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Report Lab 1

Repo lab1: <https://github.com/24-25Sem1-Courses/ct313hm01-contactbook-api-hoalasama>

Step 0: Install node and git

```
C:\Users\User>node -v
v20.14.0

C:\Users\User>git --version
git version 2.42.0.windows.2

C:\Users\User>
```

Step 1: Create a node project

```
D:\study\slide\2024-2025 - HK I\dich vu web>git clone https://github.com/24-25Sem1-Courses/ct313hm01-contactbook-api-hoalasama
Cloning into 'contactbook-api'...
remote: Enumerating objects: 4, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (4/4), done.
```

```
D:\study\slide\2024-2025 - HK I\dich vu web\contactbook-api>npm init -y
Wrote to D:\study\slide\2024-2025 - HK I\dich vu web\contactbook-api\package.json:

{
  "name": "contactbook-api",
  "version": "1.0.0",
  "description": "API backend for the contactbook application.",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "keywords": [],
  "author": "",
  "license": "ISC"
}
```

Step 2: Manage the source code with git and GitHub

```
D:\study\slide\2024-2025 - HK I\dich vu web\contactbook-api>npx gitignore no
de
Need to install the following packages:
gitignore@0.7.0
Ok to proceed? (y) y

Created .gitignore file for flag type node.
```

```
D:\study\slide\2024-2025 - HK I\dich vu web\contactbook-api>git status
On branch master
Your branch is up to date with 'origin/master'.

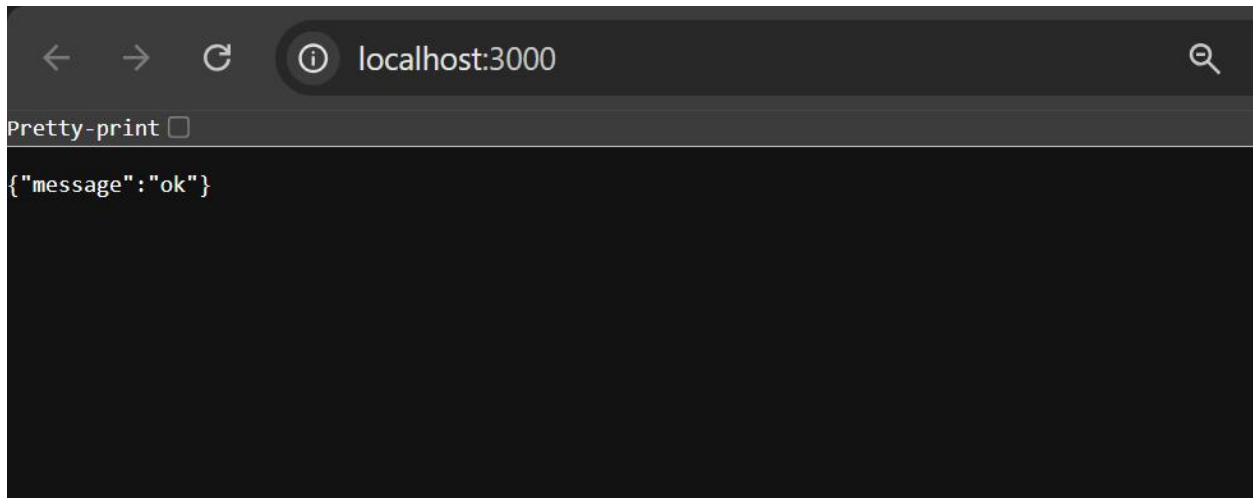
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file:   .gitignore
        new file:   package.json
```

```
D:\study\slide\2024-2025 - HK I\dich vu web\contactbook-api>git push origin
master
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 20 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 1.46 KiB | 1.46 MiB/s, done.
Total 4 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/24-25Sem1-Courses/ct313hm01-contactbook-api-hoalasama
2d192a6..cf286d8  master -> master
```

Step 3: Setup Vscode and ESLint and Prettier

```
D:\study\slide\2024-2025 - HK I\dich vu web\contactbook-api>git commit -m "Configure eslint and prettier"
[master b7191e3] Configure eslint and prettier
 2 files changed, 14 insertions(+), 1 deletion(-)
 create mode 100644 .eslintrc.js
```

Step 4: Install Express



```
D:\study\slide\2024-2025 - HK I\dich vu web\contactbook-api>git commit -m "Setup express server and show an ok message"
[master 5de02f0] Setup express server and show an ok message
 4 files changed, 2206 insertions(+), 1 deletion(-)
 create mode 100644 package-lock.json
 create mode 100644 server.js
 create mode 100644 src/app.js
```

