

INTEROPERABILITAS PRAKTIKUM JSON DAN XML API



Dosen Pengampu :
Sepyan Purnama Kristanto, S.Kom., M.Kom.

Disusun Oleh :

Holut Yudawan 362358302014
A2 TRPL

**PROGRAM STUDI TEKNOLOGI REKAYASA PERANGKAT LUNAK
JURUSAN BISNIS DAN INFORMATIKA
POLITEKNIK NEGERI BANYUWANGI
TAHUN 2024**

1. Membuat API dengan JSON menggunakan Node.js, awal yang di lakukan yaitu instalasi Node.js dan Express.js

```
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\holut> mkdir json-api

Directory: C:\Users\holut

Mode                LastWriteTime         Length Name
----                -
d-----          10/15/2024   1:35 PM                json-api

PS C:\Users\holut> cd json-api
PS C:\Users\holut\json-api> npm init -y
Wrote to C:\Users\holut\json-api\package.json:

{
  "name": "json-api",
  "version": "1.0.0",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "keywords": [],
  "author": "",
  "license": "ISC",
  "description": ""
}

PS C:\Users\holut\json-api> npm install express

added 65 packages, and audited 66 packages in 3s

13 packages are looking for funding
  run `npm fund` for details
```

2. Setelah menginstall kemudian membuat server Express.js

```
const express = require("express");
const app = express();
const port = 3000;
```

```
app.use(express.json());
```

```
let persons = [
  {
    id: 1,
    nama: "Holut Yudawan",
    umur: 19,
    alamat: {
      jalan: "Songgon",
      kota: "Banyuwangi",
    },
    hobi: ["mancing", "maling"],
  },
];
```

```

    },
  ];

  app.get("/person", (req, res) => {
    res.json(persons);
  });

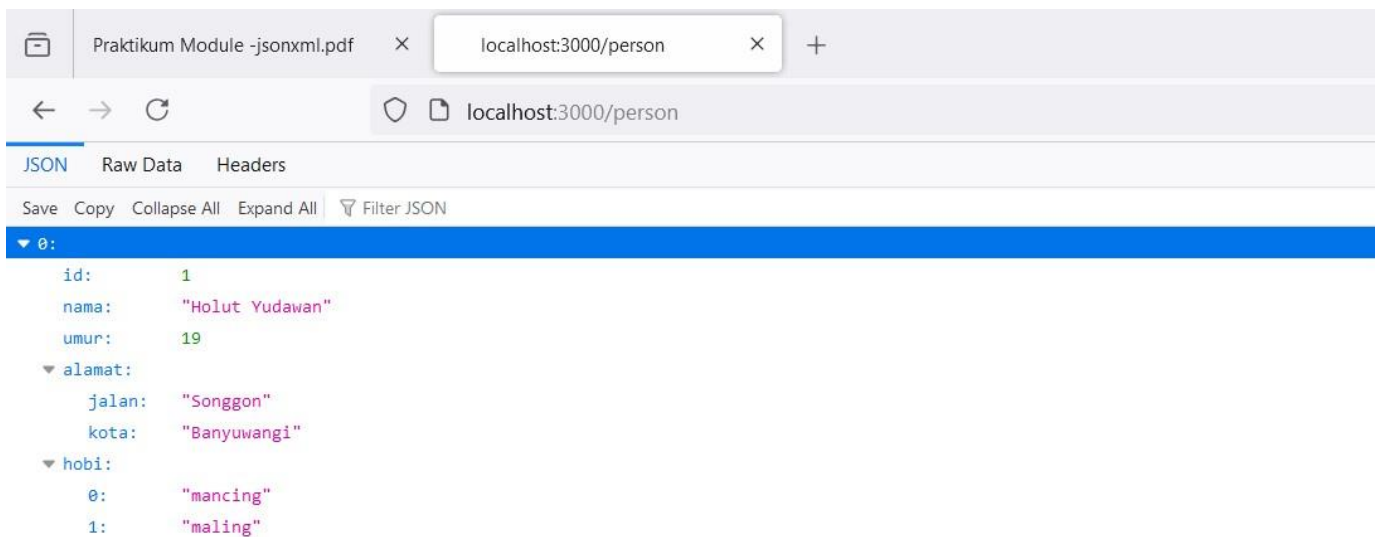
  app.post("/person", (req, res) => {
    const newPerson = req.body;
    newPerson.id = persons.length + 1;
    persons.push(newPerson);
    res.status(201).json(newPerson);
  });

  app.delete("/person/:id", (req, res) => {
    const id = parseInt(req.params.id);
    persons = persons.filter((person) => person.id !== id);
    res.status(204).send();
  });

  app.listen(port, () => {
    console.log(`Server berjalan di http://localhost:${port}`);
  });

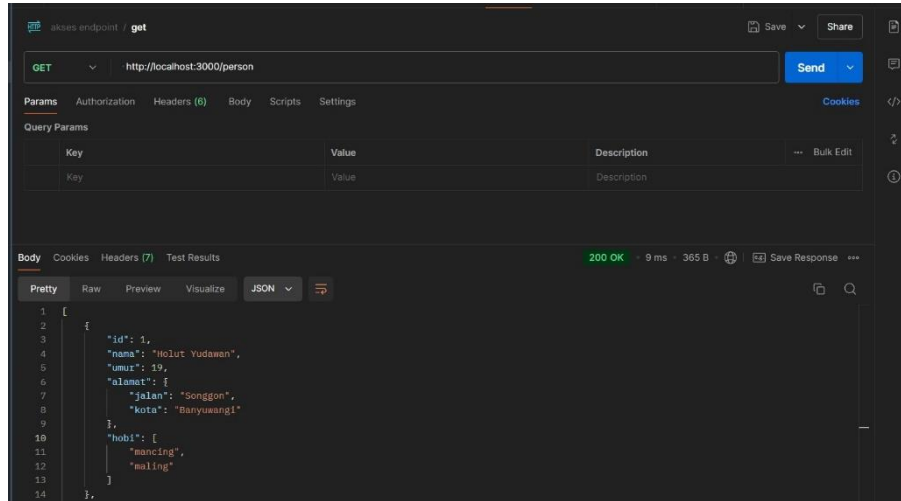
```

