Column	Description	Data Type	Business Rules	Length	Default Value	Null	PK	FK	Comments
user.id	ID	Long		20		N	Y		
user.username	Username used as identifying credential	String	UNIQUE	255		N			
user.password	Password used as authenticating credential	String		255		N			Hashed before storage using BCrypt
user.role	Security role granting access to different authentication tiers	Enum		255	"ROLE_USER"	N			Enum { "ROLE_USER", "ROLE_ADMIN" }
user.study_status	Personal study parameter to filter questions by their status	String		255		Y			Java Enum: { "NEW", "LEARNING", "MASTERED", "FOCUS" }
user.study_topic_id	Personal study parameter to filter questions by topic	Long		20		Y		Y	
user.study_question_id	Personal study parameter to track current question	Long		20		Y		Y	
topic.id	ID	Long		20		N	Y		
topic.parent_id	Parent topic	Long		20		Y		Y	Foreign Key reference THIS table
topic.topic	Topic name	String		255		N			
question.id	ID	Long		20		N	Y		
question.topic_id	Parent topic	Long		20		N		Y	
question.position	Global order index	Int		11		N			
question.question	Question asked about aviation knowledge point	String		255		N			
question.answer	Answer about aviation knowledge point	String		255		N			
user_question.id	ID	Long		20		N	Y		
user_question.user_id	Parent user	Long	ON DELETE CASCADE	20		N		Y	
user_question.question_id	Associated question	Long	ON DELETE CASCADE	20		N		Y	
user_question.active	Flag to track if question is part of user's current study session	Boolean		1	TRUE	N			
user_question.study_status	Personal study parameter to track user progress	String		255	"NEW"	N			Java Enum: { "NEW", "LEARNING", "MASTERED", "FOCUS" }