EXP:4.2[11]

Pydi Sneha Dishita Chowdary [23BIS70112]

Title

REST API for Playing Card Collection Using Express.js

Objective

Build a RESTful API using Express.js to manage a collection of playing cards. This task helps you understand routing, handling HTTP methods, and basic data manipulation in a Node.js backend environment.

Task Description

Create an Express.js server that provides API endpoints to manage a playing card collection. The API should allow you to perform operations such as listing all cards, adding a new card (with properties like suit and value), retrieving a specific card by ID, and deleting a card by ID. Store card data in an in-memory array for simplicity. The API should follow RESTful principles and handle different HTTP methods (GET, POST, DELETE) clearly, responding with appropriate JSON data.

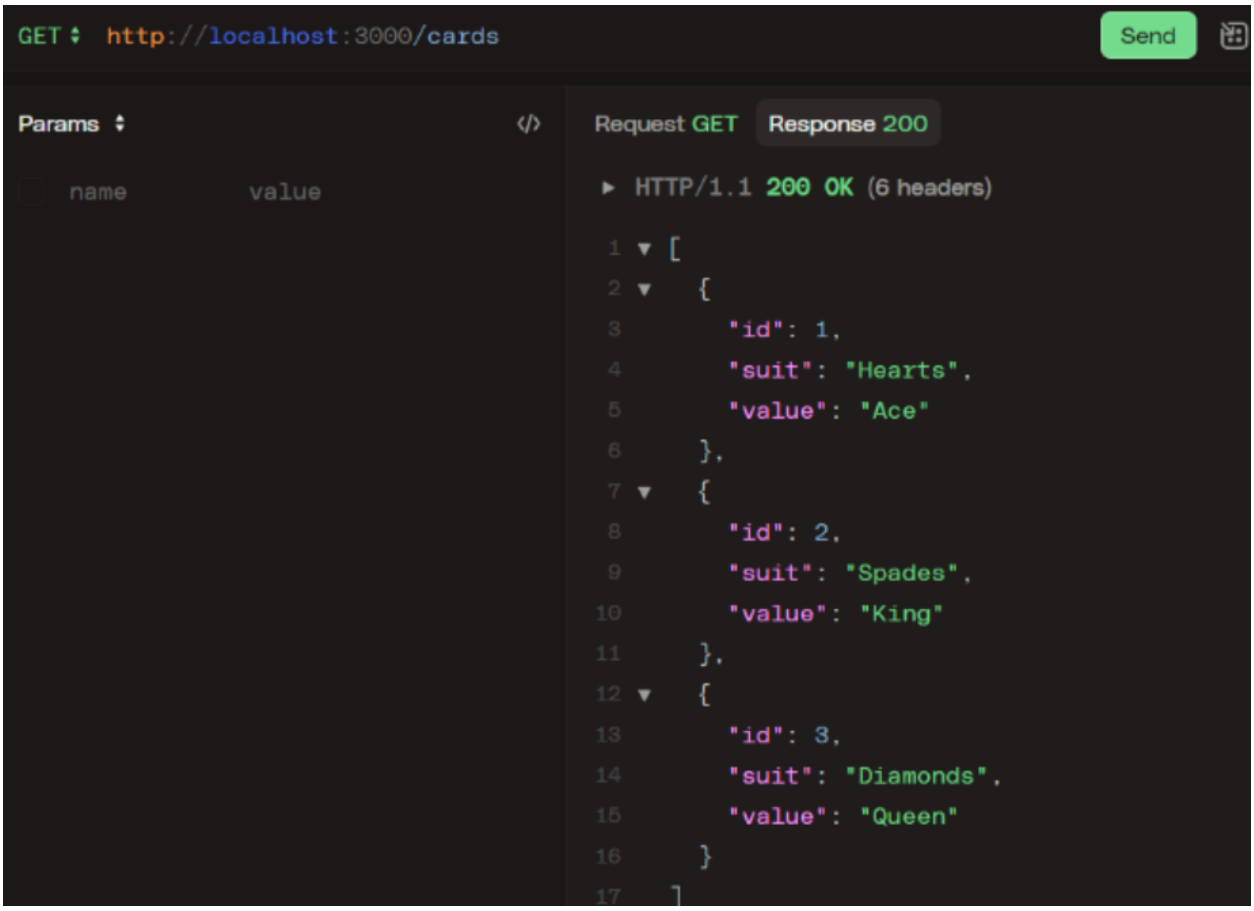
PROCEDURE:

