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## דו"ח על בסיס נתונים- הלוואות בנק

פרוייקט העוסק בתחום הלוואות של הבנק. עוסק בנתונים והפרטים של הלווים ותאריכי ההלוואה.

### DSD

- **Loan Table**
  - Loan\_ID (PK)
  - LoanStartDate
  - Borrower\_ID (FK)
- **PaymentSchedule Table**
  - Schedule\_ID (PK)
  - DueDate
  - Loan\_ID (FK)
- **Borrower Table**
  - Borrower\_ID (PK)
  - DateOfBirth

### Relationships:

- **Loan** (Loan\_ID) → **Borrower** (Borrower\_ID)
- **Loan** (Loan\_ID) → **PaymentSchedule** (Loan\_ID)

# SQL

```
CREATE TABLE Borrower
```

```
(  
  Borrower_ID INT NOT NULL,  
  DateOfBirth DATE NOT NULL,  
  PRIMARY KEY (Borrower_ID)  
);
```

```
CREATE TABLE Loan
```

```
(  
  Loan_ID INT NOT NULL,  
  LoanStartDate DATE NOT NULL,  
  Borrower_ID INT NOT NULL,  
  PRIMARY KEY (Loan_ID),  
  FOREIGN KEY (Borrower_ID) REFERENCES Borrower(Borrower_ID)  
);
```

```
CREATE TABLE PaymentSchedule
```

```
(  
  Schedule_ID INT NOT NULL,  
  DueDate DATE NOT NULL,  
  Loan_ID INT NOT NULL,  
  PRIMARY KEY (Schedule_ID),  
  FOREIGN KEY (Loan_ID) REFERENCES Loan(Loan_ID)  
);
```

## קובץ createTables.sql

-- Create the Loan table

```
CREATE TABLE Loan (
    LoanID INT PRIMARY KEY,
    LoanStartDate DATE NOT NULL,
    BorrowerID INT,
    FOREIGN KEY (BorrowerID) REFERENCES Borrower(BorrowerID)
);
```

-- Create the PaymentSchedule table

```
CREATE TABLE PaymentSchedule (
    ScheduleID INT PRIMARY KEY,
    DueDate DATE NOT NULL,
    LoanID INT,
    FOREIGN KEY (LoanID) REFERENCES Loan(LoanID)
);
```

-- Create the Borrower table

```
CREATE TABLE Borrower (
    BorrowerID INT PRIMARY KEY,
    BorrowerName VARCHAR(100) NOT NULL,
    BorrowerAddress VARCHAR(255) NOT NULL
);
```

## קובץ dropTables.sql

-- Drop the PaymentSchedule table first

DROP TABLE PaymentSchedule;

-- Drop the Loan table second

DROP TABLE Loan;

-- Drop the Borrower table last

DROP TABLE Borrower;

## קובץ insertTables.sql

-- Insert data into Borrower table

INSERT INTO Borrower (BorrowerID, BorrowerName, BorrowerAddress) VALUES (1, 'John Doe', '123 Elm Street');

-- Repeat with at least 200 records

-- Insert data into Loan table

INSERT INTO Loan (LoanID, LoanStartDate, BorrowerID) VALUES (1, '2024-01-01', 1);

-- Repeat with at least 200 records

-- Insert data into PaymentSchedule table

INSERT INTO PaymentSchedule (ScheduleID, DueDate, LoanID) VALUES (1, '2024-02-01', 1);

-- Repeat with at least 200 records

## selectAll.sql קובץ

-- Select all data from Borrower table

SELECT \* FROM Borrower;

