**Table structure**

CREATE TABLE plan\_action (

id SERIAL PRIMARY KEY,

plan\_id INT NOT NULL,

action\_type TEXT NOT NULL, -- 'swap', 'add', 'delete'

old\_exercise TEXT, -- for swap or delete

new\_exercise TEXT, -- for swap or add

week\_number INT, -- optional, for tracking

day\_name TEXT, -- which day was changed

created\_at TIMESTAMP DEFAULT CURRENT\_TIMESTAMP

);

CREATE TABLE users(

id UUID PRIMARY KEY,

name TEXT NOT NULL,

email TEXT UNIQUE NOT NULL,

password TEXT NOT NULL,

created\_at TIMESTAMP DEFAULT CURRENT\_TIMESTAMP

);

CREATE TABLE exercises (

id SERIAL PRIMARY KEY,

name TEXT NOT NULL,

muscle\_group TEXT NOT NULL,

equipment TEXT NOT NULL,

difficulty TEXT NOT NULL CHECK (difficulty IN ('beginner', 'intermediate', 'advanced')),

substitute\_for TEXT[] DEFAULT '{}'

);

CREATE TABLE workout\_plans (

id SERIAL PRIMARY KEY,

user\_id UUID NOT NULL,

goal TEXT NOT NULL,

days\_per\_week INT,

plan\_data JSONB,

created\_at TIMESTAMP DEFAULT CURRENT\_TIMESTAMP

);

**Exercise table**

--CHEST

INSERT INTO exercises (name, muscle\_group, equipment, difficulty, substitute\_for) VALUES

('Push-Up', 'chest', 'bodyweight', 'beginner', ARRAY['Bench Press']),

('Incline Push-Up', 'chest', 'bodyweight', 'beginner', ARRAY['Incline Bench Press']),

('Chest Fly Machine', 'chest', 'machine', 'beginner', ARRAY['Dumbbell Fly']),

('Resistance Band Press', 'chest', 'band', 'beginner', ARRAY['Push-Up']),

('Kneeling Cable Fly', 'chest', 'cable', 'beginner', ARRAY['Dumbbell Fly']),

('Dumbbell Bench Press', 'chest', 'dumbbell', 'intermediate', ARRAY['Bench Press']),

('Incline Dumbbell Press', 'chest', 'dumbbell', 'intermediate', ARRAY['Incline Bench Press']),

('Dumbbell Fly', 'chest', 'dumbbell', 'intermediate', ARRAY['Chest Fly Machine']),

('Barbell Bench Press', 'chest', 'barbell', 'intermediate', ARRAY['Push-Up']),

('Incline Barbell Bench Press', 'chest', 'barbell', 'intermediate', ARRAY['Incline Push-Up']),

('Clap Push-Up', 'chest', 'bodyweight', 'advanced', ARRAY['Push-Up']),

('Ring Push-Up', 'chest', 'bodyweight', 'advanced', ARRAY['Push-Up']),

('Weighted Dip', 'chest', 'bodyweight', 'advanced', ARRAY['Dips']),

('One-Arm Push-Up', 'chest', 'bodyweight', 'advanced', ARRAY['Push-Up']),

('Barbell Guillotine Press', 'chest', 'barbell', 'advanced', ARRAY['Bench Press']);

-- BACK

INSERT INTO exercises (name, muscle\_group, equipment, difficulty, substitute\_for) VALUES

('Lat Pulldown', 'back', 'machine', 'beginner', ARRAY['Pull-Up']),

('Seated Row Machine', 'back', 'machine', 'beginner', ARRAY['Barbell Row']),

('Resistance Band Row', 'back', 'band', 'beginner', ARRAY['Barbell Row']),

('Superman Hold', 'back', 'bodyweight', 'beginner', ARRAY['Lat Pulldown']),

('Bird Dog', 'back', 'bodyweight', 'beginner', ARRAY['Seated Row']),

('Pull-Up', 'back', 'bodyweight', 'intermediate', ARRAY['Lat Pulldown']),

('Chin-Up', 'back', 'bodyweight', 'intermediate', ARRAY['Lat Pulldown']),

('Barbell Row', 'back', 'barbell', 'intermediate', ARRAY['Seated Row']),

('Dumbbell Row', 'back', 'dumbbell', 'intermediate', ARRAY['Barbell Row']),

('Chest-Supported Row', 'back', 'machine', 'intermediate', ARRAY['Barbell Row']),

('Weighted Pull-Up', 'back', 'bodyweight', 'advanced', ARRAY['Pull-Up']),

('Deficit Deadlift', 'back', 'barbell', 'advanced', ARRAY['Romanian Deadlift']),

('Pendlay Row', 'back', 'barbell', 'advanced', ARRAY['Barbell Row']),

('T-Bar Row', 'back', 'barbell', 'advanced', ARRAY['Dumbbell Row']),

('Rope Face Pull', 'back', 'cable', 'advanced', ARRAY['Lat Pulldown']);

