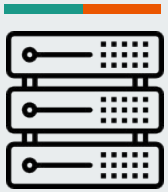


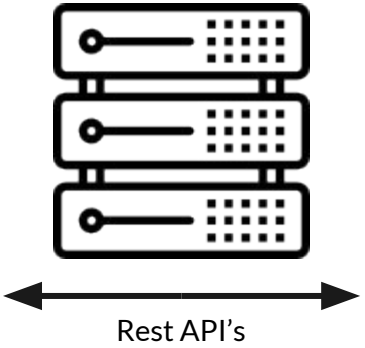
Backend Intro

Water Monitoring System

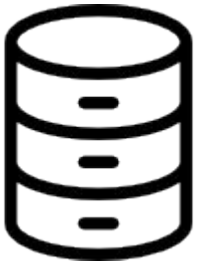
@arpitkotecha

What is Back-End?

Client

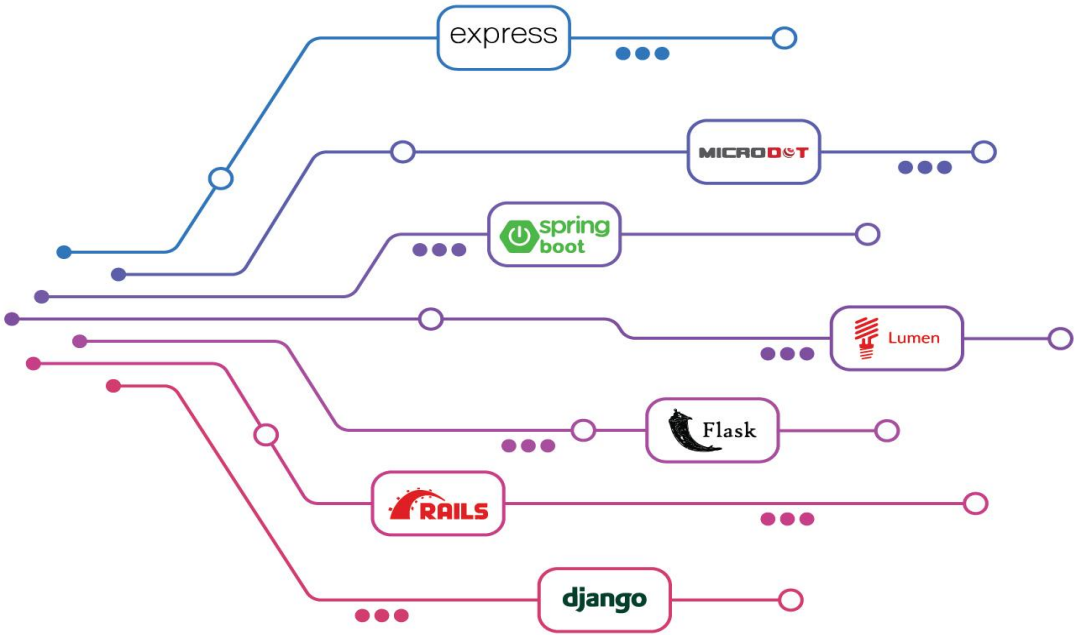


Server



Database

Backend Web Frameworks

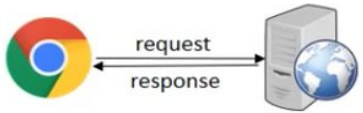


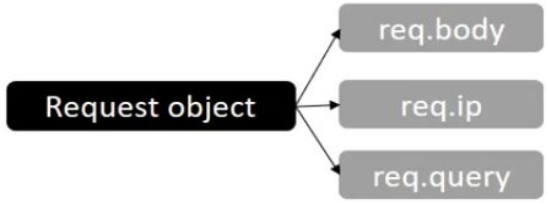
Node.js Basics

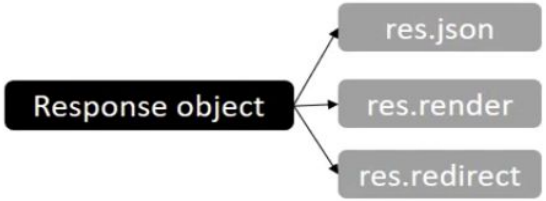
- Server Side Script
- Built on top of V8
- Created By Ryan Dahl
- Open Source
- Asynchronous
- Single-Threaded

