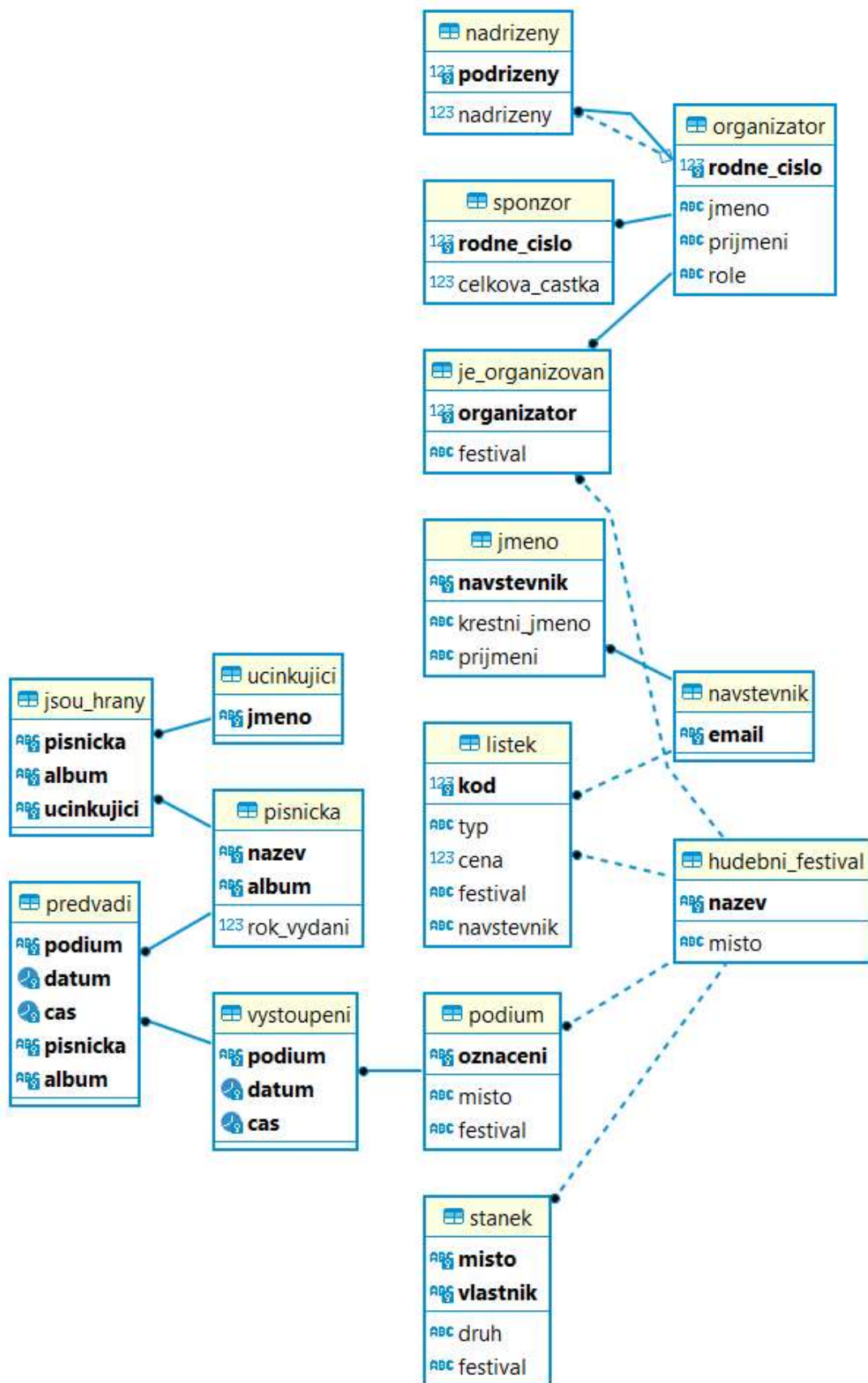


ER Model



CREATING

```
CREATE TABLE hudebni_festival (  
    nazev VARCHAR(50) PRIMARY KEY,  
    misto VARCHAR(50) NOT NULL  
);
```

```
CREATE TABLE stanek (  
    misto VARCHAR(50) NOT NULL,  
    vlastnik VARCHAR(50) NOT NULL,  
    druh VARCHAR(30),  
    festival VARCHAR(50) NOT NULL CONSTRAINT  
    stanek_fk_hudebni_festival REFERENCES hudebni_festival (nazev),  
    PRIMARY KEY (misto, vlastnik)  
);
```

```
CREATE TABLE listek (  
    kod INTEGER PRIMARY KEY,  
    typ VARCHAR(20),  
    cena SMALLINT NOT NULL,  
    festival VARCHAR(50) NOT NULL CONSTRAINT  
    listek_fk_hudebni_festival REFERENCES hudebni_festival (nazev),  
    navstevnik VARCHAR(70) NOT NULL CONSTRAINT listek_fk_navstevnik  
    REFERENCES navstevnik (email)  
);
```

```
CREATE TABLE navstevnik (  
    email VARCHAR(70) PRIMARY KEY  
);
```

```
CREATE TABLE jmeno (  
    navstevnik VARCHAR(70) PRIMARY KEY CONSTRAINT  
    jmeno_fk_navstevnik REFERENCES navstevnik (email),
```

```
    krestni_jmeno VARCHAR(30),  
    prijmeni VARCHAR(40)  
);
```

```
CREATE TABLE organizator (  
    rodne_cislo INTEGER PRIMARY KEY,  
    jmeno VARCHAR(30),  
    prijmeni VARCHAR(40),  
    role VARCHAR(30)  
);
```

```
CREATE TABLE je_organizovan (  
    festival VARCHAR(50) NOT NULL,  
    organizator INTEGER NOT NULL,  
    PRIMARY KEY (organizator),  
    CONSTRAINT je_organizovan_fk_hudebni_festival FOREIGN KEY  
(festival) REFERENCES hudebni_festival (nazev),  
    CONSTRAINT je_organizovan_fk_organizator FOREIGN KEY  
(organizator) REFERENCES organizator (rodne_cislo)  
);
```

```
CREATE TABLE sponzor (  
    rodne_cislo INTEGER PRIMARY KEY CONSTRAINT  
sponzor_fk_organizator REFERENCES organizator (rodne_cislo),  
    celkova_castka INTEGER  
);
```

```
CREATE TABLE nadrizeny (  
    podrizeny INTEGER,  
    nadrizeny INTEGER,  
    PRIMARY KEY (podrizeny),  
    CONSTRAINT nadrizeny_fk_nadrizeny FOREIGN KEY (nadrizeny)  
REFERENCES organizator (rodne_cislo),
```

```