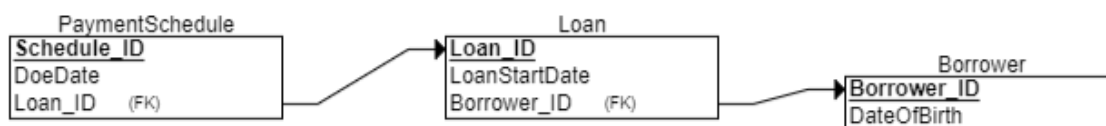
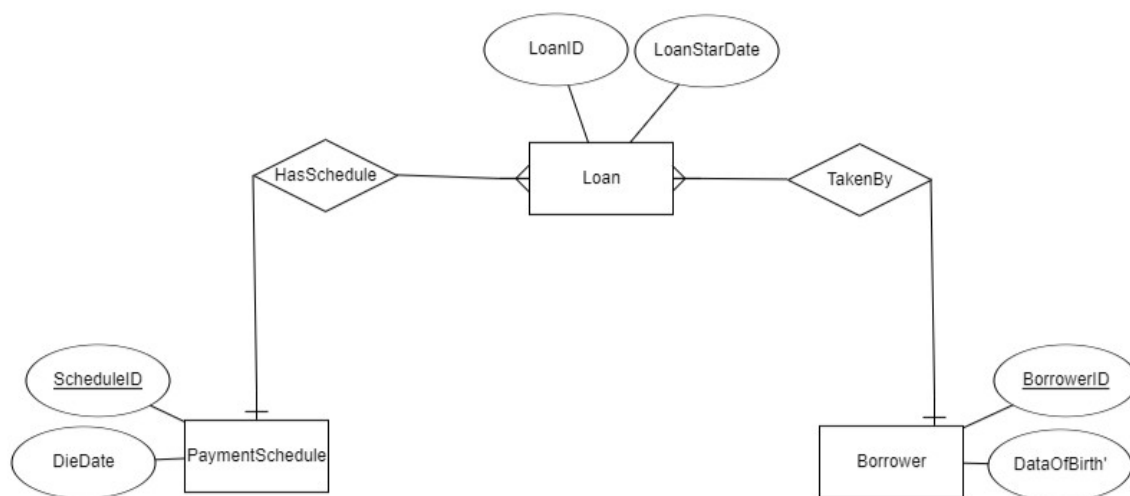
-- Select all data from Loan table

SELECT \* FROM Loan;

-- Select all data from PaymentSchedule table

SELECT \* FROM PaymentSchedule;

## טבלאות ותרשימים



## שלב 2

עכשיו נכתוב כאן סוגים שונים של שאילתות לוודא שמסד הנתונים שלנו עובד- וגם השאילתות מביא לנו את מה שרצוי. כמובן שיש צילומים של השאילתות, וגם תיעוד של הכנסת ערך לא תקין.

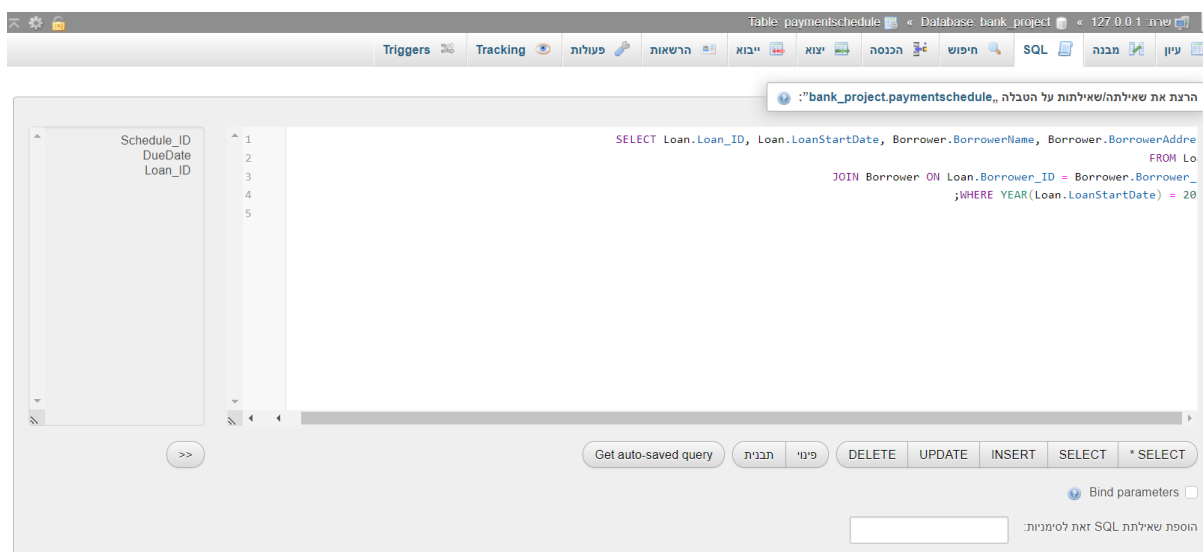
### SELECT

```
SELECT Loan.Loan_ID, Loan.LoanStartDate,
Borrower.BorrowerName, Borrower.BorrowerAddress
```

```
FROM Loan
```

```
JOIN Borrower ON Loan.Borrower_ID = Borrower.Borrower_ID
```

```
WHERE YEAR(Loan.LoanStartDate) = 2024;
```



