

한화시스템 X 엔코아  
BEYOND SW CAMP

# MUSE

음악 공유/스트리밍 서비스 DB 설계 프로젝트

조: 6조

조원: 심재혁, 이창선, 조경남, 홍신애

한화시스템 BEYOND CAMP 3기

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# 1. 프로젝트 개요

## 1.1 프로젝트 소개

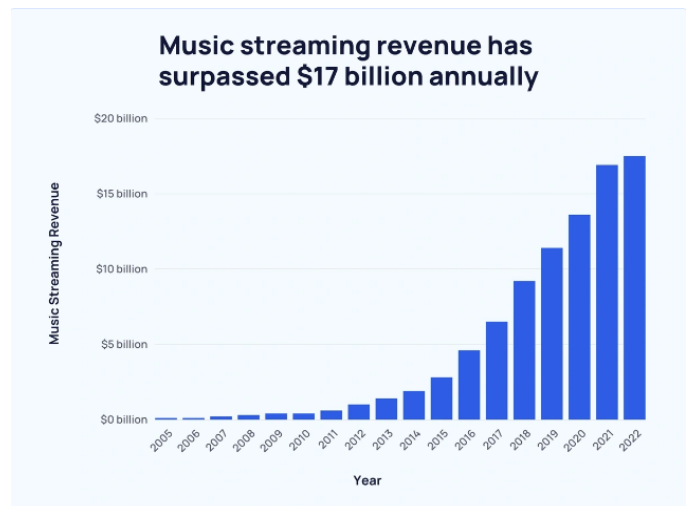
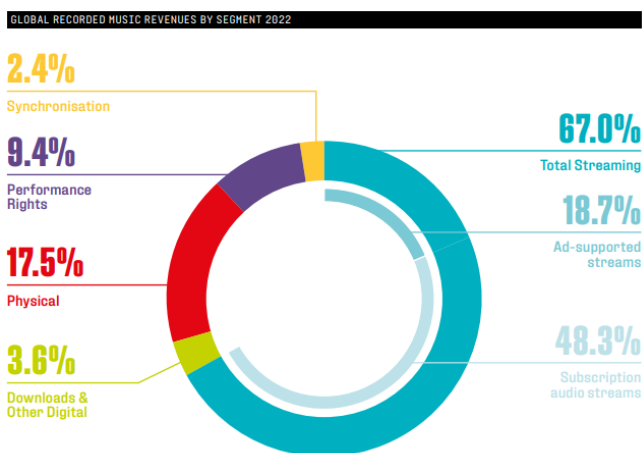
MUSE 프로젝트는 음악 공유/스트리밍 서비스를 제공하는 플랫폼이다. 회원 본인이 직접 제작한 노래들을 업로드하면서 자신의 창작물을 다수의 사람들이 즐길 수 있게 된다. 본인이 원하는 노래나 장르 태그 (#)를 통해서 검색을 함으로써 자신의 플레이리스트에 추가하거나 오직 자신의 취향만으로 이루어진 공간을 만들어낼 수 있다. 소통의 장 역시 제공한다. 회원들은 각 노래와 플레이리스트에 좋아요를 누를 수 있으며 다른 회원들의 피드를 모아볼 수 있는 회원 팔로우 기능도 제공한다.

이에, 본인의 취향을 공유하고 또 소통을 가능하게 한다.

## 1.2 시장 조사 및 프로젝트 필요성

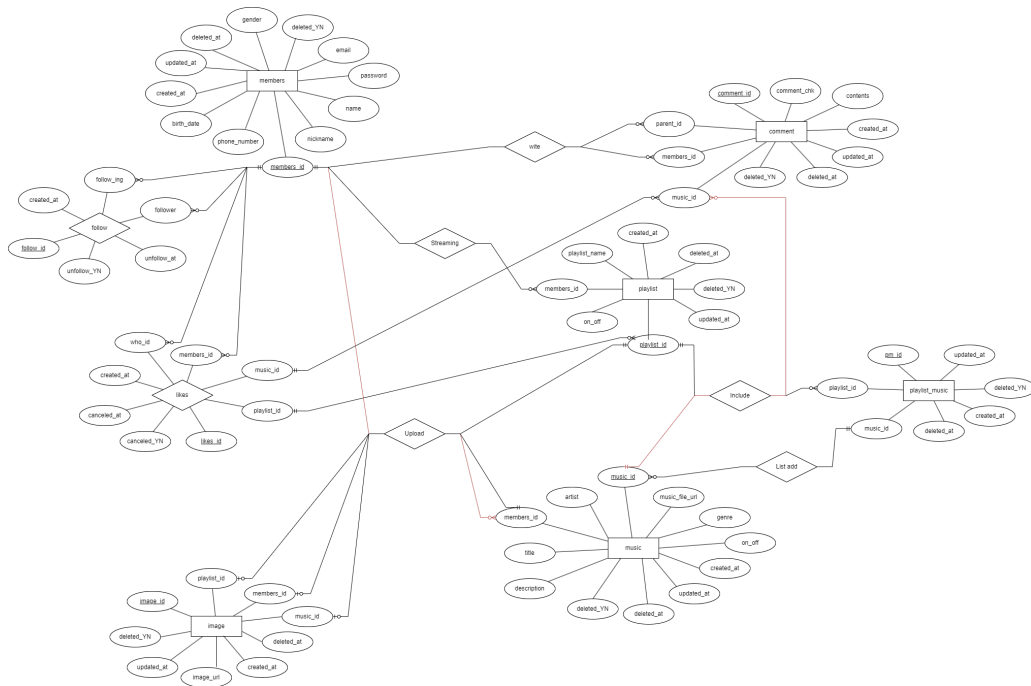
국제 음반 산업 협회(IFPI)에서 제공한 ‘글로벌 음악 보고서 2023’에 따르면, 음악 스트리밍 서비스는 전세계 음악산업 수익의 67%를 차지하고 전년 대비 10%이상 성장했다. 이는 8년 연속 성장세를 보이고 있으며 앞으로도 계속 성장세를 이어갈 것이라고 예상하고 있다. 뿐 아니라, 수익도 끊임없이 증가해왔다. 2010년부터 2020년까지 수익은 4억 달러에서 136억 달러로 약 34배 증가했다. 2022년에는 175억 달러를 달성했고 2025년에는 300억 달러를 초과하다는 분석도 나오고 있다.

따라서, 음악 스트리밍 서비스는 무궁무진하게 발전할 수 있는 분야이며 최근 사회는 스트리밍 서비스에 크게 의존하고 있다는 동향에 따라 해당 프로젝트를 진행했다.

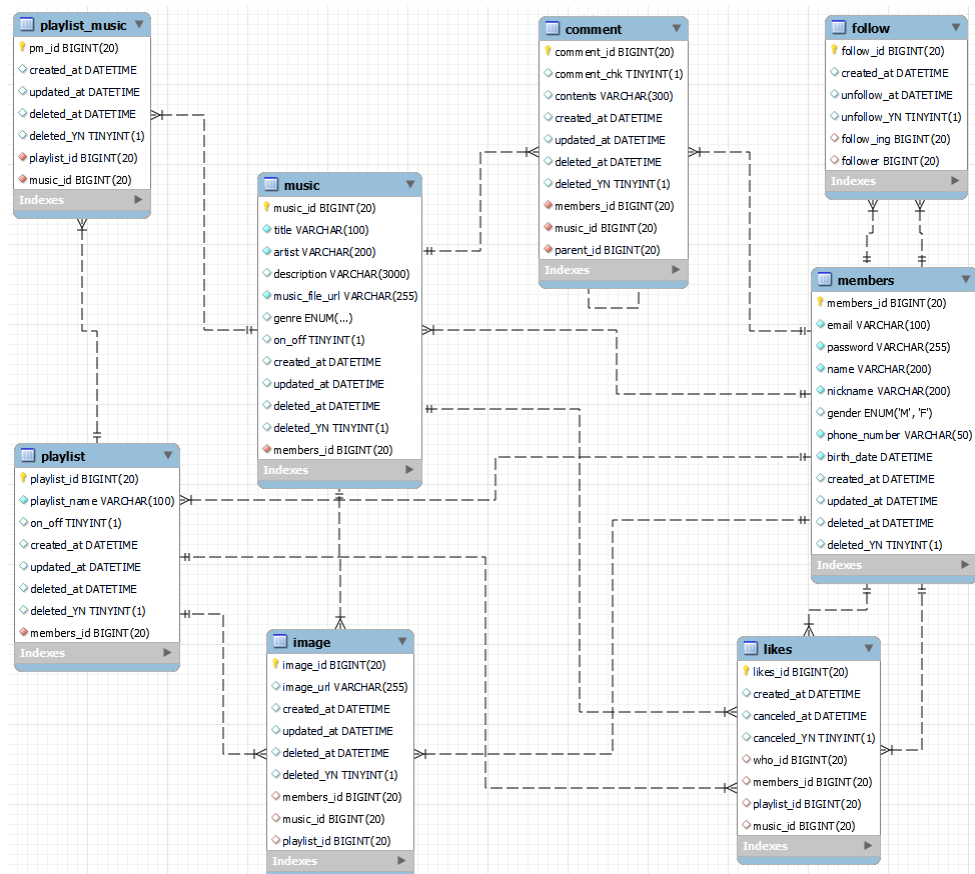


## 2. 프로젝트 설계

### 2.1 개념적 데이터 모델링



### 2.2 논리적 데이터 모델링



## 3. 프로젝트 구현

### 3.1 개발 환경

이름	버전
Maria DB	11.3.0
Window	

### 3.2 테이블 구현

테이블 명	members
설명	서비스 가입한 회원들의 정보들을 저장하는 테이블
쿼리문	<pre>-- 회원 정보 테이블 CREATE TABLE members(   members_id bigint PRIMARY KEY AUTO_INCREMENT,   email varchar(100) UNIQUE NOT NULL, -- 이메일: 회원가입시 아이디로 사용   password varchar(255) NOT NULL, -- 비밀번호   name varchar(200) NOT NULL, -- 실명   nickname varchar(200) NOT NULL, -- 닉네임   gender ENUM ('M', 'F'), -- 성별   phone_number varchar(50) UNIQUE NOT NULL, -- 전화번호   birth_date datetime NOT NULL, -- 생일   created_at datetime DEFAULT now(), -- 회원가입 날짜   updated_at datetime DEFAULT now(), -- 정보수정날짜   deleted_at datetime, -- 정보삭제날짜   deleted_YN tinyint(1) DEFAULT 0 -- 정보삭제여부 1: 삭제, 0: 미삭제 );</pre>