3. Setelah mengimplementasikan semua kodenya, di bawah ini merupakan hasil dari output nya.

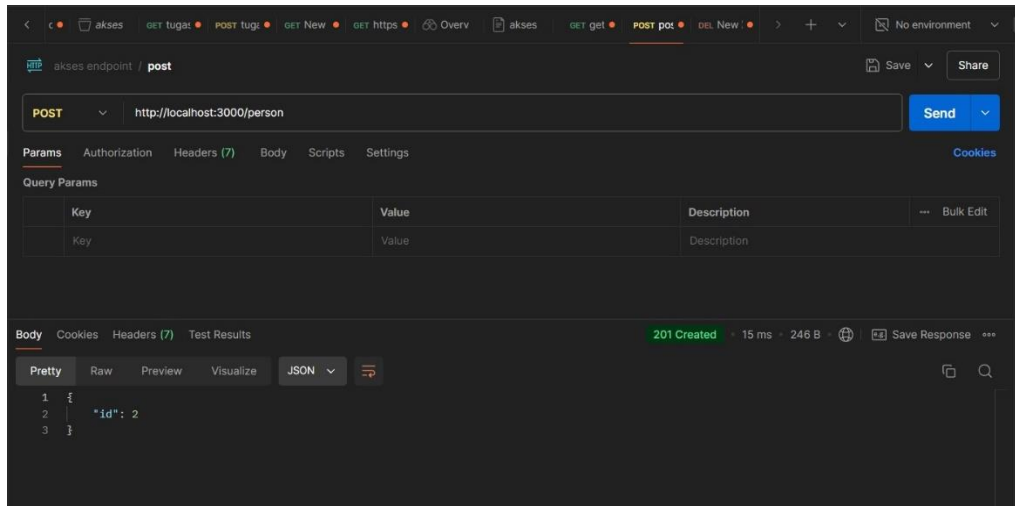


4. Mengakses API

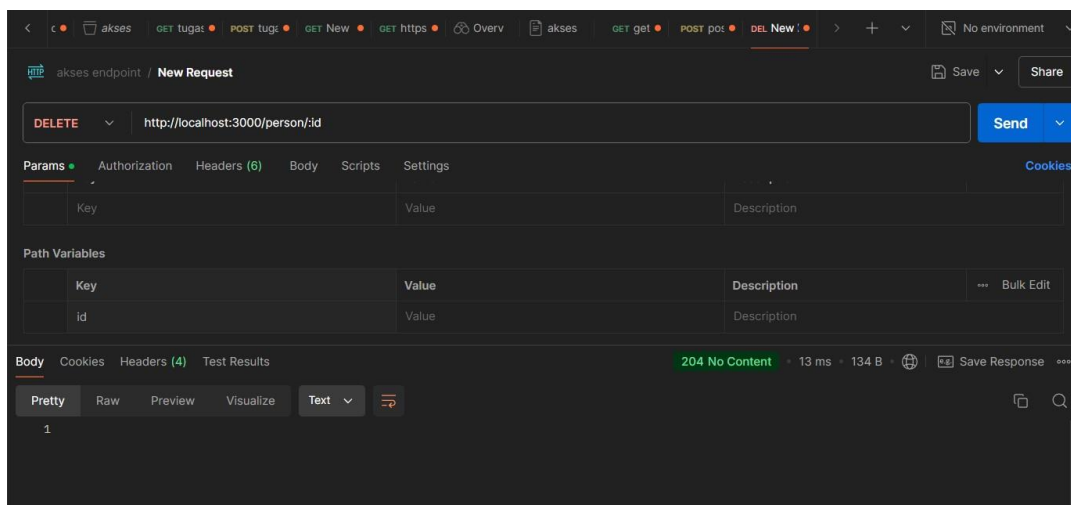
➤ Get <http://localhost:3000/person>



➤ POST



➤ DELETE



5. Membuat API dengan JSON menggunakan PHP
Yaitu awal dengan membuat file api.php

```
const express = require("express");
const app = express();
const port = 3000;

app.use(express.json());

let persons = [
  {
    id: 1,
    nama: "Holut Yudawan",
    umur: 19,
    alamat: {
      jalan: "Songgon",
      kota: "Banyuwangi",
    },
    hobi: ["mancing", "maling"],
  },
