

School Management System – API Endpoints

1. Authentication & User Management

| Method | Route | Access | Purpose |
|--------|---------------------------|--------------|------------------------------------|
| POST | /api/auth/login | All | Login using email/phone + password |
| POST | /api/auth/register | Admin | Create any system user |
| POST | /api/auth/logout | Logged users | Logout user |
| POST | /api/auth/refresh-token | Logged users | Refresh expired token |
| POST | /api/auth/forgot-password | All | Request password reset |
| POST | /api/auth/reset-password | All | Reset password |
| PUT | /api/auth/profile | All | Update own profile |
| GET | /api/auth/roles | Admin | View system roles |

2. Students Module

| Method | Route | Access | Purpose |
|--------|--------------------------|-------------------------------------------|-----------------------|
| GET | /api/students | Admin, Teacher(assigned section- teacher) | List students |
| GET | /api/students/:id | Admin, Teacher(assigned section- teacher) | Get student details |
| POST | /api/students | Admin | Add student |
| PUT | /api/students/:id | Admin | Update student |
| DELETE | /api/students/:id | Admin | Deactivate student |
| GET | /api/students/:id/grades | Admin, Teacher, Parent, Student | Student grade history |

| Method | Route | Access | Purpose |
|--------|------------------------------|---------------------------------|--------------------|
| GET | /api/students/:id/attendance | Admin, Teacher, Parent, Student | Attendance history |
| GET | /api/students/:id/fees | Admin, Parent | Fee status |

3. Teachers Module

| Method | Route | Access | Purpose |
|--------|---------------------------------------------|----------------|---------------------------|
| GET | /api/teachers | Admin | List teachers |
| GET | /api/teachers/:id | Admin, Teacher | Teacher profile |
| POST | /api/teachers | Admin | Add teacher |
| PUT | /api/teachers/:id | Admin | Update teacher |
| DELETE | /api/teachers/:id | Admin | Deactivate teacher |
| GET | /api/teachers/:id/subjects | Admin, Teacher | Teacher subjects |
| GET | /api/teachers/:id/sections | Admin, Teacher | Assigned sections |
| GET | /api/teachers/:id/timetable | Teacher | Weekly timetable |
| POST | /api/teachers/:id/assign-subject | Admin | Assign subject to teacher |
| DELETE | /api/teachers/:id/remove-subject/:subjectId | Admin | Remove assigned subject |

4. Classes & Sections

Classes

| Method | Route | Access | Purpose |
|--------|------------------|----------------|---------------|
| GET | /api/classes | Admin, Teacher | List classes |
| GET | /api/classes/:id | Admin, Teacher | Class details |
| POST | /api/classes | Admin | Create class |
| PUT | /api/classes/:id | Admin | Update class |
| DELETE | /api/classes/:id | Admin | Delete class |

| Method | Route | Access | Purpose |
|--------|---------------------------|----------------|-------------------|
| GET | /api/classes/:id/sections | Admin, Teacher | Sections of class |
| GET | /api/classes/:id/students | Admin, Teacher | Students in class |
| GET | /api/classes/:id/subjects | Admin, Teacher | Subjects in class |

Sections

| Method | Route | Access | Purpose |
|--------|----------------------------------|-------------------------|--------------------------|
| GET | /api/sections | Admin, Teacher | List sections |
| GET | /api/sections/:id | Admin, Teacher | Section details |
| POST | /api/sections | Admin | Add section |
| PUT | /api/sections/:id | Admin | Update section |
| DELETE | /api/sections/:id | Admin | Delete section |
| GET | /api/sections/:id/students | Admin, Teacher | Students of section |
| GET | /api/sections/:id/teachers | Admin | Teachers in section |
| GET | /api/sections/:id/timetable | Admin, Teacher, Student | Section timetable |
| POST | /api/sections/:id/assign-student | Admin | Promote / assign student |

5. Subjects

| Method | Route | Access | Purpose |
|--------|----------------------------|----------------|----------------------|
| GET | /api/subjects | Admin, Teacher | List subjects |
| GET | /api/subjects/:id | Admin, Teacher | Subject detail |
| POST | /api/subjects | Admin | Add subject |
| PUT | /api/subjects/:id | Admin | Update subject |
| DELETE | /api/subjects/:id | Admin | Delete subject |
| GET | /api/subjects/:id/teachers | Admin | Teachers for subject |
| POST | /api/subjects/:id/assign- | Admin | Assign teacher |

| Method | Route | Access | Purpose |
|--------|---------|--------|---------|
| | teacher | | |

