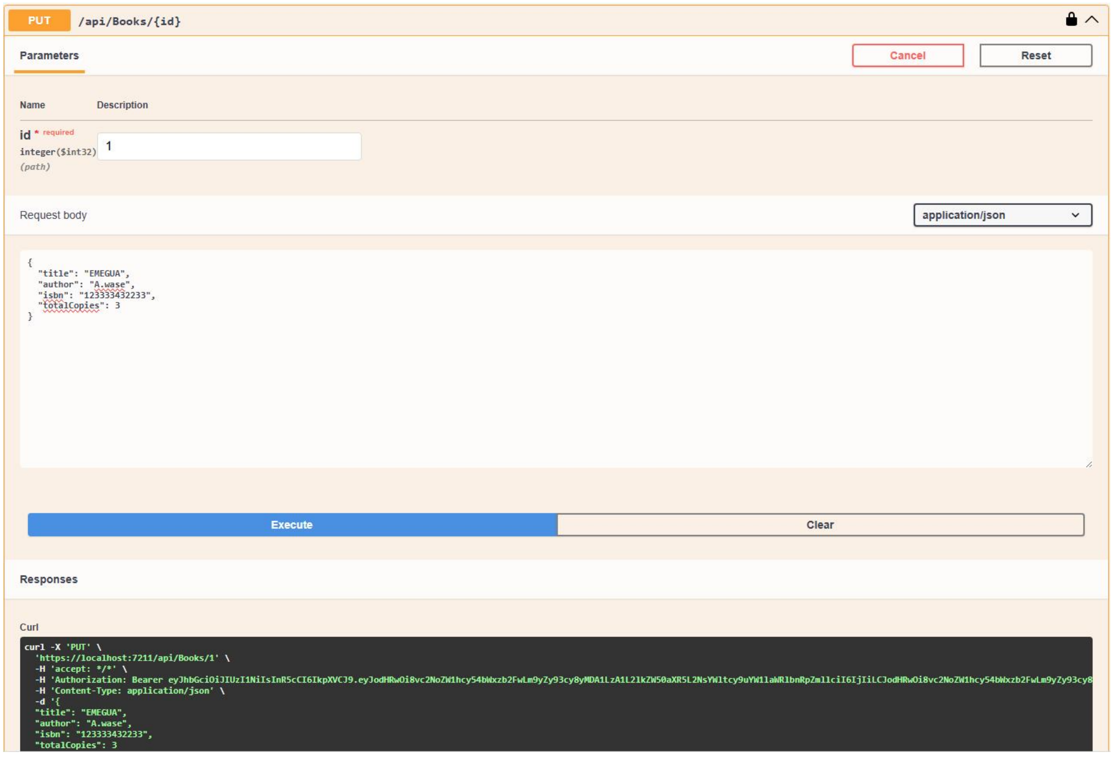
404 Not Found

Media type: text/plain

Example Value | Schema

```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

4.Modify book By id



PUT `/api/Books/{id}`

Parameters

Name	Description
id * required integer($int32) *(path)*	1

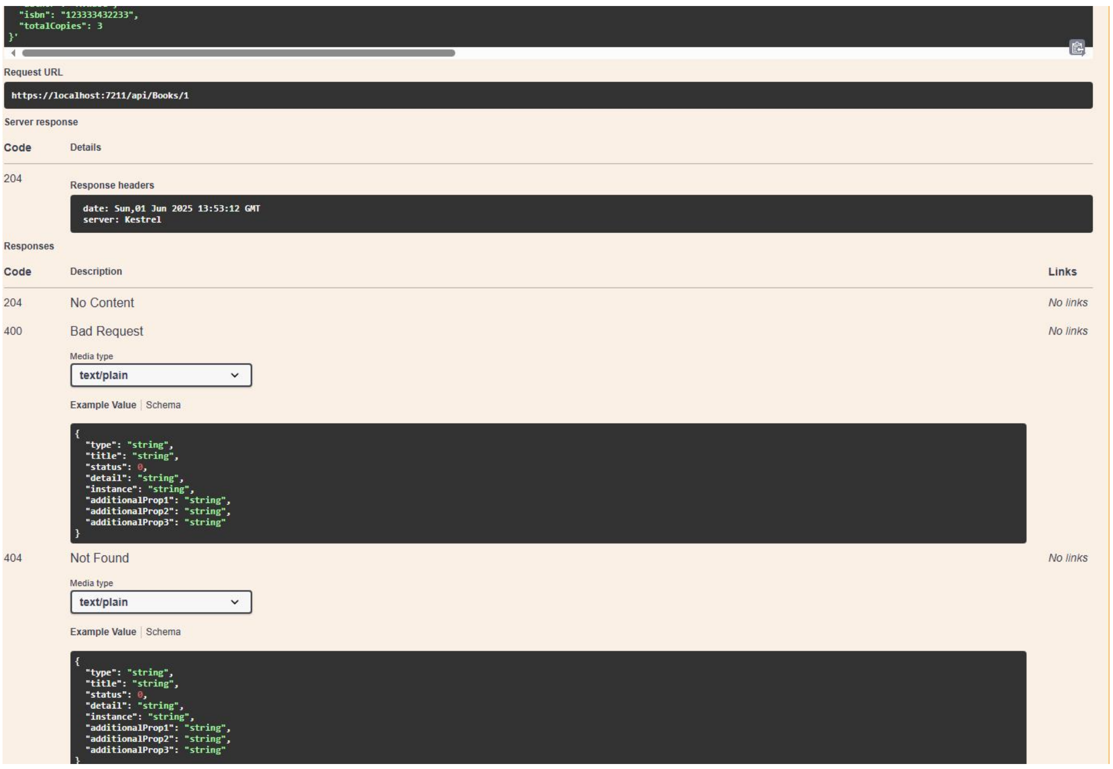
Request body: application/json

```
{
  "title": "EMEGUA",
  "author": "A.wase",
  "isbn": "123333432233",
  "totalCopies": 3
}
```

Responses

Curl

```
curl -X 'PUT' \
  'https://localhost:7211/api/Books/1' \
  -H 'accept: */*' \
  -H 'Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L2lkZW50aXR5L2NsYWltcy9uYW1laWRlbnRpZmllciI6IjIiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8
  -H 'Content-Type: application/json' \
  -d '{
  "title": "EMEGUA",
  "author": "A.wase",
  "isbn": "123333432233",
  "totalCopies": 3
```



```
  "isbn": "123333432233",
  "totalCopies": 3
}'
```

Request URL

```
https://localhost:7211/api/Books/1
```

Server response

Code	Details
204	Response headers

```
date: Sun,01 Jun 2025 13:53:12 GMT
server: Kestrel
```

Responses

Code	Description	Links
204	No Content	*No links*
400	Bad Request	*No links*

Media type: text/plain

Example Value | Schema

```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

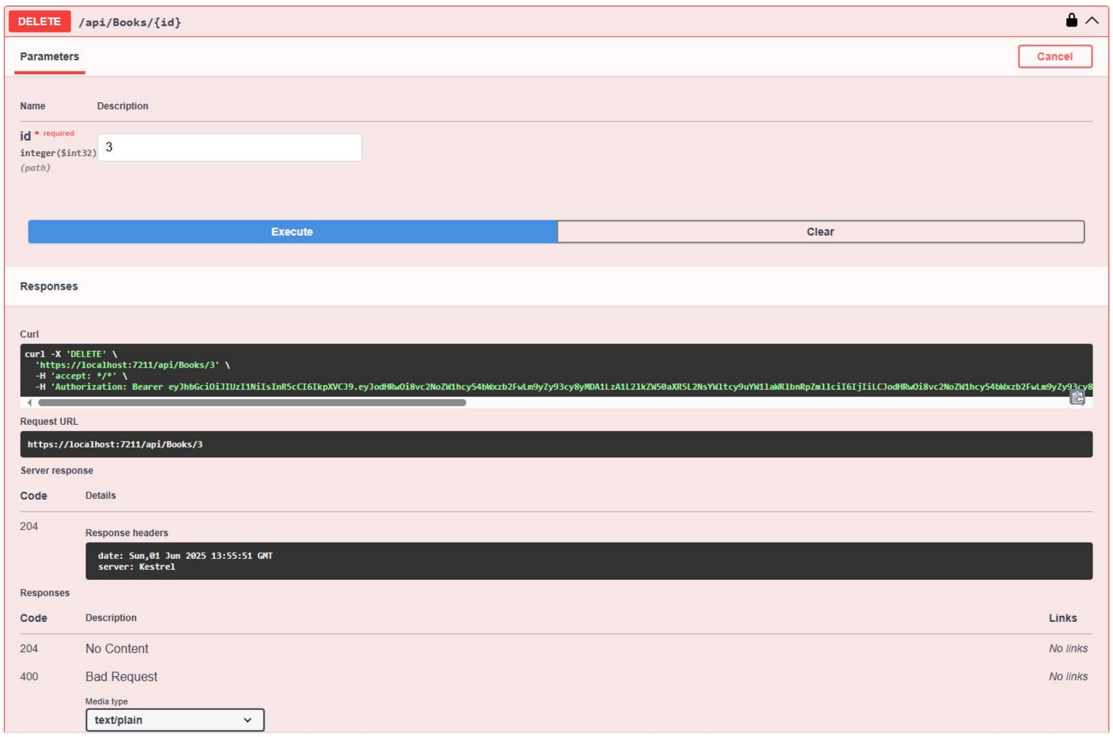
Code	Description	Links
404	Not Found	*No links*

Media type: text/plain

Example Value | Schema

```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

5.Delete books by id



DELETE /api/Books/{id}

Parameters

Cancel

Name	Description
id * required integer($int32) (path)	3

Execute Clear

Responses

Curl