        CONSTRAINT nadrizeny_fk_podrizeny FOREIGN KEY (podrizeny)
REFERENCES organizator (rodne_cislo)
```

```
);
```

```
CREATE TABLE podium (
```

```
    oznaceni VARCHAR(30) PRIMARY KEY,
```

```
    misto VARCHAR(30) NOT NULL UNIQUE,
```

```
    festival VARCHAR(50) NOT NULL CONSTRAINT
podium_fk_hudebni_festival REFERENCES hudebni_festival (nazev)
```

```
);
```

```
CREATE TABLE vystoupeni (
```

```
    podium VARCHAR(30) NOT NULL,
```

```
    datum DATE NOT NULL,
```

```
    cas TIMESTAMP NOT NULL,
```

```
    PRIMARY KEY (podium, datum, cas),
```

```
    CONSTRAINT vystoupeni_uq_podium_datum_cas UNIQUE (podium,
datum, cas),
```

```
    CONSTRAINT vystoupeni_fk_podium FOREIGN KEY (podium) REFERENCES
podium (oznaceni) ON UPDATE CASCADE ON DELETE SET NULL
```

```
);
```

```
CREATE TABLE pisnicka (
```

```
    nazev VARCHAR(60) NOT NULL,
```

```
    album VARCHAR(40) NOT NULL,
```

```
    rok_vydani SMALLINT,
```

```
    PRIMARY KEY (nazev, album),
```

```
    CONSTRAINT pisnicka_uq_nazev_album UNIQUE (nazev, album)
```

```
);
```

```
CREATE TABLE predvadi (
```

```
    podium VARCHAR(30) NOT NULL,
```

```
    datum DATE NOT NULL,
```

```
    cas TIMESTAMP NOT NULL,
```

```

    pisnicka VARCHAR(60) NOT NULL,
    album VARCHAR(40) NOT NULL,
    PRIMARY KEY (podium, datum, cas, pisnicka, album),
    CONSTRAINT predvadi_fk_podium_datum_cas FOREIGN KEY (podium,
datum, cas) REFERENCES vystoupeni (podium, datum, cas),
    CONSTRAINT predvadi_fk_pisnicka_album FOREIGN KEY (pisnicka,
album) REFERENCES pisnicka (nazev, album)
);

```

```

CREATE TABLE ucinkujici (
    jmeno VARCHAR(70) PRIMARY KEY
);

```

```

CREATE TABLE jsou_hrany (
    pisnicka VARCHAR(60) NOT NULL,
    album VARCHAR(40) NOT NULL,
    ucinkujici VARCHAR(70) NOT NULL,
    PRIMARY KEY (pisnicka, album, ucinkujici),
    CONSTRAINT jsou_hrany_fk_pisnicka_album FOREIGN KEY (pisnicka,
album) REFERENCES pisnicka (nazev, album),
    CONSTRAINT jsou_hrany_fk_ucinkujici FOREIGN KEY (ucinkujici)
REFERENCES ucinkujici (jmeno)
);