테이블 명	playlist
설명	회원들의 플레이리스트를 저장하는 테이블
쿼리문	<pre> -- 플레이리스트 테이블 CREATE TABLE playlist(   playlist_id bigint PRIMARY KEY AUTO_INCREMENT,   playlist_name varchar(100) NOT NULL, -- 플레이리스트 이름   on_off tinyint(1) DEFAULT 1, -- 플레이리스트 공개/비공개 1: 공개 , 0: 미삭제   created_at datetime DEFAULT now(), -- 플레이리스트 생성날짜   updated_at datetime DEFAULT now(), -- 정보수정날짜   deleted_at datetime, -- 정보삭제날짜   deleted_YN tinyint(1) DEFAULT 0, -- 정보삭제여부 1: 삭제, 0: 미삭제   members_id bigint NOT NULL, -- 회원정보테이블 fk   FOREIGN KEY (members_id) REFERENCES members (members_id) ); </pre>

테이블 명	music
설명	회원들이 업로드한 음악을 저장하는 테이블
쿼리문	<pre> -- 노래 테이블 CREATE TABLE music(   music_id bigint PRIMARY KEY AUTO_INCREMENT,   title varchar(100) NOT NULL, -- 노래제목   artist varchar(200) NOT NULL, -- 아티스트명   description varchar(3000), -- 설명 or 노래가사   music_file_url varchar(255) NOT NULL, -- 노래 파일 url   genre ENUM -- 노래 장르   ('Kpop', 'Jpop', 'OST', 'Pop', 'Classic', 'Jazz', 'Indie', 'Canadian_blues',   'Contemporary_RnB', 'Punk_blues', 'Crossover_music', 'Instrumental', 'Lofi', 'Blues_rock',   'Chicago_blues', 'Delta_blues', 'EDM', 'Country_pop', 'Country_rap', 'Country_rock', 'Instrumental_country',   'Western', 'New_age', 'Darkcore', 'Disco', 'City_pop', 'Dance_pop', 'Electronic_rock', 'Dance_rock',   'Alternative_dance', 'Madchester', 'Baggy', 'New_rave', 'New_romantic', 'Electropop',   'Electronica', 'Folktronica', 'Acid_jazz', 'Jungle', 'Hipster_hop', 'Cloud_rap', 'Acid_house',   'Chicago_house', 'Futurepop', 'Dubstep'),   on_off tinyint(1), -- 노래 공개/비공개 1: 공개 , 0: 미삭제   created_at datetime DEFAULT now(), -- 노래업로드 날짜   updated_at datetime DEFAULT now(), -- 정보수정날짜   deleted_at datetime, -- 노래삭제날짜   deleted_YN tinyint(1) DEFAULT 0, -- 노래삭제여부 1: 삭제, 0: 미삭제   members_id bigint NOT NULL, -- 회원정보테이블 fk   FOREIGN KEY(members_id) REFERENCES members(members_id) on delete cascade ); </pre>

테이블 명	playlist_music
설명	플레이리스트에 담은 음악을 저장하는 테이블
쿼리문	<pre> -- 플레이리스트안에 있는 노래 정보 테이블 CREATE TABLE playlist_music(   pm_id bigint PRIMARY KEY AUTO_INCREMENT,   created_at datetime DEFAULT now(), -- 생성날짜   updated_at datetime DEFAULT now(), -- 수정날짜   deleted_at datetime, -- 삭제날짜   deleted_YN tinyint(1) DEFAULT 0, -- 삭제여부 1: 삭제, 0: 미삭제   playlist_id bigint NOT NULL, -- 플레이리스트 정보 fk   music_id bigint NOT NULL, -- 노래 정보 fk   FOREIGN KEY (playlist_id) REFERENCES playlist (playlist_id) on delete cascade ,   FOREIGN KEY (music_id) REFERENCES music (music_id) on delete cascade ); </pre>

테이블 명	follow
설명	회원끼리 팔로우한 내용을 저장하는 테이블
쿼리문	<pre> -- 회원 팔로우 테이블 CREATE TABLE follow(   follow_id bigint PRIMARY KEY AUTO_INCREMENT,   created_at datetime DEFAULT now(), -- 팔로우날짜   unfollow_at datetime, -- 언팔로우날짜   unfollow_YN tinyint(1) DEFAULT 0, -- 언팔로우 여부 1: 언팔, 0: 팔로우   follow_ing bigint, -- 회원이 팔로우하고 있는 사람들 fk   follower bigint, -- 회원을 팔로우하고있는 사람들 fk   FOREIGN KEY (follow_ing) REFERENCES members (members_id),   FOREIGN KEY (follower) REFERENCES members (members_id) ); </pre>

테이블 명	likes
설명	회원, 노래, 플레이리스트를 좋아요 내역을 저장하는 테이블
쿼리문	<pre>-- 회원, 노래, 플레이리스트 좋아요 테이블 CREATE TABLE likes(   likes_id bigint PRIMARY KEY AUTO_INCREMENT,   created_at datetime DEFAULT now(), -- 좋아요 생성날짜   canceled_at datetime, -- 좋아요 취소날짜   canceled_YN tinyint(1) DEFAULT 0, -- 좋아요 취소 여부 1: 취소, 0: 좋아요 유지   who_id bigint, -- 좋아요를 누른사람   members_id bigint, -- 회원 정보 fk   playlist_id bigint, -- 플레이리스트 정보 fk   music_id bigint, -- 노래 정보 fk   FOREIGN KEY (who_id) REFERENCES members (members_id) on delete cascade,   FOREIGN KEY (playlist_id) REFERENCES playlist (playlist_id) on delete cascade,   FOREIGN KEY (members_id) REFERENCES members (members_id) on delete cascade,   FOREIGN KEY (music_id) REFERENCES music (music_id) on delete cascade );</pre>

테이블 명	image
설명	회원, 노래, 플레이리스트의 커버사진등 이미지파일을 저장하는 테이블
쿼리문	<pre>-- 회원프로필사진, 노래앨범사진, 플레이리스트 커버사진 테이블 CREATE TABLE image(   image_id bigint PRIMARY KEY AUTO_INCREMENT,   image_url varchar(255), -- 이미지 파일 url   created_at datetime DEFAULT now(), -- 생성날짜   updated_at datetime DEFAULT now(), -- 수정날짜   deleted_at datetime, -- 삭제날짜   deleted_YN tinyint(1) DEFAULT 0, -- 삭제여부 1: 삭제, 0: 미삭제   members_id bigint, -- 회원정보 fk   music_id bigint, -- 노래정보 fk   playlist_id bigint, -- 플레이리스트 fk   FOREIGN KEY (playlist_id) REFERENCES playlist (playlist_id) on delete cascade,   FOREIGN KEY (members_id) REFERENCES members (members_id) on delete cascade,   FOREIGN KEY (music_id) REFERENCES music (music_id) on delete cascade );</pre>



테이블 명	comment
설명	댓글 과 대댓글을 저장하는 테이블
쿼리문	<pre> -- 댓글, 대댓글 테이블 CREATE TABLE comment(   comment_id bigint PRIMARY KEY AUTO_INCREMENT,   comment_chk tinyint(1), -- 댓글, 대댓글 확인 1: 댓글, 0: 대댓글   contents varchar(300), -- 댓글 내용   created_at datetime DEFAULT now(), -- 생성날짜   updated_at datetime DEFAULT now(), -- 수정날짜   deleted_at datetime, -- 삭제날짜   deleted_YN tinyint(1) DEFAULT 0, -- 삭제여부 1: 삭제, 0: 미삭제   members_id bigint not null, -- 회원정보 fk   music_id bigint not null, -- 음악정보 fk   parent_id bigint not null DEFAULT 0, -- 대댓글의 댓글id fk   FOREIGN KEY (music_id) REFERENCES music (music_id) on delete cascade,   FOREIGN KEY (members_id) REFERENCES members (members_id) on delete cascade,   FOREIGN KEY (parent_id) REFERENCES comment (comment_id) ); </pre>