Step 5: Define controller and routes

POST localhost:3000/cart/12

PUT http://localhost:3000/api/v1/contacts/123

No environment

HTTP

http://localhost:3000/api/v1/contacts/123

Save

Share

PUT

http://localhost:3000/api/v1/contacts/123

Send

Params

Auth

Headers (7)

Body

Scripts

Settings

Cookies

Query Params

	Key	Value	Description	...	Bulk Edit
	Key	Value	Description		

Body

200 OK 5 ms 280 B

Save as example

Pretty

Raw

Preview

Visualize

JSON

1

{

2

"contact": {}

3

}

POST localhost:3000/cart/12

GET http://localhost:3000/api/v1/contacts/123

+

No environment

HTTP

http://localhost:3000/api/v1/contacts/123

Save

Share

</>

GET

http://localhost:3000/api/v1/contacts/123

Send

Params

Auth

Headers (6)

Body

Scripts

Settings

Cookies

Query Params

	Key	Value	Description	...	Bulk Edit
	Key	Value	Description		

Body

200 OK

4 ms

280 B

Save as example

...

Pretty

Raw

Preview

Visualize

JSON

1





{


2

"contact": {}


3


}

 **http://localhost:3000/api/v1/contacts/**  Save  Share 

DELETE 

http://localhost:3000/api/v1/contacts/


Send 







ParamsAuthHeaders (6)BodyScriptsSettingsCookies



Query Params

	Key	Value	Description	...	Bulk Edit
	Key	Value	Description		

Body 

 200 OK 3 ms 301 B  Save as example ...

PrettyRawPreviewVisualizeJSON  

```
1 {
2   "message": "All contacts deleted"
3 }
```

POST localhost:3000/cart

POST http://localhost:3000/api/v1/contacts/

No environment

HTTP

http://localhost:3000/api/v1/contacts/

Save

Share

POST

http://localhost:3000/api/v1/contacts/

Send

Params

Auth

Headers (7)

Body

Scripts

Settings

Cookies

Query Params

	Key	Value	Description	...	Bulk Edit
	Key	Value	Description		

Body

201 Created 7 ms 285 B

Save as example

Pretty

Raw

Preview

Visualize

JSON

1

{

2

"contact": {}

3

}

POST localhost:3000/cart/12

GET http://localhost:3000/api/v1/contacts/

+

No environment

HTTP

http://localhost:3000/api/v1/contacts/

Save

Share

</>

GET

http://localhost:3000/api/v1/contacts/

Send

</>

Params

Auth

Headers (6)

Body

Scripts

Settings

Cookies

Query Params

	Key	Value	Description	...	Bulk Edit
	Key	Value	Description		

Body

200 OK

6 ms

281 B

Save as example

...

