

-----AFTER ALTERING TABLES (Adding Foreign Keys)-----

mysql> desc singer;

Field	Type	Null	Key	Default	Extra
singer_id	int	NO	PRI	NULL	auto_increment
singer_name	varchar(50)	NO		NULL	
gender	varchar(50)	NO		NULL	
contact	varchar(50)	NO		NULL	
singer_scale	varchar(50)	NO		NULL	
singer_genre	varchar(50)	NO		NULL	

6 rows in set (0.00 sec)

mysql> desc composer;

Field	Type	Null	Key	Default	Extra
composer_id	int	NO	PRI	NULL	auto_increment
composer_name	varchar(50)	NO		NULL	
gender	varchar(50)	NO		NULL	
contact	varchar(50)	NO		NULL	
composer_scale	varchar(50)	NO		NULL	
composer_genre	varchar(50)	NO		NULL	

6 rows in set (0.00 sec)

mysql> alter table album add constraint fki FOREIGN KEY(singer_id) references singer(singer_id);

Query OK, 0 rows affected (2.61 sec)

mysql> alter table album add column composer_id INT;

Query OK, 0 rows affected (0.51 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> alter table album add column record_label_id INT;

Query OK, 0 rows affected (0.60 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> alter table album add constraint fk

-> FOREIGN KEY(record_label_id) references record_label(record_label_id);

Query OK, 0 rows affected (2.51 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> alter table album add column song_id INT;

Query OK, 0 rows affected (0.54 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> alter table album add constraint addfk

-> FOREIGN KEY(song_id) references songs(song_id);

Query OK, 0 rows affected (2.10 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> alter table album add column singer_id INT;

Query OK, 0 rows affected (1.11 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> desc album;

Field	Type	Null	Key	Default	Extra
album_id	int	NO	PRI	NULL	auto_increment
release_date	date	YES		NULL	
album_name	varchar(30)	NO		NULL	
no_of_play	int	YES		NULL	
record_label_id	int	YES	MUL	NULL	
song_id	int	YES	MUL	NULL	
singer_id	int	YES	MUL	NULL	
composer_id	int	YES	MUL	NULL	

```
mysql> alter table songs add column singer_id INT;
Query OK, 0 rows affected (0.36 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> alter table songs add constraint adding_fk
-> FOREIGN KEY(singer_id) references singer(singer_id);
Query OK, 0 rows affected (3.04 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> alter table songs add column album_id INT;
Query OK, 0 rows affected (0.69 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> alter table songs add constraint add_fk
-> FOREIGN KEY(album_id) references album(album_id);
Query OK, 0 rows affected (2.62 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> alter table songs add column composer_id INT;
Query OK, 0 rows affected (0.53 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> alter table songs add constraint addedfk
-> FOREIGN KEY(composer_id) references composer(composer_id);
Query OK, 0 rows affected (2.50 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> desc songs;
```

Field	Type	Null	Key	Default	Extra
song_id	int	NO	PRI	NULL	auto_increment
release_date	date	YES		NULL	
song_name	varchar(30)	NO		NULL	
genre	varchar(30)	NO		NULL	
no_of_plays	int	YES		NULL	
singer_id	int	YES	MUL	NULL	
album_id	int	YES	MUL	NULL	
composer_id	int	YES	MUL	NULL	

```
8 rows in set (0.00 sec)
```

```
mysql> desc record_label;
```

Field	Type	Null	Key	Default	Extra
record_label_id	int	NO	PRI	NULL	auto_increment
record_label_name	varchar(30)	NO		NULL	
no_of_awards	int	YES		NULL	
no_of_songs	int	NO		NULL	

```
4 rows in set (0.00 sec)
```

```
mysql> create table has
```

```
-> (record_label_id INT,album_id INT,
-> FOREIGN KEY (record_label_id) REFERENCES record_label(record_label_id),
-> FOREIGN KEY (album_id) REFERENCES album(album_id));
```

```
mysql> desc has;
```

Field	Type	Null	Key	Default	Extra
record_label_id	int	YES	MUL	NULL	
album_id	int	YES	MUL	NULL	

```
2 rows in set (0.00 sec)
```

```
mysql> create table sungs
-> (singer_id INT, song_id INT, FOREIGN KEY (singer_id) REFERENCES singer(singer_id));
```

```
mysql> desc sungs;
```

