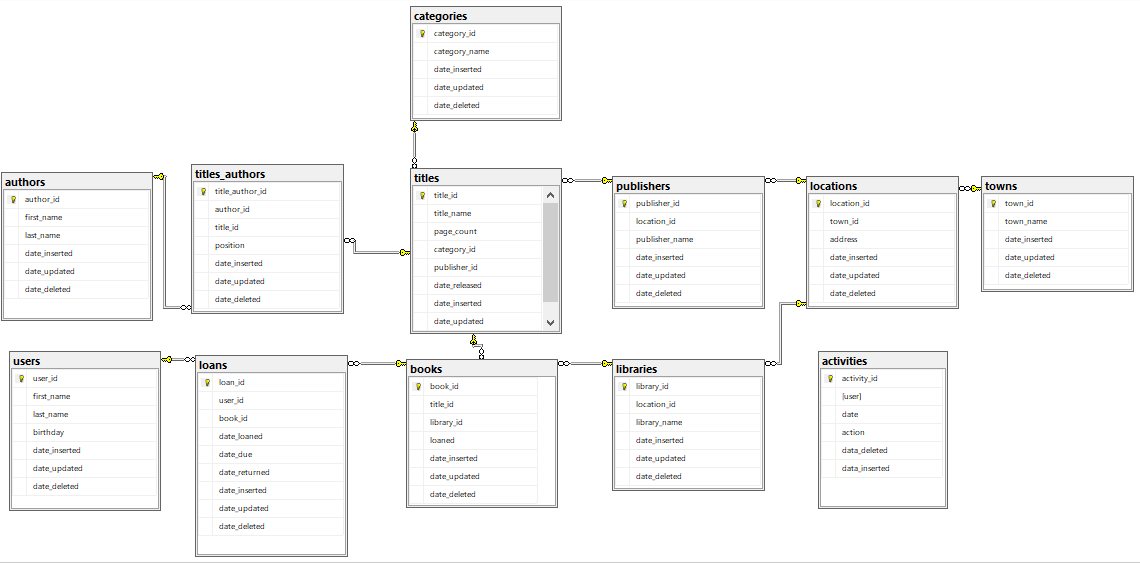
**Libraries**

The database holds information for a network of libraries, including information about the authors, titles, publishers, its members (users) as well as the physical copies in the libraries themselves



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# Table: authors

Columns:

author\_id INT PK

first\_name NVARCHAR(50)

last\_name NVARCHAR(50)

date\_inserted DATETIME

date\_updated DATETIME NULL

date\_deleted DATETIME NULL

This table stores information about authors, namely, their first and last name as well as a location\_id from the locations table which stores their location

Links:

This table is linked to the titles\_authors table which stores author cover positions/order on titles

Views:

dbo.authors\_data shows all data about the authors without the control columns (date deleted, updated, inserted)

dbo.author\_more\_than\_one\_title shows the author id, first name and last name of authors who authored more than one title

Triggers:

author\_insert logs the insertion into the activities table

author\_delete changes the date\_deleted column instead of deleting and logs the deletion into the activites table

author\_update changes the date\_updated column after updating and logs the update into the activites table

Stored procedures:

select\_authors shows all non-control columns for all authors

select\_author takes in a author\_id and shows all non-control columns from authors for that author

insert\_author takes in a first\_name and last\_name and inserts into the authors table

delete\_author takes in an author\_id and deletes the author

update\_author takes in an author\_id, first\_name and last\_name and updates the author with the author\_id with the new values

# Table: titles

Columns:

title\_id INT PK

title\_name NVARCHAR(255)

page\_count INT

category\_id INT FK

publisher\_id INT FK

date\_released DATE

date\_inserted DATETIME

date\_updated DATETIME NULL

date\_deleted DATETIME NULL

This table stores information about titles, namely, their name, page count, category id from the categories table as well as a publisher id from the publishers table which stores information about publishers

Links:

This table is linked to the titles\_authors table which stores author cover positions/order on titles

This table is linked to the books table which stores information about physical copies of titles

This table is linked to the categories table which stores information about categories

This table is linked to the publishers table which stores information about publishers