Pretty

Raw

Preview

Visualize

JSON

↺

🔍

1

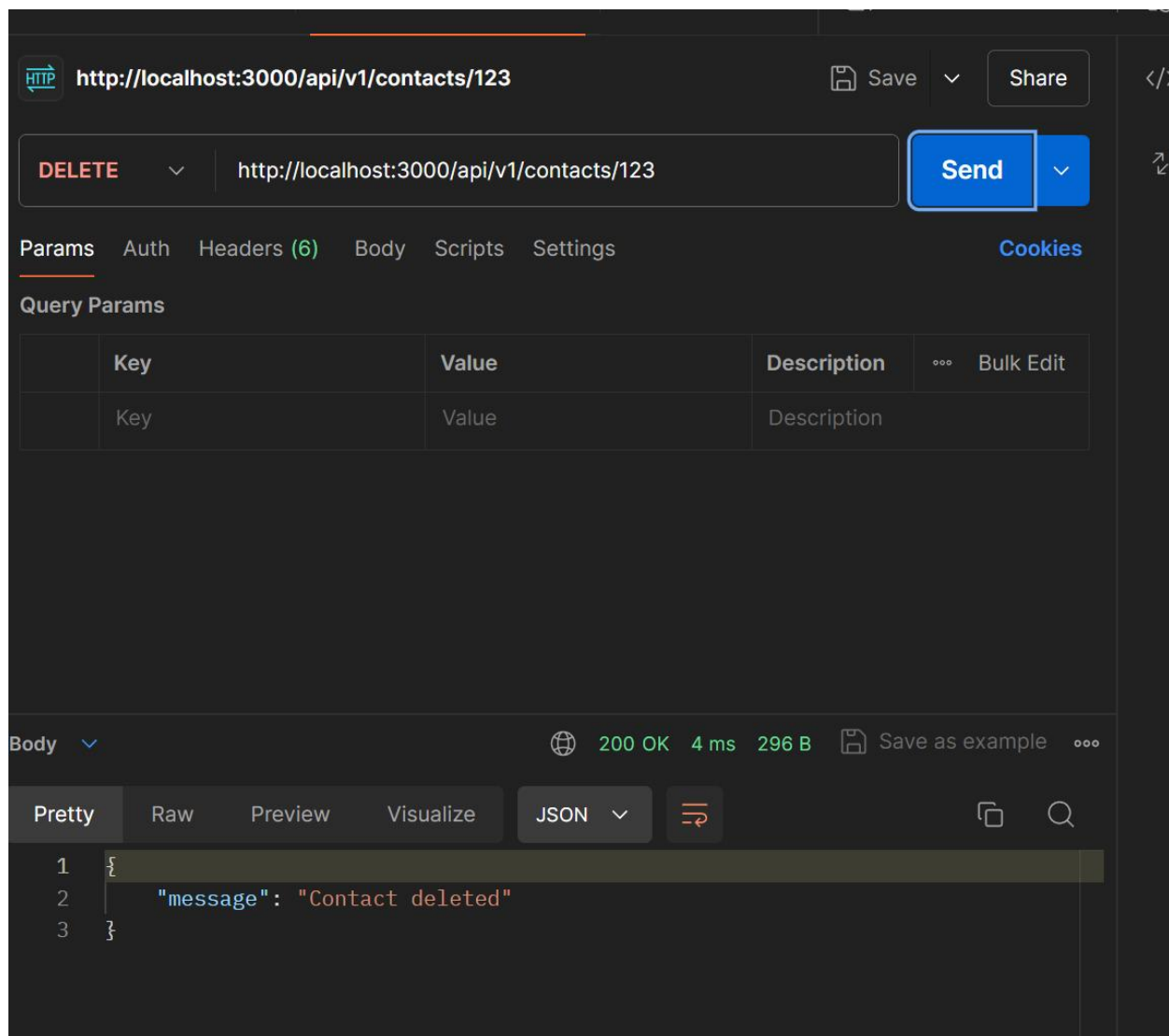
{

2

"contacts": []


3



}




```
D:\study\slide\2024-2025 - HK I\dich vu web\contactbook-api>git commit -m "Define routes for managing contacts"
[master 685cad4] Define routes for managing contacts
3 files changed, 58 insertions(+)
create mode 100644 src/controllers/contacts.controller.js
create mode 100644 src/routes/contacts.router.js
```

Step 6: Standardize JSON responses with Jsend


 **http://localhost:3000/api/v1/contacts/123**

 Save 

Share

PUT 


http://localhost:3000/api/v1/contacts/123



Send 


ParamsAuthHeaders (7)BodyScriptsSettingsCookies



Query Params

	Key	Value	Description	...	Bulk Edit
	Key	Value	Description		

Body 

 200 OK 5 ms 309 B  Save as example ...

PrettyRawPreviewVisualizeJSON 

```
1 {
2   "status": "success",
3   "data": {
4     "contact": {}
5   }
6 }
```

GET localhost:3000/GET http://localhost:3000/api/v1/contacts/123No environment

HTTP

http://localhost:3000/api/v1/contacts/123

Save

Share

GET

http://localhost:3000/api/v1/contacts/123

Send

Params

Auth

Headers (6)

Body

Scripts

Settings

Cookies

Query Params

	Key	Value	Description	...	Bulk Edit
	Key	Value	Description		

Body

200 OK5 ms309 B

Save as example

Pretty


Raw



Preview



Visualize


JSON

```
1 {
2   "status": "success",
3   "data": {
4     "contact": {}
5   }
6 }
```


 **http://localhost:3000/api/v1/contacts/**

 Save 

 Share 

DELETE 

http://localhost:3000/api/v1/contacts/

Send 

Params

Auth

Headers (6)

Body


Scripts



Settings

Cookies

Query Params

	Key	Value	Description	...	Bulk Edit
	Key	Value	Description		

Body 


 200 OK 4 ms 299 B  Save as example ...


Pretty


Raw


Preview

Visualize

JSON 







```
1 {
2   "status": "success",
3   "data": null
4 }
```

POST

http://localhost:3000/api/v1/contacts/

Send

Params

Auth

Headers (7)

Body

Scripts

Settings

Cookies

Query Params

	Key	Value	Description	...	Bulk Edit
	Key	Value	Description		

Body

201 Created

5 ms

314 B

Save as example

...