The screenshot shows the phpMyAdmin web interface. At the top, the title bar indicates the current database is 'bank\_project' and the user is 'root@localhost'. The main menu bar includes 'Triggers', 'Tracking', 'רשאות', 'יבוא', 'יבוא', 'הכנסה', 'חיפוש', 'SQL', 'מבנה', 'עיון', and 'טבלאות'. The 'SQL' tab is active, displaying a query window. On the left, a table structure for 'PaymentSchedule' is visible with columns 'Schedule\_ID', 'DueDate', and 'Loan\_ID'. The query window contains the following SQL code:

```

SELECT PaymentSchedule.Schedule_ID, PaymentSchedule.DueDate, Loan.Loan_ID, Borrower.BorrowerName
FROM PaymentSchedule
JOIN Loan ON PaymentSchedule.Loan_ID = Loan.Loan_ID
JOIN Borrower ON Loan.Borrower_ID = Borrower.Borrower_ID
WHERE MONTH(PaymentSchedule.DueDate) = 12

```

Below the query window, there are buttons for 'Get auto-saved query', 'תבנית', 'פירו', 'DELETE', 'UPDATE', 'INSERT', 'SELECT', and '\* SELECT'. A 'Bind parameters' checkbox is also present. At the bottom, there are checkboxes for 'הפעלת בדיקות פתוחות זרים', 'Rollback when finished', 'שימור תוכן תיבת השאלות', 'הראה את שאליות את שוב', and a 'Delimiter' dropdown set to semicolon. The right sidebar shows the 'Favorites' and 'Recent' tabs, with a tree view of the database structure including 'bank\_project', 'borrower', 'loan', 'paymentschedule', 'information\_schema', 'mysql', 'performance\_schema', 'phpmyadmin', and 'test'.

ט"ו

Table paymentschedule :: Database: bank\_project :: 127.0.0.1 :: phpMyAdmin

Triggers Tracking פעולות הרשאות ייבוא יצוא חיוסון SQL תבונה קישור

מוצגות שורות - 17 (סך הכול השאלות ארוכה 0.0016 שניות)

```
SELECT PaymentSchedule.Schedule_ID, PaymentSchedule.DueDate, Loan.Loan_ID, Borrower.BorrowerName FROM PaymentSchedule JOIN Loan ON PaymentSchedule.Loan_ID = Loan.Loan_ID ;JOIN Borrower ON Loan.Borrower_ID = Borrower.Borrower_ID WHERE MONTH(PaymentSchedule.DueDate) = 8
```

Profiling [עריכת בנקום] [עריכה] [הקבלת SQL] [יצירת קוד PHP] [רענון]

