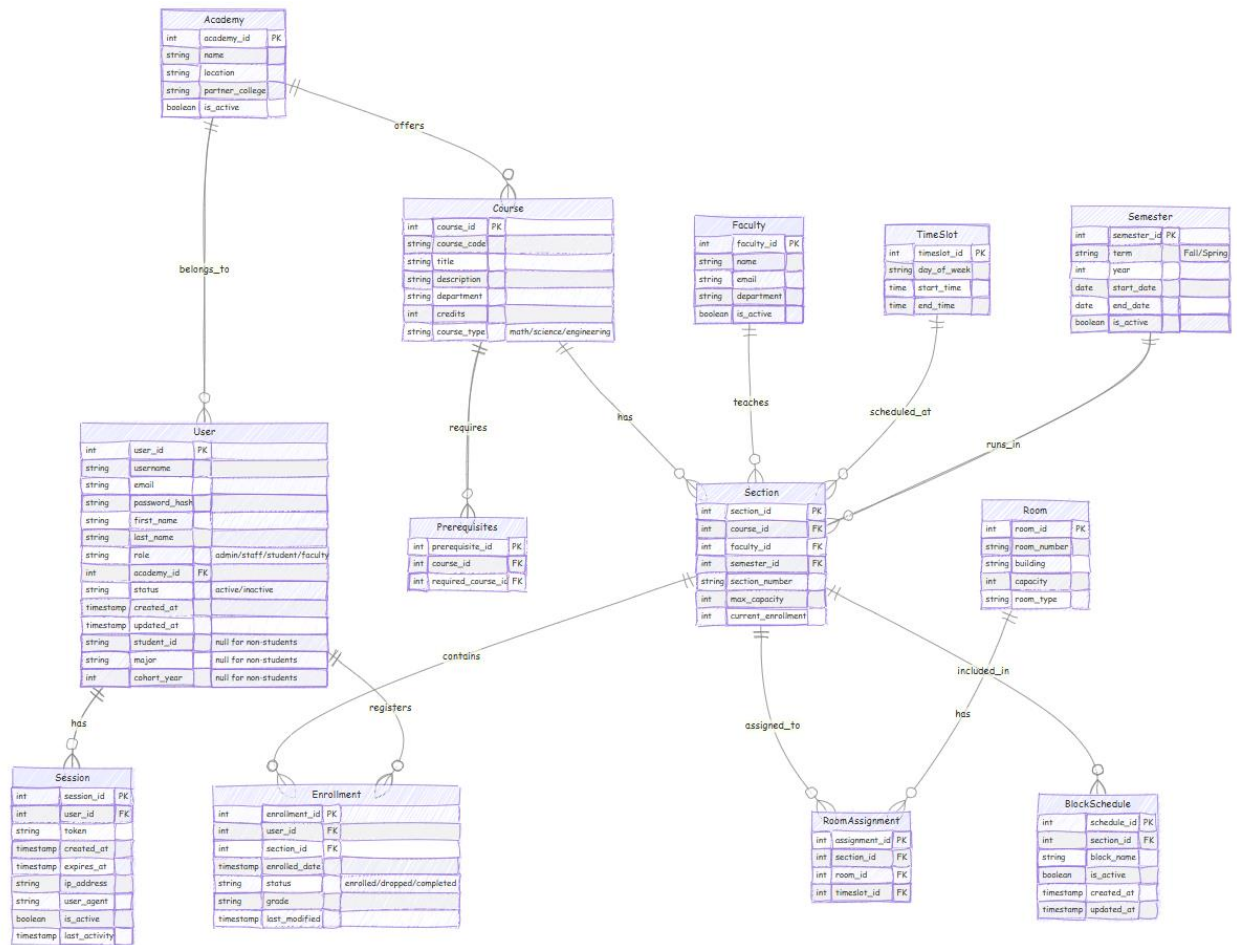


ER Diagram documentation



1. Academy Table:

- Stores information about each Engineering Academy
- Tracks partner college relationships
- Allows for future expansion to other academies

2. Course Table:

- Contains all course information
- Categorizes courses by type (math/science/engineering)
- Stores basic course details like credits and descriptions

3. Prerequisites Table:

- Manages course prerequisites
- Links courses in a many-to-many relationship

- Essential for schedule validation
4. Section Table:
 - Represents individual class sections
 - Tracks enrollment and capacity
 - Links to faculty and semester
 5. Faculty Table:
 - Stores instructor information
 - Tracks teaching assignments
 - Maintains contact information
 6. TimeSlot Table:
 - Defines possible class times
 - Helps prevent scheduling conflicts
 - Flexible for different time formats
 7. Room Table:
 - Manages classroom information
 - Tracks room capacity and type
 - Important for space management
 8. RoomAssignment Table:
 - Links sections to rooms and time slots
 - Prevents double-booking
 - Manages space utilization
 9. BlockSchedule Table:
 - Stores generated block schedules
 - Tracks active/inactive schedules
 - Maintains version history
 10. Semester Table:
 - Defines academic terms
 - Tracks important dates
 - Manages active/inactive semesters
 11. User Table:
 - Serves as a unified table for all types of users (students, faculty, staff, admins)

- Key fields:
 - Basic user info (username, email, password_hash)
 - Role-based access control
 - Student-specific fields (student_id, major, cohort_year)
 - Timestamps for auditing
 - Academy association
 - Status tracking

12. Session Table:

- Manages user authentication sessions
- Features:
 - Secure token storage
 - Session expiration handling
 - IP and user agent tracking
 - Last activity timestamp
 - Active session flag

13. Enrolment Table (new joining table):

- Manages student enrolment in sections
- Tracks:
 - Enrollment status
 - Grades
 - Enrollment dates
 - Historical records