### 3.3 시스템 시나리오

서비스	회원가입																																																																																											
필요 기능	이메일 회원가입																																																																																											
기능 설명	회원가입을 하고난 후 조회																																																																																											
쿼리문	<pre>insert into MEMBERS (EMAIL, PASSWORD, NAME, nickname, GENDER, PHONE_NUMBER, BIRTH_DATE) value('keepself@naver.com', '234', 'chang', 'L', 'M', '010-8899-1111', '1995.01.01');</pre>																																																																																											
결과	<table><tr><th></th><th>members_id</th><th>email</th><th>password</th><th>name</th><th>nickname</th><th>gender</th><th>phone_number</th><th>birth_date</th><th>created_at</th><th>updated_at</th><th>deleted_at</th><th>deleted_YN</th></tr><tr><td>▶</td><td>1</td><td>amy@gmail.com</td><td>123</td><td>Amy</td><td>a</td><td>F</td><td>010-1111-1111</td><td>2001-01-01 00:00:00</td><td>2023-12-02 19:33:46</td><td>2023-12-02 19:33:46</td><td>NULL</td><td>0</td></tr><tr><td></td><td>2</td><td>john@gmail.com</td><td>456</td><td>john</td><td>b</td><td>M</td><td>010-2222-2222</td><td>2002-02-02 00:00:00</td><td>2023-12-02 19:33:46</td><td>2023-12-02 19:33:46</td><td>NULL</td><td>0</td></tr><tr><td></td><td>3</td><td>tom@gmail.com</td><td>789</td><td>tom</td><td>t</td><td>M</td><td>010-3333-3333</td><td>2003-03-03 00:00:00</td><td>2023-12-02 19:33:46</td><td>2023-12-02 19:33:46</td><td>NULL</td><td>0</td></tr><tr><td></td><td>4</td><td>sally@gmail.com</td><td>135</td><td>sally</td><td>s</td><td>M</td><td>010-4444-4444</td><td>2004-04-04 00:00:00</td><td>2023-12-02 19:33:46</td><td>2023-12-02 19:33:46</td><td>NULL</td><td>0</td></tr><tr><td></td><td>5</td><td>keepself@naver.com</td><td>234</td><td>chang</td><td>L</td><td>M</td><td>010-8899-1111</td><td>1995-01-01 00:00:00</td><td>2023-12-02 14:31:14</td><td>2023-12-02 14:31:14</td><td>NULL</td><td>0</td></tr><tr><td>•</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td></tr></table>		members_id	email	password	name	nickname	gender	phone_number	birth_date	created_at	updated_at	deleted_at	deleted_YN	▶	1	amy@gmail.com	123	Amy	a	F	010-1111-1111	2001-01-01 00:00:00	2023-12-02 19:33:46	2023-12-02 19:33:46	NULL	0		2	john@gmail.com	456	john	b	M	010-2222-2222	2002-02-02 00:00:00	2023-12-02 19:33:46	2023-12-02 19:33:46	NULL	0		3	tom@gmail.com	789	tom	t	M	010-3333-3333	2003-03-03 00:00:00	2023-12-02 19:33:46	2023-12-02 19:33:46	NULL	0		4	sally@gmail.com	135	sally	s	M	010-4444-4444	2004-04-04 00:00:00	2023-12-02 19:33:46	2023-12-02 19:33:46	NULL	0		5	keepself@naver.com	234	chang	L	M	010-8899-1111	1995-01-01 00:00:00	2023-12-02 14:31:14	2023-12-02 14:31:14	NULL	0	•	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
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서비스	로그인																																							
필요 기능	이메일 로그인																																							
기능 설명	아이디와 비밀번호가 일치하는지 조회																																							
쿼리문	<pre>SELECT * FROM members where email = 'keepself@naver.com' and password = '234';</pre>																																							
결과	<table><tr><th></th><th>members_id</th><th>email</th><th>password</th><th>name</th><th>nickname</th><th>gender</th><th>phone_number</th><th>birth_date</th><th>created_at</th><th>updated_at</th><th>deleted_at</th><th>deleted_YN</th></tr><tr><td>▶</td><td>5</td><td>keepself@naver.com</td><td>234</td><td>chang</td><td>L</td><td>M</td><td>010-8899-1111</td><td>1995-01-01 00:00:00</td><td>2023-12-02 14:31:14</td><td>2023-12-02 14:31:14</td><td>NULL</td><td>0</td></tr><tr><td>*</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td></tr></table>		members_id	email	password	name	nickname	gender	phone_number	birth_date	created_at	updated_at	deleted_at	deleted_YN	▶	5	keepself@naver.com	234	chang	L	M	010-8899-1111	1995-01-01 00:00:00	2023-12-02 14:31:14	2023-12-02 14:31:14	NULL	0	*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
	members_id	email	password	name	nickname	gender	phone_number	birth_date	created_at	updated_at	deleted_at	deleted_YN																												
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*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL																												