▼ לצא Sort by key חיוסון בסדרה 25 סמן שורות מספר שורות הבנת הכל

Extra options

BorrowerName	Loan_ID	DueDate	Schedule_ID
Cheri O'Leahy	01-8182913	2033-08-15	18a10ab69571de729d7b54488c6b997dcd3b1e2
Anallise Tomkies	52-5869598	2031-08-30	1be6bd855df6a6b1a1984ae44c08ac38c41ee
Wyn Artrick	33-0639173	2029-08-11	41ba9205b2ba54e3562c1f3203ca2f2350be211b
Reinwald Phidgin	30-5075027	2054-08-04	4bbebdad26930b9e8b18fcdd11f1313ef5611
Gallagher Heggison	43-5370578	2050-08-02	4e70laa71c77e0ff186055da92d560b81a16b106
Stanly Orbine	66-4053517	2027-08-31	4097899ebf83345dc04de330b77fb48bfdb4805f
Niels Cley	64-2000825	2043-08-28	5bd784ddf8e1478ac14b469f5ae830d59f2da99f1
My Crawshaw	84-2046842	2031-08-10	704419e45d3c7448d320b6526ec8b5abd1d5729f
Kelsi Seymour	44-9345493	2053-08-22	73c5622ea4f6bbbf21e20a349a913d4a1e83ce99
Claudelle Halfhead	55-3739731	2027-08-03	7e10e0ee1705dedcb1b4fe7f58099b1309ab49bc3
Denni Thurlbeck	47-4033495	2028-08-06	95e3d310bd11fb363be286437dfbe9f64dee0e81
Moina Anten	37-9792386	2025-08-30	977d7c895e2c8769f969c543cc344ed4d03e7977f
Weider Kalkofen	58-8706230	2036-08-11	ab630c8075364665900135cd058cac344131a07d
Crichton Scimoni	03-0081270	2033-08-26	b85a1ea24615fd1cad89c50e20eb30af55038b3bc
Rollo Beare	43-3681574	2043-08-02	bc40c90f6e2ccaedd0774c6717ba073432a875d8
Caresa Masden	14-7187552	2047-08-06	ee78c67586ccbf62a69b890fab7f5b0338c48d1f

## תמונה שהשאלות עובדות

**DELETE**

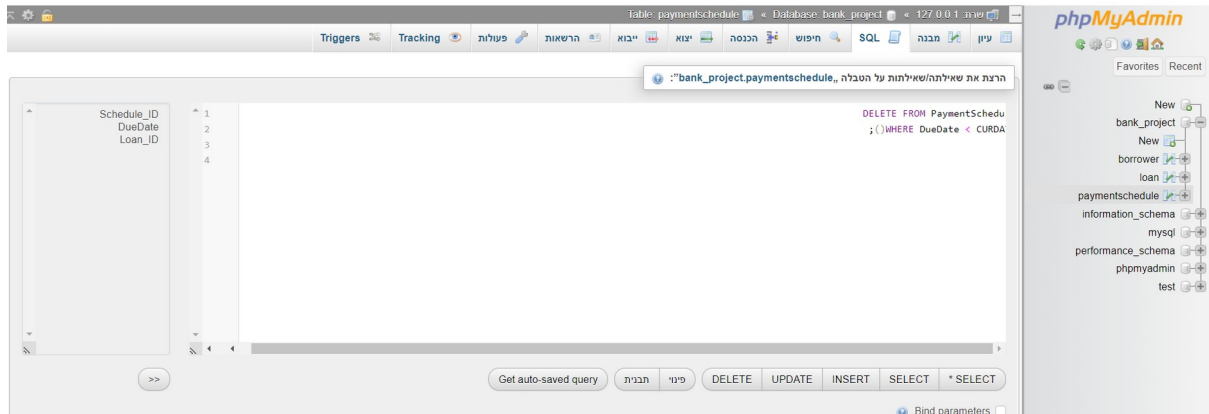
```
DELETE FROM Loan
WHERE YEAR(LoanStartDate) < 2020;
```

The screenshot shows the phpMyAdmin interface for a database named 'bank\_project'. The 'SQL' tab is active, displaying a query: `DELETE FROM Loan WHERE YEAR(LoanStartDate) < 20`. The interface includes a top navigation bar with tabs for Triggers, Tracking, and a sidebar with a database structure tree. The main area shows the query and its results. The results pane is empty, indicating that the query was executed successfully without returning any data rows.

