NodeJS REST APIs

Introduction

Different Kind of Response is Needed

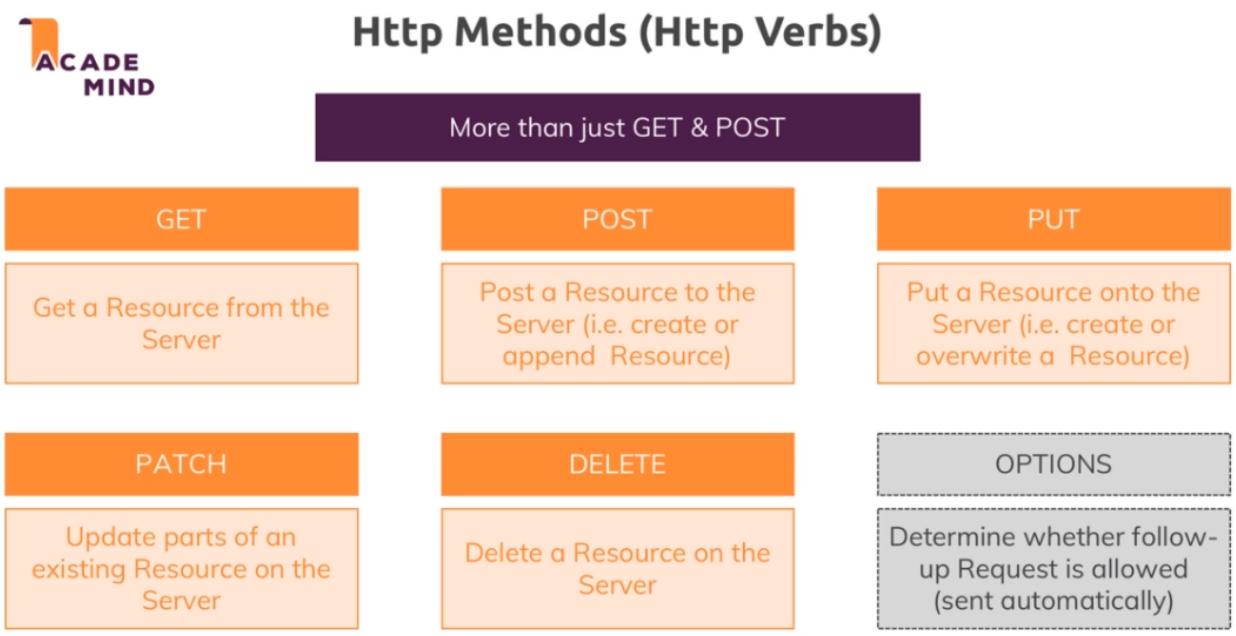
Representational State Transfer

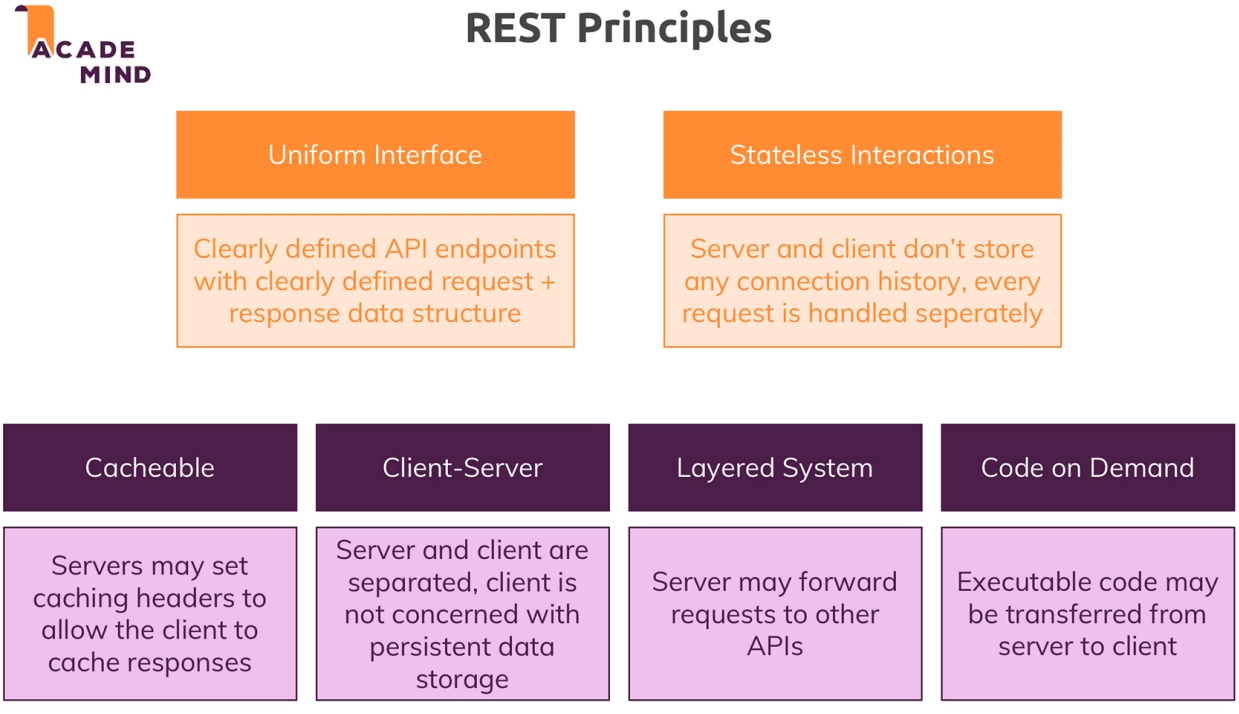
Transfer Data instead of User Interfaces