Field	Type	Null	Key	Default	Extra
singer_id	int	YES	MUL	NULL	
song_id	int	YES	MUL	NULL	

2 rows in set (0.00 sec)

```
mysql> create table composes
-> (song_id INT, composer_id INT,
-> FOREIGN KEY (song_id) REFERENCES songs(song_id),
-> FOREIGN KEY (composer_id) REFERENCES composer(composer_id));
```

```
mysql> desc composes;
```

Field	Type	Null	Key	Default	Extra
song_id	int	YES	MUL	NULL	
composer_id	int	YES	MUL	NULL	

```
mysql> create table contain
-> (song_id INT, album_id INT,
-> FOREIGN KEY (album_id) REFERENCES album(album_id),
-> FOREIGN KEY (song_id) REFERENCES songs(song_id));
Query OK, 0 rows affected (0.09 sec)
```

```
mysql> desc contain
-> ;
```

Field	Type	Null	Key	Default	Extra
song_id	int	YES	MUL	NULL	
album_id	int	YES	MUL	NULL	

-----INSERTING RECORDS INTO TABLES-----

```
insert into singer values (1001, 'John Smith', 'Male', '1234567890', 'Tenor', 'Pop'),
(1002, 'Emily Johnson', 'Female', '9876543210', 'Soprano', 'Rock'),
(1003, 'Michael Brown', 'Male', '5551234567', 'Baritone', 'Jazz'),
(1004, 'Sophia Williams', 'Female', '1112223333', 'Mezzo-soprano', 'R&B'),
(1005, 'David Lee', 'Male', '4445556666', 'Bass', 'Hip Hop'),
(1006, 'Jennifer White', 'Female', '9998887777', 'Soprano', 'Classical'),
(1007, 'Robert Johnson', 'Male', '3339995555', 'Tenor', 'Country'),
(1008, 'Emma Davis', 'Female', '7774443333', 'Mezzo-soprano', 'Folk'),
(1009, 'Matthew Wilson', 'Male', '6662228888', 'Baritone', 'Blues'),
(1010, 'Olivia Martinez', 'Female', '2227778888', 'Soprano', 'Indie');
```

```
mysql> select* from singer;
```

singer_id	singer_name	gender	contact	singer_scale	singer_genre
1001	John Smith	Male	1234567890	Tenor	Pop
1002	Emily Johnson	Female	9876543210	Soprano	Rock
1003	Michael Brown	Male	5551234567	Baritone	Jazz
1004	Sophia Williams	Female	1112223333	Mezzo-soprano	R&B
1005	David Lee	Male	4445556666	Bass	Hip Hop
1006	Jennifer White	Female	9998887777	Soprano	Classical
1007	Robert Johnson	Male	3339995555	Tenor	Country
1008	Emma Davis	Female	7774443333	Mezzo-soprano	Folk
1009	Matthew Wilson	Male	6662228888	Baritone	Blues
1010	Olivia Martinez	Female	2227778888	Soprano	Indie

```
+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)
=====
insert into composer values (2008, 'Andrew Johnson', 'Male', '5555555555', 'Tenor', 'Country'),
(2009, 'Olivia Adams', 'Female', '6666666666', 'Soprano', 'Indie'),
(2010, 'William Taylor', 'Male', '7777777777', 'Baritone', 'Electronic'),
(2001, 'Michael Johnson', 'Male', '1234567890', 'Tenor', 'Pop'),
(2002, 'Emily Smith', 'Female', '9876543210', 'Soprano', 'Rock'),
(2003, 'Michael Brown', 'Male', '5551234567', 'Baritone', 'Jazz'),
(2004, 'Sophia Williams', 'Female', '1112223333', 'Mezzo-soprano', 'R&B'),
(2005, 'David Lee', 'Male', '4445556666', 'Bass', 'Hip Hop'),
(2006, 'John Smith', 'Male', '9999999999', 'Tenor', 'Classical'),
(2007, 'Emma Davis', 'Female', '8888888888', 'Mezzo-soprano', 'Folk');
```

```
mysql> select* from composer;
```