```
curl -X 'DELETE' \
  'https://localhost:7211/api/Books/3' \
  -H 'accept: */*' \
  -H 'Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L2lkZW50aXR5L2NsYWltcy9uYW1laWRlbnRpZmllciI6IjIiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8
```

Request URL

```
https://localhost:7211/api/Books/3
```

Server response

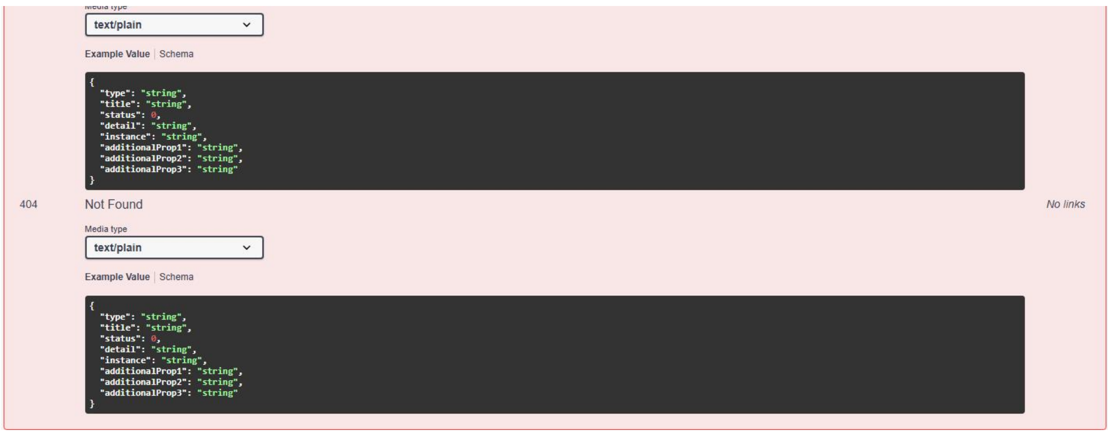
Code	Details
204	Response headers

```
date: Sun,01 Jun 2025 13:55:51 GMT
server: Kestrel
```

Responses

Code	Description	Links
204	No Content	*No links*
400	Bad Request	*No links*

Media type: text/plain



```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

404 Not Found No links

```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

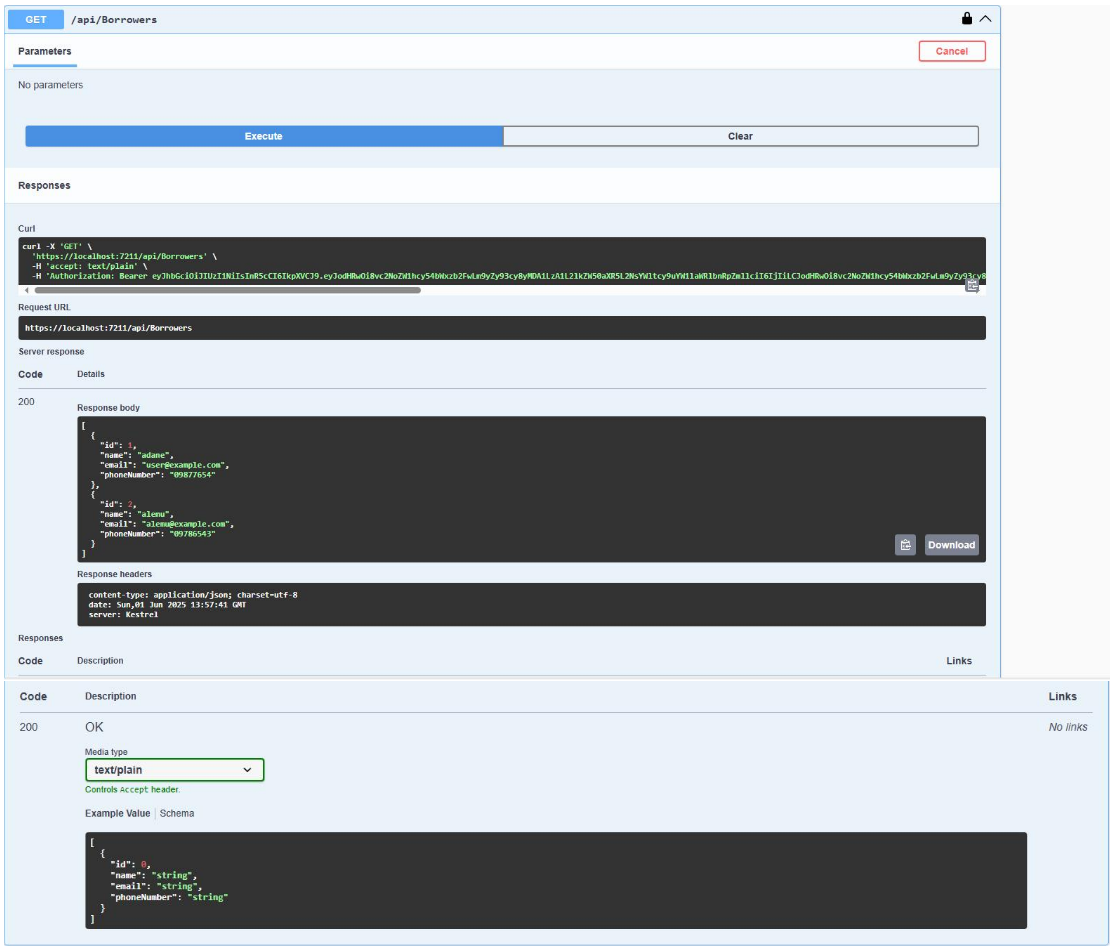
Borrowers management page

List all borrowers (`GET /api/Borrowers`), and create new borrower records (`POST /api/Borrowers`).

Retrieve specific borrower information (`GET /api/Borrowers/{id}`).

Support modifications (`PUT /api/Borrowers/{id}`) and deletion (`DELETE /api/Borrowers/{id}`) of borrower data.

1.Select all



GET /api/Borrowers

Parameters

Cancel

No parameters

Execute | Clear

Responses

Curl

```
curl -X 'GET' \
  'https://localhost:7211/api/Borrowers' \
  -H 'accept: text/plain' \
  -H 'Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L2lkZW50aXR5L2NsYWltcy9uYW1laWRlbnRpZmllciI6IjIiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8
```

Request URL

```
https://localhost:7211/api/Borrowers
```

Server response

Code	Details
200	Response body

```
[
  {
    "id": 1,
    "name": "adane",
    "email": "user@example.com",
    "phoneNumber": "09877654"
  },
  {
    "id": 2,
    "name": "alemu",
    "email": "alemu@example.com",
    "phoneNumber": "09786543"
  }
]
```

Download

Response headers

```
content-type: application/json; charset=utf-8
date: Sun,01 Jun 2025 13:57:41 GMT
server: Kestrel
```

Responses

Code	Description	Links
200	OK	No links

Media type

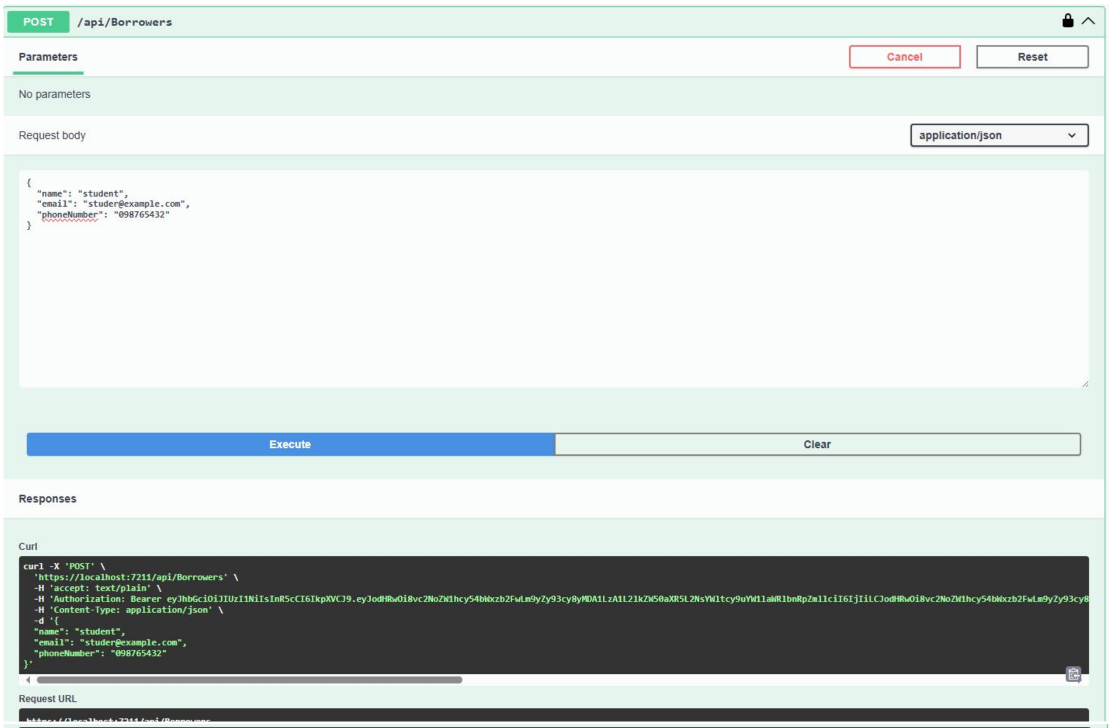
text/plain

Controls Accept header.

Example Value | Schema

```
[
  {
    "id": 0,
    "name": "string",
    "email": "string",
    "phoneNumber": "string"
  }
]
```

2.Add borrower



POST /api/Borrowers

Parameters

Cancel Reset

No parameters

Request body application/json