];

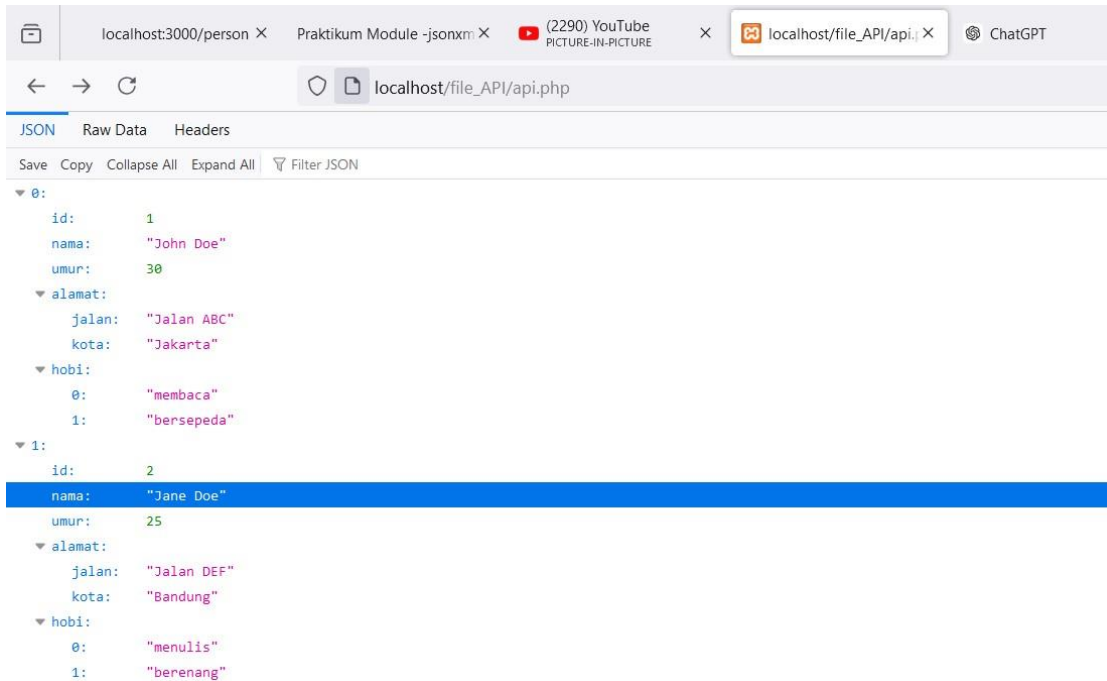
app.get("/person", (req, res) => {
  res.json(persons);
});

app.post("/person", (req, res) => {
  const newPerson = req.body;
  newPerson.id = persons.length + 1;
  persons.push(newPerson);
  res.status(201).json(newPerson);
});

app.delete("/person/:id", (req, res) => {
  const id = parseInt(req.params.id);
  persons = persons.filter((person) => person.id !== id);
  res.status(204).send();
});

app.listen(port, () => {
  console.log(`Server berjalan di http://localhost:${port}`);
});
```

Setelah selesai selanjutnya menjalankan servernya dan untuk output nya bisa di liat seperti pada gambar di bawah ini



