Software Architecture & Development:
PetPal

Master of Science
Applied Computer Science

Kamal Kumar Sardiwal

Introduction

01

PetPal

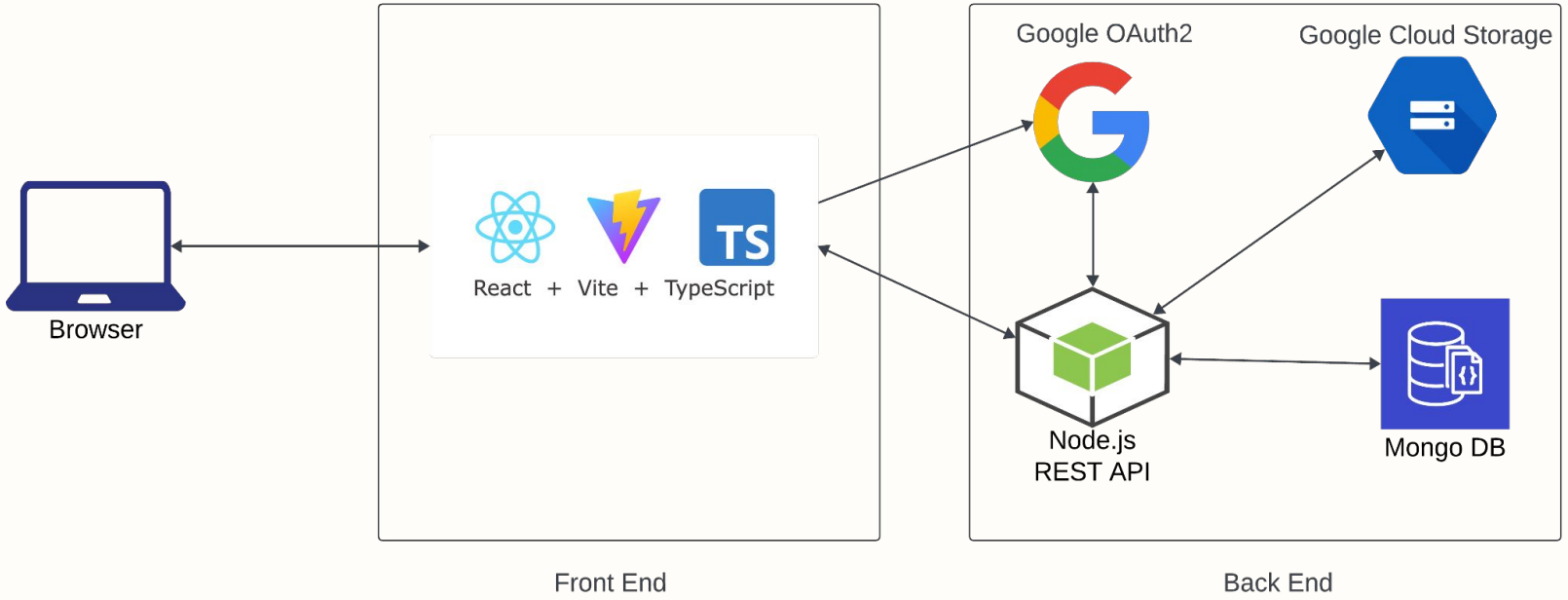
Our app provides everything a pet needs in one convenient place. From adoption and events to vet bookings and daycare, we've got it all.

Features:

- Adoption services
- Pet events
- Pet Services - (Veterinary and Grooming Centers)
- Lost and found
- Pet Facilities - (Daycares and Caretakers)

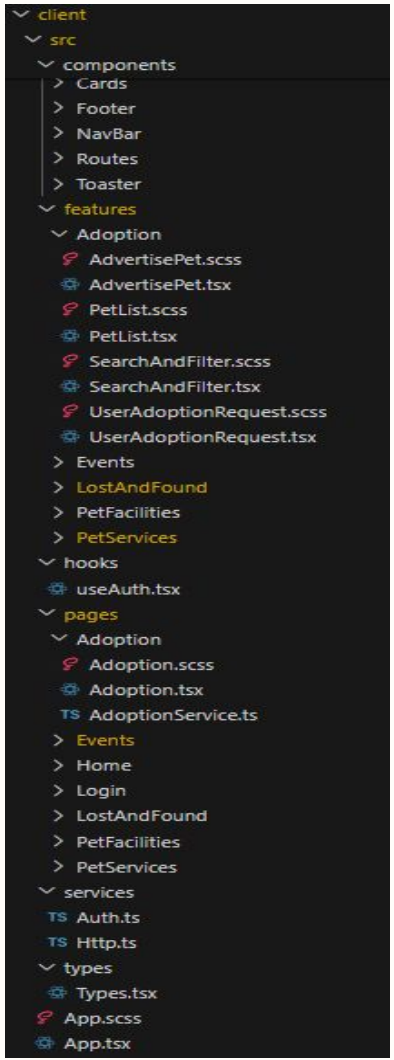
Software Architecture Diagram

02


Google OAuth2
Google Cloud Storage
React + Vite + TypeScript
Browser
Node.js
REST API
Mongo DB
Front End
Back End