Views:

dbo.titles\_data shows all data about the titles without the control columns (date deleted, updated, inserted)

dbo.titles\_without\_copies shows all non-control data about titles that have no physical copies of them

dbo.books\_on\_loan shows the title of books, the user they are loaned to, as well as the ID of the books loaned

Functions:

dbo.titlesPublished takes the name of a publisher and returns the number of titles they’ve published

Triggers:

title\_insert logs the insertion into the activities table

title\_delete changes the date\_deleted column instead of deleting and logs the deletion into the activites table

title\_update changes the date\_updated column after updating and logs the update into the activites table

Stored procedures:

select\_titles shows all non-control columns for all titles

select\_title takes in a title\_id and shows all non-control columns from titles for that title

insert\_title takes in a title\_name, page\_count, category\_id, publisher\_id and date\_released and inserts into the titles table (if the page\_count is at least 10 and the release date is not in the future)

delete\_title takes in a title\_id and deletes the title

update\_title takes in a title\_id, title\_name, page\_count, category\_id, publisher\_id and date\_released and updates the title with the title\_id with the new values (if the page\_count is at least 10 and the release date is not in the future)

# Table: titles\_authors

Columns:

title\_author\_id INT PK

author\_id INT FK

title\_id INT FK

position TINYINT

date\_inserted DATETIME

date\_updated *DATETIME* NULL

date\_deleted DATETIME NULL

This table stores author cover positions/order on titles.

Links:

This table is linked to the authors table which stores information about authors

This table is linked to the titles table which stores information about titles

Views:

dbo.titles\_authors\_data shows all data from the title\_authors table without the control columns (date deleted, updated, inserted)

dbo.author\_more\_than\_one\_title shows the author id, first name and last name of authors who authored more than one title

Triggers:

title\_author\_insert logs the insertion into the activities table

title\_author\_delete changes the date\_deleted column instead of deleting and logs the deletion into the activites table

title\_author\_update changes the date\_updated column after updating and logs the update into the activites table

Stored procedures:

select\_titles\_authors shows all non-control columns for all titles\_authors

select\_title\_author takes in a title\_author\_id and shows all non-control columns from titles\_authors for that title\_author

insert\_title\_author takes in an author\_id, title\_id and position and inserts into the titles\_authors table

delete\_title\_author takes in a title\_author\_id and deletes the appropriate title\_author

update\_title\_author takes in an title\_author\_id, author\_id, title\_id and position and updates the title\_author with the title\_author\_id with the new values

# Table: categories

Columns:

category\_id INT PK

category\_name NVARCHAR(255)

date\_inserted DATETIME

date\_updated DATETIME NULL

date\_deleted DATETIME NULL

This table stores category names for autofill purposes

Links:

This table is linked to the titles table which stores information about titles

Views:

dbo.categories\_data shows all data from the categories table without the control columns (date deleted, updated, inserted)

Functions:

dbo.showTitlesOfCategory takes in a category ID and returns a table with all titles from that category

Triggers:

category\_insert logs the insertion into the activities table

category\_delete changes the date\_deleted column instead of deleting and logs the deletion into the activites table

category\_update changes the date\_updated column after updating and logs the update into the activites table

Stored procedures:

select\_categories shows all non-control columns for all categories

select\_category takes in a category\_id and shows all non-control columns from categories for that category

insert\_category takes in a category\_name and inserts into the categories table

delete\_category takes in a category\_id and deletes the appropriate category

update\_category takes in a category\_id and category\_name and sets the category\_name of that category to the new one

# Table: publishers

Columns:

publisher\_id INT PK

publisher\_name NVARCHAR(255)

location\_id INT FK

date\_inserted DATETIME

date\_updated DATETIME NULL

date\_deleted DATETIME NULL

This table stores the names of publishers as well as well as a location\_id from the locations table which stores their location

Links:

This table is linked to the titles table which stores information about titles

This table is linked to the locations table which stores locations

Views:

dbo.publishers\_data shows all data from the publishers table without the control columns (date deleted, updated, inserted)

dbo.publishers\_from\_belgrade shows all data from the publishers table without the control columns for publishers from Belgrade

Functions:

dbo.titlesPublished takes the name of a publisher and returns the number of titles they’ve published