-- LEGS

INSERT INTO exercises (name, muscle\_group, equipment, difficulty, substitute\_for) VALUES

('Bodyweight Squat', 'legs', 'bodyweight', 'beginner', ARRAY['Barbell Squat']),

('Goblet Squat', 'legs', 'dumbbell', 'beginner', ARRAY['Barbell Squat']),

('Walking Lunge', 'legs', 'bodyweight', 'beginner', ARRAY['Leg Press']),

('Step-Up', 'legs', 'bodyweight', 'beginner', ARRAY['Bulgarian Split Squat']),

('Leg Curl Machine', 'legs', 'machine', 'beginner', ARRAY['Romanian Deadlift']),

('Barbell Squat', 'legs', 'barbell', 'intermediate', ARRAY['Bodyweight Squat']),

('Leg Press', 'legs', 'machine', 'intermediate', ARRAY['Barbell Squat']),

('Romanian Deadlift', 'legs', 'barbell', 'intermediate', ARRAY['Leg Curl Machine']),

('Bulgarian Split Squat', 'legs', 'dumbbell', 'intermediate', ARRAY['Walking Lunge']),

('Dumbbell Lunge', 'legs', 'dumbbell', 'intermediate', ARRAY['Goblet Squat']),

('Pistol Squat', 'legs', 'bodyweight', 'advanced', ARRAY['Goblet Squat']),

('Barbell Front Squat', 'legs', 'barbell', 'advanced', ARRAY['Barbell Squat']),

('Sumo Deadlift', 'legs', 'barbell', 'advanced', ARRAY['Romanian Deadlift']),

('Walking Barbell Lunge', 'legs', 'barbell', 'advanced', ARRAY['Walking Lunge']),

('Trap Bar Deadlift', 'legs', 'barbell', 'advanced', ARRAY['Romanian Deadlift']);

-- SHOULDERS

INSERT INTO exercises (name, muscle\_group, equipment, difficulty, substitute\_for) VALUES

('Dumbbell Shoulder Press', 'shoulders', 'dumbbell', 'beginner', ARRAY['Overhead Press']),

('Lateral Raise', 'shoulders', 'dumbbell', 'beginner', ARRAY['Front Raise']),

('Front Raise', 'shoulders', 'dumbbell', 'beginner', ARRAY['Lateral Raise']),

('Shoulder Press Machine', 'shoulders', 'machine', 'beginner', ARRAY['Overhead Press']),

('Band Lateral Raise', 'shoulders', 'band', 'beginner', ARRAY['Lateral Raise']),

('Overhead Press', 'shoulders', 'barbell', 'intermediate', ARRAY['Dumbbell Press']),

('Cable Lateral Raise', 'shoulders', 'cable', 'intermediate', ARRAY['Lateral Raise']),

('Arnold Press', 'shoulders', 'dumbbell', 'intermediate', ARRAY['Shoulder Press']),

('Front Plate Raise', 'shoulders', 'weight plate', 'intermediate', ARRAY['Front Raise']),

('Reverse Fly', 'shoulders', 'dumbbell', 'intermediate', ARRAY['Lateral Raise']),

('Handstand Push-Up', 'shoulders', 'bodyweight', 'advanced', ARRAY['Overhead Press']),

('Snatch-Grip Push Press', 'shoulders', 'barbell', 'advanced', ARRAY['Dumbbell Press']),

('Barbell Overhead Press', 'shoulders', 'barbell', 'advanced', ARRAY['Dumbbell Press']),

('Push Press', 'shoulders', 'barbell', 'advanced', ARRAY['Overhead Press']),

('Ring Pike Push-Up', 'shoulders', 'bodyweight', 'advanced', ARRAY['Handstand Push-Up']);

-- CORE

INSERT INTO exercises (name, muscle\_group, equipment, difficulty, substitute\_for) VALUES

('Plank', 'core', 'bodyweight', 'beginner', ARRAY[]::text[]),

('Side Plank', 'core', 'bodyweight', 'beginner', ARRAY['Plank']),

('Crunch', 'core', 'bodyweight', 'beginner', ARRAY[]::text[]),

('Kneeling Cable Crunch', 'core', 'cable', 'beginner', ARRAY['Crunch']),

('Bird Dog Hold', 'core', 'bodyweight', 'beginner', ARRAY['Plank']),

('Russian Twist', 'core', 'bodyweight', 'intermediate', ARRAY['Crunch']),

('Leg Raises', 'core', 'bodyweight', 'intermediate', ARRAY['Crunch']),

('Cable Woodchopper', 'core', 'cable', 'intermediate', ARRAY['Russian Twist']),

('Weighted Sit-Up', 'core', 'weight plate', 'intermediate', ARRAY['Crunch']),

('Hanging Leg Raise', 'core', 'bodyweight', 'intermediate', ARRAY['Leg Raises']),