React application folder structure

03



"**components** " - Holds reusable components that are shared across multiple features.

"**features**" - Each feature has its own folder, which contains all its tightly coupled components, hooks, services, and styles. This encapsulation helps in managing feature-specific logic and makes the codebase more modular.

"**hooks**" - Contains reusable custom hooks that are not specific to any single feature.

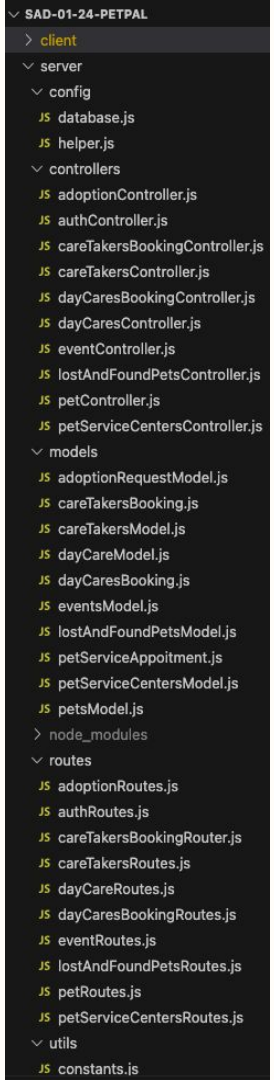
"**pages**" - Contains page-level components. Each page typically corresponds to a route in your application and aggregates multiple components to form a complete view.

"**services**" - Includes services that are shared between many features.

"**types**" - Includes interfaces.

Nodejs Folder Structure

03



“config” - This folder holds configuration files and settings for the server.

“controller” - The files in this folder process requests, interact with models, and send responses back to the client. They act as an intermediary between the routes and models.

“models” - The files in this folder define the structure of the data, the relationships between different data entities, and include functions for interacting with the database (e.g., schemas for MongoDB using Mongoose).

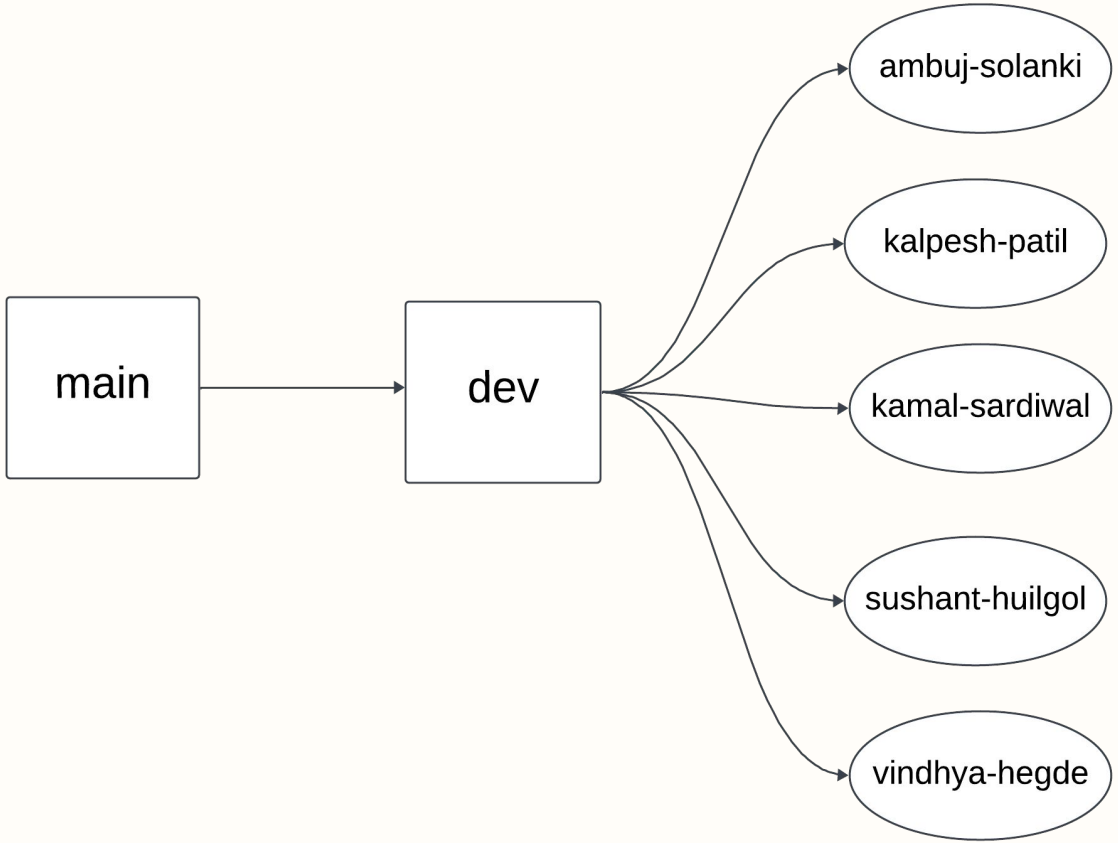
“routes” - Contains handlers that map HTTP requests to specific controller functions, defining how different endpoints of API should respond.