composer_id	composer_name	gender	contact	composer_scale	composer_genre
2001	Michael Johnson	Male	1234567890	Tenor	Pop
2002	Emily Smith	Female	9876543210	Soprano	Rock
2003	Michael Brown	Male	5551234567	Baritone	Jazz
2004	Sophia Williams	Female	1112223333	Mezzo-soprano	R&B
2005	David Lee	Male	4445556666	Bass	Hip Hop
2006	John Smith	Male	9999999999	Tenor	Classical
2007	Emma Davis	Female	8888888888	Mezzo-soprano	Folk
2008	Andrew Johnson	Male	5555555555	Tenor	Country
2009	Olivia Adams	Female	6666666666	Soprano	Indie
2010	William Taylor	Male	7777777777	Baritone	Electronic

```
+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)
```

```
=====
insert into record_label values (1004, 'EMI Music', 15, 300),
(1005, 'Capitol Records', 12, 250),
(1006, 'Republic Records', 10, 200),
(1007, 'Atlantic Records', 8, 180),
(1008, 'Interscope Records', 7, 170),
(1009, 'Columbia Records', 6, 160),
(1010, 'Island Records', 5, 150),
(1011, 'Def Jam Recordings', 4, 140),
(1012, 'RCA Records', 3, 130),
(1013, 'Virgin Records', 2, 120);
```

```
mysql> select *from record_label;
```

record_label_id	record_label_name	no_of_awards	no_of_songs
1004	EMI Music	15	300
1005	Capitol Records	12	250
1006	Republic Records	10	200
1007	Atlantic Records	8	180
1008	Interscope Records	7	170
1009	Columbia Records	6	160
1010	Island Records	5	150
1011	Def Jam Recordings	4	140
1012	RCA Records	3	130
1013	Virgin Records	2	120

```
=====
mysql> INSERT INTO songs (song_id, release_date, song_name, genre, no_of_plays, singer_id,
album_id, composer_id) VALUES
```

```
-> (1, '2022-01-01', 'Song 1', 'Pop', 100, 1002, 1, 2002),
-> (2, '2022-01-02', 'Song 2', 'Rock', 150, 1004, 2, 2005),
-> (3, '2022-01-03', 'Song 3', 'Hip Hop', 120,1006, 3, 2001),
-> (4, '2022-01-04', 'Song 4', 'Electronic', 80, 1003, 4, 2003),
-> (5, '2022-01-05', 'Song 5', 'Jazz', 200, 1001, 5, 2001),
-> (6, '2022-01-06', 'Song 6', 'Blues', 90, 1007, 6, 2006),
-> (7, '2022-01-07', 'Song 7', 'Country', 110,1008, 7, 2005),
-> (8, '2022-01-08', 'Song 8', 'Classical', 130, 1002, 8, 2010),
-> (9, '2022-01-09', 'Song 9', 'R&B', 170, 1010, 9, 2009),
-> (10, '2022-01-10', 'Song 10', 'Reggae', 140,1005, 10, 2008);
```

```
mysql> select* from songs;
```