6. Reports Module

| Method | Route | Access | Purpose |
|--------|---------------------------------------------|------------------------|---------------------|
| GET | /api/reports/student-performance/:studentId | Admin, Teacher, Parent | Academic report |
| GET | /api/reports/section-performance/:sectionId | Admin, Teacher | Compare section |
| GET | /api/reports/class-performance/:classId | Admin | Class analytics |
| GET | /api/reports/attendance-summary/:sectionId | Admin, Teacher | Attendance summary |
| GET | /api/reports/teacher-workload | Admin | Teacher load report |
| GET | /api/reports/enrollment-stats | Admin | General analytics |
| GET | /api/reports/library-usage | Admin, Librarian | Library activity |
| GET | /api/reports/fee-collection | Admin | Finance summary |

7. Library System

Books Catalog

| Method | Route | Access |
|--------|-------------------|------------------------------------|
| GET | /api/books | Admin, Librarian, Teacher, Student |
| GET | /api/books/:id | All |
| POST | /api/books | Librarian |
| PUT | /api/books/:id | Librarian |
| DELETE | /api/books/:id | Librarian |
| GET | /api/books/search | All |

| Method | Route | Access |
|--------|-------------------------------|-----------|
| GET | /api/books/category/:category | All |
| GET | /api/books/author/:author | All |
| GET | /api/books/available | All |
| POST | /api/books/bulk-import | Librarian |
| GET | /api/books/:id/availability | All |

8.Book Categories

| Method | Route | Access |
|--------|--------------------------|------------------|
| GET | /api/book-categories | Librarian, Admin |
| POST | /api/book-categories | Librarian |
| PUT | /api/book-categories/:id | Librarian |
| DELETE | /api/book-categories/:id | Librarian |

9.Book Issue & Return

| Method | Route | Access |
|--------|---------------------------------------|-------------------|
| GET | /api/book-issues | Librarian |
| GET | /api/book-issues/:id | Librarian |
| POST | /api/book-issues/issue | Librarian |
| POST | /api/book-issues/return/:issueId | Librarian |
| GET | /api/book-issues/student/:studentId | Librarian, Parent |
| GET | /api/book-issues/overdue | Librarian |
| GET | /api/book-issues/current | Librarian |
| POST | /api/book-issues/renew/:issueId | Librarian |
| GET | /api/book-issues/book/:bookId/history | Librarian |

10. Parent Portal API

Parent Profile

| Method | Route | Access |
|--------|------------------|---------------|
| GET | /api/parents | Admin |
| GET | /api/parents/:id | Admin, Parent |
| POST | /api/parents | Admin |

| Method | Route | Access |
|--------|--------------------------------------------|--------|
| PUT | /api/parents/:id | Admin |
| DELETE | /api/parents/:id | Admin |
| POST | /api/parents/:id/link-student | Admin |
| DELETE | /api/parents/:id/unlink-student/:studentId | Admin |

11.Parent Access to Student Info

| Method | Route | Access |
|--------|-------------------------------------------|--------|
| GET | /api/parent/students | Parent |
| GET | /api/parent/student/:studentId/grades | Parent |
| GET | /api/parent/student/:studentId/attendance | Parent |
| GET | /api/parent/student/:studentId/timetable | Parent |
| GET | /api/parent/student/:studentId/fees | Parent |
| GET | /api/parent/student/:studentId/homework | Parent |
| GET | /api/parent/student/:studentId/notices | Parent |

11. Fees Management

| Method | Route | Access |
|--------|---------------------------------------|---------------|
| GET | /api/fees | Admin |
| GET | /api/fees/:id | Admin |
| POST | /api/fees | Admin |
| PUT | /api/fees/:id | Admin |
| DELETE | /api/fees/:id | Admin |
| GET | /api/fees/student/:studentId | Admin, Parent |
| GET | /api/fees/class/:classId | Admin |
| POST | /api/fees/generate | Admin |
| POST | /api/fees/:id/pay | Admin, Parent |
| GET | /api/fees/payments/:paymentId/receipt | Admin, Parent |

12. Notifications & Announcements

| Method | Route | Access |
|--------|-------|--------|
|--------|-------|--------|

| Method | Route | Access |
|--------|-----------------------------------|----------------|
| GET | /api/notifications | All |
| GET | /api/notifications/:id | All |
| POST | /api/notifications | Admin, Teacher |
| PUT | /api/notifications/:id | Admin |
| DELETE | /api/notifications/:id | Admin |
| GET | /api/notifications/user/:userId | All |
| GET | /api/notifications/class/:classId | Admin, Teacher |
| POST | /api/notifications/:id/read | All |
| GET | /api/notifications/unread/count | All |