서비스	마이페이지																																																																																																																								
필요 기능	프로필 사진 등록 / 수정																																																																																																																								
기능 설명	회원번호 4번의 프로필 사진을 등록																																																																																																																								
쿼리문	<pre>INSERT INTO IMAGE(image_url, members_id) values('public/storage/img/13', '4');</pre>																																																																																																																								
결과	<table><thead><tr><th></th><th>image_id</th><th>image_url</th><th>members_id</th><th>music_id</th><th>playlist_id</th><th>created_at</th><th>updated_at</th><th>deleted_at</th><th>deleted_YN</th></tr></thead><tbody><tr><td></td><td>4</td><td>public/storage/img/4</td><td>NULL</td><td>1</td><td>NULL</td><td>2023-12-02 19:34:18</td><td>2023-12-02 19:34:18</td><td>NULL</td><td>0</td></tr><tr><td></td><td>5</td><td>public/storage/img/5</td><td>NULL</td><td>2</td><td>NULL</td><td>2023-12-02 19:34:18</td><td>2023-12-02 19:34:18</td><td>NULL</td><td>0</td></tr><tr><td></td><td>6</td><td>public/storage/img/6</td><td>NULL</td><td>4</td><td>NULL</td><td>2023-12-02 19:34:18</td><td>2023-12-02 19:34:18</td><td>NULL</td><td>0</td></tr><tr><td></td><td>7</td><td>public/storage/img/7</td><td>NULL</td><td>7</td><td>NULL</td><td>2023-12-02 19:34:18</td><td>2023-12-02 19:34:18</td><td>NULL</td><td>0</td></tr><tr><td></td><td>8</td><td>public/storage/img/8</td><td>NULL</td><td>8</td><td>NULL</td><td>2023-12-02 19:34:18</td><td>2023-12-02 19:34:18</td><td>NULL</td><td>0</td></tr><tr><td></td><td>9</td><td>public/storage/img/9</td><td>NULL</td><td>NULL</td><td>1</td><td>2023-12-02 19:34:18</td><td>2023-12-02 19:34:18</td><td>NULL</td><td>0</td></tr><tr><td></td><td>10</td><td>public/storage/img/10</td><td>NULL</td><td>NULL</td><td>2</td><td>2023-12-02 19:34:18</td><td>2023-12-02 19:34:18</td><td>NULL</td><td>0</td></tr><tr><td></td><td>11</td><td>public/storage/img/11</td><td>NULL</td><td>NULL</td><td>3</td><td>2023-12-02 19:34:18</td><td>2023-12-02 19:34:18</td><td>NULL</td><td>0</td></tr><tr><td></td><td>12</td><td>public/storage/img/12</td><td>NULL</td><td>NULL</td><td>4</td><td>2023-12-02 19:34:18</td><td>2023-12-02 19:34:18</td><td>NULL</td><td>0</td></tr><tr><td></td><td>13</td><td>public/storage/img/14</td><td>4</td><td>NULL</td><td>NULL</td><td>2023-12-02 16:07:13</td><td>2023-12-02 16:07:13</td><td>NULL</td><td>0</td></tr><tr><td>*</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td></tr></tbody></table>		image_id	image_url	members_id	music_id	playlist_id	created_at	updated_at	deleted_at	deleted_YN		4	public/storage/img/4	NULL	1	NULL	2023-12-02 19:34:18	2023-12-02 19:34:18	NULL	0		5	public/storage/img/5	NULL	2	NULL	2023-12-02 19:34:18	2023-12-02 19:34:18	NULL	0		6	public/storage/img/6	NULL	4	NULL	2023-12-02 19:34:18	2023-12-02 19:34:18	NULL	0		7	public/storage/img/7	NULL	7	NULL	2023-12-02 19:34:18	2023-12-02 19:34:18	NULL	0		8	public/storage/img/8	NULL	8	NULL	2023-12-02 19:34:18	2023-12-02 19:34:18	NULL	0		9	public/storage/img/9	NULL	NULL	1	2023-12-02 19:34:18	2023-12-02 19:34:18	NULL	0		10	public/storage/img/10	NULL	NULL	2	2023-12-02 19:34:18	2023-12-02 19:34:18	NULL	0		11	public/storage/img/11	NULL	NULL	3	2023-12-02 19:34:18	2023-12-02 19:34:18	NULL	0		12	public/storage/img/12	NULL	NULL	4	2023-12-02 19:34:18	2023-12-02 19:34:18	NULL	0		13	public/storage/img/14	4	NULL	NULL	2023-12-02 16:07:13	2023-12-02 16:07:13	NULL	0	*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
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기능 설명	회원번호 3번의 닉네임, 폰번호를 수정																																																																		
쿼리문	<div>-- 나의 프로필 수정</div> <div>-- 회원이 회원가입 때 입력한 정보를 수정하여 최신화 할 수 있다.</div> <div>-- 3번 회원이 자신의 닉네임과 휴대폰 번호를 수정하려고한다.</div> <div>update members set nickname = 'Jerry', phone_number = '010-9876-5432', updated_at = now() where members_id = 3;</div>																																																																		
결과	<table><tr><th></th><th>members_id</th><th>email</th><th>password</th><th>name</th><th>nickname</th><th>gender</th><th>phone_number</th><th>birth_date</th><th>created_at</th><th>updated_at</th></tr><tr><td>▶</td><td>1</td><td>amy@gmail.com</td><td>123</td><td>Amy</td><td>a</td><td>F</td><td>010-1111-1111</td><td>2001-01-01 00:00:00</td><td>2023-12-02 19:33:46</td><td>2023-12-02 19:33:46</td></tr><tr><td></td><td>2</td><td>john@gmail.com</td><td>456</td><td>john</td><td>b</td><td>M</td><td>010-2222-2222</td><td>2002-02-02 00:00:00</td><td>2023-12-02 19:33:46</td><td>2023-12-02 19:33:46</td></tr><tr><td></td><td>3</td><td>tom@gmail.com</td><td>789</td><td>tom</td><td>Jerry</td><td>M</td><td>010-9876-5432</td><td>2003-03-03 00:00:00</td><td>2023-12-02 19:33:46</td><td>2023-12-03 13:41:19</td></tr><tr><td></td><td>4</td><td>sally@gmail.com</td><td>135</td><td>sally</td><td>s</td><td>M</td><td>010-4444-4444</td><td>2004-04-04 00:00:00</td><td>2023-12-02 19:33:46</td><td>2023-12-02 19:33:46</td></tr><tr><td>*</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td></tr></table>		members_id	email	password	name	nickname	gender	phone_number	birth_date	created_at	updated_at	▶	1	amy@gmail.com	123	Amy	a	F	010-1111-1111	2001-01-01 00:00:00	2023-12-02 19:33:46	2023-12-02 19:33:46		2	john@gmail.com	456	john	b	M	010-2222-2222	2002-02-02 00:00:00	2023-12-02 19:33:46	2023-12-02 19:33:46		3	tom@gmail.com	789	tom	Jerry	M	010-9876-5432	2003-03-03 00:00:00	2023-12-02 19:33:46	2023-12-03 13:41:19		4	sally@gmail.com	135	sally	s	M	010-4444-4444	2004-04-04 00:00:00	2023-12-02 19:33:46	2023-12-02 19:33:46	*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
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서비스	마이페이지																																
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기능 설명	회원번호 3번이 업로드한 노래 리스트 조회																																
쿼리문	<div>-- 나의 노래 리스트</div> <div>-- 내가 업로드한 노래를 확인할 수 있다.</div> <div>-- 3번 회원이 자신이 업로드한 노래리스트를 확인하려고 한다.</div> <div>select m.title, m.artist, m.description, m.music_file_url, m.genre, m.on_off, n.members_id as uploader</div> <div>from music m inner join members n</div> <div>on m.members_id = n.members_id</div> <div>where m.members_id = 3;</div>																																
결과	<table><tr><th></th><th>title</th><th>artist</th><th>description</th><th>music_file_url</th><th>genre</th><th>on_off</th><th>uploader</th></tr><tr><td>▶</td><td>ETA</td><td>NEW JEANS</td><td>3 desc</td><td>public/storage/3</td><td>Dubstep</td><td>0</td><td>3</td></tr><tr><td></td><td>Isn't she lovely</td><td>Stevie Wonder</td><td>4 desc</td><td>public/storage/4</td><td>Jazz</td><td>1</td><td>3</td></tr><tr><td></td><td>shampoine supernova</td><td>Oasis</td><td>how many special pople cha...</td><td>public/storage/music9</td><td>Electronic_rock</td><td>1</td><td>3</td></tr></table>		title	artist	description	music_file_url	genre	on_off	uploader	▶	ETA	NEW JEANS	3 desc	public/storage/3	Dubstep	0	3		Isn't she lovely	Stevie Wonder	4 desc	public/storage/4	Jazz	1	3		shampoine supernova	Oasis	how many special pople cha...	public/storage/music9	Electronic_rock	1	3
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기능 설명	회원번호 1번의 플레이 리스트 확인																																																						
쿼리문	<pre>-- 나의 플레이리스트 확인 -- 사용자는 자신이 만든 플레이리스트를 확인할 수 있다. -- 자신이 만든 플레이 리스트를 공개 / 비공개 처리할 수있다. -- 1번 회원이 자신이 만든 플레이리스트를 조회하려고한다. select * from playlist where members_id = 1;</pre>																																																						
결과	<table><tr><th></th><th>playlist_id</th><th>playlist_name</th><th>on_off</th><th>created_at</th><th>updated_at</th><th>deleted_at</th><th>deleted_YN</th><th>members_id</th></tr><tr><td>▶</td><td>1</td><td>happy</td><td>1</td><td>2023-12-02 19:34:07</td><td>2023-12-02 19:34:07</td><td>NULL</td><td>0</td><td>1</td></tr><tr><td></td><td>5</td><td>band list</td><td>0</td><td>2023-12-03 16:16:12</td><td>2023-12-03 16:16:12</td><td>NULL</td><td>0</td><td>1</td></tr><tr><td></td><td>6</td><td>running playlist</td><td>0</td><td>2023-12-03 16:16:12</td><td>2023-12-03 16:16:12</td><td>NULL</td><td>0</td><td>1</td></tr><tr><td></td><td>7</td><td>green day playlist</td><td>1</td><td>2023-12-03 16:16:12</td><td>2023-12-03 16:16:12</td><td>NULL</td><td>0</td><td>1</td></tr><tr><td>*</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td></tr></table>		playlist_id	playlist_name	on_off	created_at	updated_at	deleted_at	deleted_YN	members_id	▶	1	happy	1	2023-12-02 19:34:07	2023-12-02 19:34:07	NULL	0	1		5	band list	0	2023-12-03 16:16:12	2023-12-03 16:16:12	NULL	0	1		6	running playlist	0	2023-12-03 16:16:12	2023-12-03 16:16:12	NULL	0	1		7	green day playlist	1	2023-12-03 16:16:12	2023-12-03 16:16:12	NULL	0	1	*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
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서비스	마이페이지																																			
필요 기능	팔로워 리스트																																			
기능 설명	회원 번호 4번의 팔로워 리스트 조회																																			
쿼리문	<pre>-- 팔로워 리스트 -- 나를 팔로우 하고있는 사람들의 정보를 알 수 있다.  -- 4번 회원이 자신을 팔로우 하고있는 사람들을 조회하려고한다.  select * from follow where follow_ing = 4;</pre>																																			
결과	<table><tr><th></th><th>follow_id</th><th>created_at</th><th>unfollow_at</th><th>unfollow_YN</th><th>follow_ing</th><th>follower</th></tr><tr><td>▶</td><td>7</td><td>2023-12-03 16:23:54</td><td>NULL</td><td>0</td><td>4</td><td>3</td></tr><tr><td></td><td>8</td><td>2023-12-03 16:23:54</td><td>NULL</td><td>0</td><td>4</td><td>1</td></tr><tr><td></td><td>9</td><td>2023-12-03 16:31:46</td><td>NULL</td><td>0</td><td>4</td><td>2</td></tr><tr><td>*</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td></tr></table>		follow_id	created_at	unfollow_at	unfollow_YN	follow_ing	follower	▶	7	2023-12-03 16:23:54	NULL	0	4	3		8	2023-12-03 16:23:54	NULL	0	4	1		9	2023-12-03 16:31:46	NULL	0	4	2	*	NULL	NULL	NULL	NULL	NULL	NULL
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쿼리문	<pre>-- 팔로잉 리스트 -- 내가 팔로우 하고있는 사람들의 정보를 알 수 있다.  -- 2번 회원이 자신이 팔로우 하고있는 사람들을 조회하려고한다.  select * from follow where follower = 2;</pre>																																										
결과	<table><tr><th></th><th>follow_id</th><th>created_at</th><th>unfollow_at</th><th>unfollow_YN</th><th>follow_ing</th><th>follower</th></tr><tr><td>▶</td><td>1</td><td>2023-12-02 19:34:18</td><td>NULL</td><td>0</td><td>1</td><td>2</td></tr><tr><td></td><td>5</td><td>2023-12-02 19:34:18</td><td>NULL</td><td>0</td><td>3</td><td>2</td></tr><tr><td></td><td>6</td><td>2023-12-03 16:23:54</td><td>NULL</td><td>0</td><td>2</td><td>2</td></tr><tr><td></td><td>9</td><td>2023-12-03 16:31:46</td><td>NULL</td><td>0</td><td>4</td><td>2</td></tr><tr><td>*</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td></tr></table>		follow_id	created_at	unfollow_at	unfollow_YN	follow_ing	follower	▶	1	2023-12-02 19:34:18	NULL	0	1	2		5	2023-12-02 19:34:18	NULL	0	3	2		6	2023-12-03 16:23:54	NULL	0	2	2		9	2023-12-03 16:31:46	NULL	0	4	2	*	NULL	NULL	NULL	NULL	NULL	NULL
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서비스	노래																																																												
필요 기능	노래 차트 이름순																																																												
기능 설명	삭제되지 않은 노래 리스트를 노래제목순으로 정렬																																																												
쿼리문	<pre>-- 이름순 select m.music_id, m.title, m.artist, m.genre, count(l.music_id) as likes from music m left join likes l on m.music_id = l.music_id where m.deleted_YN = 0 group by l.music_id order by m.title;</pre>																																																												
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쿼리문	<pre>-- 좋아요순 select m.music_id, m.title, m.artist, m.genre, count(l.music_id) as likes from music m left join likes l on l.music_id = m.music_id where m.deleted_YN = 0 group by l.music_id order by likes desc;</pre>																																																												
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쿼리문	<pre>-- 최신순 select m.music_id, m.title, m.artist, m.genre, m.created_at, count(l.music_id) as likes from music m left join likes l on m.music_id = l.music_id where m.deleted_YN = 0 group by l.music_id order by m.created_at;</pre>																																																																						
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필요 기능	노래 추가																																																							
기능 설명	3번 유저가 자신의 노래 추가																																																							
쿼리문	<pre>-- 노래 추가 -- 서비스 사용자중 한명이 본인의 노래를 업로드 한다. insert into music(title, artist, description, music_file_url, genre, on_off, members_id) values ('shampoine supernova', 'Greenday', 'how many special pople change?', 'public/storage/music9', 'Electronic_rock', 1, 3);</pre>																																																							
결과	<table><tr><th>music_id</th><th>title</th><th>artist</th><th>description</th><th>music_file_url</th><th>genre</th><th>on_off</th><th>created_at</th><th>updated_at</th><th>deleted_at</th><th>d</th></tr><tr><td>6</td><td>2002</td><td>ANNE-MAIRE</td><td>6 desc</td><td>public/storage/6</td><td>New_romantic</td><td>1</td><td>2023-12-01 18:10:44</td><td></td><td></td><td>0</td></tr><tr><td>7</td><td>HYPE BOY</td><td>NEW JEANS</td><td>7 desc</td><td>public/storage/7</td><td>Jazz</td><td>1</td><td>2023-12-01 18:10:44</td><td></td><td></td><td>0</td></tr><tr><td>8</td><td>Symphony no.6</td><td>Beethoven</td><td>8 desc</td><td>public/storage/8</td><td>Classic</td><td>1</td><td>2023-12-01 18:10:44</td><td></td><td></td><td>0</td></tr><tr><td>9</td><td>shampoine supernova</td><td>Greenday</td><td>how many special pople cha...</td><td>public/storage/music9</td><td>Electronic_rock</td><td>1</td><td>2023-12-02 18:03:14</td><td></td><td></td><td>0</td></tr></table>	music_id	title	artist	description	music_file_url	genre	on_off	created_at	updated_at	deleted_at	d	6	2002	ANNE-MAIRE	6 desc	public/storage/6	New_romantic	1	2023-12-01 18:10:44			0	7	HYPE BOY	NEW JEANS	7 desc	public/storage/7	Jazz	1	2023-12-01 18:10:44			0	8	Symphony no.6	Beethoven	8 desc	public/storage/8	Classic	1	2023-12-01 18:10:44			0	9	shampoine supernova	Greenday	how many special pople cha...	public/storage/music9	Electronic_rock	1	2023-12-02 18:03:14			0
