**CREATE DATABASE IF NOT EXISTS aquafriends CHARACTER SET utf8mb4 COLLATE utf8mb4\_unicode\_ci;**

**USE aquafriends;**

**-- Roles y usuarios**

**CREATE TABLE roles (**

**id\_role TINYINT PRIMARY KEY AUTO\_INCREMENT,**

**nombre VARCHAR(40) NOT NULL UNIQUE**

**) ENGINE=InnoDB;**

**CREATE TABLE usuarios (**

**id\_usuario INT PRIMARY KEY AUTO\_INCREMENT,**

**nombre VARCHAR(150) NOT NULL,**

**apellido VARCHAR(150) NOT NULL,**

**email VARCHAR(180) NOT NULL UNIQUE,**

**pass\_hash VARCHAR(255) NOT NULL,**

**role\_id TINYINT NOT NULL,**

**activo TINYINT(1) NOT NULL DEFAULT 1,**

**created\_at TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP,**

**updated\_at TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP ON UPDATE CURRENT\_TIMESTAMP,**

**CONSTRAINT fk\_usuarios\_role FOREIGN KEY (role\_id)**

**REFERENCES roles(id\_role)**

**ON UPDATE CASCADE ON DELETE RESTRICT**

**) ENGINE=InnoDB;**

**-- Escuelas, profesor, estudiantes**

**CREATE TABLE escuelas (**

**id\_escuela INT PRIMARY KEY AUTO\_INCREMENT,**

**nombre VARCHAR(200) NOT NULL,**

**tipo VARCHAR(80),**

**comuna VARCHAR(120),**

**region VARCHAR(120),**

**email VARCHAR(180),**

**telefono VARCHAR(20),**

**created\_at TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP**

**) ENGINE=InnoDB;**

**CREATE TABLE profesor (**

**id\_profesor INT PRIMARY KEY AUTO\_INCREMENT,**

**rut VARCHAR(15) NOT NULL UNIQUE,**

**nombre VARCHAR(150) NOT NULL,**

**apellido VARCHAR(150) NOT NULL,**

**asignatura VARCHAR(120),**

**escuela\_id INT,**

**email VARCHAR(180),**

**telefono VARCHAR(20),**

**created\_at TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP,**

**CONSTRAINT fk\_profesor\_escuela FOREIGN KEY (escuela\_id)**

**REFERENCES escuelas(id\_escuela)**

**ON UPDATE CASCADE ON DELETE SET NULL**

**) ENGINE=InnoDB;**

**CREATE TABLE estudiantes (**

**id\_estudiante INT PRIMARY KEY AUTO\_INCREMENT,**

**rut VARCHAR(15),**

**nombre VARCHAR(150) NOT NULL,**

**apellido VARCHAR(150) NOT NULL,**

**curso VARCHAR(100),**

**escuela\_id INT,**

**created\_at TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP,**

**CONSTRAINT fk\_estudiante\_escuela FOREIGN KEY (escuela\_id)**

**REFERENCES escuelas(id\_escuela)**

**ON UPDATE CASCADE ON DELETE SET NULL**

**) ENGINE=InnoDB;**

**-- Programas y reservas**

**CREATE TABLE programas\_educativos (**

**id\_plan INT PRIMARY KEY AUTO\_INCREMENT,**

**nombre\_plan VARCHAR(180) NOT NULL,**

**monto\_por\_persona DECIMAL(10,2) NOT NULL,**

**iva\_porcentaje DECIMAL(5,2) NOT NULL DEFAULT 19.00,**

**min\_estudiantes INT DEFAULT 1,**

**max\_estudiantes INT DEFAULT 200,**

**tiempo\_programa VARCHAR(100) NOT NULL,**

**descripcion VARCHAR(600),**

**visible TINYINT(1) NOT NULL DEFAULT 1,**

**created\_at TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP,**

**updated\_at TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP ON UPDATE CURRENT\_TIMESTAMP**

**) ENGINE=InnoDB;**

**CREATE TABLE reservas\_estado (**

**id\_estado TINYINT PRIMARY KEY,**

**nombre VARCHAR(20) NOT NULL UNIQUE**

**) ENGINE=InnoDB;**

**CREATE TABLE reserva (**

**id\_reserva INT PRIMARY KEY AUTO\_INCREMENT,**

**id\_plan INT NOT NULL,**

**escuela\_id INT,**

**profesor\_id INT,**

**fecha\_reserva DATE NOT NULL,**

**hora\_entrada TIME NOT NULL,**

**hora\_termino