”utils” - This folder contains reusable pieces of code that can be used across various parts of application to perform common tasks.

Git Structure (sad-01-24-petpal)

04

Branch Structure



Branch Rules

main & dev branch

- Require a pull request before merging
- Require approvals from 2 approvers
- Do not allow bypassing the above settings
- Restrict who can push to matching branches

feature branches

- Restrict who can push to matching branches
- Restrict pushes that create matching branches

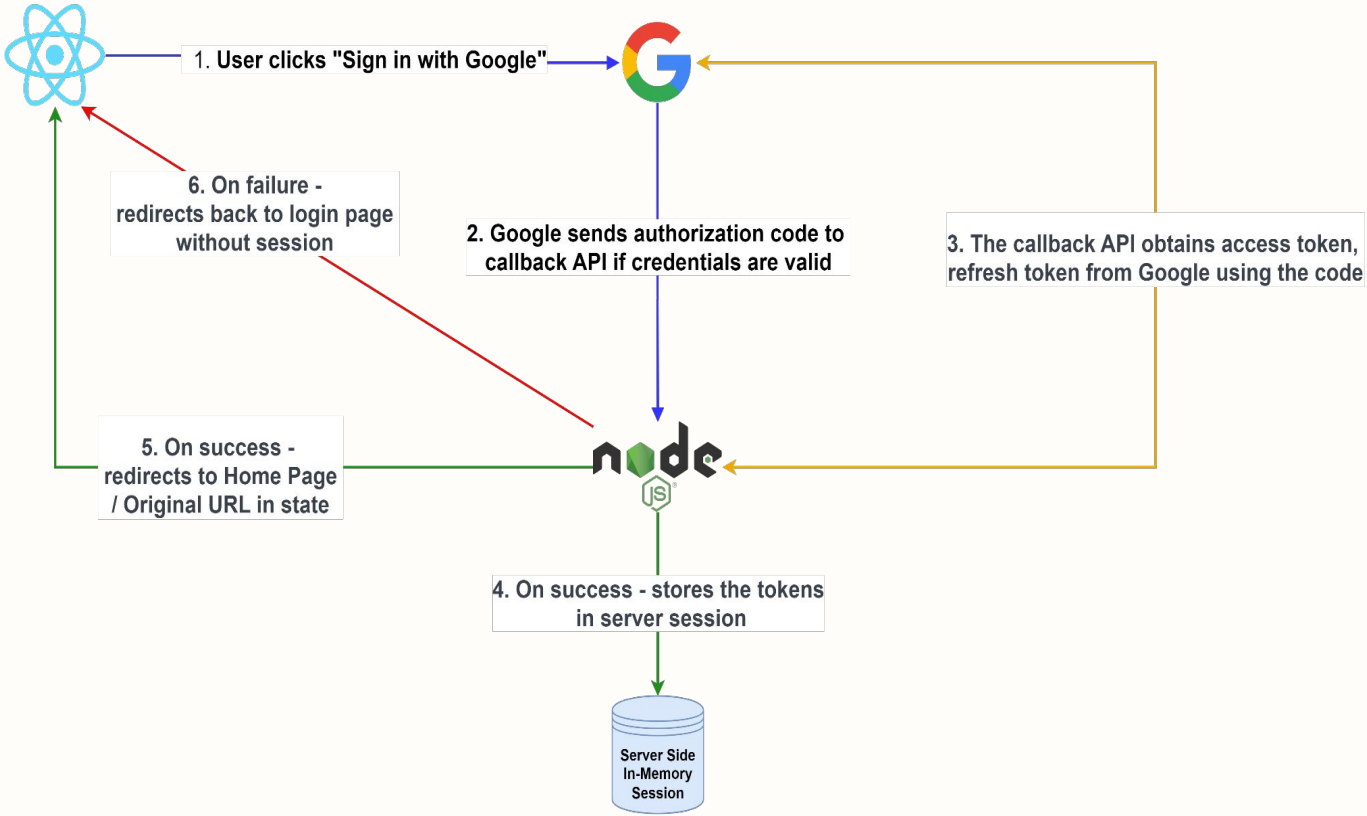
Commit Message Prefixes Followed

- **feat**: A new feature
- **fix**: A bug fix