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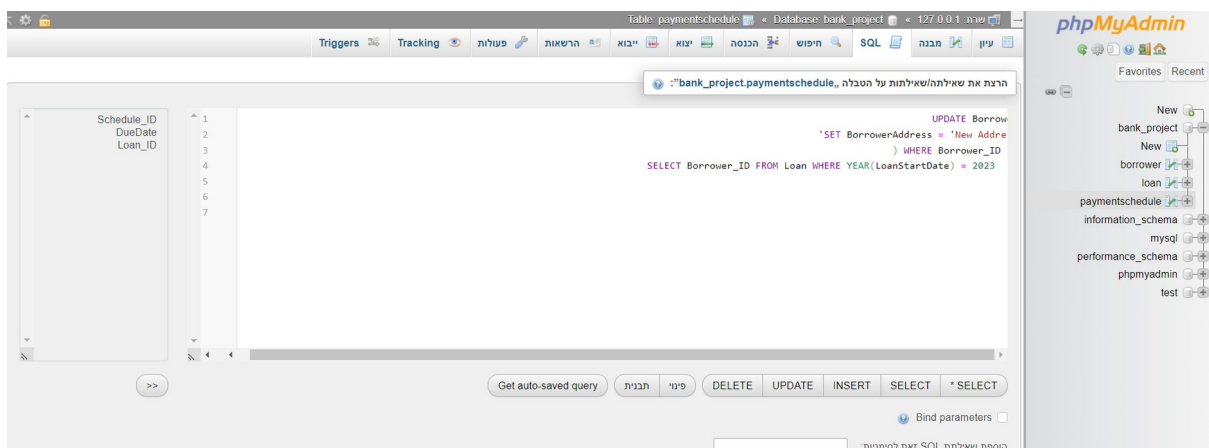


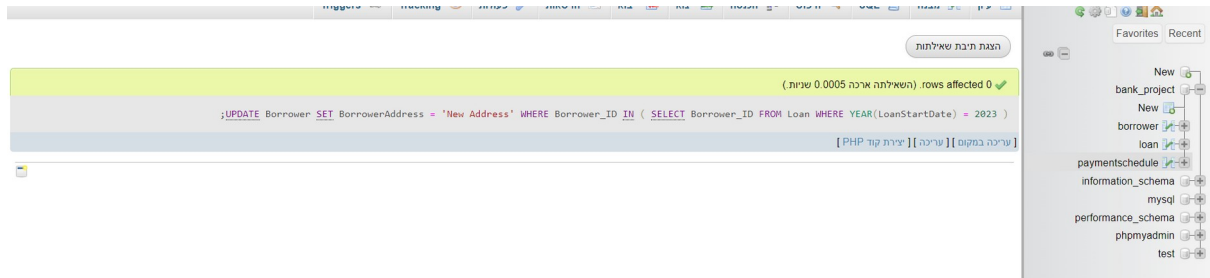
DELETE FROM PaymentSchedule  
WHERE DueDate < CURDATE();



