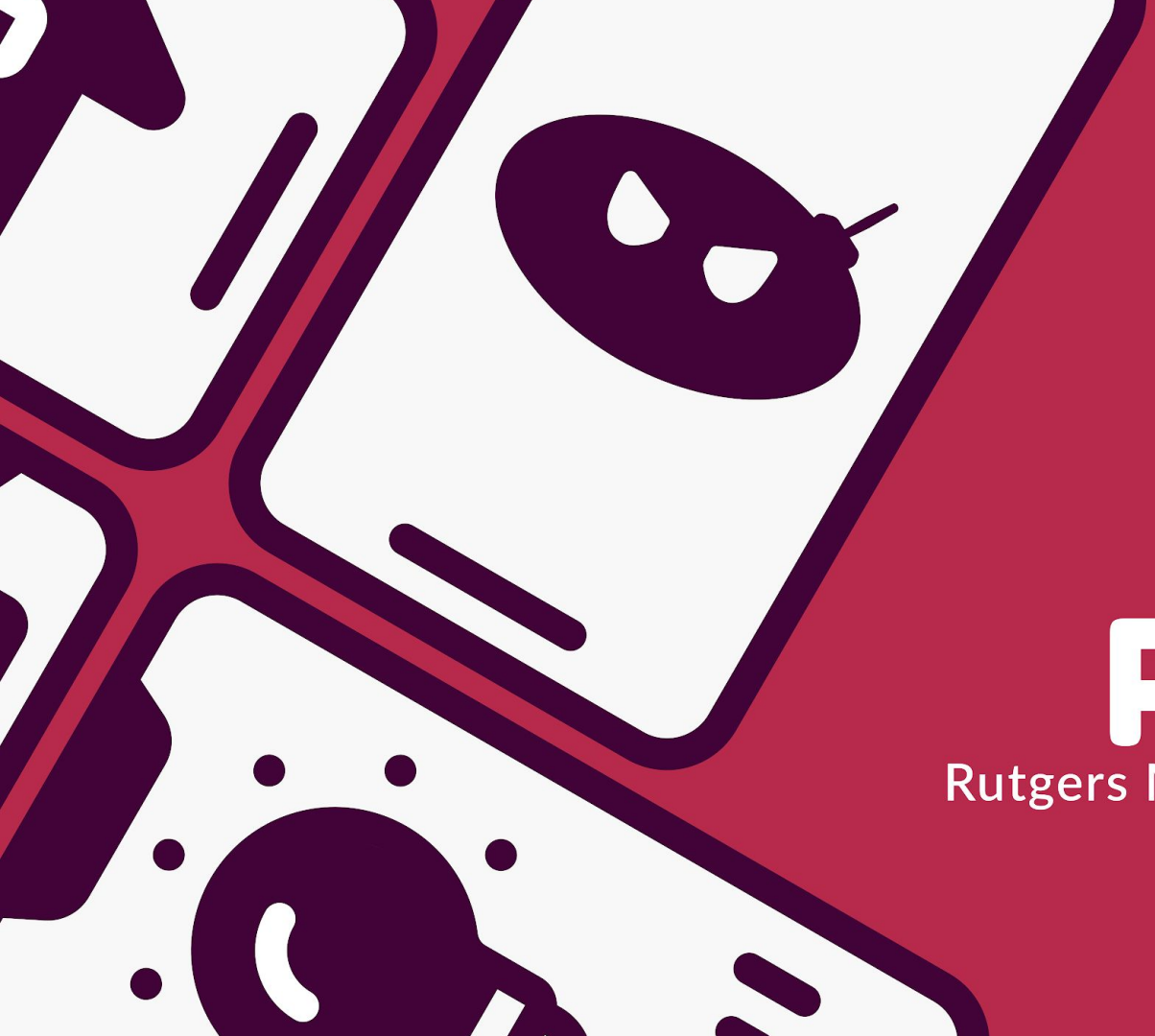


RUMAD

Rutgers Mobile App Development

Bonus Workshop 2: Postman/OpenAPI

For this bonus workshop, we'll be covering:

- OpenAPI Standard
- Using Postman for testing your APIs

Introduction

What are APIs?