TIME NOT NULL,**

**cantidad\_estudiantes INT NOT NULL,**

**cantidad\_docentes INT NOT NULL,**

**total\_bruto DECIMAL(12,2) NOT NULL,**

**total\_iva DECIMAL(12,2) NOT NULL,**

**total\_pagar DECIMAL(12,2) NOT NULL,**

**estado\_id TINYINT NOT NULL,**

**observaciones VARCHAR(500),**

**created\_at TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP,**

**updated\_at TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP ON UPDATE CURRENT\_TIMESTAMP,**

**CONSTRAINT fk\_reserva\_plan FOREIGN KEY (id\_plan)**

**REFERENCES programas\_educativos(id\_plan)**

**ON UPDATE CASCADE ON DELETE RESTRICT,**

**CONSTRAINT fk\_reserva\_escuela FOREIGN KEY (escuela\_id)**

**REFERENCES escuelas(id\_escuela)**

**ON UPDATE CASCADE ON DELETE SET NULL,**

**CONSTRAINT fk\_reserva\_profesor FOREIGN KEY (profesor\_id)**

**REFERENCES profesor(id\_profesor)**

**ON UPDATE CASCADE ON DELETE SET NULL,**

**CONSTRAINT fk\_reserva\_estado FOREIGN KEY (estado\_id)**

**REFERENCES reservas\_estado(id\_estado)**

**ON UPDATE CASCADE ON DELETE RESTRICT**

**) ENGINE=InnoDB;**

**CREATE TABLE reserva\_estudiante (**

**id\_reserva\_est INT PRIMARY KEY AUTO\_INCREMENT,**

**id\_reserva INT NOT NULL,**

**id\_estudiante INT NOT NULL,**

**UNIQUE KEY uq\_reserva\_estudiante (id\_reserva, id\_estudiante),**

**CONSTRAINT fk\_reserva\_est\_reserva FOREIGN KEY (id\_reserva)**

**REFERENCES reserva(id\_reserva)**

**ON UPDATE CASCADE ON DELETE CASCADE,**

**CONSTRAINT fk\_reserva\_est\_estudiante FOREIGN KEY (id\_estudiante)**

**REFERENCES estudiantes(id\_estudiante)**

**ON UPDATE CASCADE ON DELETE CASCADE**

**) ENGINE=InnoDB;**

**CREATE TABLE pagos (**

**id\_pago INT PRIMARY KEY AUTO\_INCREMENT,**

**id\_reserva INT NOT NULL,**

**metodo VARCHAR(30) NOT NULL,**

**monto DECIMAL(12,2) NOT NULL,**

**fecha\_pago DATETIME NOT NULL DEFAULT CURRENT\_TIMESTAMP,**

**estado VARCHAR(20) NOT NULL,**

**comprobante\_url VARCHAR(300),**

**CONSTRAINT fk\_pagos\_reserva FOREIGN KEY (id\_reserva)**

**REFERENCES reserva(id\_reserva)**

**ON UPDATE CASCADE ON DELETE CASCADE**

**) ENGINE=InnoDB;**

**-- Especies y fichas**

**CREATE TABLE categorias\_especie (**

**id\_categoria TINYINT PRIMARY KEY AUTO\_INCREMENT,**

**nombre VARCHAR(60) NOT NULL UNIQUE**

**) ENGINE=InnoDB;**

**CREATE TABLE habitats (**

**id\_habitat INT PRIMARY KEY AUTO\_INCREMENT,**

**nombre VARCHAR(120) NOT NULL UNIQUE,**

**descripcion VARCHAR(500)**

**) ENGINE=InnoDB;**

**CREATE TABLE especies (**

**id\_especie INT PRIMARY KEY AUTO\_INCREMENT,**

**nombre\_comun VARCHAR(150) NOT NULL,**

**nombre\_cientifico VARCHAR(180),**

**id\_categoria TINYINT NOT NULL,**

**id\_habitat INT,**

**alimentacion VARCHAR(200),**

**tamano\_promedio VARCHAR(50),**

**estado\_conservacion VARCHAR(80),**

**descripcion VARCHAR(800),**

**imagen\_principal VARCHAR(300),**

**fecha\_registro TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP,**

**CONSTRAINT fk\_especie\_categoria FOREIGN KEY (id\_categoria)**

**REFERENCES categorias\_especie(id\_categoria)**

**ON UPDATE CASCADE ON DELETE RESTRICT,**

**CONSTRAINT fk\_especie\_habitat FOREIGN KEY (id\_habitat)**

**REFERENCES habitats(id\_habitat)**

**ON UPDATE CASCADE ON DELETE SET NULL**

**) ENGINE=InnoDB;**

**CREATE VIEW peces AS**

**SELECT**

**e.id\_especie AS id,**