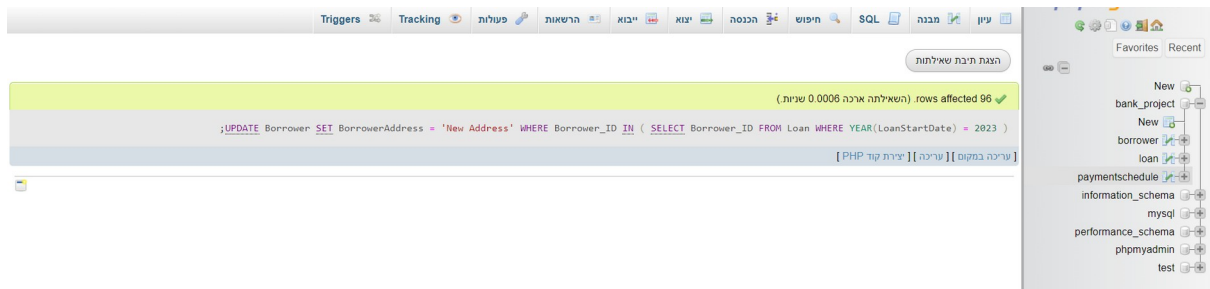
## UPDATE

UPDATE Borrower  
SET BorrowerAddress = 'New Address'  
WHERE Borrower\_ID IN (  
SELECT Borrower\_ID FROM Loan WHERE  
YEAR(LoanStartDate) = 2023  
);

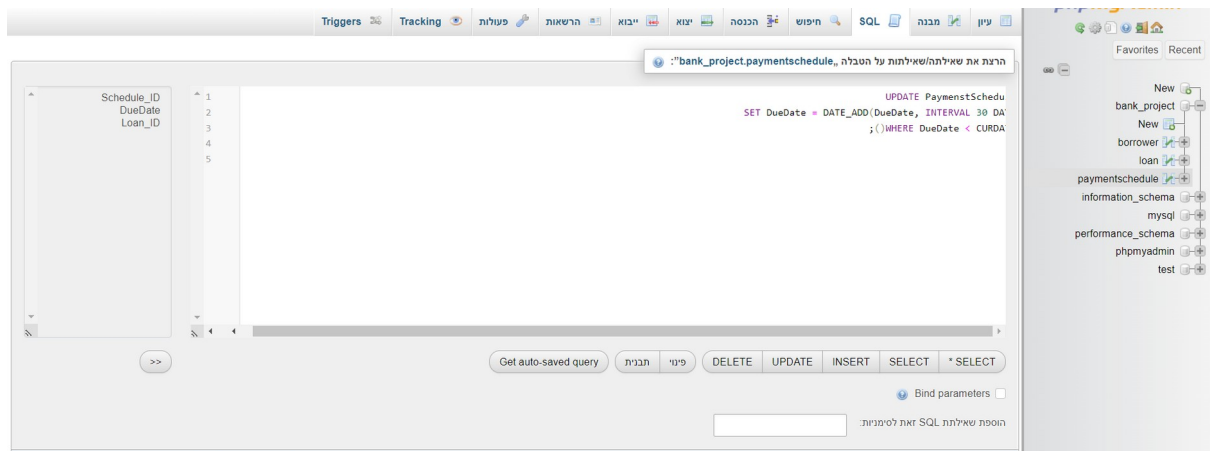




UPDATE PaymentSchedule  
SET DueDate = DATE\_ADD(DueDate, INTERVAL 30 DAY)  
WHERE DueDate < CURDATE();



דוגמא לשגיאה בהכנסה ערך לא נכון



>>

Get auto-saved query

תבנית

פירו

DELETE

UPDATE

INSERT

SELECT

\* SELECT

Bind parameters

הוספת שאלות SQL זאת לסימניות:

ביצוע

הדמיית שאלות

הפעלת בדיקות מפתחות זרים

Rollback when finished

שמור תוכן תיבת השאלות

הראה את שאלות כן שוב

Delimiter

שגיאה

העזקה

שאלות SQL

UPDATE PaymentSchedule  
SET DueDate = DATE\_ADD(DueDate, INTERVAL 30 DAY)  
;()WHERE DueDate < CURDATE

MySQL אמר:

Table 'bank\_project.paymentsschedule' doesn't exist - #1146

borrower

loan

paymentsschedule

information\_schema

mysql

performance\_schema

phpmyadmin

test