```

SELECT

-- vybere všechny festivaly a k nim příslušící kódy lístků

```
SELECT hudebni_festival.nazev, listek.kod FROM hudebni_festival FULL
OUTER JOIN listek ON (hudebni_festival.nazev = listek.festival);
```

| | nazev | kod | | nazev | kod |
|----|-----------------------------------|------------|----|-----------------------------------|------------|
| 1 | Tomorrowland | 90,402,097 | 19 | Tomorrowland | 29,227,354 |
| 2 | Creamfields | 97,492,019 | 20 | Snowbombing | 80,031,417 |
| 3 | Fuji Rock | 94,709,096 | 21 | Afro Nation | 35,981,300 |
| 4 | Tomorrowland | 74,341,691 | 22 | Mad Cool Festival | 14,947,887 |
| 5 | Mad Cool Festival | 68,677,666 | 23 | Tomorrowland | 91,902,097 |
| 6 | Coachella Music and Arts Festival | 20,923,751 | 24 | Creamfields | 97,426,019 |
| 7 | Coachella Music and Arts Festival | 48,076,301 | 25 | Fuji Rock | 92,209,096 |
| 8 | Tomorrowland | 78,171,647 | 26 | Tomorrowland | 74,341,991 |
| 9 | Snowbombing | 74,185,187 | 27 | Mad Cool Festival | 68,137,666 |
| 10 | Afro Nation | 30,016,331 | 28 | Coachella Music and Arts Festival | 20,914,751 |
| 11 | Mad Cool Festival | 88,560,875 | 29 | Coachella Music and Arts Festival | 45,076,301 |
| 12 | Tomorrowland | 25,418,911 | 30 | Tomorrowland | 78,171,997 |
| 13 | Creamfields | 84,696,234 | 31 | Snowbombing | 74,113,187 |
| 14 | Fuji Rock | 70,199,245 | 32 | Afro Nation | 30,116,331 |
| 15 | Tomorrowland | 11,203,909 | 33 | Mad Cool Festival | 88,562,075 |
| 16 | Mad Cool Festival | 70,702,778 | 34 | Tomorrowland | 25,418,001 |
| 17 | Coachella Music and Arts Festival | 81,763,321 | 35 | Creamfields | 81,196,234 |
| 18 | Coachella Music and Arts Festival | 72,945,446 | 36 | Fuji Rock | 70,155,245 |

| | | |
|----|-----------------------------------|------------|
| 37 | Tomorrowland | 11,206,909 |
| 38 | Mad Cool Festival | 70,112,778 |
| 39 | Coachella Music and Arts Festival | 81,764,721 |
| 40 | Splendour in the Grass | [NULL] |
| 41 | Reading & Leeds Festival | [NULL] |
| 42 | Rampage | [NULL] |
| 43 | Sónar Festival | [NULL] |
| 44 | Montreux Jazz Festival | [NULL] |
| 45 | Rolling Loud Portugal | [NULL] |
| 46 | Hellfest Open Air Festival | [NULL] |
| 47 | Rock Werchter | [NULL] |
| 48 | Roskilde Festival | [NULL] |

-- vybere jména všech účinkujících, kteří se účastní vystoupení dne 3.6.2022

```

SELECT ucinkujici.jmeno
FROM vystoupeni
INNER JOIN predvadi ON (vystoupeni.podium = predvadi.podium AND
vystoupeni.datum = predvadi.datum AND vystoupeni.cas = predvadi.cas)
INNER JOIN pisnicka ON (predvadi.pisnicka = pisnicka.nazev AND
predvadi.album = pisnicka.album)
INNER JOIN jsou_hrany ON (pisnicka.nazev = jsou_hrany.pisnicka AND
pisnicka.album = jsou_hrany.album)
INNER JOIN ucinkujici ON (jsou_hrany.ucinkujici = ucinkujici.jmeno)
WHERE (vystoupeni.datum = '2022-06-03');

```

| | ABC jmeno T |
|---|-----------------|
| 1 | Imagine Dragons |

-- vybere veškeré VIP lístky, které stojí méně než 1500, seřadí je podle ceny vzestupně a zobrazí jich pouze prvních 5

```

SELECT * FROM listek l WHERE (cena < 1500) AND (typ = 'VIP') ORDER
BY cena ASC LIMIT 5;