song_id	release_date	song_name	genre	no_of_plays	singer_id	album_id	composer_id
1	2022-01-01	Song 1	Pop	100	1002	1	2002
2	2022-01-02	Song 2	Rock	150	1004	2	2005
3	2022-01-03	Song 3	Hip Hop	120	1006	3	2001
4	2022-01-04	Song 4	Electronic	80	1003	4	2003
5	2022-01-05	Song 5	Jazz	200	1001	5	2001
6	2022-01-06	Song 6	Blues	90	1007	6	2006
7	2022-01-07	Song 7	Country	110	1008	7	2005
8	2022-01-08	Song 8	Classical	130	1002	8	2010
9	2022-01-09	Song 9	R&B	170	1010	9	2009
10	2022-01-10	Song 10	Reggae	140	1005	10	2008

```
=====
mysql> INSERT INTO Album (album_id, release_date, album_name, no_of_play, record_label_id, song_id,
singer_id, composer_id) VALUES
```

```
-> (1, '2023-01-01', 'Album 1', 100, 1004, NULL, 1001, 2001),
-> (2, '2023-02-15', 'Album 2', 150, 1005, NULL, 1002, 2002),
-> (3, '2023-03-20', 'Album 3', 200, 1013, NULL, 1003, 2003),
-> (4, '2023-04-10', 'Album 4', 180, 1006, NULL, 1004, 2004),
-> (5, '2023-05-25', 'Album 5', 220, 1007, NULL, 1005, 2005),
-> (6, '2023-06-30', 'Album 6', 190, 1008, NULL, 1006, 2006),
-> (7, '2023-07-15', 'Album 7', 160, 1009, NULL, 1007, 2007),
-> (8, '2023-08-20', 'Album 8', 130, 1010, NULL, 1008, 2008),
-> (9, '2023-09-05', 'Album 9', 240, 1011, NULL, 1009, 2009),
-> (10, '2023-10-10', 'Album 10', 170, 1012, NULL, 1010, 2010);
```

```
mysql> UPDATE album
-> SET song_id = 1
-> WHERE album_id = 1;
```

```
mysql> UPDATE album
-> SET song_id = 2
-> WHERE album_id = 2;
```

```
mysql> UPDATE album
-> SET song_id = 3
-> WHERE album_id = 3;
```

```
mysql> UPDATE album
-> SET song_id = 4
-> WHERE album_id = 4;
```

```
mysql> UPDATE album
-> SET song_id = 5
-> WHERE album_id = 5;
```

```
mysql> UPDATE album
-> SET song_id = 6
-> WHERE album_id = 6;
```

```
mysql> UPDATE album
-> SET song_id = 7
-> WHERE album_id = 7;
```

```
mysql> UPDATE album
-> SET song_id = 8
-> WHERE album_id = 8;
```

```
mysql> UPDATE album
-> SET song_id = 9
-> WHERE album_id = 9;
```

```
mysql> UPDATE album
-> SET song_id = 10
-> WHERE album_id = 10;
```

```
mysql> select* from album;
```

album_id	release_date	album_name	no_of_play	record_label_id	song_id	singer_id	composer_id
----------	--------------	------------	------------	-----------------	---------	-----------	-------------

1	2023-01-01	Album 1	100	1004	1	1001	2001
2	2023-02-15	Album 2	150	1005	2	1002	2002
3	2023-03-20	Album 3	200	1013	3	1003	2003
4	2023-04-10	Album 4	180	1006	4	1004	2004
5	2023-05-25	Album 5	220	1007	5	1005	2005
6	2023-06-30	Album 6	190	1008	6	1006	2006
7	2023-07-15	Album 7	160	1009	7	1007	2007
8	2023-08-20	Album 8	130	1010	8	1008	2008
9	2023-09-05	Album 9	240	1011	9	1009	2009
10	2023-10-10	Album 10	170	1012	10	1010	2010

10 rows in set (0.00 sec)

```
mysql> INSERT INTO composes (song_id,composer_id) VALUES (1,2001),(2,2002),(3,2003),(4,2004),(5,2005),
(6,2006),(7,2007),(8,2008),(9,2009),(10,2010);
```

```
mysql> select* from composes;
```

song_id	composer_id
1	2001
2	2002
3	2003
4	2004
5	2005
6	2006
7	2007
8	2008
9	2009
10	2010

10 rows in set (0.00 sec)

```
mysql> INSERT INTO sungs (singer_id, song_id) VALUES (1001, 1),(1002, 2),(1003, 3),(1004, 4),
(1005, 5),(1006, 6),(1007, 7),(1008, 8),(1009, 9),(1010, 10);
```

```
mysql> select* from sungs;
```

singer_id	song_id
1001	1
1002	2
1003	3
1004	4
1005	5
1006	6
1007	7
1008	8
1009	9
1010	10

10 rows in set (0.00 sec)

```
mysql> INSERT INTO has (album_id, record_label_id) VALUES
```

```
-> (1, 1004),
-> (2, 1005),
-> (3, 1013),
-> (4, 1006),
-> (5, 1007),
-> (6, 1008),
-> (7, 1009),
-> (8, 1010),
-> (9, 1011),
-> (10, 1012);
```

```
mysql> select* from has;
```

record_label_id	album_id
-----------------	----------

1004	1
1005	2
1013	3
1006	4
1007	5
1008	6
1009	7
1010	8
1011	9
1012	10

10 rows in set (0.00 sec)

==

```
mysql> INSERT INTO contain (song_id, album_id) VALUES(1, 1), (2, 2), (3, 3), (4, 4), (5, 5), (6, 6), (7, 7),
(8, 8), (9, 9), (10, 10);
```

```
mysql> select* from contain;
```

song_id	album_id
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10

10 rows in set (0.00 sec)