```
{
  "name": "student",
  "email": "studer@example.com",
  "phoneNumber": "098765432"
}
```

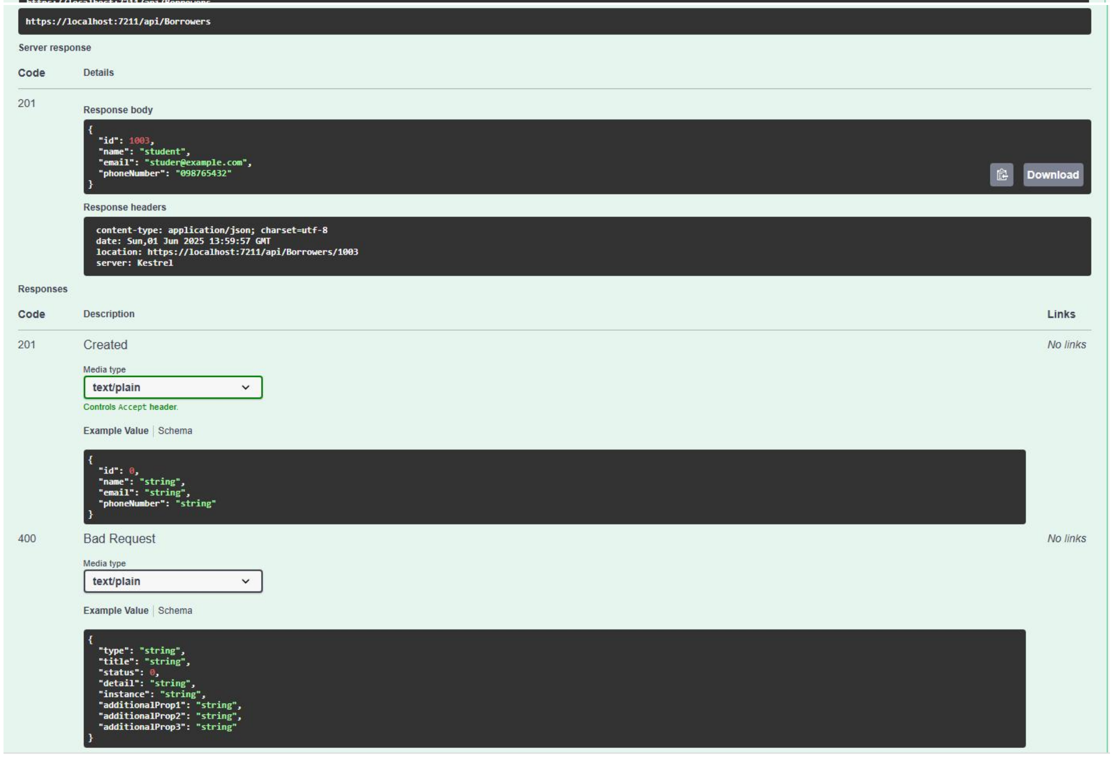
Execute Clear

Responses

Curl

```
curl -X 'POST' \
  'https://localhost:7211/api/Borrowers' \
  -H 'accept: text/plain' \
  -H 'Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L2lkZW50aXR5L2NsYWltcy9uYW1laWRlbnRpZmllciI6IjIiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8
  -H 'Content-Type: application/json' \
  -d '{
  "name": "student",
  "email": "studer@example.com",
  "phoneNumber": "098765432"
}'
```

Request URL



```
https://localhost:7211/api/Borrowers
```

Server response

Code Details

201

Response body

```
{
  "id": 1003,
  "name": "student",
  "email": "studer@example.com",
  "phoneNumber": "098765432"
}
```

Download

Response headers

```
 content-type: application/json; charset=utf-8
 date: Sun,01 Jun 2025 13:59:57 GMT
 location: https://localhost:7211/api/Borrowers/1003
 server: Kestrel
```

Responses

Code	Description	Links
201	Created	No links
400	Bad Request	No links

201 Created

Media type text/plain

Controls Accept header.

Example Value | Schema

```
{
  "id": 0,
  "name": "string",
  "email": "string",
  "phoneNumber": "string"
}
```

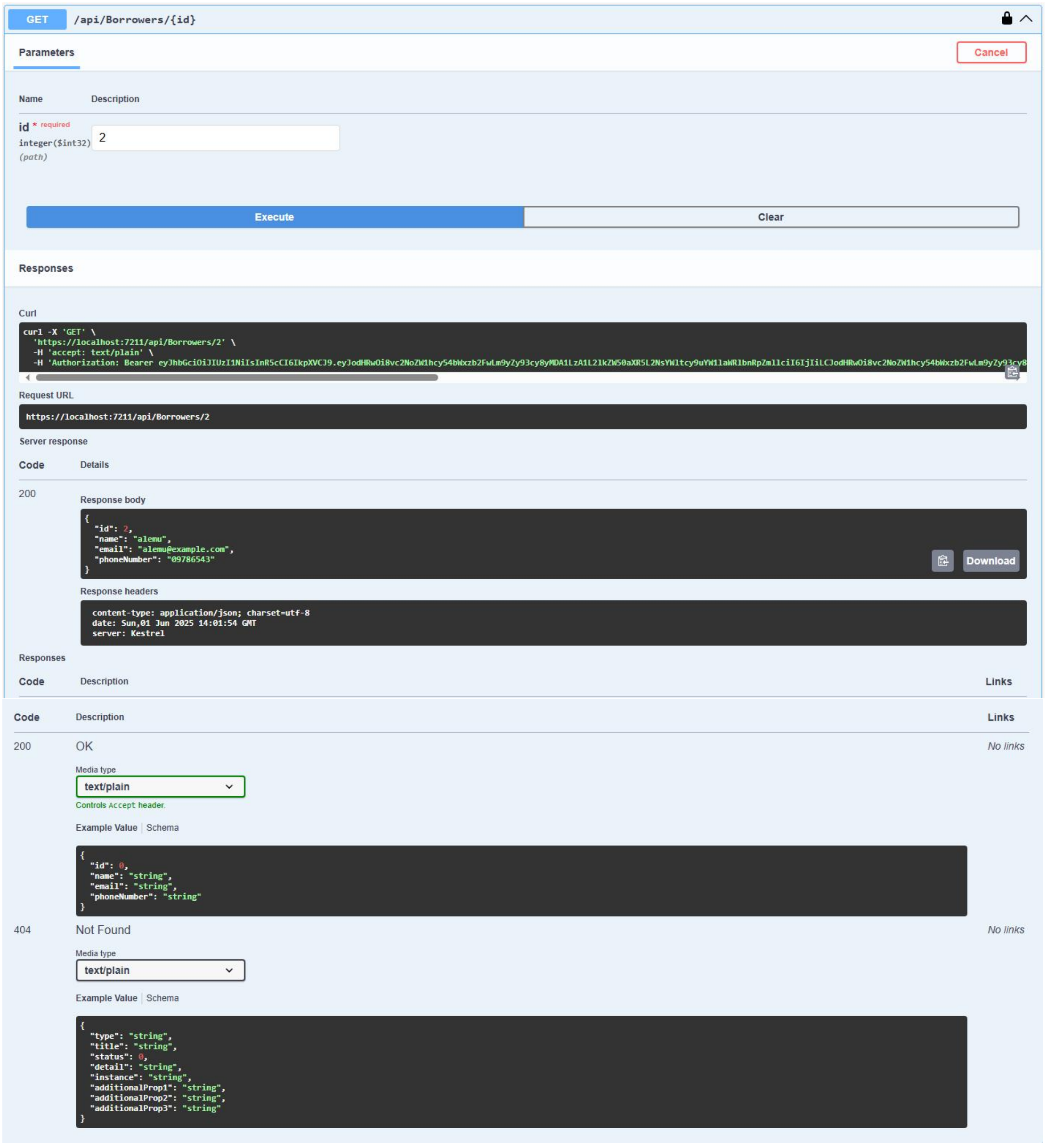
400 Bad Request

Media type text/plain

Example Value | Schema

```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

3.Select borrower by ID



/api/Borrowers/{id}

Parameters

Name	Description
id * required integer($int32) (path)	2

Responses

Curl

```
curl -X 'GET' \
  'https://localhost:7211/api/Borrowers/2' \
  -H 'accept: text/plain' \
  -H 'Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L21kZW50aXR5L2NsYWltcy9uYW1laWRlbnRpZmllciI6IjIiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8
```

Request URL

```
https://localhost:7211/api/Borrowers/2
```

Server response

Code | Details

200

Response body

```
{
  "id": 2,
  "name": "alemu",
  "email": "alemu@example.com",
  "phoneNumber": "09786543"
}
```

Response headers

```
 content-type: application/json; charset=utf-8
 date: Sun,01 Jun 2025 14:01:54 GMT
 server: Kestrel
```

Responses

Code | Description | Links

Code | Description | Links

200 OK — No links

Media type: text/plain

Controls Accept header.