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쿼리문	<pre>-- 노래 수정 -- 노래를 업로드 한뒤 자신이 입력한 정보가 틀려 내용을 수정한다. update music set artist = 'Oasis' where music_id = 9;</pre>																																																							
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쿼리문	<div><div>1</div><div>-- 노래 삭제</div><div>2</div><div>-- 업로드한 노래가 문제가 생겨 노래를 삭제한다.</div><div>3</div><div>4 • update music set deleted_at = now(), deleted_YN = 1</div><div>5 where music_id = 9;</div><div>6</div></div>																																																																																																			
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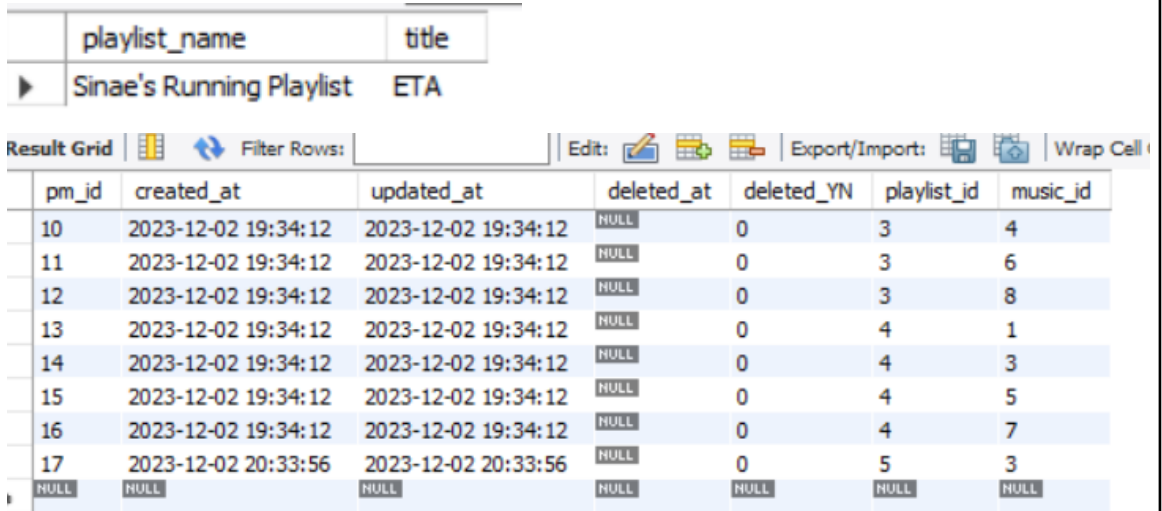
서비스	노래																																										
필요 기능	노래에 대한 좋아요 기능																																										
기능 설명	회원번호 1,2,4번이 노래번호 9번을 좋아요 설정 회원번호 4번이 노래번호 9번을 좋아요 취소																																										
쿼리문	<pre>-- 좋아요/좋아요 취소 기능 -- 사용자들은 본인이 좋아하는 노래에 좋아요를 누를 수 있고 좋아요 취소도 가능하다.  -- 좋아요 누르기 · insert into likes(who_id, music_id)   values   (1, 9);  · insert into likes(who_id, music_id)   values   (2, 9);  · insert into likes(who_id, music_id)   values   (4, 9);  -- 좋아요 취소 · update likes set canceled_at = now(), canceled_YN = 1   where whos_id = 4 and music_id = 9;</pre>																																										
결과	<table><tr><th></th><th>likes_id</th><th>created_at</th><th>canceled_at</th><th>canceled_YN</th><th>who_id</th><th>music_id</th></tr><tr><td>▶</td><td>1</td><td>2023-12-02 10:46:40</td><td>NULL</td><td>0</td><td>1</td><td>9</td></tr><tr><td></td><td>2</td><td>2023-12-02 10:46:42</td><td>NULL</td><td>0</td><td>2</td><td>9</td></tr><tr><td></td><td>3</td><td>2023-12-02 10:46:43</td><td>2023-12-02 10:56:19</td><td>1</td><td>4</td><td>9</td></tr><tr><td></td><td>4</td><td>2023-12-02 10:56:21</td><td>NULL</td><td>0</td><td>4</td><td>9</td></tr><tr><td>*</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td></tr></table>		likes_id	created_at	canceled_at	canceled_YN	who_id	music_id	▶	1	2023-12-02 10:46:40	NULL	0	1	9		2	2023-12-02 10:46:42	NULL	0	2	9		3	2023-12-02 10:46:43	2023-12-02 10:56:19	1	4	9		4	2023-12-02 10:56:21	NULL	0	4	9	*	NULL	NULL	NULL	NULL	NULL	NULL
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서비스	노래																																																							
필요 기능	노래 댓글, 대댓글 기능																																																							
기능 설명	회원번호 1번이 노래번호 4번에 댓글을 남김 회원번호 3번이 노래번호 4번에 댓글번호 1번에 대댓글을 남김 회원번호 1번이 노래번호 4번에 댓글번호 1번에 대댓글을 남김																																																							
쿼리문	<pre>-- 댓글 달기 insert into comment(comment_chk, contents, members_id, music_id) values (1, 'good sound!', 1, 4);  -- 대댓글 달기 insert into comment(comment_chk, contents, members_id, music_id, parent_id) values (0, 'thank you!', 3, 4, 1);  insert into comment(comment_chk, contents, members_id, music_id, parent_id) values (0, 'OMG!!', 1, 4, 1);</pre>																																																							
결과	<table><tr><th></th><th>comment_id</th><th>comment_chk</th><th>contents</th><th>created_at</th><th>updated_at</th><th>deleted_at</th><th>deleted_YN</th><th>members_id</th><th>music_id</th><th>parent_id</th></tr><tr><td>▶</td><td>1</td><td>1</td><td>good sound!</td><td>2023-12-02 13:11:30</td><td>NULL</td><td>NULL</td><td>NULL</td><td>1</td><td>4</td><td>0</td></tr><tr><td></td><td>2</td><td>0</td><td>thank you!</td><td>2023-12-02 13:11:33</td><td>NULL</td><td>NULL</td><td>NULL</td><td>3</td><td>4</td><td>1</td></tr><tr><td></td><td>3</td><td>0</td><td>OMG!!</td><td>2023-12-02 13:11:35</td><td>NULL</td><td>NULL</td><td>NULL</td><td>1</td><td>4</td><td>1</td></tr><tr><td>*</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td></tr></table>		comment_id	comment_chk	contents	created_at	updated_at	deleted_at	deleted_YN	members_id	music_id	parent_id	▶	1	1	good sound!	2023-12-02 13:11:30	NULL	NULL	NULL	1	4	0		2	0	thank you!	2023-12-02 13:11:33	NULL	NULL	NULL	3	4	1		3	0	OMG!!	2023-12-02 13:11:35	NULL	NULL	NULL	1	4	1	*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
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기능 설명	댓글번호 1번의 내용을 수정함																																																							
쿼리문	<pre>-- 댓글 수정 update comment set contents = 'good sound guy~!', updated_at = now() where comment_id = 1;</pre>																																																							
결과	<table><tr><th></th><th>comment_id</th><th>comment_chk</th><th>contents</th><th>created_at</th><th>updated_at</th><th>deleted_at</th><th>deleted_YN</th><th>members_id</th><th>music_id</th><th>parent_id</th></tr><tr><td>▶</td><td>1</td><td>1</td><td>good sound guy~!</td><td>2023-12-02 13:11:30</td><td>2023-12-02 13:12:39</td><td>DELETE</td><td>DELETE</td><td>1</td><td>4</td><td>0</td></tr><tr><td></td><td>2</td><td>0</td><td>thank you!</td><td>2023-12-02 13:11:33</td><td>DELETE</td><td>DELETE</td><td>DELETE</td><td>3</td><td>4</td><td>1</td></tr><tr><td></td><td>3</td><td>0</td><td>OMG!!</td><td>2023-12-02 13:11:35</td><td>DELETE</td><td>2023-12-02 13:13:19</td><td>1</td><td>1</td><td>4</td><td>1</td></tr><tr><td>*</td><td>DELETE</td><td>DELETE</td><td>DELETE</td><td>DELETE</td><td>DELETE</td><td>DELETE</td><td>DELETE</td><td>DELETE</td><td>DELETE</td><td>DELETE</td></tr></table>		comment_id	comment_chk	contents	created_at	updated_at	deleted_at	deleted_YN	members_id	music_id	parent_id	▶	1	1	good sound guy~!	2023-12-02 13:11:30	2023-12-02 13:12:39	DELETE	DELETE	1	4	0		2	0	thank you!	2023-12-02 13:11:33	DELETE	DELETE	DELETE	3	4	1		3	0	OMG!!	2023-12-02 13:11:35	DELETE	2023-12-02 13:13:19	1	1	4	1	*	DELETE	DELETE	DELETE	DELETE	DELETE	DELETE	DELETE	DELETE	DELETE	DELETE
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필요 기능	댓글 삭제																																																							
기능 설명	댓글번호 3번을 비활성화(삭제) 처리함																																																							
쿼리문	<pre>-- 대댓글 삭제 update comment set deleted_YN = 1 , deleted_at = now() where comment_id = 3;</pre>																																																							
결과	<table><tr><th></th><th>comment_id</th><th>comment_chk</th><th>contents</th><th>created_at</th><th>updated_at</th><th>deleted_at</th><th>deleted_YN</th><th>members_id</th><th>music_id</th><th>parent_id</th></tr><tr><td>▶</td><td>1</td><td>1</td><td>good sound guy~!</td><td>2023-12-02 13:11:30</td><td>2023-12-02 13:12:39</td><td></td><td></td><td>1</td><td>4</td><td>0</td></tr><tr><td></td><td>2</td><td>0</td><td>thank you!</td><td>2023-12-02 13:11:33</td><td></td><td></td><td></td><td>3</td><td>4</td><td>1</td></tr><tr><td></td><td>3</td><td>0</td><td>OMG!!</td><td>2023-12-02 13:11:35</td><td></td><td>2023-12-02 13:13:19</td><td>1</td><td>1</td><td>4</td><td>1</td></tr><tr><td>*</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>		comment_id	comment_chk	contents	created_at	updated_at	deleted_at	deleted_YN	members_id	music_id	parent_id	▶	1	1	good sound guy~!	2023-12-02 13:11:30	2023-12-02 13:12:39			1	4	0		2	0	thank you!	2023-12-02 13:11:33				3	4	1		3	0	OMG!!	2023-12-02 13:11:35		2023-12-02 13:13:19	1	1	4	1	*										
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기능 설명	새로운 플레이리스트 <b>sinae's running</b> 을 추가																																																																																																																																																									
쿼리문	<pre>-- 2. 플레이리스트를 전체 공개 설정한 뒤 이름을 입력 (여기서는 'Sinae's Running Playlist'라 명명)하고 커버 사진을 추가해서 생성한다. DELIMITER // CREATE PROCEDURE playlist_img_insert(IN email_param VARCHAR(100), IN image_url_param VARCHAR(255), IN playlist_name_param VARCHAR(100)) BEGIN declare mem_id BIGINT default (select members_id from members where email=email_param); insert into playlist(playlist_name, members_id) values (playlist_name_param, mem_id); insert into image(image_url, playlist_id) values (image_url_param, (select playlist_id from playlist where playlist_name=playlist_name_param)); END // DELIMITER ;  call playlist_img_insert('sinae@naver.com', 'public/storage/sinae/profile_img', 'Sinae\'s Running Playlist');  select * from image; select * from playlist;</pre>																																																																																																																																																									
결과	<table><tr><th></th><th>image_id</th><th>image_url</th><th>members_id</th><th>music_id</th><th>playlist_id</th></tr><tr><td>▶</td><td>1</td><td>public/storage/img/1</td><td>1</td><td>NULL</td><td>NULL</td></tr><tr><td></td><td>2</td><td>public/storage/img/2</td><td>2</td><td>NULL</td><td>NULL</td></tr><tr><td></td><td>3</td><td>public/storage/img/3</td><td>3</td><td>NULL</td><td>NULL</td></tr><tr><td></td><td>4</td><td>public/storage/img/4</td><td>NULL</td><td>1</td><td>NULL</td></tr><tr><td></td><td>5</td><td>public/storage/img/5</td><td>NULL</td><td>2</td><td>NULL</td></tr><tr><td></td><td>6</td><td>public/storage/img/6</td><td>NULL</td><td>4</td><td>NULL</td></tr><tr><td></td><td>7</td><td>public/storage/img/7</td><td>NULL</td><td>7</td><td>NULL</td></tr><tr><td></td><td>8</td><td>public/storage/img/8</td><td>NULL</td><td>8</td><td>NULL</td></tr><tr><td></td><td>9</td><td>public/storage/img/9</td><td>NULL</td><td>NULL</td><td>1</td></tr><tr><td></td><td>10</td><td>public/storage/img/10</td><td>NULL</td><td>NULL</td><td>2</td></tr><tr><td></td><td>11</td><td>public/storage/img/11</td><td>NULL</td><td>NULL</td><td>3</td></tr><tr><td></td><td>12</td><td>public/storage/img/12</td><td>NULL</td><td>NULL</td><td>4</td></tr><tr><td></td><td>13</td><td>public/storage/sinae/...</td><td>NULL</td><td>NULL</td><td>5</td></tr><tr><td>*</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td></tr></table> <table><tr><th></th><th>playlist_id</th><th>playlist_name</th><th>on_off</th><th>created_at</th><th>updated_at</th><th>deleted_at</th><th>deleted_YN</th><th>members_id</th></tr><tr><td>▶</td><td>1</td><td>happy</td><td>1</td><td>2023-12-02 19:34:07</td><td>2023-12-02 19:34:07</td><td>NULL</td><td>0</td><td>1</td></tr><tr><td></td><td>2</td><td>lovely</td><td>1</td><td>2023-12-02 19:34:07</td><td>2023-12-02 19:34:07</td><td>NULL</td><td>0</td><td>2</td></tr><tr><td></td><td>3</td><td>angry</td><td>1</td><td>2023-12-02 19:34:07</td><td>2023-12-02 19:34:07</td><td>NULL</td><td>0</td><td>3</td></tr><tr><td></td><td>4</td><td>gloomy</td><td>1</td><td>2023-12-02 19:34:07</td><td>2023-12-02 19:34:07</td><td>NULL</td><td>0</td><td>4</td></tr><tr><td></td><td>5</td><td>Sinae's Running Playlist</td><td>1</td><td>2023-12-02 19:55:52</td><td>2023-12-02 19:55:52</td><td>NULL</td><td>0</td><td>5</td></tr><tr><td>*</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td></tr></table>		image_id	image_url	members_id	music_id	playlist_id	▶	1	public/storage/img/1	1	NULL	NULL		2	public/storage/img/2	2	NULL	NULL		3	public/storage/img/3	3	NULL	NULL		4	public/storage/img/4	NULL	1	NULL		5	public/storage/img/5	NULL	2	NULL		6	public/storage/img/6	NULL	4	NULL		7	public/storage/img/7	NULL	7	NULL		8	public/storage/img/8	NULL	8	NULL		9	public/storage/img/9	NULL	NULL	1		10	public/storage/img/10	NULL	NULL	2		11	public/storage/img/11	NULL	NULL	3		12	public/storage/img/12	NULL	NULL	4		13	public/storage/sinae/...	NULL	NULL	5	*	NULL	NULL	NULL	NULL	NULL		playlist_id	playlist_name	on_off	created_at	updated_at	deleted_at	deleted_YN	members_id	▶	1	happy	1	2023-12-02 19:34:07	2023-12-02 19:34:07	NULL	0	1		2	lovely	1	2023-12-02 19:34:07	2023-12-02 19:34:07	NULL	0	2		3	angry	1	2023-12-02 19:34:07	2023-12-02 19:34:07	NULL	0	3		4	gloomy	1	2023-12-02 19:34:07	2023-12-02 19:34:07	NULL	0	4		5	Sinae's Running Playlist	1	2023-12-02 19:55:52	2023-12-02 19:55:52	NULL	0	5	*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
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서비스	플레이리스트
필요 기능	플레이리스트에 노래 추가
기능 설명	플레이리스트 sinae`s running에 노래 추가
쿼리문	<pre>-- 3. 원하는 노래를 'Sinae's Running Playlist'에 삽입한다. DELIMITER // CREATE PROCEDURE playlist_music_insert(IN playlist_id_param BIGINT, IN music_id_param BIGINT) BEGIN insert into playlist_music(playlist_id, music_id) values (playlist_id_param, music_id_param);  select playlist_name, title from playlist left join playlist_music on playlist.playlist_id=playlist_music.playlist_id left join music on playlist_music.music_id=music.music_id where playlist_music.playlist_id=playlist_id_param;  END // DELIMITER ;  call playlist_music_insert(5,3); select * from playlist_music;</pre>
결과	 <p>The screenshot displays a database query result. At the top, a small table shows the playlist details: playlist_name is 'Sinae's Running Playlist' and title is 'ETA'. Below this is a 'Result Grid' with columns: pm_id, created_at, updated_at, deleted_at, deleted_YN, playlist_id, and music_id. The grid contains 17 rows of data. The first 16 rows have pm_id values from 10 to 16, and the 17th row has pm_id 17. The last row is highlighted in blue. The deleted_at and deleted_YN columns are NULL and 0 respectively for all rows. The playlist_id and music_id columns are 3 and 4 for pm_id 10, 3 and 6 for pm_id 11, 3 and 8 for pm_id 12, 4 and 1 for pm_id 13, 4 and 3 for pm_id 14, 4 and 5 for pm_id 15, 4 and 7 for pm_id 16, and 5 and 3 for pm_id 17.</p>

