

Elite School Management System

Complete Documentation

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Version 1.0

Table of Contents

1. Introduction	3
2. System Overview	4
3. Installation Guide	5
4. User Roles & Permissions	7
5. Module Documentation	8
6. Database Models	15
7. API Reference	18
8. Troubleshooting	20

1. Introduction

Elite School Management System is a comprehensive web-based application designed to streamline and automate various administrative and academic processes in educational institutions. Built with Django 4.2.3 and modern web technologies, it provides a robust, scalable, and user-friendly platform for managing all aspects of school operations.

Key Features:

- Student Information Management
- Staff & Employee Management
- Academic Management (Classes, Subjects, Timetables)
- Attendance Tracking (Students & Staff)
- Examination & Grading System
- Fee Management & Financial Tracking
- Library Management
- Transport Management
- Hostel Management
- Communication System (Announcements, Messages)
- Comprehensive Reporting
- Role-Based Access Control

2. System Overview

2.1 Technology Stack

Component	Technology	Version
Backend Framework	Django	4.2.3
Frontend	HTML5, CSS3, JavaScript	-
UI Framework	Bootstrap	5.3.0
Database	SQLite / PostgreSQL	-
Icons	Bootstrap Icons	1.11.0
Charts	Chart.js	Latest
Python	Python	3.8+

2.2 System Architecture

The system follows a Model-View-Template (MVT) architecture pattern, which is Django's implementation of the MVC pattern. The application is divided into multiple Django apps, each handling a specific domain of the school management system.

3. Installation Guide

3.1 Prerequisites

- Python 3.8 or higher
- pip (Python package manager)
- Virtual environment (recommended)

3.2 Installation Steps

1. Clone the repository:

```
git clone [repository-url]
```

2. Create virtual environment:

```
python -m venv .venv
```

3. Activate virtual environment:

```
source .venv/bin/activate # On Windows: .venv\Scripts\activate
```

4. Install dependencies:

```
pip install -r requirements.txt
```

5. Run migrations:

```
python manage.py migrate
```

6. Create superuser:

```
python manage.py createsuperuser
```

7. Populate sample data:

```
python manage.py populate_sample_data
```

8. Run development server:

```
python manage.py runserver
```

3.3 Access Points

- School Management: <http://localhost:8000/school/>
- Admin Panel: <http://localhost:8000/admin/>
- Login Page: <http://localhost:8000/accounts/login/>

3.4 Default Credentials

Role	Username	Password
Admin	admin	admin123
Staff	staff1-staff10	staff123
Student	student1-student30	student123

4. User Roles & Permissions

Role	Description	Key Permissions
Super Admin	Full system access	All modules, settings, user management
Admin	School administrator	Most modules except system settings
Teacher	Teaching staff	Students, academics, attendance, exams
Student	Enrolled student	View own records, assignments, grades
Parent	Student guardian	View child's records, communicate
Accountant	Finance staff	Fee management, invoices, payments
Librarian	Library staff	Library management, book issues
Receptionist	Front desk	Student admission, visitor management

5. Module Documentation

5.1 Students Module

Comprehensive student information management system.

Features:

- Student registration and admission
- Personal and academic information
- Parent/Guardian details
- Health records and medical information
- Document management
- Student promotion and transfer
- Sibling management

5.2 Staff Module

Employee and staff management system.

Features:

- Staff registration and profiles
- Department and designation management
- Attendance tracking
- Leave management
- Salary and payroll
- Performance evaluation
- Document management

5.3 Academics Module

Academic operations and curriculum management.

Features:

- Class and section management
- Subject management
- Timetable creation
- Attendance marking
- Examination management
- Grade and result processing
- Homework assignments

5.4 Finance Module

Complete financial management system.

Features:

- Fee structure configuration
- Invoice generation
- Payment processing
- Discount management
- Expense tracking
- Salary management
- Financial reports

5.5 Library Module

Library resource management.

Features:

- Book cataloging
- Book issue and return
- Category management
- Member management
- Fine calculation
- Inventory tracking

5.6 Transport Module

School transport management.

Features:

- Vehicle management
- Route planning
- Stop management
- Driver information
- Maintenance tracking
- Student transport assignment

5.7 Hostel Module

Hostel and accommodation management.

Features:

- Hostel management
- Room allocation
- Facility management
- Complaint handling
- Warden assignment

5.8 Communication Module

Internal communication system.

Features:

- Announcements
- Internal messaging
- Notifications
- SMS integration
- Email integration

6. Database Models

The system uses a comprehensive database schema with the following main models:

Module	Main Models	Count
Accounts	User, Campus, AcademicYear, Holiday	4
Students	Student, StudentDocument, HealthRecord, Promotion	4
Staff	Staff, Department, Designation, Leave, Attendance	5
Academics	Class, Section, Subject, Timetable, Attendance, Exam, Grade	7
Finance	FeeType, FeeStructure, Invoice, Payment, Discount, Expense	6
Library	Book, BookCategory, BookIssue	3
Transport	Vehicle, Route, RouteStop, Maintenance	4
Hostel	Hostel, Room, Facility, Complaint	4
Communication	Announcement, Message, Notification, SMS, Email	5

Total Models: 42+

7. Forms & Templates

7.1 Custom Forms Created

- StudentForm - Complete student management
- StaffForm - Staff/employee management
- ClassForm - Class management
- SectionForm - Section management
- SubjectForm - Subject management
- AttendanceForm - Attendance marking
- ExaminationForm - Exam creation
- HomeworkForm - Assignment management
- FeeTypeForm - Fee type management
- FeeStructureForm - Fee structure setup
- FeeInvoiceForm - Invoice generation
- PaymentForm - Payment processing
- DiscountForm - Discount management
- ExpenseForm - Expense tracking
- AnnouncementForm - Announcement creation
- MessageForm - Internal messaging
- BookForm - Library book management
- BookCategoryForm - Book category management
- BookIssueForm - Book issue/return
- VehicleForm - Vehicle management
- RouteForm - Route management
- RouteStopForm - Route stop management
- HostelForm - Hostel management
- RoomForm - Room management
- CampusForm - Campus management
- AcademicYearForm - Academic year setup
- HolidayForm - Holiday management

Total Forms: 27

8. Sample Data

The system includes a management command to populate sample data for testing:

```
python manage.py populate_sample_data
```

Sample Data Created:

Data Type	Count	Details
Campus	1	Elite School Main Campus
Academic Year	1	2024-2025
Classes	10	Class 1 to Class 10
Sections	20	A and B for each class
Subjects	5	Math, English, Science, SST, Urdu
Students	30	With realistic profiles
Announcements	5	Sample announcements

9. Troubleshooting

Issue: Migration Errors

Solution: Delete db.sqlite3 and run migrations again: `python manage.py migrate`

Issue: Login Issues

Solution: Create superuser: `python manage.py createsuperuser`

Issue: Template Not Found

Solution: Check TEMPLATES setting in settings.py and ensure templates directory exists

Issue: Static Files Not Loading

Solution: Run: `python manage.py collectstatic`

Issue: Port Already in Use

Solution: Use different port: `python manage.py runserver 8080`

10. Contact & Support

For technical support, feature requests, or bug reports, please contact:

Email: support@eliteschool.com

Website: www.eliteschool.com

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