Example Value | Schema

```
{
  "id": 0,
  "name": "string",
  "email": "string",
  "phoneNumber": "string"
}
```

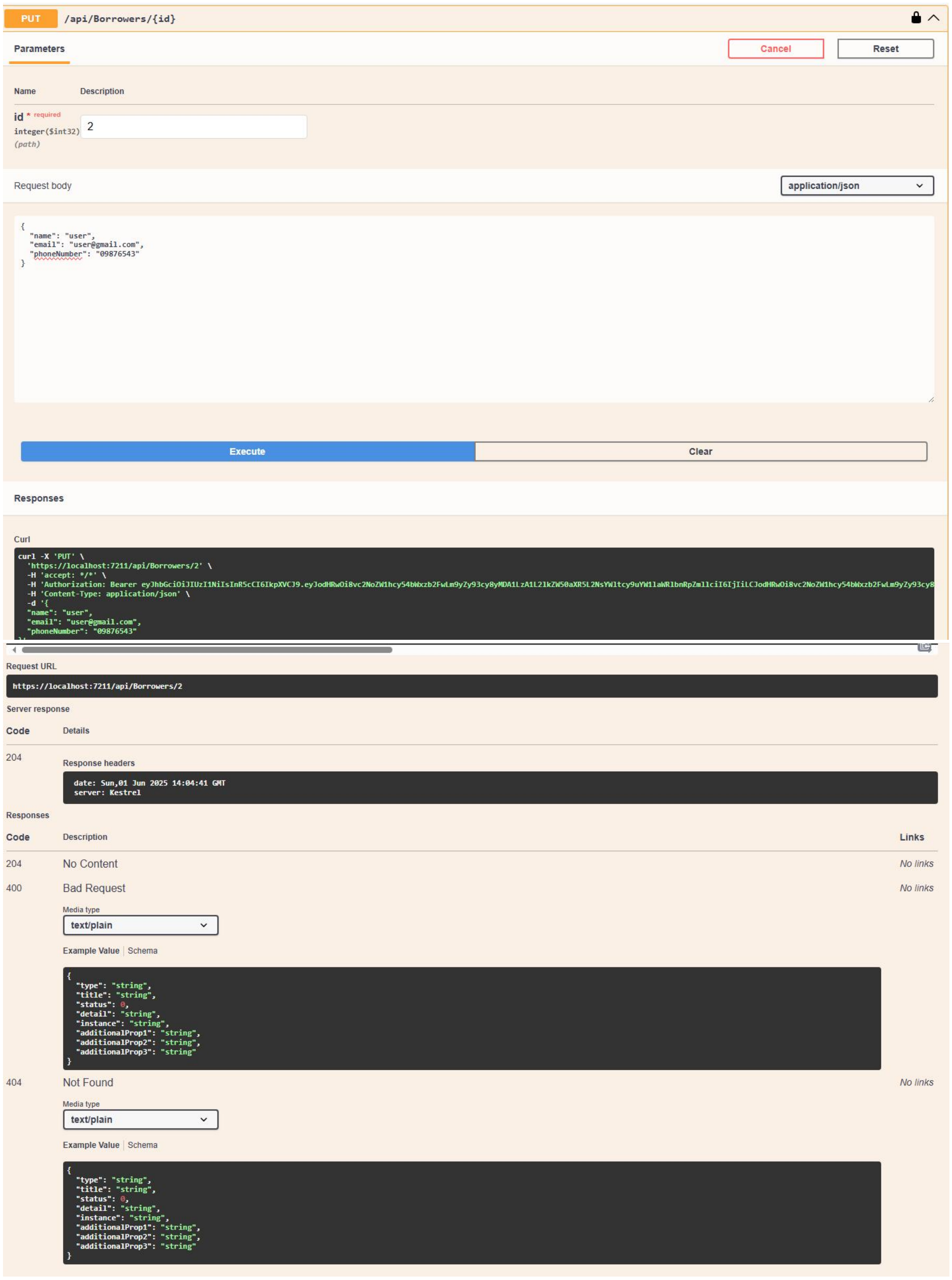
404 Not Found — No links

Media type: text/plain

Example Value | Schema

```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

4.Edit borrower



PUT /api/Borrowers/{id}

Parameters

Name | Description

id * required
integer($int32)
(path)
2

Request body: application/json

```
{
  "name": "user",
  "email": "user@gmail.com",
  "phoneNumber": "09876543"
}
```

Responses

Curl

```
curl -X 'PUT' \
  'https://localhost:7211/api/Borrowers/2' \
  -H 'accept: */*' \
  -H 'Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L2lkZW50aXR5L2NsYWltcy9uYW1laWRlbnRpZmllciI6IjIiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8
  -H 'Content-Type: application/json' \
  -d '{
  "name": "user",
  "email": "user@gmail.com",
  "phoneNumber": "09876543"
```

Request URL

```
https://localhost:7211/api/Borrowers/2
```

Server response

Code	Details
204	Response headers

```
date: Sun,01 Jun 2025 14:04:41 GMT
server: Kestrel
```

Responses

Code	Description	Links
204	No Content	No links
400	Bad Request	No links

Media type: text/plain

Example Value | Schema

```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

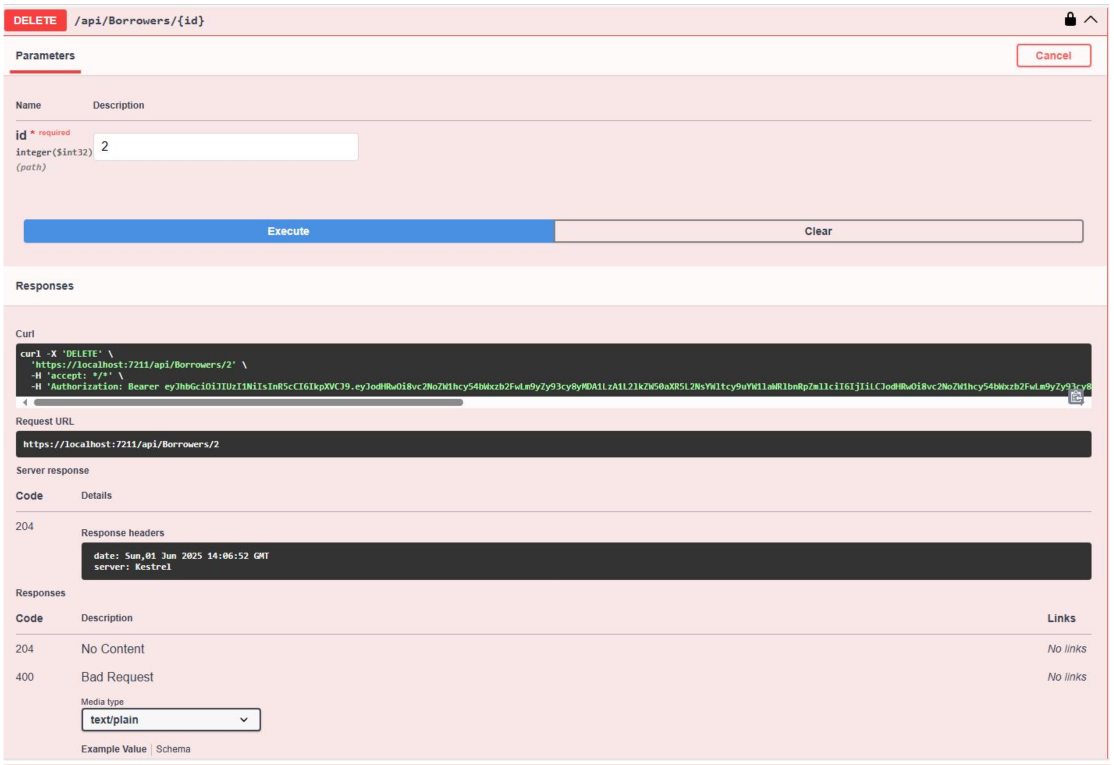
Code	Description	Links
404	Not Found	No links

Media type: text/plain

Example Value | Schema

```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

5.Delete borrower by ID



Curl

```
curl -X 'DELETE' \
  'https://localhost:7211/api/Borrowers/2' \
  -H 'accept: */*' \
  -H 'Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L2lkZW50aXR5L2NsYWltcy9uYW1laWRlbnRpZmllciI6IjIiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8
```

Request URL

```
https://localhost:7211/api/Borrowers/2
```

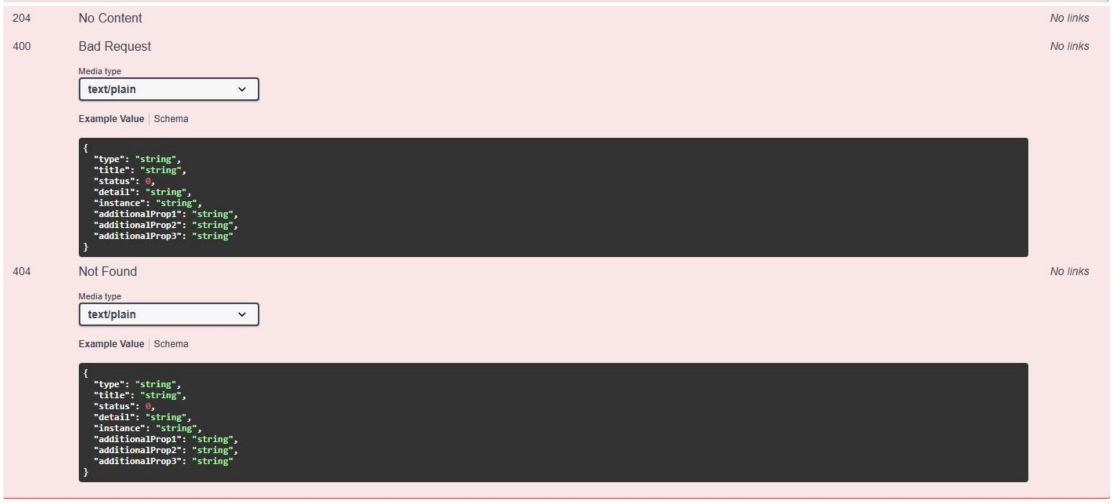
Server response

Code	Details
204	Response headers

```
date: Sun,01 Jun 2025 14:06:52 GMT
server: Kestrel
```

Responses

Code	Description	Links
204	No Content	*No links*
400	Bad Request	*No links*



Code	Description	Links
204	No Content	*No links*
400	Bad Request	*No links*