6. Mengakses API tersebut

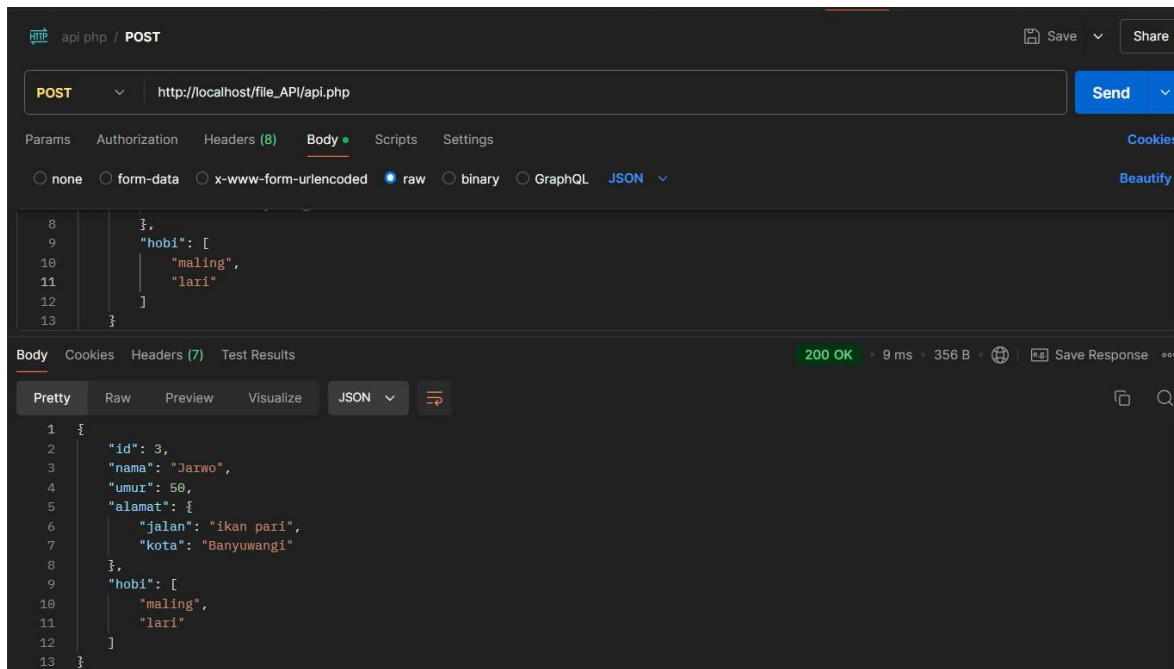
➤ GET , output yang di keluarkan sebagai berikut

```
Microsoft Windows [Version 10.0.22631.4317]
(c) Microsoft Corporation. All rights reserved.

C:\Users\holut>cd C:\xampp\htdocs\file_API

C:\xampp\htdocs\file_API>curl -X GET http://localhost/file_API/api.php
[{"id":1,"nama":"John Doe","umur":30,"alamat":{"jalan":"Jalan ABC","kota":"Jakarta"},"hobi":["membaca","bersepeda"]},{
{"id":2,"nama":"Jane Doe","umur":25,"alamat":{"jalan":"Jalan DEF","kota":"Bandung"},"hobi":["menulis","berenang"]}
C:\xampp\htdocs\file_API>
```

