

```
// language learning platform  
"tfs.2022.scala" %% "angle % "1.0"
```

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# Stack

```
for {  
  core      <- zio  
  API       <- http4s  
  migration <- liquibase  
  DB        <- postgres  
  JDBC      <- doobie  
  QDSL      <- quill  
  JSON      <- circe  
  config    <- zio-config  
  DI        <- zio-magic  
  logs      <- zio-logging  
  tests     <- zio-test  
  ...  
} yield angle
```



**Liquibase**



*quill* 





# Description

Language learning platform like skyeng.ru

- Role model: students, teachers, admins
- Assigning lessons for clients
- Billing for students and teachers



# Features

## Admin

- Registration, authorization, authentication
- Verifying teachers and students
- Getting all lessons, teachers, profiles



# Features

## Teacher

- Registration, authorization, authentication
- Editing own profile
- Creating, moving and deleting time slots with working hours
- Completing lesson once it's done
- Cancel upcoming lesson
- Withdrawing earned money from account
- Getting completed and upcoming lessons



# Features

## Student

- Registration, authorization, authentication
- Editing own profile
- Replenishing money to account
- Getting teachers' schedule
- Cancel upcoming lesson
- Finding time slot for a lesson and booking it
- Getting completed and upcoming lessons



# Main case

1. Student replenishes money
2. Teachers places working hours
3. Student selects an hour, and get list of teachers who work at selected hour
4. Student chooses teacher
5. Selected teacher's rate reserved on a student's account
6. Lesson placed in schedule
7. After lesson teacher completes it and money transfers to teachers account
8. Teacher withdraws earned money