```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

Code	Description	Links
404	Not Found	*No links*

```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

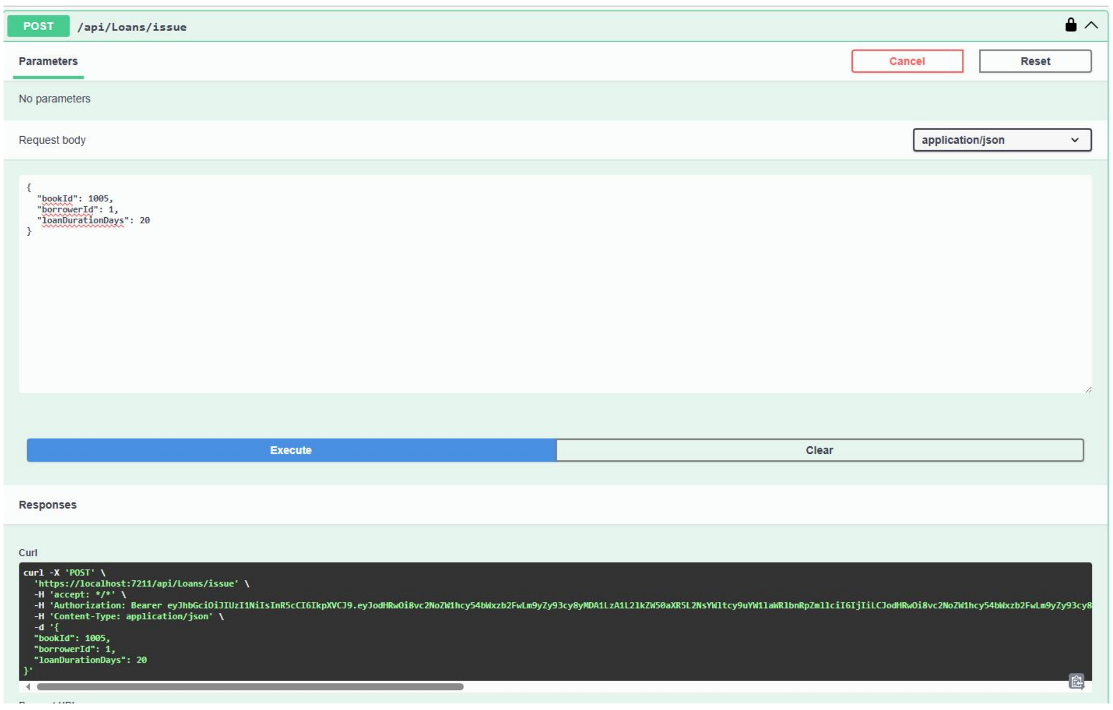
Loans Management

- ➢ Implement loan issuance (`POST /api/Loans/issue`) so books can be borrowed.
- ➢ Retrieve loan details (`GET /api/Loans/{id}`) for tracking

- Support returning books (`POST /api/Loans/returns`).

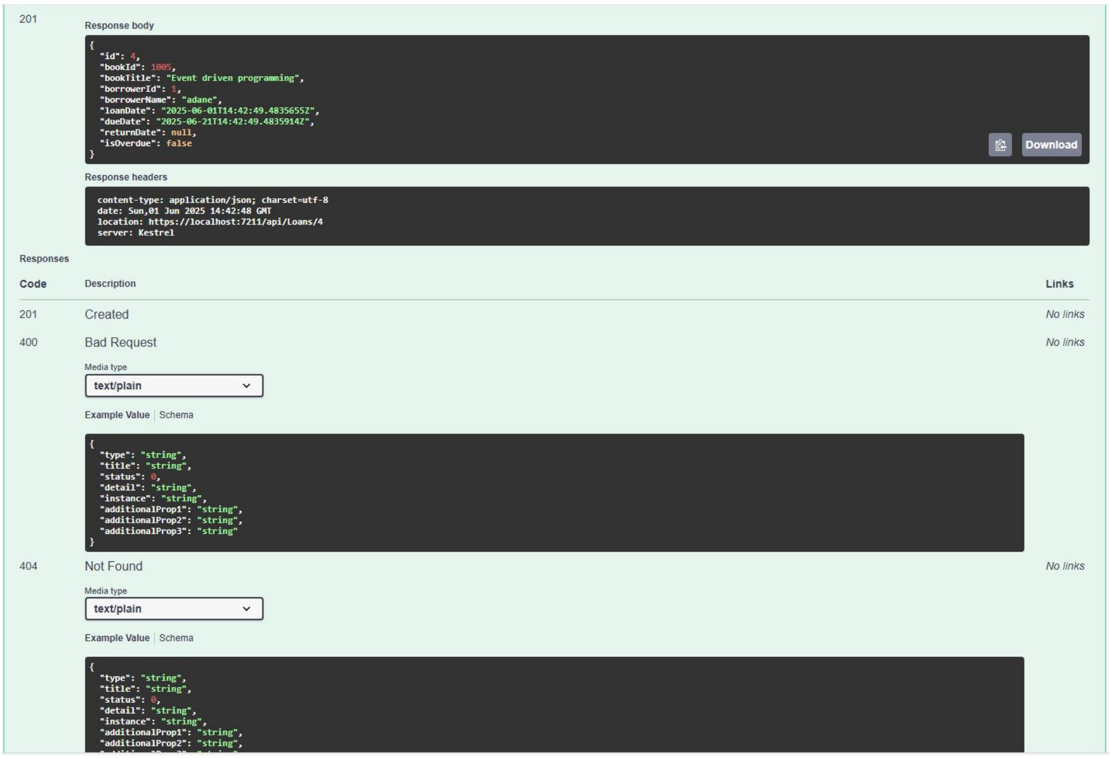
  Track overdue loans (`GET /api/Loans/overdue`) for monitoring unreturned books.

1. Issue book



```
{
  "bookId": 1005,
  "borrowerId": 1,
  "loanDurationDays": 20
}
```

```
curl -X 'POST' \
  'https://localhost:7211/api/Loans/issue' \
  -H 'accept: */*' \
  -H 'Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L2lkZW50aXR5L2NsYWltcy9uYW1laWRlbnRpZmllciI6IjIiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8
  -H 'Content-Type: application/json' \
  -d '{
  "bookId": 1005,
  "borrowerId": 1,
  "loanDurationDays": 20
}'
```


201

Response body

```
{
  "id": 4,
  "bookId": 1005,
  "bookTitle": "Event driven programming",
  "borrowerId": 1,
  "borrowerName": "adane",
  "loanDate": "2025-06-01T14:42:49.4835655Z",
  "dueDate": "2025-06-21T14:42:49.4835914Z",
  "returnDate": null,
  "isOverdue": false
}
```

Response headers

```
content-type: application/json; charset=utf-8
date: Sun,01 Jun 2025 14:42:48 GMT
location: https://localhost:7211/api/Loans/4
server: Kestrel
```

Responses

Code	Description	Links
201	Created	*No links*
400	Bad Request	*No links*
404	Not Found	*No links*

400 — Media type: text/plain

Example Value | Schema

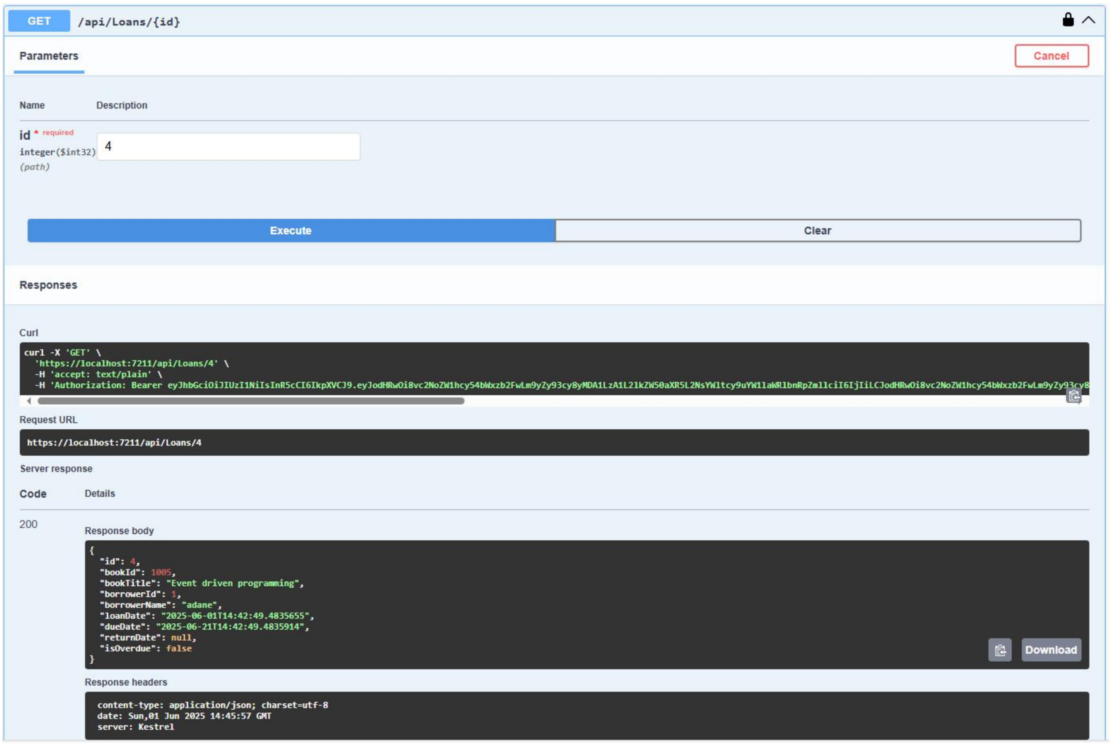
```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

404 — Media type: text/plain

Example Value | Schema

```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
```