Express - Web Framework

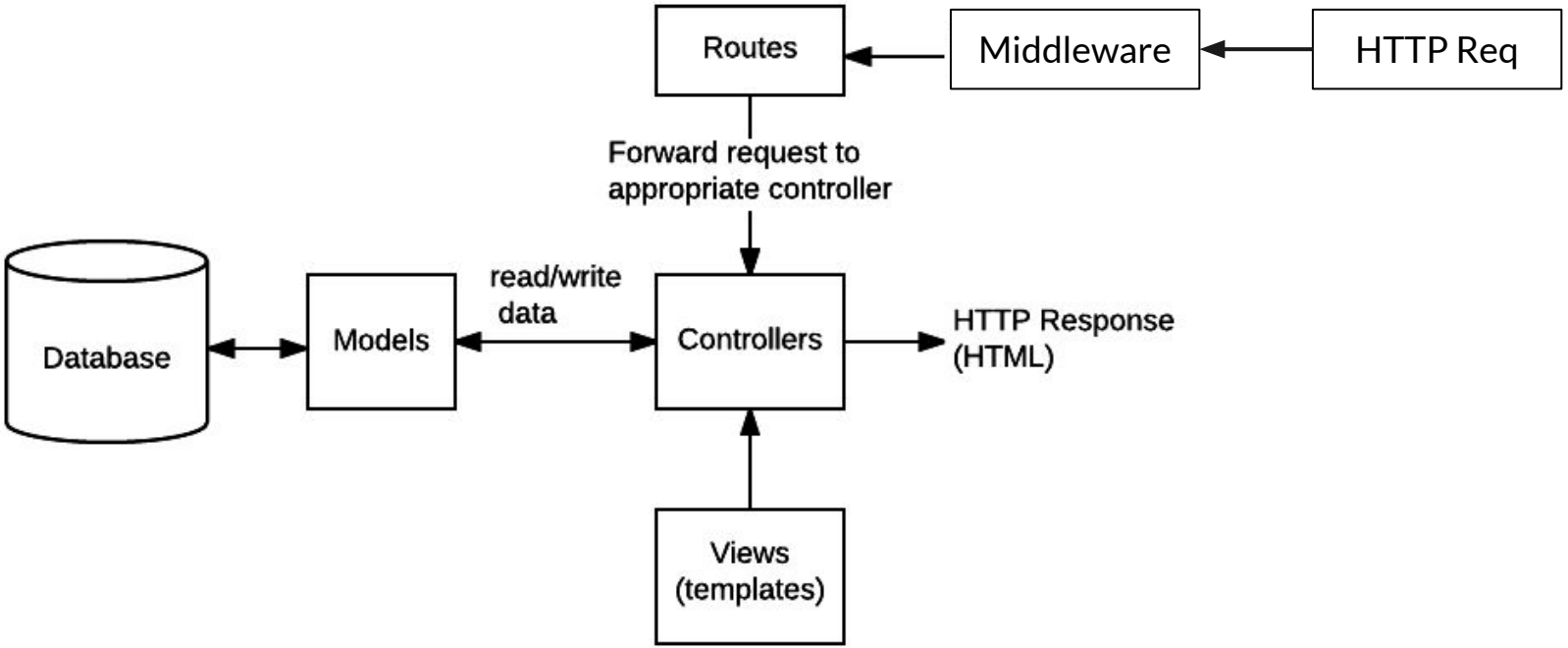
- Web framework for NodeJS
- Create web server in minutes
- You can use NodeJS http module but express simplifies coding
- Want to send data to your NodeJS application over internet
- Helps to organize your application into a MVC architecture
- Want graceful error handling that won't cause entire server to crash.
- Best candidate for creating REST apis.







Routes and controllers



Structuring The Project

- **controllers/** – defines your app routes and their logic
- **helpers/** – code and functionality to be shared by different parts of the project
- **middlewares/** – Express middlewares which process the incoming requests before handling them down to the routes
- **models/** – represents data, implements business logic and handles storage
- **public/** – contains all static files like images, styles and javascript
- **views/** – provides templates which are rendered and served by your routes
- **tests/** – tests everything which is in the other folders
- **app.js** – initializes the app and glues everything together
- **package.json** – remembers all packages that your app depends on and their versions