('Dragon Flag', 'core', 'bodyweight', 'advanced', ARRAY['Leg Raises']),

('Hollow Body Hold', 'core', 'bodyweight', 'advanced', ARRAY['Plank']),

('Weighted Russian Twist', 'core', 'bodyweight', 'advanced', ARRAY['Russian Twist']),

('Cable Oblique Twist', 'core', 'cable', 'advanced', ARRAY['Russian Twist']),

('Windshield Wipers', 'core', 'bodyweight', 'advanced', ARRAY['Side Plank']);

-- BICEPS

INSERT INTO exercises (name, muscle\_group, equipment, difficulty, substitute\_for) VALUES

('Bicep Curl', 'biceps', 'dumbbell', 'beginner', ARRAY[]::text[]),

('Resistance Band Curl', 'biceps', 'band', 'beginner', ARRAY['Bicep Curl']),

('EZ Bar Curl', 'biceps', 'barbell', 'beginner', ARRAY['Barbell Curl']),

('Seated Dumbbell Curl', 'biceps', 'dumbbell', 'beginner', ARRAY['Bicep Curl']),

('Concentration Curl', 'biceps', 'dumbbell', 'beginner', ARRAY['Bicep Curl']),

('Barbell Curl', 'biceps', 'barbell', 'intermediate', ARRAY['Dumbbell Curl']),

('Cable Curl', 'biceps', 'machine', 'intermediate', ARRAY['Barbell Curl']),

('Incline Dumbbell Curl', 'biceps', 'dumbbell', 'intermediate', ARRAY['Dumbbell Curl']),

('Preacher Curl', 'biceps', 'machine', 'intermediate', ARRAY['Bicep Curl']),

('Zottman Curl', 'biceps', 'dumbbell', 'intermediate', ARRAY['Bicep Curl']),

('Spider Curl', 'biceps', 'dumbbell', 'advanced', ARRAY['Barbell Curl']),

('Cable Hammer Curl', 'biceps', 'cable', 'advanced', ARRAY['Barbell Curl']),

('21s Curl', 'biceps', 'barbell', 'advanced', ARRAY['Barbell Curl']),

('Incline Cable Curl', 'biceps', 'cable', 'advanced', ARRAY['Barbell Curl']),

('Bayesian Curl', 'biceps', 'cable', 'advanced', ARRAY['Barbell Curl']);

-- TRICEPS

INSERT INTO exercises (name, muscle\_group, equipment, difficulty, substitute\_for) VALUES

('Tricep Pushdown', 'triceps', 'machine', 'beginner', ARRAY['Dips']),

('Bench Dip', 'triceps', 'bodyweight', 'beginner', ARRAY['Tricep Pushdown']),

('Resistance Band Kickback', 'triceps', 'band', 'beginner', ARRAY['Overhead Dumbbell Extension']),

('Lying Dumbbell Extension', 'triceps', 'dumbbell', 'beginner', ARRAY['Tricep Pushdown']),

('Diamond Push-Up', 'triceps', 'bodyweight', 'beginner', ARRAY['Tricep Pushdown']),

('Overhead Dumbbell Extension', 'triceps', 'dumbbell', 'intermediate', ARRAY['Tricep Pushdown']),

('Overhead Cable Extension', 'triceps', 'machine', 'intermediate', ARRAY['Overhead Dumbbell Extension']),

('Rope Pushdown', 'triceps', 'cable', 'intermediate', ARRAY['Tricep Pushdown']),

('Skullcrusher', 'triceps', 'barbell', 'intermediate', ARRAY['Overhead Dumbbell Extension']),

('Triceps Kickback', 'triceps', 'dumbbell', 'intermediate', ARRAY['Overhead Dumbbell Extension']),

('Close-Grip Bench Press', 'triceps', 'barbell', 'advanced', ARRAY['Tricep Pushdown']),

('Ring Tricep Dip', 'triceps', 'bodyweight', 'advanced', ARRAY['Tricep Dips']),

('Barbell Skullcrusher', 'triceps', 'barbell', 'advanced', ARRAY['Overhead Extension']),

('Dumbbell JM Press', 'triceps', 'dumbbell', 'advanced', ARRAY['Skullcrusher']),

('Overhead Kettlebell Extension', 'triceps', 'kettlebell', 'advanced', ARRAY['Overhead Dumbbell Extension']);