Pretty

Raw

Preview

Visualize

JSON

```
1 {
2   "status": "success",
3   "data": {
4     "contact": {}
5   }
6 }
```

GET

http://localhost:3000/api/v1/contacts/

Send

Params

Auth

Headers (6)

Body

Scripts

Settings

Cookies

Query Params

	Key	Value	Description	...	Bulk Edit
	Key	Value	Description		

Body

200 OK15 ms310 BSave as example

Pretty

Raw

Preview

Visualize

JSON

```
1 {
2   "status": "success",
3   "data": {
4     "contacts": []
5   }
6 }
```

HTTP <http://localhost:3000/api/v1/contacts/123> Save Share

DELETE <http://localhost:3000/api/v1/contacts/123> Send

Params Auth Headers (6) Body Scripts Settings Cookies

Query Params

	Key	Value	Description	...	Bulk Edit
	Key	Value	Description		

Body 200 OK 3 ms 299 B Save as example

Pretty Raw Preview Visualize JSON

```
1 {  
2   "status": "success",  
3   "data": null  
4 }
```

```
D:\study\slide\2024-2025 - HK I\dich vu web\contactbook-api>git commit -m "Standardize JSON responses"  
[master 83d1718] Standardize JSON responses  
3 files changed, 65 insertions(+), 15 deletions(-)  
create mode 100644 src/jsend.js
```

Step 7: Implement error handlers

GET localhost:3000/

DEL http://localhost:3000/nc

+

No environment

HTTP

http://localhost:3000/notapath

Save

Share

DELETE

http://localhost:3000/notapath

Send

Params

Auth

Headers (6)

Body

Scripts

Settings

Cookies

Query Params

	Key	Value	Description	...	Bulk Edit
	Key	Value	Description		

Body

404 Not Found

16 ms

322 B

Save as example

...

Pretty

Raw

Preview

Visualize

JSON

1

{

2

"status": "fail",

3

"message": "Resource not found"