2.Get Loan by ID



`/api/Loans/{id}`

Name	Description
id * required integer($int32) *(path)*	4

Responses

Curl

```
curl -X 'GET' \
  'https://localhost:7211/api/Loans/4' \
  -H 'accept: text/plain' \
  -H 'Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L2lkZW50aXR5L2NsYWltcy9uYW1laWRlbnRpZmllciI6IjIiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8
```

Request URL

```
https://localhost:7211/api/Loans/4
```

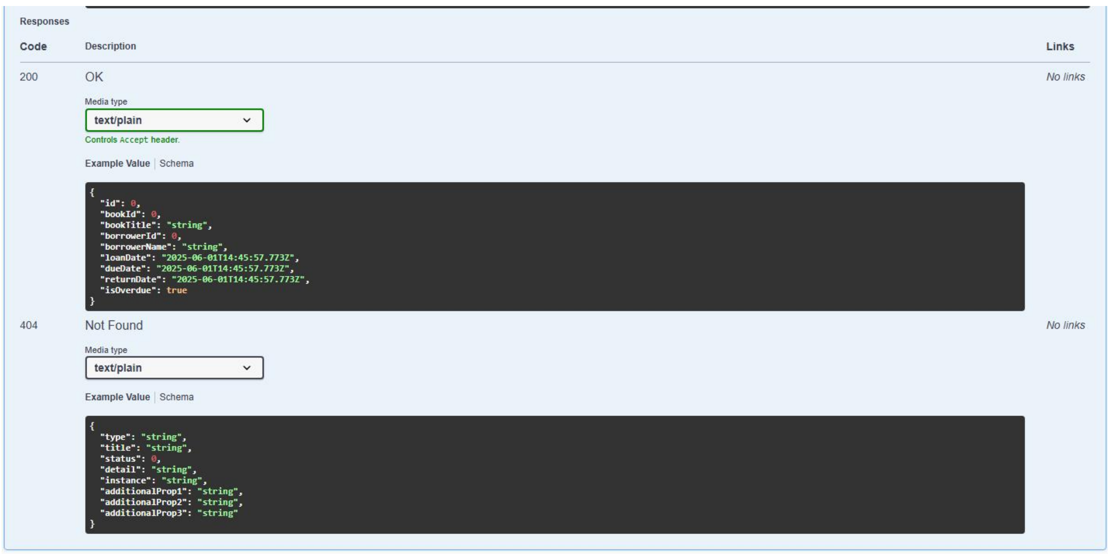
Server response

Code	Details
200	Response body

```
{
  "id": 4,
  "bookId": 1005,
  "bookTitle": "Event driven programming",
  "borrowerId": 1,
  "borrowerName": "adane",
  "loanDate": "2025-06-01T14:42:49.4835655",
  "dueDate": "2025-06-21T14:42:49.4835914",
  "returnDate": null,
  "isOverdue": false
}
```

Response headers

```
content-type: application/json; charset=utf-8
date: Sun,01 Jun 2025 14:45:57 GMT
server: Kestrel
```



Responses

Code	Description	Links
200	OK	*No links*
404	Not Found	*No links*

200 — Media type: text/plain

Controls `Accept` header.

Example Value | Schema

```
{
  "id": 0,
  "bookId": 0,
  "bookTitle": "string",
  "borrowerId": 0,
  "borrowerName": "string",
  "loanDate": "2025-06-01T14:45:57.773Z",
  "dueDate": "2025-06-01T14:45:57.773Z",
  "returnDate": "2025-06-01T14:45:57.773Z",
  "isOverdue": true
}
```

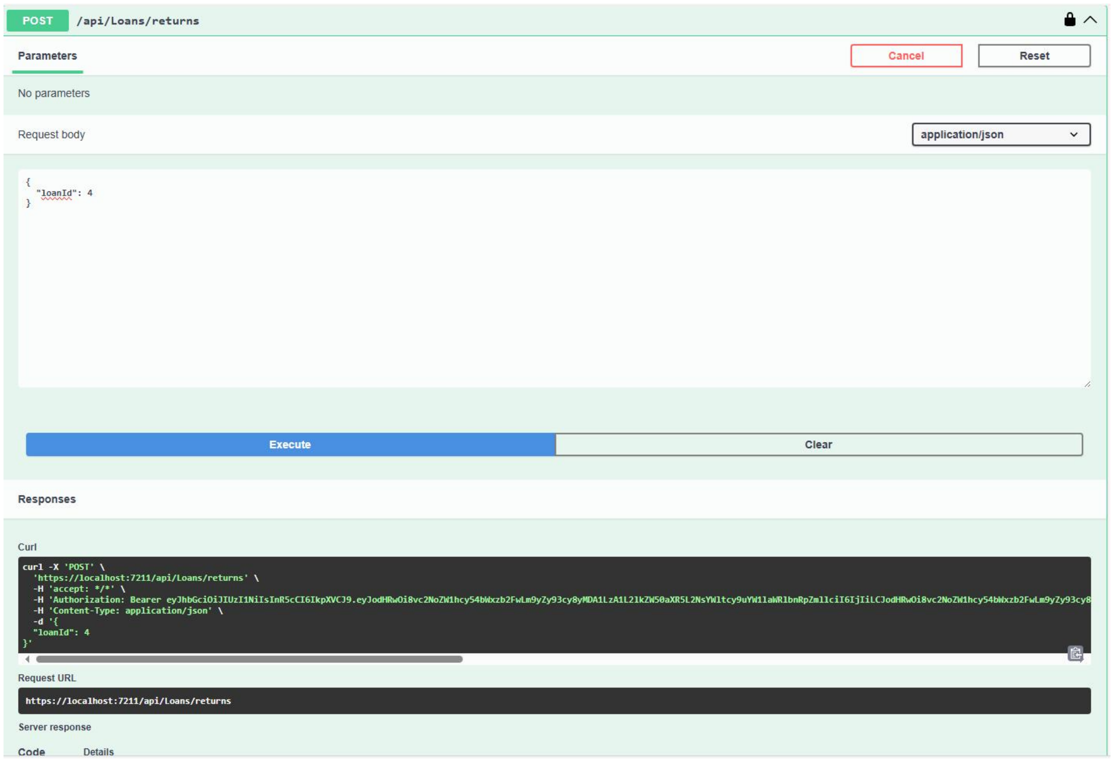
404 — Media type: text/plain

Example Value | Schema

```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

3.The POST /api/Loans/returns endpoint

is used to process the return of borrowed books in the library system. When a user returns a book, the system updates the loan record to mark it as returned. This ensures accurate tracking of borrowed books and helps maintain an efficient borrowing system.



POST /api/Loans/returns

Parameters

No parameters

Request body: application/json

```
{
  "loanId": 4
}
```

Responses

Curl

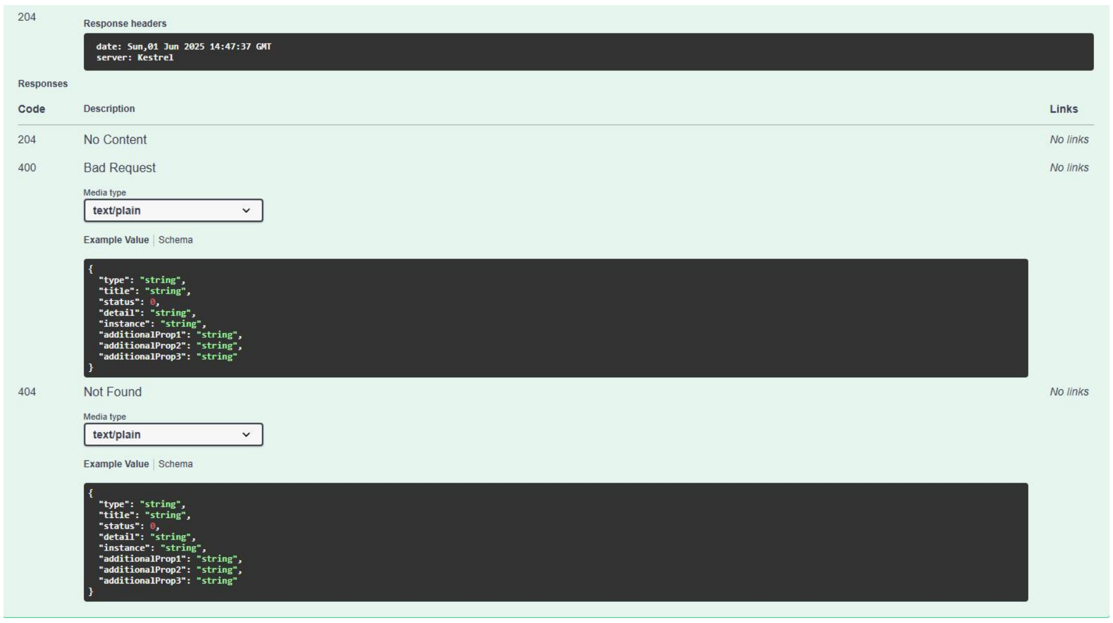
```
curl -X 'POST' \
  'https://localhost:7211/api/Loans/returns' \
  -H 'accept: */*' \
  -H 'Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L21kZW50aXR5L2NsYWltcy9uYW1laWRlbnRpZmllciI6IjIiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8
  -H 'Content-Type: application/json' \
  -d '{
  "loanId": 4
}'
```

Request URL

```
https://localhost:7211/api/Loans/returns
```

Server response

Code Details


204

Response headers