서비스	플레이리스트																																																															
필요 기능	플레이리스트 이름 변경																																																															
기능 설명	플레이리스트 “sinae running” 을 “sinae study”로 이름변경 플레이리스트명이 올바르지 않으면 수정 불가능하다.																																																															
쿼리문	<pre>-- 4. 신애 러닝 플리의 이름을 신애 공부 플리로 바꾼다. DELIMITER // CREATE PROCEDURE playlist_rename(IN mem_id BIGINT, IN old_name VARCHAR(100), IN new_name VARCHAR(100)) BEGIN     update playlist set playlist_name=new_name where playlist_name=old_name &amp;&amp; members_id=mem_id;     update playlist set updated_at=now() where playlist_name=old_name &amp;&amp; members_id=mem_id; END // DELIMITER ;  call playlist_rename(1,'Sinae\'s Running Playlist', 'Sinae\'s Study Playlist'); -- 'Sinae'의 members_id는 5번이기 때문에 그 외의 members_id일 때는 데이터 수정이 불가능하다. call playlist_rename(5,'Sinae\'s Running Playlist', 'Sinae\'s Study Playlist'); select * from playlist;</pre>																																																															
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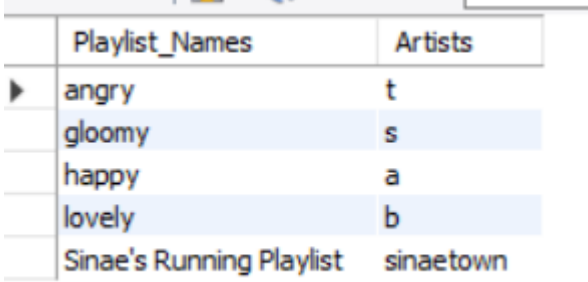
서비스	플레이리스트																																																												
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기능 설명	회원의 email과 플레이리스트 명으로 플레이리스트 커버사진 변경이 가능하다.																																																												
쿼리문	<pre>-- 5. 플레이리스트의 커버 사진을 변경한다. DELIMITER // CREATE PROCEDURE playlist_image_change(IN email_param VARCHAR(100), IN new_image_url VARCHAR(255), IN playlist_name_param VARCHAR(100)) BEGIN declare mem_id BIGINT default (select members_id from members where email=email_param); declare play_id BIGINT default (select playlist_id from playlist where playlist_name = playlist_name_param &amp;&amp; members_id=mem_id); update image set image_url=new_image_url where playlist_id=play_id; END // DELIMITER ;  call playlist_image_change('si@naver.com','wrongroute', 'Sinae\'s Study Playlist'); -- 다른 유저로 로그인했을 때 call playlist_image_change('sinae@naver.com','wrongroute2', 'Sinae\'s wrong Playlist'); -- 없는 플레이를 바꿀 때 call playlist_image_change('sinae@naver.com','realnewroute', 'Sinae\'s Study Playlist'); -- 정상 작동</pre>																																																												
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쿼리문	<pre>-- 6. 플레이리스트를 비공개로 바꾼다. DELIMITER // CREATE PROCEDURE playlist_on_off_set(IN email_param VARCHAR(100), IN on_off_chg VARCHAR(5), IN playlist_name_param VARCHAR(100)) BEGIN declare choice TINYINT(1) default case on_off_chg when 'open' then 1 -- 공개 else 0 -- 비공개 end; declare mem_id BIGINT default (select members_id from members where email=email_param); declare play_id BIGINT default (select playlist_id from playlist where playlist_name = playlist_name_param &amp;&amp; members_id=mem_id); update playlist set on_off=choice where playlist_id=play_id; END // DELIMITER ;  call playlist_on_off_set('si@naver.com','off', 'Sinae\'s Study Playlist'); -- 다른 유저로 로그인했을 때 call playlist_on_off_set('sinae@naver.com','off', 'Sinae\'s wrong Playlist'); -- 없는 플레이를 바꿀 때 call playlist_on_off_set('sinae@naver.com','off', 'Sinae\'s Study Playlist'); -- 정상 작동 select * from playlist;</pre>																																																																								
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기능 설명	회원의 <b>email</b> 과 플레이리스트명으로 플레이리스트 비활성화(삭제) 시킨다.																																																																
쿼리문	<pre>-- 7. 신애 공부 플레이를 삭제한다. DELIMITER // CREATE PROCEDURE delete_playlist(IN email_param VARCHAR(100), IN playlist_name_param VARCHAR(100)) BEGIN     declare mem_id BIGINT default (select members_id from members where email=email_param);     declare play_id BIGINT default (select playlist_id from playlist where playlist_name = playlist_name_param &amp;&amp; members_id=mem_id);     update playlist set deleted_YN = 1, updated_at = now() where playlist_id=play_id; END // DELIMITER ;  call delete_playlist('si@naver.com', 'Sinae\'s Study Playlist'); -- 다른 유저로 로그인했을 때 call delete_playlist('sinae@naver.com', 'Sinae\'s wrong Playlist'); -- 없는 플레이를 바꿀 때 call delete_playlist('sinae@naver.com', 'Sinae\'s Study Playlist'); -- 정상 작동 select * from playlist;</pre>																																																																
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기능 설명	활성화, 공개 처리된 플레이리스트를 조회												
쿼리문	<pre>-- 8. 공개처리된 플레이 조회해본다. select playlist.playlist_name as Playlist_Names, members.nickname as Artists from playlist left join members on playlist.members_id=members.members_id where playlist.on_off=1 &amp;&amp; playlist.deleted_YN=0;</pre>												
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쿼리문	<pre>-- 9. 공개처리된 플리를 좋아요순, 최신순, 이름순으로 각각 조회해본다. -- 좋아요순 select playlist.playlist_name as Playlist_Names, members.nickname as Artists, count(likes.playlist_id) as likes from likes left join playlist on playlist.playlist_id=likes.playlist_id left join members on playlist.members_id=members.members_id where playlist.on_off=1 &amp;&amp; playlist.deleted_YN=0 group by likes.playlist_id order by likes desc;</pre>																
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	Playlist_Names	Artists	likes														
▶	lovely	b	4														
	angry	t	2														
	happy	a	1														