Important: Only the response (and the request data) changes, NOT the general server-side logic!

Data Formats

HTML	Plain Text	XML	JSON
`<p>Node.js</p>`	`Node.js`	`<name>Node.js</name>`	`{"title": "Node.js"}`
Data + Structure	Data	Data	Data
Contains User Interface	No UI Assumptions	No UI Assumptions	No UI Assumptions
Unnecessarily difficult to parse if you just need the data	Unnecessarily difficult to parse, no clear data structure	Machine-readable but relatively verbose; XML-parser needed	Machine-readable and concise; Can easily be converted to JavaScript





Create a basic REST API

Step 1. Create a new folder

Step 2. Autogeneare npm package

npm init

Step 3. Install Express framework

npm install --save express

Step 4. Create “app.js” file in the root folder

```
const express = require('express');
const app = express();
app.listen(8080);
```

Step 5. Automatically restart the app on code changes

Install nodemon package:

npm install –save-dev nodemon

In the package.json file inside the “scripts” object add the “start” line:

```
"start": "nodemon app.js"
```

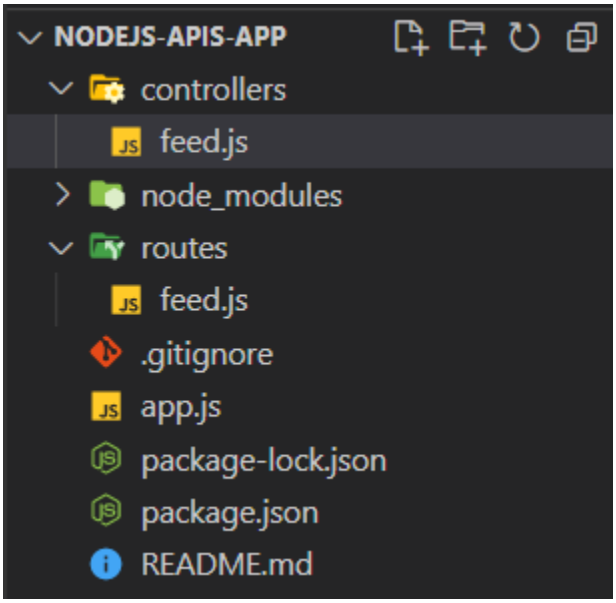
Step 6. Run npm package with all commands specified there

npm start

To stop the command press CTRL + C

Now, for REST APIs we need to create two folders:

- “**controllers**” folder with “feed.js” file
- “**routes**” folder with “feed.js” file



Step 7. Create a new “**controllers**” folder and add “**feed.js**” file here:

```
// implementation of GET /feed/posts-kali
exports.getPostsKali = (req, res, next) => {
  const response = {
```

```
      posts: [
        {
          title: 'List of posts',
          content: 'Here you go - the list of posts for you!'
        }
      ]
    };
    // HTTP 200 OK success status response code indicates that the request has
succeeded
    res.status(200).json(response);
  };

  // implementation of POST /feed/post-kali
  exports.createPostKali = (req, res, next) => {
    const title = req.body.title;
    const content = req.body.content;
    const response = {
      message: 'Your post has been created successfully!',
      post: {
        id: new Date().toISOString(),
        title: title,
        content: content
      }
    };
    // HTTP 201 CREATED success status response code indicates that the request
has succeeded and has led to the creation of a resource (e..g in db)
    res.status(201).json(response);
  };
```