**e.nombre\_comun AS especie,**

**h.nombre AS habitat,**

**e.alimentacion,**

**e.tamano\_promedio,**

**e.descripcion,**

**e.imagen\_principal AS imagen\_referencial,**

**e.fecha\_registro**

**FROM especies e**

**LEFT JOIN habitats h ON h.id\_habitat = e.id\_habitat**

**JOIN categorias\_especie c ON c.id\_categoria = e.id\_categoria AND c.nombre = 'pez';**

**CREATE TABLE fichas (**

**id\_ficha INT PRIMARY KEY AUTO\_INCREMENT,**

**id\_especie INT NOT NULL,**

**nivel VARCHAR(40) NOT NULL,**

**titulo VARCHAR(200) NOT NULL,**

**resumen VARCHAR(800),**

**contenido\_html MEDIUMTEXT,**

**creado\_por INT,**

**publicado TINYINT(1) NOT NULL DEFAULT 1,**

**created\_at TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP,**

**updated\_at TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP ON UPDATE CURRENT\_TIMESTAMP,**

**CONSTRAINT fk\_ficha\_especie FOREIGN KEY (id\_especie)**

**REFERENCES especies(id\_especie)**

**ON UPDATE CASCADE ON DELETE CASCADE,**

**CONSTRAINT fk\_ficha\_usuario FOREIGN KEY (creado\_por)**

**REFERENCES usuarios(id\_usuario)**

**ON UPDATE CASCADE ON DELETE SET NULL**

**) ENGINE=InnoDB;**

**CREATE TABLE media (**

**id\_media INT PRIMARY KEY AUTO\_INCREMENT,**

**tipo VARCHAR(30) NOT NULL,**

**url VARCHAR(500) NOT NULL,**

**alt\_text VARCHAR(200),**

**creditos VARCHAR(200),**

**licencia VARCHAR(120),**

**ancho\_px INT,**

**alto\_px INT,**

**duracion\_s INT,**

**created\_at TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP**

**) ENGINE=InnoDB;**

**CREATE TABLE ficha\_media (**

**id\_ficha INT NOT NULL,**

**id\_media INT NOT NULL,**

**tipo\_uso VARCHAR(40),**

**orden INT DEFAULT 0,**

**PRIMARY KEY (id\_ficha, id\_media),**

**CONSTRAINT fk\_ficha\_media\_ficha FOREIGN KEY (id\_ficha)**

**REFERENCES fichas(id\_ficha)**

**ON UPDATE CASCADE ON DELETE CASCADE,**

**CONSTRAINT fk\_ficha\_media\_media FOREIGN KEY (id\_media)**

**REFERENCES media(id\_media)**

**ON UPDATE CASCADE ON DELETE CASCADE**

**) ENGINE=InnoDB;**

**-- Recorrido virtual**

**CREATE TABLE escenas\_360 (**

**id\_escena INT PRIMARY KEY AUTO\_INCREMENT,**

**titulo VARCHAR(160) NOT NULL,**

**descripcion VARCHAR(600),**

**panorama\_media INT,**

**thumbnail\_media INT,**

**orden INT DEFAULT 0,**

**publicado TINYINT(1) NOT NULL DEFAULT 1,**

**created\_at TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP,**

**updated\_at TIMESTAMP NOT NULL DEFAULT CURRENT\_TIMESTAMP ON UPDATE CURRENT\_TIMESTAMP,**

**CONSTRAINT fk\_escena\_panorama FOREIGN KEY (panorama\_media)**

**REFERENCES media(id\_media)**

**ON UPDATE CASCADE ON DELETE SET NULL,**

**CONSTRAINT fk\_escena\_thumb FOREIGN KEY (thumbnail\_media)**

**REFERENCES media(id\_media)**

**ON UPDATE CASCADE ON DELETE SET NULL**

**) ENGINE=InnoDB;**

**-- Índices**

**CREATE INDEX idx\_profesor\_escuela ON profesor(escuela\_id);**

**CREATE INDEX idx\_estudiante\_escuela ON estudiantes(escuela\_id);**

**CREATE INDEX idx\_reserva\_plan ON reserva(id\_plan);**

**CREATE INDEX idx\_reserva\_fecha ON reserva(fecha\_reserva);**

**CREATE INDEX idx\_reserva\_estado ON reserva(estado\_id);**

**CREATE INDEX idx\_especie\_categoria ON especies(id\_categoria);**

**CREATE INDEX idx\_especie\_habitat ON especies(id\_habitat);**

**CREATE INDEX idx\_ficha\_especie ON fichas(id\_especie);**