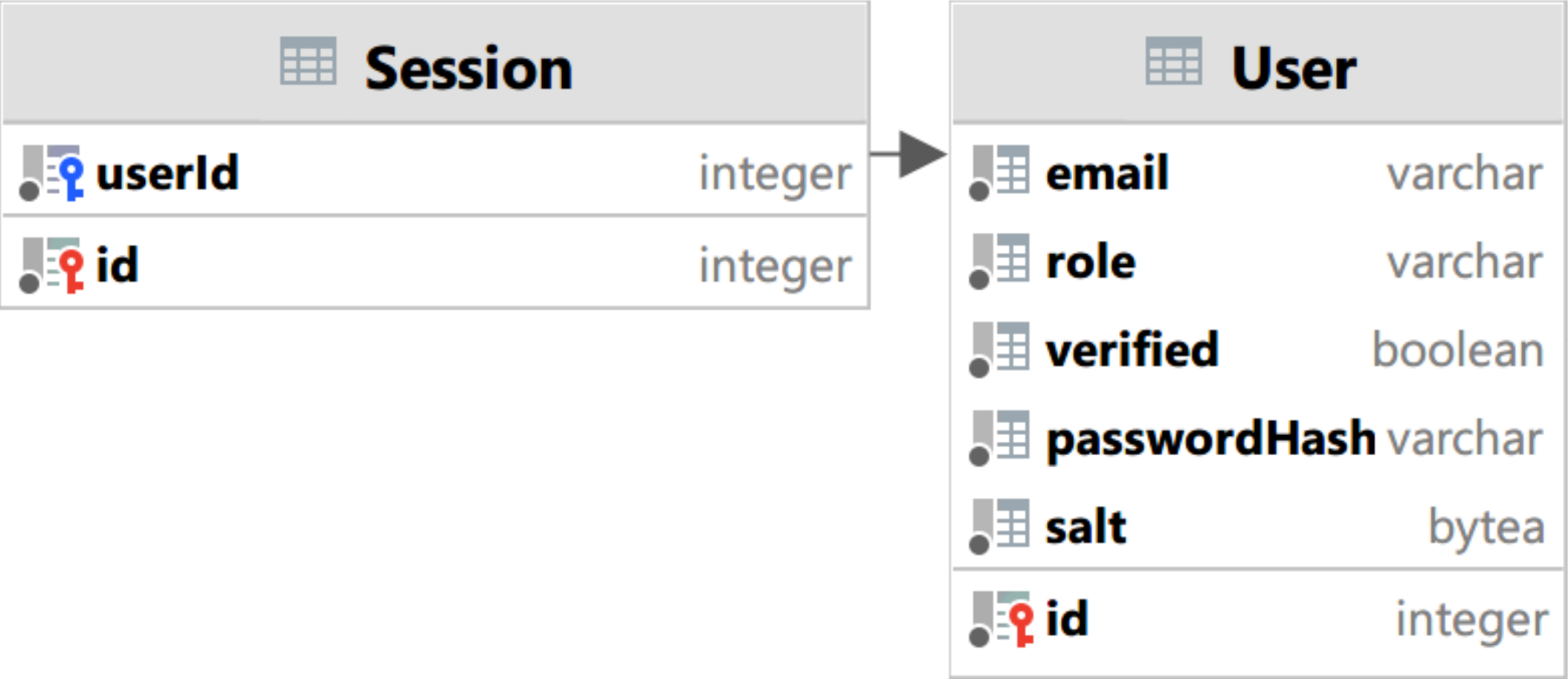
# Structure

## Modules:

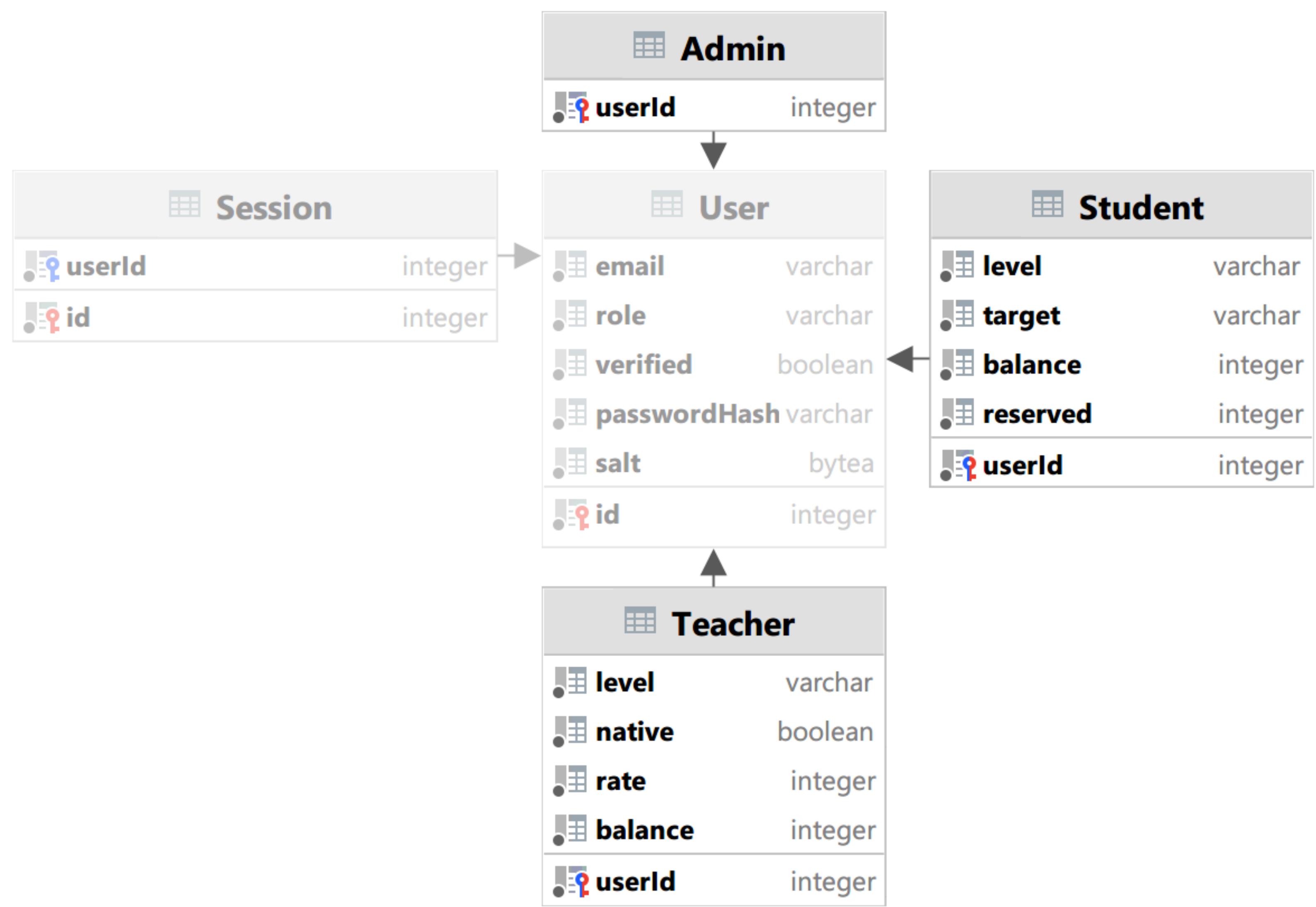
- **Auth** — registration, authorization, authentication
- **Accounts** — profile management for teachers, students and admins
- **Lessons** — scheduling working hours for teachers, planing and finding lessons
- **Billing** — student's replenishment, payment for lessons, teacher's withdrawal