Step 8. Create a new "**routes**" folder and add "**feed.js**" file here:

```
  const express = require('express');
  const feedController = require('../controllers/feed');
  const router = express.Router();

  // GET /feed/posts-kali
  router.get('/posts-kali', feedController.getPostsKali);

  // POST /feed/post-kali
  router.post('/post-kali', feedController.createPostKali);
```

```
module.exports = router;
```

Step 9. Install body-parser

It helps to parse incoming request bodies in a middleware before your handlers (available under the req.body property)

npm install –save body-parser

Step 10. Add the code to “app.js” file

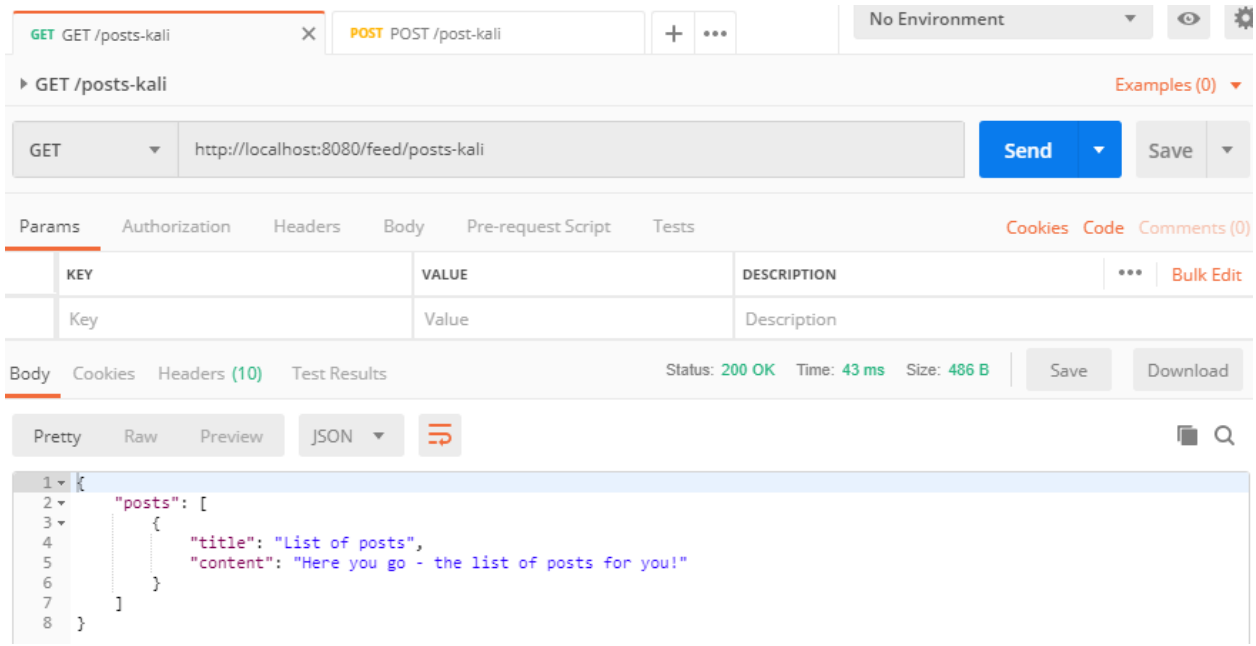
```
const express = require('express');
const bodyParser = require('body-parser');
const feedRoutes = require('./routes/feed');
const app = express();

// app.use(bodyParser.urlencoded()); // x-www-form-urlencoded <form>
app.use(bodyParser.json()); // application/json

// configure CORS
app.use((req, res, next) => {
    res.setHeader('Access-Control-Allow-Origin', '*');
    res.setHeader('Access-Control-Allow-Methods', 'OPTIONS, GET, POST, PUT, PATCH, DELETE');
    res.setHeader('Access-Control-Allow-Headers', 'Content-Type, Authorization');
    next();
});

app.use('/feed', feedRoutes);

app.listen(8080);
```

Step 11. Run the app

npm start

Open Postman

a) Call GET http://localhost:8080/feed/posts-kali API:



b) Call POST http://localhost:8080/feed/post-kali method