

## Music Streaming App

You must implement the back end system of an application used for music streaming platform. The back end will expose REST endpoints with functionality, which are consumed by a separate front end system. Also, it will store the data in an SQL database.

You must implement the following endpoints:

- **add a subscription** – allows a user to add a new subscription to the platform in the database. The following business rules are defined for this endpoint:
  - If in the database there is already a subscription with the same user id, plan and start date, the request will be rejected, and the user will receive the message “There is already a subscription with the same user, plan and start date”. If
  - The request to add an item has the following structure:

Field name	Present on the request	Mandatory on request	Present on response	Other validations
id	no	no	yes	PK, auto-generated on DB level
userId	yes	yes	yes	Long positive value
plan	yes	yes	yes	May be only one of the following values: FREE, PREMIUM, FAMILY
billingCycle	yes	yes		May be only one of the following values: MONTHLY, YEARLY
price	yes	yes	yes	Double positive value
startDate	yes	yes	yes	LocalDate value
endDate	yes	no	yes	LocalDate value
status	yes	no	yes	May be only one of the following values: PENDING, ACTIVE, EXPIRED, CANCELLED. If missing on the request, then set to PENDING.

- **delete a subscription** – allows a user to delete a subscription stored in the database. The user must specify the id of the subscription they want to delete. The deletion is allowed only if the status is “EXPIRED” or “CANCELLED”. In case the subscription is deleted, the response will contain only a successful HTTP code, no body. In the case the deletion is not allowed, the response body will contain the message “The subscription is used, it cannot be deleted.”

Unit tests will be implemented for the service methods, with a coverage of at least 70% per branch.

The type of the SQL DB is chosen by you.