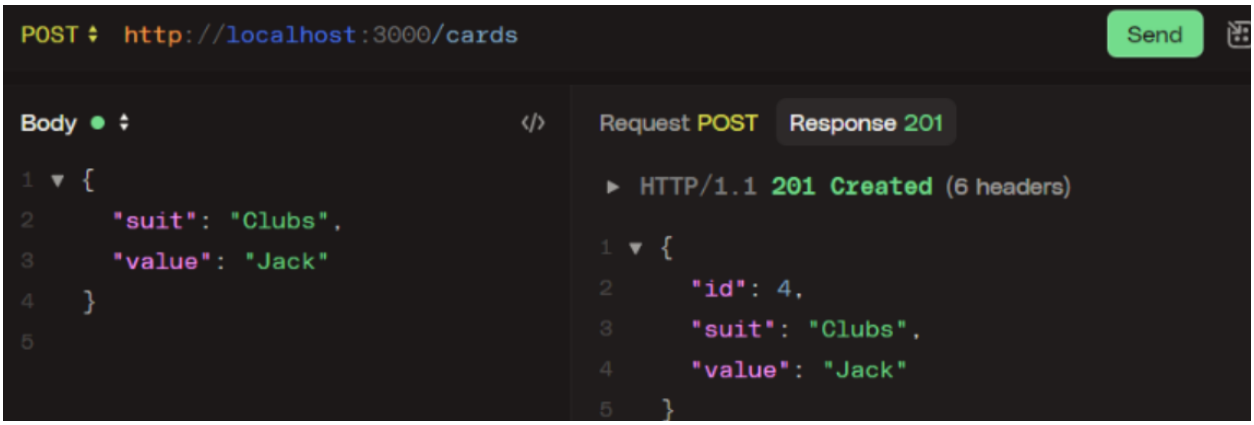
```
const express=require("express");
const app = express();
app.use(express.json());

let cards = [
{ id: 1, suit: 'hearts', value: 'ace', collection: 'standard' },
{ id: 2, suit: 'spades', value: 'king', collection: 'vintage' }
];
```

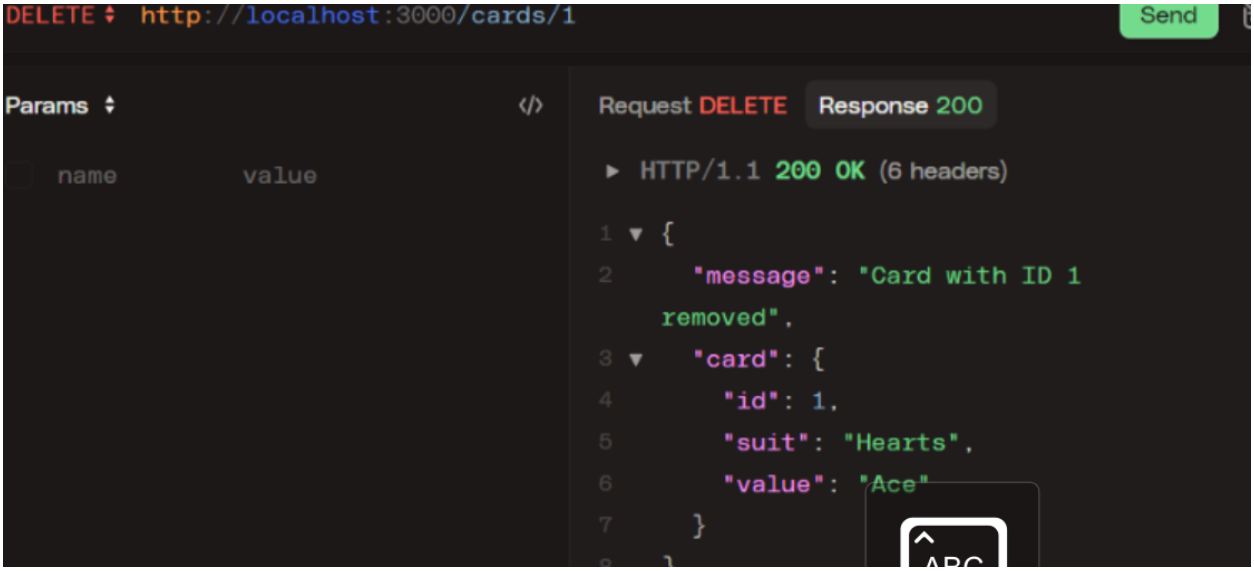
```
function nextId(){
   let x=cards.length+1;
   return x;
}
app.get('/api/cards', (req, res) => {
   res.json(cards);
});

app.get('/api/cards/:id', (req, res) => {
   const card = cards.find(c => c.id === parseInt(req.params.id));
   if (!card) return res.status(404).json({ error: 'Card not found' });
   res.json(card);
});

app.post('/api/cards', (req, res) => {
   const { suit, value, collection } = req.body;
   if (!suit || !value || !collection) {
      return res.status(400).json({ error: 'Missing fields' });
   }
   const newCard = {
   id: nextId(),
   suit,
   value,
   collection
   };
   cards.push(newCard);
```