- **docs**: Documentation only changes
- **style**: Changes that do not affect the meaning of the code (white-space, formatting, missing semi-colons, etc)
- **refactor**: A code change that neither fixes a bug nor adds a feature
- **perf**: A code change that improves performance
- **test**: Adding missing tests or correcting existing tests
- **chore**: Changes to the build process or auxiliary tools and libraries such as documentation generation

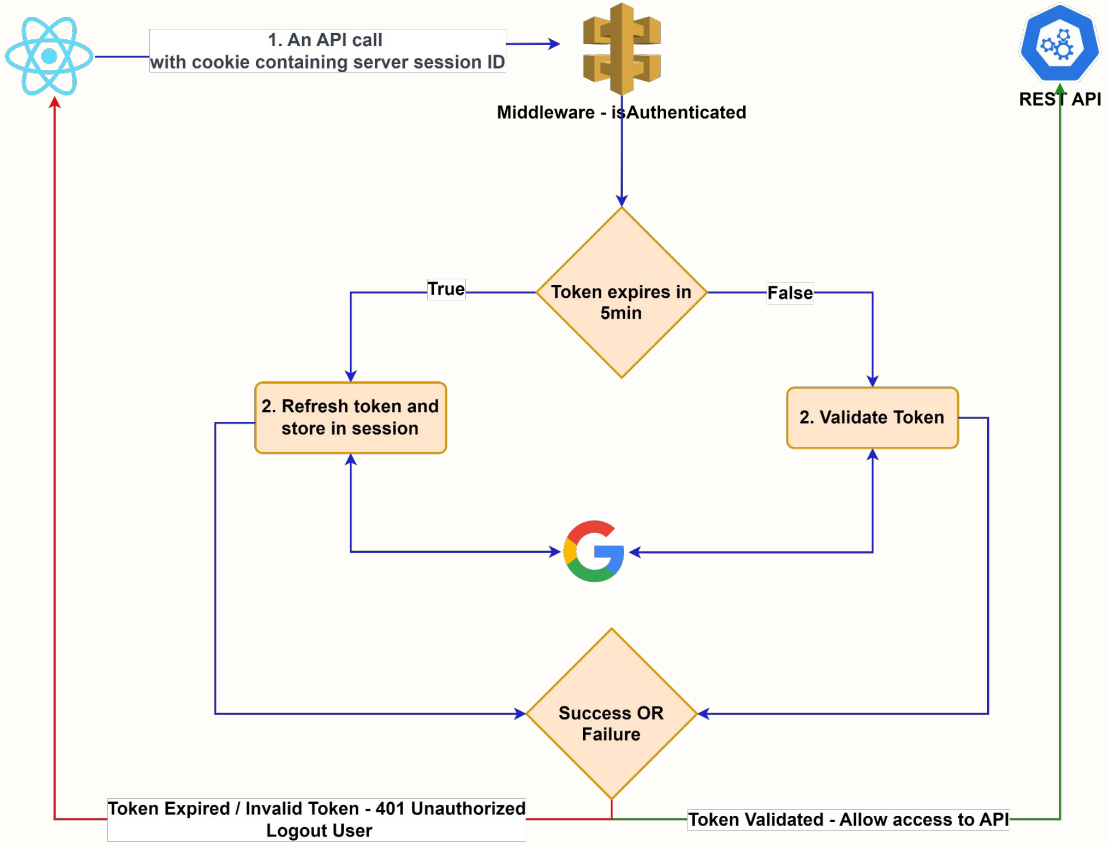
Google OAuth Login

05

OAuth2 Login Flow



Authenticated User Flow - Token Validation



Demo

Thanks for your attention.

Danke für Ihre Aufmerksamkeit.