4

}

HTTP **http://localhost:3000/api/v1/contacts** Save Share

PUT **http://localhost:3000/api/v1/contacts** **Send**

Params Auth Headers (7) Body Scripts Settings Cookies

Query Params

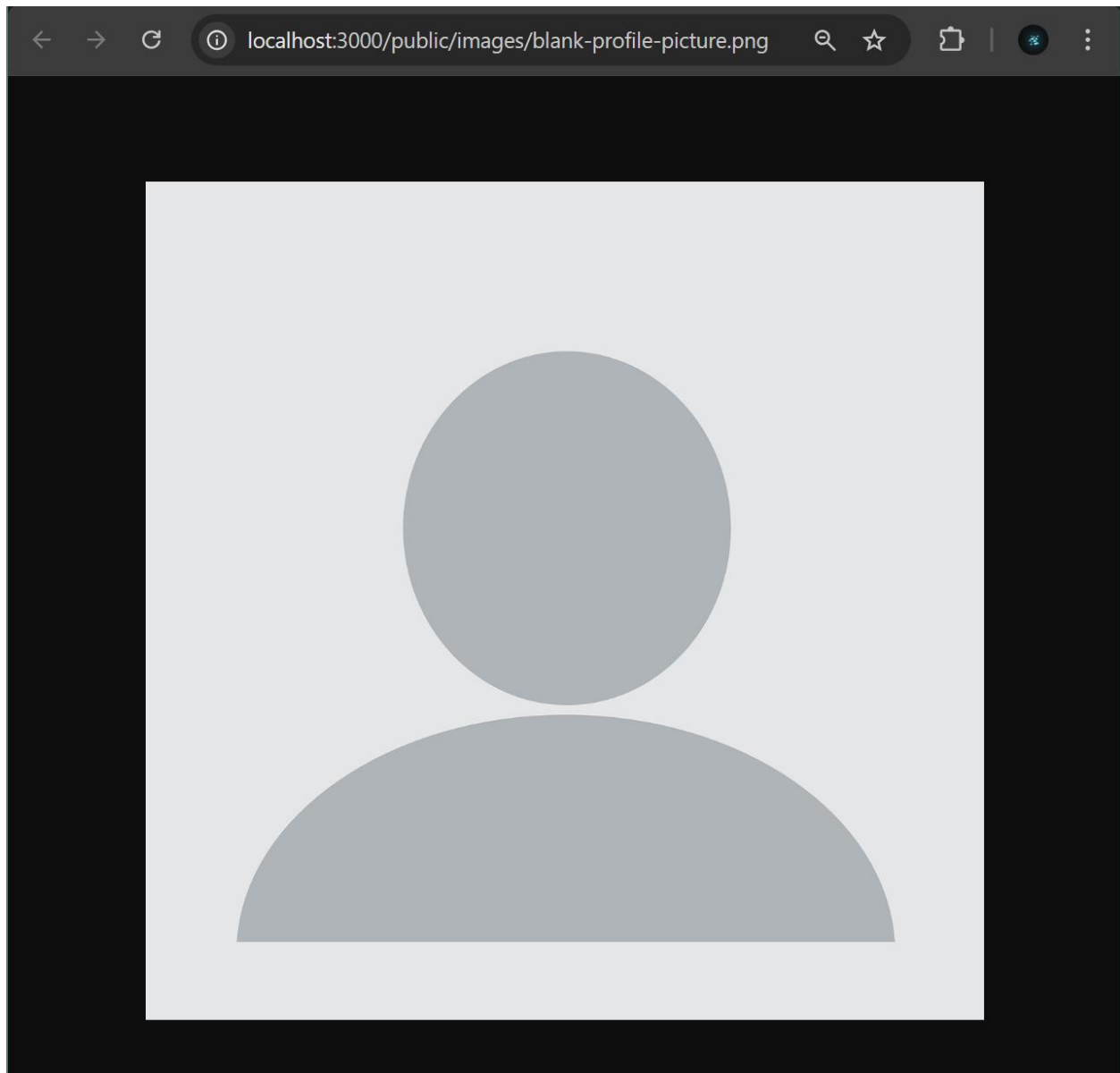
	Key	Value	Description	...	Bulk Edit
	Key	Value	Description		

Body **405 Method Not Allowed** 6 ms 340 B Save as example

Pretty Raw Preview Visualize JSON


```
1 {
2   "status": "fail",
3   "message": "Method Not Allowed"
4 }
```

Step 8: Serve static files



Step 9: Generate OpenAPI Spec from JSDoc

localhost:3000/api-docs/

 **Swagger**
Supported by SMARTBEAR

Contact App API

1.0.0 OAS 3.1

A simple contact app API

Servers

http://localhost:3000 - Development server

No operations defined in spec!

http://localhost:3000 - Development server

Execute

Clear

Responses

Curl

```
curl -X 'GET' \
  'http://localhost:3000/api/v1/contacts?name=123' \
  -H 'accept: application/json'
```



Request URL

http://localhost:3000/api/v1/contacts?name=123

Server response

Code

Details

200

Response body

```
{
  "status": "success",
  "data": {
    "contacts": []
  }
}
```



Download

Response headers

```
access-control-allow-origin: *
connection: keep-alive
content-length: 43
content-type: application/json; charset=utf-8
date: Wed, 11 Sep 2024 04:54:22 GMT
etag: W/"2b-67iRb6rskCjazQ9oAoffvmzE1Is"
keep-alive: timeout=5
x-powered-by: Express
```

Responses

←

→

↻

localhost:3000/api-docs/#/contacts/post_api_v1_contacts

🔍

☆

📁

🌐

⋮

GET

/api/v1/contacts

Get contacts by filter

▼

POST

/api/v1/contacts

create a new contact

⤴

create a new contact

Parameters

Cancel

Reset

No parameters

Request body required

multipart/form-data ▼

name

string

contact name

string

☐ Send empty value

email

string(\$email)

contact email

user@example.com

☐ Send empty value

address

string

contact address

string

http://localhost:3000 - Development server

Execute

Clear

Responses

Curl

```
curl -X 'POST' \
  'http://localhost:3000/api/v1/contacts' \
  -H 'accept: application/json' \
  -H 'Content-Type: multipart/form-data' \
  -F 'name=string' \
  -F 'email=user@example.com' \
  -F 'address=string' \
  -F 'phone=string' \
  -F 'favorite=0' \
  -F 'avatarFile='
```