Let’s create a server

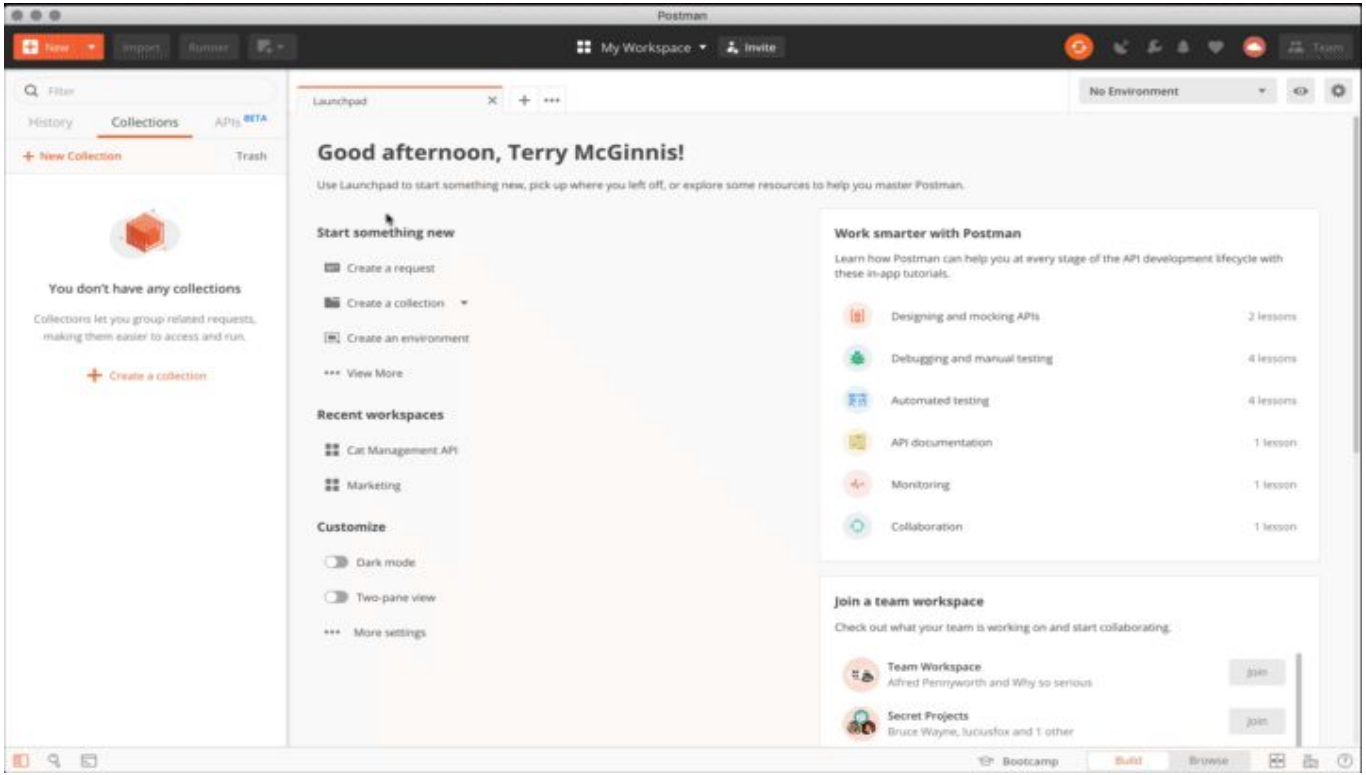
```
const express = require('express')
const app = express()
const port = 3000

app.get('/', (req, res) => res.send('Hello World!'))

app.listen(port, () =>
  console.log(`Example app listening at http://localhost:${port}`)
)
```

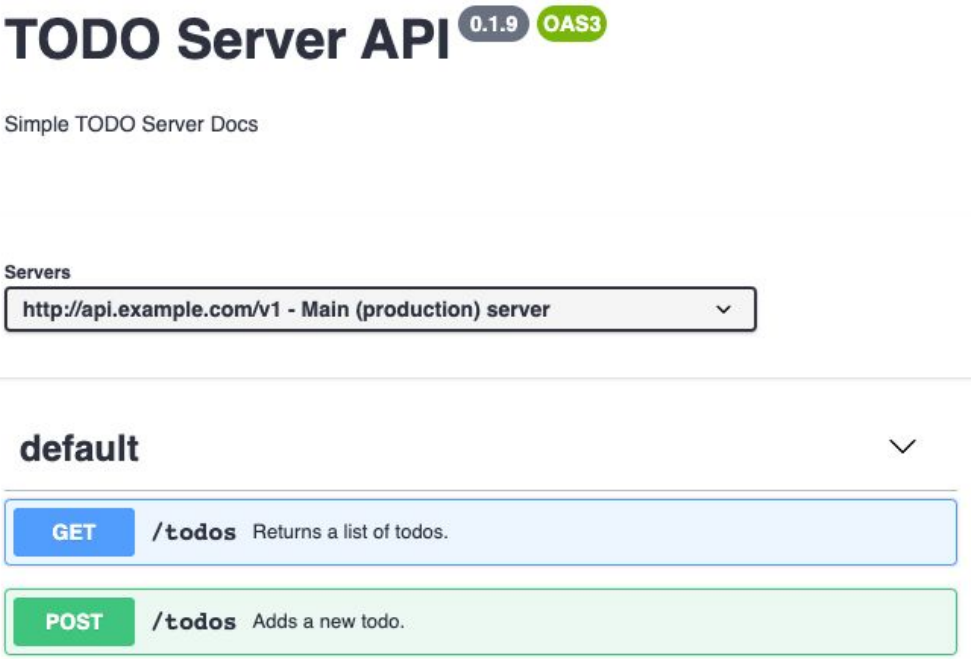
Also, Let’s try out basic Express todo App -> https://gist.github.com/ArpitKotecha/8f6c92991f57fe6d28869fd9d2e55de5