```
date: Sun,01 Jun 2025 14:47:37 GMT
server: Kestrel
```

Responses

Code	Description	Links
204	No Content	*No links*
400	Bad Request	*No links*
404	Not Found	*No links*

400 — Media type: text/plain

Example Value | Schema

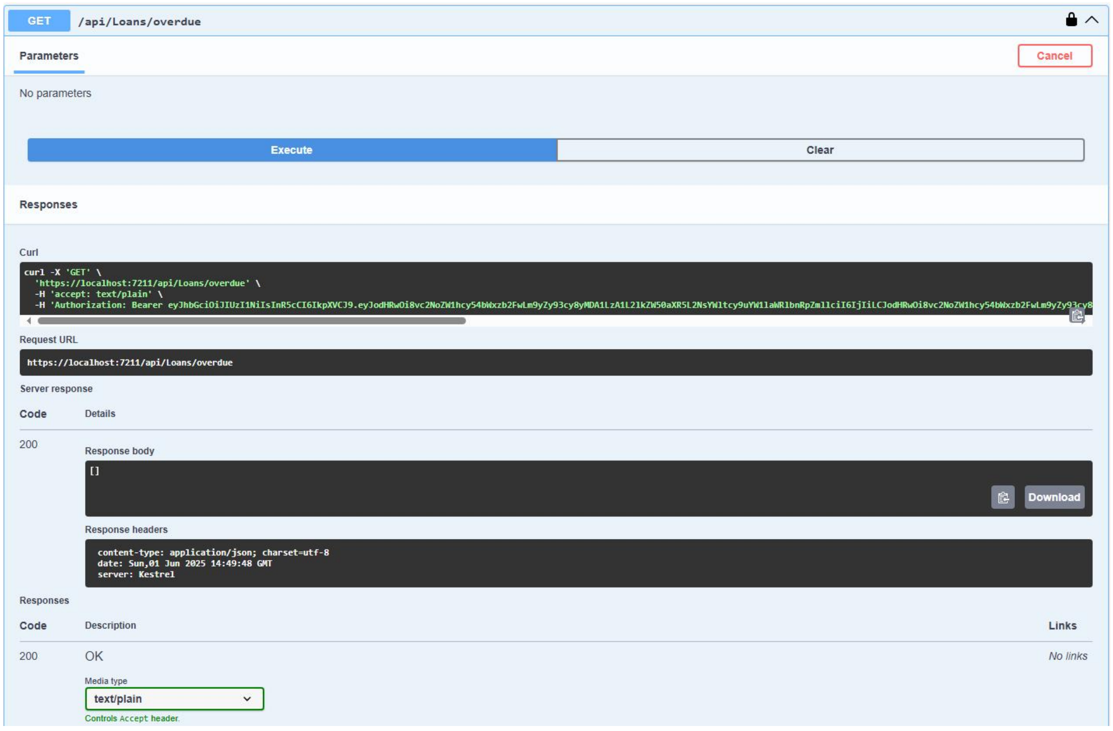
```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

404 — Media type: text/plain

Example Value | Schema

```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

4.Checks if there are outdated Loans



GET /api/Loans/overdue

No parameters

Responses

Curl

```
curl -X 'GET' \
  'https://localhost:7211/api/Loans/overdue' \
  -H 'accept: text/plain' \
  -H 'Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L2lkZW50aXR5L2NsYWltcy9uYW1laWRlbnRpZmllciI6IjIiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8
```

Request URL

```
https://localhost:7211/api/Loans/overdue
```

Server response

Code	Details
200	Response body

```
[]
```

Response headers

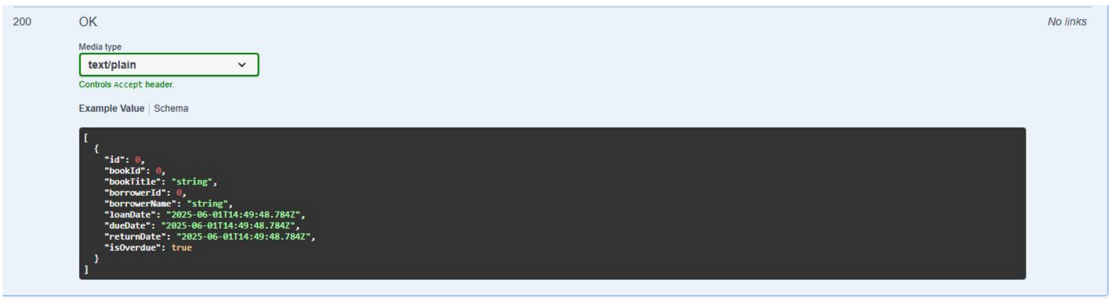
```
content-type: application/json; charset=utf-8
date: Sun,01 Jun 2025 14:49:48 GMT
server: Kestrel
```

Responses

Code	Description	Links
200	OK	*No links*

Media type: text/plain

Controls Accept header.


200 OK

No links

Media type: text/plain

Controls Accept header.

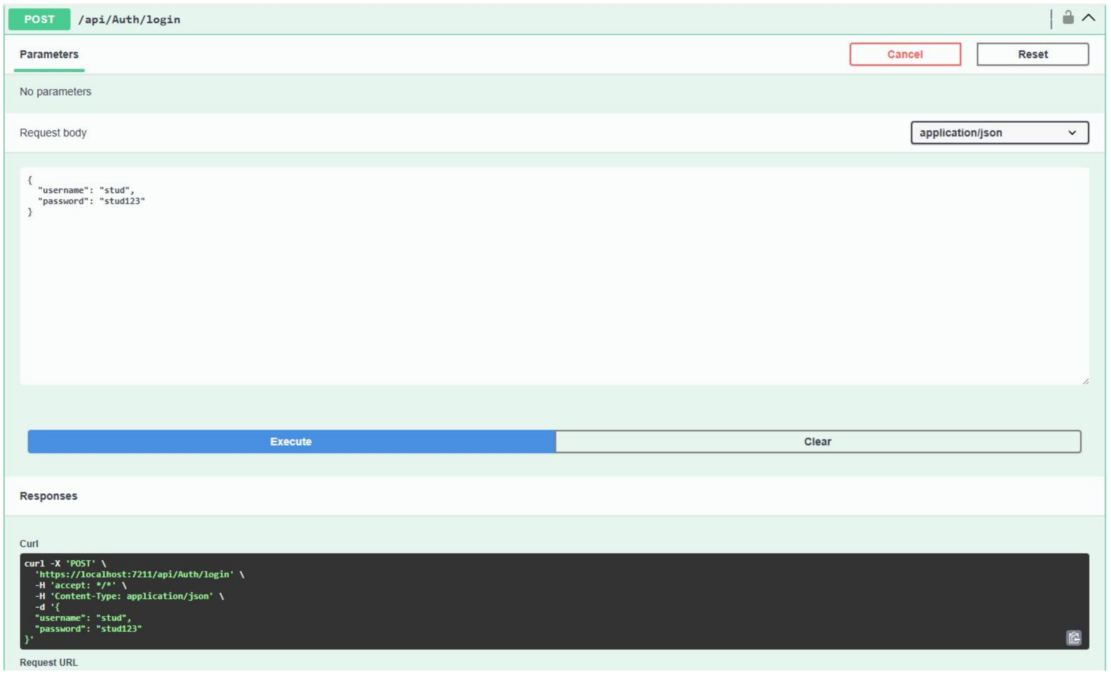
Example Value | Schema

```
[
  {
    "id": 0,
    "bookId": 0,
    "bookTitle": "string",
    "borrowerId": 0,
    "borrowerName": "string",
    "loanDate": "2025-06-01T14:49:48.784Z",
    "dueDate": "2025-06-01T14:49:48.784Z",
    "returnDate": "2025-06-01T14:49:48.784Z",
    "isOverdue": true
  }
]
```

◆ Access previlage

✓ Users which have no Admin previlage on Database cannot Add,Delete,Edit permisson.

➢ Let try to Authorize with username==stud which is not admin.



/api/Auth/login

Parameters

No parameters

Request body: application/json

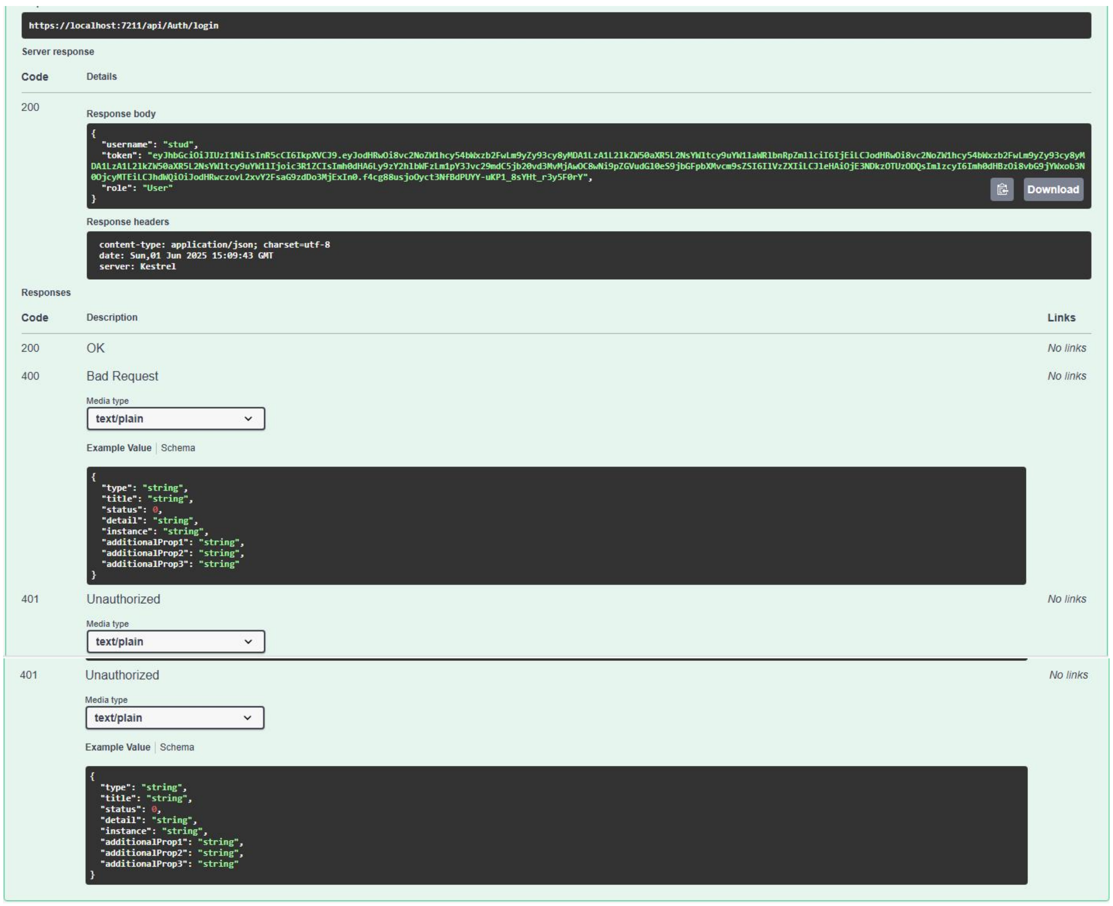
```
{
  "username": "stud",
  "password": "stud123"
}
```

Responses

Curl

