



# GPCV Backend - Government Polytechnic College, Vanavasi

This is the **backend server** of the official web application for **Government Polytechnic College, Vanavasi (GPCV)**.  
It powers APIs for student services like the Anti-Ragging Complaint Portal, Gallery, Authentication, and more.

Built with **Node.js, Express.js, MongoDB**, and follows secure API best practices.



## Project Structure

```
GPCV-Backend/
|
├── config/           # Database and environment config
├── controllers/      # Route controllers
├── middleware/       # Custom middlewares like auth, error handler
├── models/           # Mongoose schemas and models
├── routes/           # Route definitions
├── services/         # Service layer logic (e.g. email)
├── utils/            # Utility functions
├── .env              # Environment variables
├── server.js         # Entry point
└── README.md        # Project documentation
```



## Live URL

API Hosted at: <https://gpcv-backend.onrender.com>



## Key Features

- Secure RESTful APIs for frontend integration
- Email sending with EmailJS/Nodemailer
- Anti-Ragging Complaint submission with anonymous support
- Dynamic photo gallery route
- Modular code structure with MVC pattern
- CORS configured for production frontend domain
- Error handling and validation



## Tech Stack

Technology	Purpose
Node.js	Backend runtime

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Express.js	Web framework
MongoDB	NoSQL database
Mongoose	ODM for MongoDB
Nodemailer	Email delivery
dotenv	Environment variable management
CORS	Cross-Origin Resource Sharing support
Express Validator	Input validation
Helmet	Security middleware
Morgan	Logging

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## Getting Started

### Prerequisites

- Node.js (v16 or higher)
- MongoDB Atlas or Local MongoDB
- Email credentials (for EmailJS/Nodemailer if enabled)

## Developer

### Harish R

Frontend Developer | MERN Stack Enthusiast

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🌐 Portfolio: <https://it-harish.netlify.app>

🐙 GitHub: [IT-HARISH-R](https://github.com/IT-HARISH-R)

📍 Location: Mettur, Salem District, Tamil Nadu

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## Contributions

This is a solo project built for learning and academic contribution.

Feel free to **fork**, **star** ☆, and **suggest improvements** through issues or pull requests!

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## Installation

```
git clone https://github.com/IT-HARISH-R/GPCV-Backend.git
cd GPCV-Backend
npm install
```