```

| | 123 kod T | ABC typ T | 123 cena T | ABC festival T | ABC navstevnik T |
|---|------------|-----------|------------|----------------|-----------------------------|
| 1 | 35,981,300 | VIP | 1,359 | Afro Nation | novakjiri87897@gmail.com |
| 2 | 80,031,417 | VIP | 1,399 | Snowbombing | zakzeleny1@gmail.com |
| 3 | 70,199,245 | VIP | 1,499 | Fuji Rock | definitelynotspam@gmail.com |
| 4 | 70,155,245 | VIP | 1,499 | Fuji Rock | muj-email-5947@gmail.com |

-- vybere uvedené sloupčky z dané tabulky, shlukne je na základě daných sloupečků (v tomto pořadí) a vyfiltruje pouze ty, kde je cena větší než 500

```

SELECT typ, cena, festival FROM listek GROUP BY festival, cena, typ
HAVING (cena > 500);

```


| | ABC typ | 123 cena | ABC festival |
|----|----------|----------|-------------------------------------|
| 1 | VIP | 1,359 | 🔗 Afro Nation |
| 2 | VIP | 1,499 | 🔗 Fuji Rock |
| 3 | VIP | 1,899 | 🔗 Tomorrowland |
| 4 | VIP | 1,999 | 🔗 Coachella Music and Arts Festival |
| 5 | VIP | 1,399 | 🔗 Snowbombing |
| 6 | standard | 699 | 🔗 Creamfields |
| 7 | standard | 899 | 🔗 Tomorrowland |
| 8 | VIP | 1,599 | 🔗 Mad Cool Festival |
| 9 | standard | 999 | 🔗 Coachella Music and Arts Festival |
| 10 | standard | 599 | 🔗 Mad Cool Festival |
| 11 | VIP | 1,699 | 🔗 Creamfields |

-- spočte a zobrazí počet různých kódů lístků, počet různých variant typu lístku, průměrnou cenu lístku, minimální cenu lístku a maximální cenu lístku

```
SELECT COUNT(*) AS Kod, COUNT(DISTINCT typ) AS TCount, AVG(cena) AS CAvg, MIN(cena) AS CMin, MAX(cena) AS CMax FROM listek;
```

| | 123 kod | 123 tcount | 123 cavg | 123 cmin | 123 cmax |
|---|---------|------------|------------------|----------|----------|
| 1 | 39 | 2 | 1,157.4615384615 | 359 | 1,999 |

-- vybere emaily všech návštěvníků, následně prvních 15 přeskočí a zobrazí dalších 10

```
SELECT email FROM navstevnik n LIMIT 10 OFFSET 15;
```

| | ABC email |
|----|-----------------------------|
| 1 | kovadlinakonvalinkova@gmail |
| 2 | zakzeleny1@gmail.com |
| 3 | parischose@gmail.com |
| 4 | muj-email-31977@gmail.com |
| 5 | muj-email-31978@gmail.com |
| 6 | muj-email-31979@gmail.com |
| 7 | muj-email-31980@gmail.com |
| 8 | muj-email-31981@gmail.com |
| 9 | muj-email-31982@gmail.com |
| 10 | muj-email-31983@gmail.com |


```
-- vybere příjmení všech návštěvníků a organizátorů (bez duplicit)
```

```
SELECT prijmeni FROM jmeno
```

```
UNION
```

```
SELECT prijmeni FROM organizator;
```

| | ABC prijmeni | | |
|----|--------------|----|--------------|
| 1 | Procházka | 15 | Konvalinková |
| 2 | Mlýnek | 16 | Chánová |
| 3 | Králík | 17 | Potměšilová |
| 4 | Novotná | 18 | Zelený |
| 5 | Paris | 19 | Klíma |
| 6 | Nejlepší | 20 | Svoboda |
| 7 | Nedočkavý | 21 | Dromková |
| 8 | Kosová | 22 | Horká |
| 9 | Fraiman | 23 | Horalka |
| 10 | Cálová | 24 | Pýchová |
| 11 | Potahová | 25 | Hajný |
| 12 | Lipavský | 26 | Novák |
| 13 | Novotný | 27 | Karpat |
| 14 | Kubrachová | 28 | Anderlová |

```
-- nejprve vybere všechna vystoupení z daného pódia, z těch následně  
vybere ta, která se konají dne 1.6.2022
```

```
SELECT * FROM (SELECT * FROM vystoupeni WHERE vystoupeni.podium =  
'Main Stage Tomorrowland') AS v WHERE datum = '2022-06-01';
```

| | podium | datum | cas |
|---|-------------------------|------------|-------------------------|
| 1 | Main Stage Tomorrowland | 2022-06-01 | 2022-06-01 12:30:00.000 |
| 2 | Main Stage Tomorrowland | 2022-06-01 | 2022-06-01 18:45:00.000 |