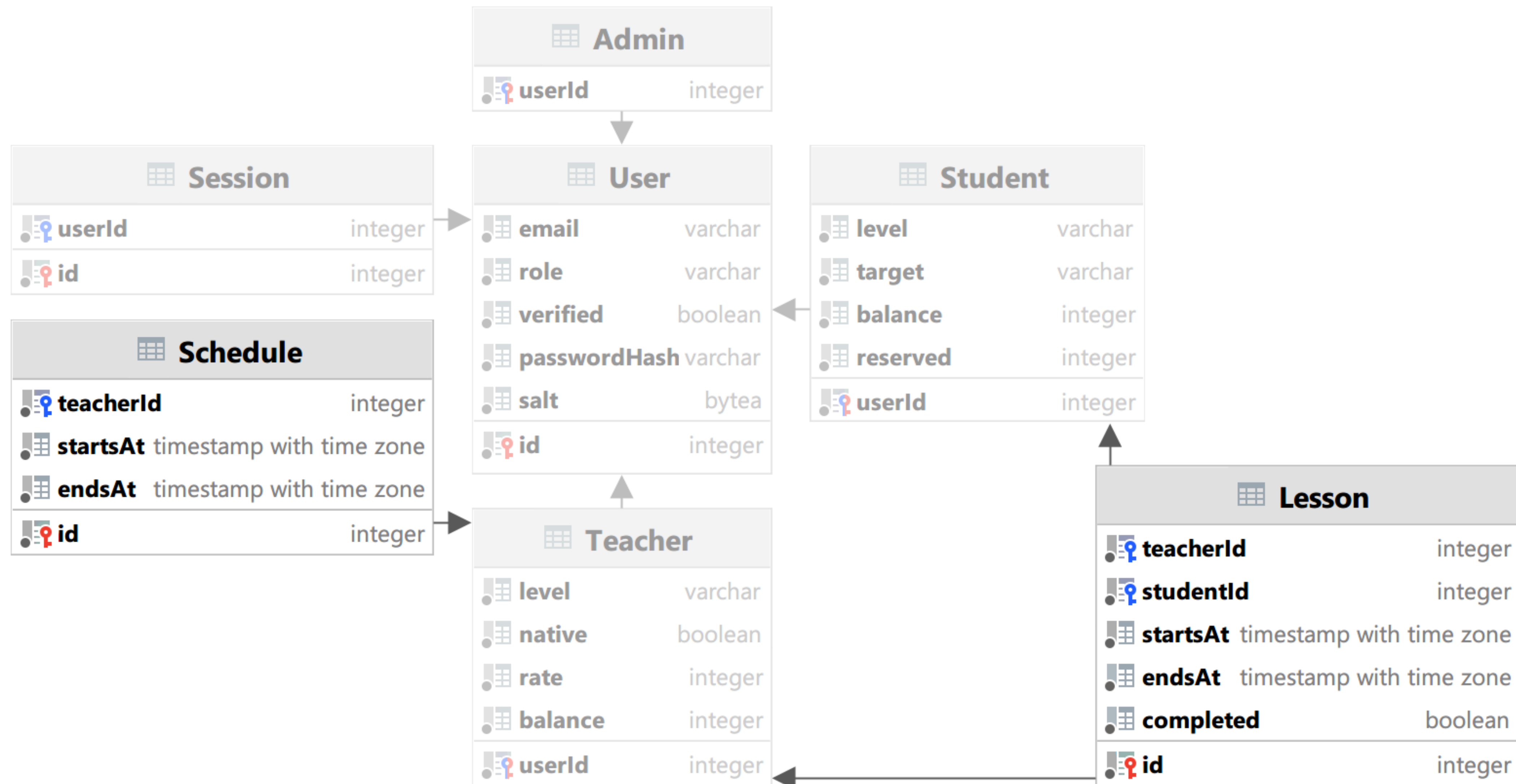
# Auth



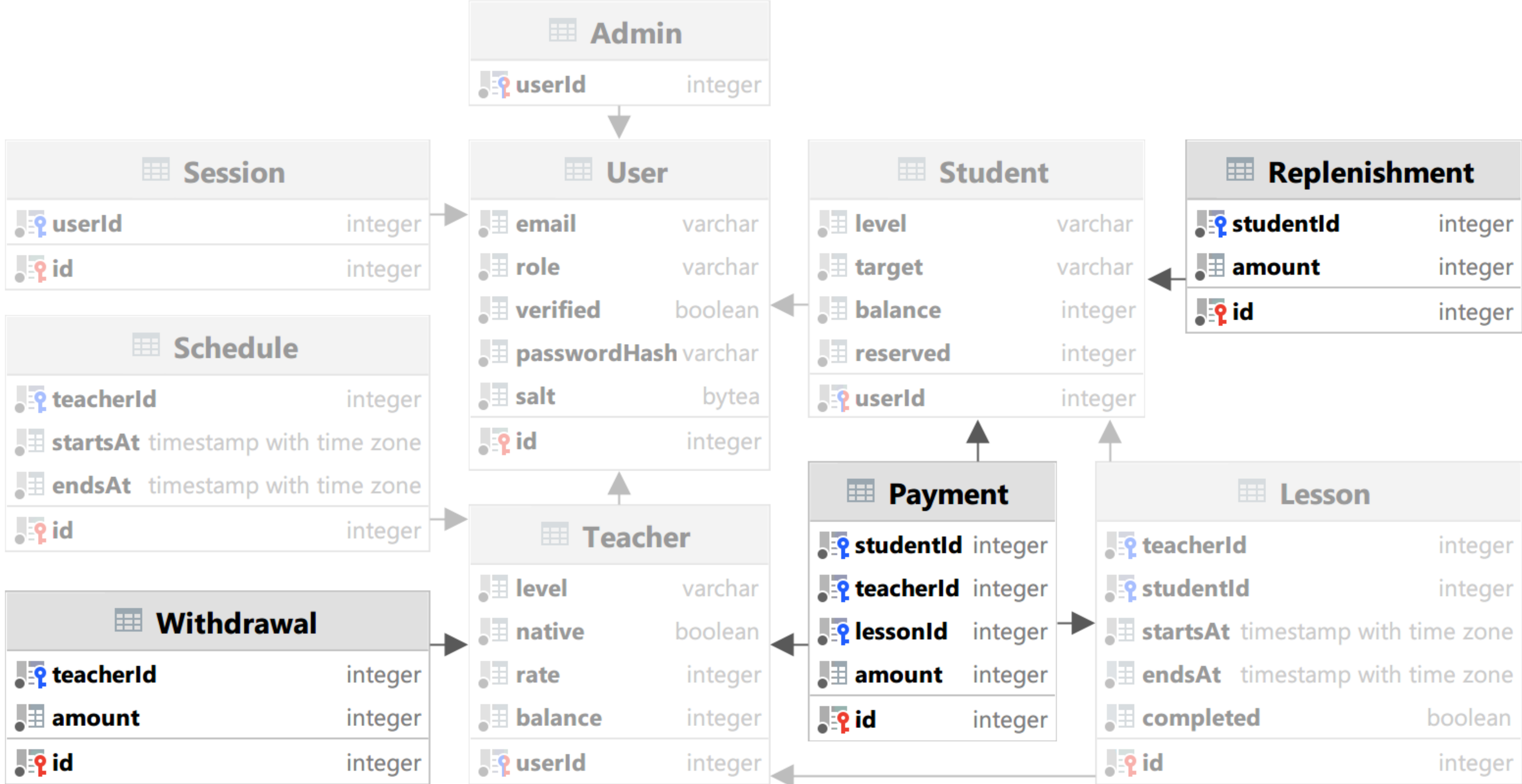
# Accounts



# Lessons

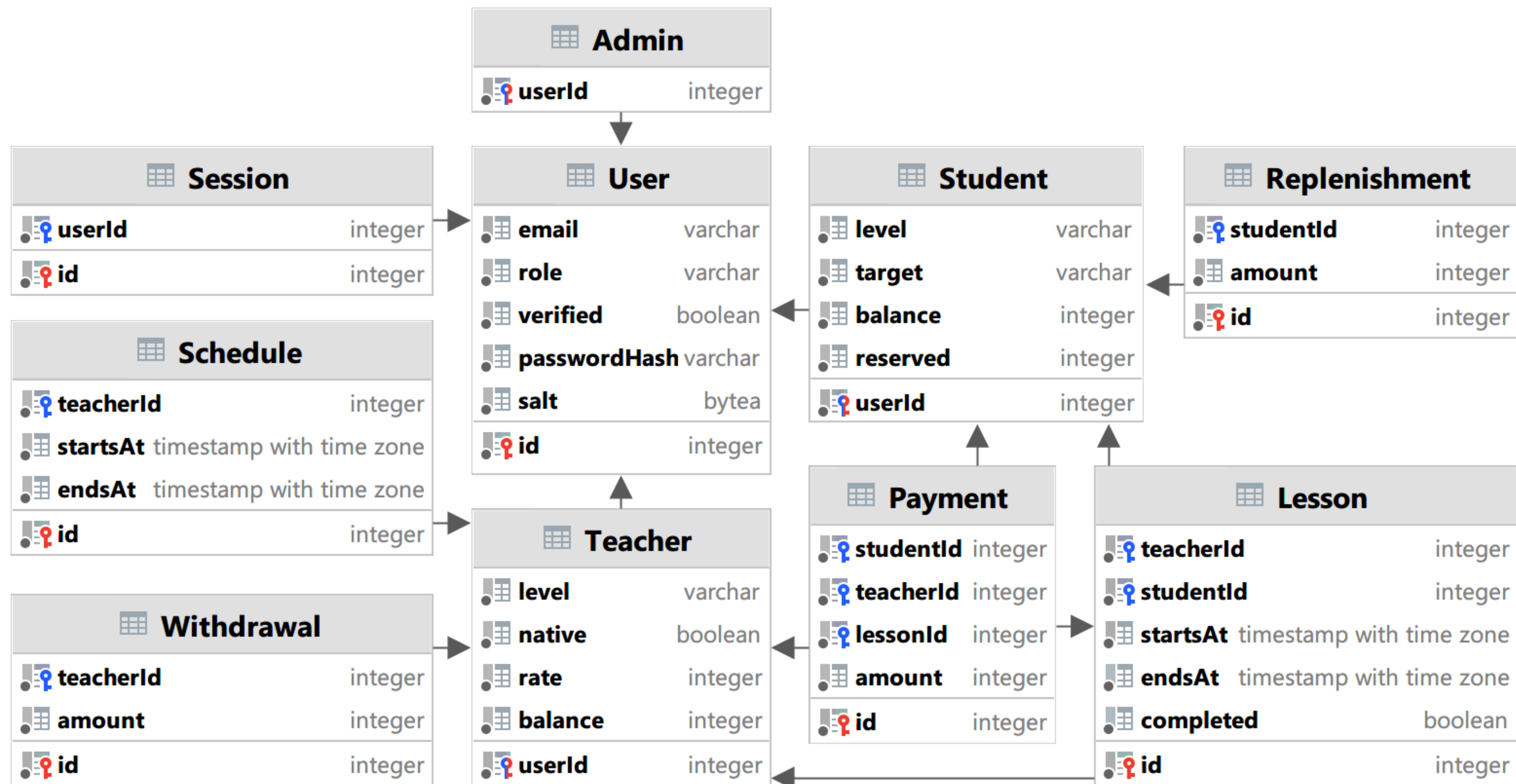


# Billing





# DB diagram





# DEMO



# Cool things

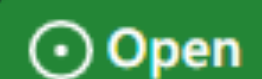
- Scala because it's a functional language
- Creating business logic and use cases
- ZIO is quite easy for quick start and has a lot of useful methods
- Almost every error caught on compile-time (due to quill and zio)
- Hands-on research and competitive analysis
- IntelliJ IDEA — powerful and flexible IDE

# Challenging things



- System design
- Hard to find any complex examples
- Cats (Kleisli???, interop.catz.\_)
- ZonedDateTime
- Implicits
- Implicits for ZonedDateTime

- Type Annotation in Implicit class breaks the Query #1406



xuanli09 opened this issue on Apr 17, 2019 · 2 comments





# TODO

## Product backlog:

- Teaching materials (courses, topics, exercises)
- Supporting multiple languages
- Recurring lessons schedule
- Student's vocabulary
- Loyalty program for teachers
- Refunds and complaint management
- Reviews and rating system
- Group lessons



???