Request URL

http://localhost:3000/api/v1/contacts

Server response

Code Details

201

Response body

```
{
  "status": "success",
  "data": {
    "contact": {}
  }
}
```



Download

Response headers

```
access-control-allow-origin: *
connection: keep-alive
content-length: 42
content-type: application/json; charset=utf-8
date: Wed, 11 Sep 2024 05:26:04 GMT
etag: W/"2a-z2lI3FXWfup88SwPZr16js1SANU"
keep-alive: timeout=5
x-powered-by: Express
```

POST /api/v1/contacts create a new contact

DELETE /api/v1/contacts delete all contacts

delete all contacts

Parameters

Try it out

No parameters

Responses

Code	Description	Links
200	<div>all contacts deteled</div> <div>Media type</div> <div>application/json</div> <div>Controls Accept header.</div>	No links

These operation-level options override the global server options.

http://localhost:3000 - Development server



Execute

Clear

Responses

Curl

```
curl -X 'DELETE' \  
  'http://localhost:3000/api/v1/contacts' \  
  -H 'accept: application/json'
```



Request URL

http://localhost:3000/api/v1/contacts

Server response

Code

Details

200

Response body

```
{  
  "status": "success",  
  "data": null  
}
```



Download

Response headers

```
access-control-allow-origin: *  
connection: keep-alive  
content-length: 32  
content-type: application/json; charset=utf-8  
date: Wed, 11 Sep 2024 05:32:09 GMT  
etag: W/"20-bff5r/a5MyNNWY9hjn8a8pOLDxA"  
keep-alive: timeout=5  
x-powered-by: Express
```

Responses

GET

/api/v1/contacts/{id} Get contacts by ID

^

Get contacts by ID

Parameters

Try it out

Name	Description
id * required (path)	Contact id

id

Responses

Code	Description	Links
200	A contact	No links

Media type

application/json

Controls Accept header.

(path)

12

Servers

These operation-level options override the global server options.

http://localhost:3000 - Development server



Execute

Clear

Responses

Curl

```
curl -X 'GET' \
  'http://localhost:3000/api/v1/contacts/12' \
  -H 'accept: application/json'
```



Request URL

http://localhost:3000/api/v1/contacts/12

Server response

Code

Details

200

Response body

```
{
  "status": "success",
  "data": {
    "contact": {}
  }
}
```



Download

Response headers

PUT

/api/v1/contacts/{id} update contacts by ID

^

update contacts by ID

Parameters

Try it out

Name	Description
id * required (path)	Contact id
	<input type="text" value="id"/>

Request body required

multipart/form-data

▼

name	contact name
string	
email	contact email
string(\$email)	
address	contact address
string	

Servers

These operation-level options override the global server options.

http://localhost:3000 - Development server

Execute

Clear

Responses

Curl

```
curl -X 'PUT' \
  'http://localhost:3000/api/v1/contacts/12' \
  -H 'accept: application/json' \
  -H 'Content-Type: multipart/form-data' \
  -F 'name=string' \
  -F 'email=user@example.com' \
  -F 'address=string' \
  -F 'phone=string' \
  -F 'favorite=0' \
  -F 'avatarFile='
```



Request URL

http://localhost:3000/api/v1/contacts/12

Server response

Code Details

200

Response body

```
{
  "status": "success",
  "data": {
    "contact": {}
  }
}
```



Download

DELETE

/api/v1/contacts/{id} delete contacts by id

^

delete contact by id

Parameters

Try it out

Name	Description
id * required (path)	Contact id
	<div>id</div>

Responses

Code	Description	Links
200	contacts deteled	No links

These operation-level options override the global server options.

http://localhost:3000 - Development server

Execute Clear

Responses

Curl

```
curl -X 'DELETE' \
'http://localhost:3000/api/v1/contacts/12' \
-H 'accept: application/json'
```

Request URL

http://localhost:3000/api/v1/contacts/12

Server response

Code	Details
200	<div><p>Response body</p><pre>{ "status": "success", "data": null }</pre><p>Download</p><p>Response headers</p><pre>access-control-allow-origin: * connection: keep-alive content-length: 32 content-type: application/json; charset=utf-8 date: Wed, 11 Sep 2024 05:43:24 GMT etag: W/"20-bff5r/a5MyNNWly9hjn8a8pOLDxA" keep-alive: timeout=5 x-powered-by: Express</pre></div>

Responses