Triggers:

publishers\_insert logs the insertion into the activities table

publishers\_delete changes the date\_deleted column instead of deleting and logs the deletion into the activites table

publishers\_update changes the date\_updated column after updating and logs the update into the activites table

Stored procedures:

select\_publishers shows all non-control columns for all publishers

select\_publisher takes in a publisher\_id and shows all non-control columns from publishers for that publisher

insert\_publisher takes in a publisher\_name and location\_id and inserts into the publishers table

delete\_publisher takes in a publisher\_id and deletes the publisher

update\_publisher takes in a publisher\_id , publisher\_name and location\_id and updates the publisher with the publisher\_id with the new values

# Table: locations

Columns:

location\_id INT PK

town\_id INT FK

address NVARCHAR(255)

date\_inserted DATETIME

date\_updated DATETIME NULL

date\_deleted DATETIME NULL

This table serves as a link between the publishers/ibraries tables on one side and the towns table on the other, it also stores the addresses of the above mentioned.

Links:

This table is linked to the publishers table

This table is linked to the libraries table

This table is linked to the towns table

Views:

dbo.locations\_data shows all data from the locations table without the control columns (date deleted, updated, inserted)

dbo.publishers\_from\_belgrade shows all data from the publishers table without the control columns for publishers from Belgrade

dbo.libraries\_in\_belgrade shows all data from the libraries table without the control columns for libraries in Belgrade

Functions:

dbo.showLibraryAddress takes in the name of a library and returns its address

Triggers:

location\_insert logs the insertion into the activities table

location\_delete changes the date\_deleted column instead of deleting and logs the deletion into the activites table

location\_update changes the date\_updated column after updating and logs the update into the activites table

Stored procedures:

select\_locations shows all non-control columns for all locations

select\_location takes in a location\_id and shows all non-control columns from locations for that location

insert\_location takes in a town\_id and address and inserts into the locations table

delete\_location takes in a location\_id and deletes the location

update\_location takes in a location\_id , address and town\_id and updates the location with the location\_id with the new values

# Table: towns

Columns:

town\_id INT PK

town\_name NVARCHAR(50)

date\_inserted DATETIME

date\_updated DATETIME NULL

date\_deleted DATETIME NULL

This table stores the names of towns for autofill purposes

Links:

This table is linked to the locations table

Views:

dbo.towns\_data shows all data from the towns table without the control columns (date deleted, updated, inserted)

dbo.publishers\_from\_belgrade shows all data from the publishers table without the control columns for publishers from Belgrade

dbo.libraries\_in\_belgrade shows all data from the libraries table without the control columns for libraries in Belgrade

Triggers:

town\_insert logs the insertion into the activities table

town\_delete changes the date\_deleted column instead of deleting and logs the deletion into the activites table

town\_update changes the date\_updated column after updating and logs the update into the activites table

Stored procedures:

select\_towns shows all non-control columns for all towns

select\_town takes in a town\_id and shows all non-control columns from towns for that town

insert\_town takes in a town\_name and inserts into the towns table

delete\_town takes in a town\_id and deletes the appropriate town

update\_town takes in a town\_id and town\_name updates the town with the town\_id with the new values

# Table: libraries

Columns:

library\_id INT PK

library\_name NVARCHAR(255)

location\_id INT FK

date\_inserted DATETIME

date\_updated DATETIME NULL

date\_deleted DATETIME NULL

This table stores the names of libraries as well as well as a location\_id from the locations table which stores their location

Links:

This table is linked to the locations table

This table is linked to the books table

Views:

dbo.libraries\_data shows all data from the libraries table without the control columns (date deleted, updated, inserted)

dbo.libraries\_in\_belgrade shows all data from the libraries table without the control columns for libraries in Belgrade

Functions:

dbo.showLibraryAddress takes in the name of a library and returns its address

Triggers:

library\_insert logs the insertion into the activities table

library\_delete changes the date\_deleted column instead of deleting and logs the deletion into the activites table

library\_update changes the date\_updated column after updating and logs the update into the activites table