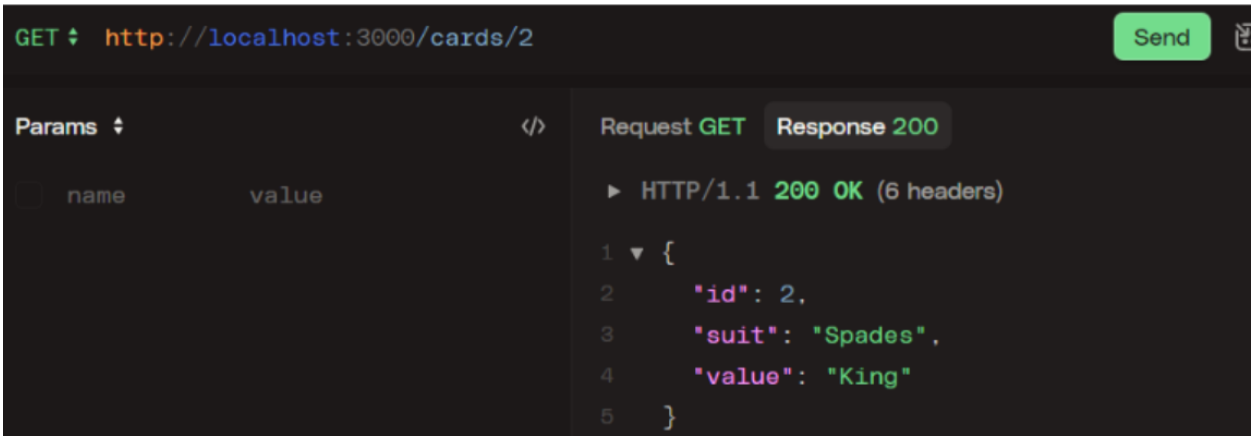
```
  res.status(201).json(newCard);
});

app.put('/api/cards/:id', (req, res) => {
  const card = cards.find(c => c.id === parseInt(req.params.id));
  if (!card) return res.status(404).json({ error: 'Card not found' });
  const { suit, value, collection } = req.body;
  if (suit) card.suit = suit;
  if (value) card.value = value;
  if (collection) card.collection = collection;
  res.json(card);
});

app.delete('/api/cards/:id', (req, res) => {
  const index = cards.findIndex(c => c.id === parseInt(req.params.id));
  if (index === -1) return res.status(404).json({ error: 'Card not found' });
  cards.splice(index, 1);
  res.status(204).send();
});

// server
const PORT =3000;
app.listen(PORT, () => console.log(Server running on port ${PORT}));
```

OUTPUT:


GET http://localhost:3000/cards
Send
Params
name
value
Request GET
Response 200
HTTP/1.1 200 OK (6 headers)
[
{
"id": 1,
"suit": "Hearts",
"value": "Ace"
},
{
"id": 2,
"suit": "Spades",
"value": "King"
},
{
"id": 3,
"suit": "Diamonds",
"value": "Queen"
}
]


POST http://localhost:3000/cards
Send
Body
{
"suit": "Clubs",
"value": "Jack"
}
Request POST
Response 201
HTTP/1.1 201 Created (6 headers)
{
"id": 4,
"suit": "Clubs",
"value": "Jack"
}


DELETE http://localhost:3000/cards/1
Send
Params
name
value
Request DELETE
Response 200
HTTP/1.1 200 OK (6 headers)
{
"message": "Card with ID 1 removed",
"card": {
"id": 1,
"suit": "Hearts",
"value": "Ace"
}


GET http://localhost:3000/cards/2
Send
Params
name
value
Request GET
Response 200
HTTP/1.1 200 OK (6 headers)
{
"id": 2,
"suit": "Spades",
"value": "King"
}