Let's Create a Mock Server

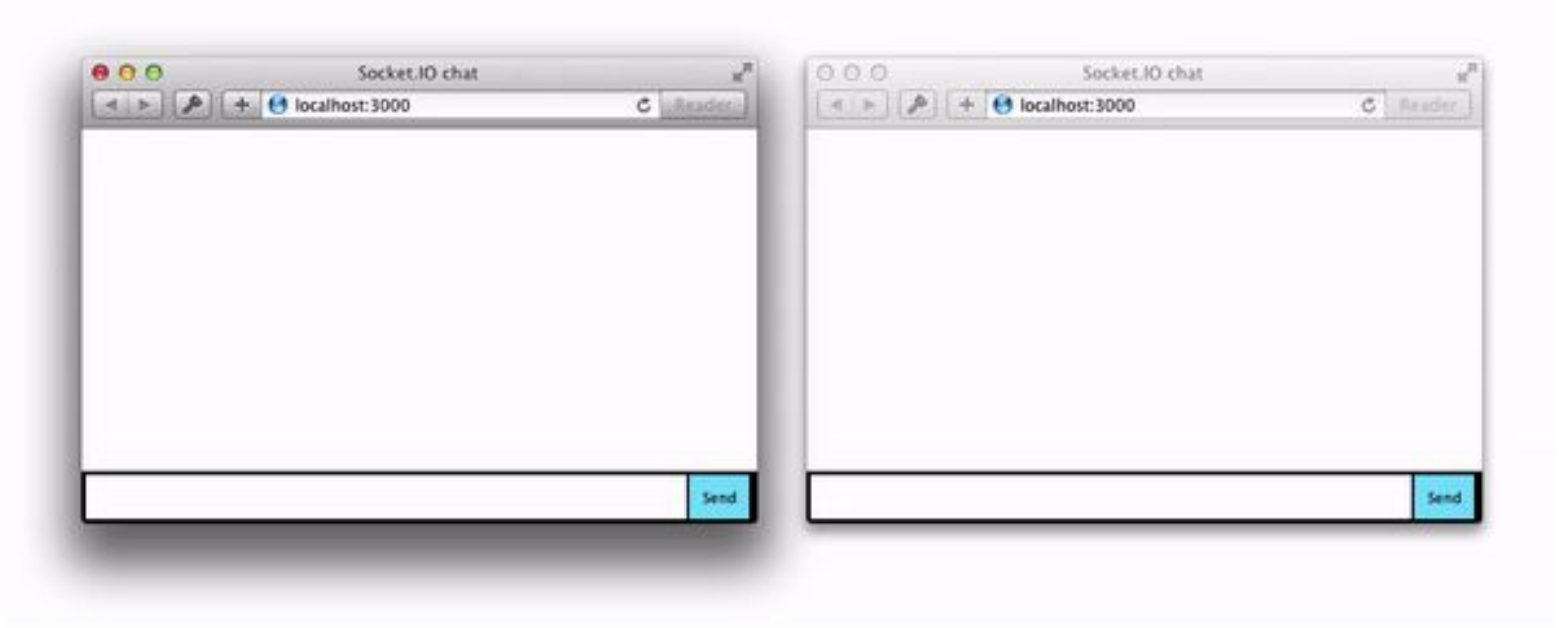


Writing Docs

```yaml
openapi: 3.0.0
info:
  title: TODO Server API
  description: Simple TODO Server Docs
  version: 0.1.9
servers:
  - url: http://api.example.com/v1
    description: Main (production) server
  - url: http://staging-api.example.com
    description: Internal staging server for testing
paths:
  /todos:
    get:
      summary: Returns a list of todos.
      description: Return all the todos added by user.
      responses:
        '200':    # status code
          description: A JSON array of todos
          content:
            application/json:
              schema:
                type: array
                items:
                  type: object
                  properties:
                    task:
                      type: string
                    priority:
                      type: integer
```



Socket.io Example



Thank You ✌️

arpitjain.tech | legalmind.tech

Arpit Jain,
LegalMind
(Co-Founder & COO)

Checkout my sorcerer profile here