서비스	플레이리스트																								
필요 기능	플레이리스트에 최신순 조회																								
기능 설명	활성화, 공개 처리된 플레이리스트를 최신순으로 조회																								
쿼리문	<pre>-- 최신순 select playlist.playlist_name as Playlist_Names, members.nickname as Artists, playlist.created_at as created_time from playlist left join members on playlist.members_id=members.members_id where playlist.on_off=1 &amp;&amp; playlist.deleted_YN=0 order by playlist.created_at desc;</pre>																								
결과	<table><tr><th></th><th>Playlist_Names</th><th>Artists</th><th>created_time</th></tr><tr><td>▶</td><td>Sinae's Running Playlist</td><td>sinaetown</td><td>2023-12-02 21:15:38</td></tr><tr><td></td><td>happy</td><td>a</td><td>2023-12-02 19:34:07</td></tr><tr><td></td><td>lovely</td><td>b</td><td>2023-12-02 19:34:07</td></tr><tr><td></td><td>angry</td><td>t</td><td>2023-12-02 19:34:07</td></tr><tr><td></td><td>gloomy</td><td>s</td><td>2023-12-02 19:34:07</td></tr></table>		Playlist_Names	Artists	created_time	▶	Sinae's Running Playlist	sinaetown	2023-12-02 21:15:38		happy	a	2023-12-02 19:34:07		lovely	b	2023-12-02 19:34:07		angry	t	2023-12-02 19:34:07		gloomy	s	2023-12-02 19:34:07
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서비스	플레이리스트																																																								
필요 기능	플레이리스트 좋아요																																																								
기능 설명	좋아요를 눌렀던 기록이 있는지 없는지 확인																																																								
쿼리문	<pre>-- 10. 다른 회원의 플리에 처음으로 좋아요를 누른다. DELIMITER // CREATE PROCEDURE press_like(IN status TINYINT(1), IN email_param VARCHAR(100), IN playlist_name_param VARCHAR(100)) &gt; BEGIN   declare stat TINYINT(1) default &gt; case status   when 1 then 0 -- 0이 좋아요한 상태, 1이 좋아요하지 않은 (취소함) 상태   else 1   ~ end;    declare mem_id BIGINT default (select members_id from members where email=email_param);   declare play_id BIGINT default (select playlist_id from playlist where playlist_name = playlist_name_param);  &gt; if (select count(*) from likes where playlist_id= play_id &amp;&amp; who_id = mem_id)=0 then     insert into likes(who_id, playlist_id) values (mem_id, play_id);   ELSE     update likes set canceled_YN = stat where playlist_id= play_id &amp;&amp; who_id = mem_id;   ~ end if;    ~ END // DELIMITER ;</pre>																																																								
결과	<pre>156 157 • call press_like(0, 'sinae@naver.com', 'angry'); -- 아무 기록이 없는 상태에서 처음 좋아요를 누를 경우 158 • select * from likes; -- 여기서 sinae이메일에 해당되는 who_id는 5, angry 플리에 해당되는 playlist_id는 3이다.</pre> <table><tr><th>likes_id</th><th>created_at</th><th>canceled_at</th><th>canceled_YN</th><th>who_id</th><th>members_id</th><th>playlist_id</th><th>music_id</th></tr><tr><td>4</td><td>2023-12-02 22:02:57</td><td>NULL</td><td>0</td><td>1</td><td>NULL</td><td>1</td><td>NULL</td></tr><tr><td>5</td><td>2023-12-02 22:02:57</td><td>NULL</td><td>0</td><td>3</td><td>NULL</td><td>1</td><td>NULL</td></tr><tr><td>7</td><td>2023-12-02 22:02:57</td><td>NULL</td><td>0</td><td>3</td><td>NULL</td><td>2</td><td>NULL</td></tr><tr><td>8</td><td>2023-12-02 22:02:57</td><td>NULL</td><td>0</td><td>3</td><td>NULL</td><td>1</td><td>NULL</td></tr><tr><td>9</td><td>2023-12-02 23:13:38</td><td>NULL</td><td>1</td><td>5</td><td>NULL</td><td>3</td><td>NULL</td></tr><tr><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td><td>NULL</td></tr></table>	likes_id	created_at	canceled_at	canceled_YN	who_id	members_id	playlist_id	music_id	4	2023-12-02 22:02:57	NULL	0	1	NULL	1	NULL	5	2023-12-02 22:02:57	NULL	0	3	NULL	1	NULL	7	2023-12-02 22:02:57	NULL	0	3	NULL	2	NULL	8	2023-12-02 22:02:57	NULL	0	3	NULL	1	NULL	9	2023-12-02 23:13:38	NULL	1	5	NULL	3	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
likes_id	created_at	canceled_at	canceled_YN	who_id	members_id	playlist_id	music_id																																																		
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5	2023-12-02 22:02:57	NULL	0	3	NULL	1	NULL																																																		
7	2023-12-02 22:02:57	NULL	0	3	NULL	2	NULL																																																		
8	2023-12-02 22:02:57	NULL	0	3	NULL	1	NULL																																																		
9	2023-12-02 23:13:38	NULL	1	5	NULL	3	NULL																																																		
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL																																																		

```

160      -- 11. 눌렀던 좋아요를 취소한다.
161      • call press_like(0, 'john@gmail.com', 'happy'); -- 원래 0에서 -> 좋아요를 취소(1) 할 경우
162      • select * from likes; -- 여기서 john이메일에 해당되는 who_id는 2, happy 플리에 해당되는 playlist_id는 1이다.
163
164