Stored procedures:

select\_libraries shows all non-control columns for all libraries

select\_library takes in a library\_id and shows all non-control columns from libraries for that library

insert\_library takes in a library\_name and location\_id and inserts into the libraries table

delete\_library takes in a library\_id and deletes the appropriate library

update\_library takes in a library\_id, library\_name and location\_id and updates the library with the library\_id with the new values

# Table: books

Columns:

book\_id INT PK

library\_id INT FK

title\_id INT FK

loaned BIT

date\_inserted DATETIME

date\_updated DATETIME NULL

date\_deleted DATETIME NULL

This table stores information about the physical copies of titles, including the id of the library the copy is in and the title

Links:

This table is linked to the libraries table

This table is linked to the titles table

This table is linked to the loans table

Views:

dbo.books\_data shows all data from the books table without the control columns (date deleted, updated, inserted)

dbo.books\_on\_loan shows the title of books, the user they are loaned to, as well as the ID of the books loaned

dbo.titles\_without\_copies shows all non-control data about titles that have no physical copies of them

Triggers:

book\_insert logs the insertion into the activities table

book\_delete changes the date\_deleted column instead of deleting and logs the deletion into the activites table

book\_update changes the date\_updated column after updating and logs the update into the activites table

Stored procedures:

select\_books shows all non-control columns for all books

select\_book takes in a book\_id and shows all non-control columns from books for that book

insert\_book takes in a title\_id and library\_id and inserts into the books table

delete\_book takes in a book\_id and deletes the appropriate book

update\_book takes in a book\_id, library\_id, title\_id and loaned (bit) and updates the book with the book\_id with the new values

# Table: loans

Columns:

loan\_id INT PK

book\_id INT FK

user\_id INT FK

date\_loaned DATETIME

date\_due DATETIME

date\_returned DATETIME NULL

date\_inserted DATETIME

date\_updated DATETIME NULL

date\_deleted DATETIME NULL

This table stores information about books on loan, including the id of the book, the user who the book is loaned to, when the book was loaned, when the book is due to be returned and when it was returned (if it was)

Links:

This table is linked to the books table

This table is linked to the users table

Views:

dbo.loans\_data shows all data from the loans table without the control columns (date deleted, updated, inserted)

dbo.books\_on\_loan shows the title of books, the user they are loaned to, as well as the ID of the books loaned

Triggers:

loan\_insert logs the insertion into the activities table

loan\_delete changes the date\_deleted column instead of deleting and logs the deletion into the activites table

loan\_update changes the date\_updated column after updating and logs the update into the activites table

loan\_give after the loan is inserted, changes the ‘loaned’ value for the book to true

loan\_return after the date\_returned column is updated, changes the ‘loaned’ value for the book to false

Stored procedures:

select\_loans shows all non-control columns for all loans

select\_loan takes in a loan\_id and shows all non-control columns from loans for that loan

insert\_loan takes in a book\_id and user\_id and inserts into the loans table

delete\_loan takes in a loan\_id and deletes the appropriate loan

update\_loan takes in a loan\_id, book\_id, user\_id, title\_id, date\_loaned, date\_due and date\_returned and updates the loan with the loan\_id with the new values

# Table: users

Columns:

user\_id INT PK

first\_name NVARCHAR(50)

last\_name NVARCHAR(50)

birthday DATETIME

date\_inserted DATE

date\_updated DATETIME NULL

date\_deleted DATETIME NULL

This table stores information about users

Links:

This table is linked to the loans table

Views:

dbo.users\_data shows all data from the users table without the control columns (date deleted, updated, inserted)

dbo.books\_on\_loan shows the title of books, the user they are loaned to, as well as the ID of the books loaned

Triggers:

user\_insert logs the insertion into the activities table

user\_delete changes the date\_deleted column instead of deleting and logs the deletion into the activites table

user\_update changes the date\_updated column after updating and logs the update into the activites table

Stored procedures:

select\_users shows all non-control columns for all users

select\_user takes in a user\_id and shows all non-control columns from users for that user

insert\_user takes ina first\_name, last\_name and birthday and inserts into the users table

delete\_user takes in a user\_id and deletes the appropriate user

update\_user takes in a user\_id, first\_name, last\_name,and birthday and updates the user with the user\_id with the new values