

users	
PK	<u>id SERIAL</u>
	school_id  username VARCHAR(50) UNIQUE NOT NULL  password VARCHAR(255) NOT NULL  first_name VARCHAR(50) NOT NULL  last_name VARCHAR(50) NOT NULL  email VARCHAR(100) UNIQUE NOT NULL  phone VARCHAR(20)  address TEXT  last_login TIMESTAMP  is_active BOOLEAN DEFAULT true  fingerprint VARCHAR(255)  created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP  updated_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP

principals	
PK	<u>school_id SERIAL</u>
	user_id INTEGER REFERENCES users(id) ON DELETE CASCADE  appointment_date DATE NOT NULL  created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP  updated_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP

section_heads	
PK	<u>teacher_id INTEGER REFERENCES teachers(teacher_id)</u>
PK	<u>section_id SERIAL</u>

students	
PK	<u>student_id SERIAL</u>
	user_id INTEGER REFERENCES users(id) ON DELETE CASCADE  grade VARCHAR(10) NOT NULL  section VARCHAR(5) NOT NULL  enrollment_date DATE NOT NULL  parent_name VARCHAR(100) NOT NULL  parent_contact VARCHAR(20) NOT NULL  gpa DECIMAL(3,2)  created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP  updated_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP

admins	
PK	<u>admin_id SERIAL</u>
	user_id INTEGER REFERENCES users(id) ON DELETE CASCADE  access_level VARCHAR(20) NOT NULL  created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP  updated_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP

timetables	
PK	<u>id SERIAL</u>
	grade VARCHAR(10) NOT NULL  section VARCHAR(5) NOT NULL  schedule JSONB NOT NULL, -- Storing schedule as JSON  valid_from DATE NOT NULL  valid_to DATE NOT NULL

teachers	
PK	<u>teacher_id SERIAL</u>
	user_id INTEGER REFERENCES users(id) ON DELETE CASCADE  department VARCHAR(50) NOT NULL  subjects TEXT[], -- Array of subjects  joining_date DATE NOT NULL  qualification TEXT NOT NULL  created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP  updated_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP

assessments	
PK	<u>id SERIAL</u>
	title VARCHAR(100) NOT NULL  description TEXT  due_date TIMESTAMP NOT NULL  total_marks INTEGER NOT NULL  subject VARCHAR(50) NOT NULL  assigned_to INTEGER REFERENCES students(student_id)  created_by INTEGER REFERENCES teachers(teacher_id)  created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP

	department VARCHAR(50) NOT NULL
	created_at TIMESTAMP DEFAULT CURRENT_TIME
	updated_at TIMESTAMP DEFAULT CURRENT_TIME

exam_results	
PK	<u>student_id</u> INTEGER REFERENCES students(student_id)
PK	<u>id</u> SERIAL
	exam_id INTEGER REFERENCES exams(id) ON DELETE CASCADE
	marks DECIMAL(5,2) NOT NULL
	grade VARCHAR(2)
	remarks TEXT
	date DATE NOT NULL
	created_at TIMESTAMP DEFAULT CURRENT_TIME
	updated_at TIMESTAMP DEFAULT CURRENT_TIME

exams	
PK	<u>id</u> SERIAL
	name VARCHAR(100) NOT NULL
	subject VARCHAR(50) NOT NULL
	date DATE NOT NULL
	duration INTEGER NOT NULL, -- Duration in minutes
	total_marks INTEGER NOT NULL
	created_by INTEGER REFERENCES teachers(teacher_id)
	created_at TIMESTAMP DEFAULT CURRENT_TIME
	updated_at TIMESTAMP DEFAULT CURRENT_TIME

	created_at TIMESTAMP DEFAULT CURRENT_TIME
	updated_at TIMESTAMP DEFAULT CURRENT_TIME

student_records	
PK	<u>student_id</u> INTEGER REFERENCES students(student_id)
	current_grade VARCHAR(10) NOT NULL
	academic_year VARCHAR(9) NOT NULL
	subjects JSONB NOT NULL, -- Storing subjects and their marks
	attendance JSONB NOT NULL, -- Storing attendance records
	achievements TEXT[]
	created_at TIMESTAMP DEFAULT CURRENT_TIME
	updated_at TIMESTAMP DEFAULT CURRENT_TIME

reports	
PK	<u>id</u> SERIAL
	type VARCHAR(50) NOT NULL
	date DATE NOT NULL
	generated_by INTEGER REFERENCES users(id)
	content TEXT NOT NULL
	created_at TIMESTAMP DEFAULT CURRENT_TIME
	updated_at TIMESTAMP DEFAULT CURRENT_TIME

	created_at TIMESTAMP DEFAULT CURRENT_TIME
	updated_at TIMESTAMP DEFAULT CURRENT_TIME

sessions	
PK	<u>teacher_id</u> INTEGER REFERENCES teachers(teacher_id)
PK	<u>id</u> SERIAL
	subject VARCHAR(50) NOT NULL
	start_time TIME NOT NULL
	end_time TIME NOT NULL
	day VARCHAR(10) NOT NULL
	timetable_id INTEGER REFERENCES timetables(id)
	created_at TIMESTAMP DEFAULT CURRENT_TIME
	updated_at TIMESTAMP DEFAULT CURRENT_TIME

logs	
PK	<u>id</u> SERIAL
	action VARCHAR(50) NOT NULL
	timestamp TIMESTAMP DEFAULT CURRENT_TIME
	user_id INTEGER REFERENCES users(id)
	details JSONB NOT NULL