Application Programming Interface (API)

- Set of rules and definitions that allows for different pieces of software to communicate with each other
    - Defines how requests are made and what responses are expected (recall Weeks 2 & 3)
- Common in web applications (RESTful APIs, HTTP requests/responses, etc.)

Importance of API Documentation and Testing

- **Documentation**
  - Provides a way of understanding how to use an API
- **Testing**
  - Ensures reliability and correctness of a program
- **OpenAPI** and **Postman** address these importances respectively

OpenAPI
(Previously Swagger)

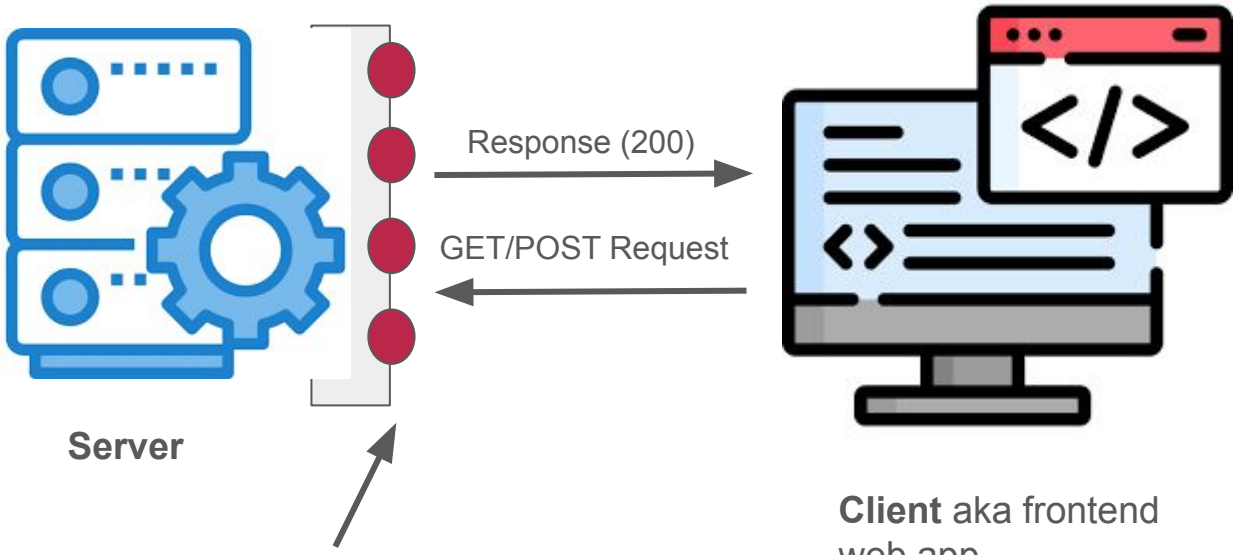
OpenAPI Documentation

- Standardized format for describing RESTful APIs
  - REST = (Re)presentational (S)tate (T)ransfer
- Defines endpoints, methods, parameters, and responses
- Makes APIs machine readable and human understandable

Uses HTTP methods: GET/POST that we discussed!

Citation: OpenAPI Specification - Wikipedia

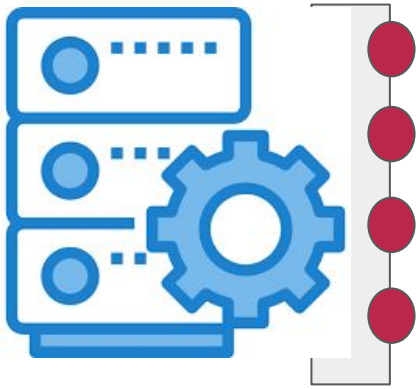
OpenAPI & REST API



New Developer

Doesn't know what's going on in your API

OpenAPI & REST API



Server

Endpoints client can connect to

→ **API**

Instead of digging through your code, new dev can just read your **OpenAPI definition**

New Developer

OpenAPI Documentation Cont.