```

Result Grid | Filter Rows:  | Edit: | Export/Import: | Wrap Cell Content:

	likes_id	created_at	canceled_at	canceled_YN	who_id	members_id	playlist_id	music_id
1	1	2023-12-02 22:02:57	NULL	1	2	NULL	1	NULL
2	2	2023-12-02 22:02:57	NULL	0	1	NULL	2	NULL
3	3	2023-12-02 22:02:57	NULL	0	3	NULL	4	NULL
4	4	2023-12-02 22:02:57	NULL	0	4	NULL	4	NULL

```

164
165      -- 12. 취소했던 좋아요를 다시 누른다.
166      • call press_like(1, 'john@gmail.com', 'happy'); -- 원래 1에서 -> 좋아요를 누를(0) 경우
167      • select * from likes; -- 여기서 john이메일에 해당되는 who_id는 2, happy 플리에 해당되는 playlist_id는 1이다.

```

Result Grid | Filter Rows:  | Edit: | Export/Import: | Wrap Cell Content:

	likes_id	created_at	canceled_at	canceled_YN	who_id	members_id	playlist_id	music_id
1	1	2023-12-02 22:02:57	NULL	0	2	NULL	1	NULL
2	2	2023-12-02 22:02:57	NULL	0	1	NULL	2	NULL

서비스	검색																		
필요 기능	회원 검색																		
기능 설명	활성화된 이름, 닉네임의 'a'가 들어가는 회원을 좋아요 순으로 조회																		
쿼리문	<pre>select m.members_id, m.nickname, m.name, m.deleted_YN, count(l.likes_id) as like_count from members as m left join likes as l on m.members_id = l.members_id where (m.name like '%a%' or m.nickname like '%a%' and m.deleted_YN = 0) group by m.members_id order by like_count desc;</pre>																		
결과	<table><thead><tr><th></th><th>members_id</th><th>nickname</th><th>name</th><th>deleted_YN</th><th>like_count</th></tr></thead><tbody><tr><td>▶</td><td>1</td><td>a</td><td>Amy</td><td>0</td><td>2</td></tr><tr><td></td><td>4</td><td>s</td><td>sally</td><td>0</td><td>1</td></tr></tbody></table>		members_id	nickname	name	deleted_YN	like_count	▶	1	a	Amy	0	2		4	s	sally	0	1
	members_id	nickname	name	deleted_YN	like_count														
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서비스	검색																																
필요 기능	노래 검색																																
기능 설명	활성화되고 공개된 제목, 아티스트명, 장르에 'd'가 들어가는 음악을 좋아요 많은 순으로 조회																																
쿼리문	<pre>select m.music_id, m.title, m.artist, m.genre, m.deleted_YN, m.on_off, count(l.likes_id) as like_count from music as m left join likes as l on m.music_id = l.music_id where (m.title like '%d%' or m.artist like '%d%' or m.genre like '%d%') and m.deleted_YN = 0 and m.on_off = 1 group by m.music_id order by like_count desc;</pre>																																
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서비스	검색																																													
필요 기능	플레이리스트에 검색																																													
기능 설명	플레이리스트 명과 회원이름, 회원닉네임에 ‘a’가 들어가는 플레이리스트를 좋아요 많은 순으로 조회																																													
쿼리문	<pre>-- 플레이리스트 검색 : a • select p.playlist_id, p.playlist_name, m.name, m.nickname, m.deleted_YN as user_deleted_YN, p.deleted_YN as playlist_deleted_YN, p.on_off as playlist_on_off, count(l.likes_id) as like_count from members as m join playlist as p on m.members_id = p.members_id left join likes as l on p.playlist_id = l.playlist_id where (p.playlist_name like '%a%' or m.name like '%a%' or m.nickname like '%a%') and m.deleted_YN = 0 and p.deleted_YN = 0 and p.on_off = 1 group by p.playlist_id order by like_count desc;</pre>																																													
결과	<table><tr><th></th><th>playlist_id</th><th>playlist_name</th><th>name</th><th>nickname</th><th>user_deleted_YN</th><th>playlist_deleted_YN</th><th>playlist_on_off</th><th>like_count</th></tr><tr><td>▶</td><td>4</td><td>gloomy</td><td>sally</td><td>s</td><td>0</td><td>0</td><td>1</td><td>3</td></tr><tr><td></td><td>3</td><td>angry</td><td>tom</td><td>Jerry</td><td>0</td><td>0</td><td>1</td><td>2</td></tr><tr><td></td><td>7</td><td>green day playlist</td><td>Amy</td><td>a</td><td>0</td><td>0</td><td>1</td><td>1</td></tr><tr><td></td><td>1</td><td>happy</td><td>Amy</td><td>a</td><td>0</td><td>0</td><td>1</td><td>0</td></tr></table>		playlist_id	playlist_name	name	nickname	user_deleted_YN	playlist_deleted_YN	playlist_on_off	like_count	▶	4	gloomy	sally	s	0	0	1	3		3	angry	tom	Jerry	0	0	1	2		7	green day playlist	Amy	a	0	0	1	1		1	happy	Amy	a	0	0	1	0
	playlist_id	playlist_name	name	nickname	user_deleted_YN	playlist_deleted_YN	playlist_on_off	like_count																																						
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	7	green day playlist	Amy	a	0	0	1	1																																						
	1	happy	Amy	a	0	0	1	0																																						

3.4 사용자 권한 관리

서비스	계정 관리																		
필요 기능	유저, 관리자 계정 추가																		
기능 설명	관리자 계정과 조회용 계정 생성																		
쿼리문	<pre>create user 'user_viewpoint'@'%'; create user 'admin_viewpoint'@'%';</pre>																		
결과	<table><thead><tr><th>Host</th><th>User</th></tr></thead><tbody><tr><td>localhost</td><td>mariadb.sys</td></tr><tr><td>localhost</td><td>root</td></tr><tr><td>desktop-b6qr3nd</td><td>root</td></tr><tr><td>127.0.0.1</td><td>root</td></tr><tr><td>::1</td><td>root</td></tr><tr><td>%</td><td>root</td></tr><tr><td>%</td><td>user_viewpoint</td></tr><tr><td>%</td><td>admin_viewpoint</td></tr></tbody></table>	Host	User	localhost	mariadb.sys	localhost	root	desktop-b6qr3nd	root	127.0.0.1	root	::1	root	%	root	%	user_viewpoint	%	admin_viewpoint
Host	User																		
localhost	mariadb.sys																		
localhost	root																		
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%	user_viewpoint																		
%	admin_viewpoint																		

서비스	계정 관리										
필요 기능	관리자 계정 권한 부여										
기능 설명	관리자에게 모든 서비스에 대한 권한을 부여										
쿼리문	<pre>grant select on muse.* to 'admin_viewpoint'@'%'; grant update on muse.* to 'admin_viewpoint'@'%'; grant insert on muse.* to 'admin_viewpoint'@'%'; grant delete on muse.* to 'admin_viewpoint'@'%'; grant execute on procedure muse.press_like to 'admin_viewpoint'@'%'; grant execute on procedure muse.playlist_rename to 'admin_viewpoint'@'%'; grant execute on procedure muse.playlist_on_off_set to 'admin_viewpoint'@'%'; grant execute on procedure muse.playlist_music_insert to 'admin_viewpoint'@'%'; grant execute on procedure muse.playlist_img_insert to 'admin_viewpoint'@'%'; grant execute on procedure muse.playlist_image_change to 'admin_viewpoint'@'%'; grant execute on procedure muse.delete_playlist to 'admin_viewpoint'@'%'; flush privileges;</pre>										
결과	<table><tr><th>Grants for admin_viewpoint@%</th></tr><tr><td>GRANT USAGE ON *.* TO `admin_viewpoint`@...</td></tr><tr><td>GRANT SELECT, INSERT, UPDATE ON `muse`. *...</td></tr><tr><td>GRANT EXECUTE ON PROCEDURE `muse`. `pla...</td></tr><tr><td>GRANT EXECUTE ON PROCEDURE `muse`. `del...</td></tr><tr><td>GRANT EXECUTE ON PROCEDURE `muse`. `pla...</td></tr><tr><td>GRANT EXECUTE ON PROCEDURE `muse`. `pla...</td></tr><tr><td>GRANT EXECUTE ON PROCEDURE `muse`. `pre...</td></tr><tr><td>GRANT EXECUTE ON PROCEDURE `muse`. `pla...</td></tr><tr><td>GRANT EXECUTE ON PROCEDURE `muse`. `pla...</td></tr></table>	Grants for admin_viewpoint@%	GRANT USAGE ON *.* TO `admin_viewpoint`@...	GRANT SELECT, INSERT, UPDATE ON `muse`. *...	GRANT EXECUTE ON PROCEDURE `muse`. `pla...	GRANT EXECUTE ON PROCEDURE `muse`. `del...	GRANT EXECUTE ON PROCEDURE `muse`. `pla...	GRANT EXECUTE ON PROCEDURE `muse`. `pla...	GRANT EXECUTE ON PROCEDURE `muse`. `pre...	GRANT EXECUTE ON PROCEDURE `muse`. `pla...	GRANT EXECUTE ON PROCEDURE `muse`. `pla...
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서비스	계정 관리
필요 기능	조회 계정 권한 부여
기능 설명	조회용 계정에게 서비스에대한 권한을 부여
쿼리문	<pre> grant select on muse.* to 'user_viewpoint'@'%'; grant execute on procedure muse.press_like to 'user_viewpoint'@'%'; grant execute on procedure muse.playlist_rename to 'user_viewpoint'@'%'; grant execute on procedure muse.playlist_on_off_set to 'user_viewpoint'@'%'; grant execute on procedure muse.playlist_music_insert to 'user_viewpoint'@'%'; grant execute on procedure muse.playlist_img_insert to 'user_viewpoint'@'%'; grant execute on procedure muse.playlist_image_change to 'user_viewpoint'@'%'; grant execute on procedure muse.delete_playlist to 'user_viewpoint'@'%'; flush privileges; show grants for 'user_viewpoint'@'%'; </pre>
결과	 <pre> Grants for user_viewpoint@% GRANT USAGE ON *.* TO `user_viewpoint` @`... GRANT SELECT ON `muse`.`*` TO `user_viewpoi... GRANT EXECUTE ON PROCEDURE `muse`.`pla... GRANT EXECUTE ON PROCEDURE `muse`.`pre... GRANT EXECUTE ON PROCEDURE `muse`.`pla... GRANT EXECUTE ON PROCEDURE `muse`.`pla... GRANT EXECUTE ON PROCEDURE `muse`.`pla... GRANT EXECUTE ON PROCEDURE `muse`.`del... GRANT EXECUTE ON PROCEDURE `muse`.`pla... </pre>