```
curl -X 'POST' \
  'https://localhost:7211/api/Auth/login' \
  -H 'accept: */*' \
  -H 'Content-Type: application/json' \
  -d '{
  "username": "stud",
  "password": "stud123"
}'
```

Request URL



```
https://localhost:7211/api/Auth/login
```

Server response

Code | Details

200

Response body

```
{
  "username": "stud",
  "token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L21kZW50aXR5L2NsYWltcy9uYW1laWRlbnRpZmllciI6IjEiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L21kZW50aXR5L2NsYWltcy9uYW1lIjoic3R1ZCIsImh0dHA6Ly9zY2hlbWFzLm1pY3Jvc29mdC5jb20vd3MvMjAwOC8wNi9pZGVudGl0eS9jbGFpbXMvcm9sZSI6IlVzZXIiLCJleHAiOjE3NDkzOTUzODQsImlzcyI6Imh0dHBzOi8vbG9jYWxob3N0OjcyMTEiLCJhdWQiOiJodHRwczovL2xvY2FsaG9zdDo3MjExIn0.f4cg88usjoOyct3NfBdPUYY-uKP1_8sYHt_r3y5F0rY",
  "role": "User"
}
```

Response headers

```
content-type: application/json; charset=utf-8
date: Sun,01 Jun 2025 15:09:43 GMT
server: Kestrel
```

Responses

Code | Description | Links

200 OK — No links

400 Bad Request — No links

Media type: text/plain

Example Value | Schema

```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

401 Unauthorized — No links

Media type: text/plain

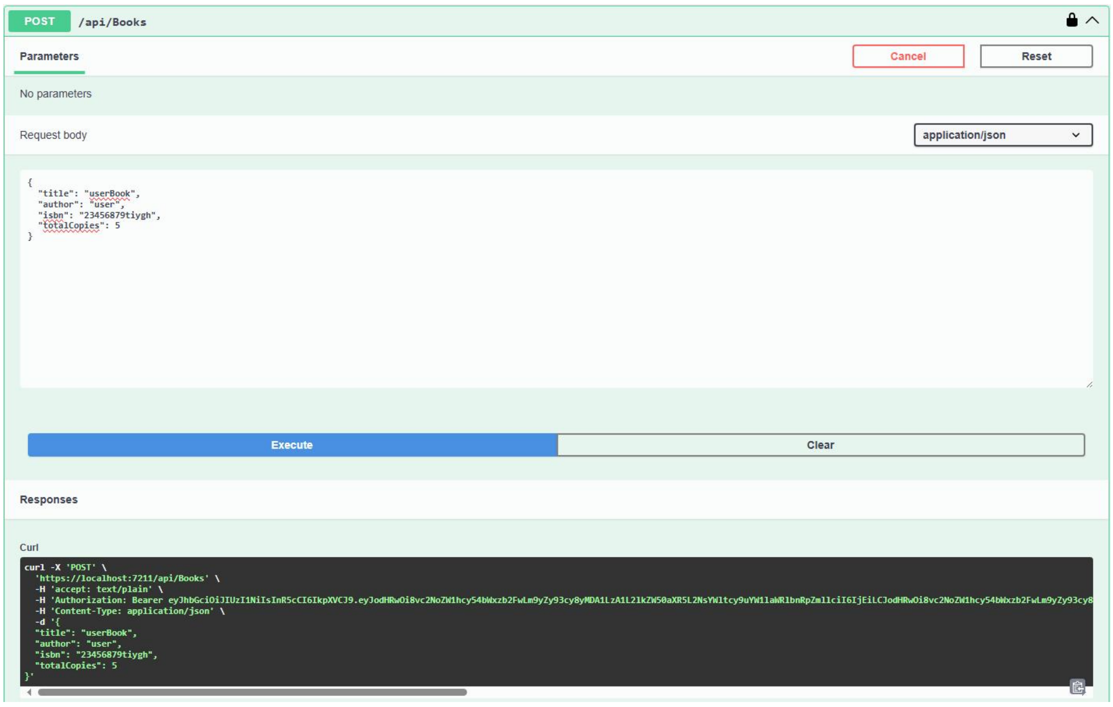
401 Unauthorized — No links

Media type: text/plain

Example Value | Schema

```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

➢ Now let try to **add book** use this credential



POST /api/Books

Parameters

No parameters

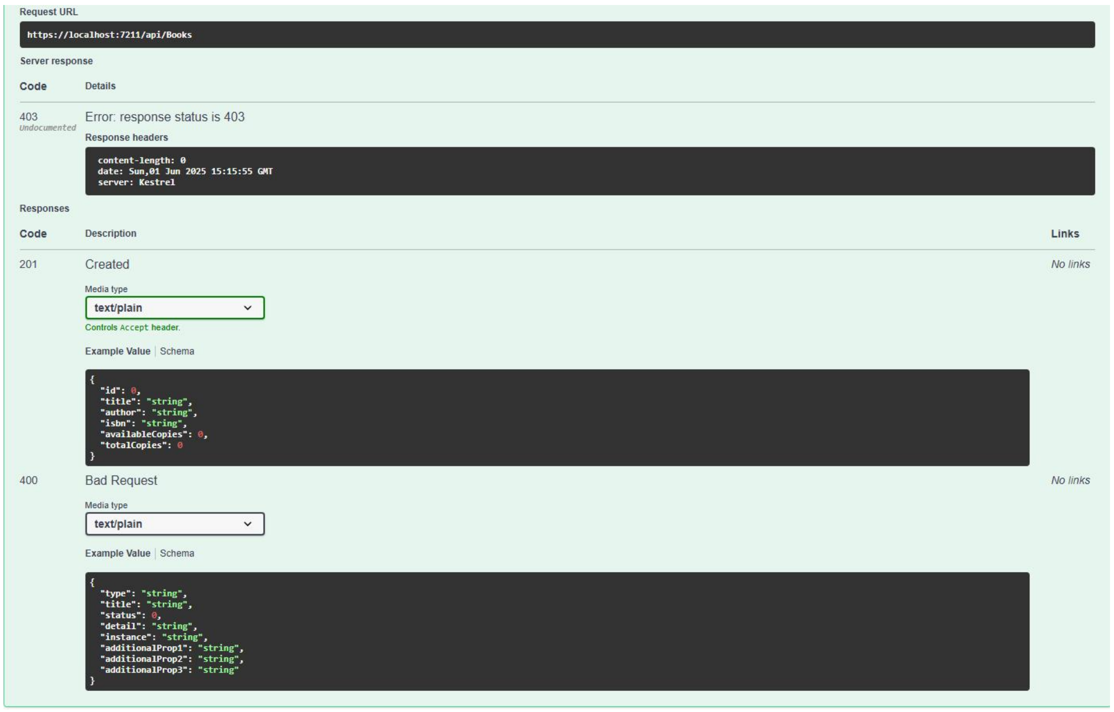
Request body — application/json

```
{
  "title": "userBook",
  "author": "user",
  "isbn": "23456879tiygh",
  "totalCopies": 5
}
```

Responses

Curl

```
curl -X 'POST' \
  'https://localhost:7211/api/Books' \
  -H 'accept: text/plain' \
  -H 'Authorization: Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8yMDA1LzA1L21kZW50aXR5L2NsYWltcy9uYW1laWRlbnRpZmllciI6IjEiLCJodHRwOi8vc2NoZW1hcy54bWxzb2FwLm9yZy93cy8
  -H 'Content-Type: application/json' \
  -d '{
  "title": "userBook",
  "author": "user",
  "isbn": "23456879tiygh",
  "totalCopies": 5
}'
```


Request URL

```
https://localhost:7211/api/Books
```

Server response

Code Details

403 *Undocumented* Error: response status is 403

Response headers

```
content-length: 0
date: Sun,01 Jun 2025 15:15:55 GMT
server: Kestrel
```

Responses

Code Description Links

201 Created *No links*

Media type: text/plain

Controls `Accept` header.

Example Value | Schema

```
{
  "id": 0,
  "title": "string",
  "author": "string",
  "isbn": "string",
  "availableCopies": 0,
  "totalCopies": 0
}
```

400 Bad Request *No links*

Media type: text/plain

Example Value | Schema

```
{
  "type": "string",
  "title": "string",
  "status": 0,
  "detail": "string",
  "instance": "string",
  "additionalProp1": "string",
  "additionalProp2": "string",
  "additionalProp3": "string"
}
```

- **403 Error response status shows that credential is not allowed to Add book task.**

Thank you!