- POST , output yang di hasilkan dengan menggunakan curl sebagai berikut



- DELETE

```
C:\xampp\htdocs\file_API>curl -X DELETE http://localhost/file_API/api.php/1
{"message": "Data dengan ID 1 telah dihapus"}
C:\xampp\htdocs\file_API>
```

7. Membuat endpoint XML dengan file person.php

```
<?php
header('Content-Type: application/xml');

// Membuat objek SimpleXMLElement
$xml = new SimpleXMLElement('<persons/>');

// Menambahkan data person
$person = $xml->addChild('person');
$person->addChild('id', 1);
$person->addChild('name', 'John Doe');
$person->addChild('age', 30);

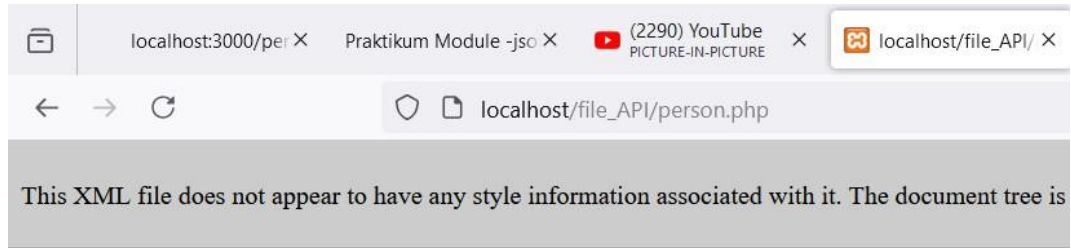
// Menambahkan alamat
$address = $person->addChild('address');
$address->addChild('street', 'Jalan ABC');
$address->addChild('city', 'Jakarta');

// Menambahkan hobi
$hobbies = $person->addChild('hobbies');
$hobbies->addChild('hobby', 'membaca');
```

```
$hobbies->addChild('hobby', 'bersepeda');
```

```
// Menampilkan XML  
echo $xml->asXML();  
?>
```

Dan output yang sudah keluar begini



```
<persons>  
  <person>  
    <id>1</id>  
    <name>John Doe</name>  
    <age>30</age>  
    <address>  
      <street>Jalan ABC</street>  
      <city>Jakarta</city>  
    </address>  
    <hobbies>  
      <hobby>membaca</hobby>  
      <hobby>bersepeda</hobby>  
    </hobbies>  
  </person>  
</persons>
```

Gunakan Postman atau browser untuk mengakses