- Written in YAML or JSON
- **Format**
  - Starts with version # and general info.
  - “paths” section lists each endpoint
  - HTTP methods and info. defined under each path

Example OpenAPI JSON Document

Practice with OpenAPI

Write your own JSON OpenAPI document for a Bookstore API that:

- Is version 2.1.3
- Has path `/books/:bookId` with:
  - Get request to retrieve a book with correct `bookId`

```
{
  "openapi": "3.0.0",
  "info": {
    "title": "Task API",
    "version": "1.0.0"
  },
  "paths": {
    "/tasks": {
      "get": {
        "summary": "Get all tasks",
        "responses": {
          "200": {
            "description": "Successful response"
          }
        }
      }
    }
  }
}
```

Example OpenAPI JSON Document

Postman

What is Postman?

- Software tool for building, testing, and managing APIs
- Provides a user interface for sending HTTP requests and receiving responses
- Eliminates the need for a functioning frontend to test APIs
- Works with OpenAPI specs.

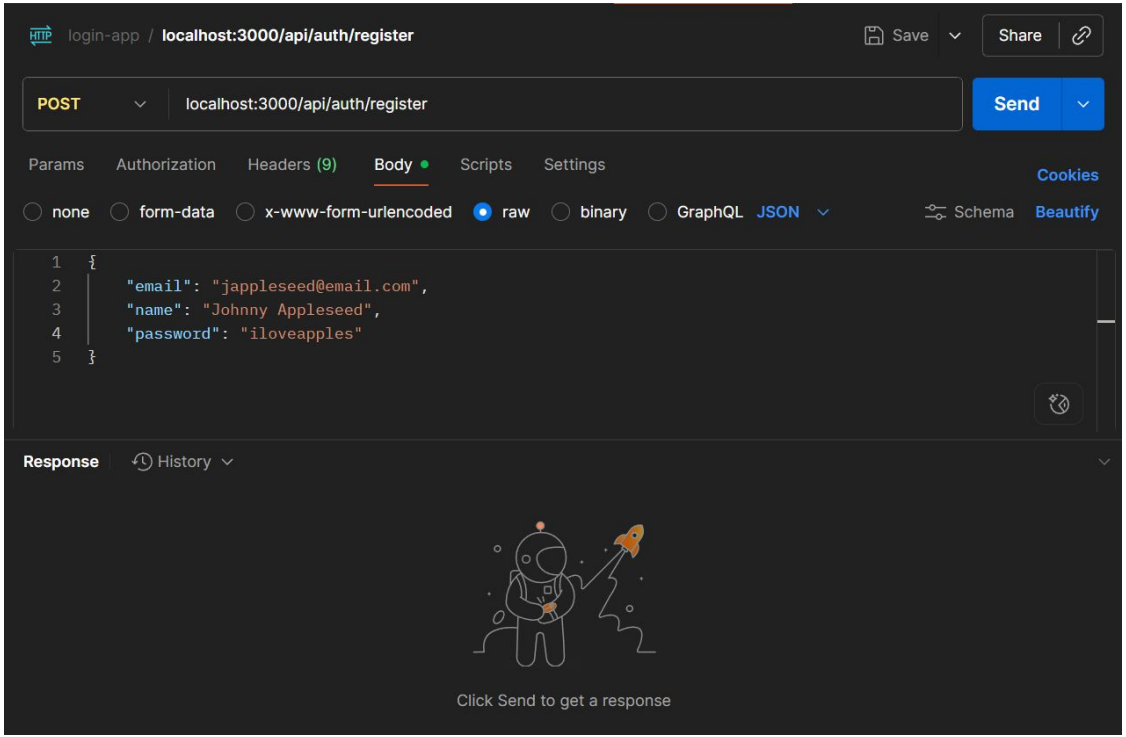
POSTMAN

Citation: Postman Reviews 2025: Details, Pricing, & Features - G2

Some Core Features

- **Send custom HTTP requests and view responses**
  - Status, headers, body, etc.
- **Collections**
  - Organize related requests into groups
  - Ex. a full API's endpoints
- **Tests**
  - Write small JavaScript scripts to verify responses
- **Mock Servers**
  - Simulate real API behavior before backend is ready

Example: POST Request



Postman Demo

TEST URL:

https://pokeapi.co/api/v2/pokemon/:name

Questions?

Next Bonus Workshop...

Database Security

- Wednesday 11/05/2025, 6:00 PM–7:00 PM
- Row Level Security (RLS) & Access Control
- Anon & Service Role Keys
- Handling Sensitive Data

Attendance

Please let us know where we can improve the format of the lessons!